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**DEPARTMENT OF MARITIME STUDIES**

**MSc IN SHIPPING**

**THE IMPACT OF THE COVID-19  
PANDEMIC ON THE GLOBAL SUPPLY  
CHAIN AND FREIGHT RATES  
FLUCTUATIONS IN THE SHIPPING  
INDUSTRY**

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## TABLE OF CONTENTS

TABLES .....	1
ABSTRACT .....	2
INTRODUCTION .....	3
CHAPTER 1 THE COVID-19 PANDEMIC'S TOLL ON THE GLOBAL ECONOMY .....	5
1.1 The spread and initial effects of the pandemic globally .....	5
1.2 The unforeseen consequences of the pandemic and the overturning of the global economy .....	6
1.3 Complying with the new Maritime Regulations during the pandemic .....	7
1.4 Impact of the pandemic on ports and responses thereto.....	10
CHAPTER 2 THE CHANGE IN THE STRUCTURE OF THE LOGISTICS CHAIN THROUGHOUT THE PANDEMIC .....	12
2.1 Crude oil trade and price fluctuations.....	12
2.2 Bunker price fluctuations .....	19
2.3 Increased demand for floating storage units due to the historically low price of crude oil.....	23
2.5 Passing on the baton from the tankers to containerships and bulk carriers .....	25
CHAPTER 3 CREW MATTERS HAVE BECOME A GREAT CHALLENGE FOR THE SHIPPING INDUSTRY'S COMMERCIAL OPERATIONS.....	26
3.1 Prolonged stay onboard for seafarers.....	26
3.2 Increased OPEX due to high costs for crew change .....	29
3.3 Charterers' requirements for crew matters during pre-fixture negotiations .....	36
3.3 Difficulties in drydocking and increased cost .....	47
CHAPTER 4 FREIGHT RATES FLUCTUATION IN THE SHIPPING MARKET .....	53
4.1 Freight rates fluctuation in the tanker market.....	53
4.2 Freight rates fluctuation in the containership market .....	57
4.3 Freight rates fluctuation in the bulk carrier market.....	61
CONCLUSION .....	67
REFERENCES .....	71

## TABLES

1.1 World GDP and Seaborne Trade Growth 2006 – 2020.....	7
1.2 Fleet Capacity Under Scrubber Retrofit.....	9
1.3 Average vessel earnings.....	9
2.1 Brent crude oil, Iron ore, and Coal spot prices.....	12
2.2 Oil Demand and Production 2018 – 2021.....	13
2.3 Crude Oil Imports for China, Japan, India, and Germany.....	14
2.4 Crude Oil Exports and Imports 2018 – 2020.....	15
2.5 WTI Crude Oil Price Fluctuations, Trading Economics.....	16
2.6 Brent Crude Oil Price Fluctuations, Trading Economics.....	16
2.7 OPEC Basket Price Fluctuations, OilPrice.....	17
2.8 Global Oil Prices 2017 – April 2022.....	18
2.9 VLSFO Bunker Price Fluctuations and Lowest Point.....	20
2.10 HFO Bunker Price Fluctuations and Lowest Point.....	21
2.11 MGO Bunker Price Fluctuations and Lowest Point.....	21
2.12 Ship Fuel Price Points January 2020 – April 2022.....	22
2.13 Oil Tanker Storage.....	23
2.14 Global Floating Storage (vessels idle for 10 days or more).....	24
2.15 Comparison Between Tankers, Bulk Carriers and Containerships Earnings for the Last Two Decades.....	25
3.1 Summary of Country/ Region Classification for Recent 7-day travel history (for entry into Singapore from 2 March 2022).....	31
3.2 Vitol Preamble for Crew Change.....	37
4.1 Tanker Trade 2018 – 2020 in million tons.....	54
4.2 Global Floating Storage as of June 2022.....	54
4.3 Tanker Vessels’ Spot Rates and Time Charter Equivalent Earnings in First Half of 2020.....	55
4.4 Tanker Market Spot Average Earnings 2019 – first half 2022.....	56
4.5 Crude Tanker Spot Earnings \$,000’s/day.....	56
4.6 Global Containerized Trade 1996 – 2021.....	58
4.7 Containership Time charter Rates.....	60
4.8 Containership Earnings on a Quarterly Basis for 6-12 Months Time Charter.....	60
4.9 Containership average freight rates 2018 – 2021.....	61
4.10 Dry Bulk Vessels’ Trade in Million Tons and Percentage Change.....	62
4.11 Bulk Carrier Average Earnings 2020 – first half 2022.....	64
4.12 Bulk Carrier Earnings.....	66

## ABSTRACT

The aim of this thesis is to examine the impacts of the Covid-19 pandemic on the global supply chain and how new links have been created between points of origin to points of destination. The Covid-19 pandemic has been such a conjuncture during which the world has seen some markets rising and others collapsing. It has been the perfect example to display on how some occasions the markets can be affected out of the ordinary and their whole structure could be changed.

The pandemic has changed the trade patterns globally and people's daily lives and working styles. The world has entered into a new era with the changes that have taken place in the past two years. Logistical disruption and congestion has remained elevated. The containership market has experienced extraordinarily strong conditions and for shippers, freight costs in many sectors have increased to multi-year highs. Impacts from the Covid-19 pandemic, disruptions in the supply chains, operational difficulties, and freight rate fluctuations are analyzed in this thesis.

## INTRODUCTION

International maritime transport has always been the main mode of transport for global trade and one of the cornerstones of globalization. Ships carry more than 90% of the volume of all world trade and 70% of its value. There is a network of more than 59,000 vessels that power the international commerce.<sup>1</sup> Statistically, shipping is the most environmentally friendly and least damaging mode of transport, considering through the point of view of its productive. Additionally, in comparison to land-based industry, shipping is considered a minor contributor to marine pollution deriving from human activities.

Over the past two years the shipping industry has gone through various fluctuations. With the BWM Convention having been entered into force on September 8, 2017 and the Global Sulphur Cap since 1 January 2020, the shipowners and shipmanagement companies are called to make great decisions regarding their vessels and the structure of their fleet. These decisions require millions of dollars in investments that involve retrofitting on ships for ballast water treatment plants and scrubbers. The implementation of these regulations, especially the IMO 2020 which is considered by many to be the most dramatic fuel regulation changes ever, will have a massive impact on the shipping industry and the global economy, with eventually the cost being passed to the final consumer. The implementation of these regulations became more complicated during the Covid-19 pandemic as restrictions were being imposed on port calls and drydockings for the vessels.

Furthermore, operational difficulties are being observed in crew changes, inspections, and drydockings due to the restrictions being imposed from governments and port authorities at regional levels, with many seafarers being stranded onboard and serving many months more than their contractual agreements.

Additionally, during the pandemic, the trade patterns have changed and many fluctuations are being observed in the various shipping markets. Especially the containerships and bulk carriers that have gone through a long lived period of very low freight rates, have set records and the operation of these two type of vessels has become finally profitable for the shipowners.

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<sup>1</sup> UNCTAD, Review of Maritime Transport 2019



Important structural changes have taken place in the way of work and management of the daily operations of the vessels. Shipping was easy to adapt to remote work, as due to its nature, most of the work and communication already done through digital means of communication. In order to facilitate global trade, more port authorities chose to implement remote and digital means for inspecting the vessels at ports. The number of ports that no longer require the physical attendance of the port health authorities in order to grant free pratique to a vessel increased. More ports chose also to implement port clearance and customs formalities by the use of databases and government websites.

The pandemic has been both a curse and a blessing to the shipping industry and international trade in general. Both the positive and negative impacts of the global crisis deriving from the Covid-19 pandemic are analyzed further in this thesis.

# CHAPTER 1 THE COVID-19 PANDEMIC'S TOLL ON THE GLOBAL ECONOMY

## 1.1 The spread and initial effects of the pandemic globally

The Covid-19 is a novel virus which was first identified in China in the city of Wuhan during an outbreak in December 2019. Authorities were not able to contain the virus and it spread globally in a few weeks. On 30 January 2020 the virus was declared a Public Health Emergency of International Concern by the World Health Organization and by 11 March 2020 it was declared a pandemic. As of 15 July 2022 there have been more than 557 million cases of the virus reported officially and more than 6.3 million people have lost their life due to the virus.<sup>2</sup> Personal protection equipment products' demand has risen 100 times the pre-pandemic era prices, as declared by WHO director-general Tedros Adhanom.

