Drewry
Maritime Research

Global reefer trades - 2014

Neil Dekker
Containers – Director of research
dekker@drewry.co.uk

TPM –Cool Cargoes, Long Beach, 3rd March 2014

Agenda

1. Demand
2. Supply trends
3. Reefer equipment
4. Trade route reviews
5. Freight rates
6. Review and outlook

How big is the global reefer trade?

Limited data even at trade route level. Data is not readily available for many non-US trades!

No single reliable database

Established sources still do not give the full picture

Converting $ or tonnes To teu..? Different methodologies

Carriers know what they move individually, but are famously reticent to reveal data. What about ports as a source?

We all continue to work in the dark
What data is correct?

How big is the global reefer trade?

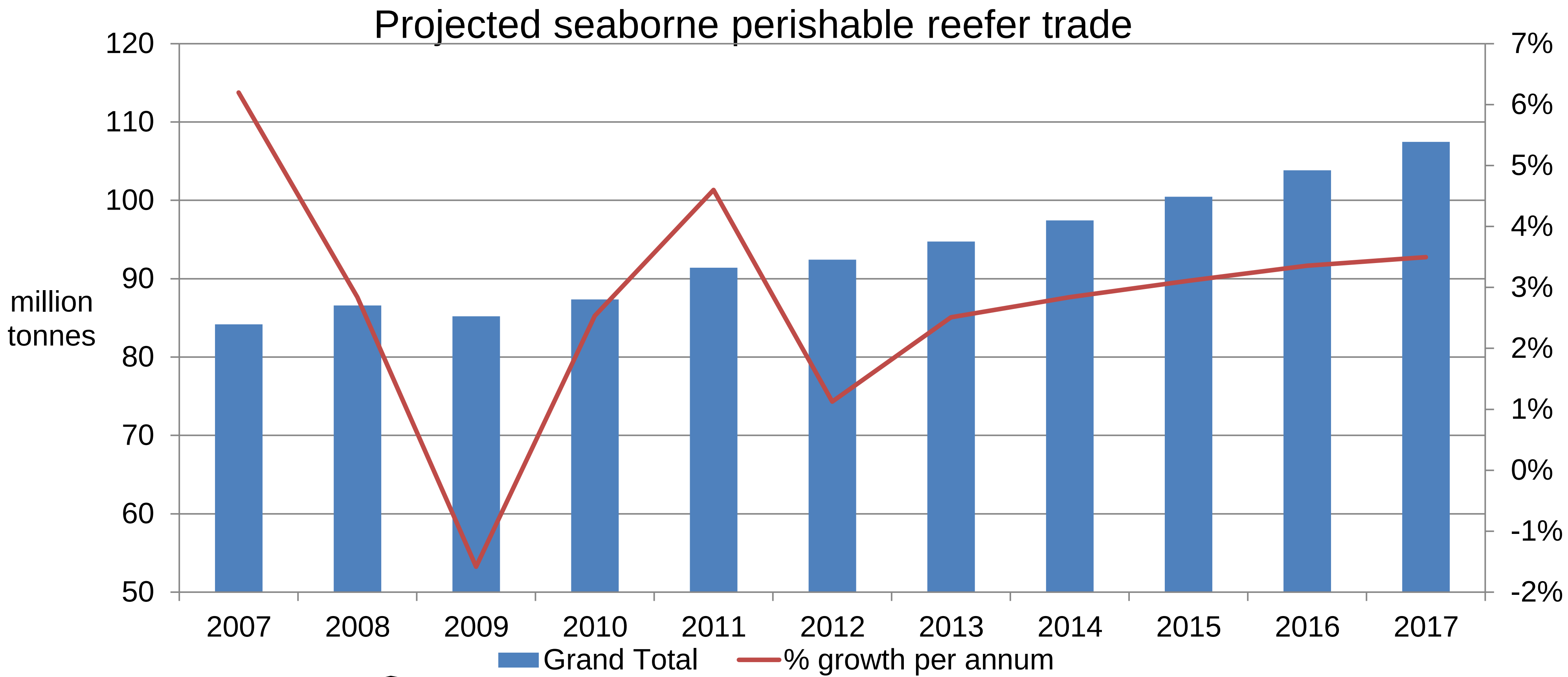
Estimated perishable reefer cargo modal split, 2012

