Global Shippers Forum/ MDS Transmodal

Container Shipping Market

Quarterly Review

2022: Quarter 3

Reporting data published in December 2022

MDS Transmodal Ltd.

GLOBAL SHIPPERS FORUM

GSF/MDST Container Shipping Market Quarterly Review
MDS Transmodal overview

In association with Global Shippers Forum, MDS Transmodal produces a quarterly review of the trends and performance of the global container shipping market for four main reasons:

1. We have over nearly 40 years been developing a wide range of databases that describe global liner shipping; on the fleet and its deployment, on demand, performance, costs and revenues. Over the last 15 years we have brought these together using standard coding systems so that the industry could be readily described and modelled, largely to support our consultancy work. We felt it was time to now share these resources with a wider market so that decision making can be based on sound evidence.

2. Over the last 13 years, since the decision that was made by the EU to effectively bring an end to the conference system, the liner shipping sector, its suppliers and clients have been in flux as the size of ships, performance and levels of integration and consolidation have changed radically while its market has grown remorselessly. The need for sound regulation and informed investment has never been greater and is attracting the concern of global authorities such as OECD, UNCTAD and trade associations such as GSF, CLECAT and FEPORT.

3. The urgency for the liner shipping sector, its suppliers and clients to address the issue of climate change. The process whereby sustainable solutions are agreed upon and invested in will be complex and require a collaborative approach if global connectivity and prosperity are to be maintained.

4. Global Shippers Forum represents an ideal partner for our initiative because of its reach and membership. However, GSF will have its own perspectives and arguments which MDST will remain independent of. MDST's commentary will be limited to noting statistical change (comments in blue) while GSF will focus on the implications for its members (comments in brown).

GSF/MDST Container Shipping Market Quarterly Review
GSF Overview

The Global Shippers' Forum represents the interests of importers and exporters as cargo owners in international supply chains. As such global shippers are the customers of the container shipping industry. The trends and performance of the container shipping market are crucial to the interests of shippers around the world who are reliant upon services for the safe, timely, cost-effective and sustainable movement of unitised world trade.

GSF's partnership with MDS Transmodal arose from a common interest in understanding better this fast-changing market and how it is responding to the multiple factors shaping its future. GSF's focus is on five key measures that monitor the outputs of the sector:

1. **Competitiveness**: is the regulatory environment and the ownership structure contributing to an open and responsive market where the benefits of scale are experienced fairly by customers?

2. **Capacity**: how is the availability and utilisation of shipping capacity responding to the external factors given the market structure and the legal permissions granted to competing entities to co-ordinate sailings and services?

3. **Costs**: how are the underlying and incidental costs of the industry affecting advertised spot rates and the high levels of surcharging experienced by customers?

4. **Service performance**: is the predictability, reliability and connectivity of services providing an offer that shippers can depend on in their supply chain planning and forecasting and in the commitments they make to their customers?

5. **Carbon emissions**: how is the response of the shipping industry to climate change affecting the greenhouse gas emissions attributable to the cargo that it carries?

The distinctive feature of these indicators is that they assess the market from a shipper's (customer's) perspective and offer a description based on experience of service rather than advertised performance. Over time these data will build into comprehensive and authoritative evidence bank to support our representations and advocacy. in support of global shippers

As well as Quarter-on-Quarter fluctuations, MDST's extensive data holdings also permit longer term trends to be observed. These will be presented to provide context for short-term changes and to assess the overall direction of the industry.

The GSF/MDST Container Shipping Market Review Indicators

Global Shippers' Dashboard
Quarter 3 2022

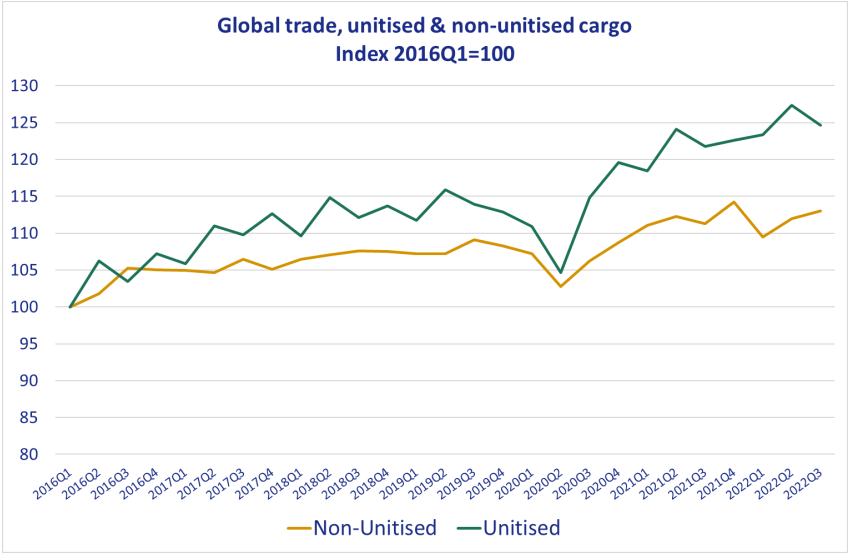
KPI	Indicator	Status & Overview
1	Trade volumes	Quarter 3 containerised volumes declined slightly, although not by as much as supposed . Nevertheless the quarterly decline reversed the growth recorded for the previous 12 months.
2	Shipping capacity	Deployed capacity grew as more sailings were switched to 'shuttle' services between just two regions. This especially affected Europe to North America routes, where services between just two regions has increased by nearly a quarter in 12 months. The increase in capacity arises from vessels shuttle services being able to make more frequent journeys within the period.
3	Capacity utilisation	Capacity utilization remained at about 80% of total capacity deployed. This seems to be the operational optimum, as levels show little variation despite recent changes in rates, deployed capacity and service levels.
4	Carrier costs & revenues	The downturn in rates reduced revenue per container but margins remain close to three times pre-Covid levels against a cost base that has increased by about a quarter, and remains stable.
5	Market competitiveness	A new indicator tracks the proportion of the volumes carried by new service providers in each of the major trade lanes. The contribution is small compared to established carriers amounting to just over 2 % of total deployed capacity, but will help measure the openness of markets and the market share of new entrants
6	Port connectivity	The number of calls made at selected intermediate and non-hub ports improved during the period but capacity losses due to skipped calls remained above pre-Covid levels.
7	Service performance	The number of scheduled port calls achieved improved markedly to about 75%, with several ports, but not all, seeing decreases in the number of times they were 'skipped'. Predictability of arrivals fell back slightly close to levels experienced during peak season in 2021
8	Carbon emissions	Emissions per container rose slightly as more port calls were made, which are more energy intensive than open-water cruising.

