

Economic perspectives for the Container Industry - implications for the European intermodal sector

Mike Garratt & Antonella Teodoro

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MDS Transmodal

Agenda

- Growth trends in world trade
- Deep-sea capacity and utilization levels
- Increased ship sizes scale economies and Industry concentration
- Potential deep-sea impacts of ECA on route strategies and choice of port
- Relationship between lines and intermodal suppliers

Analysis based upon

- Our World Cargo Database (WCD) that covers and forecasts trade at county x county x commodity by tonnes and TEU
- Our Global containership databank covering deployment of each lo-lo and ro-ro ship
- Our Financials model that estimates detailed costs and revenues at the ship/string level by operator, allocating cargo by ship deployment

Maersk's performances, 2013: MDST estimations v. Maersk results

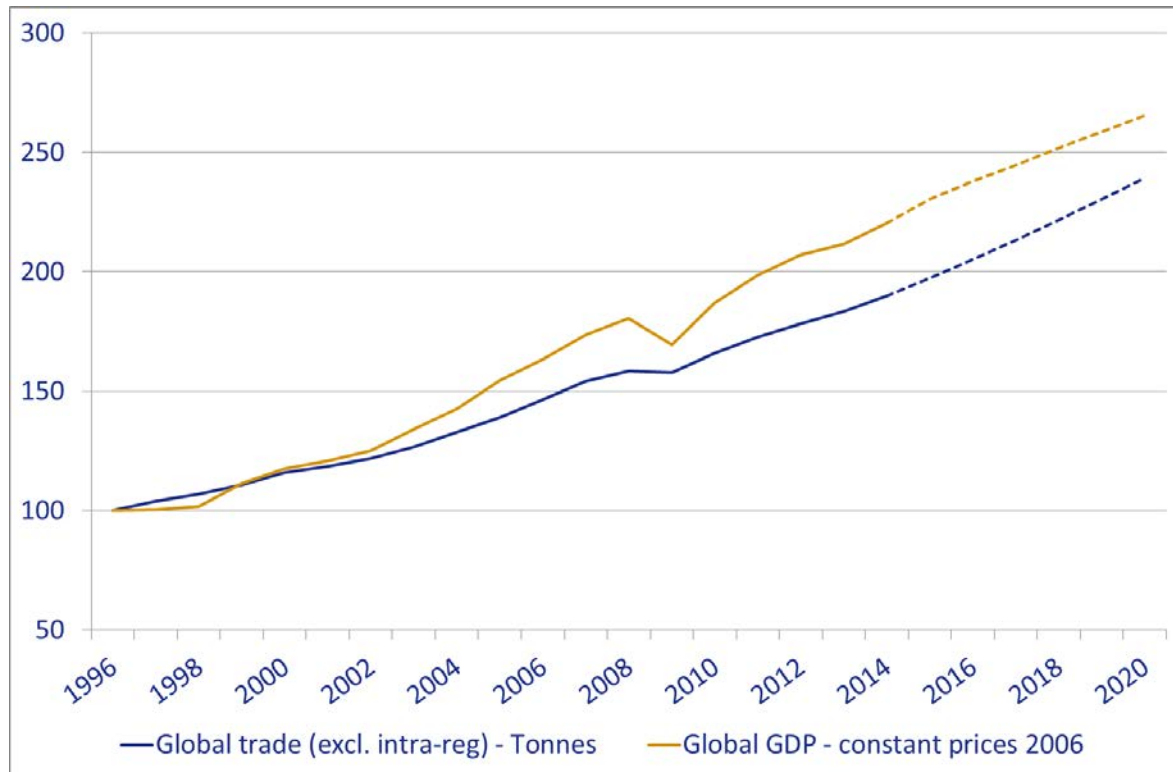
All Maersk services, 2013

	Maersk Annual Report 2013	Model (MDST) 2013
Demand (m TEU)	17.60	+2%
Capacity (m TEU)	2.63	-4%
Unit cost (\$/TEU)	1,300	-6%*
Average rate (\$/TEU)	1,337	-5%*
Bunker consumption (tonnes/TEU)	0.50	+1%
Average fuel price (US\$/tonne)	595	+5%

*MDST excludes where line pays for inland haulage

- Maersk most transparent of the lines in its reporting
- Therefore provides opportunity to validate model results
- Model within 5% of most key comparators