The Covid-19 pandemic has had significant consequences to the global economy, including the maritime industry, and being an unprecedented challenge, its true impacts were unforeseen. As the virus spread, the countries started going into total lockdown the one after another. The world did not have faced such a pandemic till now, considering also today's population of more than 7.9 billion people. As the countries were implementing lockdown, the daily lives of their citizens were being affected and changed.

The lockdowns changed the structure of the energy market as travel restrictions were being imposed. The immediate effect of the lockdown was reduced demand for petroleum products used in daily driven vehicles, such as gasoline and diesel. Since people could not leave their houses unless in total emergency, vehicles were not being moved and traffic was reduced, and thus not much gasoline and diesel was being consumed. In addition to this many countries banned air travel and most airlines had to ground their airplanes, leading to a reduced demand for jet fuel. The prices of crude oil fell significantly and on April 20, 2020 the WTI crude price

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<sup>2</sup> WHO Coronavirus (COVID-19) Dashboard (<https://covid19.who.int/>)

dropped 306% to a negative of \$37.63.<sup>3</sup> The fluctuations in the crude and bunker markets will be further analyzed in a separate chapter.

During the lockdown many retail stores had to cease their operation as well. This led them to posting very attractive online offers to minimize their losses. This led many people to online shopping sprees and suddenly the demand for sea freight to ship those goods rose more than ever before. On one hand many people lost their jobs and on the other hand courier companies were looking to employ more people to cover the increased demand for goods' transport and delivery. Door-to-door transport has become more important than ever. While the container market was not doing well for the past years, it suddenly saw a rise that surpassed the expectations of the most optimist investors in the container shipping sector.

## **1.2 The unforeseen consequences of the pandemic and the overturning of the global economy**

The pandemic has caused the second largest global recession history following the Great Recession of 2009.<sup>4</sup> In the earlier stages supply shortages were seen for essential goods due to panic buying and increased used of certain goods such as hand sanitizers and masks. The highly increased demand for certain goods led also to price gouging and still there are widespread reports of shortages of pharmaceutical goods. Personal protection equipment's increased demand which has risen 100-fold as mentioned previously, has led to prices increases of up to twentyfold the original price of the personal protection equipment goods and has also caused delays on the supply and availability of medical items from four to six months.<sup>5</sup> Behavioral changes in people's daily habits have led to temporary food shortages, price hikes, and caused disruption to consumer markets. The whole era since the beginning of the pandemic till now is characterized by broad uncertainty.

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<sup>3</sup> Saefond, M., Oil prices went negative a year ago: Here's what traders have learned since, MarketWatch, 19 April 2021

<sup>4</sup> UNCTAD, Global Trade Impact of the Coronavirus (COVID-19) Epidemic. Trade and Development Report, 2020

<sup>5</sup> WHO Director-General's opening remarks at the media briefing on COVID-19, 11 March 2020

## 1.1 World GDP and Seaborne Trade Growth 2006 - 2020



Source: UNCTAD calculations, based on the *Review of Maritime Transport*, various issues, data from UNCTADstat and table 1.12 of this report.

## 1.3 Complying with the new Maritime Regulations during the pandemic

During the past three decades, shipping has been in the epicenter of environmental discussions, in order to reduce the environmental impacts from seaborne transportation. Statistically speaking, shipping is the mode of transport that pollutes the least the environment when its productive value is considered and a comparatively minor contributor to marine pollution coming from human activities.<sup>6</sup> Nevertheless, shipping is being highly targeted in order to reduce marine pollution and environmental pollution from ships. The most important role in such regulations is being played by the IMO, and specifically the Marine Environment Protection Committee, whose initial target and focus was the prevention of marine pollution by oil, which led to the first ever antipollution convention MARPOL being adopted in 1973. In its current form, MARPOL consists of six annexes, with the latest being ANNEX VI which was adopted in 1997 and came into force in 2005, regarding air pollution and emissions from seagoing vessels.<sup>7</sup> Another important matter that shipping is called to manage is the environmental damage that is being caused to habitats around the globe with the carriage of the ballast water through ships.

<sup>6</sup> IMO, Marine Environment (<https://www.imo.org/en/OurWork/Environment/Pages/Default.aspx>)

<sup>7</sup> IMO, Conventions, International Convention for the Prevention of Pollution from Ships

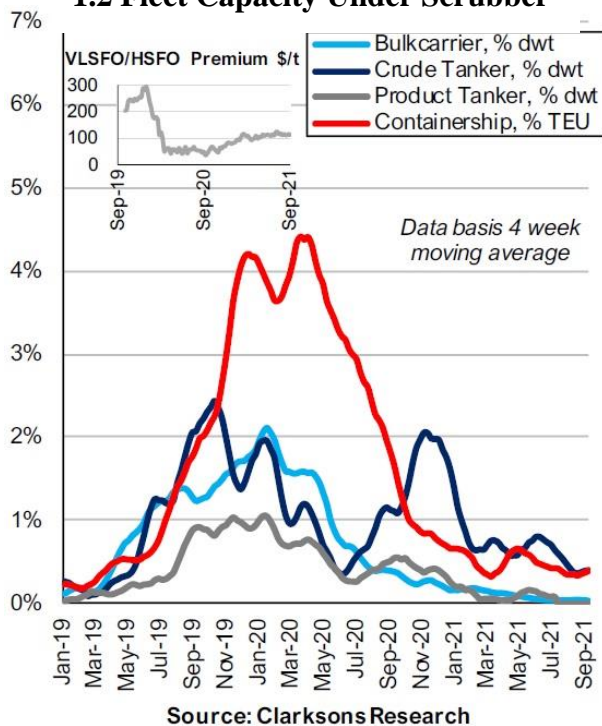
The latest shipping regulation and historically of most important significance so far, which the shipowners were called to comply with, was the IMO 2020 Global Sulphur Cap. In light of the technological improvements and implementation experience, in order to strengthen the emissions' limits from shipping, starting from 1 January 2020, according to Annex VI of MARPOL, the Sulphur content of fuel oil used in commercial vessels that trade outside the Sulphur emissions control areas must not be more than 0,50% m/m.<sup>8</sup> The 0,50% Sulphur limit was a noteworthy reduction from the previous global limit of 3,50% that was in place since 2012. The implementation of the revised limit turned out to be a regulatory game changer. Shipowners and Operators had two options to comply with the above regulation, which were to either use compliant fuel or scrubbers for the reduction of the SOx emissions. Due to the particularities of this change, most of the shipping companies chose to comply with the global sulphur cap by using compliant fuel which is VLSFO (very low sulphur fuel oil) which has sulphur content less than 0,50% and was developed specifically for this purpose.

There were few companies that chose to comply by retrofitting scrubbers on their ships, mostly on big size vessels such as VLCC tankers, capesize bulk carriers, mega containerhips which consume vast amounts of fuel oil. Important factors had to be taken into account for the method such as the age of the vessel, the operating and capital costs, retrofitting expenses, fuel availability, and the primary trading areas. The decision to retrofit bigger vessels with scrubber can be justified since they burn larger amounts of fuel per day and can benefit more from the spread between the prices of the conventional fuel oil and the very low sulphur fuel oil, considering the amount of capital that needs to be invested for the retrofitting of a vessel with scrubber. Also the retrofitting expenses are a smaller percentage of the value for the bigger vessels and the lay-up period for the retrofitting must be taken into account since the vessel would be losing from earnings. A cost-benefit analysis taking into account all the above factors would enable the shipowners to predict the recuperating of all the expenses for the scrubber retrofitting.