Status colour code:
Red = adverse development or trend (from shippers' perspective); **Amber** = neutral or concerning trend (from shippers' perspective)
Green = improving development or trend (from shippers' perspective)

1. Trade Volumes

1.1 Total trade, global (mTonnes)

	2022Q3	Year To Date (YTD)	Previous Quarter (PQ)	Previous Year (PY)
Agricultural	219	631	7.8%	7.9%
Metals	12	38	-7.6%	0.4%
Oils & fats	22	66	-0.1%	-9.1%
Chemicals	168	507	-1.8%	-0.9%
Ores	507	1,485	3.1%	0.6%
Forest products	102	314	-6.0%	-4.0%
Energy:				
- Coal	321	896	9.9%	-4.2%
- Oil & gas	1,113	3,353	0.3%	3.0%
Other	476	1,410	-5.1%	3.2%
Total Non-Unitised	**2,940**	**8,700**	**0.9%**	**1.5%**
Unitised	**642**	**1,934**	**-2.1%**	**2.3%**
TOTAL Tonnes	**3,582**	**10,634**	**0.4%**	**1.7%**



Note: Unitisable traffic is estimated on the basis of long run ratios of unitization based on country x country x commodity flows and the scale of traffic available and explains long-run trends in unit load volumes derived from other sources.
Source: MDS Transmodal, World Cargo Database November 2022

Conclusions & Commentary

- Global trade overall remained substantially flat in 2022Q3 compared to 2022Q2 and increased by 1.7% compared to 2021Q3.
- Unitisable traffic contracted on a quarter-to-quarter comparison by 2.1%, but up by 2.3% compared to same quarter last year
- Some unitisable trade probably diverted to non-unitised modes or non-liner shipping
    - consequence of rising freight rates and falling reliability.

2. Capacity

2.1 Deployed capacity*, global

		2022Q3	QoQ	PY	% of 2022Q3	% of 2021Q3	share 2022Q3 minus share 2022Q2 (% points)
Overall total		**54.6**	**1.4%**	**3.3%**			
Major three E/W trade lanes		**19.3**	**3.1%**	**9.7%**	**35.2%**	**33.2%**	***2.0***
Far East - N America routes	*Two regions*	*6.4*	*6.1%*	*19.5%*	*11.8%*	*10.2%*	*1.6*
	More than two regions	*3.6*	*-1.3%*	*-3.3%*	*6.5%*	*7.0%*	*-0.4*
	Total Far East - N America routes	***10.0***	***3.3%***	***10.2%***			
Far East - Europe routes	*Two regions*	*3.5*	*2.0%*	*21.2%*	*6.4%*	*5.5%*	*0.9*
	More than two regions	*3.0*	*-1.6%*	*-10.8%*	*5.5%*	*6.3%*	*-0.9*
	Total Far East - Europe routes	***6.5***	***0.3%***	***4.1%***			
Europe - N America routes	*Two regions*	*1.7*	*4.8%*	*23.8%*	*3.1%*	*2.6%*	*0.5*
	More than two regions	*1.4*	*-18.0%*	*-18.7%*	*2.6%*	*3.3%*	*-0.7*
	Total Europe - N America routes	***3.1***	***-6.9%***	***0.2%***			
Other routes	Intra	21.9	0.2%	-1.6%	40.2%	42.2%	-2.0
	Two regions	12.8	1.1%	3.6%	23.4%	23.3%	0.1
	More than two regions	0.7	0.9%	-2.1%	1.2%	1.3%	-0.1
	Total Other routes	**35.4**	**0.5%**	**0.2%**	**64.8%**	**66.8%**	**-2.0**

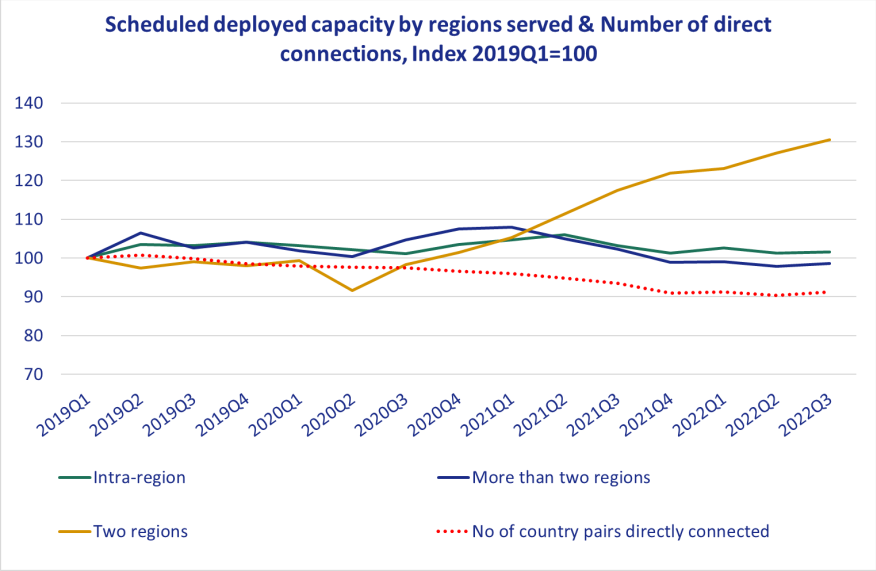
** Note: analysis carried out on individual IMOs.*
Source: MDS Transmodal, Containership Databank November 2022