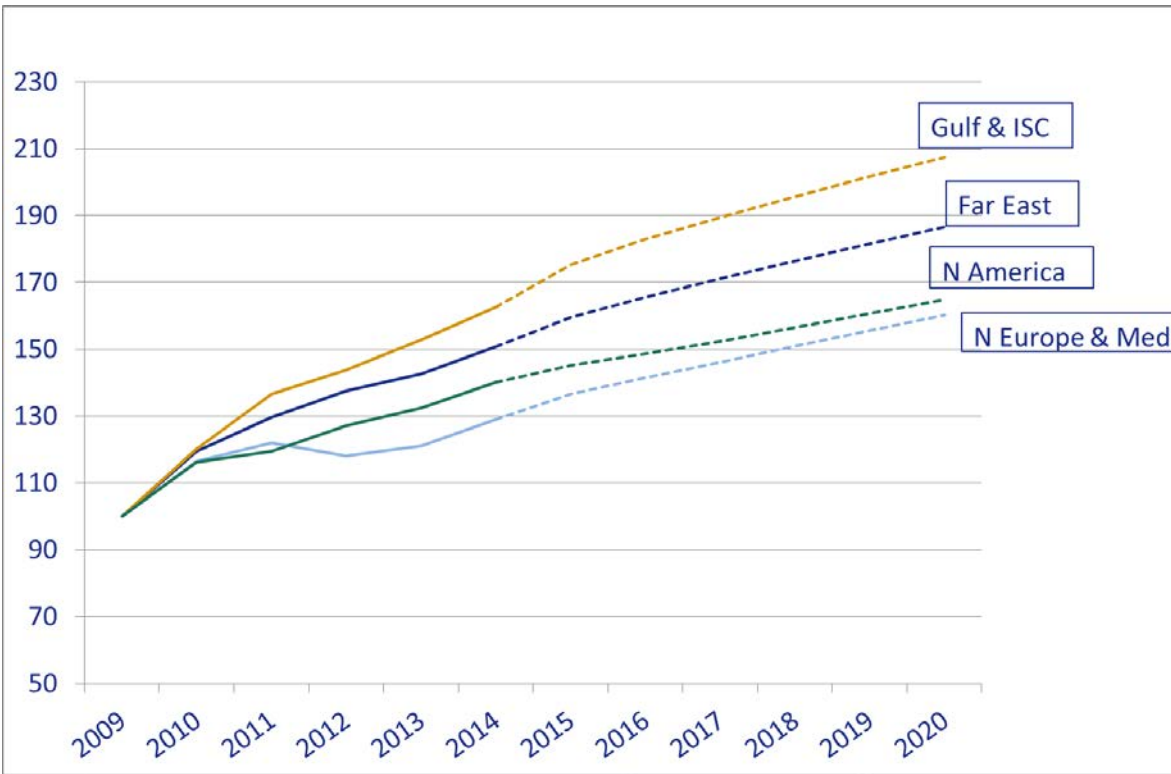
Global trade (tonnes) v. Global GDP



Source: MDST World Cargo Database (Oct 2014) and IMF

- Growth in trade (tonnes) consistent with GDP growth 1996 – 2002
- Acceleration post 2002 until the crash reflected trade liberalisation above GDP growth: a continuing political aspiration
- Trade growth remains above GDP growth so vulnerable to liberalisation
5 slowing

Global trade by importing region (excl. intra-reg flows), TEU Index 2009=100

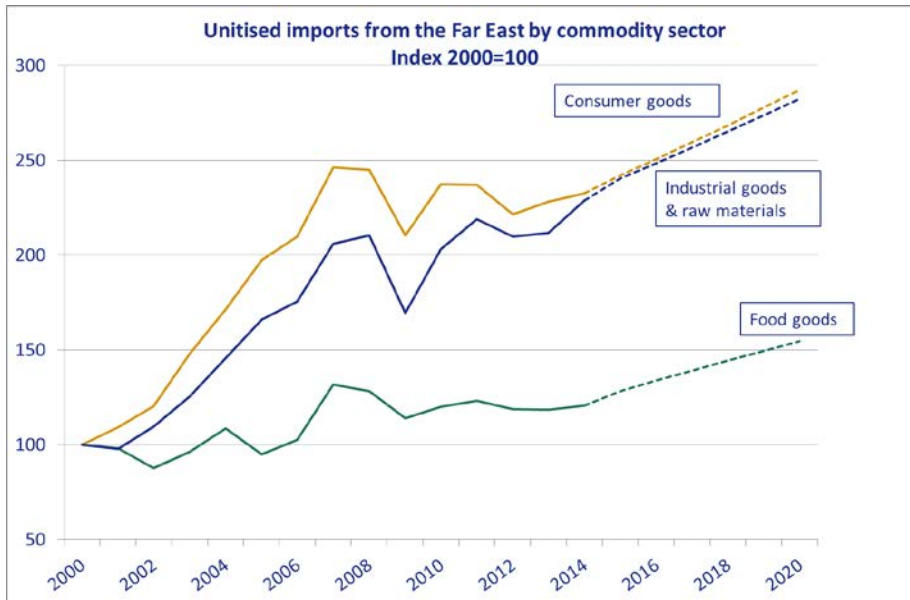


Source: MDST World Cargo Database (Oct 2014)

- Europe experiencing lowest growth rate
- European imports forecast to grow at some 4% per annum
 - which far exceeds GDP growth
 - Imports therefore continue to substitute for domestic production

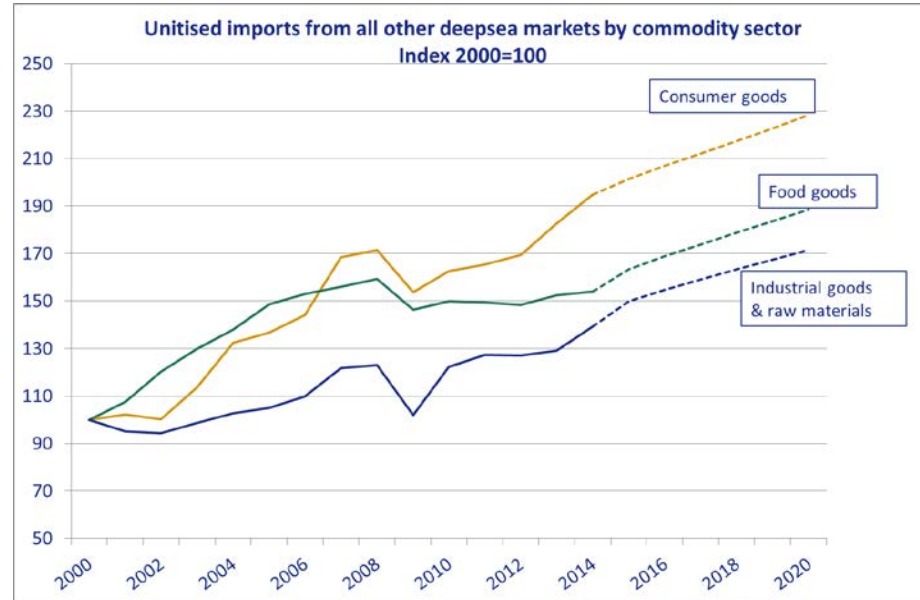
Unitised imports into N Europe & Med by commodity sector, Index 2000=100

from Far East



Source: MDST World Cargo Database (Oct 2014)