Commodity	Non-container (%)	Container (%)	Non-container (million tonnes)	Container (million tonnes)	Total (million tonnes)
Bananas	53.0%	47.0%	8.38	7.43	15.81
Citrus	47.0%	53.0%	2.61	2.94	5.54
Deciduous	32.0%	68.0%	2.59	5.51	8.1
Exotics	40.0%	60.0%	1.46	2.19	3.65
Fish/seafood	39.0%	61.0%	6.12	9.57	15.69
Meat/poultry	22.0%	78.0%	5.06	17.92	22.98
Dairy	8.0%	92.0%	0.15	1.72	1.87
Other	5.0%	95.0%	0.94	17.83	18.77
Total	**29.5%**	**70.5%**	**27.31**	**65.11**	**92.42**

At an average 24 tonnes per 40ft box, this equates to a global cargo pie of 5.4 million teu (2.7 million feu)
At an average 22 tonnes per 40ft box, this equates to a global cargo pie of 5.92 million teu (2.96 million feu)
Meat/poultry is the largest commodity group (24.9%), followed by bananas (17.1%) and seafood (17%)

Source: Drewry Reefer Shipping market review and forecast 2013/14

Global reefer cargo growth to 2017



CAGR 2007-17 of 2.5%
CAGR 2012-17 of 3.1%
By 2017, containers should capture 78% of the total market of 107.5 m tonnes
Key drivers – healthy eating, population growth, weather, disease, trade spats

The containerised reefer fleet-Jan 2014

	No. of vsls	Total teu capacity	Reefer capacity (40ft)	Reefer percentage
< 1,000 teu	1,148	701,907	51,547	14.7%
1,000-3,999 teu	2,160	4,340,872	350,589	16.2%
4,000-7,999 teu	1,256	6,489,401	608,977	18.8%
8,000-9,999 teu	355	3,058,555	250,634	16.4%
10,000+ teu	196	2,537,962	174,040	13.7%
Totals	**5,115**	**17,128,697**	**1,435,786**	**16.8%**

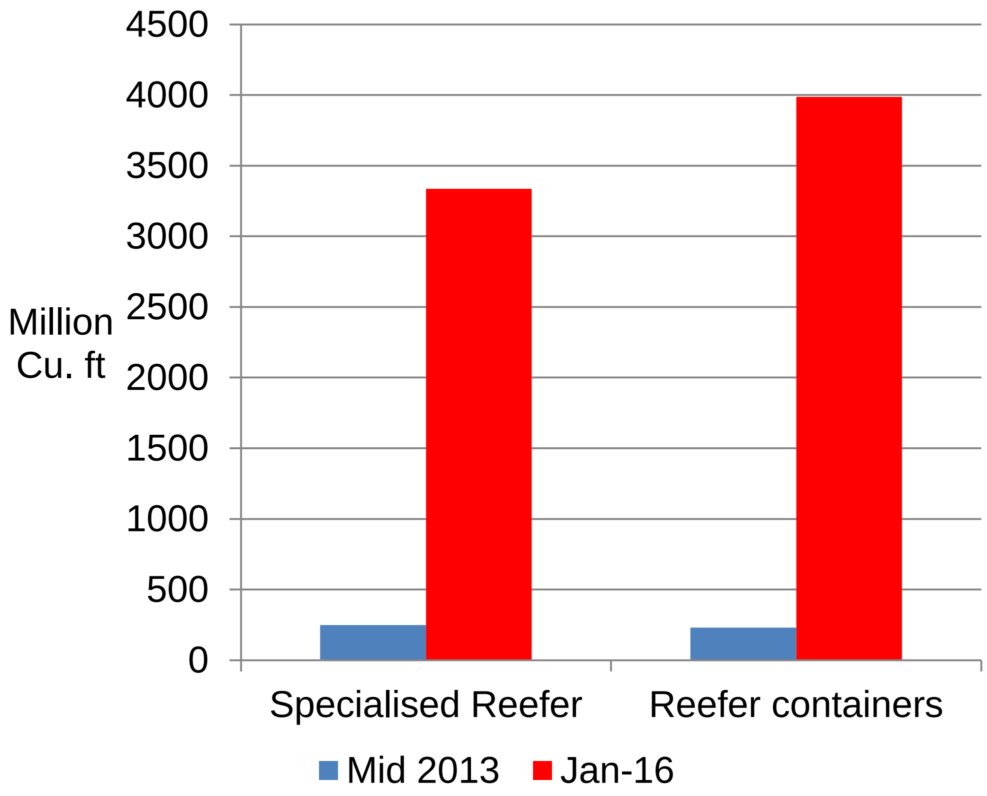
Notes: Basis Clarksons database, estimates only for some vessels

