



University of Antwerp

Container port development and competition in the
Le Havre-Hamburg range: lessons for Korean ports

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NURI 2006, Busan, November 7, 2006





- 1 Antwerp
- 2 Ghent
- 3 Zeebrugge
- 4 Ostend
- 5 Dunkirk
- 6 Flushing
- 7 Rotterdam
- 8 Amsterdam
- 9 Wilhelmshaven
- 10 Cuxhaven
- 11 Emden

◆ = UK port range
◇ = Atlantic port range

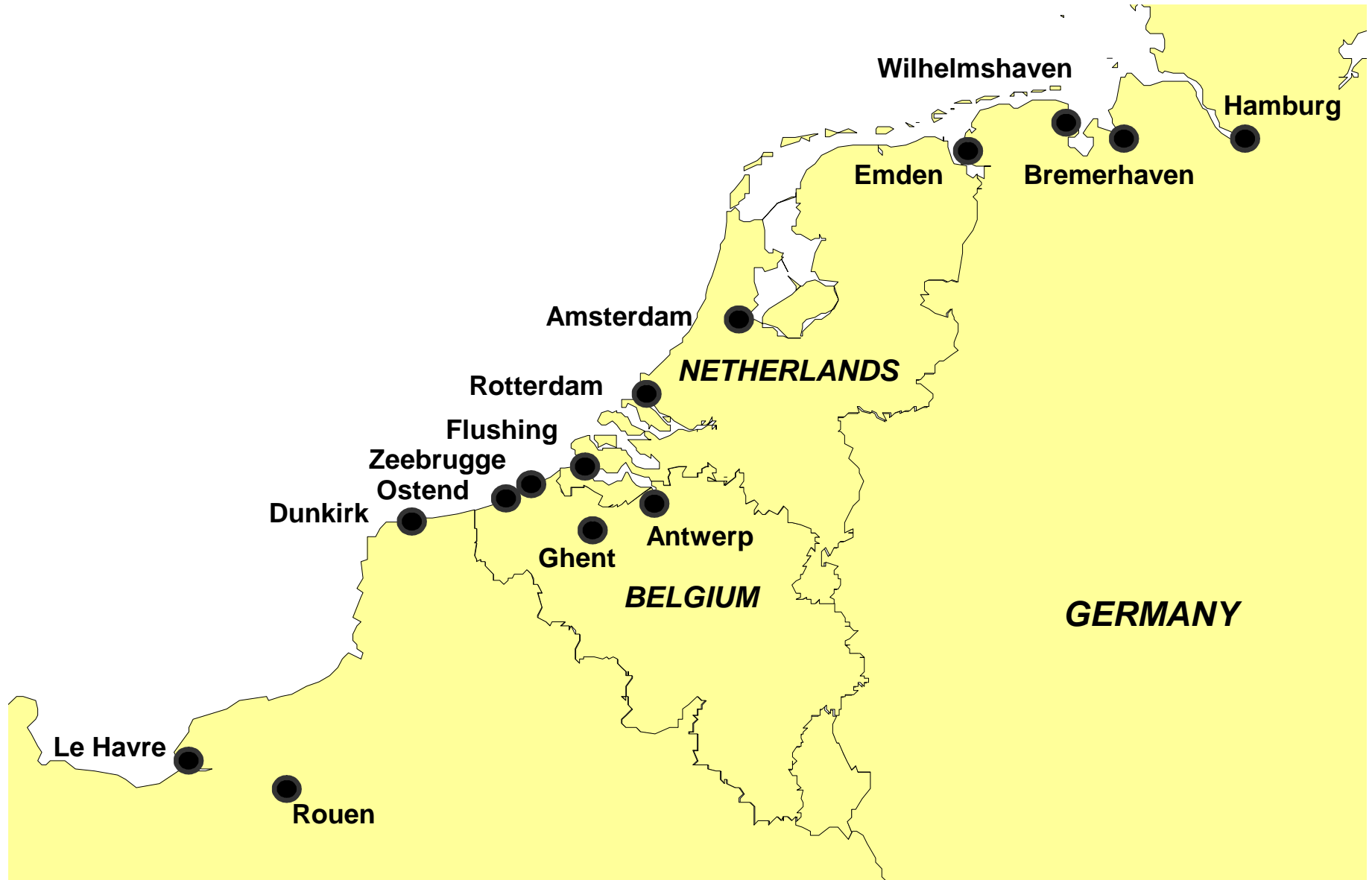
● = Hamburg-Le Havre port range
● = Mediterranean port range

