eXecutive
DEVELOPMENT PROGRAM

Container Shipping

Market Consolidation and the Carrier Perspective

Agenda

1.) The main container shipping lines
2.) Cartels & Conferences
3.) Liner Deregulation & Alliances
4.) How do Alliances operate?
5.) Key Cost Elements of Container Shipping
6.) The Carrier Organisation & the Agency Challenge
7.) Carrier Sales Process
8.) Supply & Demand
9.) Carrier Financials
10.) Carriers Key Challenges & Risk Factors ahead
11.) Carriers Opportunities
12.) Key Takeaways

The Main Container Shipping Lines

Which Container Carriers do you know?

Top 10 Container Shipping Lines

Alphaliner Top 100 as of August 30, 2022

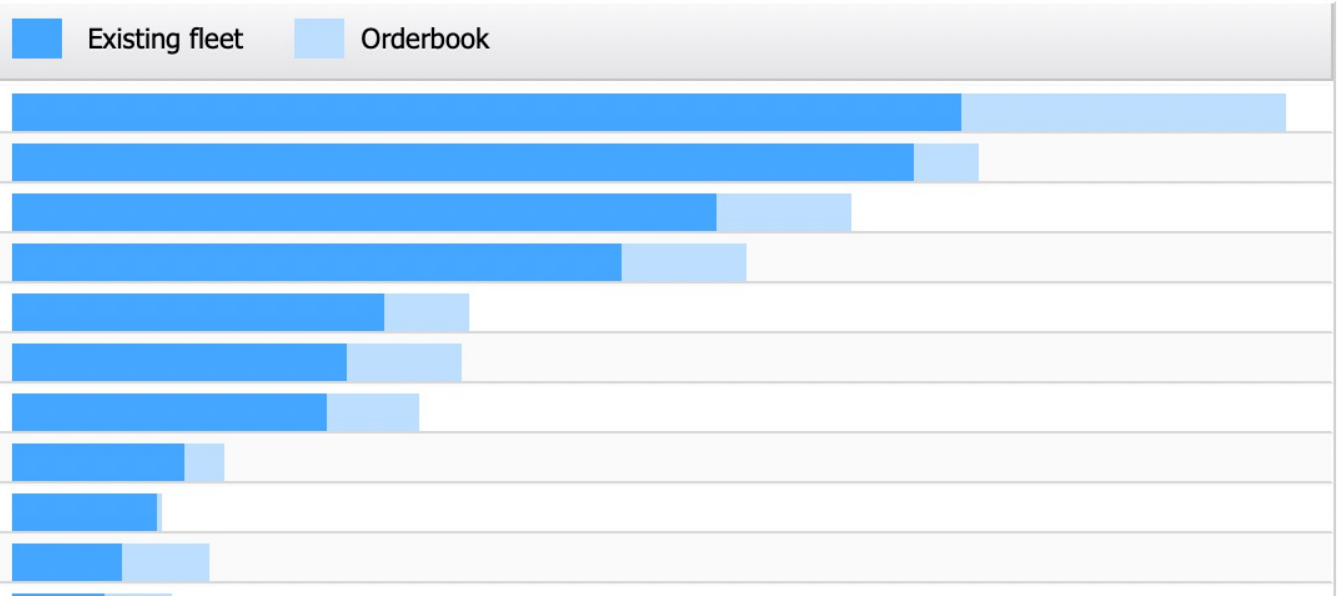
6,439 active ships (5,624 fully cellular)

25,914,084 TEU / 310,458,577 DWT

Regional Trades weekly capacities

Trans-Atlantic	**165,640** TEU
Trans-Pacific	**628,391** TEU
Feast-Europe	**453,616** TEU

Rank	Operator	Teu	Share
1	Mediterranean Shg Co	4,477,010	17.4%
2	Maersk	4,250,901	16.5%
3	CMA CGM Group	3,320,391	12.9%
4	COSCO Group	2,874,654	11.2%
5	Hapag-Lloyd	1,760,236	6.8%
6	Evergreen Line	1,581,205	6.1%
7	ONE (Ocean Network Express)	1,484,273	5.8%
8	HMM Co Ltd	818,075	3.2%
9	Yang Ming Marine Transport Corp.	684,683	2.7%
10	Zim	515,902	2.0%



11 to 30 Container Shipping Lines

11	Wan Hai Lines	440,981	1.7%
12	PIL (Pacific Int. Line)	297,163	1.2%
13	SITC	150,635	0.6%
14	KMTC	149,255	0.6%
15	IRISL Group	143,468	0.6%
16	UniFeeder	142,051	0.6%
17	X-Press Feeders Group	130,737	0.5%
18	Zhonggu Logistics Corp.	113,220	0.4%
19	TS Lines	108,188	0.4%
20	SM Line Corp.	93,410	0.4%
21	China United Lines (CULines)	90,530	0.4%
22	Antong Holdings (QASC)	88,039	0.3%
23	Sea Lead Shipping	87,198	0.3%
24	Sinokor Merchant Marine	82,580	0.3%
25	RCL (Regional Container L.)	73,244	0.3%
26	Global Feeder Shipping LLC	72,256	0.3%
27	Matson	68,563	0.3%
28	Swire Shipping	65,520	0.3%
29	Emirates Shipping Line	64,065	0.2%
30	Arkas Line / EMES	51,869	0.2%

Cartels and Conferences

What is a cartel?

cartel

/kɑːˈtɛl/

noun

noun: **cartel**; plural noun: **cartels**

an association of manufacturers or suppliers with the purpose of maintaining prices at a high level and restricting competition.
"the Colombian drug cartels"

- **HISTORICAL**
  a coalition or cooperative arrangement between political parties intended to promote a mutual interest.

From Conferences to Alliances / Deregulation

- First Conference UK-Calcutta in 1875
- Conference = Cartel that agreed supply side and sales prices
- Examples TACA – Trans Atlantic Conference Agreement, FEFC – Far East Freight Conference,

The Conference System

Liner shipping stands out, together with the international airline industry, in the world economy in being almost completely cartelized in the first place as far as pricing is concerned. Unlike the airline industry, the organization of the freight rate making in the liner shipping industry is highly decentralized.

2.1 THE SCOPE OF THE CONFERENCE SYSTEM

There is no accurate figure available for the total number of conferences in operation. In *Croner's World Directory of Liner Conferences* (1976) the number listed is 341. It can be assumed that some conferences covering local short-sea trades are not included in this figure.

See: Liner Shipping Economics / JO Jansson, D Shneerson - 1987

The Conference System

2.2.1 Conference freight rates

The great majority of the freight carried by conference members have rates fixed collectively by the conference, and which are published in rate books (tariffs). The tariff describes the articles included and specifies all the rules and regulations concerning the applicable freight rates. There are also some

See: Liner Shipping Economics / JO Jansson, D Shneerson - 1987

Liner Deregulation & Alliances

European Liner Deregulation

- EU governments voted to abolish exemption in 2006
- Transition period lasted until 2008
- Uncertainty, No alignment on supply, signalling & screening...
- However, they system hardly worked before anymore...

End of an era for liner conferences in Europe

Bruce Barnard / The JOURNAL of COMMERCE ONLINE | Oct 16, 2008 8:00PM EDT

Print

Liner shipping conferences will be outlawed in Europe beginning at midnight Saturday, ushering in a new era of deregulation just as ocean carriers face slowing traffic growth and tumbling freight rates.

Beginning Saturday container shipping lines calling at European ports will be banned from discussing freight rates and other fees such as bunker and currency surcharges and from publishing common tariffs.

Instead, carriers will negotiate rates individually with shippers, ending a system of collective rate-setting dating back to the first conference, the Calcutta Steam Traffic Conference, set up by British cargo lines in 1875.

The Far Eastern Freight Conference established a year later to cover the Asia-Europe trade, the world's second-largest after the trans-Pacific, will close today along with scores of other rate-setting groups in trades with Africa, South America, the Indian sub-continent, the Middle East and Australasia. Some, including the Trans-Atlantic Conference Agreement, have already ceased operations.

The leading ocean carriers are well-prepared for the demise of conferences in Europe and have become increasingly independent operators after European Union governments voted in 2006 to end liner shipping's long-established exemption from the bloc's competition regulations.

Recommended Articles

Zim rides 2M pact to Q3 profit

Hapag-Lloyd targets profitability as volume slips

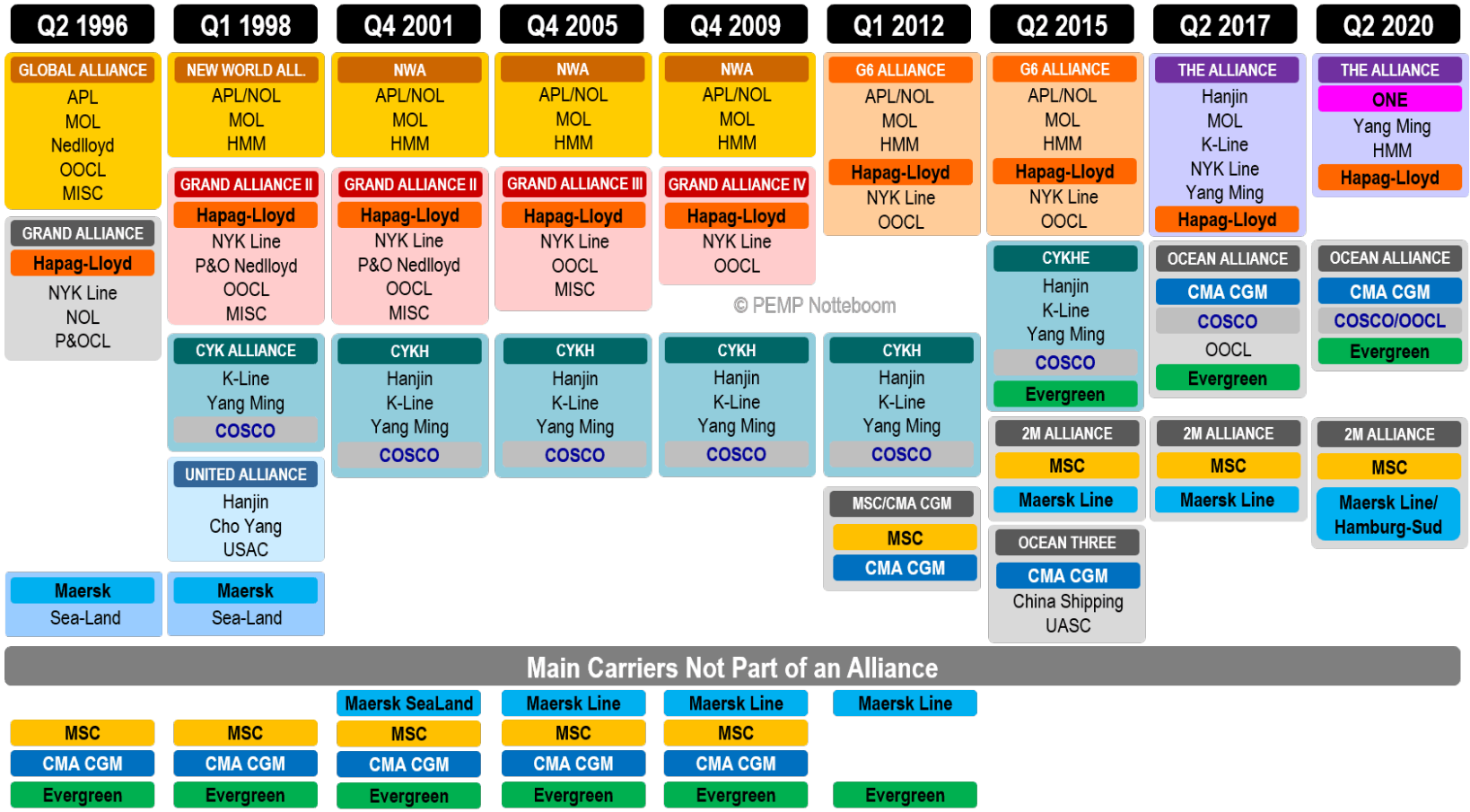
Asia-North Europe carriers hold on to spot rate gains

„Conferences have been weakened by carrier defections and, more recently, by slowing trade growth, overcapacity, and competition from independent carriers.»

EU Liner Dergulation / Block Exemption for Alliances

- Alliances have been considered as beneficial for the shipping industry‘s customers and thus have been granted a block exemption under certain conditions.
- Example: 3M at the time, an intended alliance of Maersk, MSC, CMA CGM was not approved.
- A review of the block exemption was conducted in 2018 and extended to 2024.
- The European Commission is currently (August 2022) reviewing this again.

Carrier Consolidation – Alliances



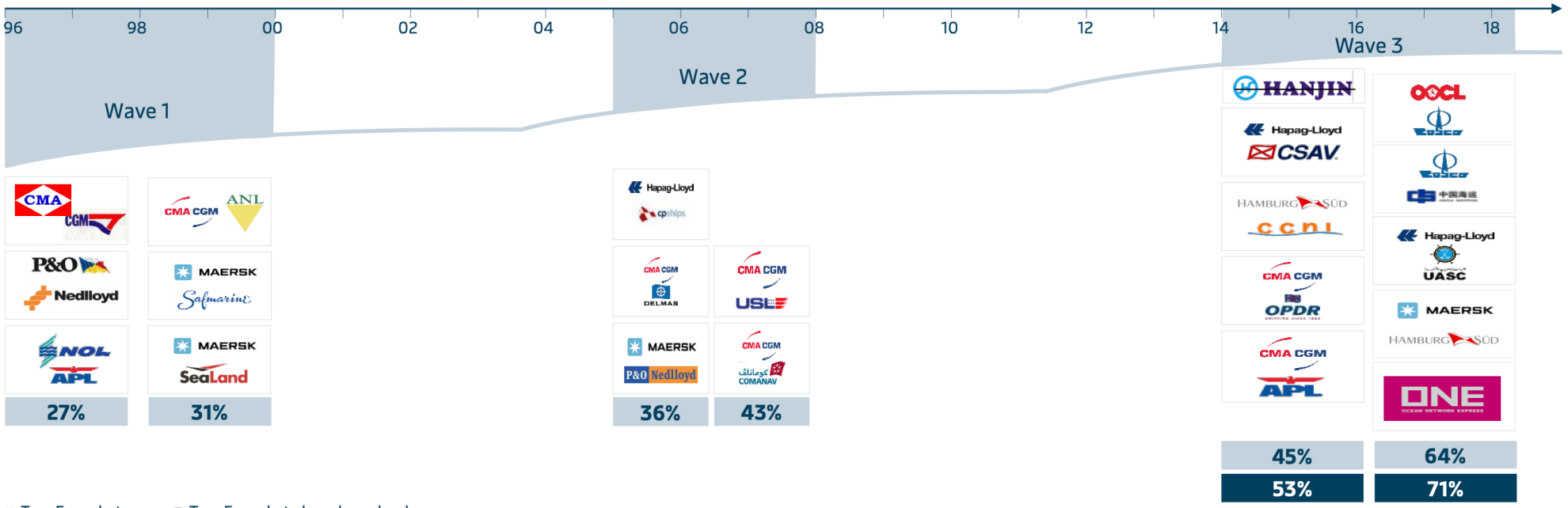
Alliances have been around before deregulation already.

Source: *Source: updated from Notteboom, T. (2012), Chapter 12: Container shipping, in: Talley, W. (ed.), The Blackwell Companion to Maritime Economics, Wiley-Blackwell Publishing, ISBN: 978-1-4443-3024-3, pp. 230-262.*

Carrier Consolidation – The 3 Waves

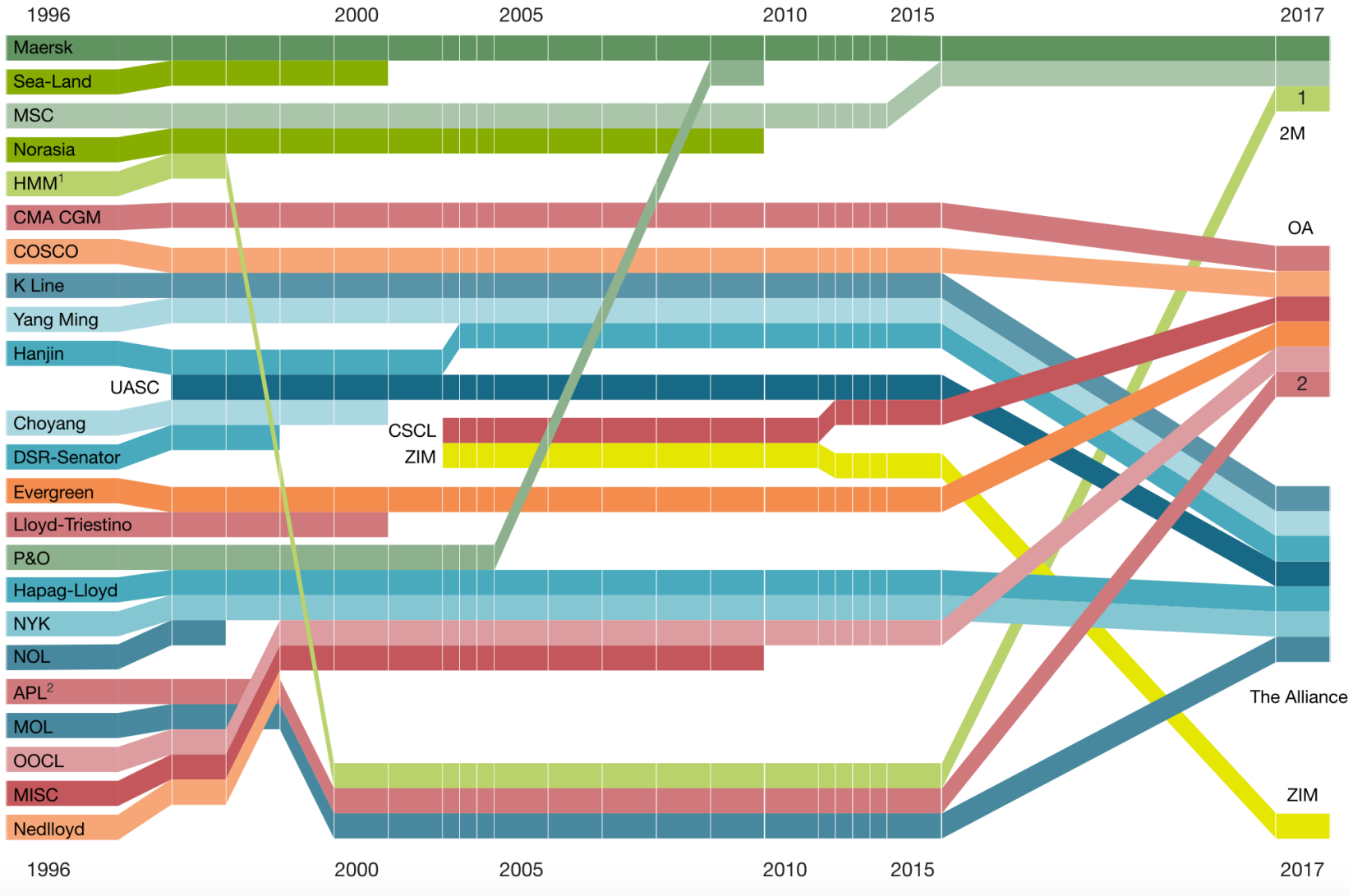
The liner industry is consolidating and top 5 share is growing

Consolidation wave is rolling again – 8 top 20 players disappeared in the last 4 years



See: Maersk 2018

Carrier Consolidation – Alliances



Of these 26 Carriers today remain 9.

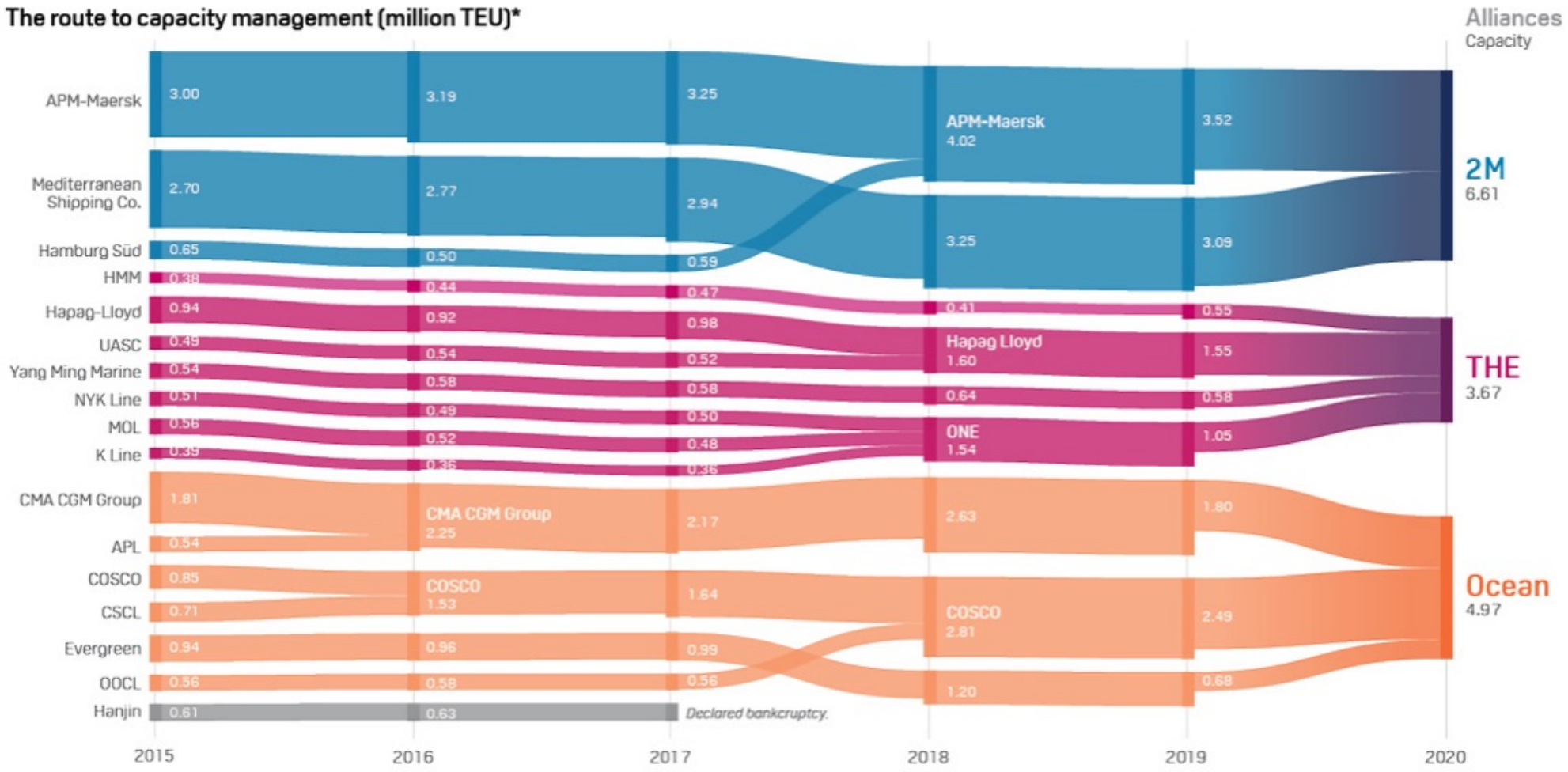
ZIM has some slot charters with 2M since 2019.

KLINE, NYK and MOL have formed ONE in 2018.

OOCL has been acquired by COSCO, where CSCL is also part of.