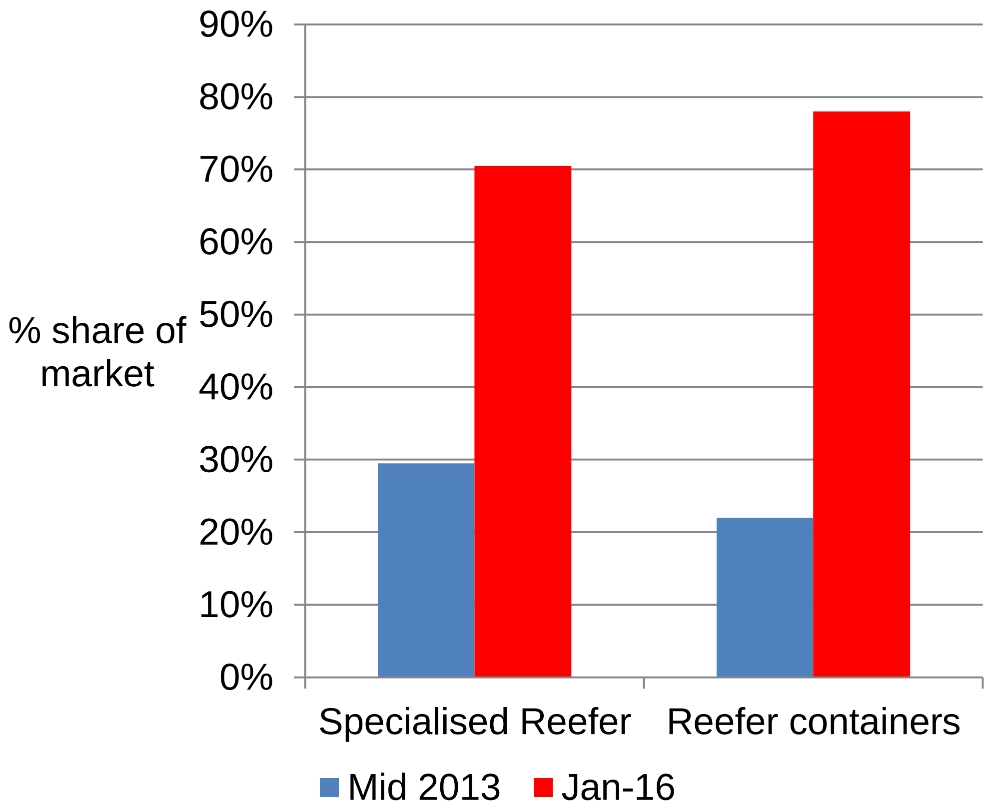
Double-digit annualised growth in containerised reefer capacity
Capacity growth has exceeded cargo growth
Ships of over 8,000 teu have an average reefer capacity of 1,650 teu – 60% more than the largest specialist reefer ships

The biggest reefer players –
Maersk
MSC
CMA CGM
Hamburg Sud
MOL

Specialist versus containers – the future

Forecast change in reefer capacity provision





Source: Sextant Consultancy Ltd

Est. 20% growth in container reefer capacity provision against 8% decline for specialist reefers
It is inevitable that containers will take a much larger slice of the overall market

Decline of specialist reefer fleet

39 vessels scrapped in 2011
74 vessels scrapped in 2012
16 vessels scrapped in 2013