○ = Baltic port range

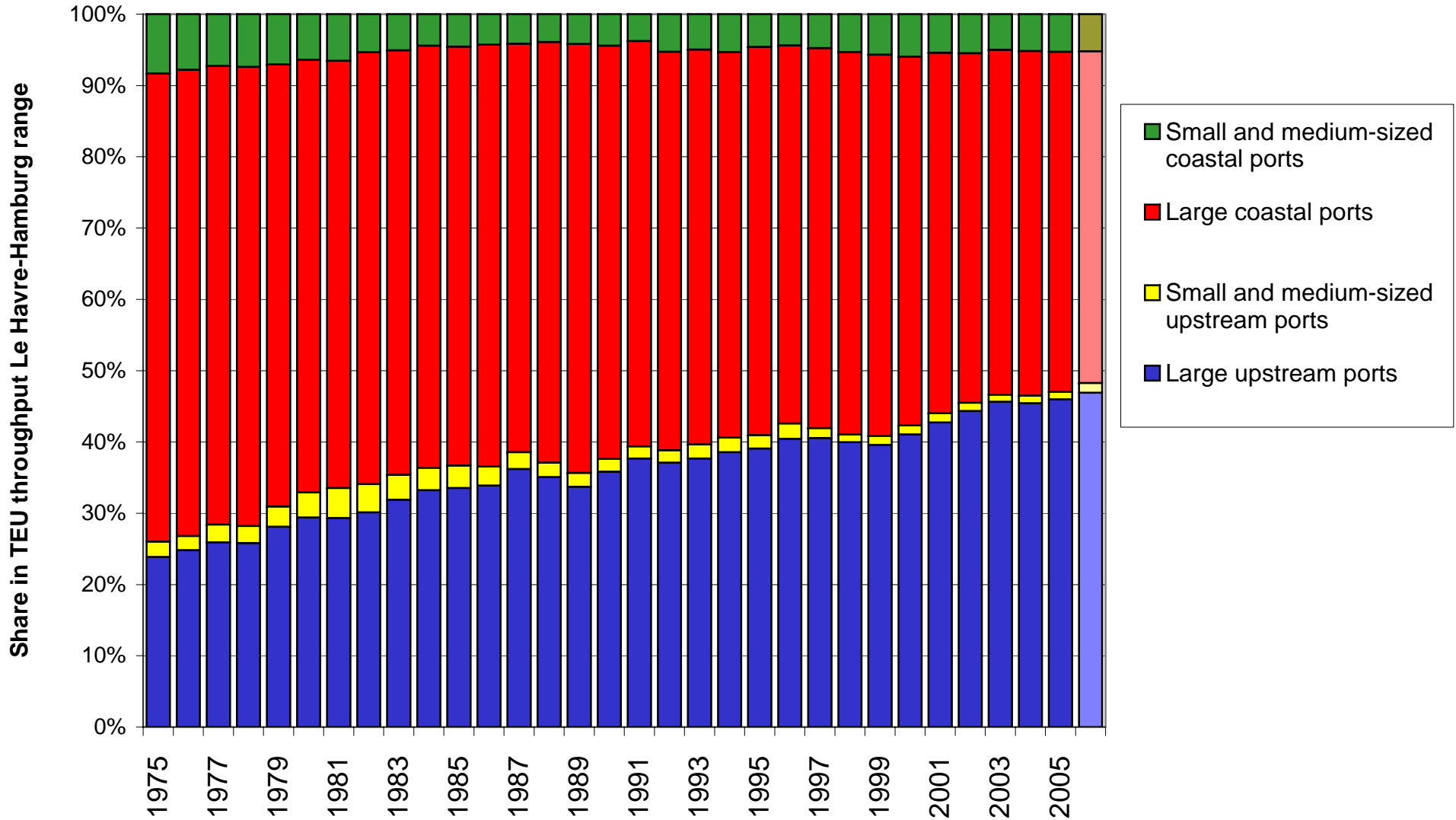
Top 15 European container ports ('000 TEU)

	1975			1985			1995			2005		
		1000 TEU	%		1000 TEU	%		1000 TEU	%		1000 TEU	%
1	Rotterdam	1079	26.0%	Rotterdam	2655	21.5%	Rotterdam	4787	19.3%	Rotterdam	9287	15.5%
2	Bremen	410	9.9%	Antwerp	1243	10.1%	Hamburg	2890	11.7%	Hamburg	8088	13.5%
3	Hamburg	326	7.8%	Hamburg	1159	9.4%	Antwerp	2329	9.4%	Antwerpen	6488	10.8%
4	Antwerp	297	7.1%	Bremen	986	8.0%	Felixstowe	1924	7.8%	Bremen	3736	6.2%
5	Tilbury	232	5.6%	Felixstowe	726	5.9%	Bremen	1518	6.1%	Gioia Tauro	3161	5.3%
6	Le Havre	231	5.6%	Le Havre	566	4.6%	Algeciras	1155	4.7%	Algeciras	2937	4.9%
7	Felixstowe	230	5.5%	Marseille	488	3.9%	Le Havre	970	3.9%	Felixstowe	2700	4.5%
8	Southampton	199	4.8%	Leghorn	475	3.8%	La spezia	965	3.9%	Le Havre	2287	3.8%
9	Zeebrugge	184	4.4%	Tilbury	387	3.1%	Barcelona	689	2.8%	Valencia	2100	3.5%
10	Genoa	162	3.9%	Barcelona	353	2.9%	Southampton	683	2.8%	Barcelona	2096	3.5%
11	Marseille	94	2.3%	Algeciras	351	2.8%	Valencia	672	2.7%	Genoa	1625	2.7%
12	Barcelona	77	1.9%	Genoa	324	2.6%	Genoa	615	2.5%	Piraeus	1450	2.4%
13	Hull	76	1.8%	Valencia	305	2.5%	Piraeus	600	2.4%	Marsaxlokk	1408	2.3%
14	Leghorn	66	1.6%	Zeebrugge	218	1.8%	Zeebrugge	528	2.1%	Southampton	1395	2.3%
15	Bilbao	64	1.5%	Southamp	214	1.7%	Marsaxlokk	515	2.1%	Zeebrugge	1309	2.2%
	Top 5	2344	56.4%	Top 5	6769	54.8%	Top 5	13448	54.3%	Top 5	30760	51.3%
	Top 10	3350	80.6%	Top 10	9038	73.1%	Top 10	17911	72.4%	Top 10	42880	71.5%
	Top 15	3727	89.7%	Top 15	10450	84.6%	Top 15	20841	84.2%	Top 15	50067	83.4%
	TOTAL (47 ports)	4157	100%	TOTAL (47 ports)	12358	100%	TOTAL (47 ports)	24747	100%	TOTAL (47 ports)	60000	100%