See: McKinsey 2017

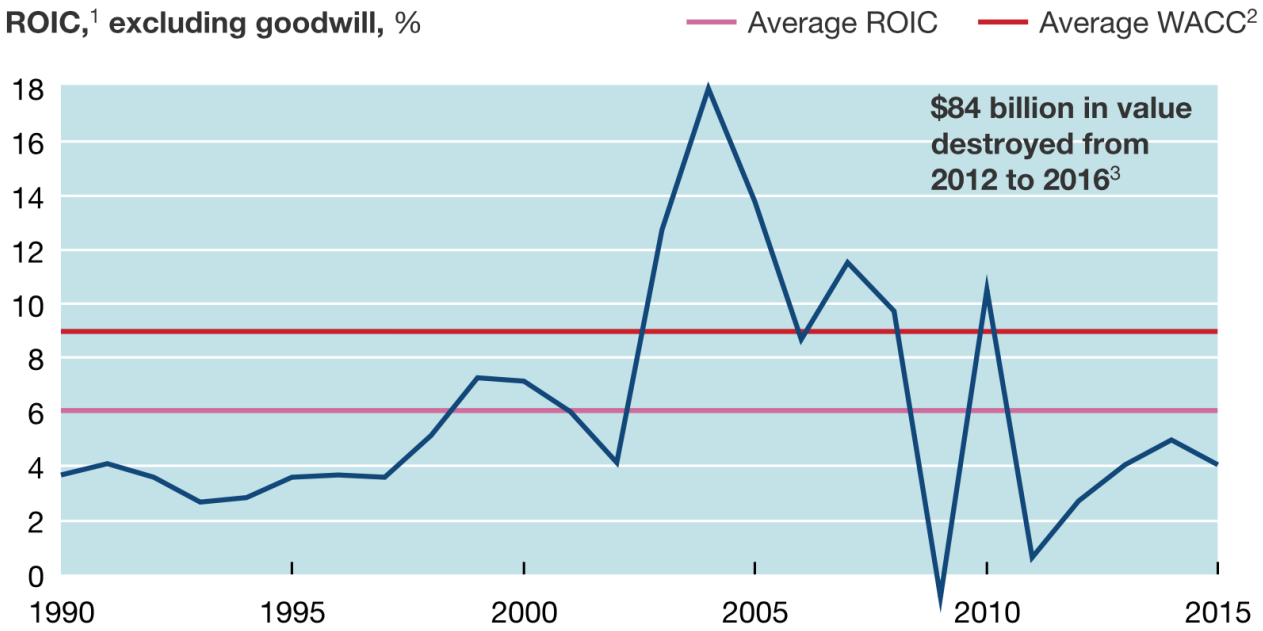
Carrier Consolidation – Alliances



See: S&P Global Platts

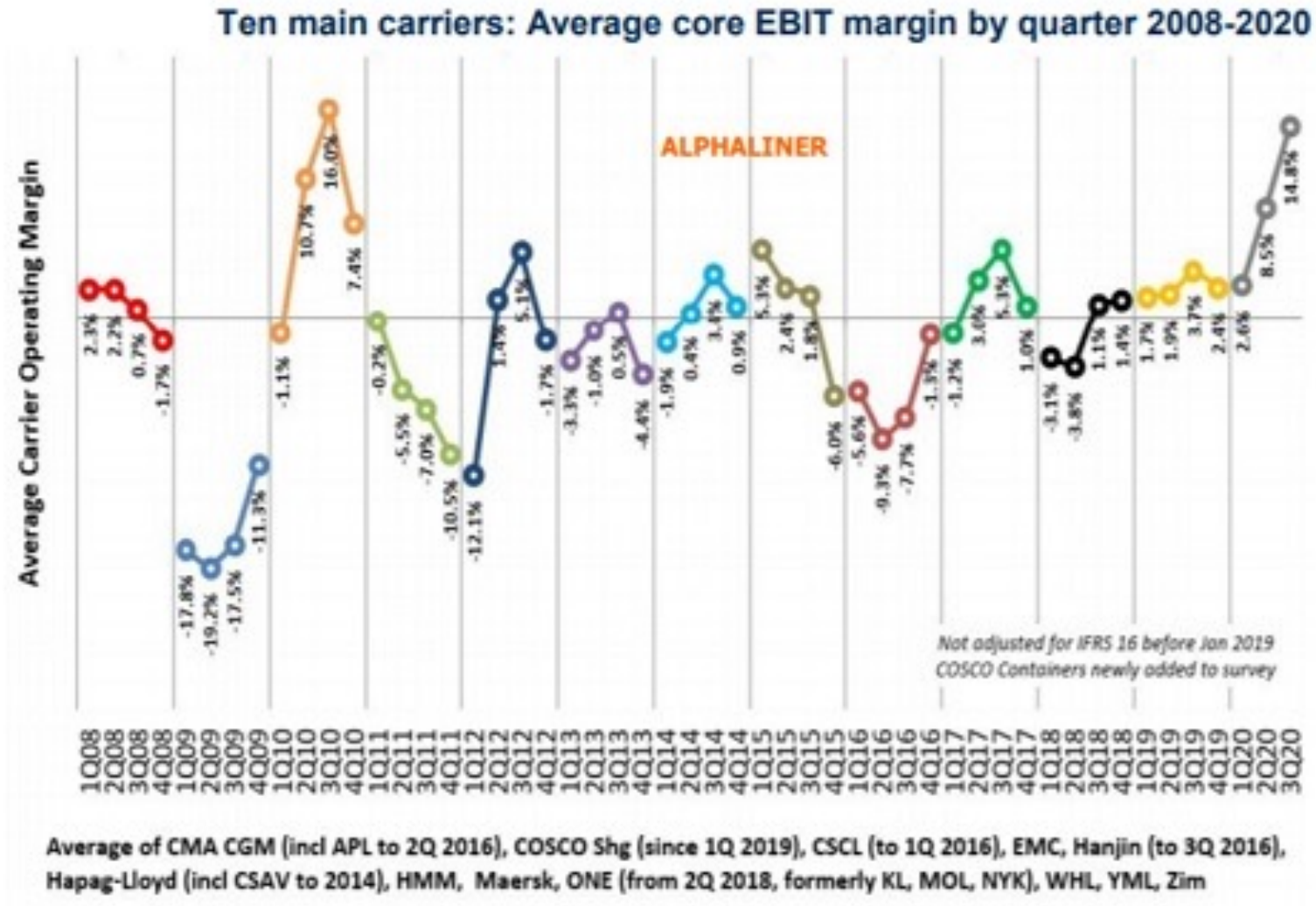
Carrier Consolidation – Financial Pressure

The industry has experienced massive value destruction during the past four years.



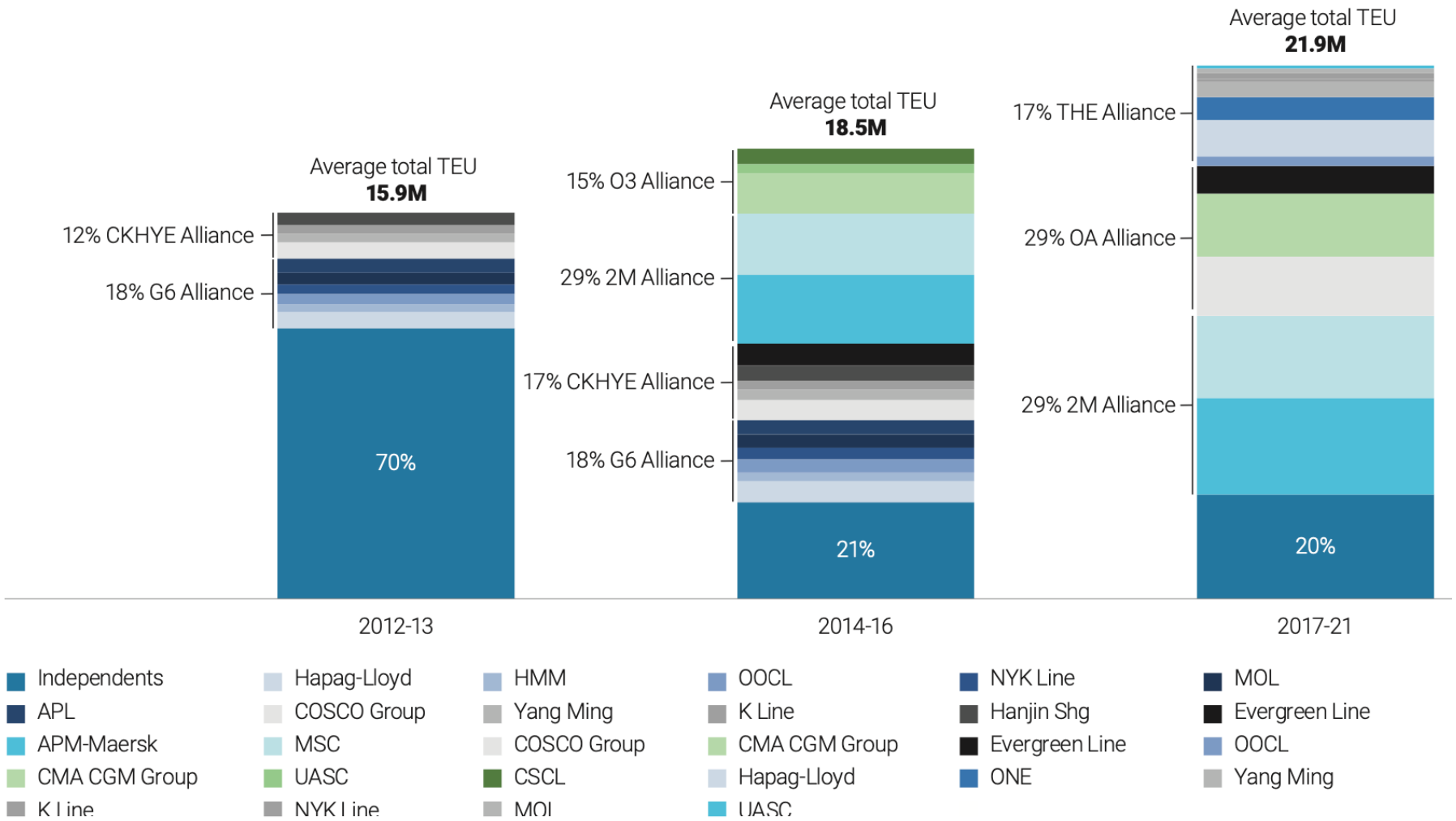
[1]Weighted average return on invested capital (ROIC) of Evergreen Marine, Hanjin, HMM, Kawasaki Kisen, Maersk, MISC Berhad, MOL, NYK, OOCL, RCL, and Wan Hai. Leases are not capitalized.
[2]Weighted average cost of capital (WACC) of COSCO, CSCL, Maersk, MISC Berhad, RCL, and Wan Hai. The cost of equity is based on the capital-asset-pricing-model methodology using a risk-free rate of 4.5%, a material-requirements-planning rate of 5%, and an 0.9 asset beta. The cost of debt is based on the risk-free rate plus credit spread based on respective credit rating.
[3]Estimate for the whole industry; extrapolation, based on market share, from the players in the sample.

Carrier Consolidation – Financial Pressure until 2019

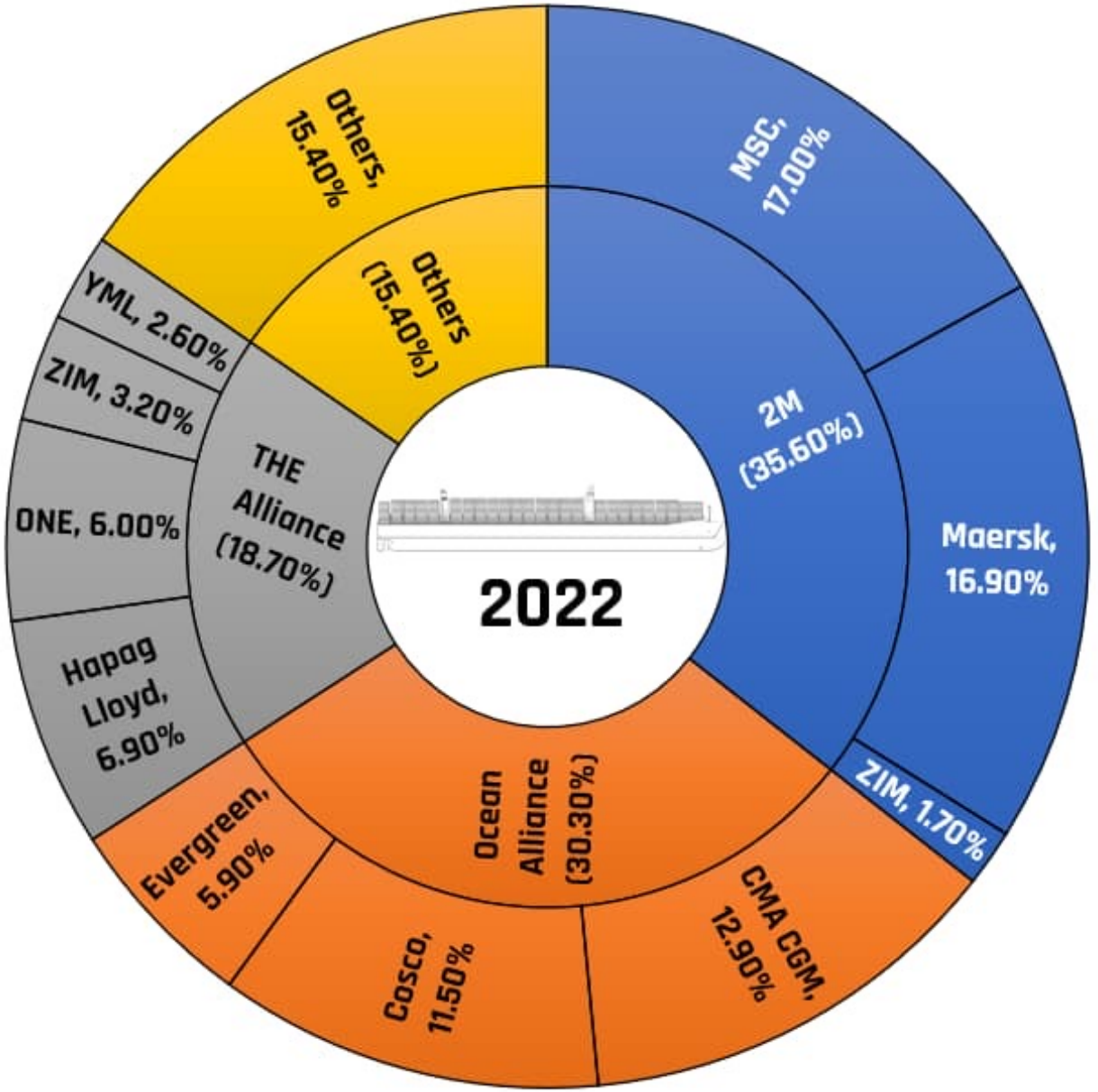


Consolidation (Alix Partners)

FIGURE 5: MARKET SHARE BY ALLIANCE



Shipping Line Alliances and Marketshares in 2022



How do Alliances operate?

How does an alliance work?

How does an alliance work?

- Basically an Asset & Cost Sharing Agreement / Joint Product
- Agree‘s schedule, deployment etc.

- Benefits
  - Higher Frequency of Sailings
  - Shared Capacity Risk
  - Larger Vessels & Economies of Scale
  - More certainty/coordination on the supply side

How does an alliance work?

- Operating Cost Model
- Slot Charter Model
- More Complex Evaluation Systems

- Vessel planner coordination with all stakeholders
- Joint Steering Committee
- Regional and Tradelane Specific Committee‘s

What will be the future of Alliances, as profitability returned?

- „Marriages of Need“ might end due to increased hunger?
- Regulatory Pressures (FMC, MOC, EU)
- Market Pressures (Shipping Councils, Forwarder Associations etc)
- New Entrants / Outsiders (e.g. Amazon, Walmart, etc)

Any Questions on Alliances / Conferences / Deregulation?

Key Cost Elements for Container Shipping

What are the key cost elements for container shipping?

Cost Structure of Container Shipping

Cost type	Tramp shipping	Liner shipping
Capital cost • Depreciation • Interest (Debt) • Others	Fixed costs	Fixed costs
Operating expenses (OPEX) • Crew • Maintenance and Repair • Insurance • Administration		
Voyage cost • Bunker costs • Port fees (dock and port call charges) • Channel fees • Others	Variable costs	
Freight related cost • Handling cost • Hinterland transport costs	(Variable costs)	Variable costs

See: Polo, G. (2012) and Stopford, M. (2008)

Traditional Carrier Organisation
The Agency Challenge

The Carrier Organisation

- Split in Trade & Region
  - Trade = Responsible for the product (vessel, schedule, fix and operating cost of the ship) often organised by tradelane or loop
  - Region = Responsible for the market (sales & marketing) and local operations (terminals, local vendors), organised by geography.

The Carrier Organisation

- „Contribution“

Every shipment, that generates more value than it‘s own variable cost, creates a positive contribution, to the operating cost of the specific sailing.

On imbalanced trades, where empty equipment, must be returned to a demand area anyway, any contribution to reduce these cost, is favourable.

The Carrier Organisation – Cost / Revenue

- Split of Cost and Revenue Management
  - Cost / Procurement = Partly centralized for vessels, vessel operations, fuel, equipment and terminals. Local for depots, transportation etc.
  - Revenue / Pricing = Centrally managed by trade, through revenue or contribution guidelines or traditional review/approve process (still far too common), executed by central and local sales. (Push & Pull)

Carrier Sales Process & Organisation

The Sales Process

- Customer segmentation
  - Large BCOs
  - Large NVOCCs

  Often centrally managed at HQ, matching centralized procurement.

  - SME BCOs
  - SME NVOCCs/FWD

  Mainly locally managed, often by location, assigned to local sales teams and sales executives

The Sales Process

- Customer segmentation in times of a sellers market
  - Large BCOs
  - Large NVOCCs
  - SME BCOs
  - SME NVOCCs/FWD

From a Carriers perspective, the NVOCC is an arbitrageur or middleman between the BCO and the Carrier, which in a strong sellers market they of course will try to avoid.

Origin vs. Destination Market

- Most international trade is conducted on the basis of Incoterms.
- Thus the responsibility of ocean freight charges lies either with the shipper or the consignee.
- For the carrier, the party settling the freight, is also considered the Cargo Control Party.
- This essentially creates two main markets for every tradelane, the market at origin, where the shipper does the freight buying and the market at destination where the consignee buys the freight.
- The markets on each end can follow different fundamentals and so the carrier can apply a different strategy on each side.

The Rate Structure / Pricing Process

- Still high complexity, too many surcharges
- Partly heritage from conference age, partly justification means.

- Example: After deregulation, hard to come up with a „real“ bunker surcharge, as it depends on: fuel price and fuel consumption (fleet, utilization, loop design, etc.)

Supply & Demand Overview

Supply & Demand - The Ying & Yang of Shipping

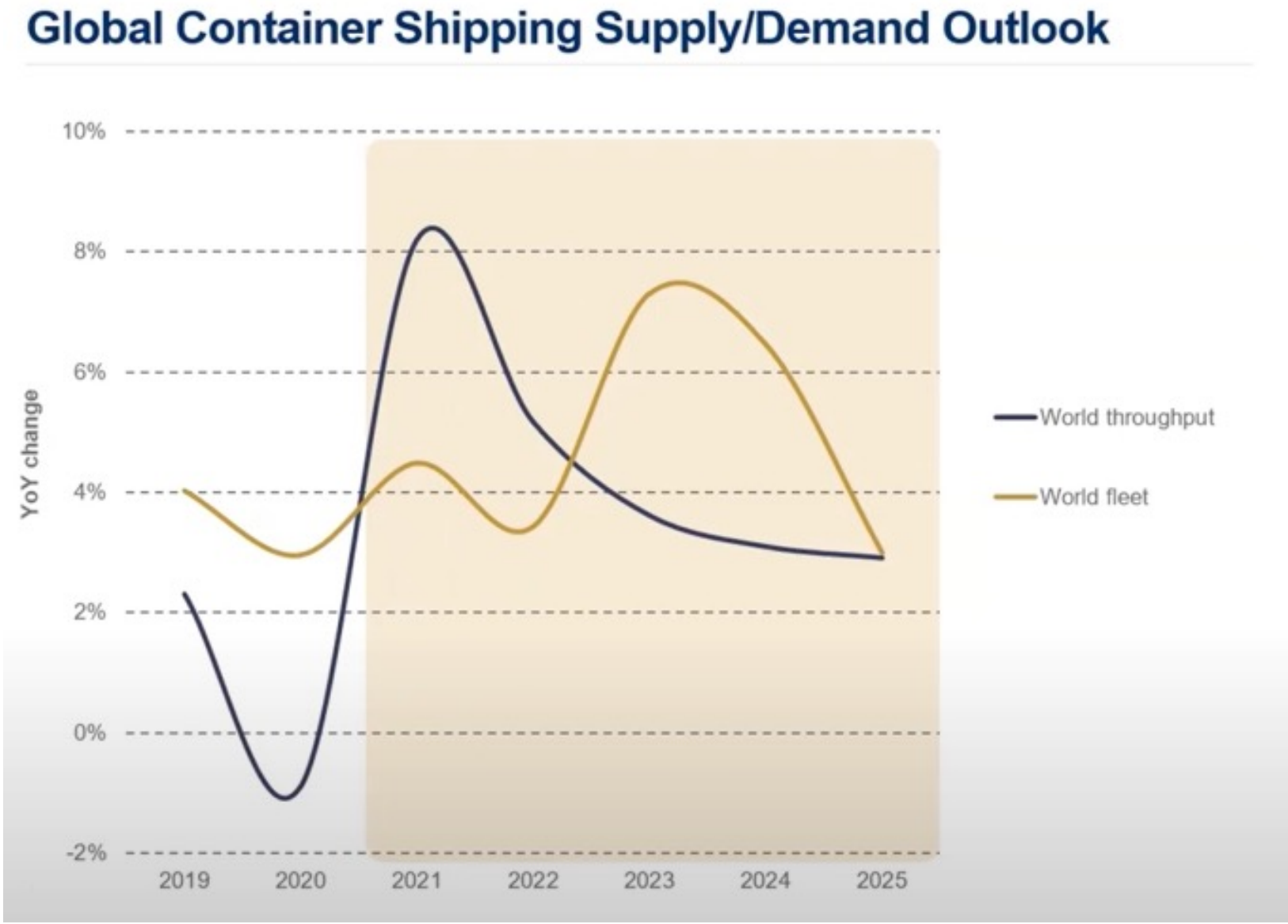
SUPPLY

- Orderbook
- Scrapping
- Interest Rates
- Profitability
- Vessel Speeds
- Scale Benefits
- Environmental Regulations
- Cartel Regulations
- Outlook
- Timing

DEMAND

- International Trade Growth
- Economic Growth
- Investment Climate
- Consumer Spending
- Trade Barriers
- Trends in key Industries

Supply & Demand



Drewry Sep 2021

Supply & Demand
Supply – Ships
Size, Speed, Age, Orderbook

Supply Side - The Vessel – A longterm asset

How long is a container ship operated, before it gets scrapped?

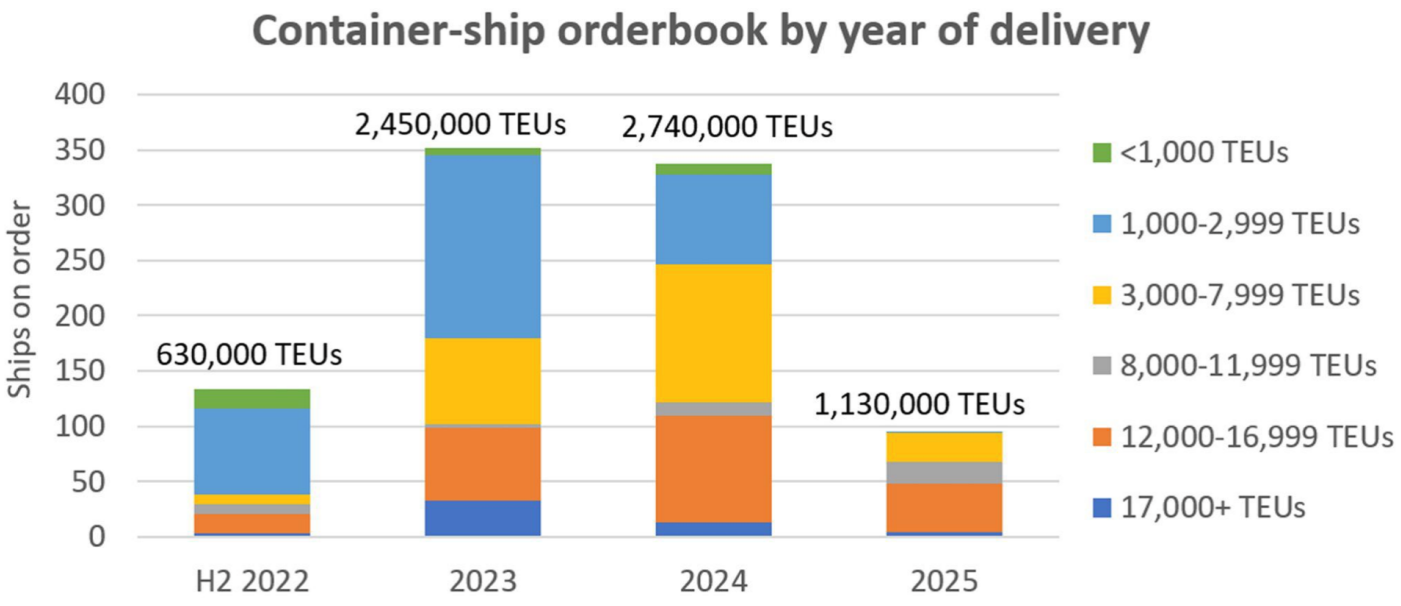
Supply Side - The Vessel – A longterm asset

- Newly ordered today
- 2-3 years of construction
- Average Scrapping Age in 2019 was 21 years (UNCTAD)
- Cost depending on steel price & newbuilding demand

Where are ships being built?