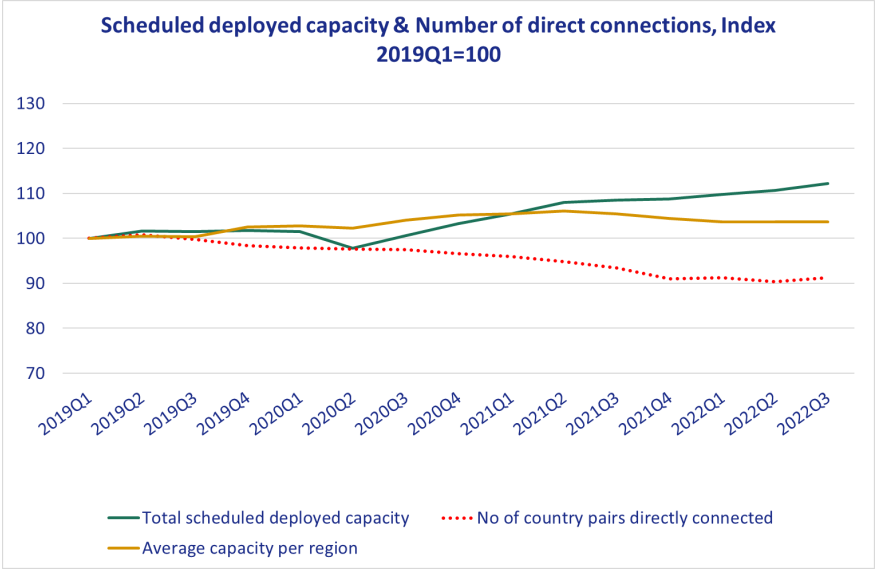
Conclusions & Commentary

- In 2022Q3, scheduled deployed capacity grew by 1.4% to 2022Q2 while on an annual basis there was a growth of 3.3%.
- The increase has been driven mainly be re-allocated:
  - 1. from 'minor' routes to the 'major' E/W ones;
  - 2. from intra and services covering more than two regions to direct services;
  - 3. from cutting intermediate calls on the FE-Europe trade lane.

2. Capacity

2.2 Deployed capacity by markets served, global





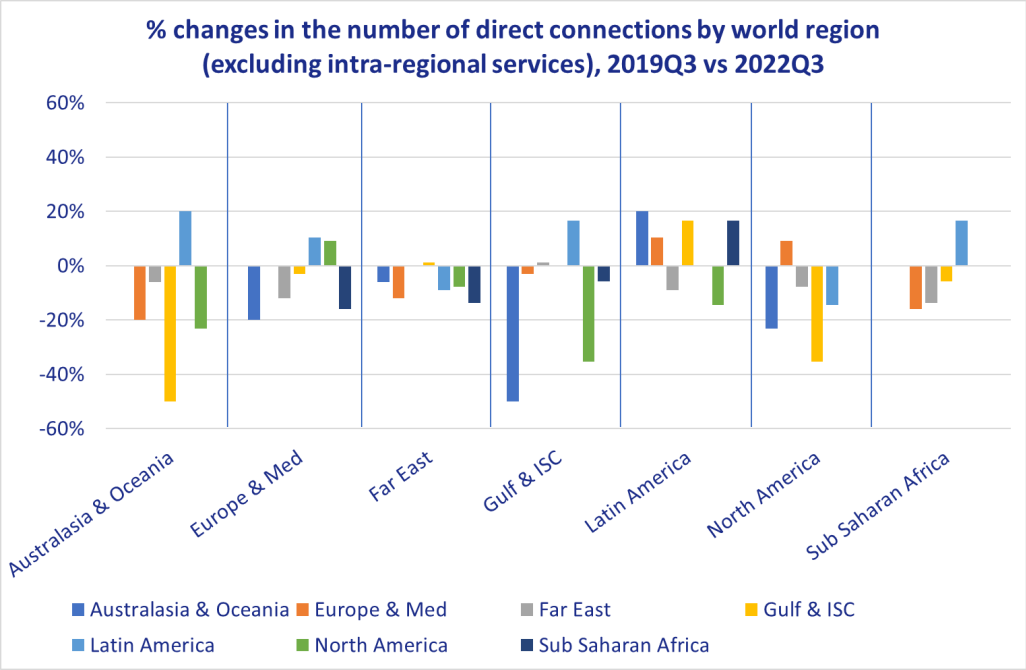
Source: MDS Transmodal, Containership Databank November 2022

Conclusions & Commentary

- The network reconfiguration offered by the shipping lines started around the third quarter of 2020 appears to be enduring, with more capacity shifted from services serving more than two regions in favor of services serving only two regions.
- The number of countries directly connected is marginally higher in 2022Q3 compared to the previous quarter, but still lower that the pre-pandemic levels.
- Available capacity has been increased by existing ships making more frequent ‘shuttle’ voyages between port pairs over the period, at the expense of longer, loop sailings offering more port calls. This has resulted in a reduction in deployed capacity available to shippers, reducing the opportunity to move cargoes on a predictable basis.

2. Capacity

2.3 Changes in number of direct connections, global



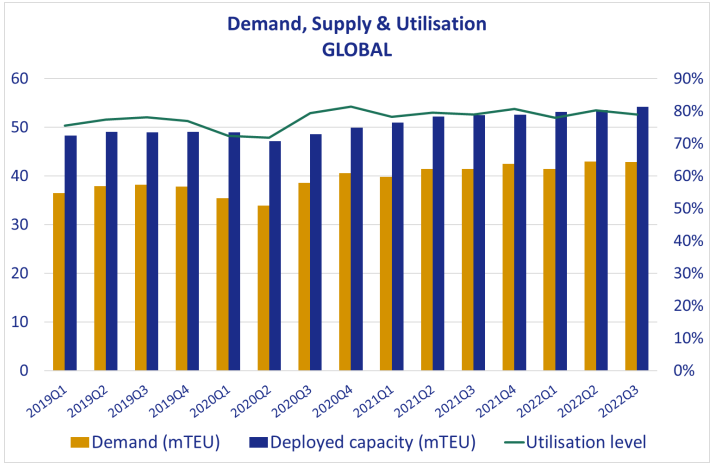
*Note: for this the analysis, we have e*excluded intra-regional services
Source: MDS Transmodal, Containership Databank November 2022