The Le Havre – Hamburg range



Market shares in the Le Havre – Hamburg range



2006 = Estimate based on growth figures first quarter 2006

Loops on the trade Europe – Far East and Europe – US/Canada - February 2006

Europe - Far East - 35 loops

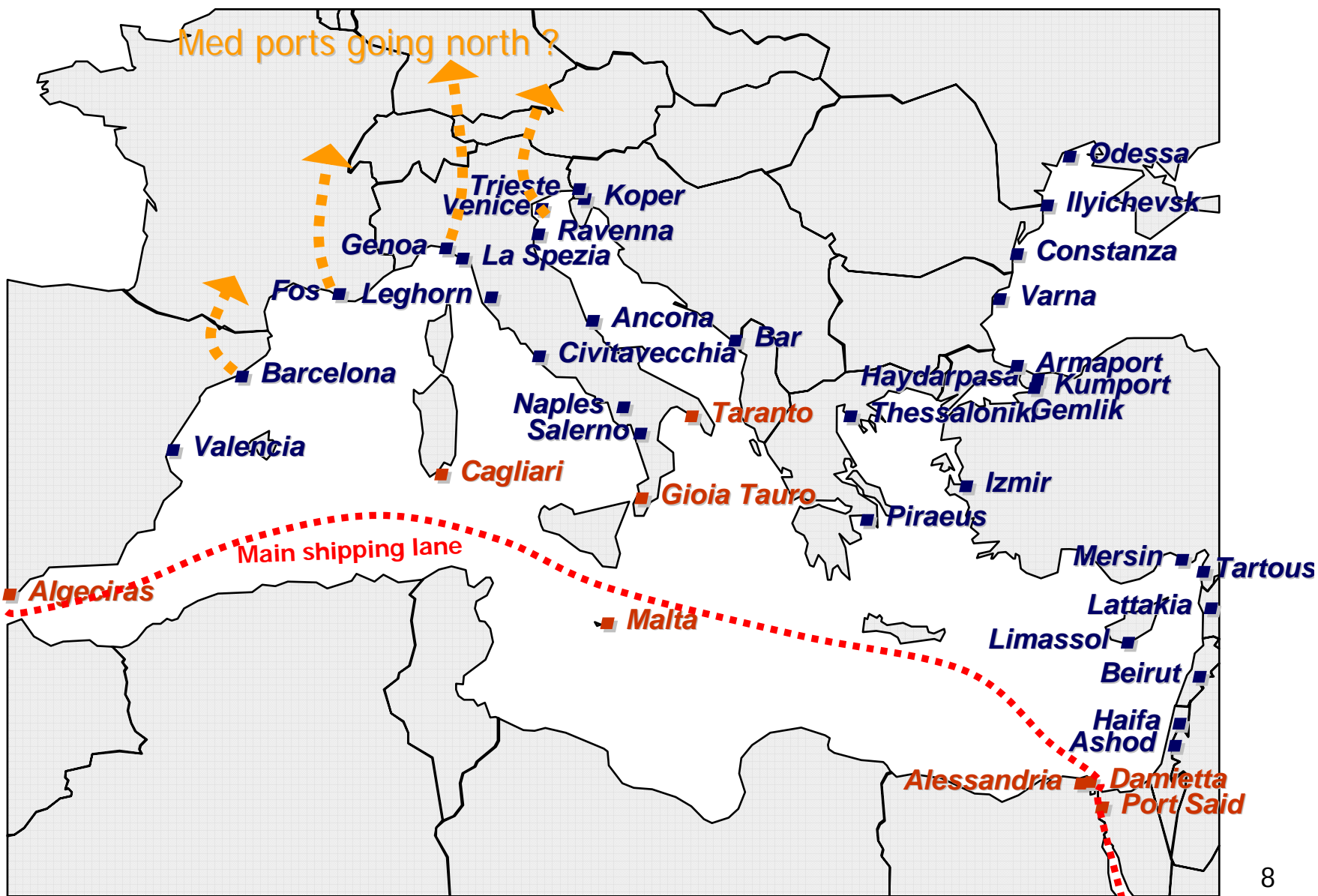
Configuration of port rotation in North Europe					No. of loops	% of total loops
Benelux	Germany	France	UK	Other		
1	1		1		10	28.6%
2	1		1		5	14.3%
1	1	1	1		5	14.3%
2	1	1	1		4	11.4%
1	1		1		2	5.7%
1	1			2	1	2.9%
2	1				1	2.9%
1	2		1		1	2.9%
1	1	1			1	2.9%
2		1	1		1	2.9%
1	2				1	2.9%
2					1	2.9%
2	1	1			1	2.9%
2	1				1	2.9%

Europe - US/Canada - 26 loops

Configuration of port rotation in North Europe					No. of loops	% of total loops
Benelux	Germany	France	UK	Other		
1	1		1		5	18.5%
2	1	1	1		3	11.1%
1	1				3	11.1%
1			1		3	11.1%
2	1		1		2	7.4%
1	1	1	1		2	7.4%
1	1		1		1	3.7%
1	1	1			1	3.7%
1			1		1	3.7%
1	2	1			1	3.7%
1		2	1		1	3.7%
1		1	1		1	3.7%
1	2	1	1		1	3.7%
1	1	2	1		1	3.7%

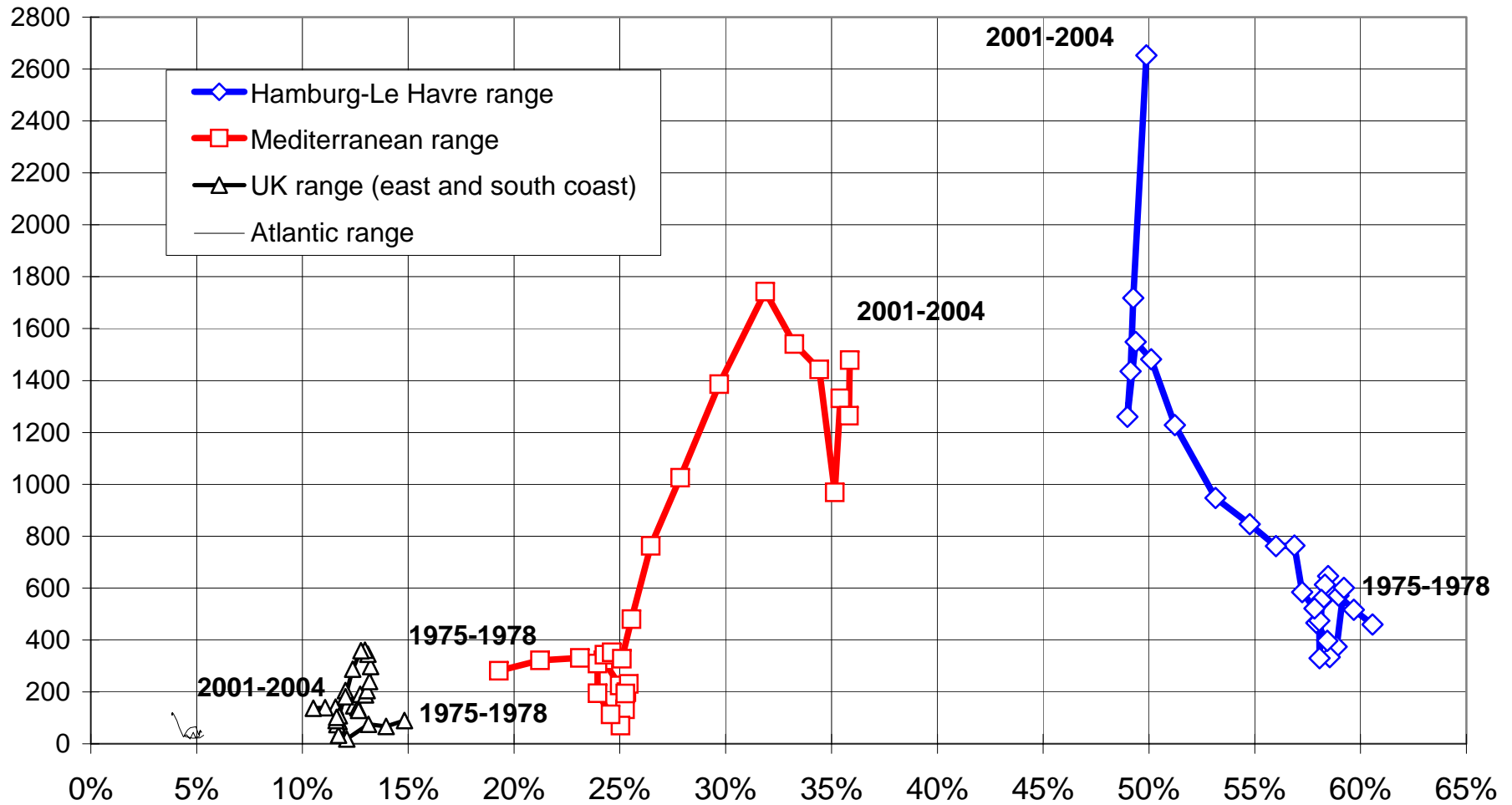
Conclusion: Shipping lines show a large diversity in calling patterns on the observed routes.