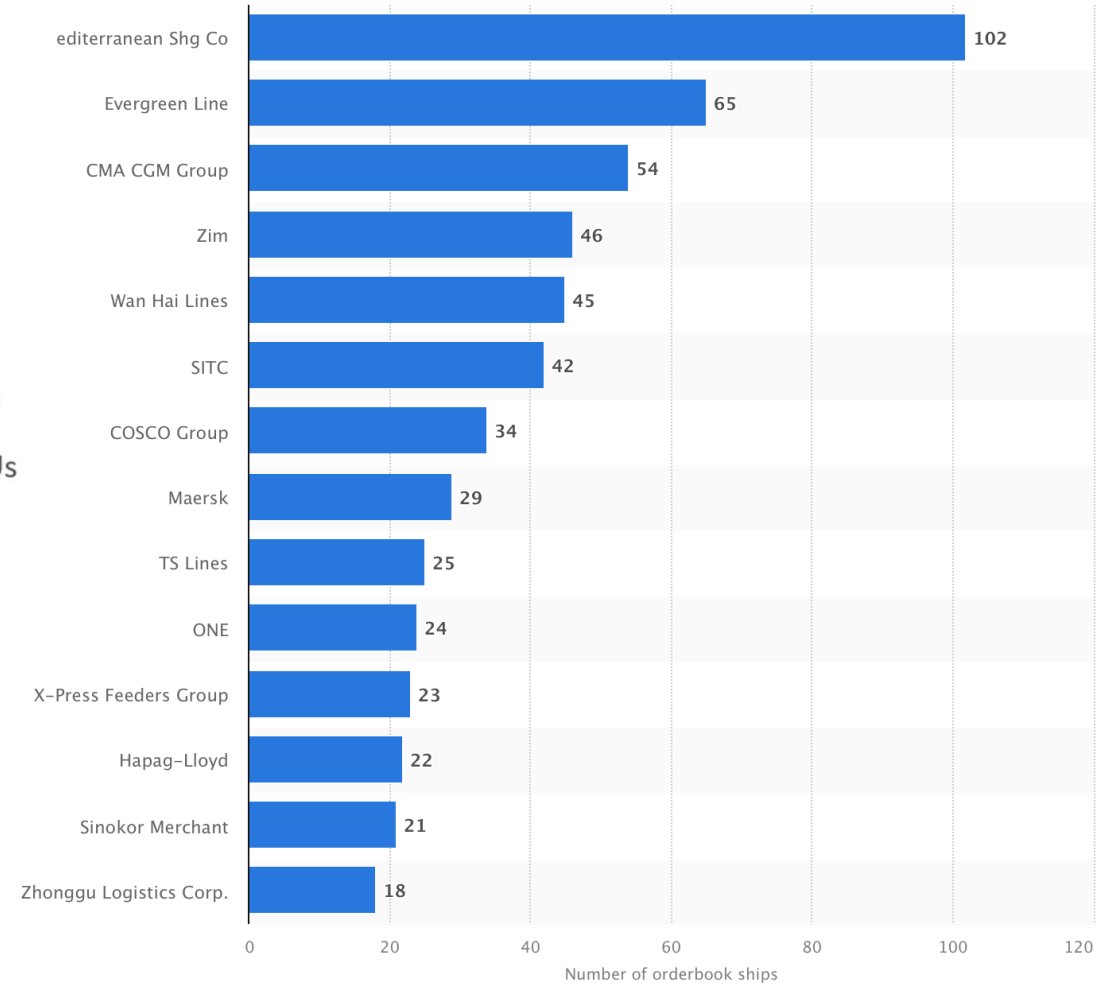
Where are ships being built?

Supply Side / Orderbook

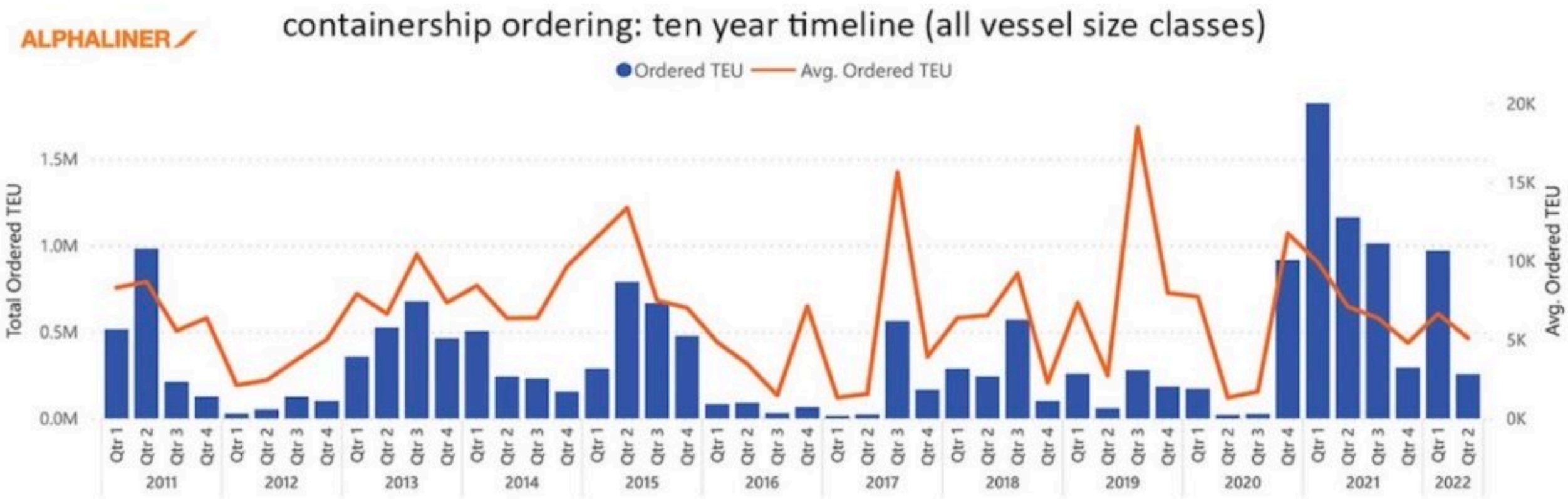


Source: American Shipper based on data from Clarksons Platou Securities. June 2022 - https://www.freightwaves.com/news/container-ship-building-spree-is-not-over-yet-new-orders-still-rising

Number of ships on order April 2022
By Carrier (Source: Alphaliner)



Supply Side / Orderbook



Supply - Average Vessel Age in 2021

Table 2.2 Age distribution of world merchant fleet by vessel type, 2021 and average age 2020–2021
(percentage and average vessel size)

Vessel type, country grouping by flag of registration and indicator		Years					Average age	
		0–4	5–9	10–14	15–19	More than 20	2021	2020
World								
Container ships	Percentage of total ships	14	19.21	32	17	17	13.2	12.7
	Percentage of dead-weight tonnage	20	29	29	14	7	10.4	9.9
	Average vessel size (dead-weight tonnage)	74 632	78 802	46 897	42 345	21 975	NA	NA

Source: UNCTAD / Clarksons Research

Supply – No Scrapping in 1H2022

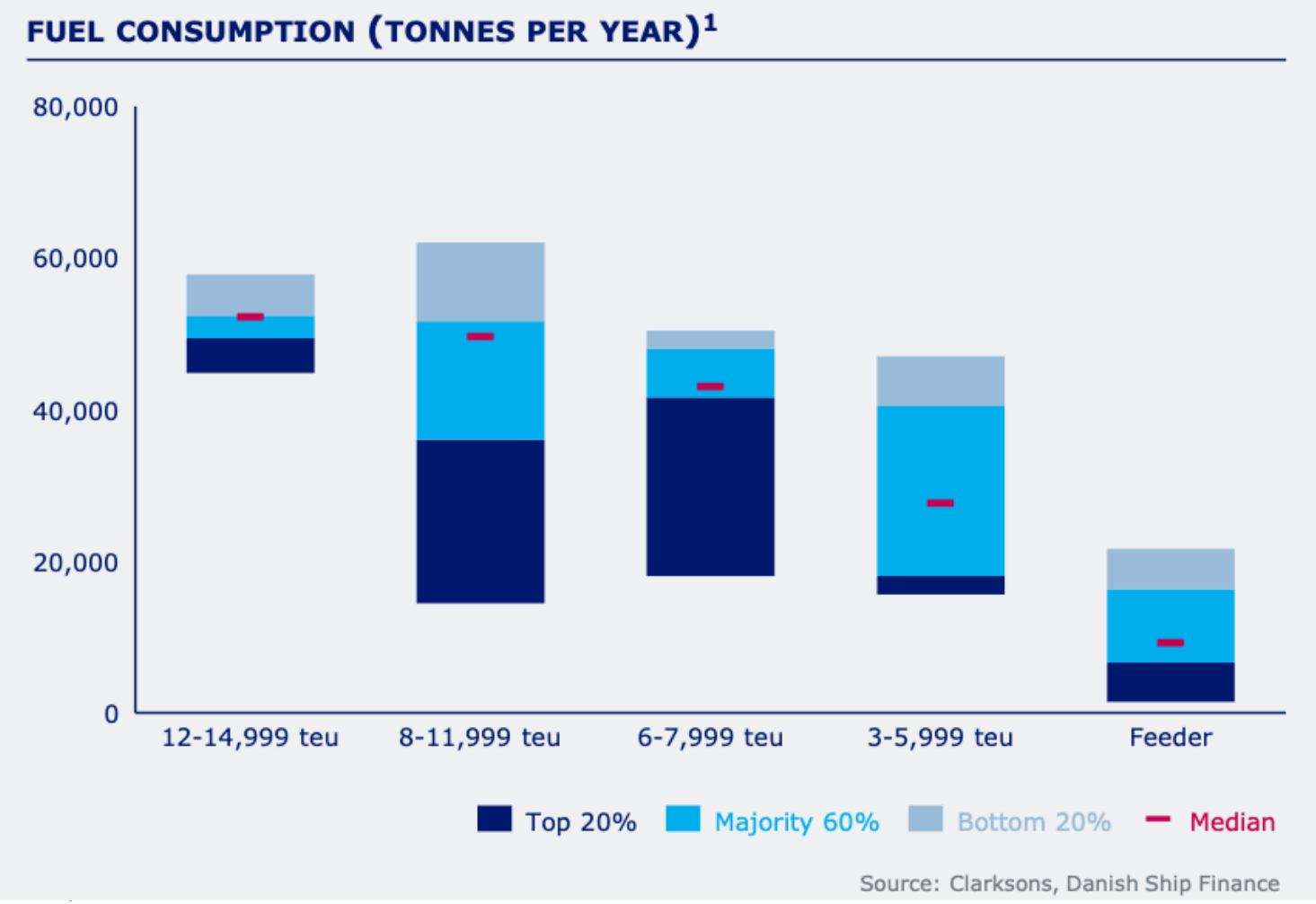
First half container ship scrapping at lowest level since 2008 says Clarksons

No container ships were sold for demolition in the first half of the year, in what is an industry first

22 August 2022 1:31 GMT *UPDATED 22 August 2022 17:01 GMT*

By **Dale Wainwright** in **Singapore**

Supply Side / Fuel Consumption for younger than 15 years



Nov 2018

Supply - Vessel Speed & Slow Steaming

A new generation of vessels has arrived.

From

- Designed for speed to compete with air freight (25 knots)
- Narrow beam, V-shape hull
- Small, allowing liners to focus on frequency

To

- Designed for efficiency (15–18 knots)
- Wider beam, U-shape hull
- As large as possible, to capture scale economies

Fuel savings of 20–30% per container

Supply & Demand
Supply – Ships
Financing & Timing

Supply Side – Buy or Lease / Timing is key

Largest Container Ships of their time:

- OOCL Shenzhen 8,963 TEU / May 2003 – Cost 130 Mio USD
- OOCL Hong Kong 23,756 TEU / Jul 2019 – Cost 150 Mio USD

- MSC order of 5 ships of 23,000 TEU from Daewoo in 2020 come in at 762 Mio USD = 152 Mio USD per vessel

- How to finance the buying, is another factor?

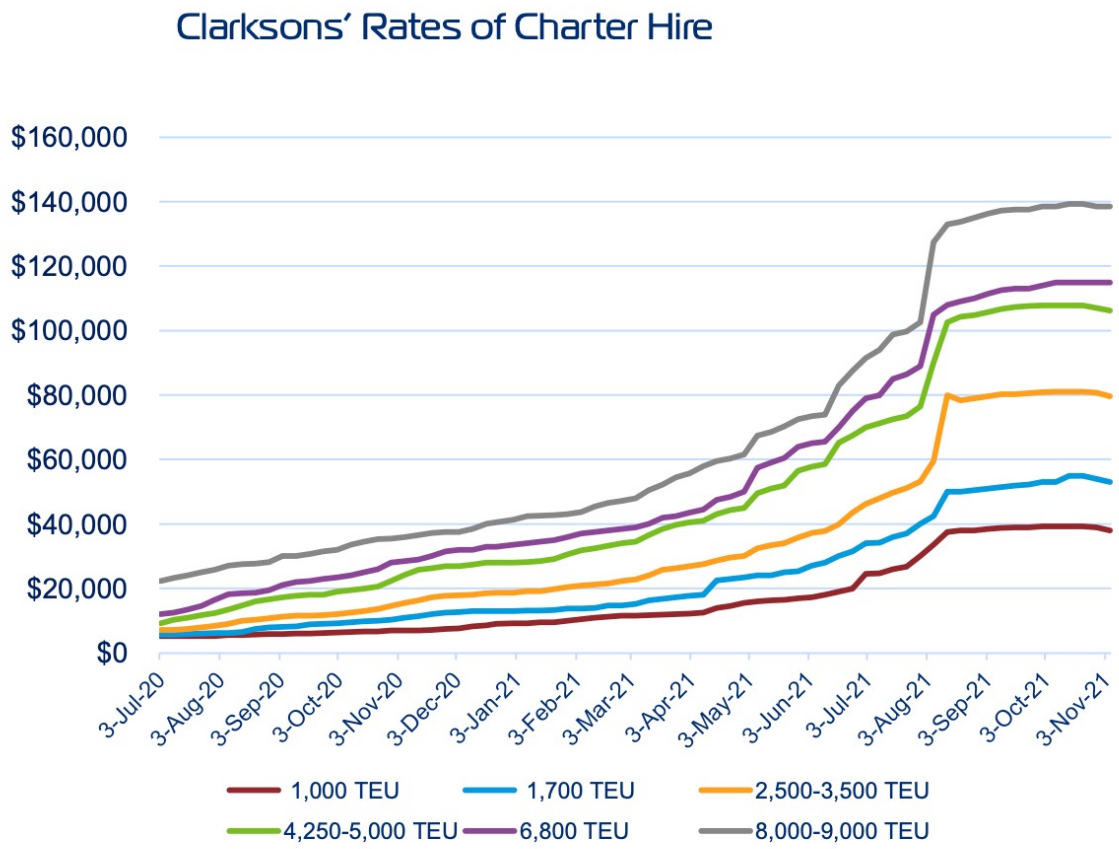
➔6% cost of capital = 24,660 USD/day, 5% = 20,547 USD/day

➔If you use your own money, what return do you expect?

Supply Side – Buy or Lease / Timing is key

Leasing market / Day Charter Rates (BRS Brokers 2018)

Supply Side – Buy or Lease / Timing is key



Hapag-Lloyd stumps up 'eye-watering' $130,000 a day for panamax charter

Mike Wackett • 01/12/2021

Credit VesselFinder.com

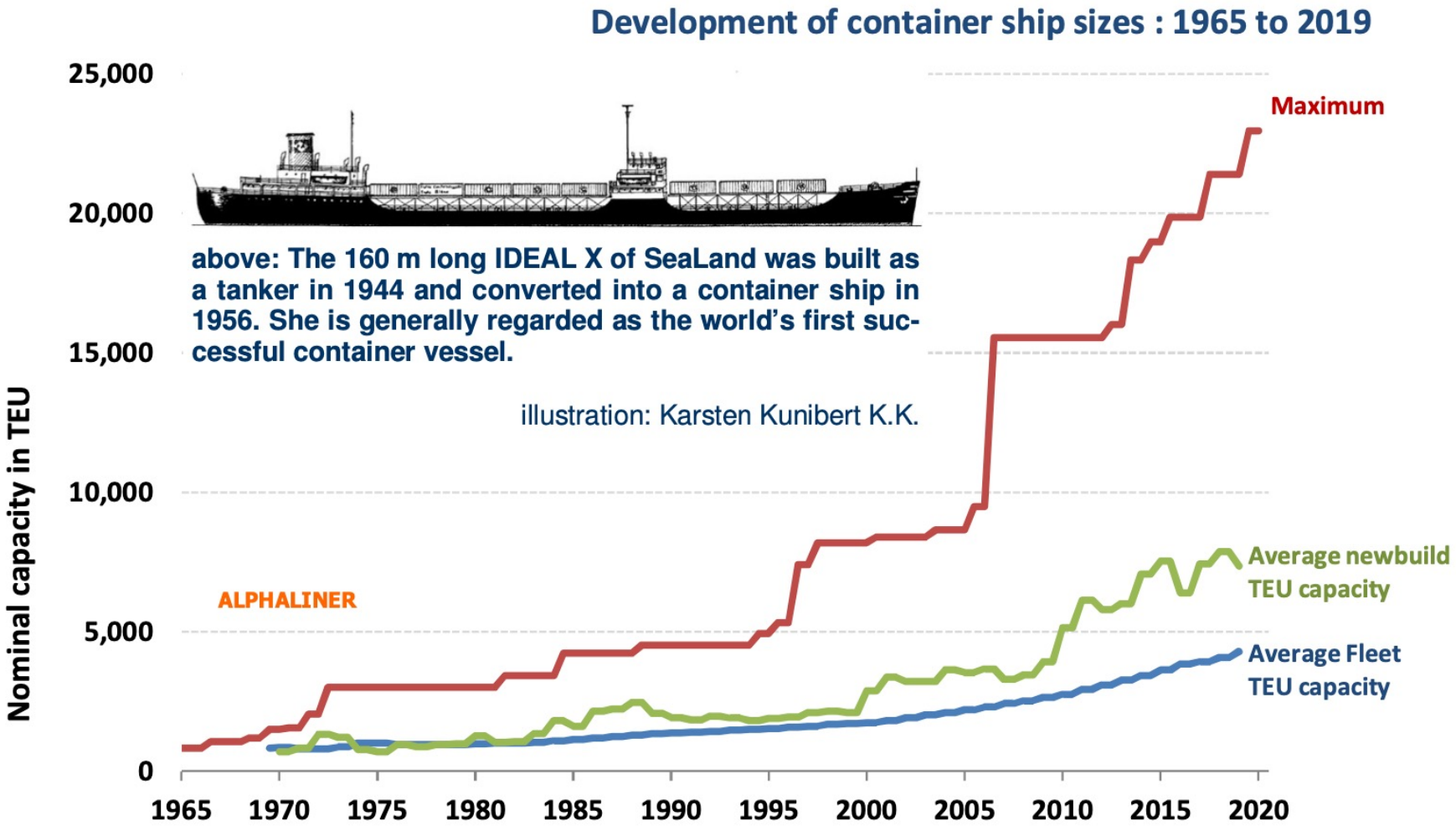
Ocean carriers face 'Hobson's choice' on the containership charter market: agreeing to owners' hugely inflated daily hire rates or risking losing the vessel to a competitor.

Hapag-Lloyd has just agreed a three-month charter commencing in January of the 4,253 teu *Synergy Oakland* for an eye-watering $130,000 a day from Greek non-operating owner Euroseas.

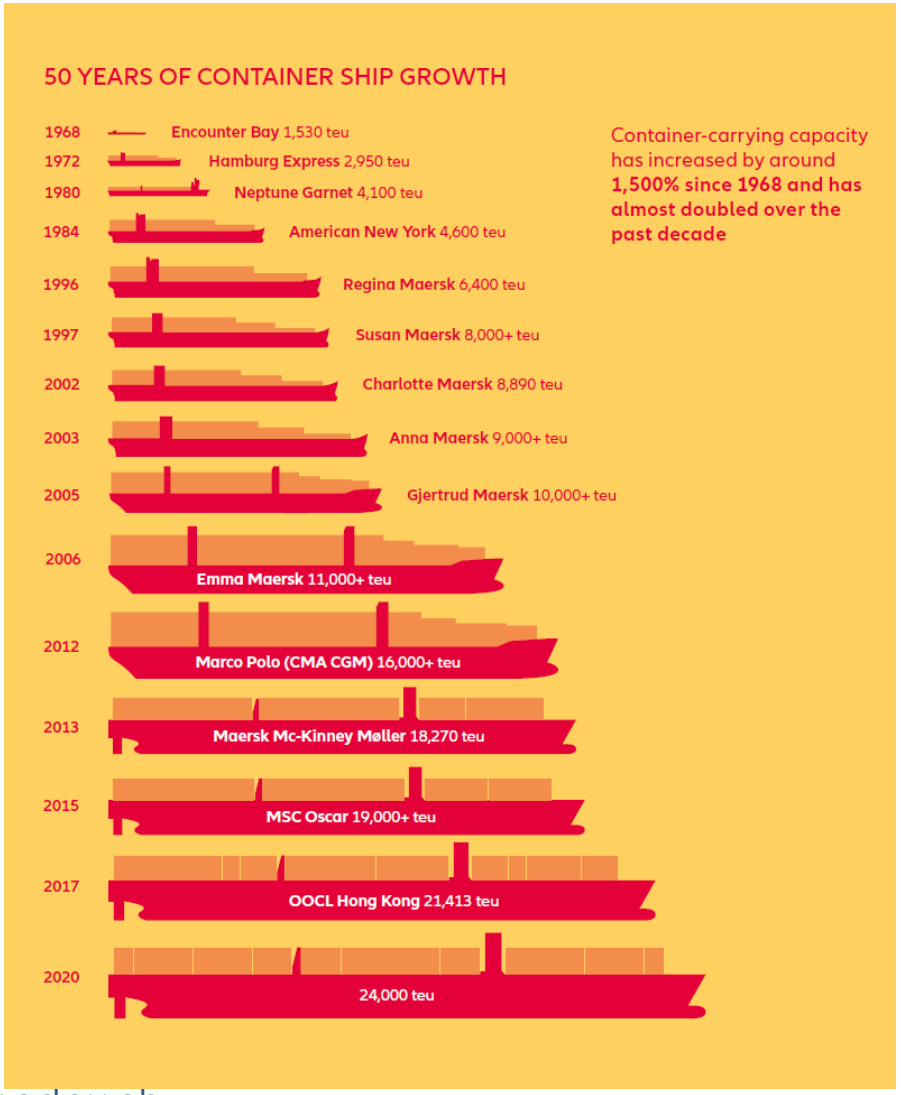
The carrier's in-house charter desk will no doubt have baulked at a charter rate some $50,000 a day above the current bull market, but was clearly unable to fix