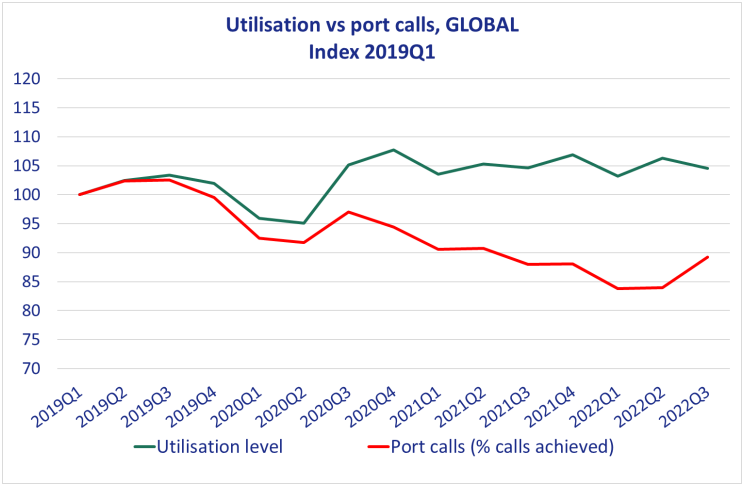
Conclusions & Commentary

- On the deepsea routes, the number of countries directly connected has declined by more than 6% in 2022Q3 compared to 2019Q3; the capacity lost due to this reduction accounted for some 4.6% of the total capacity scheduled in 2019Q3.
- Different world regions have been affected differently by this reduction, with for example European countries estimated to have lost almost circa 12% of their direct connections with the Far East, equating to circa 4% of the capacity offered in 2019Q3 between these two world regions.

3. Capacity utilisation

3.1 Utilisation, global





	2022Q3	PQ	PY
East-West	24.8	2.3%	7.5%
North-South	4.2	2.3%	1.8%
South-South	3.7	1.5%	9.7%
Intra	21.9	0.2%	-1.6%
Grand Total	**54.6**	**1.4%**	**3.3%**

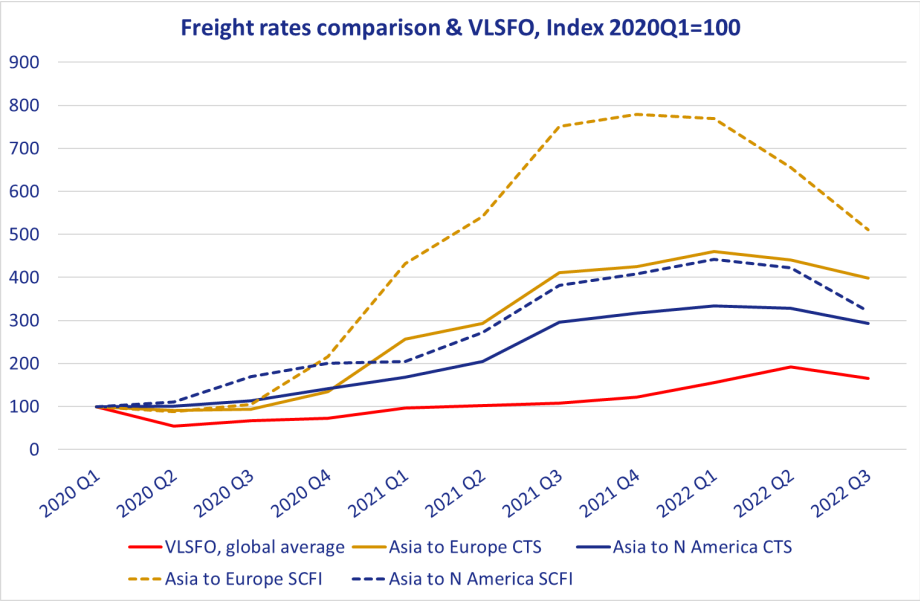
Source: MDS Transmodal, World Cargo Database & Containership Databank May 2022

Conclusions & Commentary

- Capacity scheduled on the EW and SS routes increased much faster than those on other markets.
- The contraction in utilisation levels observed in the last quarter has been accompanied by an improvement in the number of calls actually made – as illustrated in the following sections.

4. Costs & Revenues

4.1 Freight rates comparison & VLSFO



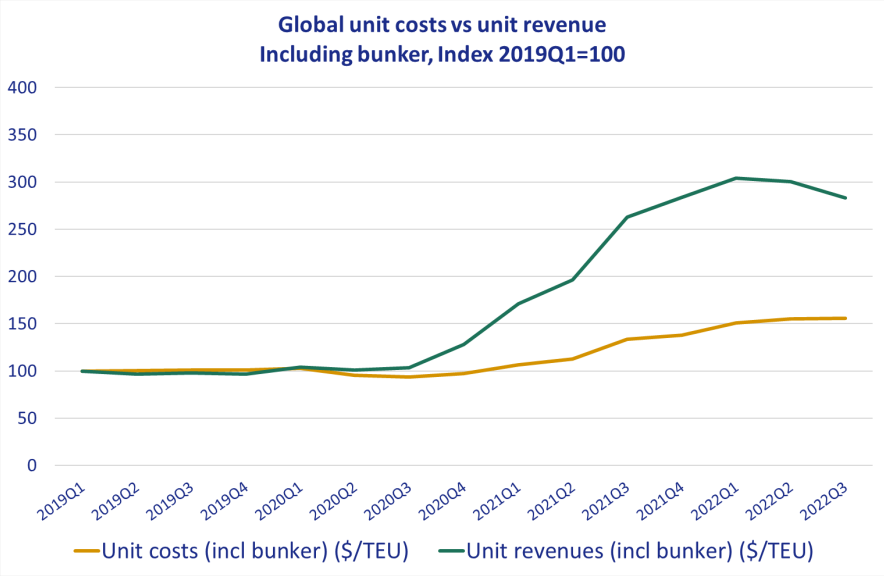
Source: MDS Transmodal, Container Business Model November 2022, SCFI and CTS