Port dynamics in the Med



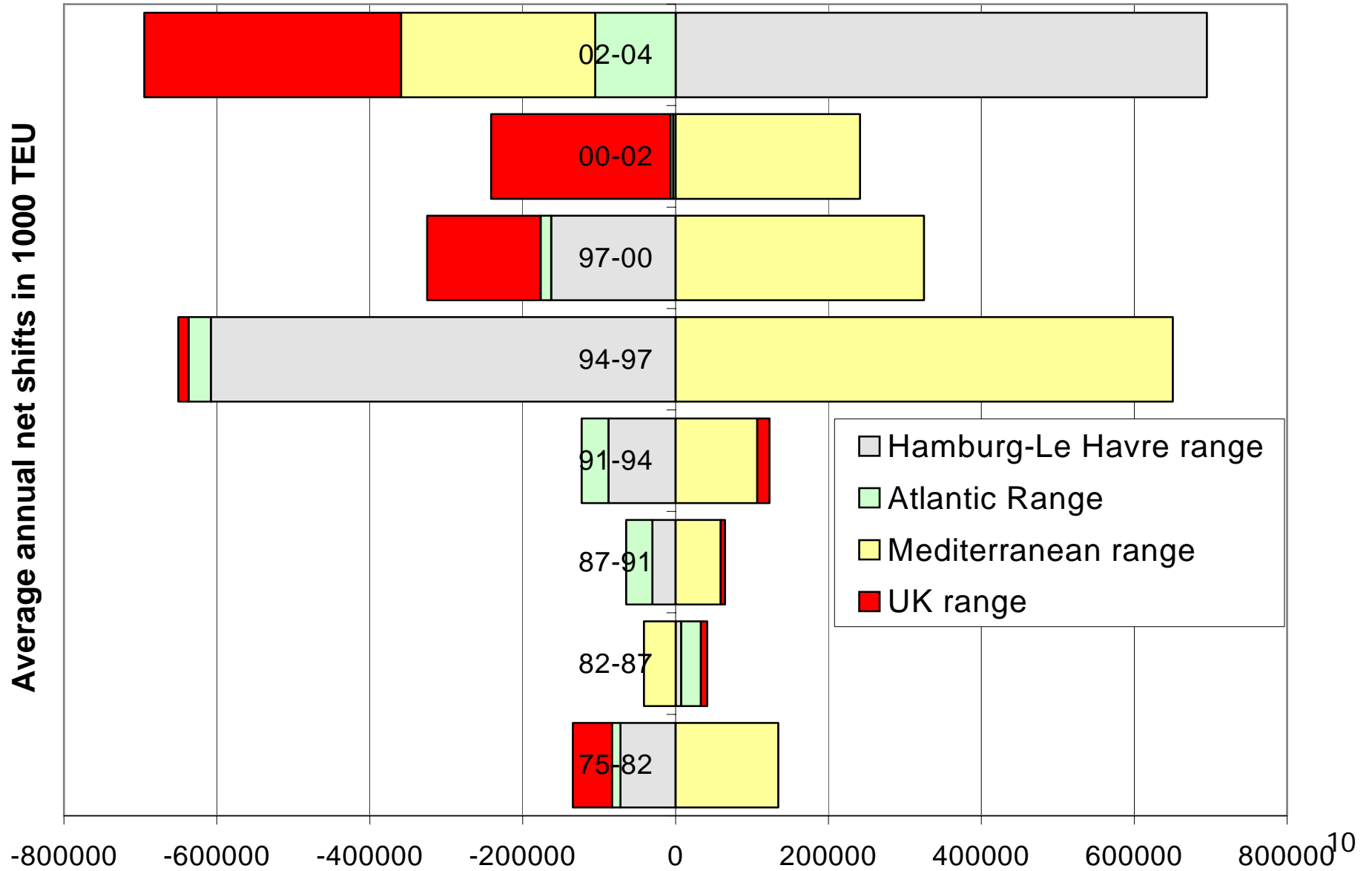
The rise of the West Med

Average annual growth in 1000 TEU (three year periods)