Supply & Demand
Supply – Ships
Benefits of Scale

Vessel Sizes / Benefits of Scale



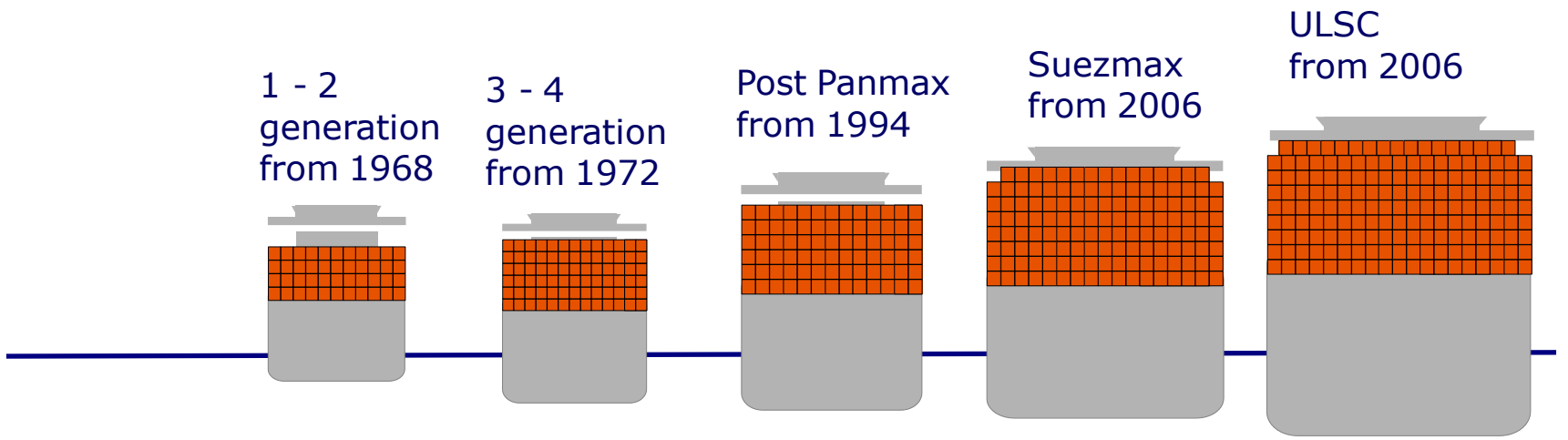
Vessel Sizes / Benefits of Scale



Largest vessel in Sep 2022 is the „EVER ALOT“ with 24,004 TEU

Vessel size, benefits of scale

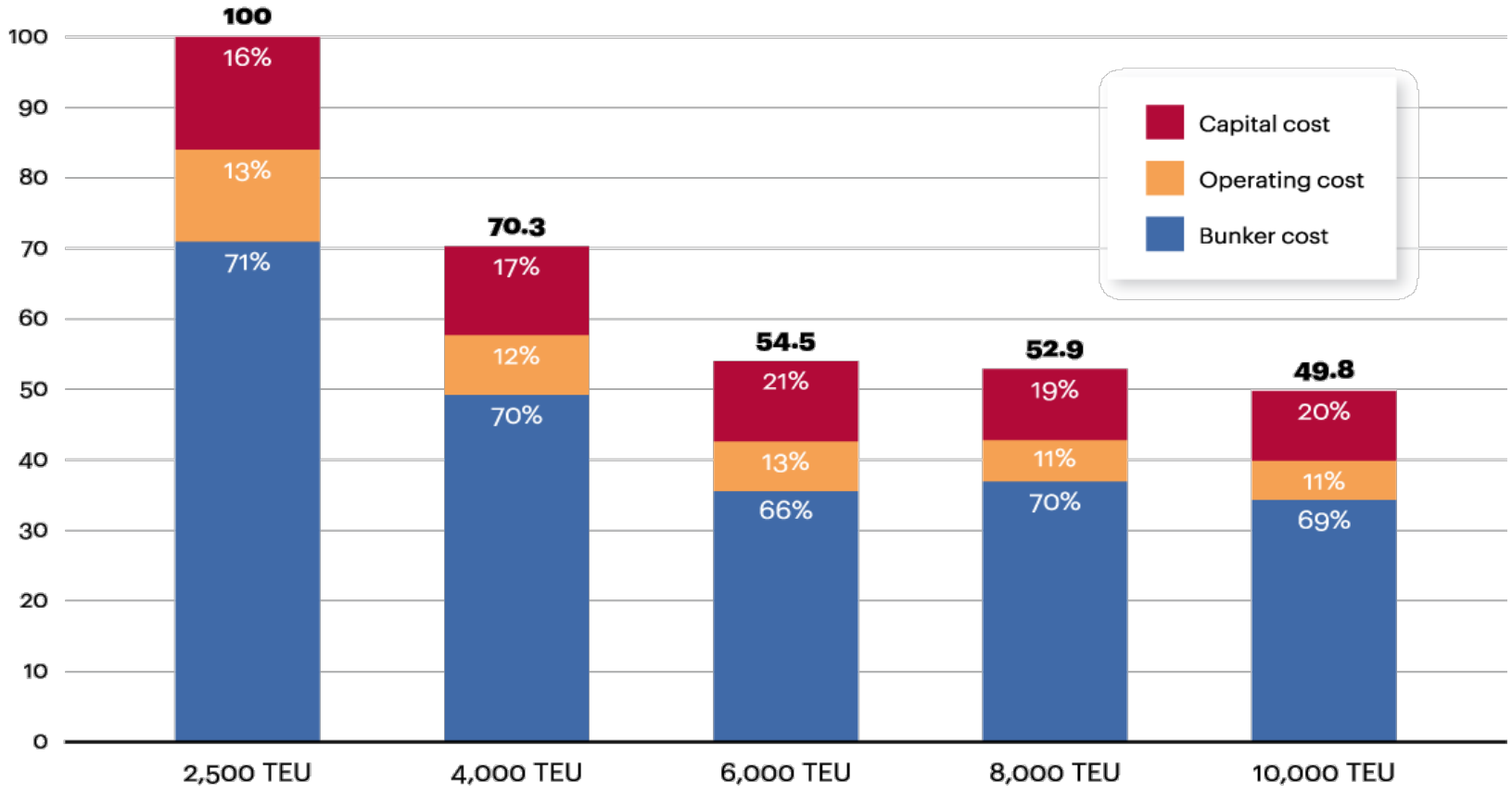
Development of the size of ships



TEU	**1 000 – 2 000**	**3 000 – 4 900**	**5 000 – 9 000**	**~ 12 000 – 13 000**	**~14 000-20 000**
Draught	**10 – 11.5 m**	**12.5 – 13.5 m**	**13.5 – 14.5 m**	**15.5 m**	**16-16.5m**
Width	**28 m**	**32 m**	**39 – 43 m**	**48 – 57 m**	**48-59 m**

Source: Hapag Lloyd AG (2016)

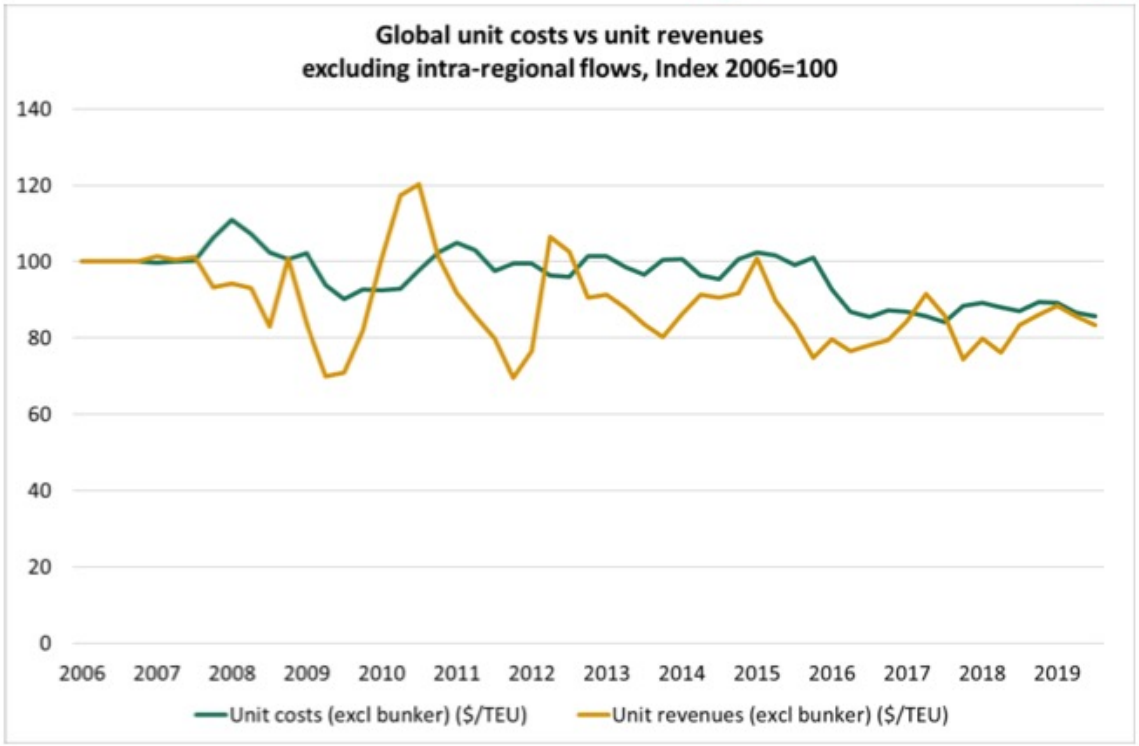
Cost Structure of Container Shipping Scale Affects

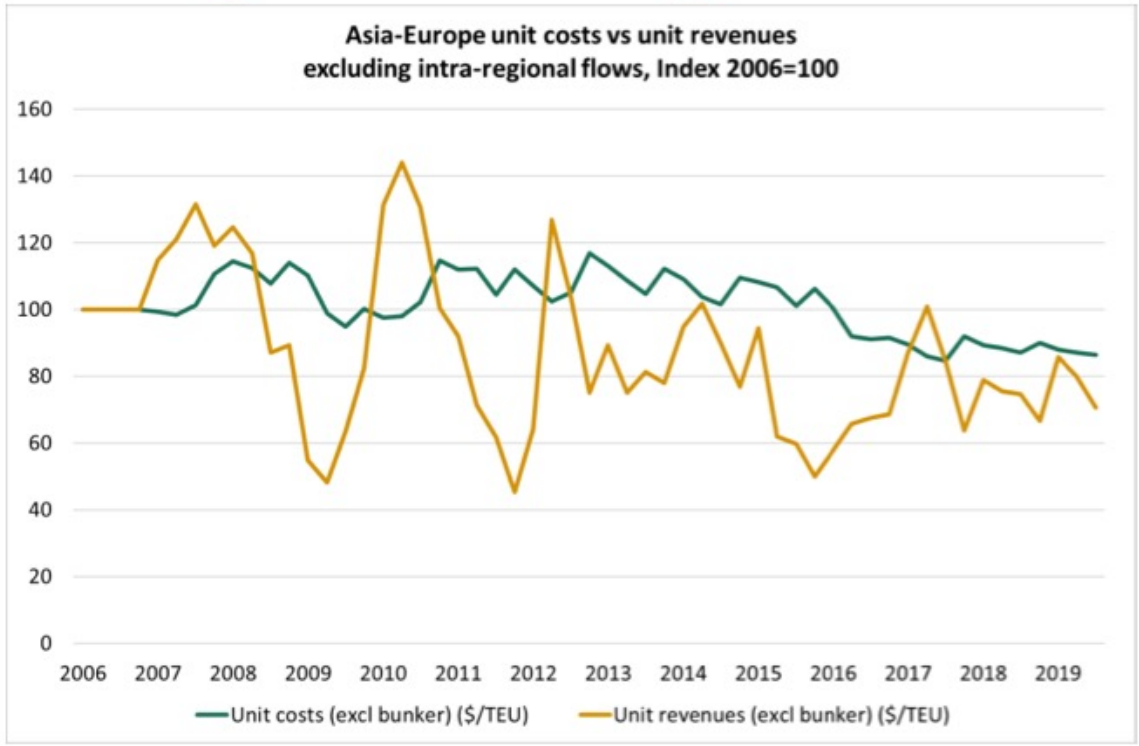


Source: A.T. Kearney (2012)

Favourite ship size ordered in 2021 was around 16,000 TEU

Cost and Revenues continue to drop as scale benefits increase





Source: MDS Transmodal, Container Business Model August 2019

Vessel Sizes / Benefits of Scale

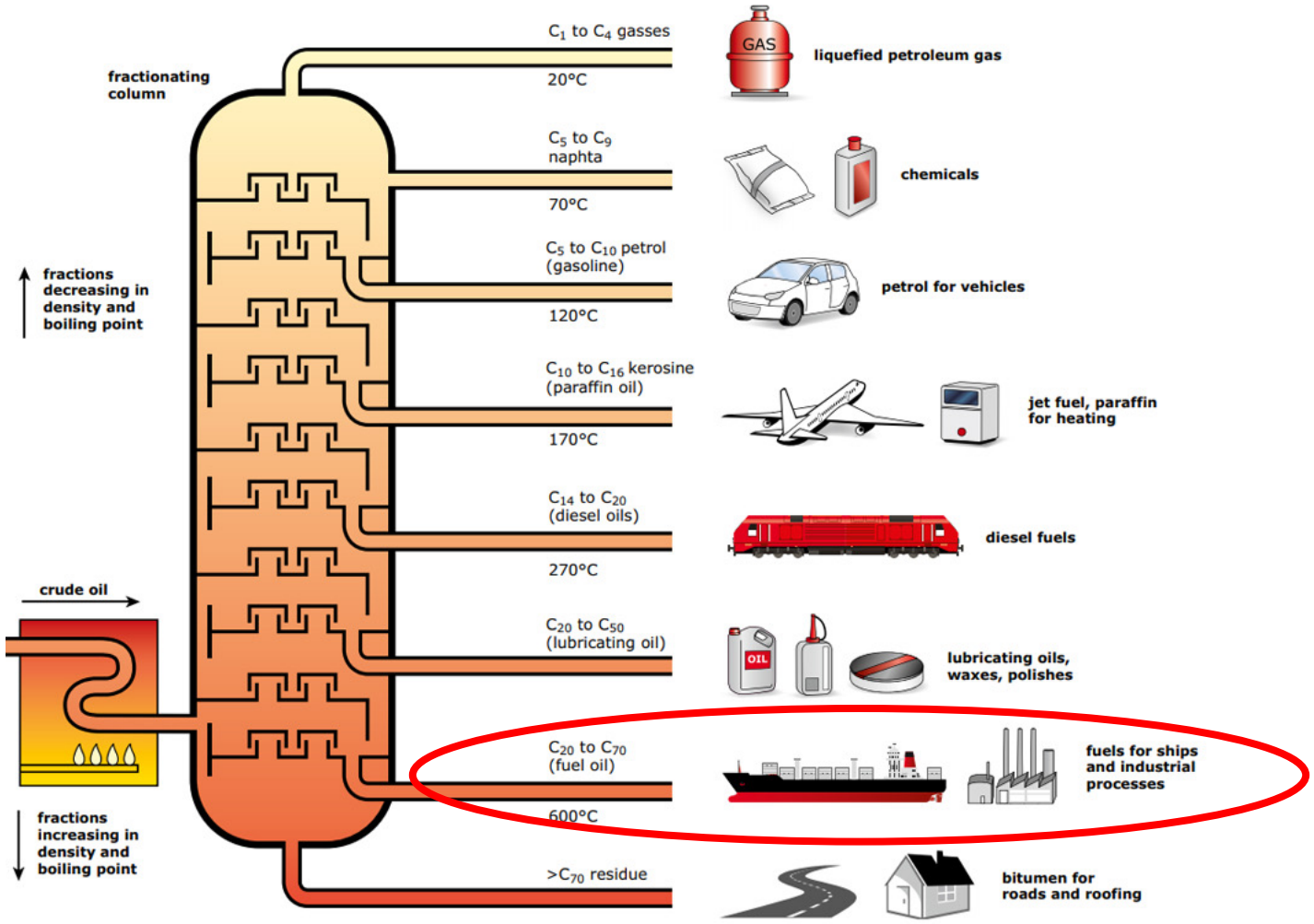
- CMA CGM Jacques Saade
- 23,112 TEU
- 399.90 m length
- 61.00 m width
- 16.00 m draft
- 63,840 KW
- LNG Powered

«….we conclude that using LNG does not deliver the emissions reductions required by the IMO's initial GHG strategy, and that using it could actually worsen shipping's climate impacts. « ICCT 2020 Study
https://www.stand.earth/sites/stand/files/20200128-ICCT-StandEarth-Climate-Implications-LNG-As-Marine-Fuel.pdf

Supply & Demand
Supply - Ships
Marine Fuel & Bunker Prices

What is Bunker Fuel Oil?

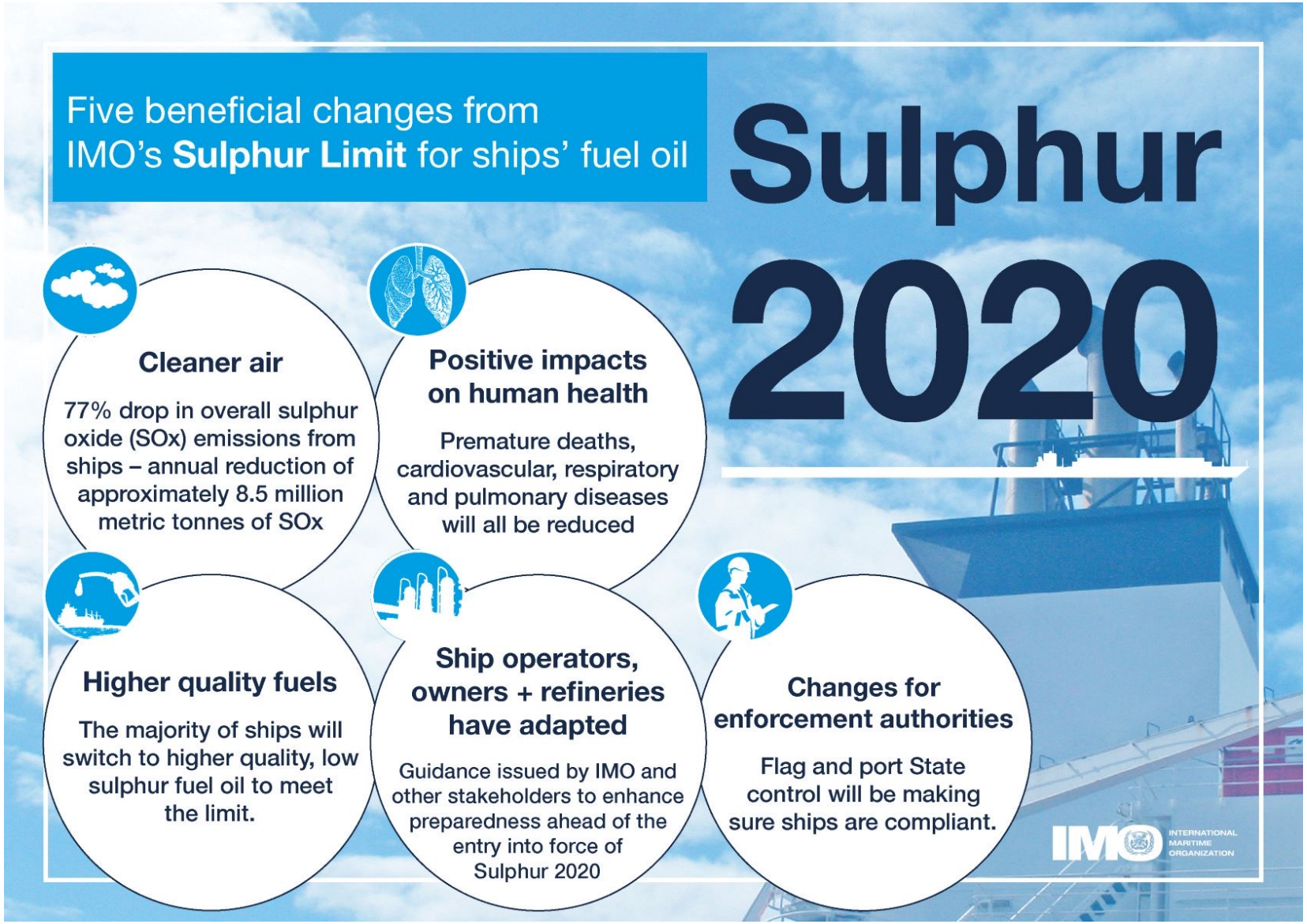
What is Bunker Fuel Oil?



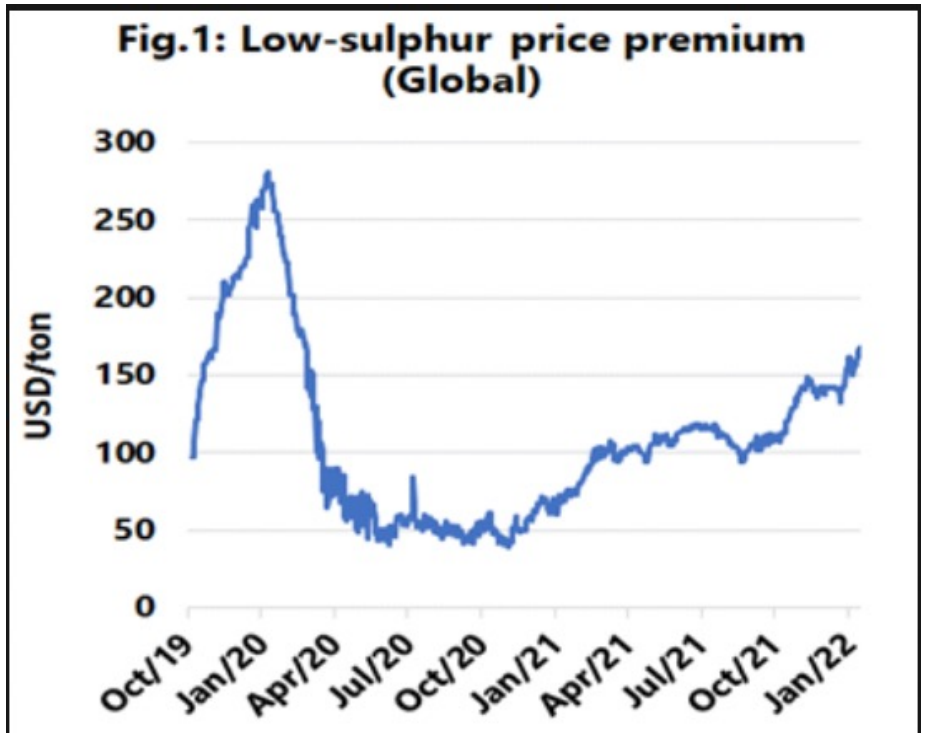
IMO2020

International Maritime Organisation (IMO)

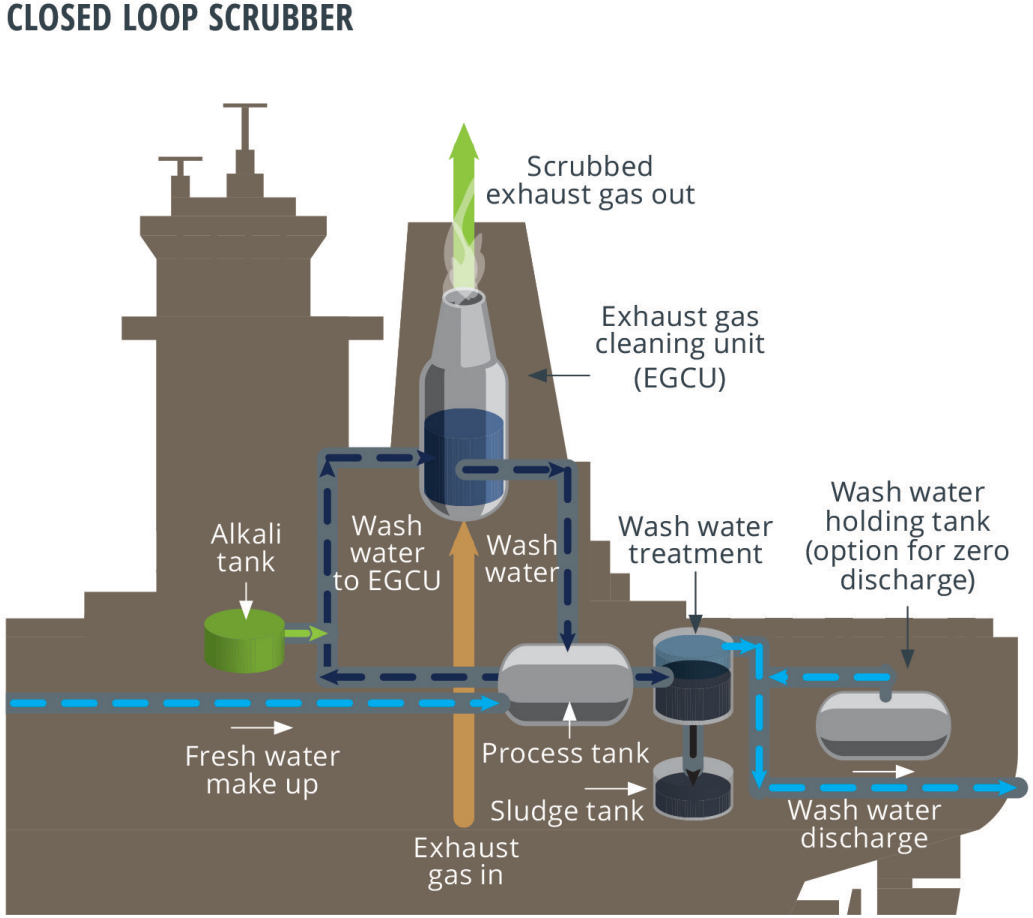
A United Nations Body



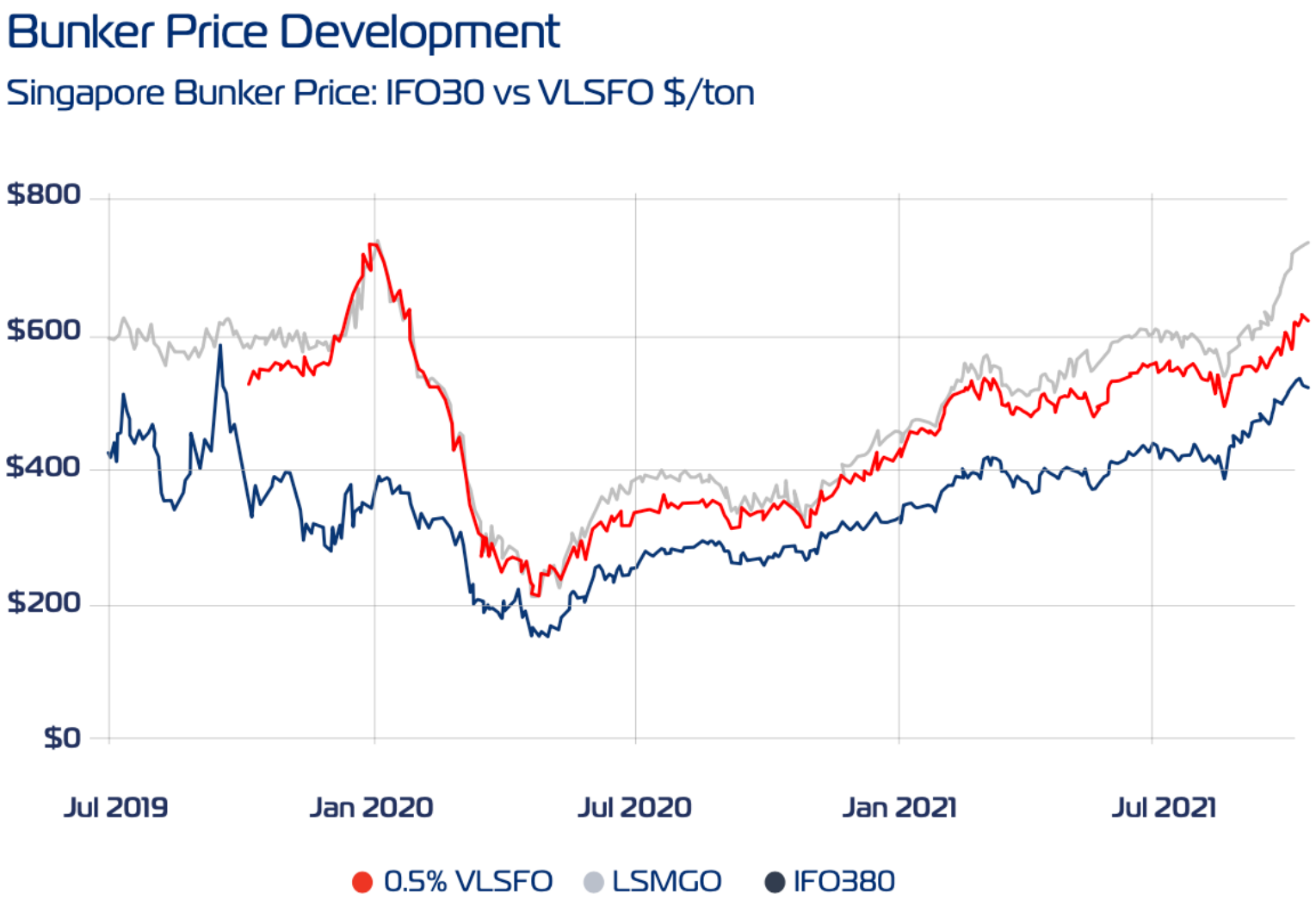
Marine Fuel – Post IMO2020
VLSFO or IFO380+Scrubbers?