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<sup>8</sup> IMO, IMO 2020 – cutting sulphur oxide emissions

## 1.2 Fleet Capacity Under Scrubber

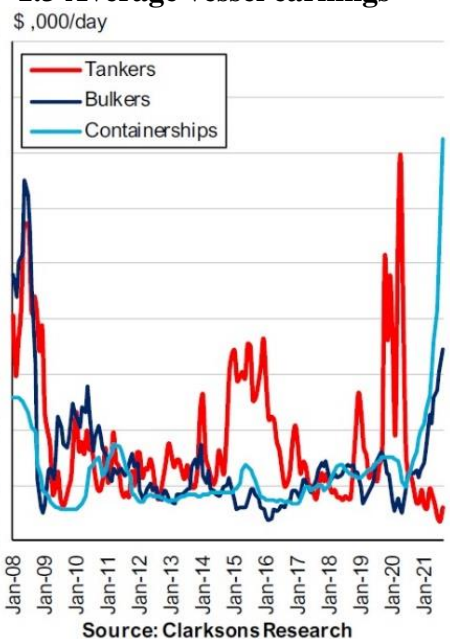


From table 1.2 we can see how the fleet capacity under scrubber retrofit changed during the pandemic as the freight rates fluctuated. By the end of the 2020 the container fleet under scrubber retrofit almost diminished so the owners could benefit from the high freight rates the container market has ever seen and especially after a long period of recession. In the crude market the owners decided to postpone the scrubber retrofits during the period of high freights and that can be observed

from March 2020 till Jul 2020, when the oil prices were low and countries were stocking up. After that the fleet capacity of tankers under scrubber retrofit increased once again because of the low freights, making it more advantageous to lay up the vessels during that period.

What followed during the pandemic was that the freight rates for the tankers skyrocketed and many shipowners who had their vessels programmed for scrubber retrofitting decided to postpone these works in order to benefit from the high freight rates. Another paradox was that even though during the first few weeks of the transition the price of vlsfo was high due to the high demand from the vessels that had chosen to comply in this manner, eventually the price of the vlsfo fell lower than expected due to the fall in the crude oil prices globally. Drydocks and retrofitting have become incredibly difficult during the pandemic and the cost has risen significantly due to covid restrictions related to the crew and the attending superintendents which will be analyzed further in a separate chapter.

## 1.3 Average vessel earnings



## 1.4 Impact of the pandemic on ports and responses thereto

The pandemic caused port closure and shortages in manpower at the ports, which by its turn had an impact on the ability of ports and terminal operators to complete vessel operations in the required time. Delays were caused also in providing key services associated with the port–hinterland interface. In India, the ability of the ports was affected because of worker shortages, and due to this, the customs authorities were not able to provide customs clearance formalities for the cargoes. Customs clearance formalities were impacted also by other operational issues such as the requirement which came into force on 22 June 2020 to conduct a 100% physical verification of import shipments coming from China.<sup>9</sup> This situation led to induced port congestion with interrupting cargo movement and shipments being stuck. Movement was not allowed in and out of ports. This incurred extra costs to shippers. Container shortages were observed also less containers were free of cargo. Port stock prices and revenues declined due to the reduced port calls. To minimize the effects coming from congestion and the economic impacts on carriers and shippers, many ports decided to cut or temporarily stop charging fees, which further reduced their already declining revenue, increasing debt and bankruptcy risks. The measures taken by terminal operators, authorities, and intermodal transport providers to restrict the spread of the coronavirus disease resulted in ships spending more time in ports that were operating at a slower pace. The dry bulk carriers market faced the most delays for which loading and unloading operations tend to last many days.

During the pandemic crisis, the role of information and communications technologies (ICTs) in facilitating global trade became increasingly important. Digital trade facilitation means to make full use of Information Technology systems and taking a turn towards paperless procedures for all stages of the cross-border trade process.<sup>10</sup> Trade facilitation through digital means may lead to higher work efficiency, savings expenses during cross-border trade operations, convenience for the door-to-door transportation, and it also means that the entire process can be completed with significantly less interaction or even zero contact with other people. The use of such technologies have been proved crucial during the pandemic crisis for ensuring the

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<sup>9</sup> UNCTAD, Review of Maritime Transport 2020, p 58-60

<sup>10</sup> UNCTAD, Review of Maritime Transport 2020, p 59

continuity of cross-border trade, while reducing direct physical contact among people through remote operations. International agreements that eventually came into force, enabled the further empowerment of digital trade facilitation. For example, the IMO Convention on Facilitation of International Maritime Traffic, 1965 requires the governments of countries to facilitate exchange of electronic information between ships and ports, with the use of maritime single windows being recommended.<sup>11</sup> There are also several initiatives that are seeking to switch the order of physical documentation of maritime cargo to digital templates, and most communication is already done electronically via e-mails. In addition to this, the WTO Agreement on Trade Facilitation, makes several references to Information Technology tools as a means to make trade regulations in cross-border exchanges more convenient, predictable, and transparent and to expedite the transportation, customs clearance, and release of goods.<sup>12</sup> During the pandemic's crisis, initiatives were launched or expanded by some developing countries for documents to be allowed to be presented remotely and enable remote verification by border officials so they may undertake clearance processes in a more transparent manner. For example, in Morocco, the National Single Window of Foreign Trade (Portnet) decided to transpose to 100% online and remote working tools This allowed the completion of customs clearance formalities and access to government related services 24 hours a day, 7 days a week (Morocco World News, 2020).<sup>13</sup> Electronic procedures were being capitalized on by the country of Oman. These procedures were put in place before the pandemic started, enabling the virtual clearance and assisting the officers involved in trade processes and online submission of cargo manifests 48 hours before vessel arrival. The e-services were expanded to payments, exchange documents, and data (Global Alliance for Trade Facilitation, 2020).<sup>14</sup>

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<sup>11</sup> IMO, Convention on Facilitation of International Maritime Traffic (FAL) 1965

<sup>12</sup> WTO Trade Facilitation Agreement (TFA)

<sup>13</sup> Morocco World News, COVID-19: Portnet launches online services for import/export. 16 March 2020

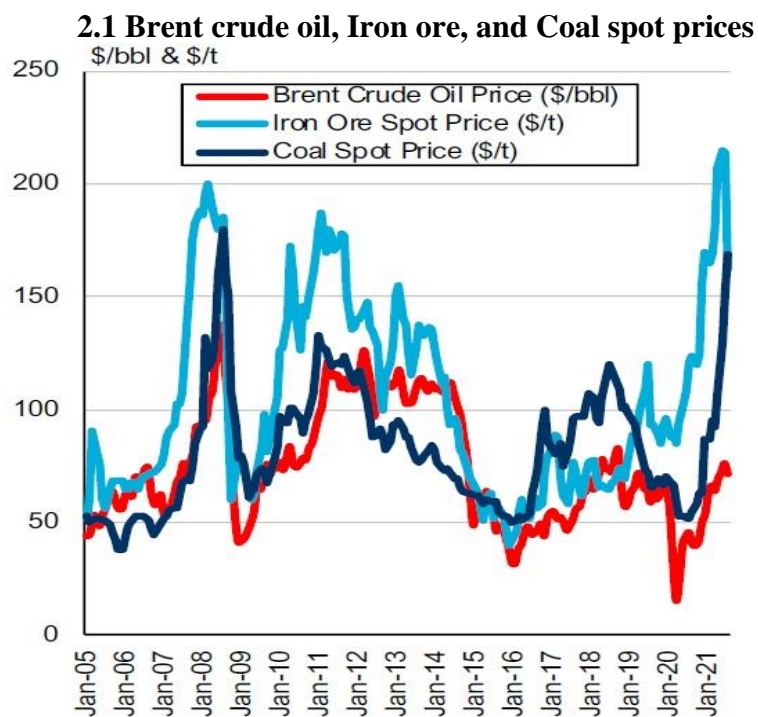
<sup>14</sup> Global Alliance for Trade Facilitation, How COVID-19 is accelerating the digital transformation of trade at Oman's ports, 19 June 2020



## CHAPTER 2 THE CHANGE IN THE STRUCTURE OF THE LOGISTICS CHAIN THROUGHOUT THE PANDEMIC

### 2.1 Crude oil trade and price fluctuations

During 2020 the oil trade declined by 9% following a collapse in oil demand and the implementation in oil production cuts by OPEC+.<sup>15</sup> The reason for the decreased demand was that the world went into global lockdown due to the pandemic and the urban movements were prohibited by most of the governments, which resulted in very low demand for crude oil and petroleum products' and thus their prices. Since not much oil was being consumed, in order to bring the crude prices in a balance, the OPEC+ countries decided to reduce their daily production. The WTI crude went into a historical negative price that was unlike any other phenomenon seen in the petroleum industry. Many countries worldwide took advantage of the historically low crude prices, filling up their reserves as much as possible. There were others, multinational commodity traders, who time chartered crude oil tankers as floating storage units, in order to sell the cheap bought crude oil at higher prices in the future. The year 2021 even worse for the oil trade as the market declined about 19% compared to 2019, even though the crude oil prices had risen. The reason was the high oil stocks acquired during 2020 due to the very low crude oil prices.