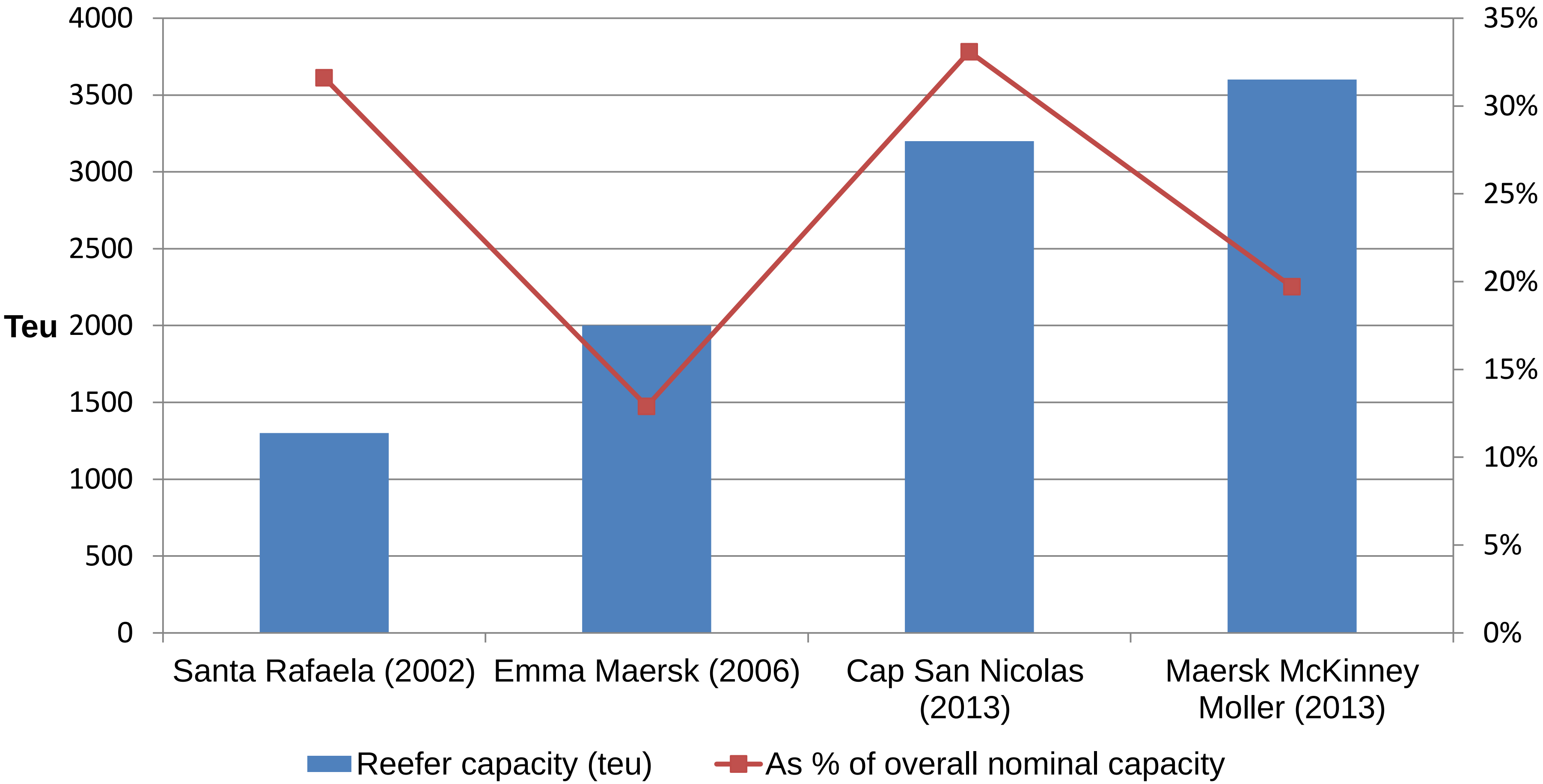
Average fleet age of 24 years compares to 10.7 years for containerised vessels