from all other origins

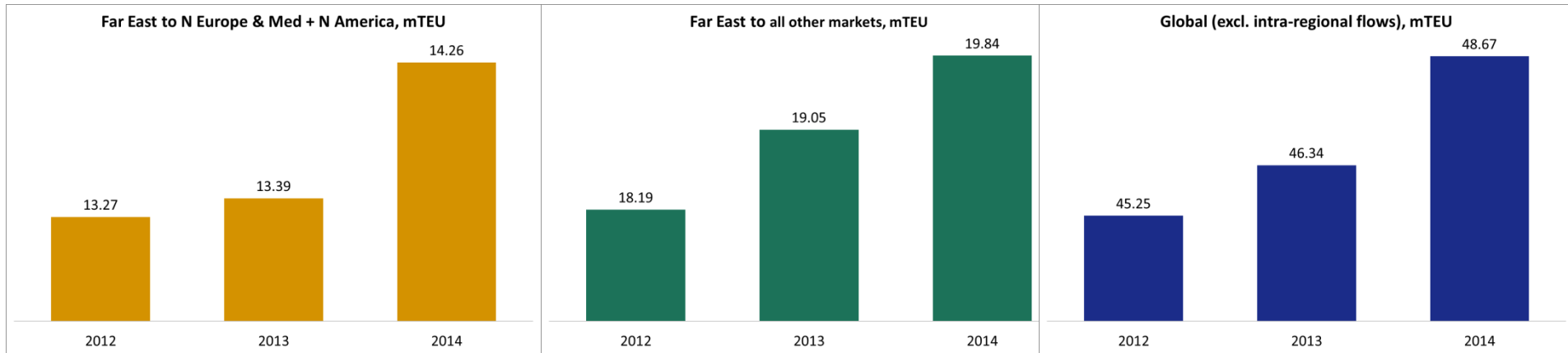


Source: MDST World Cargo Database (Oct 2014)

- Volumes recovering as industrial goods expand most rapidly
- Overall growth forecast 2013 to 2020 of 4.0% per annum
 - food goods yet to take off

- Growth from other deep-sea sources also expanding
- Overall growth forecast 2013 to 2020 of 3.8% per annum
 - but industrial imports lag

Recovery in 2014: global trade results



Source: MDST World Cargo Database (Oct 2014)

Growth rates: 2013H1 – 2014H1

6.5%

4.2%

5.0%

"Gradually improving global macroeconomics resulted in global container demand gaining momentum and growth of about 4-5% compared with Q2 2013. The developed economies upturn looks to continue and Maersk Line forecasts container trade growth of similar extent in the second half of this year and a 2014 full growth estimate of Between 4-5% "

Maersk interim report 2014 Q2

Growth and ship orders

- Mass of new large ship orders in last 2 years.....so what was the view in 2011?
- In 2011 MDST global forecasts for 2014 volumes to exceed pre-crash volumes by 36.5%
 - actual increase 2007 to 2014 will be approx 34.5%
 - other commentators' forecasts probably similar.....massive growth was not being projected
- Global container trade is now accelerating: annual forecast +5.2% for the full year 2014
 - increase of + 6-7% on the busiest routes (Far East to Europe/North America)
- Forecast from 2014 to 2016 is expansion for all deep-sea containers to Europe of 10.1%
- Yet new orders means world container fleet capacity expected to expand by 16% by 2016
 - the capacity of the fleet of >15,000 TEU ships to grow by c. 146%
 - ordering all that capacity therefore cannot be explained by over-estimation in 2011
- Explanation self-evident
 - rising bunker prices from 2006 to 2013 incentivised lines to build larger ships to reduce energy costs/TEU and gain competitive advantage, at the risk of over-supply
 - current fall in bunker prices will not change behavior: prices still 2 to 3 times higher over a decade
- In practice medium sized operators are forced to invest in larger ships
 - to gain entry into one of the four alliances
 - even the sceptical now accepting case for 18,000 teu ships (Evergreen, November 2014)

Global order book by capacity (2016)

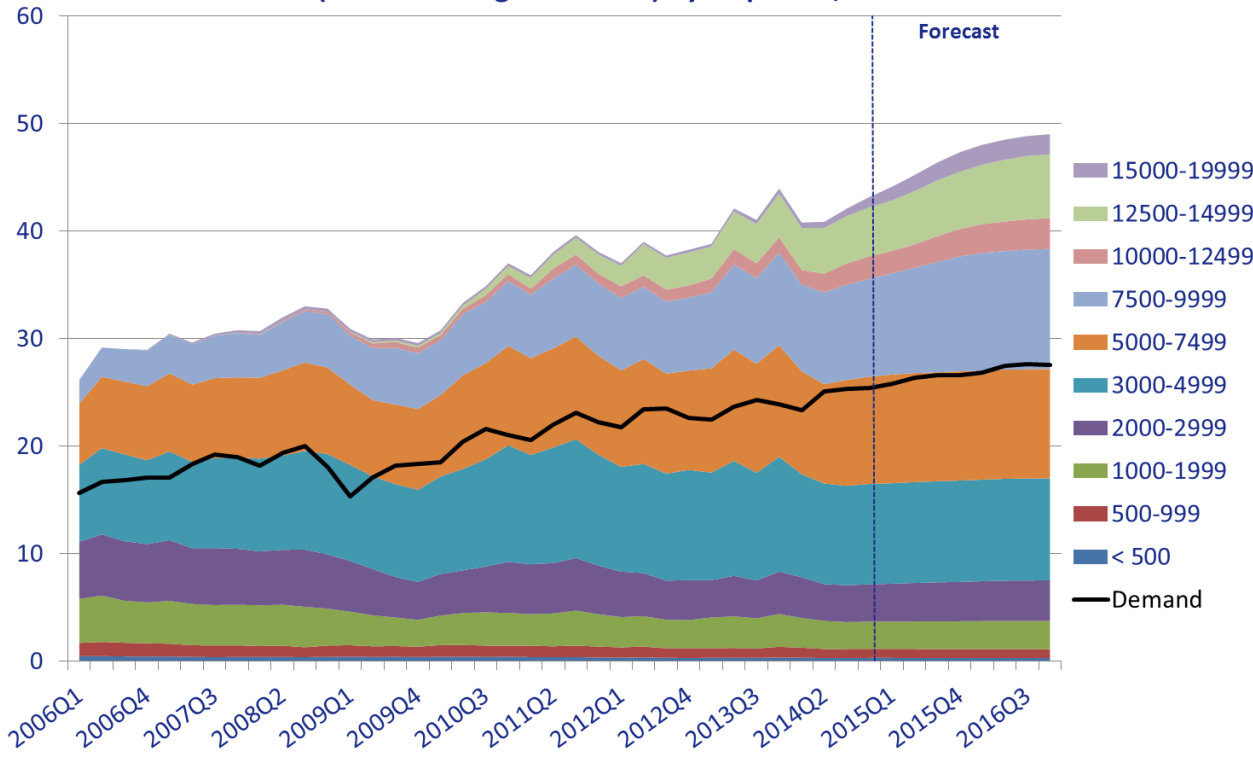
TEU Class	Extra TEU by 2016Q4	increase over 2014Q4 base (%)
15000-19999	595,727	146%
12500-14999	633,410	30%
10000-12499	277,800	38%
7500-9999	781,724	23%
5000-7499	62,400	2%
3000-4999	74,317	2%
2000-2999	133,628	9%
1000-1999	62,195	5%
500-999	544	0%
< 500	-1,266	-3%