Source: Clarksons Research

<sup>15</sup> Clarksons Research, Shipping Review and Outlook, September 2021, p 12

As the petroleum companies started to reduce the production of crude oil, the price started to revert back into balance. In the following tables we can see how the production and trade of crude oil and its products changed during the period 2017 – 2020 and how this affected also the crude oil exports and imports which will help us further analyze the oil tanker shipping market through which petroleum and its products are transported globally.

## 2.2 Oil Demand and Production 2018 – 2020

<b>Oil Demand</b>				
<b>(MBpd)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
North America	25.3	25.3	22.3	24.0
	2.1%	0.2%	-12.1%	7.6%
Non-OECD Asia	26.6	27.5	26.5	28.4
	3.9%	3.3%	-3.5%	7.1%
Others	47.6	47.6	43.1	45.0
<b>TOTAL</b>	<b>99.5</b>	<b>100.4</b>	<b>91.9</b>	<b>97.3</b>
	<b>1.0%</b>	<b>1.0%</b>	<b>-8.5%</b>	<b>5.9%</b>

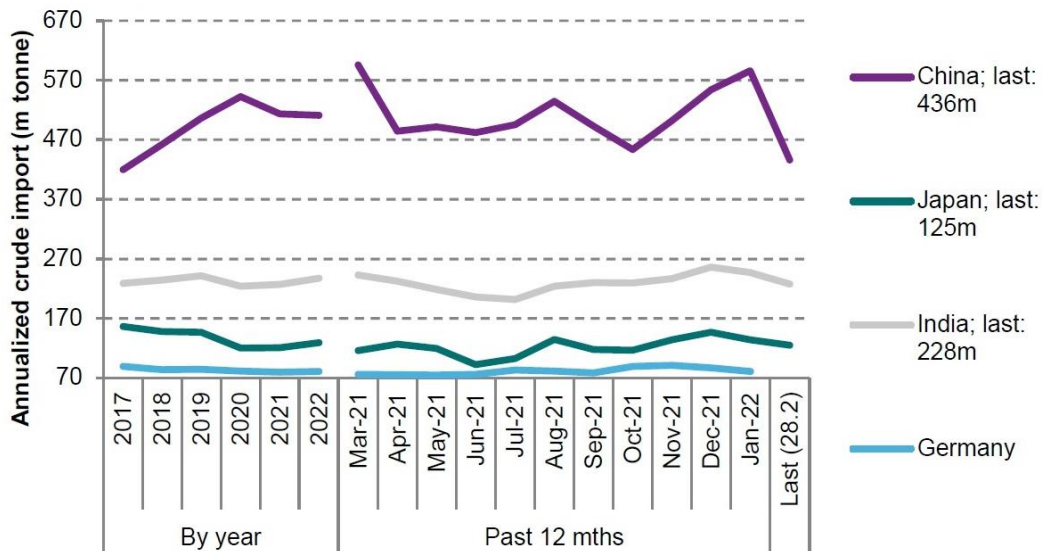
  

<b>Oil Production</b>				
<b>(MBpd)</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
Middle East	31.5	29.8	27.7	27.9
	1.0%	-5.2%	-7.3%	0.8%
United States	15.3	17.1	16.5	16.5
	16.6%	11.3%	-3.5%	0.4%
FSU	14.7	14.7	13.5	13.8
	1.9%	0.3%	-8.2%	1.9%
Others	39.9	39.4	37.0	38.0
<b>TOTAL</b>	<b>101.4</b>	<b>101.1</b>	<b>94.7</b>	<b>96.2</b>
	<b>2.8%</b>	<b>-0.3%</b>	<b>-6.3%</b>	<b>1.6%</b>

From 2018 till 2010 the oil demand and production were in an almost harmonized balance. In 2020 the difference between oil demand and oil production was 2.8 million barrels per day, leaving the global economy with a surplus. Throughout the whole year this figure would total up to 1.02 billion barrels. As it was expected, the law of demand and supply created a turbulence in the crude oil market causing downfall in the global prices of the crude commodities. The biggest demand cut in crude oil as a percentage came from the United States and Canada with demand falling by 12.1% (3 million barrels per day) in 2020 compared to 2019. Asian countries excluding the OECD members which are Turkey, Israel, Japan, and South Korea, cut their daily demand only by 3.5% which is only 1 million barrels per day. The rest of the world cut their daily oil demand by 9.5% or 4.5 million barrels per

day. Total cuts in daily oil demand globally in 2020 compared to 2019 were 8.5% or 8.5 million barrels per day.<sup>16</sup>

### 2.3 Crude oil imports for selected countries



Source: DEN NORSKE BANK

The Chinese economy went on to take advantage of the very low crude oil prices and increased their imports for crude oil instead of cutting demand in order to stock up for future use. During the very little lasting period when there was high demand for crude oil transport and storage units due to the low prices, China was one of the biggest players. As seen on table 2.3, countries such as Japan, India, and Germany have almost kept their imports steady without any significant reductions or fluctuations. While some countries were causing the crude prices to fall by cutting imports and thus the demand, other countries took advantage of this by increasing their imports and filling up their storage units.

<sup>16</sup> Clarksons Research, Shipping Review and Outlook, March 2022, p 14

## 2.4 Crude Oil Exports and Imports 2017 – 2020

### Crude Exports

(MBpd)	2018	2019	2020	2021
Middle East	19.4	18.1	17.1	16.6
	-0.3%	-6.7%	-5.5%	-2.8%
Africa	6.4	6.2	4.8	5.1
	2.8%	-1.9%	-22.9%	6.6%
United States	1.9	2.8	3.0	2.8
	98.6%	50.9%	7.7%	-6.0%
Others	13.8	13.4	12.5	12.3
<b>GLOBAL TOTAL</b>	<b>41.4</b>	<b>40.5</b>	<b>37.4</b>	<b>36.9</b>
	<b>1.0%</b>	<b>-2.1%</b>	<b>-7.6%</b>	<b>-1.3%</b>
<b>BN TONNE-MILES</b>	<b>10,546</b>	<b>10,356</b>	<b>9,670</b>	<b>9,252</b>
	<b>2.5%</b>	<b>-1.8%</b>	<b>-6.6%</b>	<b>-4.3%</b>

### Crude Imports

(MBpd)	2018	2019	2020	2021
United States	4.2	3.2	2.5	2.5
	-10.1%	-24.7%	-22.2%	3.0%
Europe	10.5	10.6	9.3	9.4
	-2.5%	1.3%	-12.4%	0.9%
China	8.3	9.2	9.9	9.3
	6.8%	10.6%	7.8%	-5.6%
Other Asia	14.8	14.3	12.9	12.9
	2.4%	-3.3%	-10.0%	0.3%
Others	3.7	3.3	3.0	2.8
<b>GLOBAL TOTAL</b>	<b>41.4</b>	<b>40.5</b>	<b>37.4</b>	<b>36.9</b>
	<b>1.0%</b>	<b>-2.1%</b>	<b>-7.6%</b>	<b>-1.3%</b>

As seen in more detail in table 2.4, African countries cut the biggest percentage of crude oil exports in 2020 with a daily production of 4.8 million barrels per day down from 6.2 million barrels per day in 2019. The exports from Middle Eastern countries were cut only by 1 million barrels per day in total. In billion tonne-miles the exports were cut by 6.6% between 2019 and 2020.

On the other hand, the

exports from the United States increased by 7.7% during the era of the pandemic and global lockdowns. This can be translated through increased production of crude oil through the process of shale oil extraction and the very low prices of the American crude oils. The crude oil imports from the United States were significantly reduced in 2020 by 22.2% since their production stayed almost the same as previously seen on table and the stocks had to be divided in internal consumption and international exports. It was the first time that the crude oil exports from the United States were bigger than the crude oil imports. Another factor that led to this result was their decision to become a major crude oil exporting economy.<sup>17</sup>

On April 20, 2020 the price of the WTI crude oil plummeted so low to the point that it settled at \$-38.47 per barrel on the New York Mercantile Exchange, the historically lowest recorded price for a crude oil commodity. Metaphorically speaking this meant that oil traders would pay you to buy the crude oil due to storage risk factors.