Only two specialist reefer vessels on order as of Feb 2014

BUT…

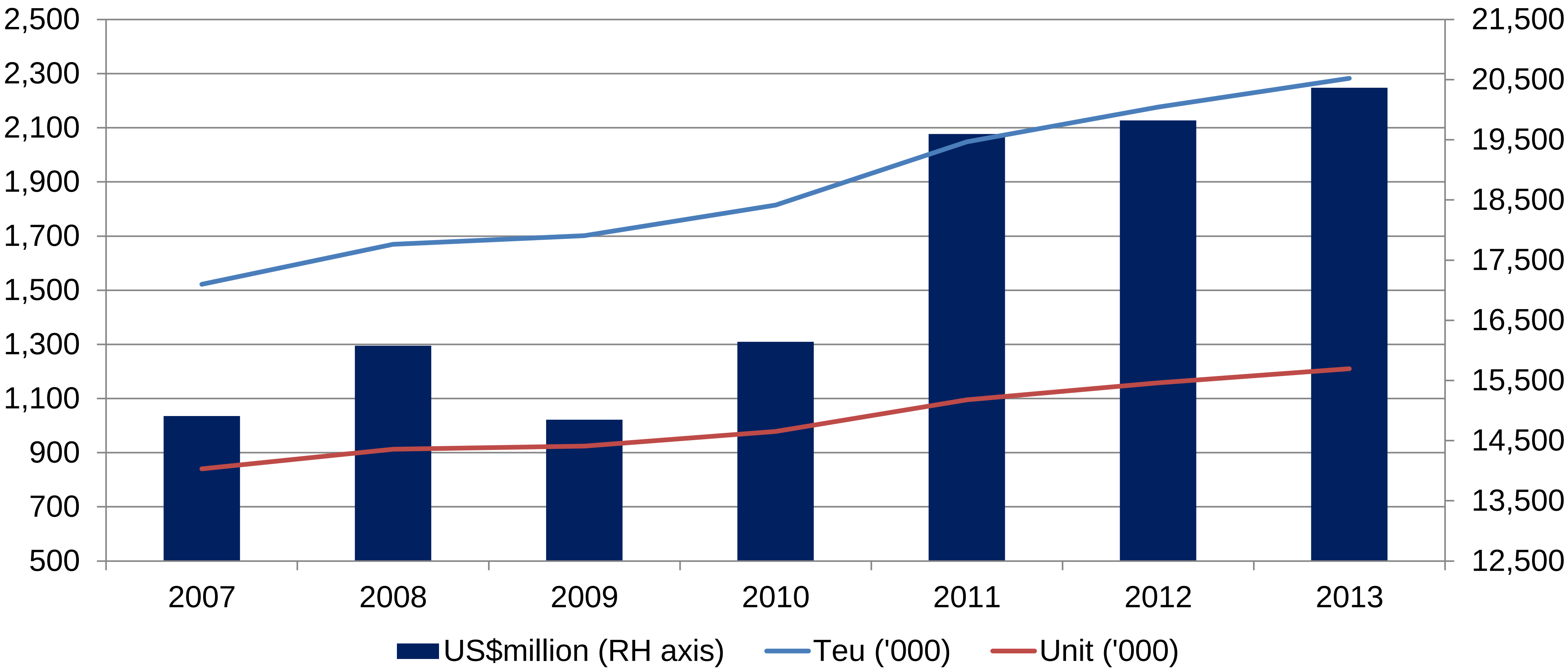
Only 7-8% of current global refrigerated capacity still carries approx. 29% of seaborne perishable cargoes.
Reefer specialists have a big hold on banana trades out of Latin America

Increasing reefer container capacity



Biggest reefer capacity ships trading in ECSA corridor

Reefer box fleet



Reefer cargoes loaded in 40ft high cubes
Container lessors currently investing in 70% of new equipment
Daily hire rates declining due to fierce competition
Estimated replacement cost at end 2012 for maritime reefer fleet of $20 billion ($9,100 per teu)