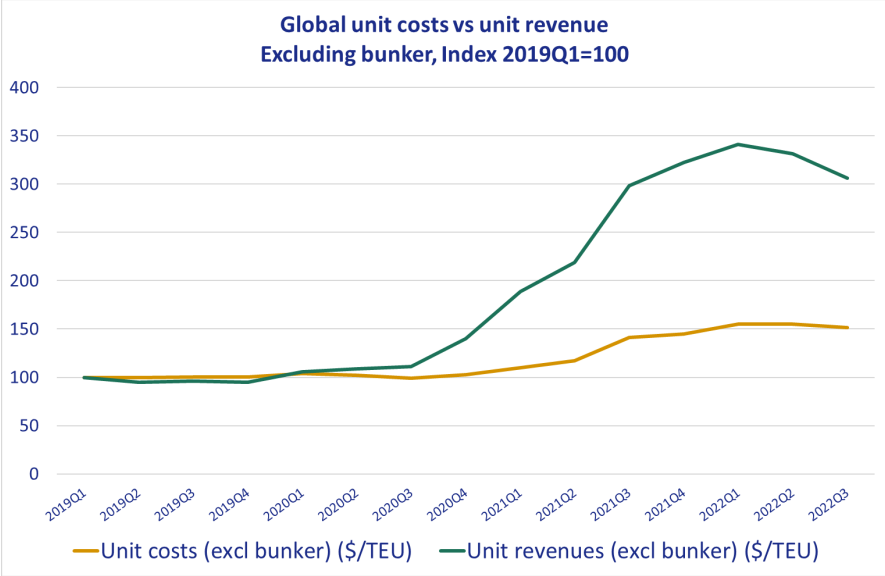
Conclusions & Commentary

- Spot rates on from Shanghai to both North America and Europe are continuing their 'normalization'; their levels, however, is still above the pre-pandemic levels
- Price Indices reported by CTS now starting showing signs of normalization, too - but at a modest speed of contraction suggesting that the majority of the main shipping lines reporting to CTS derive a significant proportion of their revenue from contract rather than spot.

4. Costs & Revenues

4.2 Unit costs & unit revenue, Global





Source: MDS Transmodal, Container Business Model November 2022

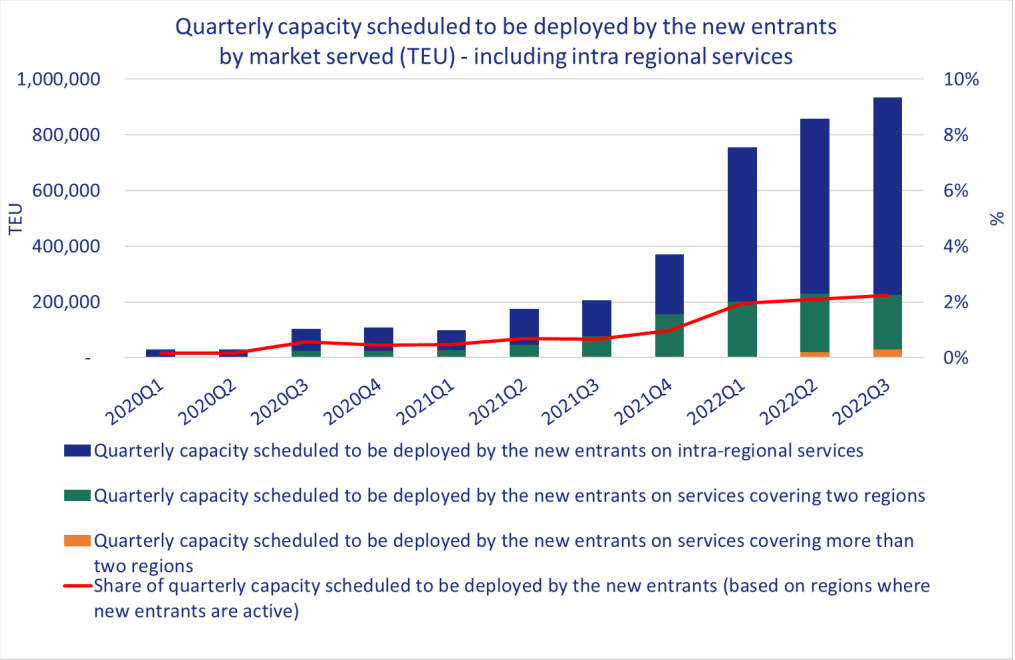
Conclusions & Commentary

- With 2019Q1 equal to 100, global unit costs fell during the first half of 2020, as bunker costs declined, and started to increase from 2020Q3.
- 2020Q3 is the quarter where we start observing an increase in the divergence between unit costs and unit revenue, with the gap wider when bunker cost is subtracted from both unit revenues and unit costs. That divergence has increased with every quarter, modelled costs have grown by 50% between 2019Q1 and 2022Q1 but unit revenue has grown by 200%.
- Unit revenues are showing sign of decline, however the gap with costs is still significant.

5. Market Competitiveness (MDST/OECD-ITF)

5.1 New entrants

Regions scheduled to be served		2022Q2	2022Q3	PY
More than two regions	Europe & Med - Gulf & ISC - Far East	18,959	27,708	46.1%
	Europe & Med - Gulf & ISC - Sub Saharan Africa	1,677	1,677	0.0%
More than two regions Total		**20,636**	**29,385**	**42.4%**
Two regions	Europe & Med - Far East	46,883	47,427	1.2%
	Europe & Med - Gulf & ISC	2,516	12,117	381.7%
	Europe & Med - Sub Saharan Africa	9,045	9,045	0.0%
	Far East - Australasia & Oceania	37,535	19,874	-47.1%
	Far East - North America	65,966	65,582	-0.6%
	Gulf & ISC - Far East	47,938	41,525	-13.4%
Two regions Total		**209,883**	**195,570**	**-6.8%**
Grand Total - excluding intra-regional markets		**230,518**	**224,955**	**-2.4%**