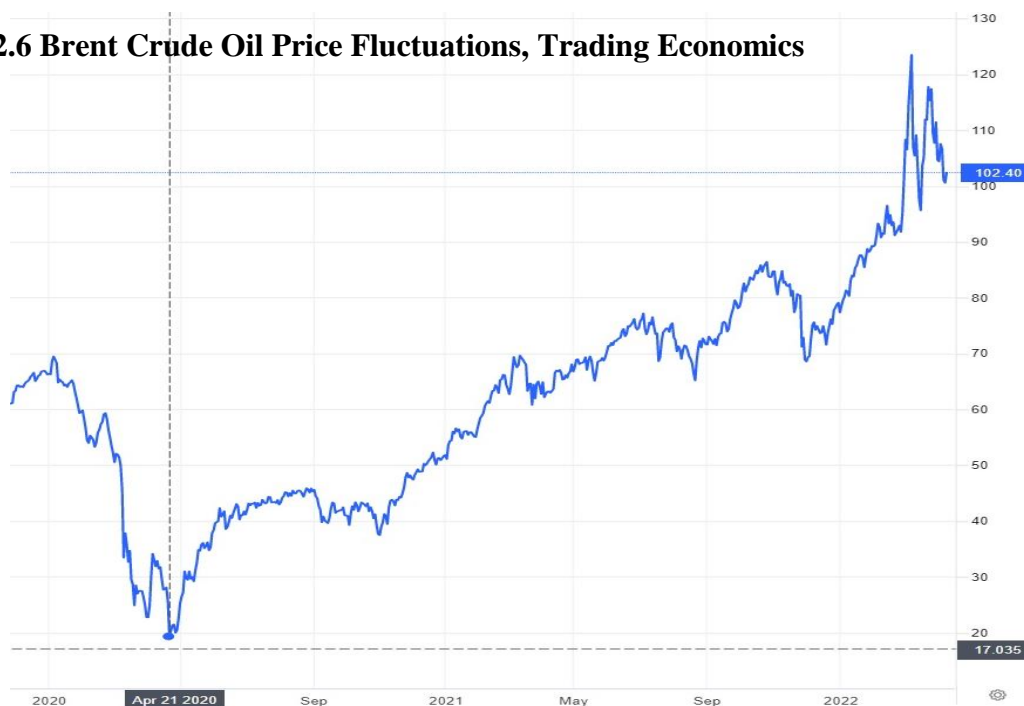
<sup>17</sup> Clarksons Research, Shipping Review and Outlook, March 2022, p 14

## 2.5 WTI Crude Oil Price Fluctuations, Trading Economics



The Brent crude oil was not affected to the point that it would hit a negative price, but its price plunged to \$17.04 per barrel on April 21, 2020. The reason for this difference can be attributed to the fact that the demand for Brent crude oil did not fall as much as for the WTI crude, as both commodities have historically been traded to almost similar prices and are used as a benchmark for the oil industry.

## 2.6 Brent Crude Oil Price Fluctuations, Trading Economics



The average impact to the OPEC oil basket was not less than the impact to the WTI crude oil and Brent crude oil. The OPEC basket hit its lowest on April 21, 2020 at a price of \$13.30 per barrel. According to Dow Jones Market Data, the one-day

plunge in the oil industry in April 2020 was the lowest ever recorded going back to 1983 and it was the first and only time a crude oil contract closed with a negative value. Rystad Energy described this as a new market condition “oil Everest, but in reverse” (Bjornar Tonhaugen, Rystad Energy).<sup>18</sup> The effects of the pandemic on the oil market were unpredictable as the world had never come under such circumstances in the past, considering that we are currently living at the epitome of globalization. The oil companies did not want to temporarily cut their daily oil production as they thought that the problem would not be long lasting, and failed to see predict the gravity of what was to follow. The oil prices were affected in the initial phase of the pandemic as demand diminished overnight while countries imposed total shutdowns and restrictions from March 2020 and onwards. Oil storage on shore was filling up rapidly, and thus the demand for oil tankers as floating storage units was increasing until it reached a point that not many tankers were left on the market to be offered as floating storage units. The point was reached that traders could not store any more of the crude oil that was being extracted and tried to get rid of the excess quantity for which buyers were not available.

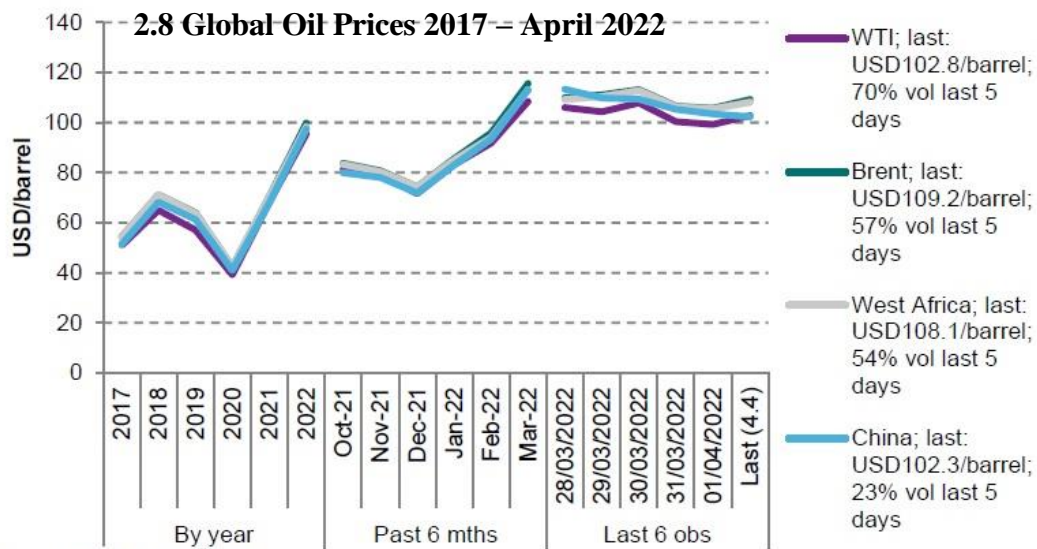
### 2.7 OPEC Basket Price Fluctuations, OilPrice



The crude oil prices started rising to normal levels as the oil producers realized that there was no other way to control the decline of the crude oil prices but to start cutting their daily production. In addition to this, the global economic recovery was supported through vaccine rollouts, enabling the global population to gradually come

<sup>18</sup> Saefond, M., Oil prices went negative a year ago: Here’s what traders have learned since, MarketWatch, 19 April 2021

back to normal routine. The economic outlook in developed countries was improved due to the faster vaccination roll-outs and greater stimulus. The industrial production has rebounded firmly from the 2020 lows, with the output in Asia having recovered more quickly than the West, led by China's firm initial economic recovery with the Chinese industrial production returning to pre-Covid levels within the second quarter of 2020. Alongside growing economic activity and industrial production once again, commodity prices have shown significant inflation and volatility in the first half of 2021 and remained firm into the third quarter of 2021. Brent oil price rose throughout the year and reached above \$80 per barrel in September, the highest price since 2018.



Source: DEN NORSKE BANK

There are two reasons that can be attributed to the fact oil prices rose to high levels even though the world has not come out of the pandemic totally. The first is that as the oil demand rose once again since the global lockdowns were gradually being lifted, the oil companies were not able to raise and adjust the daily production as required. The second reason is that the oil companies did not raise the daily oil production on purpose so the prices could rise amid a shortage of supply, enabling them to make up for the huge losses during the initial lockdowns in 2020. Another scenario is that it could partially be both of the above.

## 2.2 Bunker price fluctuations

In preparation of the global sulphur cap mandated by the International Maritime Organization, shipping companies and shipowners were called to choose the method through which their vessels are going to comply with the new regulations regarding atmospheric pollution from ships as of 1 January 2020. That is when the use of scrubbers on ships became a handy solution to many shipping companies and are therefore being installed on a significant number of ships for complying with international regulations and standards in an economical way.