Key reefer trade lanes

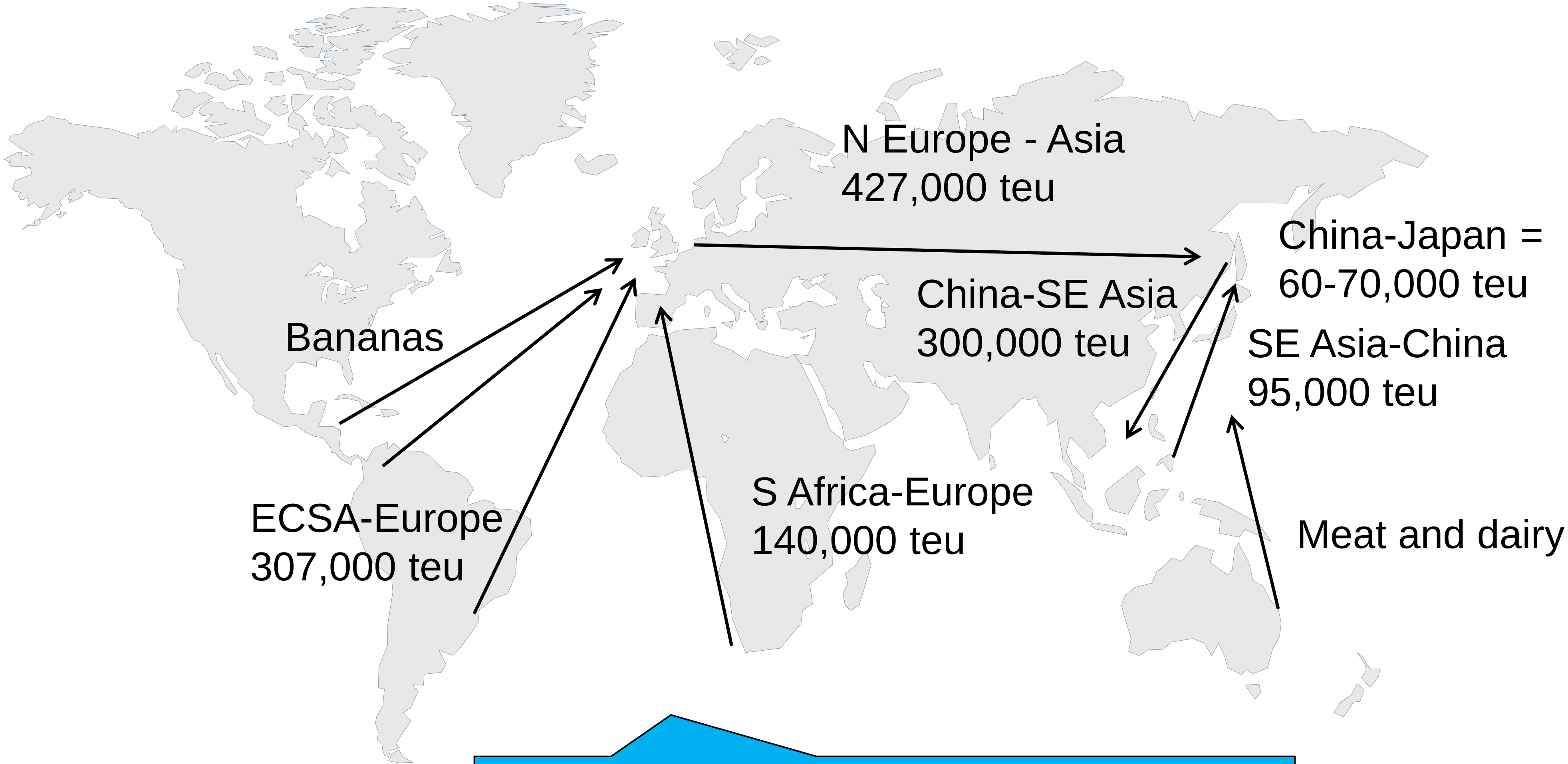
Reefer trade (teu)	2012	2013	% change	As % of total trade 2012	As % of total trade 2013
Asia-N Europe	290,775	259,033	-10.9%	3.3%	2.8%
N Europe-Asia	424,297	426,526	0.5%	9.4%	9.1%
South Africa-Asia	39,000	35,000	-10.3%	10.9%	8.1%
South Africa-Europe	124,000	139,500	12.5%	44.3%	45.7%
Brazil/Plate-Europe	311,286	307,027	-1.4%	38.8%	38.8%
Brazil/Plate-Asia	160,305	161,493	0.7%	29.3%	26.3%

Key sources:
Container Trade Statistics
Datamar

Processed seafood and raw fish (Norway) ex North Europe
Citrus and deciduous fruits ex South Africa
Beef and poultry ex ECSA

Where are the big reefer trades?

2013 annual estimates



Also,
Meat and dairy ex Australia
Bananas ex Colombia, Ecuador, Honduras
Pineapples ex Costa Rica and Philippines