- Overall newbuilds to increase fleet capacity by 16%
 - for ships > 15,000 TEU increase is **146%**
- But (our) forecast demand growth is only 10% (excl. intra regional flows) to 2016
 - excess demand can only reduce rates

Global capacity v demand: 2008-2012-2016

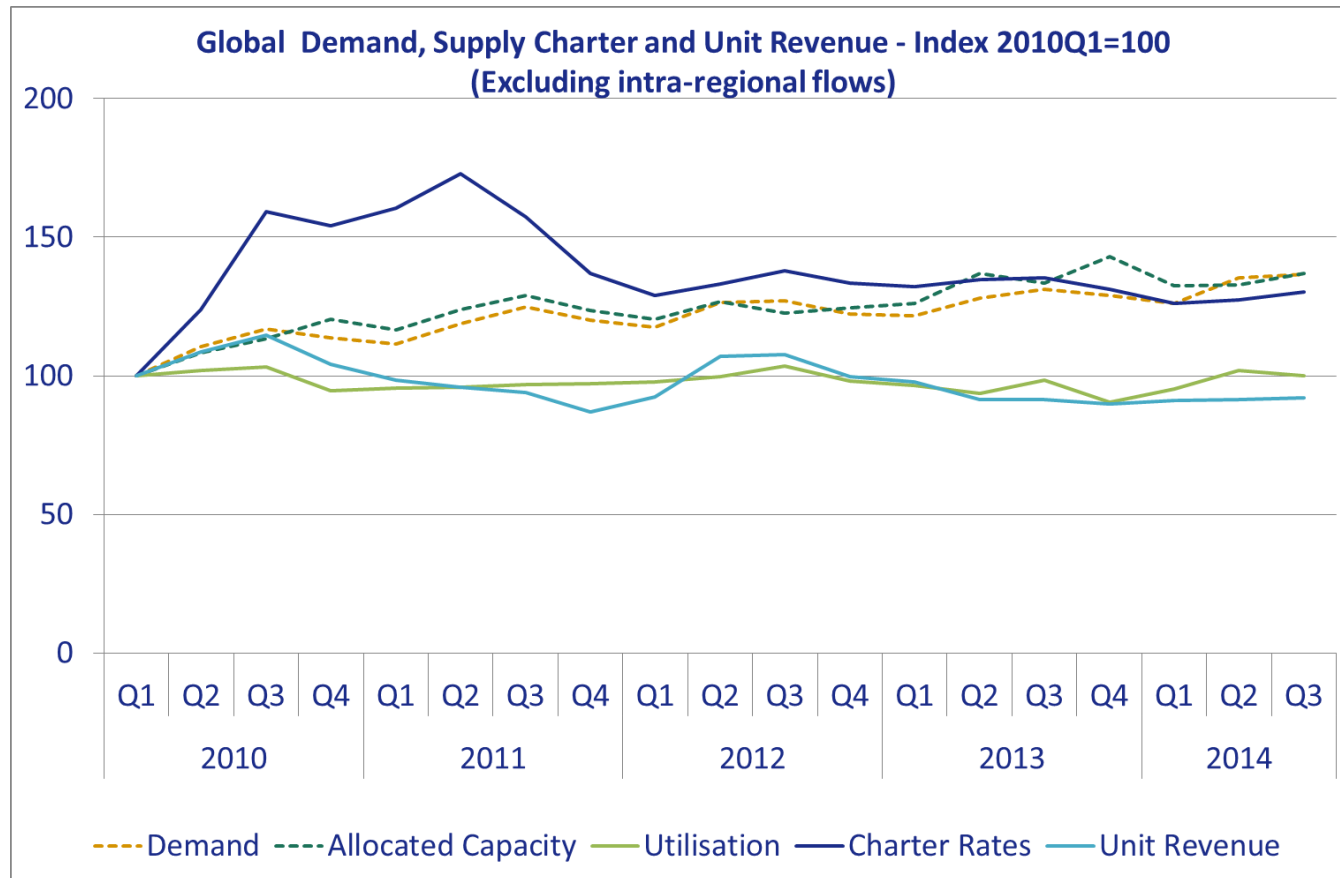
(excl. intra-regional flows)

Global Allocated Capacity v. Demand
(excl. intra-regional flows) by ship class, mTEU



- 2008-2012: Demand grew by **28%** while capacity grew by **14%**
- 2012-2016: Demand forecast to grow by **20%** while capacity forecast (ships of at least 3,000teu) to grow by **36%**
- Oversupply likely to continue to lead to falling rates despite withdrawal of some older ships