Source: SeaIntelligence Jan 2022



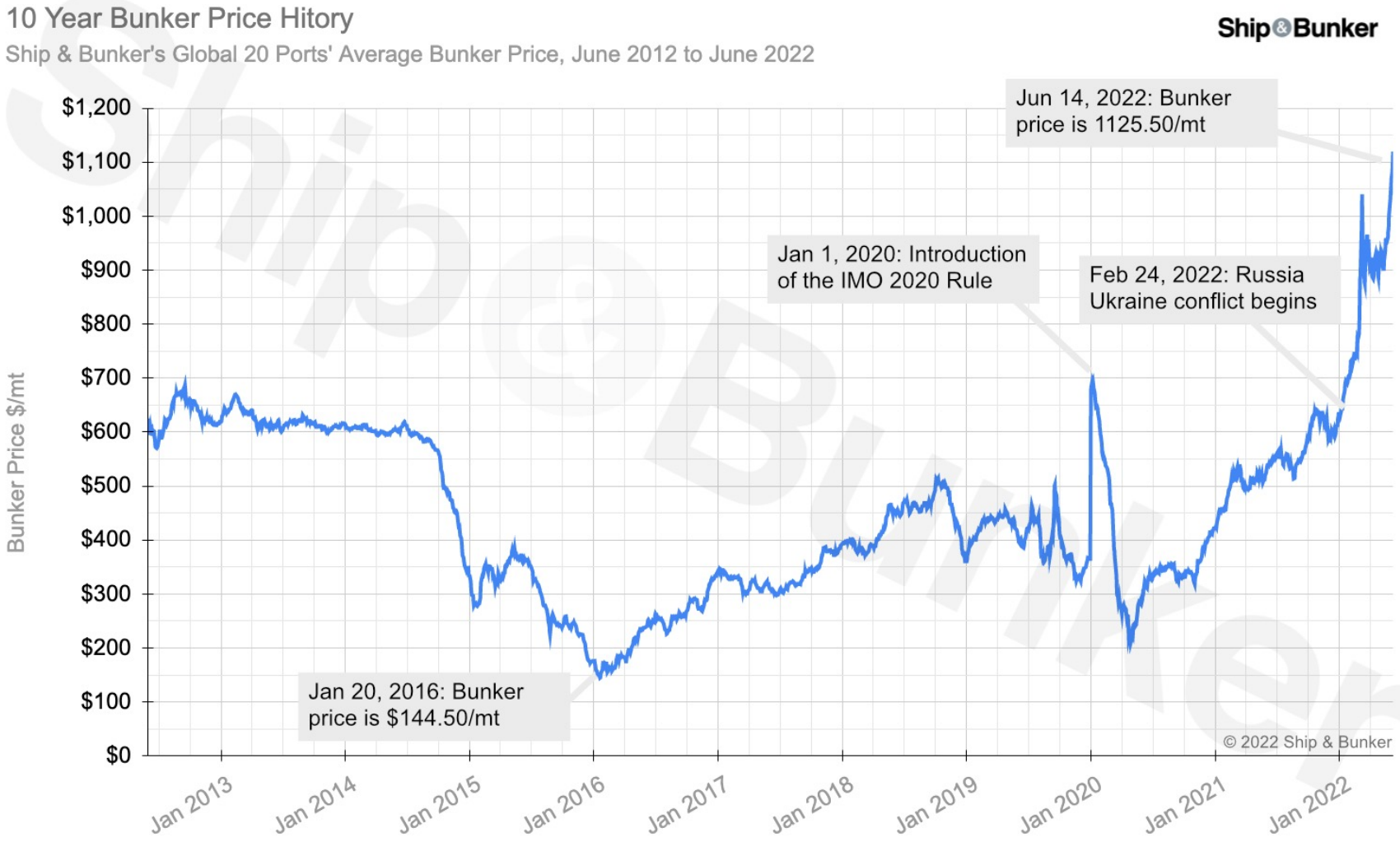
Marine Fuel – Bunker Prices



VLSFO vs. Scrubbers?

The IMO 2020 challenge.

Marine Fuel – Bunker Prices

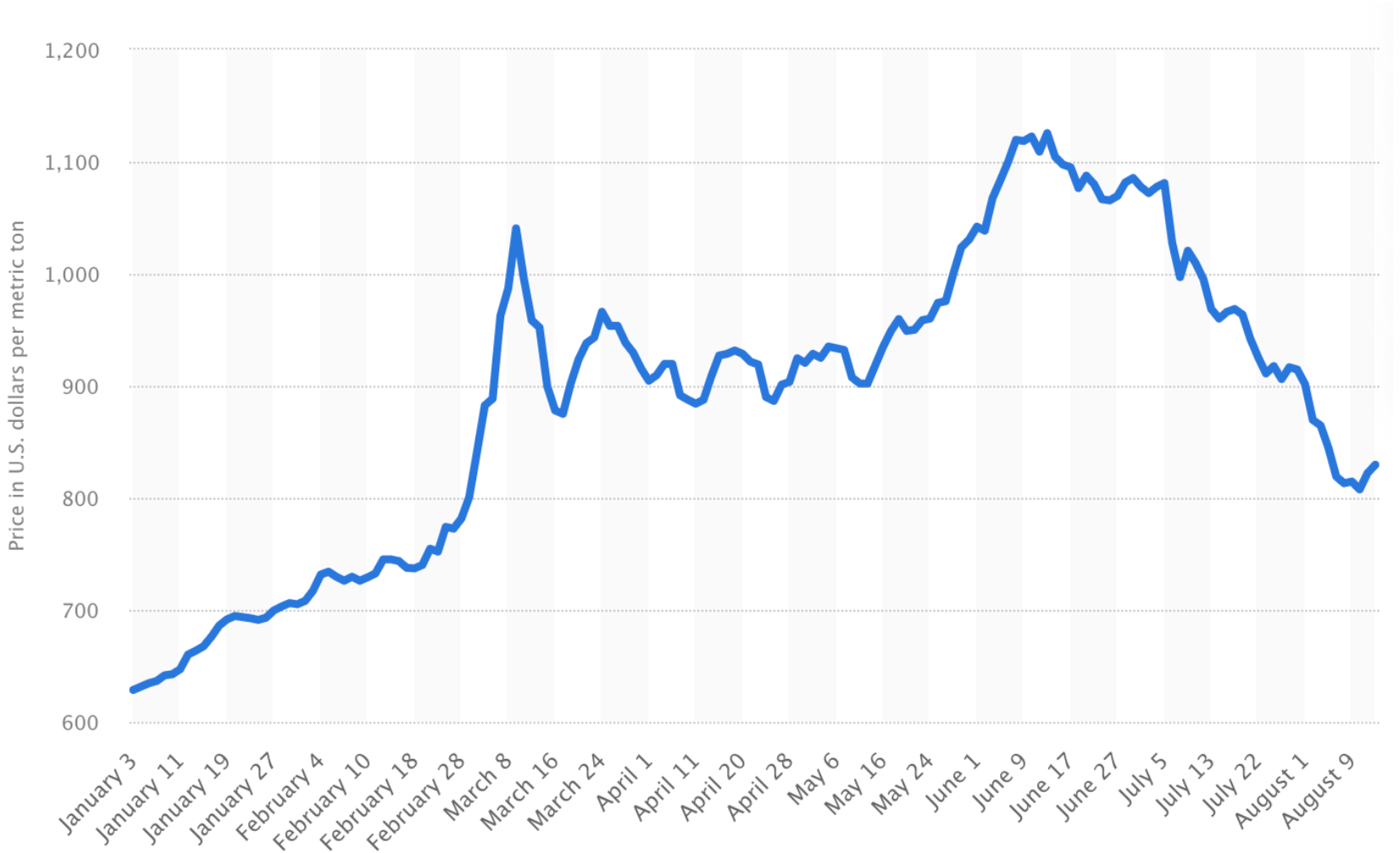


„IFO380 was the dominant bunker choice besfore January 1, 2020 and VLSFO afterwards.“

Graph is based on G20 average bunker prices, Top 20 bunker ports.

Source: Ship & Bunker June 2022 - https://shipandbunker.com/news/world/366958-feature-10-years-of-bunker-prices

Marine Fuel – Bunker Prices / VLSFO

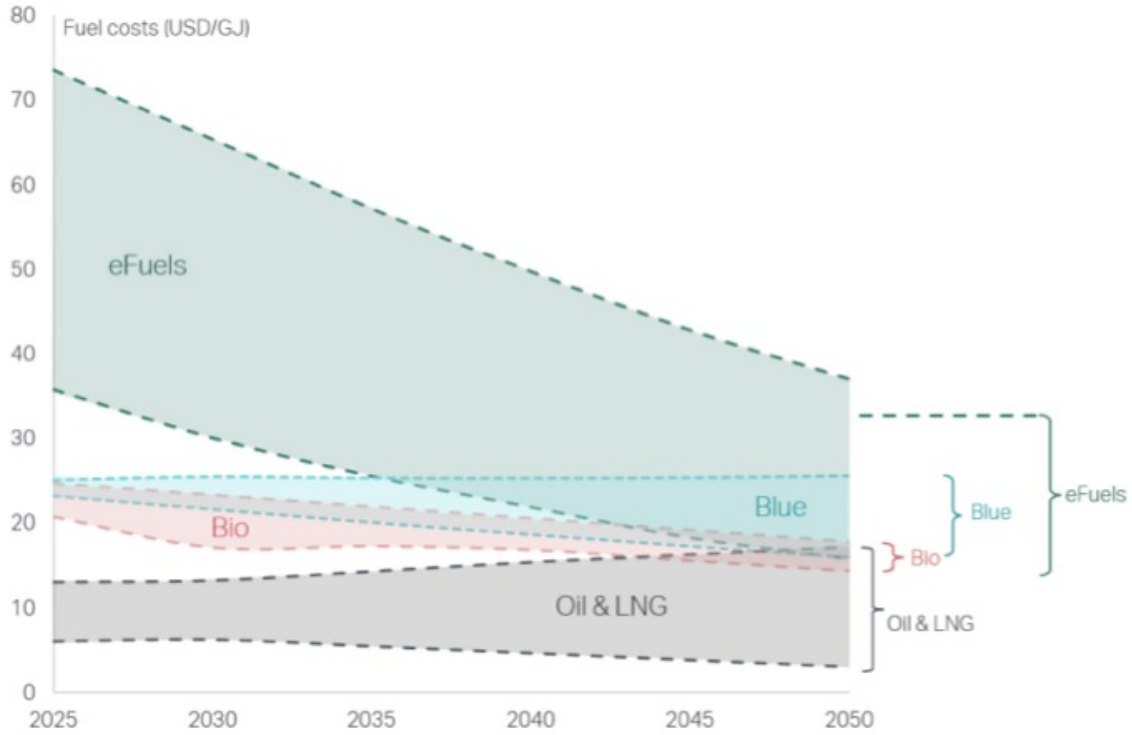


VLSFO prices have come down quite a bit since.

Source: Statista 2022

Marine Fuel
– A new competitive factor ahead

What will be the fuel of the future?



			Mature and proven	Solutions identified	Major challenges remain
Energy Carrier	Feedstock availability	Fuel production	Fuel storage, logistics, bunkering	Onboard fuel conversion[1]	Onboard safety and fuel management[2]	Regulation[3]
Fossil fuels						
e-hydrogen						
Blue hydrogen						
e-ammonia						
Blue ammonia						
e-methanol						
Bio-methanol						
e-methane						
Bio-methane						
Bio-oils						

Alternative fuels for decarbonization

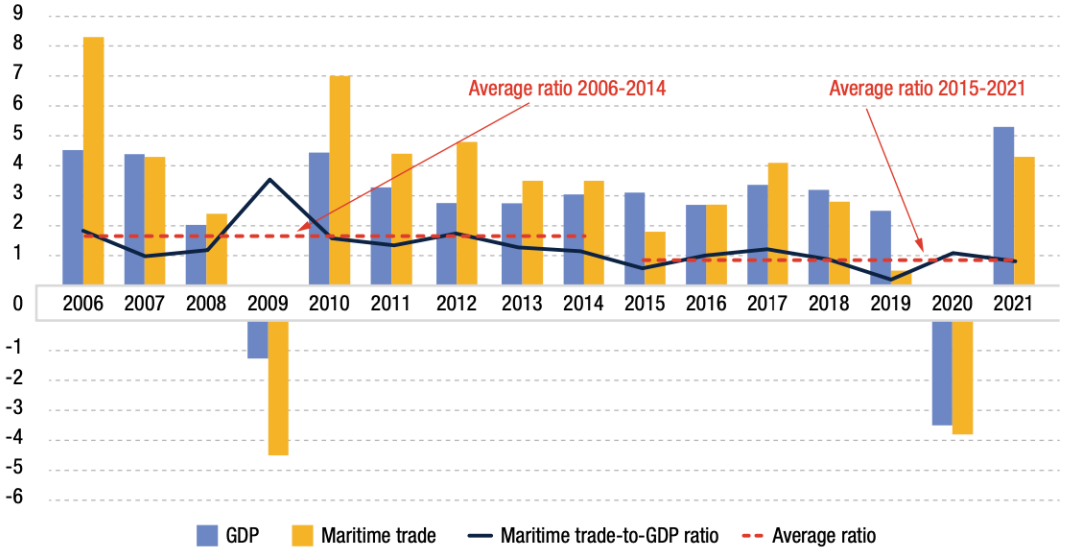
https://www.zerocarbonshipping.com

Supply & Demand
Demand – GDP & Forecasting

Demand – Forecasting the future

- Demand linked to global GDP growth, but not linear:
  - 1990s multiplier 3.4 ➔ 1% global GDP growth = 3.4% global container volume growth
  - 2000s multiplier 2.6
  - Since 2008, the multiplier was more 1.4
  - In recent years it slipped below parity

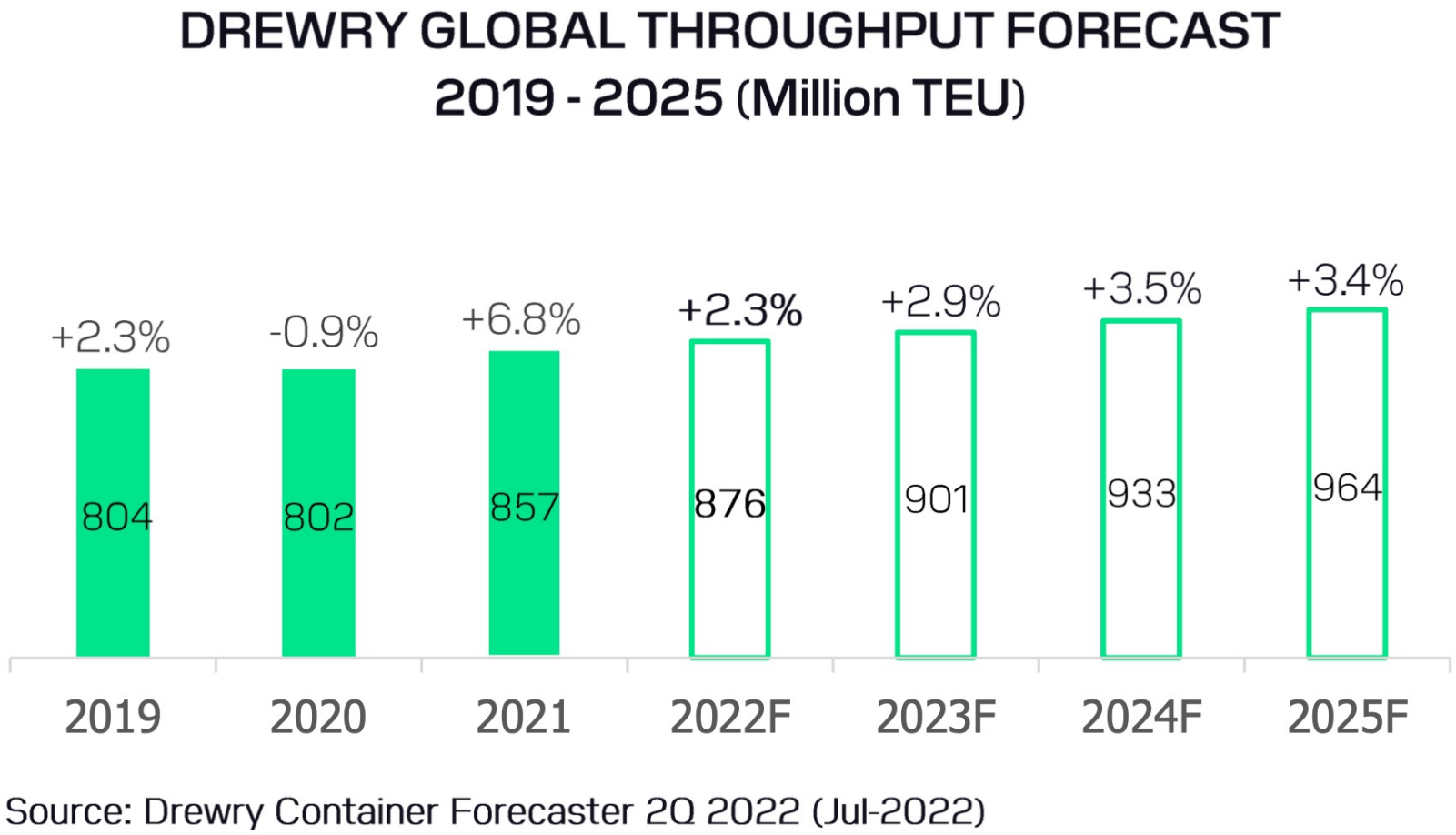
Figure 1 International maritime trade, world gross domestic product (GDP) and maritime trade-to-GDP ratio, 2006 to 2021
(percentage annual change and ratio)



Source: UNCTAD calculations, based on the *Review of Maritime Transport*, various issues, data from UNCTADstat and table 1.1 of the UNCTAD *Trade and Development Report 2021. From recovery to resilience: The development dimension.*

==> No one knows the future! Our current period is a good reminder for that.

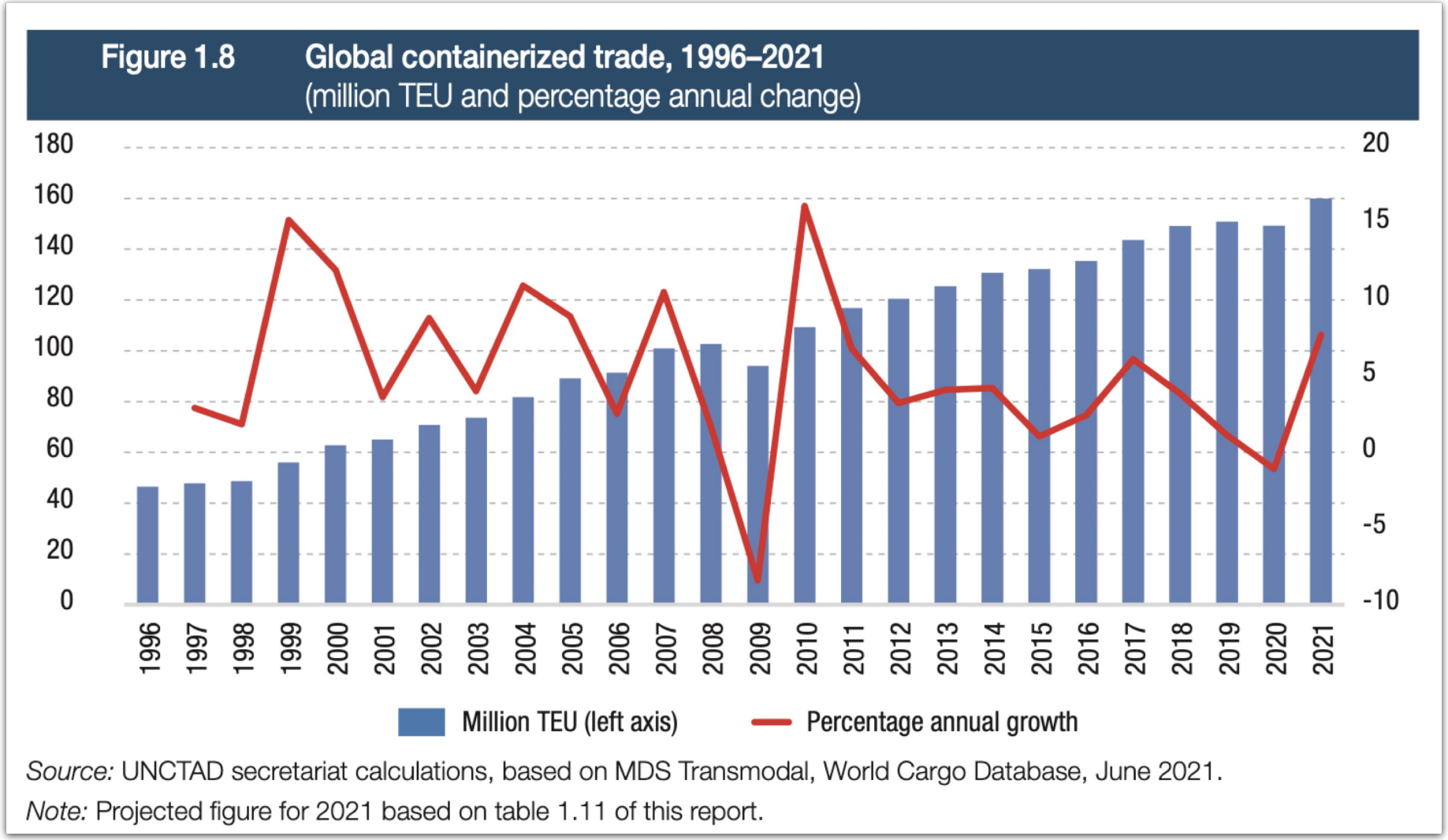
Demand - Global Container Throughput



Source: Drewry Container Forecaster 2Q 2022 (Jul-2022)

Demand - World Containerised Trade

Volatile but in general a growth story....