Intra-Asia volumes-teu

Origin	2010	2011	2012	2013	% change 2013/12	CAGR 2010-2013
N.China	141,219	145,900	145,855	**148,082**	1.5%	1.6%
Thailand	107,919	113,906	97,183	**95,310**	-1.9%	-4.1%
Japan	80,213	62,846	73,143	**90,591**	**23.9%**	4.1%
Vietnam	57,200	56,942	55,274	57,603	4.2%	0.2%
S.China	43,837	53,582	51,696	57,297	**10.8%**	9.3%
S Korea	43,129	50,008	50,407	56,444	**12.0%**	9.4%
C.China	26,438	30,542	41,326	43,873	**6.2%**	**18.4%**
Philippines	37,197	47,926	45,570	39,655	-13.0%	2.2%
Fujian-China	29,898	34,704	35,935	38,412	6.9%	8.7%
Hong Kong	30,588	49,973	43,151	29,169	-32.4%	-1.6%
Indonesia	22,800	26,391	28,258	27,569	-2.4%	6.5%
Taiwan	25,831	26,966	24,435	25,580	4.7%	-0.3%
Malaysia	11,897	11,325	10,979	11,582	5.5%	-0.9%
Singapore	17,392	13,670	9,668	10,554	9.2%	-15.3%
Myanmar			3,074	2,944	-4.2%	
Cambodia	107	82	40	161	302.5%	14.6%
Total	**675,667**	**724,762**	**715,994**	**734,826**	**2.6%**	**2.8%**

Source: IADA

Annual growth around 3%
Total trade in excess of 1 million teu
Volume trades ex N China, Japan and Thailand
Growth trades ex S + C China, S Korea and Indonesia

Drewry

Intra-Asia

- China has 38.7% of total IA export market, up from 35.6% (2010)
- Trade spats can affect individual routes
- Seafood (squid, tuna fish, shrimps) comprises approximately 36% of overall volumes
- Major commodity movements include:
  Seafood ex N China and Japan to SE Asia
  Dragon fruit ex Vietnam to China
  Garlic ex N China to Indonesia
  Durians ex Thailand to Hong Kong
  Apples + pears ex N China to SE Asia
- Reefer rates are poorer than on E-W trades, but are double the rates for dry cargoes.
- Carrier re-positioning of equipment is crucial

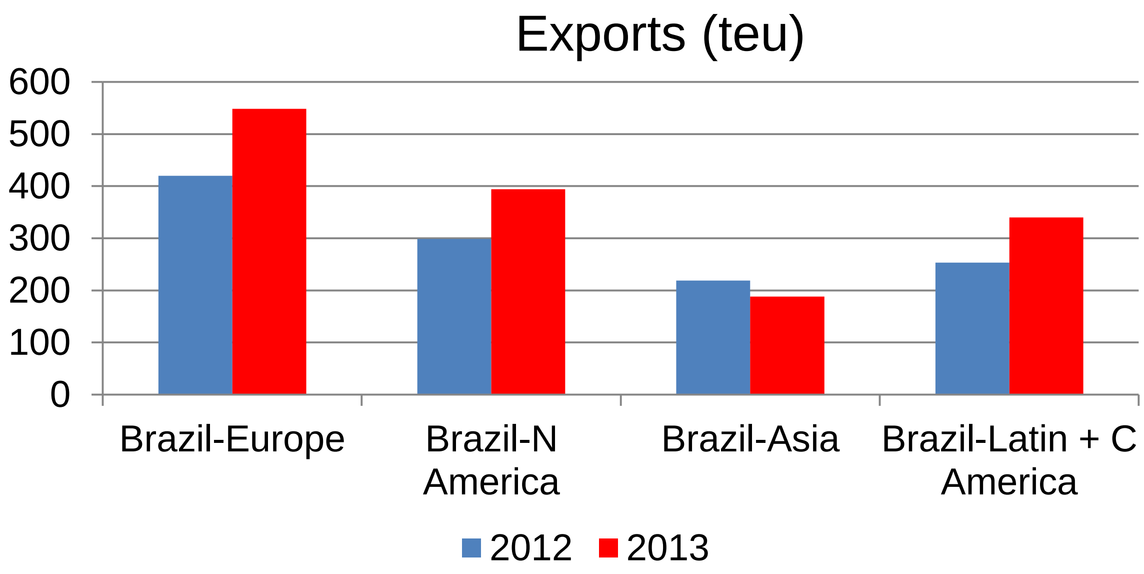
Selected container freight rates

Selected 40ft Reefer rates 2012/2013

Ex Chile (Deciduous Fruit)	End 2012	End 2013	% change	
To North Europe	$6,730	$6,740	0.1%	
Frozen to Asia	$3,400	$3,300	-2.9%	All in rates
Ex South Africa	End 2012	End 2013		
Deciduous fruit to North Europe	$3,300	$3,600	9%	
Deciduous to Jebel Ali	$2,500	$3,500	40%	
Deciduous to Hong Kong	$900	$2,500	177%	Base ocean freight only
		End 2013		
Garlic North China to Indonesia		$1,800		Includes BAF
Durians Thailand to China/Japan		$2,300		Includes BAF