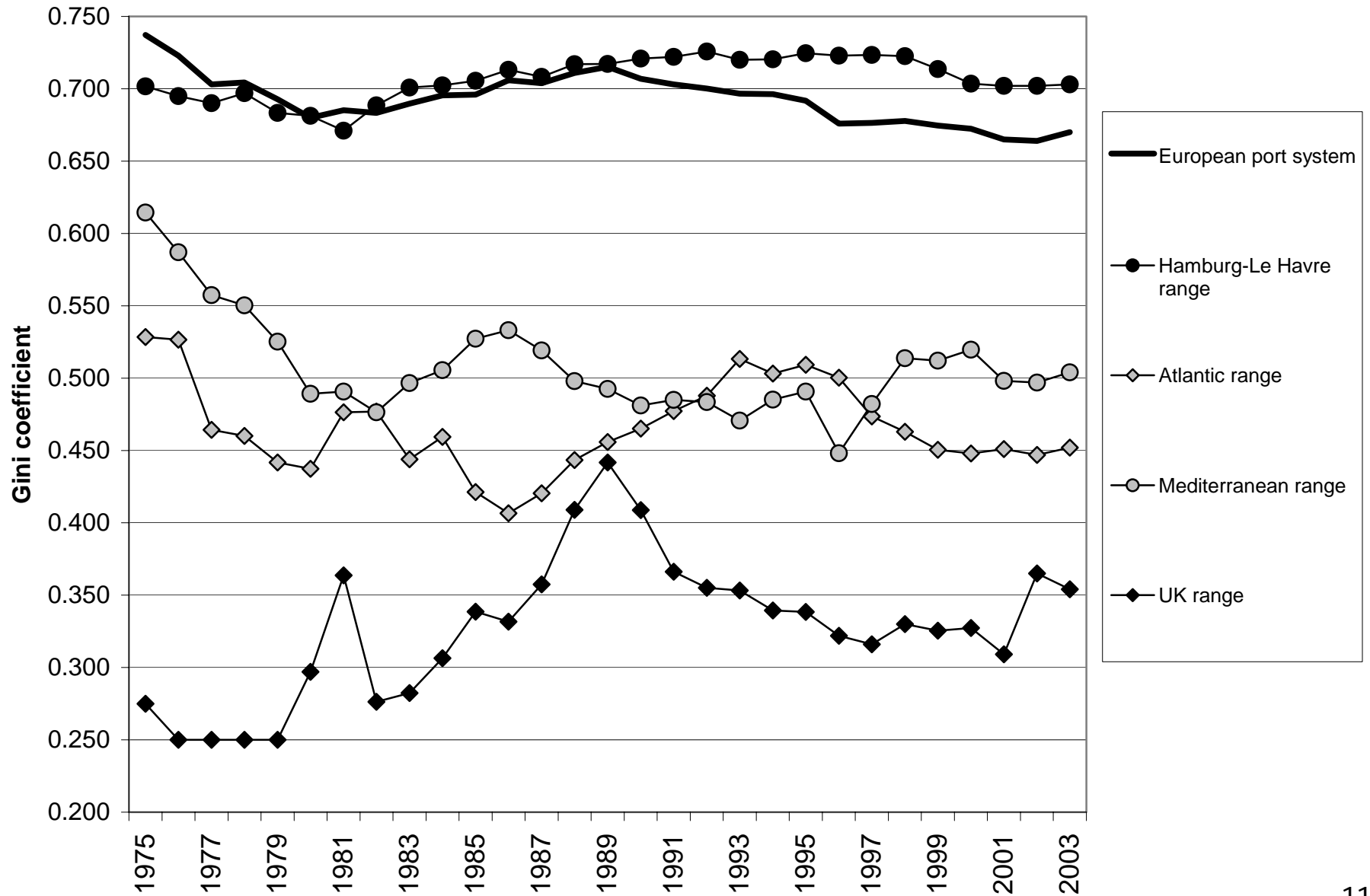


**Average market share in European container port system (47 ports)
for periods of three years**

Net shifts between European container port ranges (in TEU)



Gini concentration ratios for European port ranges



Port hierarchy in Europe

- Competition between port ranges
 - Insertion of hubs in Med, strong position of upstream ports in Le Havre-Hamburg range
 - Smaller/new ports up to now no match for established load centres
 - Baltic and Atlantic ports have found their place in the evolving port hierarchy
- => Renewed hierarchy in the European port system in the making as a response to the requirements of modern logistics systems ?



Theme 1: Securing port/terminal capacity...

... a stakeholders' battle

Container terminal development Future projects in Rotterdam

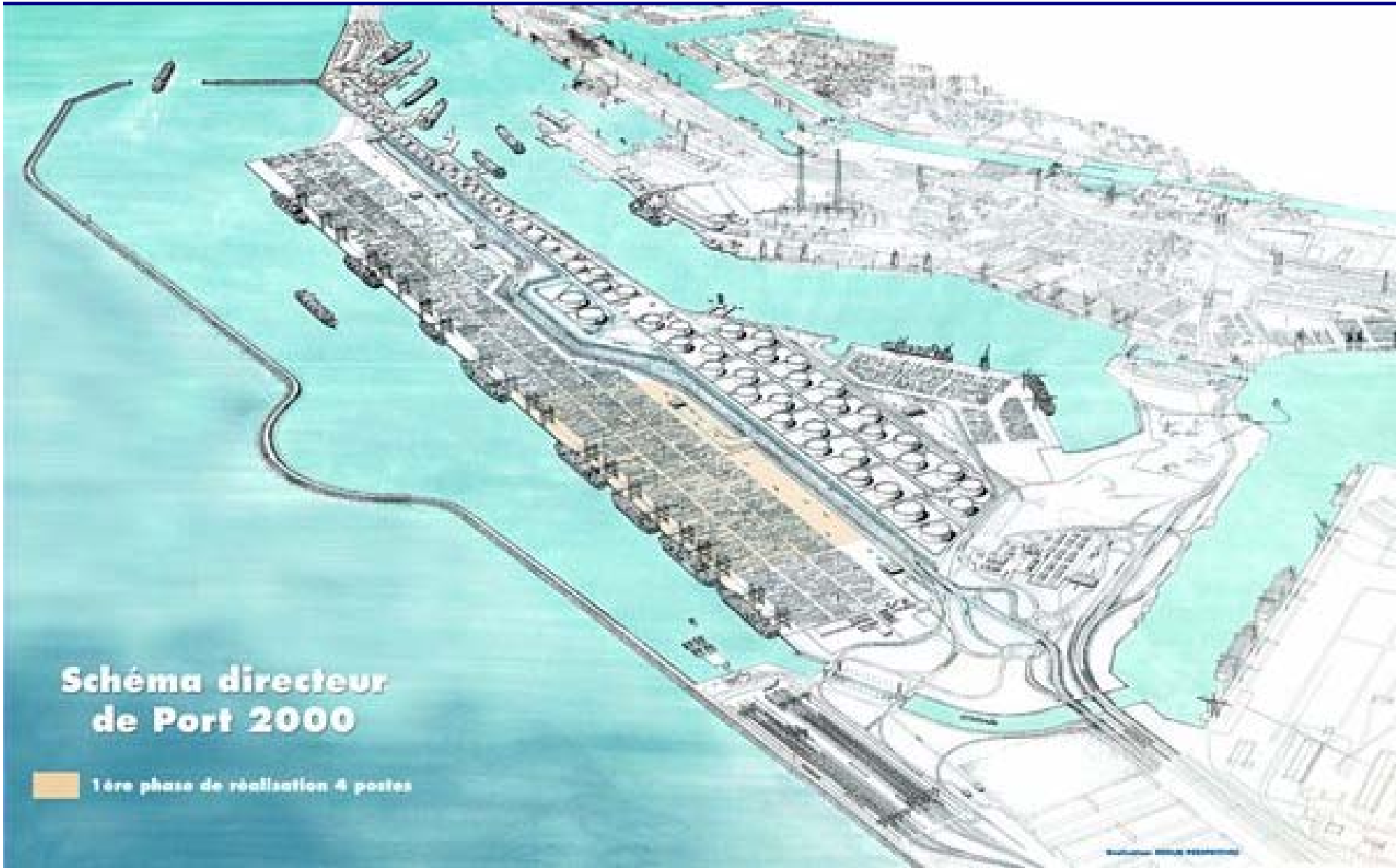


Deurganckdock (about 7 million TEU capacity) and proposed Saftingendock (20 berths)