Source: MDS Transmodal Consortia & Alliances Database May 2021 (https://link.springer.com/article/10.1057/s41278-022-00225-x)

Conclusions & Commentary

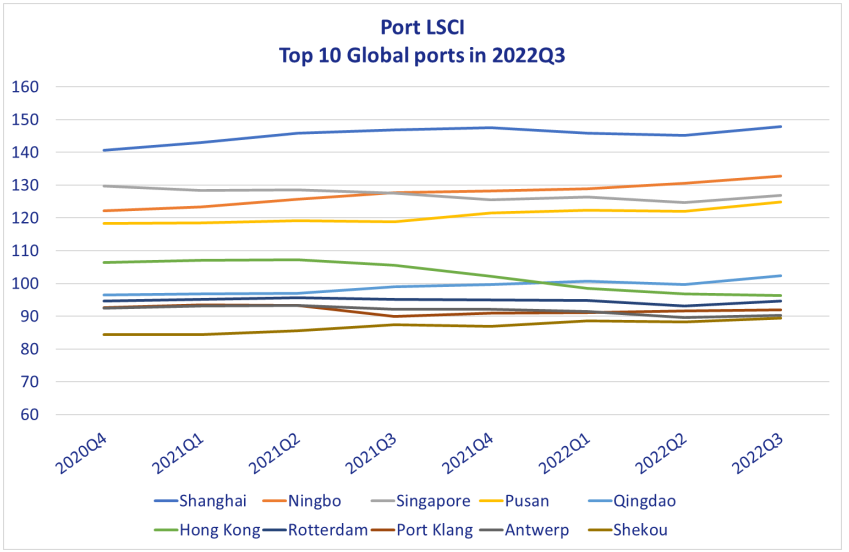
- New entrants on deepsea container shipping routes are cutting service offerings as spot freight rates return to 'normal' levels;
  - in the third quarter of 2022, the percentage of capacity - excluding intra-regional services - offered by new lines that began services from the first quarter of 2020 was down 2.4% on the previous quarter.
  - this trend was driven largely by a 13% drop in capacity offered on the Middle East Gulf/Indian Subcontinent–Far East trade lane during the period.
- In the context of global capacity, however, new entrants account for relatively modest percentages; e.g. circa 1% and circa 2% of the global capacity excluding and including intra-regional markets respectively.

6. Port Connectivity (MDST/UNCTAD LSCI)

6.1 Top 10 container ports, global

Liner Shipping Connectivity Index, Hong Kong 2006Q1=100

	2022Q3	PQ	PY
Shanghai	147.8	2.7	1.0
Ningbo	132.8	2.3	5.1
Singapore	126.8	2.0	-0.8
Pusan	124.8	2.9	6.1
Qingdao	102.4	2.8	3.5
Hong Kong	96.3	-0.6	-9.3
Rotterdam	94.7	1.5	-0.5
Port Klang	91.9	0.4	1.9
Antwerp	90.2	0.7	-1.9
Shekou	89.4	1.0	2.0



Source: MDS Transmodal, Containership Databank November 2022 (www.portlsci.com)

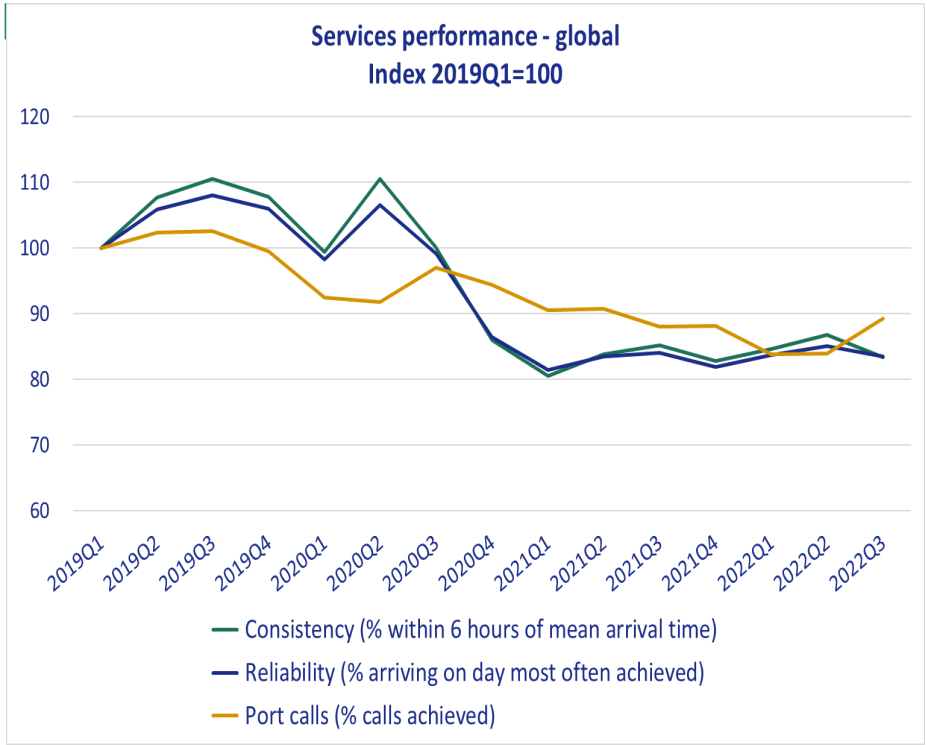
Conclusions & Commentary

- Compared to 2022Q2, in 2022Q3 we observe an improvement in the level of connectivity for all the Top 10 ports except for Hong Kong, for which we estimate a contraction of circa 1%.
- The deterioration for Hong Kong is more significant on the year-on-year comparison.
- Compared to 2021Q3, in 2022Q3 Singapore, Rotterdam and Antwerp are also reporting a decline in their LSCI.