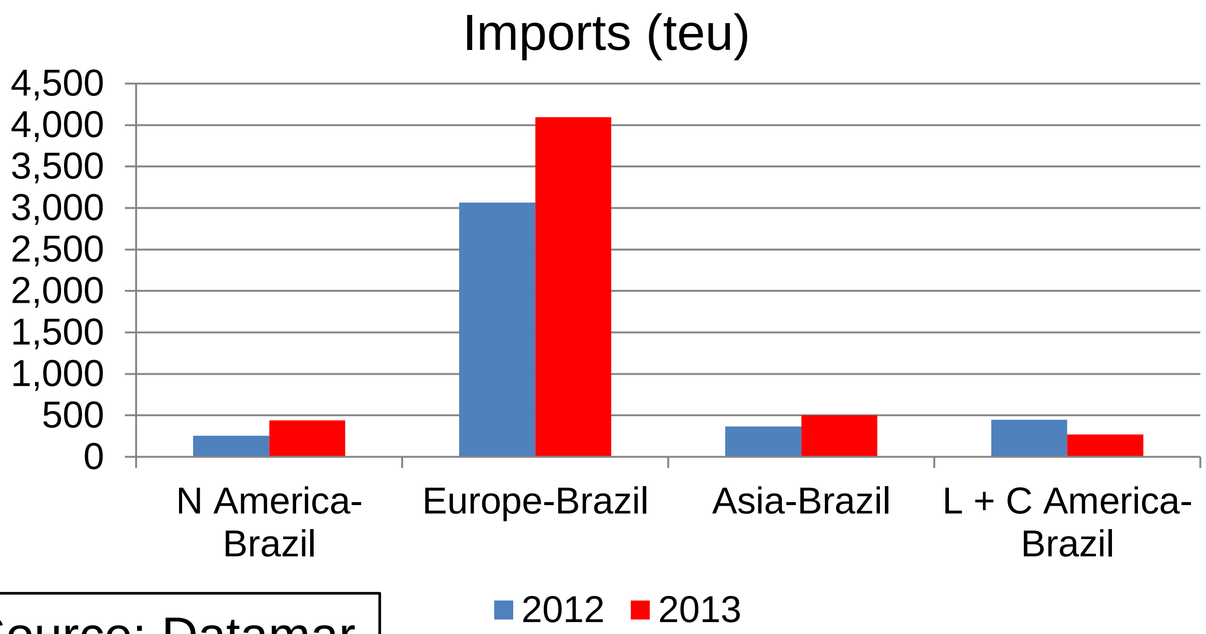
The 2012/13 global GRI led by Maersk achieved a hefty uplift in average rates, but there was some erosion later in 2013.
For the current year, carriers have tried for much smaller contract rate increases.
Mostly contracted business directly with shippers and many NVOCCs handle specific accounts.
Empty repo costs are huge for cntr. operators – lightweight cargo often loaded into non-operational reefer units to earn additional revenue.

Pharmaceuticals and equipment-Brazil trades



2012 = 1,191 teu
2013 = 1,470 teu
+23.4%

Medical and photographic equip and instruments, blood, vaccines, toxins, medicines



2012 = 4,133 teu
2013 = 5,307 teu
+28.4%

Source: Datamar

Key takeaways for 2014 and beyond

- Specialist vessels are full and will continue to compete with container ships even though rates are more expensive
- Fast growth of containerised reefer capacity and box fleet – exceeds cargo growth
- Containers dominate reefer shipping
- Container services specifically built around reefer cargo flows
- Worldwide seaborne trade of perishable reefer cargoes is a positive growth market
- New growth commodity sectors appearing – pharmaceuticals
- Exotic fruits are growing fast (avocadoes, pineapples, kiwi fruit)
- Freight rates should increase by relatively small margins only this year
- Considerable investment by container operators on vessels and equipment

Providing maritime intelligence for over 40 years
Unique expertise of shipping industry senior executives and knowledge base

Our services include:

Maritime research and publications
Bespoke consultancy
Investment advisory
Maritime Equity research
World Container Index

www.drewry.co.uk

Thank you!