Demand - Changes of key ports

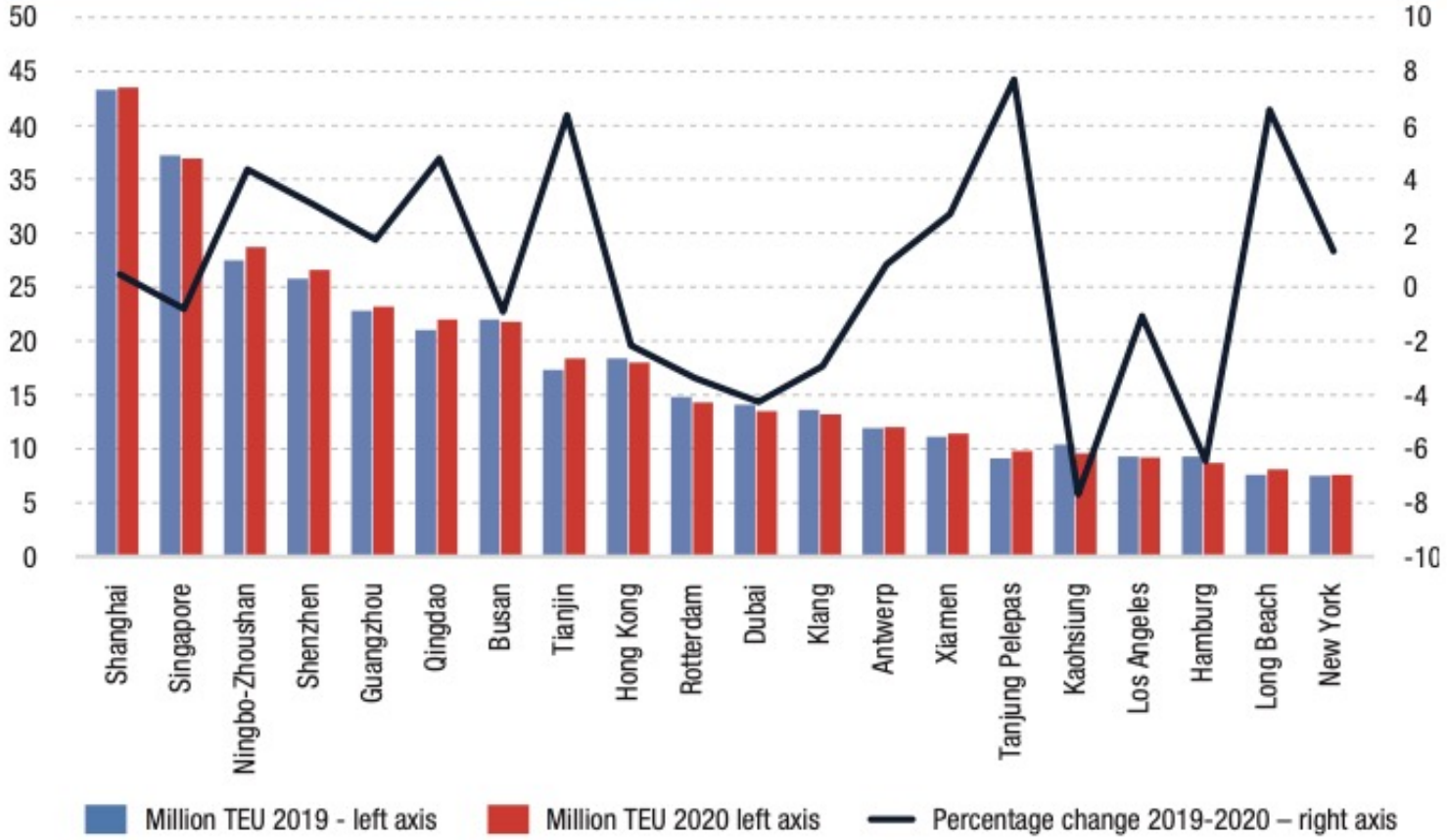
Port	TEU 2016	TEU 2007
1. Shanghai	36.540.000	26.168.000
2. Singapore	30.920.000	27.932.000
3. Shenzhen	24.200.000	21.099.000
4. Ningbo	20.630.000	9.349.000
5. Hong Kong	20.070.000	23.881.000
6. Busan	19.450.000	13.270.000
7. Qingdao	17.470.000	9.462.000
8. Guangzhou	17.220.000	9.200.000
9. Jebel Ali, Dubai	15.590.000	10.653.026
10. Tianjin	14.110.000	7.103.000
11. Rotterdam	12.230.000	10.790.604
12. Port Klang	11.890.000	7.118.714
13. Kaohsiung	10.260.000	10.256.829
14. Antwerp	9.650.000	8.175.951
15. Dalian	9.300.000	-
16. Xiamen	9.180.000	4.627.000
17. Tanjung Pelepas	9.130.000	5.500.000
18. Hamburg	8.870.000	9.889.792
19. Los Angeles	8.160.000	8.355.039
20. Long Beach	7.192.000	7.312.465

	Port	Volume 2020
1	Shanghai, China	43.5
2	Singapore	36.6
3	Ningbo-Zhoushan, China	28.72
4	Shenzhen, China	26.55
5	Guangzhou Harbor, China	23.19
6	Busan, South Korea	21.59
7	Qingdao, China	22.00
8	Hong Kong, S.A.R, China	20.07
9	Tianjin, China	18.35
10	Rotterdam, The Netherlands	14.35
11	Jebel Ali, Dubai, United Arab Emirates	13.5
12	Port Klang, Malaysia	13.24
13	Xiamen, China	11.41
14	Antwerp, Belgium	12.04
15	Kaohsiung, Taiwan, China	9.62
16	Dalian, China	6.54
17*	Los Angeles, U.S.A	9.2
17*	Hamburg, Germany	8.7

Source: World Shipping Counci (2017 & 2021)

Demand - Changes of key ports

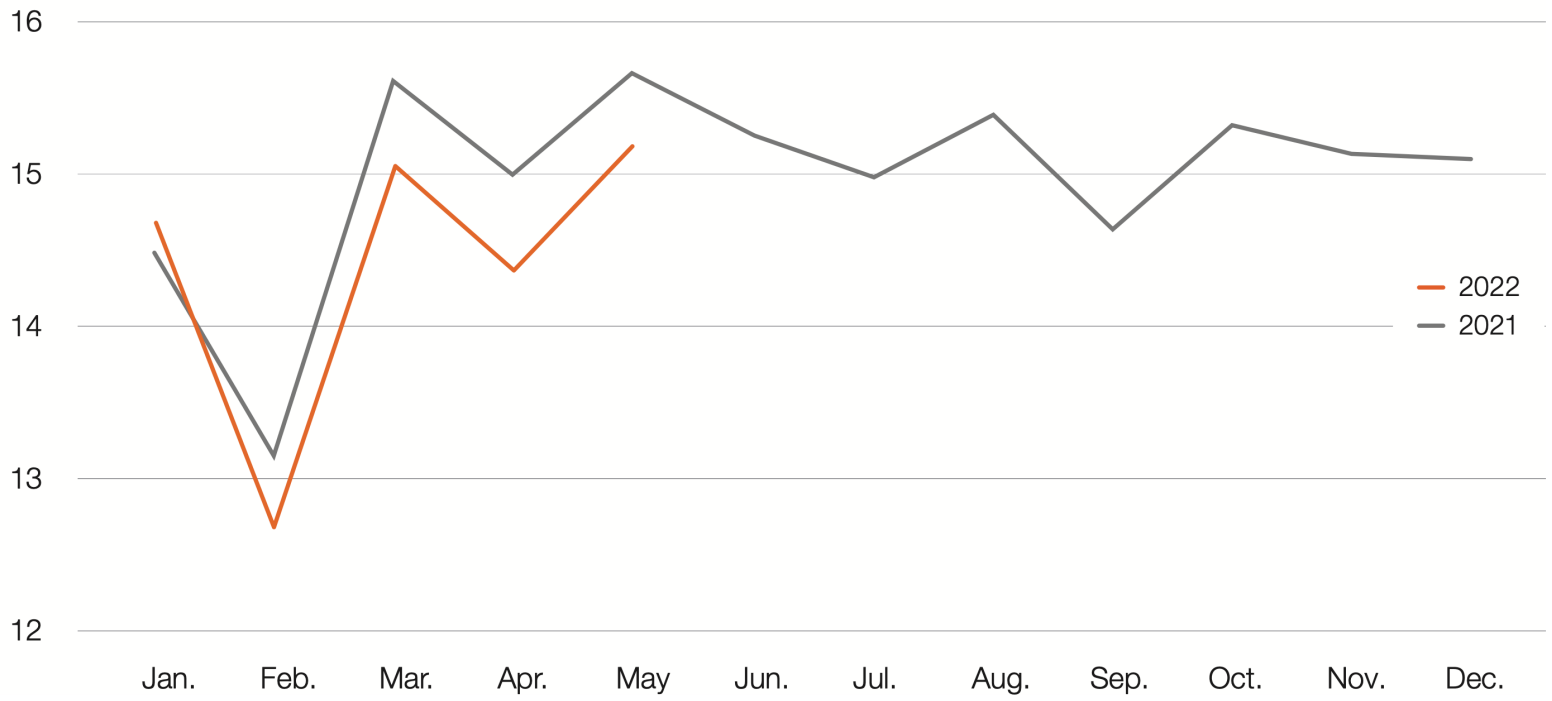
Figure 1.11 **Leading 20 global container ports, 2019–2020**
(TEU, percentage annual change)



Source: UNCTAD based on data published on Hamburg Port Authority website (www.hafen-hamburg.de/en/statistics/top-20-container-ports), accessed July 2021.

Demand – Volumes / CTS

Monthly global container transport volumes (in million TEU)



Source: CTS, July 2022

Global container transport volumes decreased by 2.5% in the period January to May 2022 com- pared with the prior year period (CTS, July 2022). This was due to the high figure in the previous year, the ongoing disruption to global supply chains and weaker demand. Transport volumes on the Intra-Asia trade and from the Far East to North America increased marginally. By contrast, the transport volume on the Far East to Europe trade decreased by 3.6%, while volumes from North America and Europe to the Far East fell sharply by –14.5% and –14.6%, respectively.

Demand Forecasting in unpredictable times

Year on year changes in the value of exports, Jan - Sep 2020

	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20
Brazil	-19.5	-1.0	5.3	-8.8	-14.9	-4.9	-3.5	-10.7	-9.1
Canada	3.8	3.4	-11.1	-37.0	-40.9	-21.0	-14.3	-11.3	:
China (mainland)	-32.8	8.2	-6.8	3.5	-3.3	0.3	7.2	9.5	:
EU (external trade)	-2.3	-2.9	-7.8	-30.8	-31.5	-10.1	:	:	:
India	-2.1	3.1	-34.5	-61.0	-35.7	-12.5	-10.1	:	:
Japan	-2.8	-1.1	-9.3	-19.1	-26.0	-26.1	-17.9	-14.3	:
Russia	3.5	-10.9	-16.3	-33.3	-34.8	-23.3	-27.6	:	:
South Korea	-6.6	3.6	-1.7	-25.6	-23.8	-10.9	-7.1	-10.2	7.6
United Kingdom	0.0	-7.4	-17.6	-29.7	-35.3	-21.3	-17.2	-16.9	:
United States	-0.4	1.6	-9.4	-29.0	-36.3	-23.8	-15.4	-14.6	:

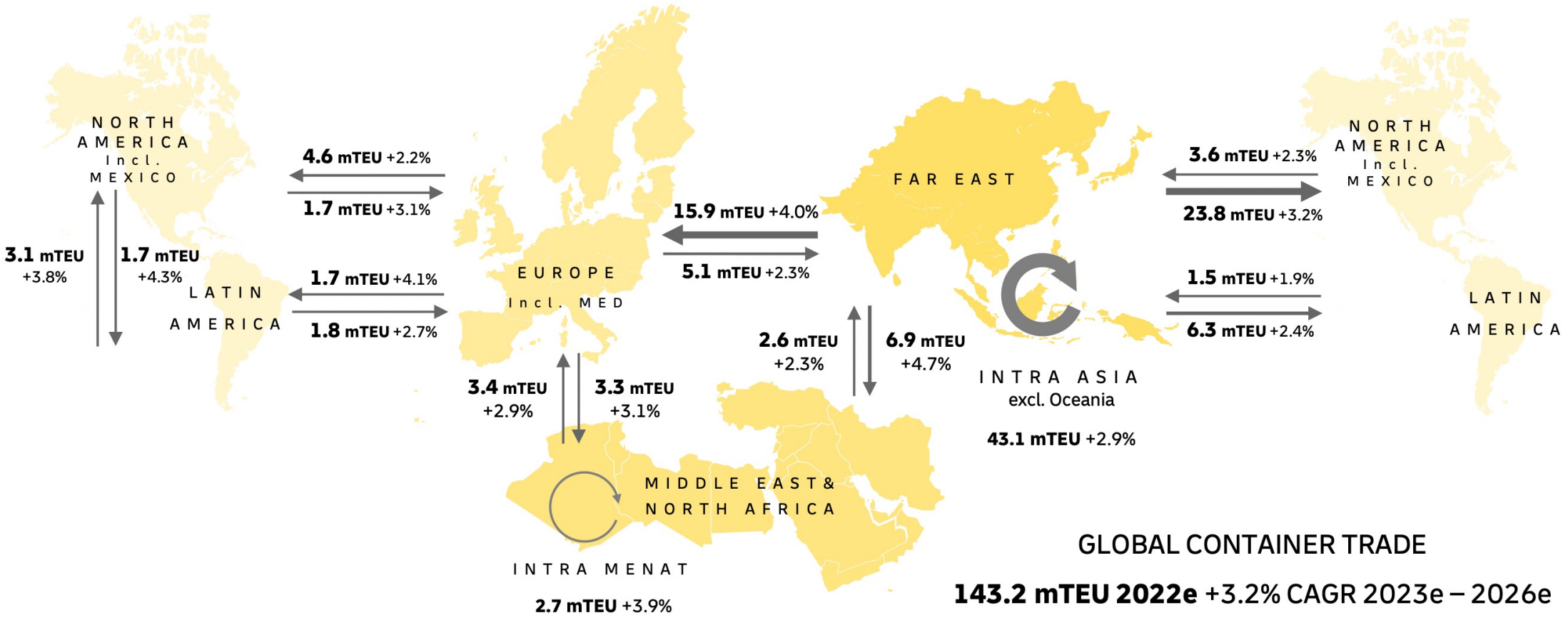
Source: IHS Markit Global Trade Atlas. * Data for China using equal split between Jan & Feb 2020 due to the reporting.

Supply & Demand
Demand – Tradelanes & Imbalances

Demand Global Tradelanes

And “natural” imbalances….

Market volume 2022 – 2026



Source: Seabury Jun22 update

Demand Global Tradelanes

And “natural“ imbalances....

Imbalances in the world’s biggest trades

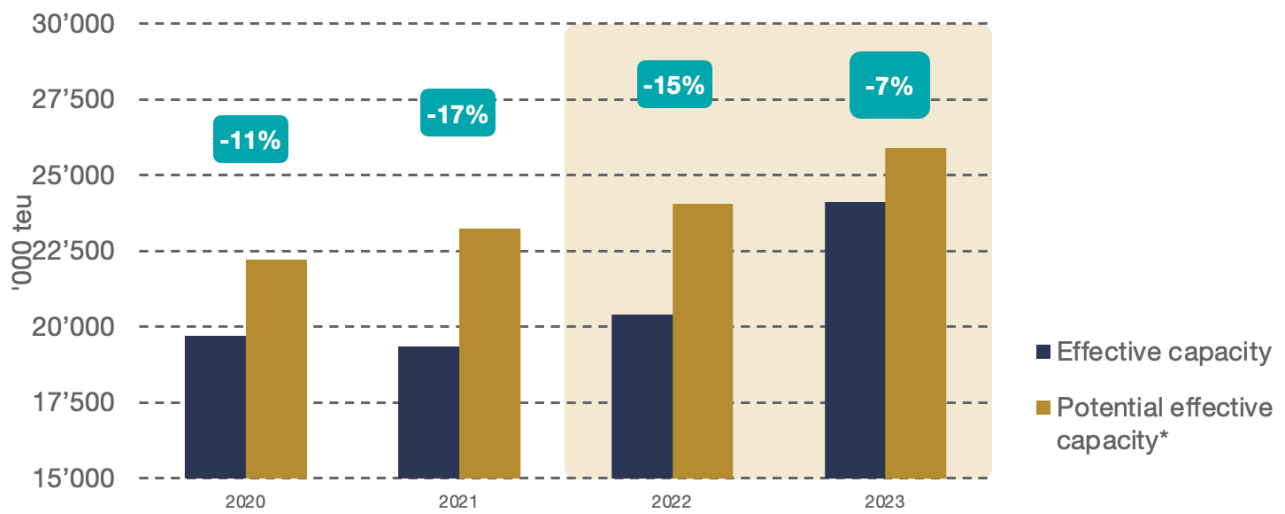
Cargo value in TTEU	2021	2020
Transpacific		
Asia – North America	22,787	18,863
North America – Asia	6,778	6,970
Far East		
Asia – Europe	16,191	14,212
Europe – Asia	6,601	6,471
Atlantic		
Europe – North America	3,293	2,915
North America – Europe	1,579	1,518

Source: Seabury (December 2021). Figures rounded.

Supply & Demand
A new factor to reckon with
Congestion

Status Quo: Estimated impact of lower port productivity on effective capacity

- Container system inefficiencies are now “embedded” in the market and have relegated other supply-demand and cost factors to the margin.
- Effective liner capacity was about 17% below potential last year, similar is expected for 2022.
- We expect easing of port congestion commencing in 1H 2023.



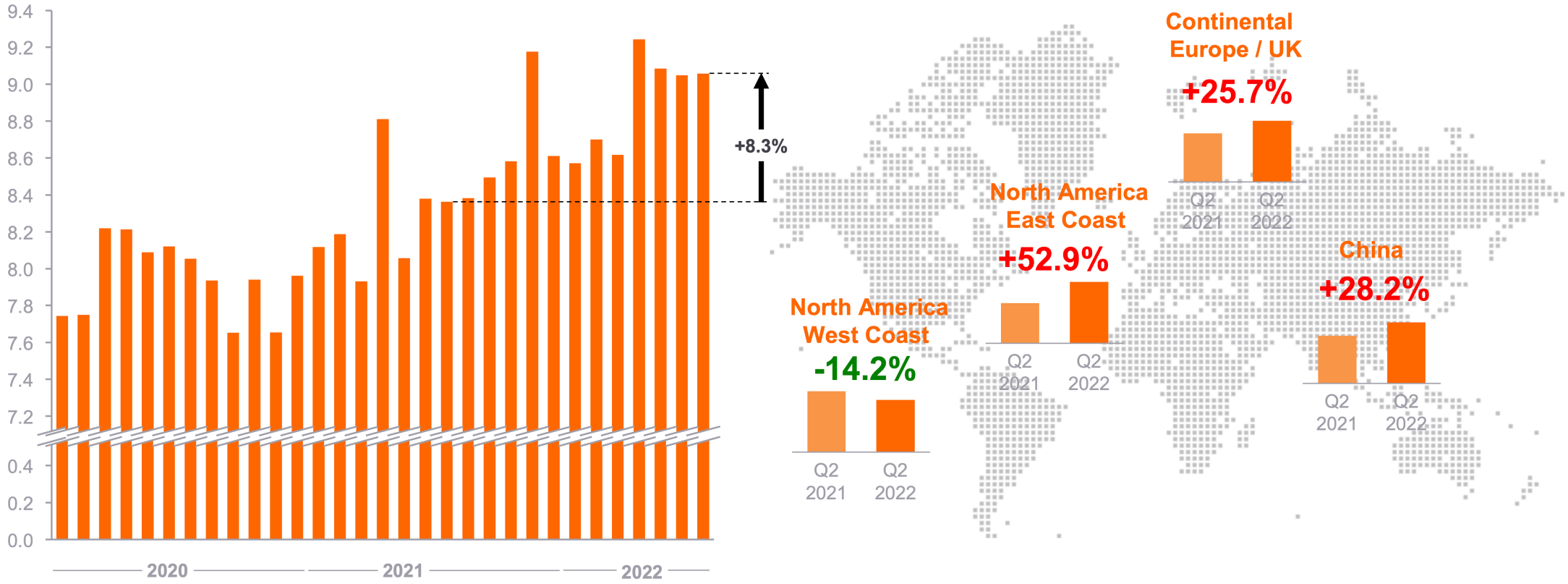
* Basis same port productivity as 2019.
Note: Figures above bars are % reduction.

Drewry

Congestion remains on very high level – Situation in China, North Europe and NA EC offsetting improvement in NA WC ports

GLOBAL PORT CONGESTION INDEX

[TEU m, 7dma]

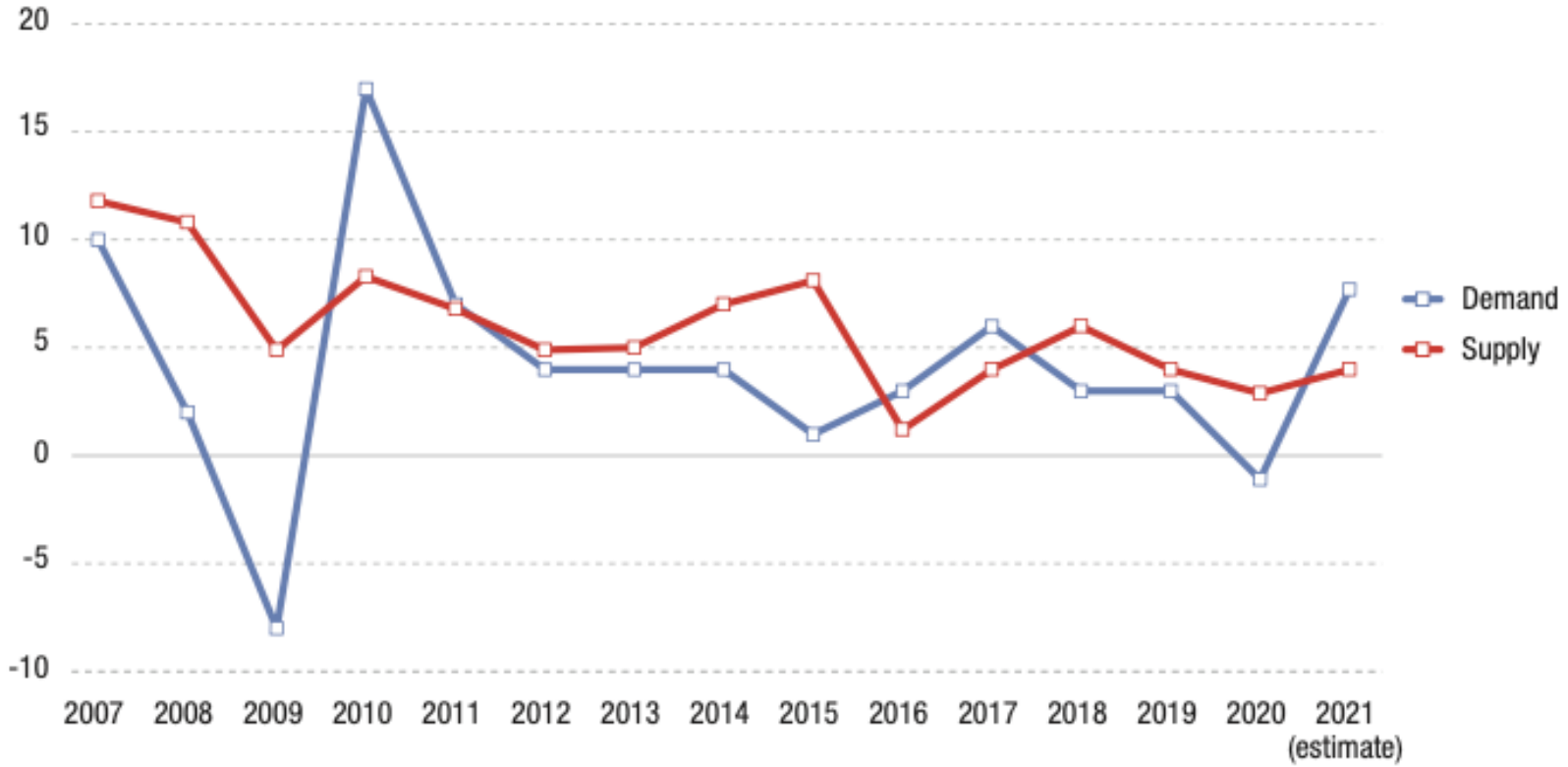


3 Source: Clarkson SIN (August 2022), 7dma = 7 days moving average

Supply & Demand
Pricing Discipline, Capacity Management & Volatility

Demand & Supply = Freight Rate

Figure 3.1 Growth of demand and supply in container shipping, 2007–2021, percentage

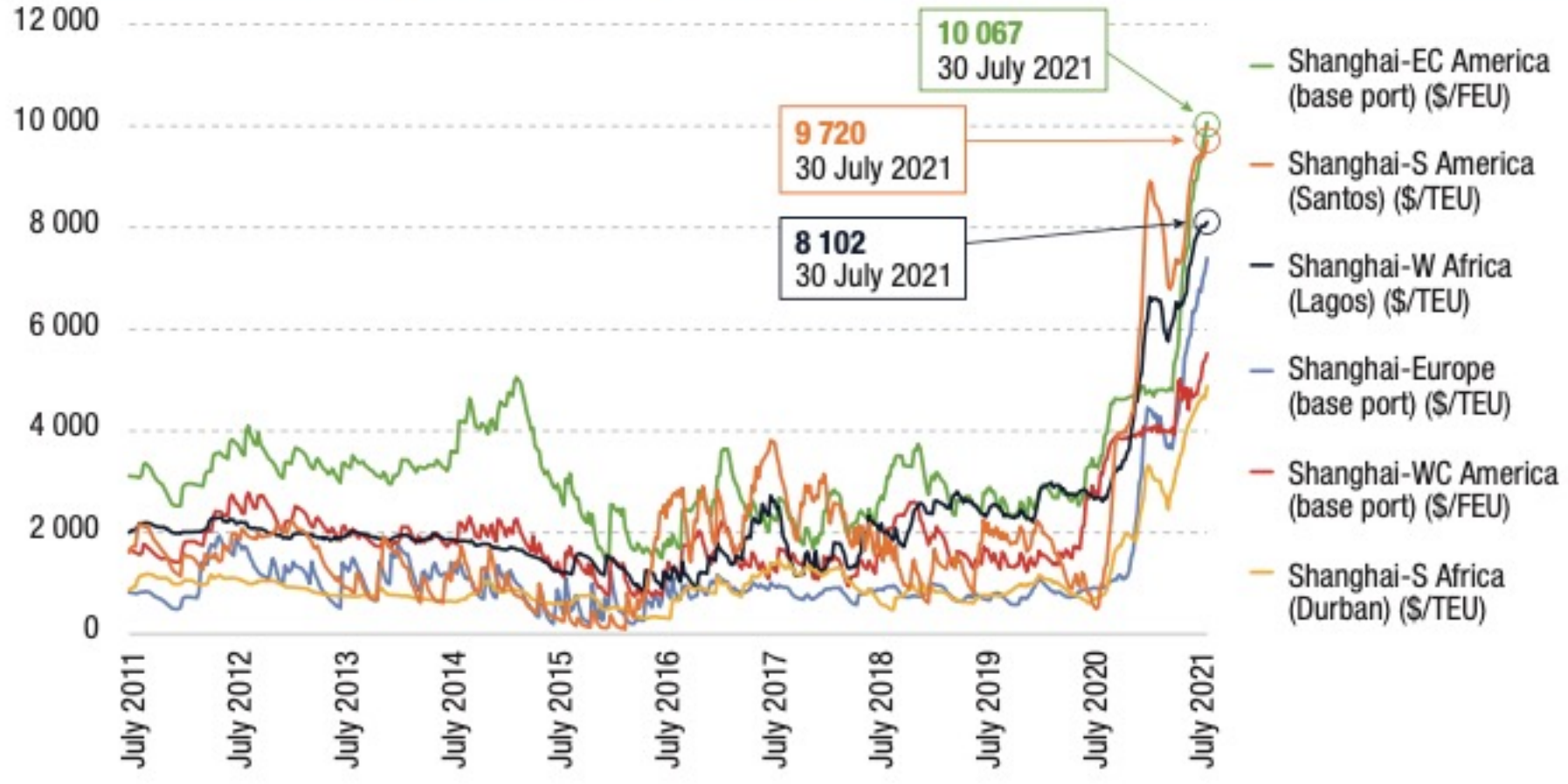


Source: UNCTAD secretariat calculations. Demand is based on data from chapter 1 – figure 1.5, and supply is based on data from Clarksons Research, *Container Intelligence Monthly*, various issues.