7. Services performance

7.1 Consistency, reliability & port calls, global

	2022Q3	YTD	PQ (% points)	PY (% points)
Consistency (% within 6 hours of mean arrival time)	43%	44%	-1.8	-1.0
Reliability (% arriving on day most often achieved)	51%	52%	-1.0	-0.3
Port calls (% calls achieved)	75%	72%	4.5	1.0



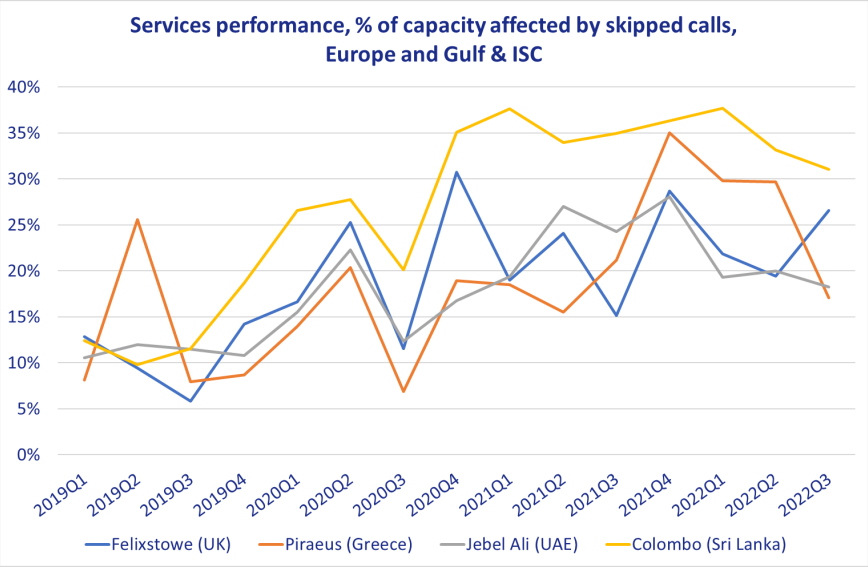
Source: MDS Transmodal based on AIS (Automatic Identification System) data

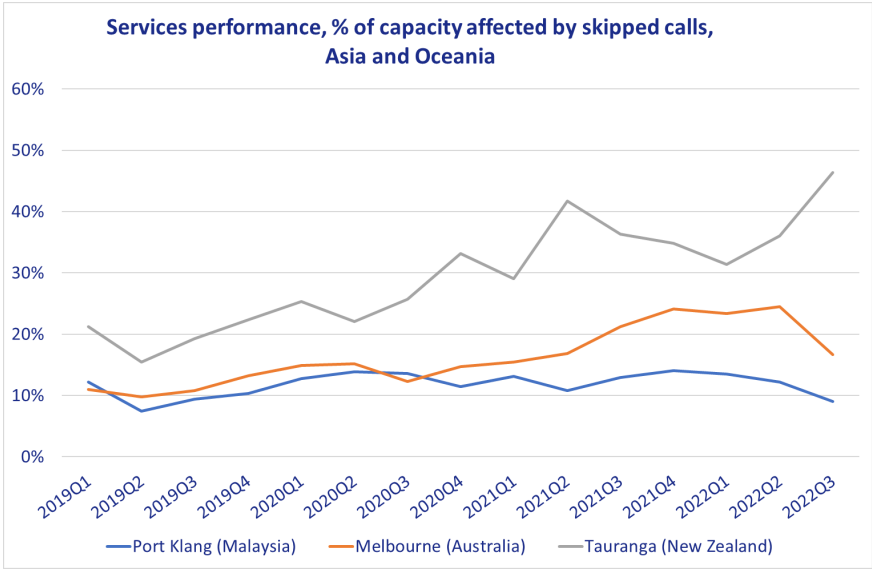
Conclusions & Commentary

- Despite some improvement estimated in port calls actually made (by comparison with being scheduled), in 2022Q3 consistency and reliability are both estimated to have declined further compared to the previous quarter and to the same quarter last year.

7. Services performance

7.2 % of capacity affected by skipped calls, selected ports





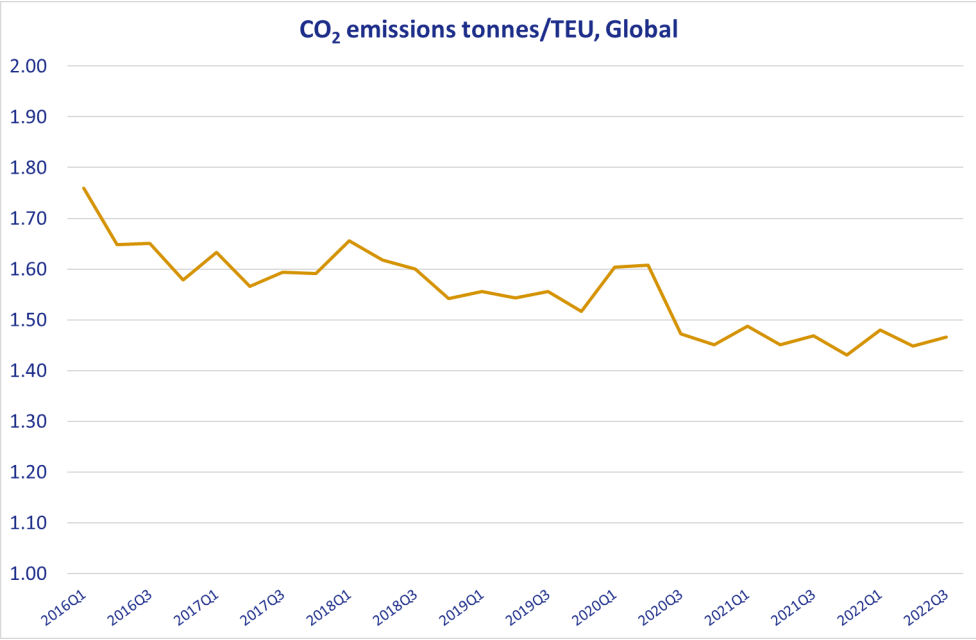
Source: MDS Transmodal based on AIS (Automatic Identification System) data

Conclusions & Commentary

- This analysis shows the effect of 'skipped' port calls on the shipping capacity lost to shippers, over the past few years.
- The graphs show the percentage of shipping capacity expected to call but lost as port calls are 'skipped'.
- This was caused by ships failing to call at ports as scheduled making their capacity unavailable to shippers at that port.