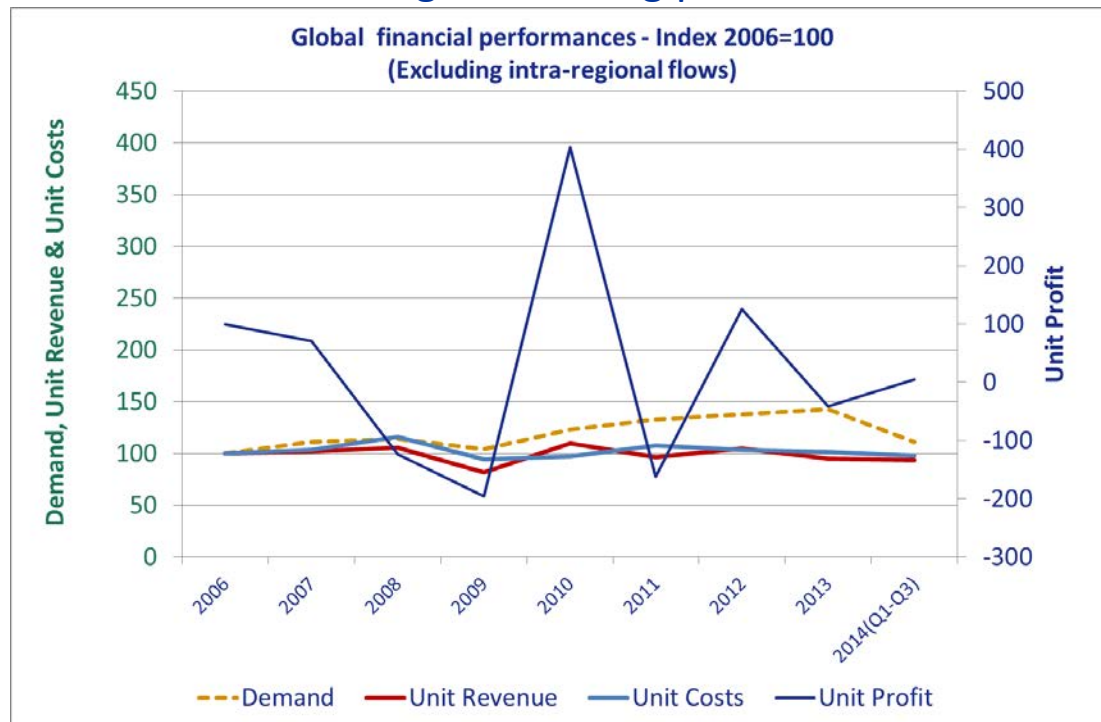
Impact on unit revenue and charter rates



- Clear evidence that drop in utilization reduces unit revenues
- evidence of the last few years irrefutable
- Smaller ships have lost viability

Impact on Shipping Line performance since 2006

- Important for the lines to better balance supply/demand.
- No surprise that restructuring now taking place to create the 4 alliances



- Very important for shippers to understand shipping line costs as industry consolidates
- Fluctuation in profit now stabilising

Recent line behaviour: market concentration

	Present fleet (overall fleet)				Newbuilds (>3,000TEU)		Present + newbuilds	Future - as announced by shipping lines	
	No. owned	No. chartered	Total No. of ships	Mean ship capacity TEU	No. of ships	Mean ship capacity TEU		No. of ships	Mean ship capacity TEU
2M Members									
-Maersk	73	45	118	9,365	11	14,760	129		
-MSC	56	62	118	9,610	43	12,516	166		
2M Members Total	129	107	236	9,487	54	12,973	290	185	11,279
CKYHE-Green Alliance	135	106	241	7,683	53	12,062	294		
G6 Alliance	170	101	271	7,284	27	10,993	298		
Ocean 3	89	64	153	8,229	63	12,795	222	159	9,719
All Alliances	523	378	901	8,171	197	12,206			
Others	56	49	105	4,620	95	6,869			
Total	579	427	1,006	7,762	292	10,600			

2M members

Ocean Three

Present fleet **236 + 54 on order = 290**

153 + 63 on order = 226

Planned fleet **185**

159

Vessels cut **105**

67

Mean ship capacity **+18% to 11,279 TEU**

+18% to 9,719 TEU

- Lines have clear interest in disposing of the smaller vessels
- In the expectation they will leave the market!

Profit by size class: 2013 v 2014

- global (excl. intra)

Allocated capacity (>3000 TEU)

TEU Class	2014Q1-Q3	% change
3000-4999	28,175,654	-8%
5000-7499	28,672,168	-5%
7500-9999	25,444,029	11%
10000-12499	5,086,686	24%
12500-14999	12,584,265	24%
15000-19999	1,743,909	88%
Grand Total	101,706,711	3%

-7% (for 3000-4999 and 5000-7499)
 +13% (for 7500-9999, 10000-12499, and 12500-14999)
 +30% (for 15000-19999)

Financial performances (>3000 TEU)

TEU Class	Profit				% change over 2013	
	2013 Q1-Q3 (m\$)	2014 Q1-Q3 (m\$)	Diff. (m\$)	% contribution to total profit growth	Unit costs	Unit revenue
3000-4999	780	176	-604.2	-28.1%	-3%	-5%
5000-7499	-158	419	577.4	26.9%	-4%	-2%
7500-9999	-367	694	1,060.3	49.3%	-5%	1%
10000-12499	-14	164	178.6	8.3%	-2%	3%
12500-14999	-155	662	817.1	38.0%	-5%	3%
15000-19999	-17	103	119.8	5.6%	-4%	5%
Grand Total	69	2,218	2,149.0	100.0%	-4%	-1%

- Half of all improvement in profitability driven by ships in 7,500 -10,000 teu range
- But in Q1 – Q3 2014, ships of >12,500 moved 30% more than Q1 – Q3 2013
- Profit generated by ships smaller than 5,000teu down by 80%
 - during the first 3 quarters of 2014, these ships moved 8% less than Q1 – Q3 2013
- Radical shifts: lines cannot afford to retain smaller ships!

Map of ECA in Europe and North America



Rate increases proposed by the lines to address ECA regulation (1st January 2015)

- Impact of ECA creates another tension between lines and shippers
- While falling bunker costs should reduce rates
 - \$150/tonne drop over 6 months implies mean cut of \$75/TEU (global mean)
- Major customer alert warnings send out so far on how much bunker surcharge might increase (based on current fuel costs):
 - Maersk: \$50-\$150/FEU
 - MSC: \$15-\$130/TEU
 - CMA-CGM: \$40-\$230/FEU
 - Unifeeder: \$84/loaded container

Do these estimates by the lines make sense?