- Deurganckdock opened in July 2005
- 5.3 km quay walls, 44 gantry cranes, 14.5m draft, 326 ha
- 7 million TEU capacity

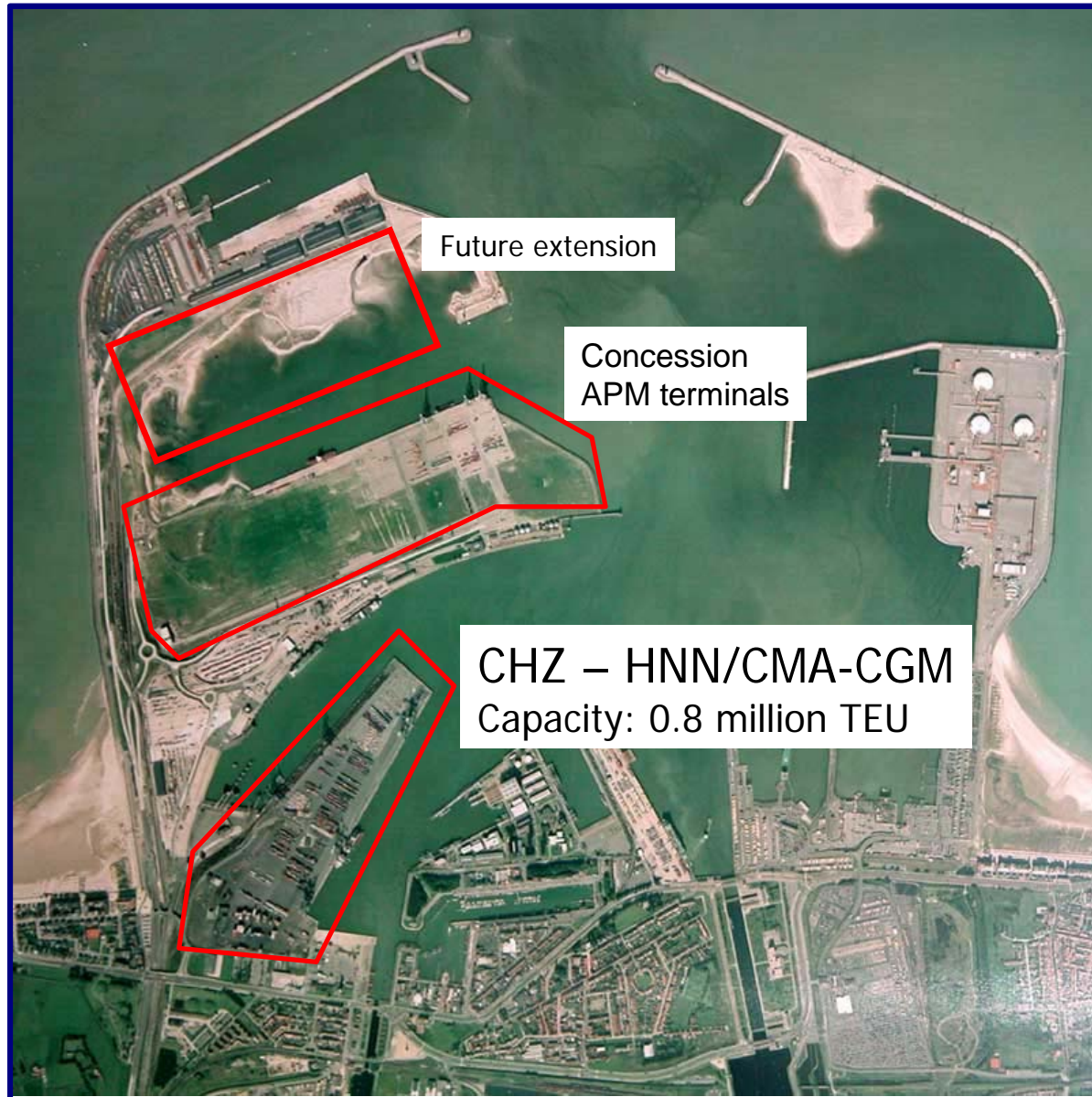


'Port 2000' – Le Havre



Altenwerder Terminal - Hamburg





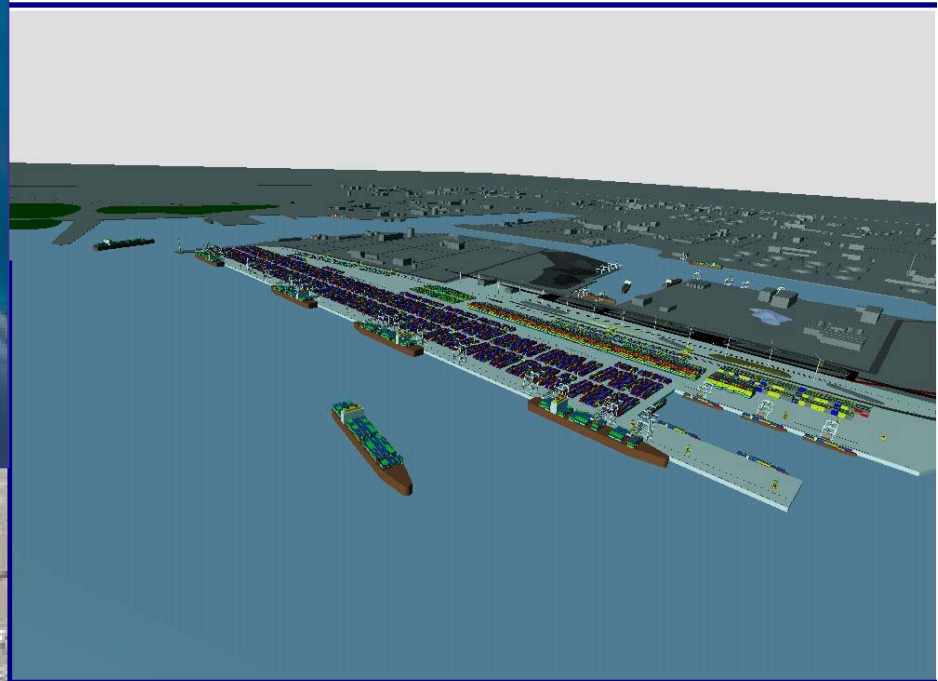
Future extension

Concession
APM terminals

CHZ – HNN/CMA-CGM
Capacity: 0.8 million TEU



Wilhelmshaven JadeWeserPort (planning phase))