The pandemic kicked in at the time the IMO 2020 Global Sulphur Cap was being implemented, during the transition to the usage of very low sulphur fuel oil at a global level in the shipping industry. During the first few weeks of the year 2020, the bunker prices for VLSFO rose to very high levels, to a price almost same as the very light fuel called ultra low sulphur marine gas oil (ULSMGO), which is a type of diesel oil used on ships. This was related to the high demand for the VLSFO during the transition period as the majority of the seagoing vessels chose compliant fuel over scrubbers. On 01 January 2020 the price for VLSFO was at \$674.75, for MGO at \$712.50, and for regular HFO at \$364 for the twenty top global ports.<sup>19</sup> The spread between VLSFO and HFO was at \$310.75. At certain ports there were opportunities where you could buy MGO at a cheaper rate than VLSFO. When it comes to technical aspects, the MGO is a lighter fuel than VLSFO, which is a thick and heavy fuel with high viscosity, but it does not make any difference for the engine work production in the combustion chamber. VLSFO is chosen over MGO due to the difference in price, always being a cheaper purchase. If MGO was cheaper than VLSFO than ship owners would chose MGO. MGO has always been a more expensive fuel than VLSFO being a lighter distillate. Considering that most of the vessels burn dozens of tons daily, even a \$50 dollar difference in price can make an overall impact on the total bunkers expenses for ship owners and reduce voyage expenses. Another reason that the HFO was becoming cheaper and not following the price pattern as VLSFO and MGO was that many countries decided to ban the usage of open loop scrubbers in their territorial waters, making scrubbers and HFO an unattractive option and thus reducing its demand. In addition to the above, on 23 December 2019, Shell released a message to

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<sup>19</sup> Ship and Bunker (<https://shipandbunker.com/prices>)



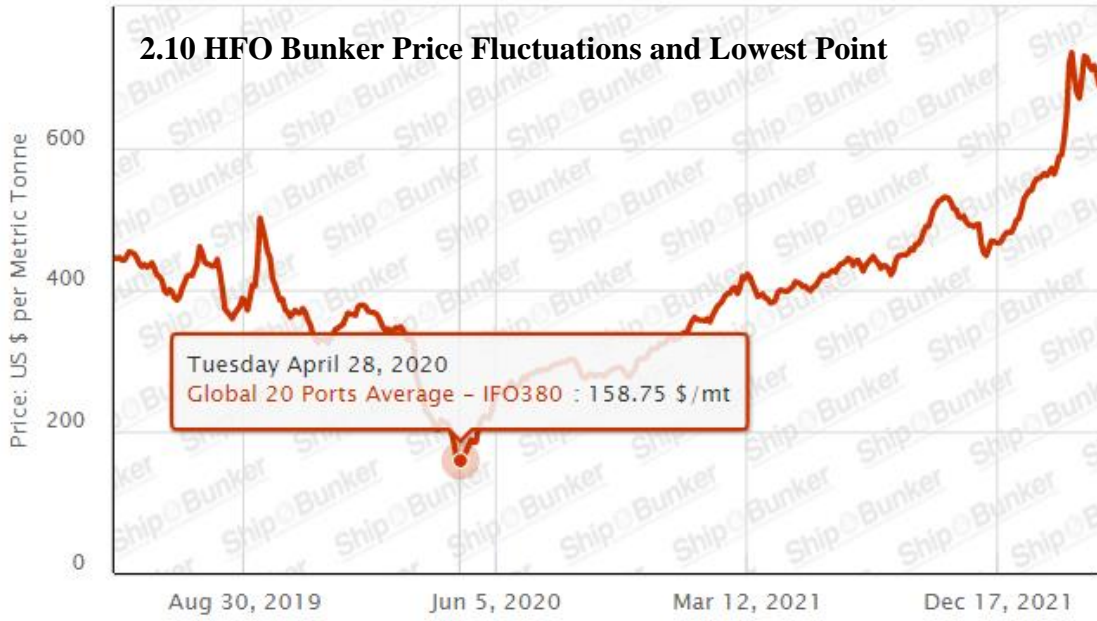
the Owners and Technical Managers of vessel's that are on time charter under Shell, instructing them to not employ the use of scrubbers both within SECA and ECA zones and any location worldwide within port limits, and furthermore agreeing to supply compliant fuel in-line with the legislation to burn in these areas.<sup>20</sup> For many owners this meant that they may regret their choice to install scrubbers on their vessels, which are used for particulate matter and harmful components removal from the exhaust gases generated as a result of combustion process, in order to control air pollution. Once again the developments in the industry would prove that finally this decision may not have been as worse as forecasted, as we continue this research below.

From the below tables we can see that as the pandemic started to kick in and as global lockdowns were being imposed, that were causing the global supply chains to be restricted, the bunker prices started to fall along after the crude oil prices as presented previously. After the lowest ever recorded crude oil prices on the 21 April 2020, the fall in the crude oil price transitioned on to the bunker prices and the bunker cost was at its nadir on 28 April 2020. The newly introduced VLSFO was selling at a price of \$211.25/ton from the recent highest at \$692.50/ton on 07 January 2020. The HFO was selling at a price of \$158.75/ton from the recent highest at \$378.25/ton on 07 January 2020. The MGO was selling at a price of \$270/ton from the recent highest at \$719.25/ton on 03 January 2020. The historical developments meant a percentage price drop at 70%, 58%, and 63% for VLSFO, HFO, and MGO respectively.



<sup>20</sup> Shell

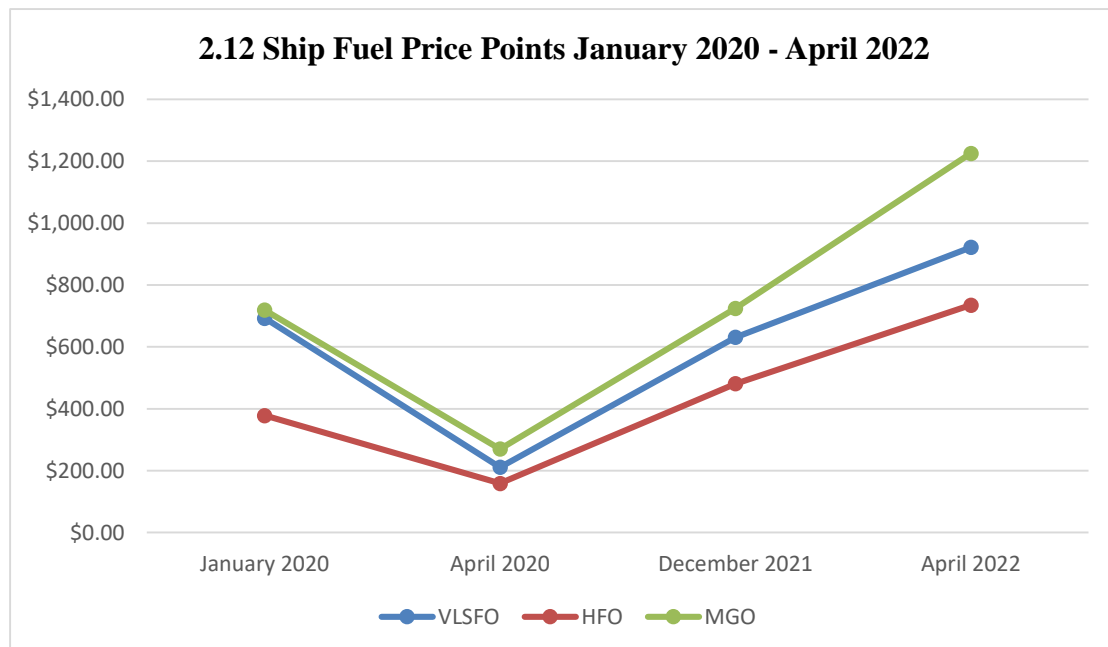
### 2.10 HFO Bunker Price Fluctuations and Lowest Point