Worked examples

1. Transatlantic
2. N Europe - Gulf & ISC - Far East
3. Transpacific

Estimates based on the assumption that Marine Gas Oil 50% more expensive than higher sulphur heavy fuel and current fuel prices (i.e. average so far for 2014Q4 of \$557/tonne)

Bunker costs increase due to ECA regulation (1st January 2015) - MDST estimates are:

	Before ECA				After ECA		
	Transatlantic	N Europe - Gulf & ISC - Far East	Transpacific		Transatlantic	N Europe - Gulf & ISC - Far East	Transpacific
Frequency	52	52	52	Frequency	52	52	52
No of Vessels	5	11	5	No of Vessels	5	11	5
Average Vessel Size	5,767	12,355	4,058	Average Vessel Size	5,767	12,355	4,058
Load factor	0.8	0.8	0.8	Load factor	0.8	0.8	0.8
Loadings	2	2	2	Loadings	2	2	2
Speed	16.25	18.22	18.86	Speed	16.25	18.22	18.86
Bunker consumption (day at sea)	77	157	100	Bunker consumption (day at sea)	77	157	100
Number of Ports	7	11	5	Number of Ports	7	11	5
Total Distance	8,575	22,065	11,687	Total Distance	8,575	22,065	11,687
Panama	0	0	0	Panama	0	0	0
Suez	0	2	0	Suez	0	2	0
SECA Distance				SECA Distance	2,693	1,626	785
Bunkers	\$961,784	\$4,468,520	\$1,453,285	Bunkers	\$1,105,899	\$4,628,683	\$1,500,763
Fixed Cost	\$2,647,470	\$12,554,143	\$2,645,126	Fixed Cost	\$2,791,585	\$12,714,305	\$2,692,604
Bunker % of total cost	36%	36%	55%	Bunker % of total cost	40%	36%	56%
SECA Distance/overall distance	0%	0%	0%	SECA Distance/overall distance	31%	7%	7%
Bunker cost(\$)/TEU	\$208	\$452	\$448	Bunker cost(\$)/TEU	\$240	\$468	\$462
				imbalance factor	1.2	1.6	1.2
Total unit cost(\$)/TEU	\$574	\$1,270	\$815	Total unit cost(\$)/TEU	\$605	\$1,286	\$829
	Bunker cost (or saving)/all FEU loaded				\$68	\$40	\$32
	Bunker cost - cost increase (%)				15%	4%	3%
	Total cost - cost increase (%)				5%	1%	2%