Amsterdam Ceres Paragon Terminal (operational)

Flushing Westerscheldt CT (planning phase)

Estimated new terminal capacities in the Le Havre-Hamburg range added between 2005 and 2015

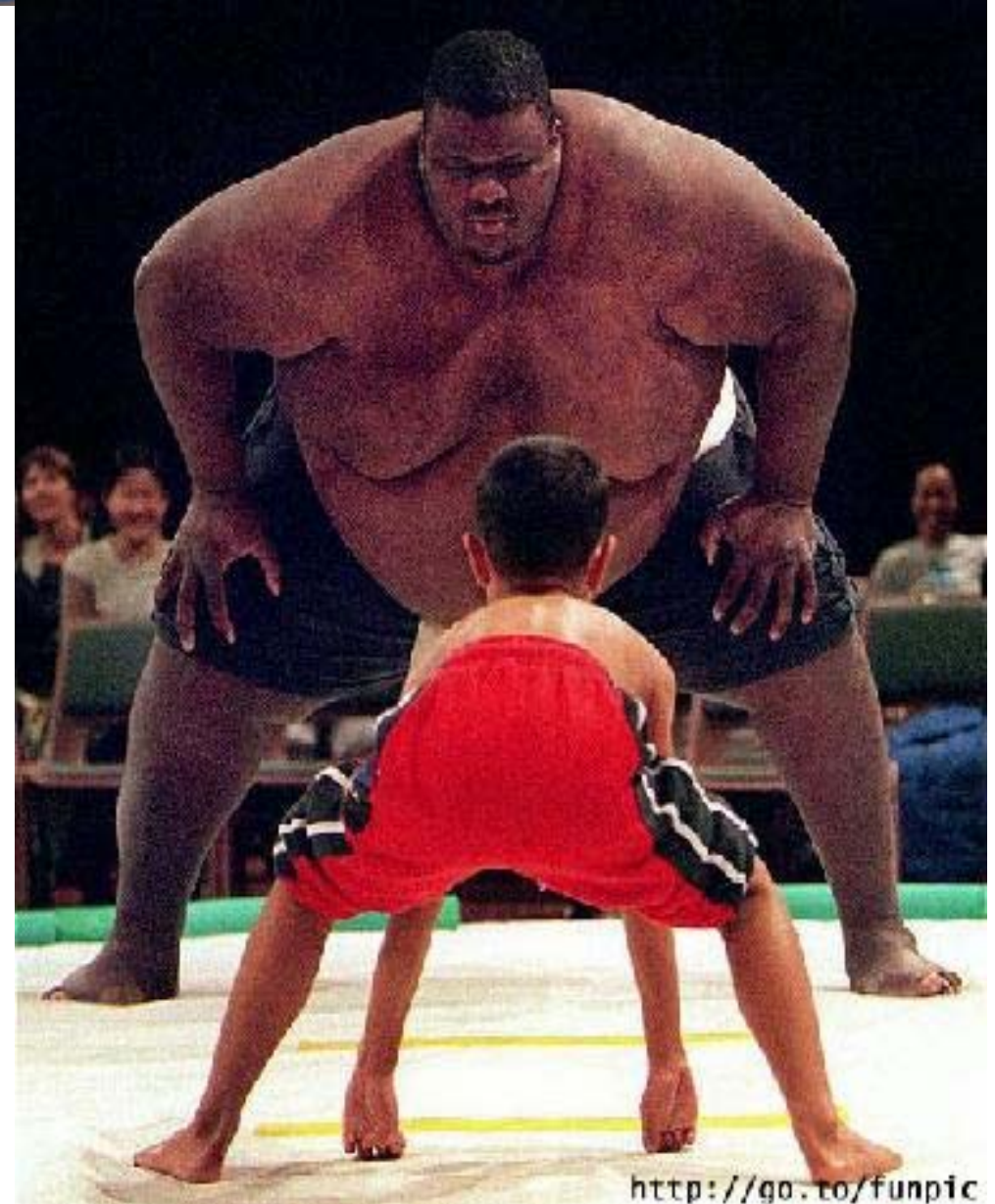
Estimated new capacity between 2005 and 2015 (in mln TEU) = 33.4

(maximum approach - only new terminals , no expansion/reconversion of existing terminals)

Large load centres	MIn TEU	%	Small and medium-sized (new) ports	MIn TEU	%
Rotterdam (Euromax, first phases Maasvlakte 2)	5.5	16%	Flushing - Westerscheldt Container Terminal	2.0	6%
Antwerp (Deurganckdock East & West)	7.0	21%	Amsterdam - Ceres Paragon Terminal	0.9	3%
Le Havre (Port 2000, phase I, II and III)	3.0	9%	Dunkirk - Quai de Flandres	0.8	2%
Hamburg (Steinwerder, Burchardkai, Tollerort)	7.5	22%	Zeebrugge (Albert II Dock)	2.0	6%
Bremerhaven (CT4)	2.0	6%	JadeWeserPort	2.7	8%
<i>SUBTOTAL</i>	<i>25.0</i>	<i>75%</i>	<i>SUBTOTAL</i>	<i>8.4</i>	<i>25%</i>

All ports	MIn TEU	%	All ports	MIn TEU	%
Belgium	9.0	27%	Upstream ports	15.4	46%
the Netherlands	8.4	25%	Downstream ports	18.0	54%
Germany	12.2	37%			
France	3.8	11%			

- Large ports are gaining 'weight'
- Smaller/new ports:
 - Vicious cycle in intermodal networks ?
 - Planning experience ?
 - Cargo generating capabilities ?



The East-West axes of DP World and HPH?