### 2.11 MGO Bunker Price Fluctuations and Lowest Point



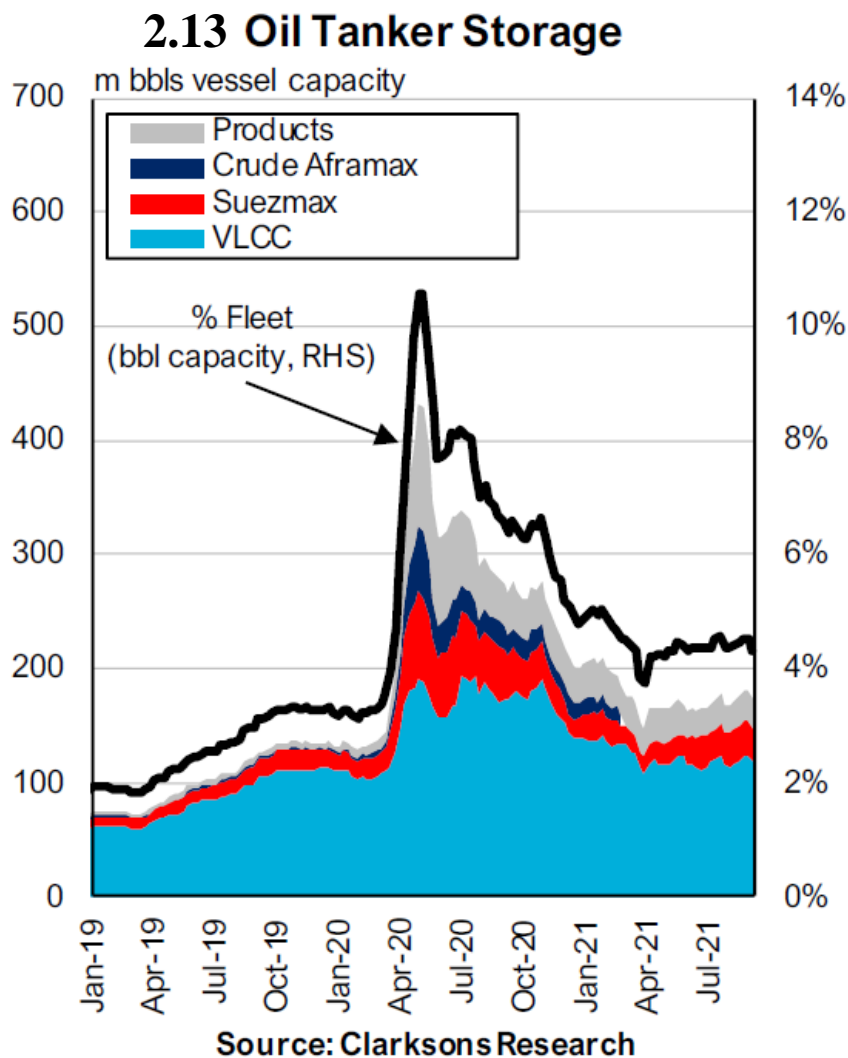
As observed from the table 2.12, after two years of the pandemic, the bunker prices were rising to pre-covid levels. By the end of December 2021 the prices for VLSFO and MGO were almost at the same level of January 2020, while HFO was selling at a higher price compared to January 2020. The higher price for the HFO can be attributed to the risen demand for HFO by the end of 2021, since more vessels had been fitted or delivered with a scrubber during the two years of the pandemic. Circumstantially higher demand means also higher prices. The bunker prices for VLSFO and MGO surpassed \$1000/ton in March and April 2022 due to the very high crude oil prices that were caused as a result of the Russian invasion of Ukraine. On 14 April 2022 the spread between VLSFO and HFO was at \$186.75/ton. Since 01 January 2020 till 14 April 2022 the average spread between VLSFO and HFO has been at \$114/ton. In general, this indicates that many shipowners might have not recouped for their investment on scrubbers till now. Scrubbers have proved to be a good investment only on larger ships such as VLCCs, Capesize vessels, Mega Containerships etc. that are consuming big quantities of fuel during daily sailing. The benefit from the price spread increases as the quantity of the fuel burnt per day increases.<sup>21</sup>



<sup>21</sup> Based on data from Clarksons Research semi-annual reports

## 2.3 Increased demand for floating storage units due to the historically low price of crude oil

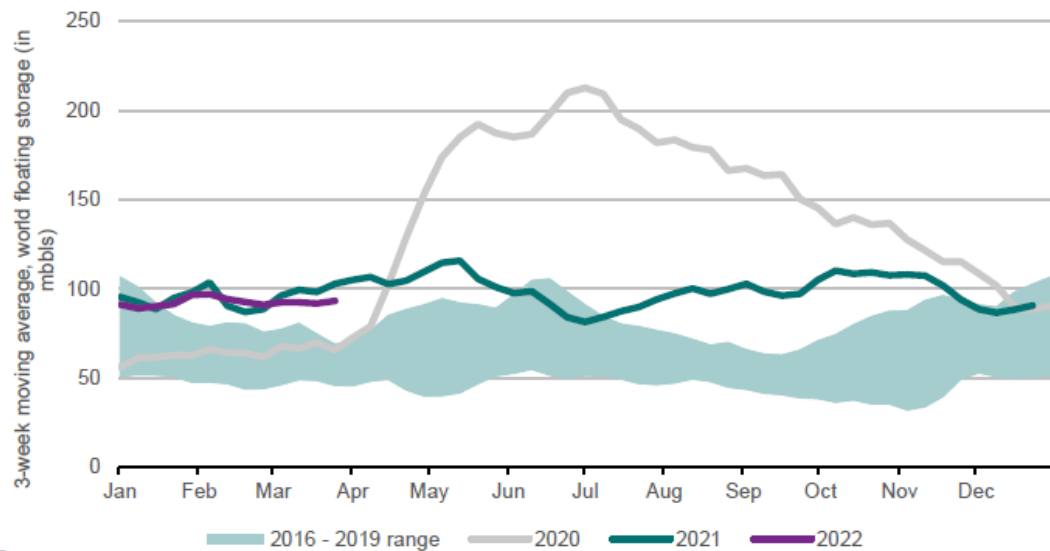
Governments and refineries around the globe went over to take advantage of the historically low crude oil prices during the first few weeks that the pandemic spread globally and lockdowns were being imposed in most of the countries. The highly increased demand created a sudden surge in the tanker market that was short lived. As shore capacity filled, petroleum traders and buyers went on to time charter oil tankers as floating storage vessels, in order to take advantage of the low prices at that time and sell at a higher price when the prices rose once again or to have cheap crude for future use.



The spike in demand for oil tanker storage can be observed on the curve during the month of April and May 2020, when the crude prices were at their lowest

point during the pandemic. During the year 2019, about 2% of the oil tanker fleet was being as oil storage unit, which specifically refers to the FSU's (floating storage unit) market. At the start of 2020 the percentage of oil tankers used as floating storage was at 4%. The percentage rose to 11% of the total fleet in April 2020. Gradually as the crude oil prices started to rise, the percentage of the fleet being utilized as floating storage started coming back to normal levels as the oil traders went on to sell the crude oil at the new prices. Balance was once again achieved as the vessels that were time chartered phased out after completion of the contracts, which were mostly from 3 to 6 months.

### 2.14 Global Floating Storage (vessels idle for 10 days or more)

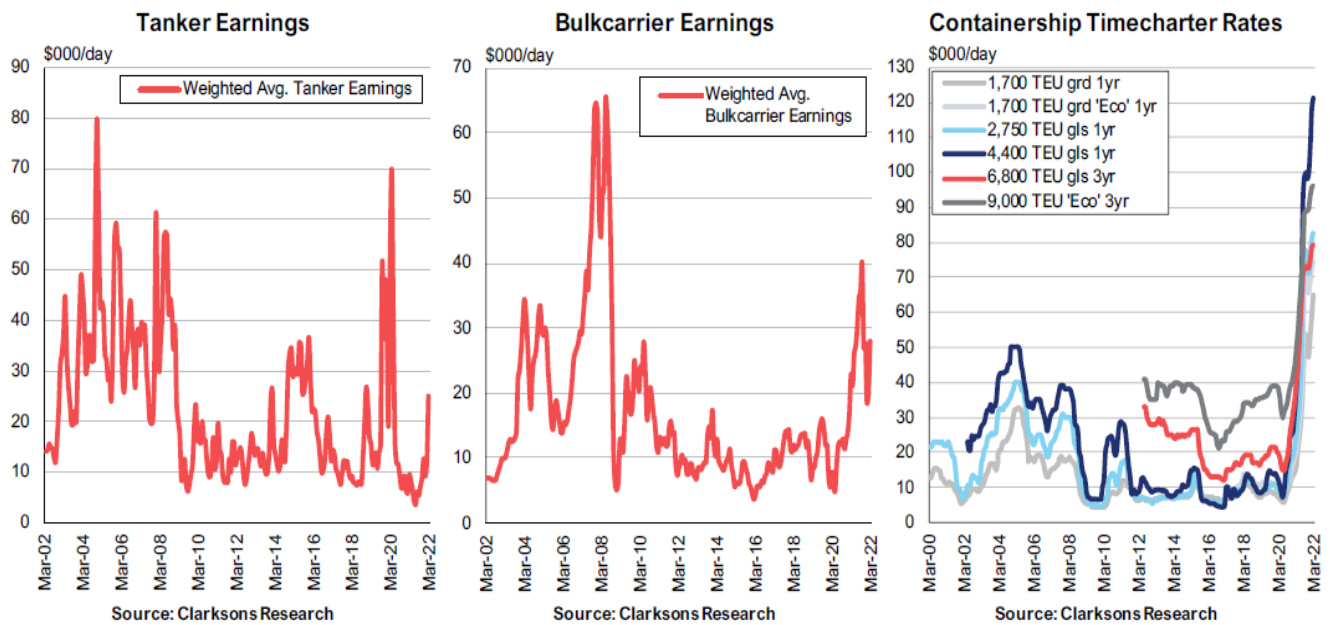


## 2.5 Passing on the baton from the tankers to containerships and bulk carriers

Following the recession of 2009, the tanker market recovered fast had been doing relatively well and continued to bring profits to the owners. On the other hand, the bulk carrier market had been suffering for most of the time during the past decade. The same fact applies for the containership market as well, mostly because of the very large containerships that were being built and delivered after 2010, which added huge capacity to the already suffering box market. However, as a side-effect of the pandemic, this pattern has changed and the baton has been passed from the tankers to the bulk carriers and containerships.