Notes: Supply data refer to total capacity of the container-carrying fleet, including multipurpose and other vessels with some container-carrying capacity. Demand growth is based on million TEU lifts.

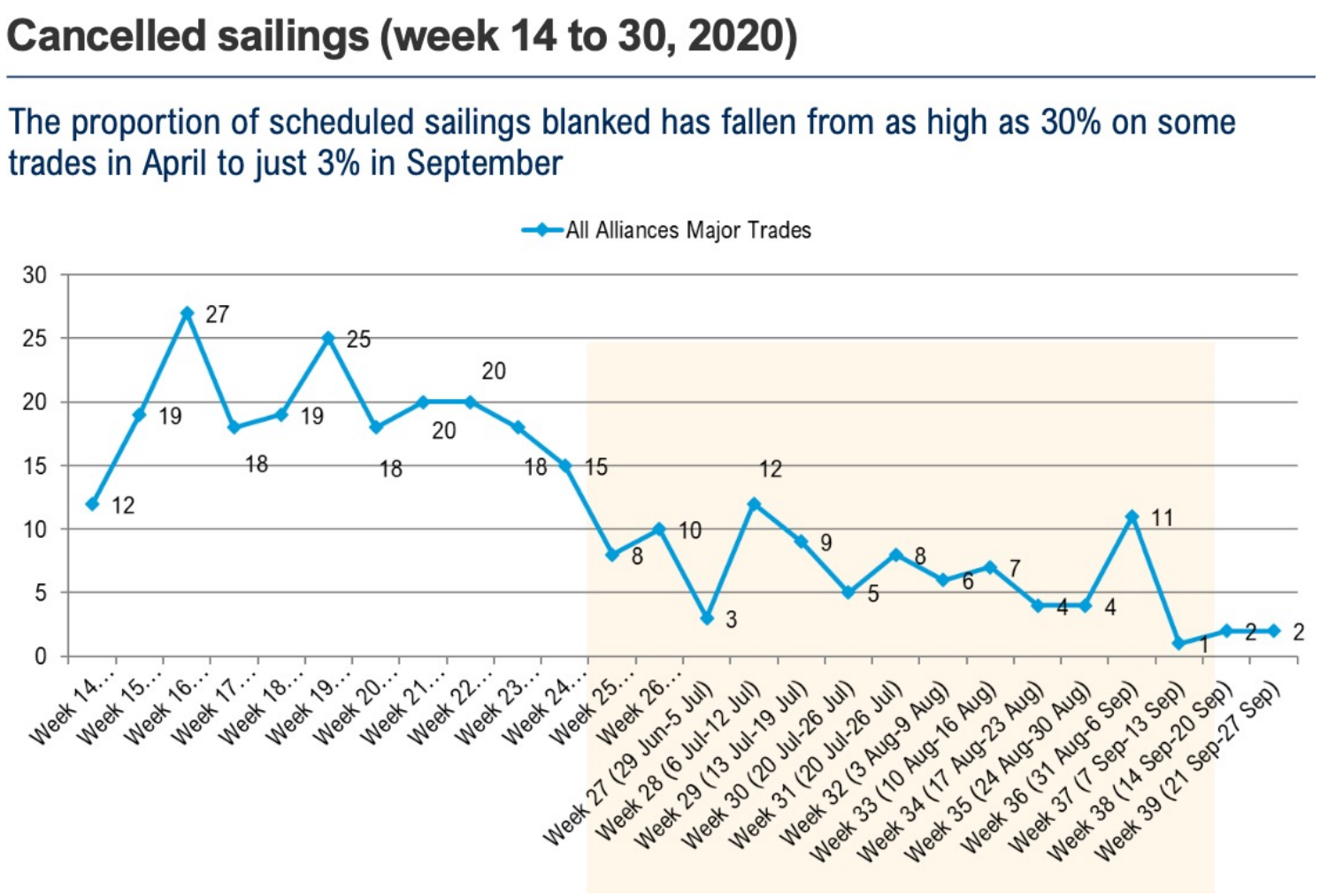
Freight Rates & Volatility – Supply & Demand Discipline

Figure 3.3 Shanghai Containerized Freight Index weekly spot rates, 1 July 2011 to 30 July 2021, selected routes

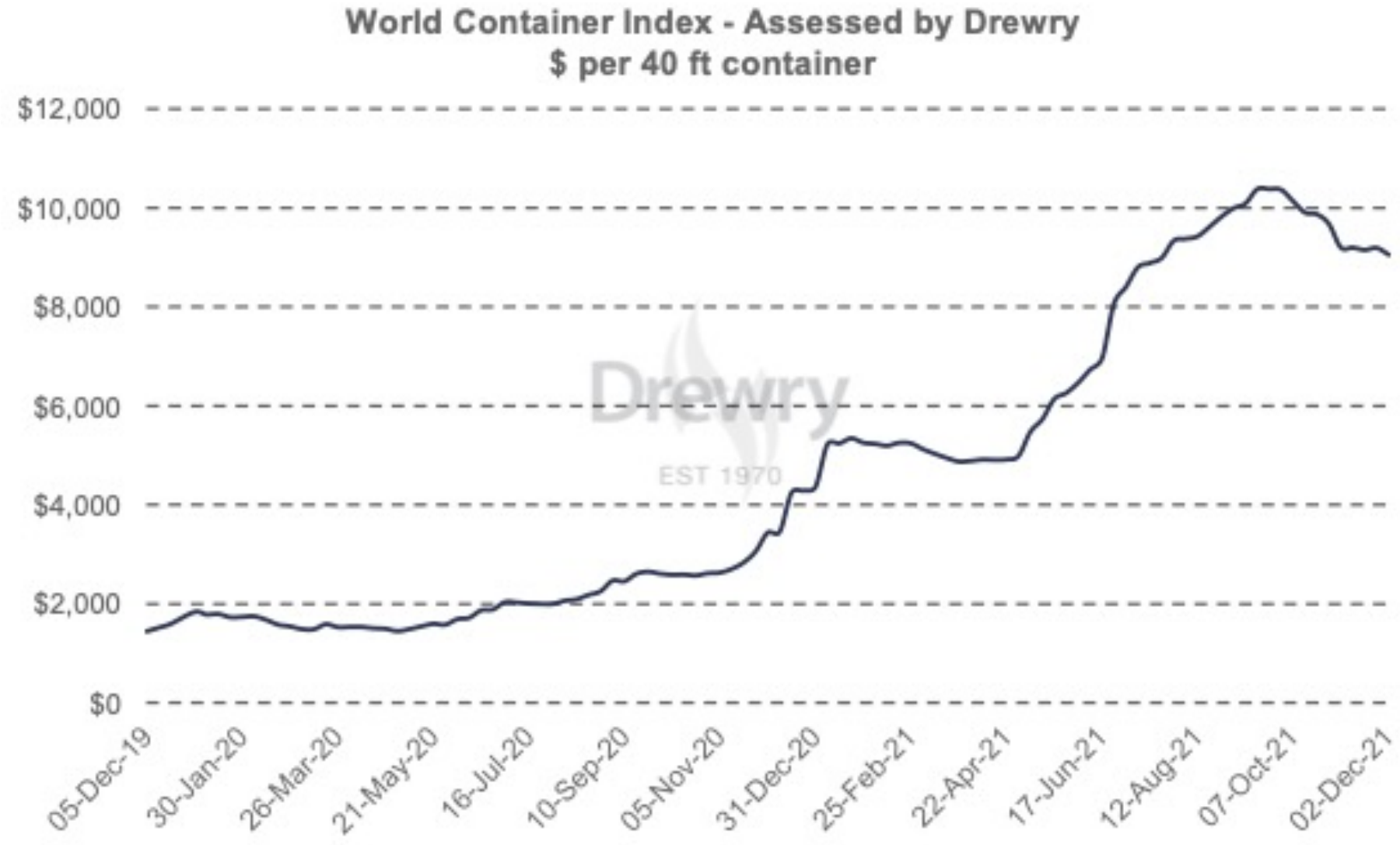


Source: UNCTAD secretariat, based on data from Clarkson *Shipping Intelligence Network*.

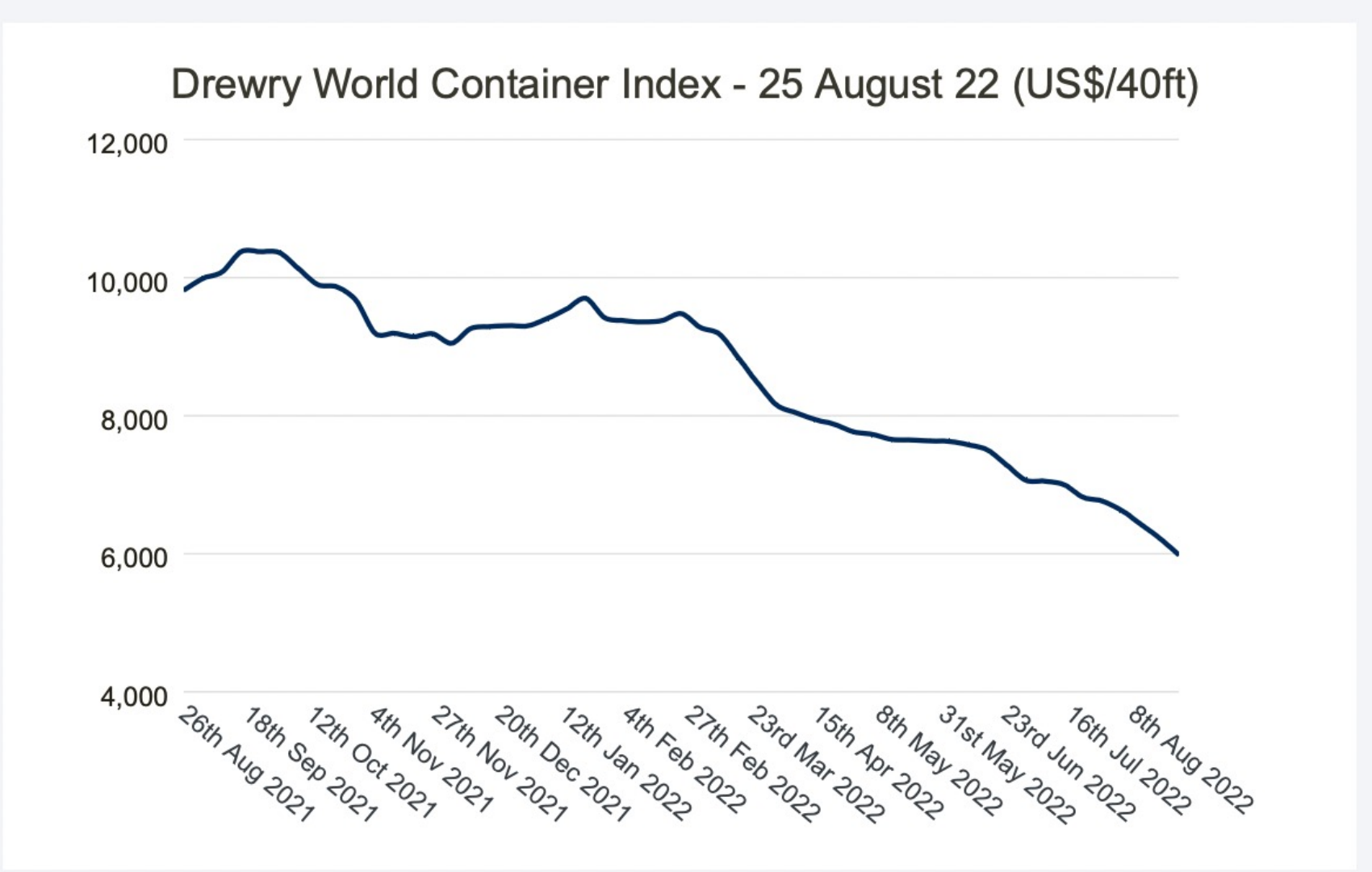
Freight Rates & Volatility – Capacity/Supply Reduction 2020



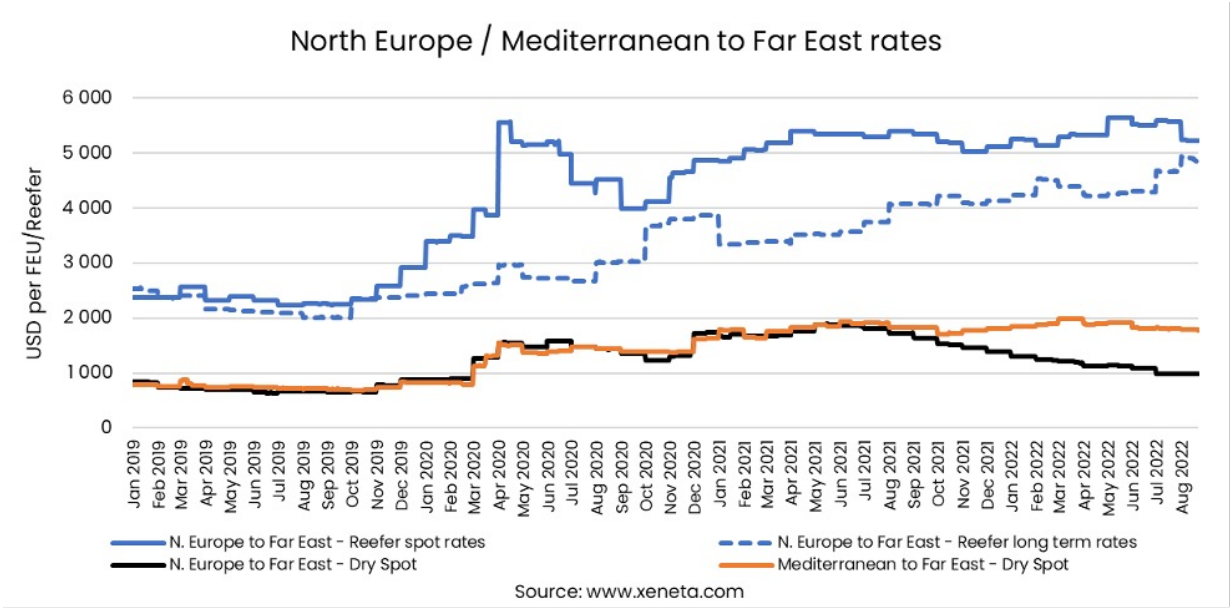
Freight Rates & Volatility – Supply & Demand Discipline



Freight Rates & Volatility – Supply & Demand – Discipline – Summer 2022 on way down…



Freight Rates - Rate Indexes



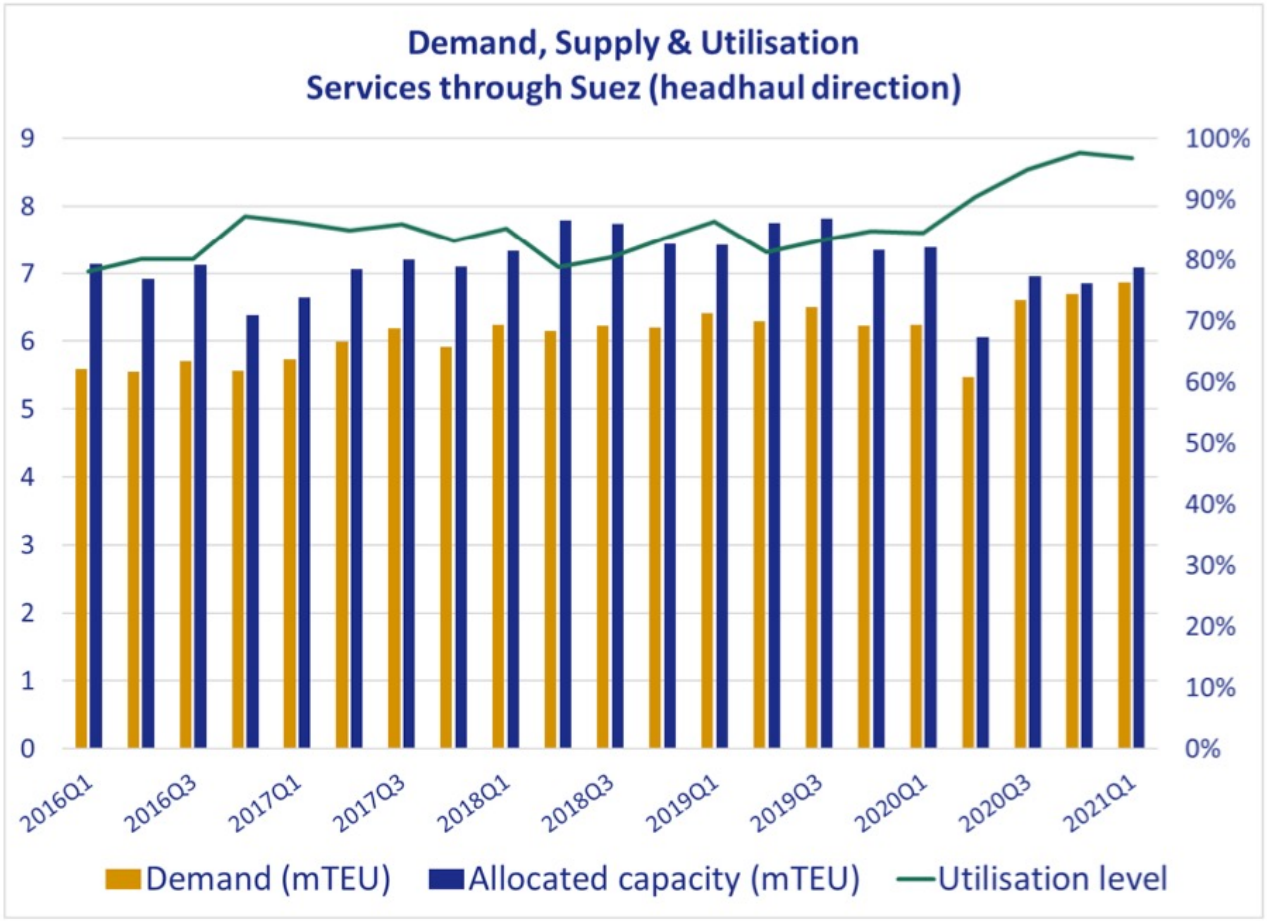
WCI, XSI, FBX, SCFI, etc....
Many dproviders for rate indexes today, different methods, similar objectives.

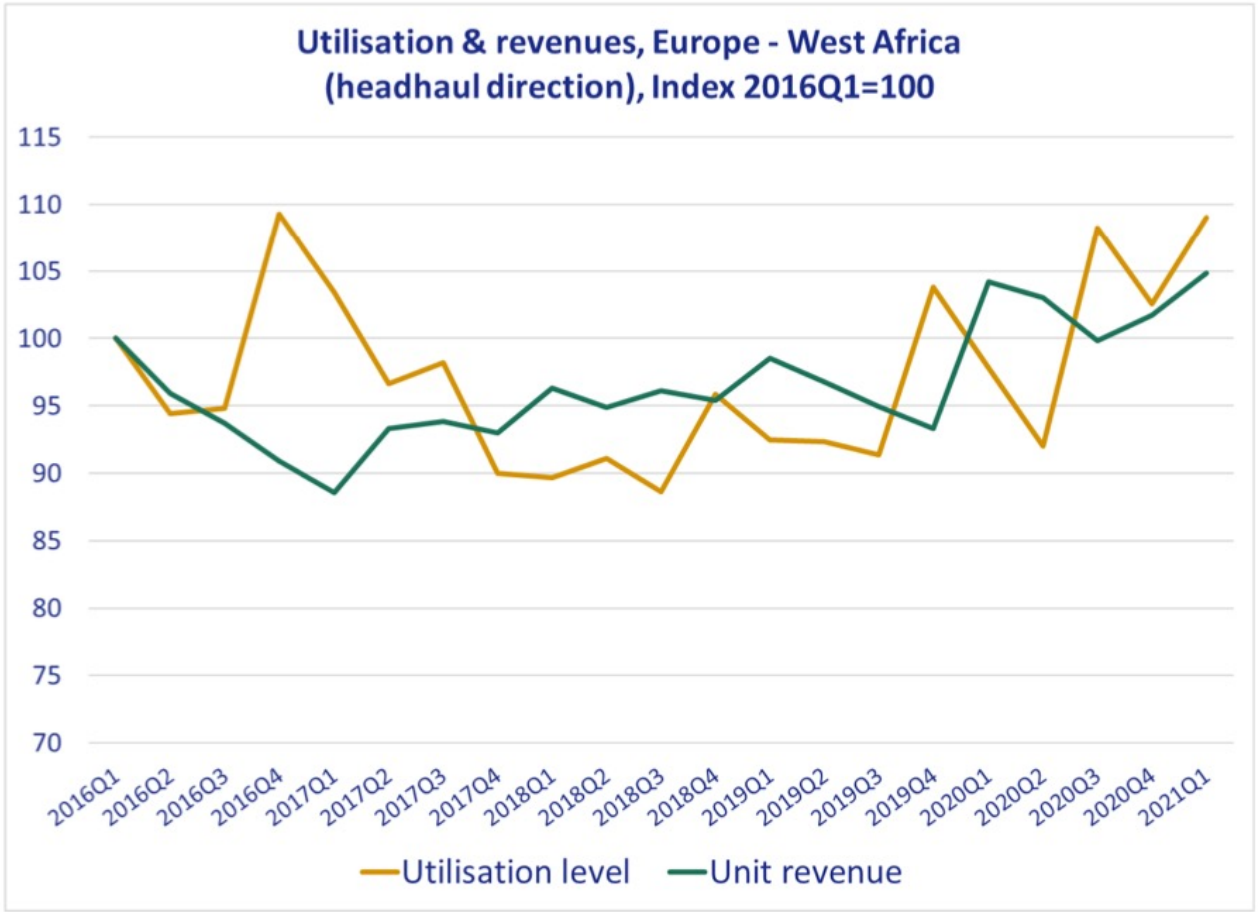
Supply & Demand
The holy cow of utilization

Discipline - Utilization / Loadfactor as holly cow / Volume vs. Value?

- 10,000 TEU ship
- Fix Cost is fix – No sailing ever comes back
- Sailing at 80% or 85% makes little difference in operating cost
- However, 500 TEU additional cargo at USD 1,000 per Container, is equal to 500,000 USD additional „contribution“. In 52 weeks, that is 26 Mio USD.
- Benchmarking inside the alliance vs peers

Utilization / Example Asia to North Europe





Supply & Demand
The Pandemic Impact

The pandemic changed everything....

The pandemic changed everything….

- Carriers finally understood the importance of PRICE
  - Result = (PRICE x Volume) – Cost

- SeaIntelligence projected volume drop of 10% for 2020 in March of that year and 23 bn USD collective carrier losses if they do not maintain discipline.