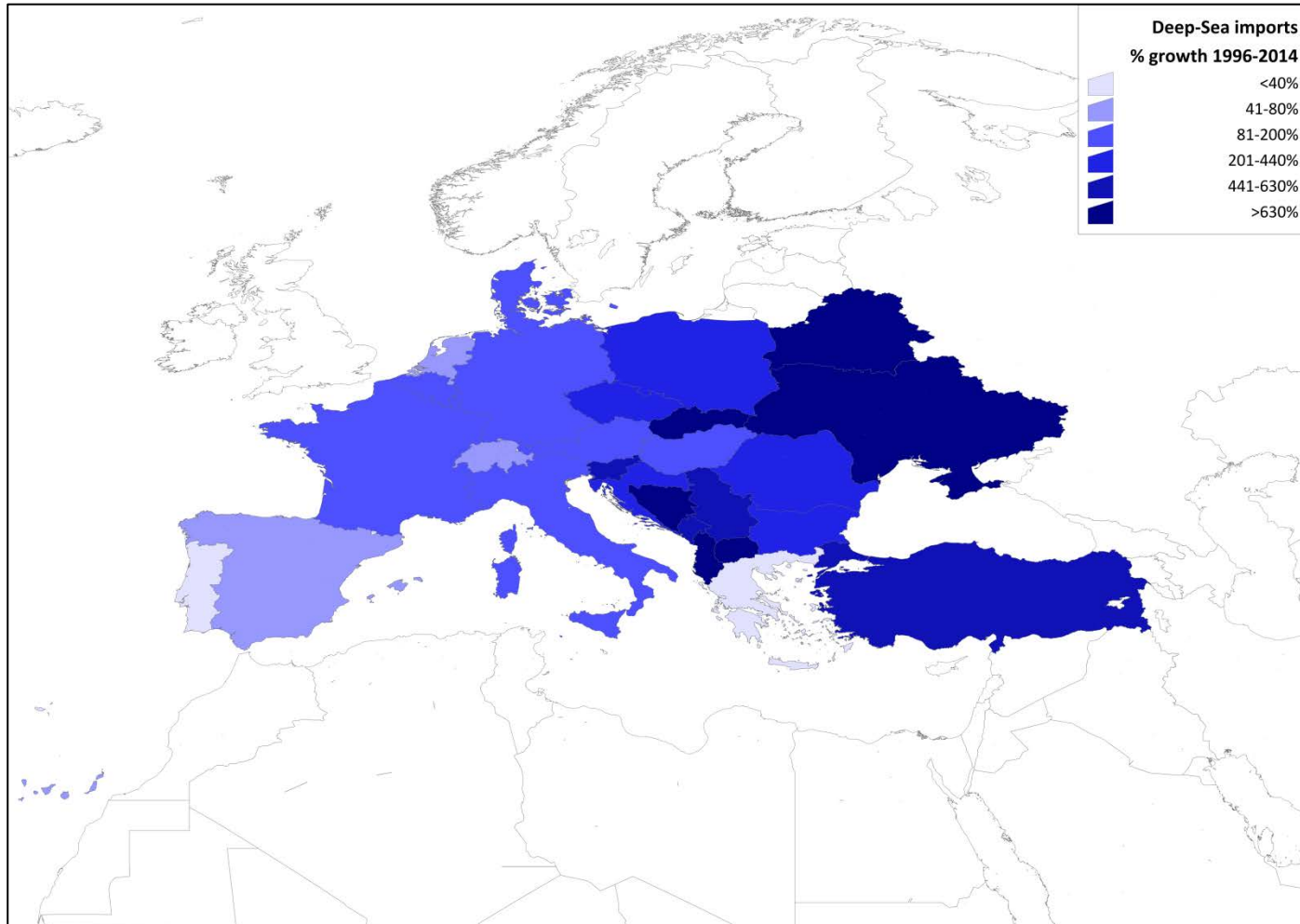
lower for Transatlantic

marginally higher for Asia – Europe

highly sensitive to ship speed and choice of port

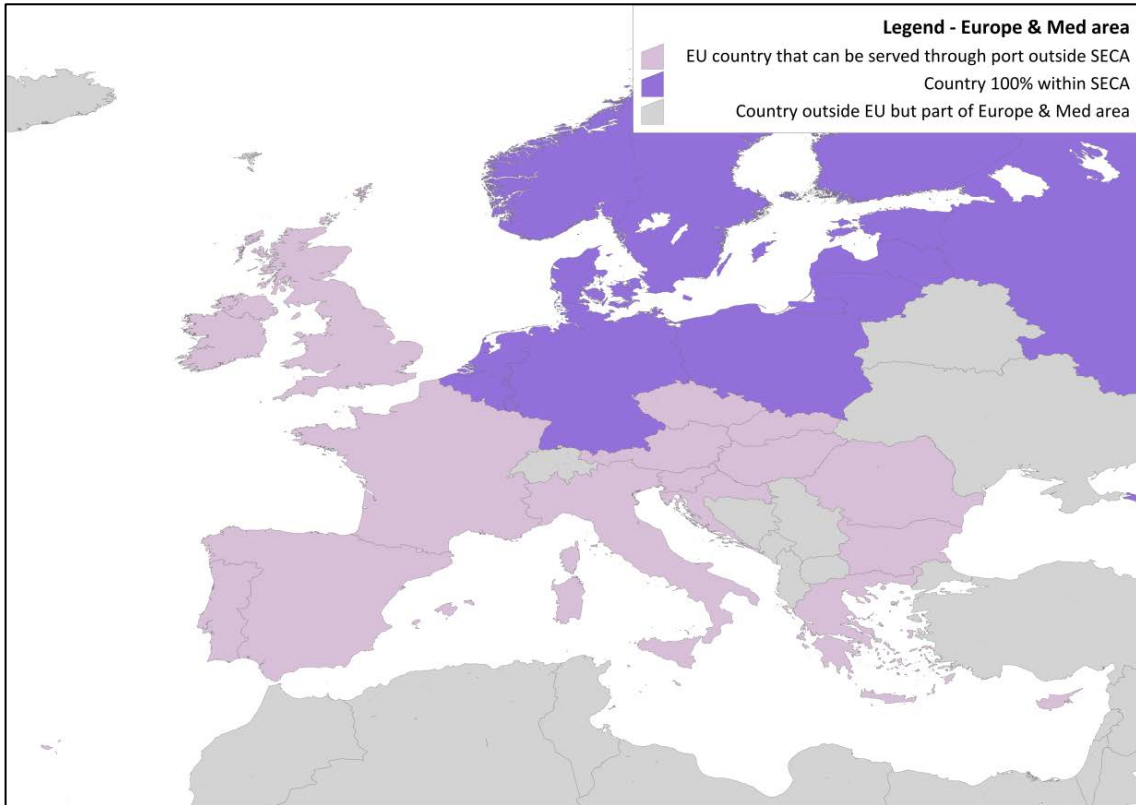
- ECA regulation raise total costs by 1%-5% depending on route

Impacts on port choice – shift to east and south: 1996 to 2014 deep-sea import trade



Reinforcing pressure of environmental measures

- SECA and “Not SECA” Europe/Med countries



- Leading 4 European container ports lie in SECA zone
- But 53% of total unitised deepsea traffic from/to the EU estimated to be destined/generated for countries outside SECA
 - % increases to c.70% taking into account countries outside EU
- Shipping lines are already intensifying their presences in Southern European ports
 - e.g. 2M launching 10 Asia-Med services and 12 Asia-N Europe services (some of which stop in Med ports)
 - Will SECA reinforce a shift towards Mediterranean ports?
- **Will North Sea and Channel Ports retain hegemony when other gateways are available**

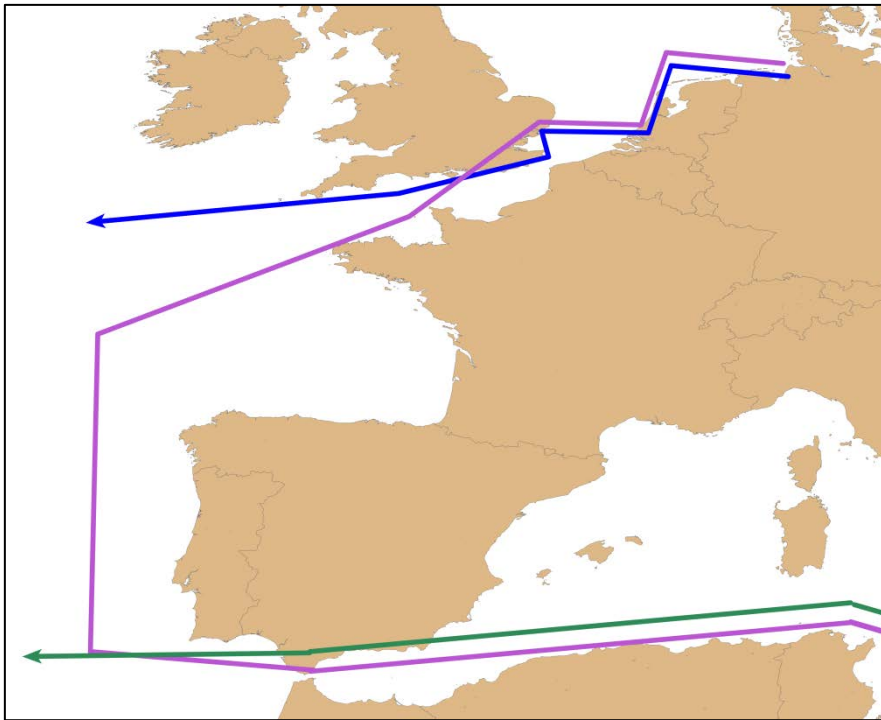
Avoiding SECA by serving UK & France from Atlantic not North Sea ports