8. Carbon Emission Factors

8.1 CO_2 emission tonnes/TEU, global



Note: demand from 2021Q1 based on CTS volumes
Source: MDS Transmodal, Container Business Model November 2022

Conclusions & Commentary

- Emissions per unit of cargo (tonnes/TEU) fell over time as the twin policies of slower vessel speeds ('slow steaming') and the introduction of larger vessels (VLCCs) continued to take effect. The decreases were most marked on the Far East- North Europe route where these policies had greatest impact.
- Emissions per unit increased in 2022Q3 with less port calls dropped; however that trend has now come to an end.

The indicators explained (1)

1.1 **Total trade**: Total goods exported and imported by all countries measured in millions of tonnes and distinguished between 'not unitised' and 'unitised'.

1.1 **Unitised trade**: Cargo moved in units, measured in TEU and distinguished between Maritime containers (loaded containers shipped by sea, excluding RoRo) and Other (RoRo containers by sea, containers and road trailers across land borders).
Unitised maritime trade represents the total demand for container shipping services by cargo owners (shippers).

2.1 **Deployed capacity**: Capacity offered on container-carrying vessels (containerships) deployed on services as scheduled by the shipping lines (mTEU).
Deployed capacity is the total supply of scheduled container-carrying capacity made available to shippers to meet the demand for unitised freight.

Numbers refer to sections in which the term is used

The indicators explained (2)

4.1 **Costs & Revenues**: Estimated operating costs and estimated revenues measured with and without fuel

5.1 **Market competitiveness:** this analysis has been carried out using the MDST Consortia & Alliances Database, a subproduct of the MDST Containership Databank, which contains detailed information of the world's container carrying fleet also used by UNCTAD for the Liner Shipping Connectivity Index (LSCI) and by the World Bank for the Logistics Performance Index (LPI). The MDST Consortia & Alliances Database, developed in collaboration with ITF/OECD, is a dataset in which we have grouped the port pairs into trade corridors (e.g. a service calling, amongst other, at the port of Shanghai and at the port of Rotterdam, has been allocated to the East China Sea-North Europe trade corridor) and identified, for each vessel deployed on any given service, the shipping lines that operate them. This information has allowed us to identify the services operated by consortia and their members, by alliances and their members, by independent carriers.

6.1 **Port LCSI**: Liner Shipping Connectivity Index produced in collaboration with UNCTAD and generated from the following 6 components: number of scheduled ship calls/week in the port; total scheduled container shipping capacity calling at the port; number of regular services calling at the port; number of carriers that provide services to/from the port; maximum average size of the ships deployed by the scheduled service; number of other ports that are connected to the port through direct services (more on www.portlsci.com) The LSCI is a proxy for the frequency, reliability and direct access to markets experienced by shippers of cargo through each named port and a measure of the quality of service experienced by users of the ports services.

Numbers refer to sections in which the term is used

The indicators explained (3)

7.1 **Services' performance indicators**: **Consistency** (% within 6 hours of mean arrival time); **Reliability** (% arriving on day most often achieved); **Port calls** (% calls achieved after allowing for blanked sailings and ports skipped).
For shippers, Consistency is a measure of on-time arrival of vessels (will goods become available when they have normally been in the past?); Reliability is a measure of the regularity of service (same day of the week); Port Calls is a measure of whether the vessel arrives at all or the cargo is 'rolled' on to the next service. These are key factors in determining on-time delivery of exports to customers or availability of imports for domestic distribution.

8.1 **Carbon Emission factors**: Average amount of CO_2 emitted by each loaded container shipped by sea measured for the whole deep-sea shipping industry and selected trade lane (tonnes CO_2 /TEU).
Carbon emissions per cargo unit moved are the required inputs for manufacturers, retailers and other shippers to calculate the contributions that third parties make to the carbon footprint of their products and businesses (Scope 3 emissions). The shipping industry is under public pressure to deliver meaningful reductions in greenhouse gas emissions in the short and medium term. Current proposals target improvements through better ship design and maintenance and more efficient operation. Other actions include Emissions Trading Schemes, carbon taxes and the use of low-carbon fuels. Regardless of the means employed, this measure will track their net effectiveness on the carbon footprint of container shipping as experienced by users of its services.

Numbers refer to sections in which the term is used

More about MDS Transmodal & contacts

MDS Transmodal (MDST, www.mdst.co.uk) is a firm of transport economists based in Chester (UK) which specialises in maritime and all other modes of freight transport. MDST works with senior management in the public and private sectors to provide strategic advice based on quantitative analysis, modelling and sectoral expertise. MDST's approach is based on being:

- Innovative – Constantly developing new ways to analyse strategic issues and opportunities
- Quantitative – Analysis based on best in class maritime databases and models
- Independent – More than 35-year track record of providing objective advice
- Expert – Consultants with an average of 20 years' consultancy experience
- Specialist – Focused on the economics of maritime transport and other freight modes.

MDST data, modelling and industry expertise can be applied to analyse strategic issues and opportunities wherever the client is based in the world. Clients include UNCTAD, the World Bank, the European Commission, government at all levels, ports and terminal operators, developers of distribution parks, financial institutions, global shippers and shipping lines and a wide range of professional services companies.

All of the data presented in tables and graphs can be provided at a more detailed level, e.g. trade data by country pairs as well as individual commodities, capacity and services performances by service and operator, etc.

Contacts:
Tel : +44 (0) 1244 348301
antonella.teodoro@mdst.co.uk

More about Global Shippers Forum & contacts

Global Shippers Forum (GSF) is the international business organisation speaking up for exporters and importers as cargo owners in international supply chains and trade procedures. Its members are national and regional shippers' associations representing manufacturing, wholesaling and retailing businesses in over 20 countries across five continents.

Shippers own the goods that others carry, and ultimately pay the costs they incur. GSF works to achieve safe, competitively efficient and environmentally sustainable global trade and logistics on behalf of its members.

Contacts:
Tel: + 44 (0) 1580 754523
secretariat@globalshippersforum.com
https://globalshippersforum.com