- Thus the industry reduced capacity aggressively in Q1 already, in May they reduced TP capacity by 19%, and AE by 28%*

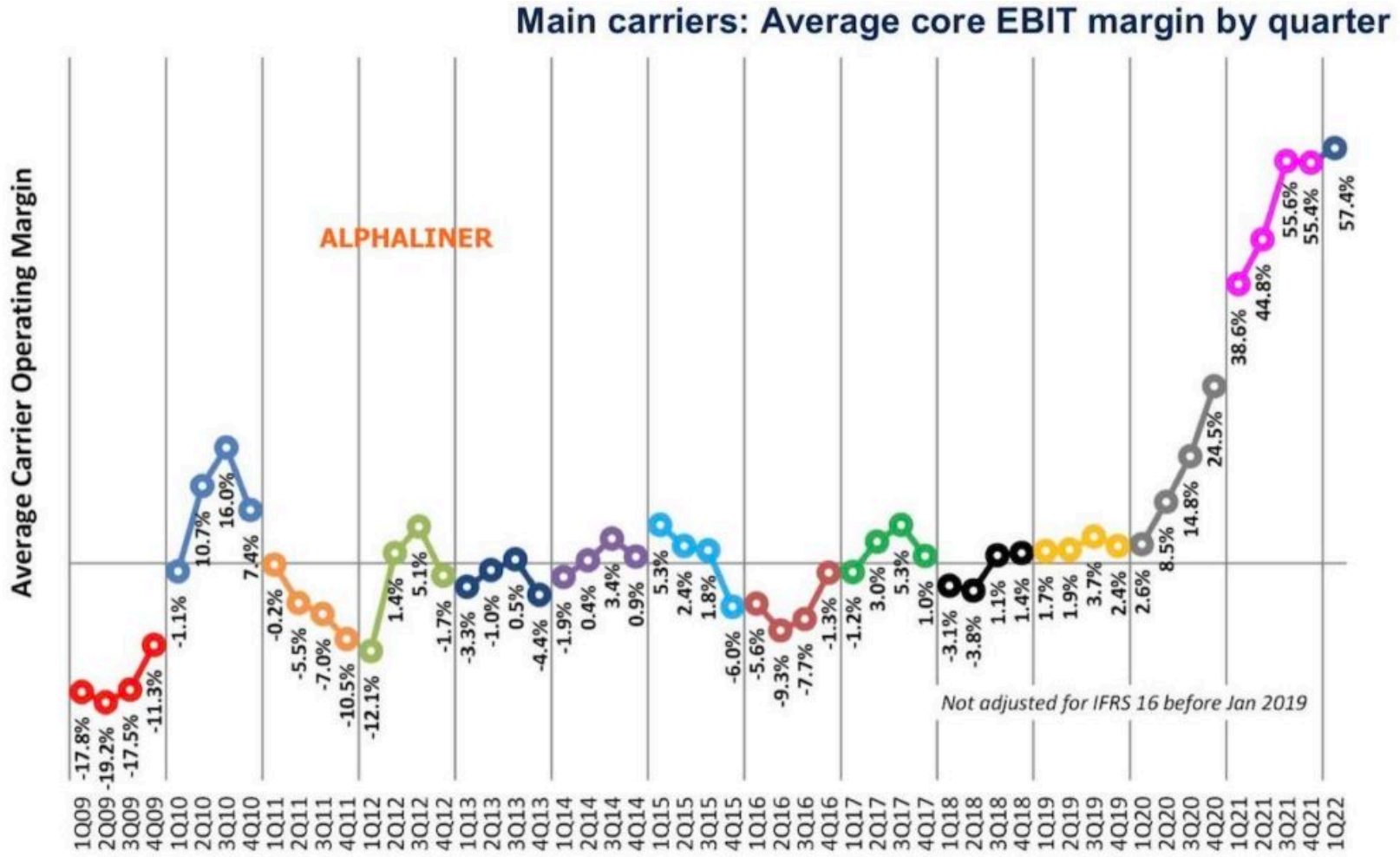
* Based on eeSea data

The pandemic changed everything....

- Aided by a significant demand upswing after the initial crash, as a lot of consumption in services shifted to spending on goods.

- Infrastructure bottlenecks & congestion further impacted supply, which all favoured carriers supply/demand equilibrium.
  - E.g. Transpacific Transit Time increased from 15 days to 25-45 days, requiring more ships for a loop or slipping sailings automatically.

The pandemic changed everything....



Average of CMA CGM (incl APL to 2Q 2016), COSCO Shg (since 1Q 2019), CSCL (to 1Q 2016), EMC, Hanjin (to 3Q 2016), Hapag Lloyd (incl CSAV to 2014), HMM, Maersk (Ocean from Q120), ONE (from 2Q 2018, formerly KL/MOL/NYK), WHL, YML, Zim

After a decade of low returns, Carriers EBIT Margin skyrocketed over the past 2.5 years.

Industry profits are reaching record highs!

The pandemic changed everything....

Company	2Q22	2Q21	2Q Var	LTM 2Q22	LTM 2Q21	LTM Var	2016-2Q22
HMM	2,240	181	2,059	8,829	454	8,375	5,696
K Line	1,867	810	1,057	6,451	1,761	4,691	7,212
Zim	1,336	888	448	6,219	1,988	4,231	8,718
Mitsui OSK	1,759	827	932	6,423	1,866	4,557	8,513
NYK	2,467	1,016	1,452	7,655	2,270	5,384	9,407
Yang Ming	1,933	1,233	700	7,866	2,558	5,307	9,552
Evergreen	3,414	1,512	1,903	12,708	2,838	9,870	15,607
Hapag Lloyd	4,782	1,789	3,233	16,796	4,001	12,796	21,466
COSCO	5,520	3,345	2,174	17,767	7,087	10,680	24,358
CMA CGM	7,602	3,479	4,123	27,138	7,181	19,957	34,306
Maersk	8,171	3,364	4,807	25,992	7,975	18,017	35,519
Subtotal	41,092	18,444	22,648	143,844	39,978	103,867	179,473
% Of Total	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%
Grand Total	63,709	28,596	35,113	223.014	61,981	161,033	277,933

Note: Maersk net income is estimated as they just report EBITDA by allocating items below EBITDA based on container division percent of total revenue. Profits for Japanese shipping companies is just reported container results and is the calendar quarter figure rather than the fiscal quarter framework used by those companies. Obvious non-recurring items are excluded.

Q2 2022 liner profits analysis by John D McCown.

Quarter	Net Income	Headline
3Q20	$5.1 billion	Blowout...
4Q20	$9.1 billion	Incredible...
1Q21	$19.1 billion	Blockbuster...
2Q21	$28.6 billion	Breathtaking...
3Q21	$48.1 billion	Mind-blowing...
4Q21	$52.5 billion	FANG-beating...
1Q22	$58.7 billion	Mind-bending...
2Q22	$63.7 billion	Mind-altering...

Carrier Financials
An Example

A Carrier P&L / Example Hapag Lloyd 2018

A Carrier P&L / Example Hapag Lloyd 2018

Revenue:	11,515 mio EUR
Other Income:	115 mio EUR
Transport expenses:	-9,397 mio EUR
Gross Income:	**2,003 mio EUR**

A Carrier P&L / Example Hapag Lloyd 2018

Gross Income	**2,003 mio EUR**
Personnel Expenses	-659 mio EUR
Depreciation/Amortisation/Impairment	-695 mio EUR
Other Operation Expenses	-480 mio EUR
Operating Result	**399 mio EUR**
Other earnings	44 mio EUR
EBIT	**443 mio EUR**
Interest Expenses	-365 mio EUR
Taxes	- 32 mio EUR
Group Profit	**47 mio EUR**

A Carrier P&L / Example Hapag Lloyd 2018

Group Profit **47 mio EUR**

"The market environment in 2018 was certainly not easy: In the first half of the year, freight rates were below our expectations and bunker prices and costs increased during the year. In the second half of the year, however, these effects were partially offset as we benefitted from higher global transport volumes, better freight rates and improvements on the cost side. **All in all, we are satisfied with the financial results for 2018",** said Rolf Habben Jansen, Chief Executive Officer of Hapag-Lloyd.

Return on Equity = 46 Mio EUR / 6,259 Mio EUR = **0.73%**

A Carrier P&L / Example Hapag Lloyd 2018 / Bunker Impact

Bunker Impact

2018 Consumption: 4,403,896 Metric Tons

2018 Bunker Spending: 1,854 Mio USD

2018 Efficiency: 0.37 Tons/TEU down from 0.40 in 2017

➔USD 10 fluctuation in bunker cost ➔ P/L impact: 44 Mio USD

➔ 0.5% Fuel Efficiency increase = 92.7 Mio USD saving

A Carrier P&L / Example Hapag Lloyd 2018 / Bunker Impact

➔ USD 20 fluctuation in bunker cost ➔ P/L impact: 88 Mio USD

➔ 0.5% Fuel Efficiency increase = 92.7 Mio USD saving

Personnel Cost 659.4 Mio EUR = 725 Mio USD

90 Mio USD saving, would require cutting 12.4% of HR cost

Or 1,583 employees from Hapag‘s 12,765 staff

A Carrier P&L / Example Hapag Lloyd 2018 / Debt Impact

Debt Impact

2018 Debt:	6,018 Mio EUR
2018 Average Interest:	6%
2018 Debt cost:	365.2 Mio EUR

An increase of finance cost by 0.8% would evaporate the 46 Mio EUR Profit of Hapag Lloyd in 2018. Or would need a 7% staff reduction to set-off the cost increase.

Carrier Financials
An Example
Looking at 2018-2022

A Carrier P&L / Example Hapag Lloyd 2018 – 2022

	Mio EUR					
	2018	2019	2020	2021	2022H1	2021H1
Revenue	11’515	12’608	12’772	22’274	16’970	8’753
Other Income	115					
Transport Expenses	-9’397	-9’707	-9’140	-10’323	-6’378	-4’759
Gross Income	**2’003**	**2’901**	**3’632**	**11’951**	**10’592**	**3’994**
Personnel Expenses	-659	-683	-683	-810	-427	-357
Depreciation/Amortisation/Impairment	-695	-1’174	-1’385	-1’463	-935	-624
Other Operating Expenses	-480	-269	-280	-315.1	-234.5	-131.7
Operating Result	**399**	**775**	**1’284**	**9’362**	**8’995**	**2’881**

A Carrier P&L / Example Hapag Lloyd 2018 – 2022

	Mio EUR					
	2018	2019	2020	2021	2022H1	2021H1
Operating Result	**399**	**775**	**1'284**	**9'362**	**8'995**	**2'881**
Other earnings	44	36		27.6	73	11.9
EBIT	443	811	1'315	9389.8	9'068	2'893
Interest Expenses	-365	-421	-331	-245.2	-85	-143.1
Taxes	-32	-43	-46	-61.3	-37.4	-23.7
Group Profit	**47**	**373**	**935**	**9085**	**8'654**	**2'724**
Profit per TEU (EUR)	**3.96**	**31.02**	**79.02**	**765.25**	**1'439.45**	**453.70**

A Carrier P&L / Example Hapag Lloyd 2018 – 2022

	2018	2019	2020	2021	2022H1	2021H1
Volume TEU	11’874’000	12’037’000	11’838’000	11’872’000	6’012’000	6’004’000
Bunker Consumption MT	4’403’896	4’376’554	4’108’666	4’195’042	2’120’000	2’110’000
Bunker Spending USD	1’854’000’000	1’820’646’464	1’557’184’414	1’992’644’950	1’367’400’000	725’300’000
Bunker Efficiency MT/TEU	0.37	0.36	0.35	0.35	0.35	0.35
Bunker Cost USD/TEU	156	151	132	168	227	121
Freight Rate USD/TEU	1’044	1’072	1’115	2’003	2’855	1’612
USD per ton Bunker			379	475	703	421

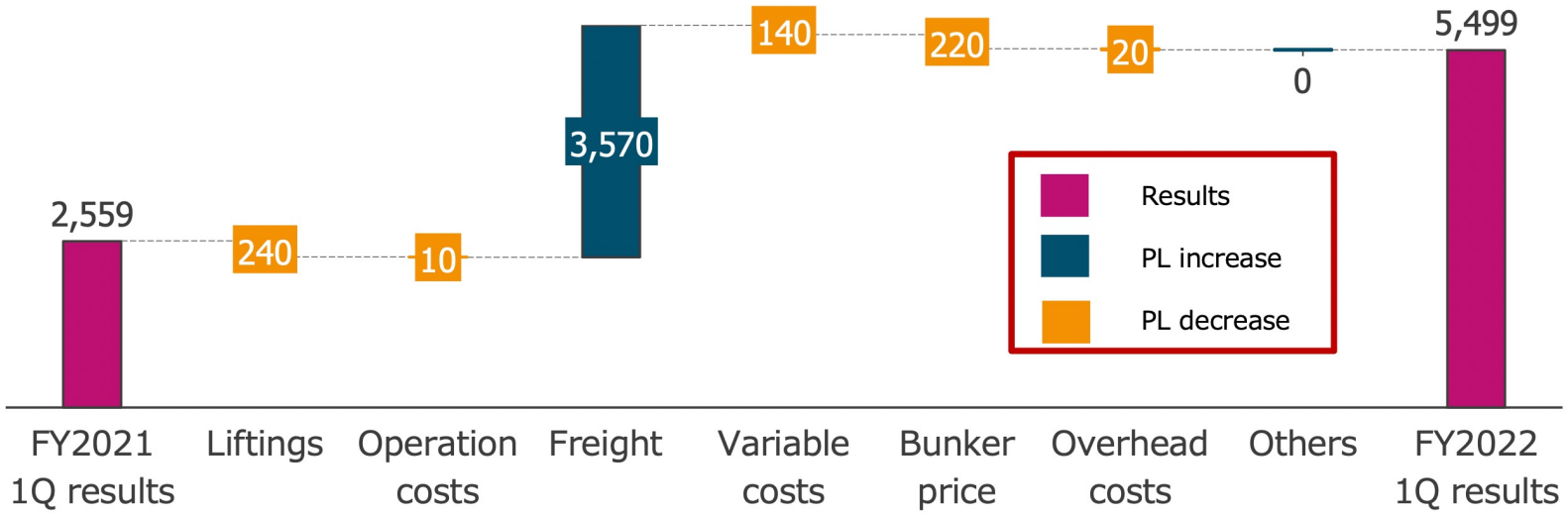
Carrier Financials Other Lines, same fundamentals

A Carrier P&L / Example 2Q2022 / ONE

FY2022 1st Quarter Results and PL Analysis

(Unit: Million US$)

	FY2021 1Q Results	FY2022 1Q Results	1Q Change	1Q Change (%)
Revenue	5,776	9,019	3,243	56%
EBITDA	2,924	5,859	2,935	100%
EBIT	2,657	5,561	2,904	109%
Profit/Loss	2,559	5,499	2,940	115%
Bunker Price (US$/MT)	$465	$750	$285	61%
Bunker consumption (K MT)	906	773	-133	-15%
Lifting (K TEU)	3,104	2,939	-165	-5%



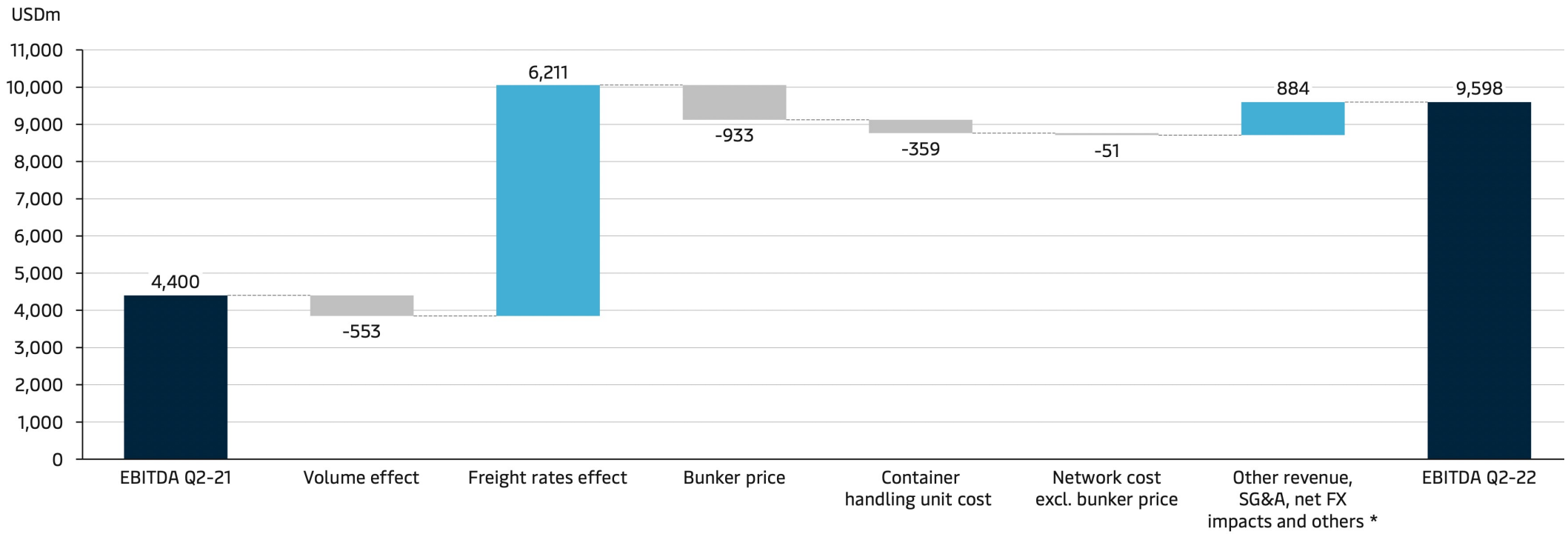
- ❑ Liftings: Slightly decreased from the same period last year.
- ❑ Operation costs: While ships' costs increased, bunker consumption decreased due to a reduction in the number of operating vessels and port congestion, resulting in a similar level as the same period last year.
- ❑ Freight: Significantly increased.
- ❑ Variable costs: Although cost saving initiatives progressed, additional costs incurred due to global inflation and shoreside/inland congestion.
- ❑ Bunker price: Further increased.
- ❑ Overhead costs: Agency fees and system costs increased.
- ❑ Others: Remained mostly unchanged from the same period last year.

A Carrier P&L / Example Q2 2022 Maersk

Ocean - highlights Q2 2022

EBITDA increase mainly driven by freight rates

EBITDA bridge for Ocean for Q2 2022, USDm



Recent Carrier Results

In fact, a lot of luck:

- Higher rates due to discipline, alignment & congestion
- Relatively stable volumes / slight decline 1H2022
- Fuel prices still up, only decreasing in the summer again
- Continued low interest rates
- Tonnage Taxation a real benefit so far

Recent Carrier Results Q1 2022

Company	1Q22	1Q21	1Q Var	LTM 1Q22	LTM 1Q21	LTM Var	2016-1Q22
HMM	2,445	138	2,307	6,770	297	6,473	3,456
K Line	1,645	483	1,171	5,395	978	4,417	5,344
Zim	1,711	590	1,121	5,771	1,125	4,646	6,582
Mitsui OSK	1,751	586	1,164	5,490	1,093	4,397	6,753
NYK	1,764	665	1,098	6,203	1,316	4,887	6,939
Yang Ming	2,160	877	1,283	7,166	1,323	5,843	7,619
Evergreen	3,577	567	3,010	10,806	1,620	9,185	12,193
Hapag Lloyd	4,684	1,451	3,233	13,084	2,518	11,285	16,684
COSCO	4,178	2,403	1,775	15,592	3,866	11,726	18,838
CMA CGM*	*7,575*	2,077	5,498	*23,391*	3,838	19,553	27,080
Maersk	6,760	2,488	4,273	21,185	4,991	16,194	27,348
Subtotal	38,259	12,326	25,933	121,573	22,965	98,608	138,757
% Of Total	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%	64.5%
Grand Total	59,316	19,109	40,207	188,485	35,604	152,880	214,808

Note: Maersk net income is estimated as they just report EBITDA by allocating items below EBITDA based on container division percent of total revenue. Profits for Japanese shipping companies is just reported container results. Obvious non-recurring items are excluded.
*CMA CGM is estimated just for 1Q22 assuming they had same percent sequential improvement from 4Q21 as close comparable Maersk

Container Lines
Key Financial Factors

The Financial Factors – Rate, Debt & Fuel

Analysing shipping lines results over the past 10 years, reveals 3 main drivers for results:

- Market Rate, as a result of Supply & Demand
- Finance Cost – Debt and interest rates
- Fuel Cost

Carriers Key Challenges & Risk Factors Ahead

Key Strategic Challenges for Carriers 2022 & Beyond

- Decarbonisation Challenge
- Regulatory Environment
- De-Globalisation
- Global Economy & Trade of Goods Development
- Seafarer Crisis
- Maintaining Rate Discipline

- Differentiation / Commoditisation
- Organisational Change / Agency Challenge
- ~~Finance / Debt burden – „Invisible Hand“ Adam Smith~~
- Barriers for vertical and horizontal integration

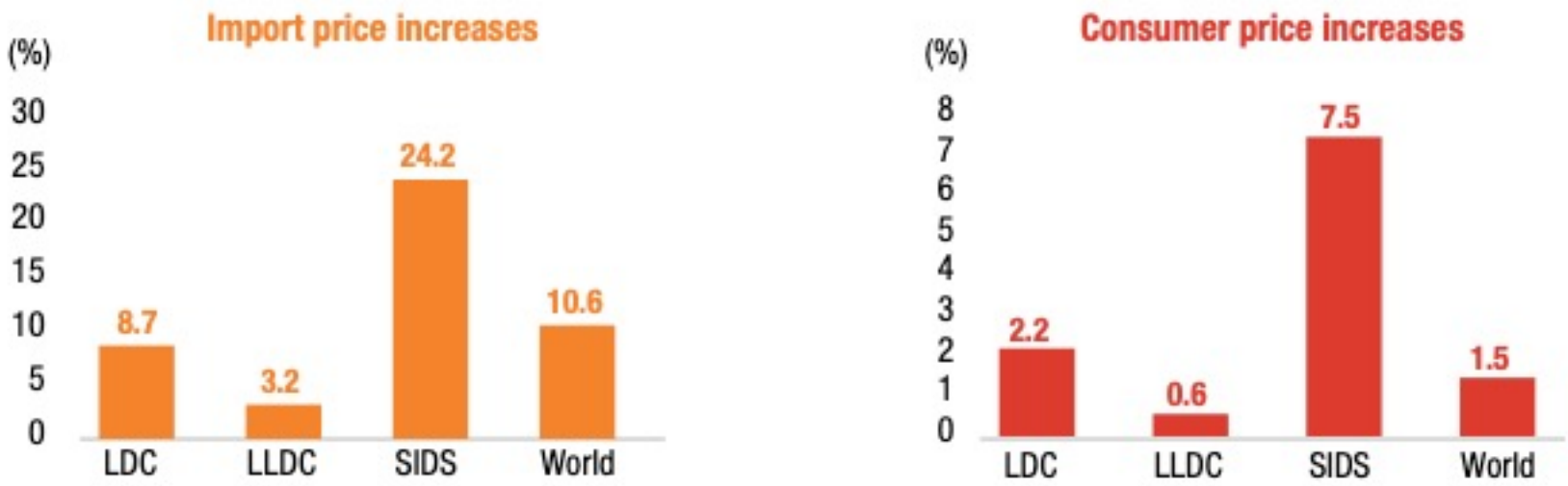
Risk Factors to end the party?

- Where will the profits go? ==> More vessels

  ➔ Return to the „pig cycle“
- Carrier discipline & consortia might not hold...
- Regulation might step in & losers will get louder
- Threat of new entrants
- Demand drop (Decontainerisation / Trade in Goods)

Another Risk Factor – Inflation

Figure 2 **Simulated impact of current container freight rate surge on import and consumer price levels**



Sources: Based on data provided by Clarksons Research, *Shipping Intelligence Network*, the International Monetary Fund, *International Financial Statistics* and *Direction of Trade Statistics*, UNCTADstat, and the World Bank, *World Integrated Trade Solution* and *Commodity Price Data (The Pink Sheet)*.

Key Strategic Challenges – Commoditisation / Differentiation

- Indexes have been introduced, e.g. the SCFI in 2005
- Shanghai to Rotterdam, thereby becoming almost a commodity
- Alliances, where individual members essentially sell the same product, make differentiation hard. (Same product, different box color).

Key Strategic Challenges – Organisational Change

- Traditional split between Trade and Region, centralised and local functions, will continue to change and the old model will need to adapt.

- „Virtualisation of services“

Key Strategic Challenges – Vertical Integration

- Downwards to service providers, e.g. was very common and of course difficult in financially hard times, but already having a comeback now.

- Upwards, towards the customer, in form of more sophisticated, forwarding and supply chain services, bears even more challenges
  - Beer Pub vs. Cocktail bar / Product focus vs. Service Focus
  - Complexity – Product Variety, etc.

Key Strategic Challenges – Vertical Integration

- Upwards Vertical Integration
  - Example Maersk Line
  - Example CMA CGM

Extended Content

The
Product vs. Service
Challenge

Carriers Opportunities

Yet, there remain a lot of opportunities

- 2020/2021 showed that price matters and discipline can work
- The capital available to carriers now, enables them to change the game
- Digitalisation increases Transparency (Simple reselling becomes harder) for intermediaries.
- New Pricing Models become possible / Dynamic pricing
- A Greater Variety of Sales & Service Channels (e.g. Marketplaces)

eXecutive
DEVELOPMENT PROGRAM

Q & A

Thank You

eXecutive
DEVELOPMENT PROGRAM

Ruben HUBER
E. rh@oceanx.network
P. +41 78 693 88 66

Skype: rubenhuber
Whatsapp: +41 78 693 88 66
WeChat: RubenSHA
Linkedin: /rubenhuber/