Before

Far East - N Europe

N Europe - N America

Far East - Med - North America

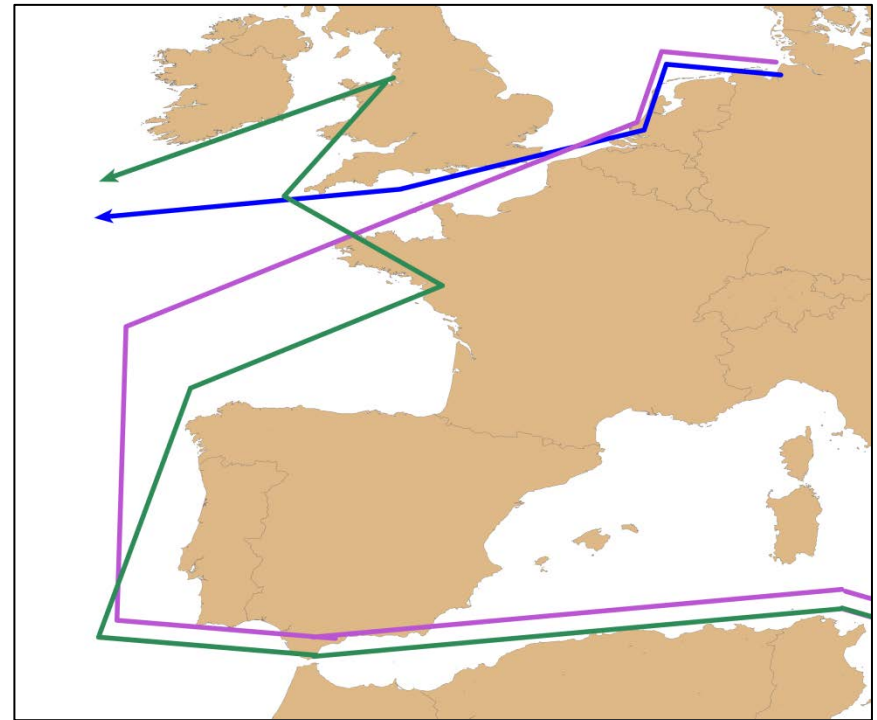


After

Far East - N Europe

N Europe - N America

Far East – Med – French & UK Atlantic ports - North America



- those ships to North Sea only for SECA countries

Serving UK & France from Atlantic coast: results

- Modelling impact on maritime network costs

	Network Cost (\$m)	
	<u>Before</u>	<u>After</u>
Far East - N Europe (cut call and cap.)	\$13.28m	\$10.22m
N Europe - N America (cut call and cap.)	\$3.49m	\$2.06m
<i>Far East - Med - North America (add call and cap.)</i>	<u>\$7.65m</u>	<u>\$11.54m</u>
Total Network Cost (\$m)	\$24.42m	\$23.83m



Add a diversion to two NW European ports OUTSIDE SECA

=> **Maritime saving/unit: £64/loaded container moved**

- Saving would be higher if we also took inland costs into account
- No impact yet in emerging Alliance plans but might drive to cut costs revise plans?

Relationship between lines and shippers

- Post conference era introduced highly erratic rate environment
- Supply demand relationship unstable
- Several proposals to develop 'hedging' strategies but do not address the root problem
- Shippers poorly informed about shipping costs
 - but concerned to be securing 'good deals' that encourage intermediaries.
- An environment that discourages long-term loyalties to lines and therefore specific ports
 - not favourable to developing long term intermodal solutions
 - but has succeeded in keeping down rates since 2006 in a period of aggressive competition
- Each alliance will be able to offer worldwide coverage to a port in each region
 - global partnerships between shippers and shipping lines therefore feasible
 - providing potential to design detailed port-centric supply chains
- But can shippers develop long-term strategies with members of alliances without an 'open book' approach typical with other industrial suppliers?

Relationship between lines and terminals

- Industrial concentration will lead to more regulatory controls
 - Shipping lines may therefore divest themselves of terminals AND inland services
- Individual port terminals will therefore depend more closely on quality of inland links.
 - in order to consolidate arms length relationship with alliances based on cost effectiveness
- Key selling point becomes cost from ship to inland terminals
 - cost of serving whole of each hinterland from one regional port becomes crucial competitive criterion.
 - Crucial for ports to be able to offer comprehensive landside solutions
- Forwarders may increasingly occupy the vacuum left by lines

Relationships between lines and ports and intermodal operators

- Intermodal operators (rail and feeder services) may therefore relate more closely to ports not lines
 - supporting the 'offer' a port can make
- alliances/consortia will concentrate on a given regional port
 - that port will depend heavily on its feeder, barge and rail networks
 - relationships between alliances and ports will become more inflexible
- Integration of inland terminals therefore likely to be an important consequence of large ships and industrial concentration
 - with opportunities to define new minimum cost solutions.
 - but only if long term relationships develop between shippers and lines

Intermodal opportunity summarised

- Development of the Alliances driven by scale economies
 - but offer opportunity to re-think how Europe served
- Opportunity to develop services from southern/eastern Europe ports
 - despite less liberal rail operating regimes
 - reinforced by the introduction of SECA
- Opportunity to integrate such traffics with intra-European traffic
 - Western Europe imports from Eastern Europe also expanding most rapidly
 - capitalise on the high volumes of overland European cargo available between Mediterranean and Northern Europe
- Be ready to realign commercial relationships to deal with the rapidly changing commercial structure now emerging

Thank you

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