- Barge and rail
- Role Duisburg !

The 'coastal wall' of APMT

- Maximum presence in entry points

The North-South axis of Eurogate:

- Rail ! Boxxpress.de, Sogemar (cf. Hannibal Express)
- Terminal Dortmund, Interporti

- = Eurogate
- = Hutchison PH
- = PSA (incl. HNN)
- = DP World
- = APM Terminals



Source: Notteboom

Shipping lines are securing capacity

Situation for the Le Havre-Hamburg range

Terminal operator	Terminals	Status
APM Terminals	APM Terminals - Rotterdam (100%) Terminal at Maasvlakte II – Rotterdam (no granting yet) North Sea Terminal Bremerhaven (50%) APM Terminals - Zeebrugge APM Terminals – Dunkirk	In operation since 2000 Planning phase In operation In operation since 2006 In operation since 2005
NYK	Ceres Paragon Terminal – Amsterdam	In operation
MSC	MSC Home Terminal - Antwerp (joint venture with PSA) Le Havre (joint venture with Terminaux de Normandie)	In operation since 2003 Under development
Hapag-Lloyd	CT Altenwerder – Hamburg (minority stake of 25.1%)	In operation since 2002
CMA-CGM	Port Synergy (joint venture with P&O Ports) - Le Havre 35% shareholding in CHZ - Zeebrugge (since July 2005) Minority shareholding in Antwerp Gateway – Antwerp	In operation In operation In operation since 2005
Cosco Pacific P&O Nedlloyd	Minority shareholdings in Antwerp Gateway - Antwerp	In operation since 2005

Securing port capacity



- Capacity planning:
 - Environmental considerations are prominent
 - Port authorities versus terminal operators
 - Port authorities: weak support for 'port co-opetition'-model
 - Do large load centres have an edge over smaller ports in getting projects approved ?

- Economic rent:
 - Local externalities versus international benefits
 - Stronger involvement of landlord port authorities ?

- The battle for securing port capacity has only just begun



Theme 2: Binding cargo to the port

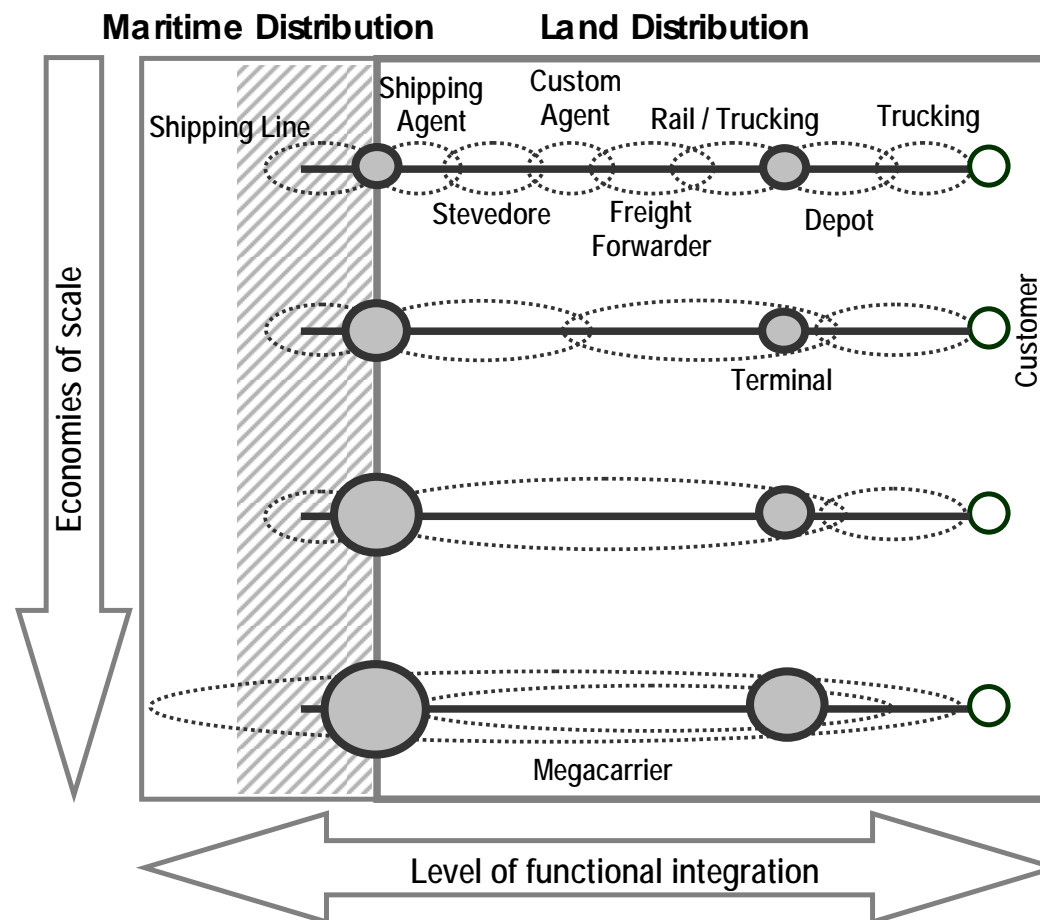
How it used to be ..



- Historical roots paid off (e.g. position Antwerp in African trades, ..)
- Local terminal operators with strong link to home port
- Small forwarding agencies as engines of cargo binding

The changing port environment

- Vertical and horizontal integration (terminal networks, strategic alliances, megacarriers, ..)
- Dynamics in SCM (outsourcing, etc..)



Binding cargo to the port

- Not an easy task
 - 'Footloose' actors with a strong bargaining power
 - Port loyalty ?
 - Identification of chain managers
 - Balance of power between shipping lines ('cargo follows ship') and shippers ('ship follows cargo')
 - Distinction between suppliers and demanders is getting blurred

Binding cargo to the port

- The challenge: 'Anchor' logistics actors with decision power
 - Identify what customers expect from ports in a supply chain perspective
 - Integrate the port in broader networks (actors and nodes)
- The issues
 - The 'tonnage' and 'vessel' fetish: revenue basis of port authorities
 - Supply chain focus in many ports is still in its infancy
 - Smaller and new container ports: satellite nodes with low value-added ?
 - 'Anchoring' of logistics players inside port area a must ?

Conclusions: lessons for Korea ?

- Port hierarchy is not challenged by smaller ports
- Securing port capacity remains major challenge
- Port competition is largely affected by the balance of power between market players
- Creation of added-value ?