The reason that can be attributed to this change in the shipping market is that changes in the daily lives and shopping habits of people have led to increased demand for boxship transportation services. These changes lead to high demand for manufacturing which eventually leads to high demand for raw materials which are transported through bulk carriers. Combined with the lift of the Chinese lockdown, the demand for bulk carriers and containerships has been to such an extent for which the supply could not be met with the existing tonnage. This imbalance between supply and demand for these specific vessel markets eventually led to very high charter rates.

### 2.15 Comparison Between Tankers, Bulk Carriers and Containerships Earnings for the Last Two Decades



## **CHAPTER 3 CREW MATTERS HAVE BECOME A GREAT CHALLENGE FOR THE SHIPPING INDUSTRY'S COMMERCIAL OPERATIONS**

### **3.1 Prolonged stay onboard for seafarers**

Seafarers provide essential services that are important for maintaining the flow of the global trade. The strict lockdowns that were imposed during the pandemic, the travel restrictions, and the closing of national borders, combined with the halt of operations by most airlines, caused prolonged stay onboard for many seafarers. Many ports banned crew changes for a long time as a measure against the spread of Covid-19 virus. International shipping through its nature makes it necessary for a great number of seamen to travel by plane to and from ships throughout the year, as the joining or disembarkation ports may be thousands of kilometers away from their home countries. The majority of the seafarers are flown to a vessel's port of call to embark on ships where they must stay onboard and work for a few months at a time until the completion of their contracts. Once their contracts are completed, they must be repatriated by airplanes once again most of the times, from the vessel's next port of call to their home countries.

According to MLC 2006, a seafarer can serve on board a vessel maximum continuous period for 11 months. The regulations are presented in detail below.<sup>22</sup>

#### **Regulation 2.4 – Entitlement to leave**

Purpose: To ensure that seafarers have adequate leave

Each Member shall require that seafarers employed on ships, that fly its flag, are given paid annual leave under appropriate conditions, in accordance with the provisions in the Code. Seafarers shall be granted shore leave to benefit their health and well-being and with the operational requirements of their positions.

#### **Standard A2.4**

Each Member shall adopt laws and regulations determining the minimum standards for annual leave for seafarers serving on ships that fly its flag, taking proper account of the special needs of seafarers with respect to such leave.

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<sup>22</sup> International Labour Organization, Maritime Labour Convention 2006, p 33-37

Subject to any collective agreement or laws or regulations providing for an appropriate method of calculation that takes account of the special needs of seafarers in this respect, the annual leave with pay entitlement shall be calculated on the basis of a minimum of 2.5 calendar days per month of employment. The manner in which the length of service is calculated shall be determined by the competent authority or through the appropriate machinery in each country. Justified absences from work shall not be considered as annual leave.

Any agreement to forgo the minimum annual leave with pay prescribed in this Standard, except in cases provided for by the competent authority, shall be prohibited.

### **Standard A2.5.2**

Each Member shall ensure that there are appropriate provisions in its laws and regulations or other measures or in collective bargain agreements, prescribing: the circumstances in which seafarers are entitled to repatriation in accordance with paragraph 1(b) and (c) of this Standard; the maximum duration of service periods on board following which a seafarer is entitled to repatriation – such periods to be less than 12 months; and the precise entitlements to be accorded by shipowners for repatriation, including those relating to the destinations of repatriation, the mode of transport, the items of expense to be covered and other arrangements to be made by shipowners.

Standard A2.5.2 (b) states that the maximum duration of service on board before a seafarer is entitled to repatriation must be less than 12 months. This does not necessarily mean that seafarers must be repatriated, but rather that they are entitled to repatriation.

However, Regulation 2.4 clearly states that seafarers must be given paid annual leave and Standard A2.4 clearly states that annual leave shall be calculated at a minimum of 2.5 days per month of employment, which equates to a minimum of 30 days per year. Standard A2.4.3 also states that any agreement to forgo the minimum annual leave with pay prescribed in that standard, except in cases provided for by the competent authority, shall be prohibited. Therefore, the MLC 2006 requirements can be read as indicating that the maximum continuous period that a seafarer should serve



on board a vessel without leave, is 11 months. This interpretation has been confirmed with the ILO.

Ship owners and ship operators had to face irregularities in crew matters and comply with international laws and regulations, while at the same time coming in contradiction with local laws and regulations of individual countries according to the trading areas of their vessels. On one hand the ship's crew must not stay on board the vessels for more than 11 months and on the other hand they cannot be repatriated due to the ban imposed by local authorities on crew changes and traveling. Repatriation and crew changes are surrounded by difficulties that also have a major impact on the maritime industry and these issue were given priority, with governments being urged to intervene by IMO and other organizations. The matter was handled by the UN Secretary-General Mr. Antonio Guterres, who expressed his concern about seafarers around the world the faced growing humanitarian and safety crisis, and called on all countries to officially declare seafarers and other marine personnel as "key workers" and ensure crew changes can take place without restrictions. This call was reiterated by Mr. Guterres in his World Maritime Day message on 24 September 2020.

Additionally, a great number of seafarers were unable to be repatriated because the replacement crew were not available. Due to the aforementioned travel restrictions, many seafarers are unable to travel through airplanes to join on ships, which has made crew changes difficult or even impossible in some cases. As a result, seafarers complained that their contracts were extended for months beyond their original end date, which forced them to stay on board. They were not able to be reunited with their families for many months. In July 2021, it was estimated that about 250,000 seafarers were stranded on board commercial vessels, unable to be repatriated and past the expiry of their contracts. In order to replace them, a similar number of seafarers was urgently needed to join ships. It is estimated that everyday nearly one million seafarers are working on more than 60,000 large cargo vessels worldwide (IMO).

### 3.2 Increased OPEX due to high costs for crew change

Crew changes became very difficult during the pandemic, with many seafarers becoming stranded onboard ships for prolonged periods of time. Air travel and crew movements were restricted. Only a few ports were allowing crew changes, through which repatriation would be possible. However, extra expenses were added to a regular crew change due to the requirements for quarantine and PCR tests, in order for a seafarer to be repatriated finally to his home country. Lately, crew changes have become easier for fully vaccinated seafarers (at least two doses) but the crew change cost still remains high.

#### **Filipino seafarers**

Since Filipino seafarers consist the majority of international crew on board a vessel, it is imperative to mention that the Government of Philippines has imposed strict measures to contain the spread of Covid-19, in effect from 03 December 2021. In order to further strengthen the border control measures, the following testing and quarantine protocols for arriving travelers are observed:<sup>23</sup>

- i. For fully vaccinated individuals prior to departure from the country of origin - a negative Reverse Transcription - Polymerase Chain Reaction (RT-PCR) test conducted within seventy-two hours (72 hrs) will be required. They shall undergo facility-based quarantine upon arrival, with an RT-PCR test taken on the fifth (5th) day, first day being considered the date of arrival. Even if the result is negative, they shall be required to undergo home quarantine for fourteen days from the date of arrival.
- ii. A negative RT-PCR test conducted within seventy-two hours (72 hrs) prior to departure from the country of origin will be required for individuals who are unvaccinated, partially vaccinated, or whose vaccination status cannot be independently validated. They shall undergo facility-based quarantine upon arrival, with an RT-PCR test done on the seventh (7th) day, with the date of arrival being the first day. Despite of a negative result, they shall be required to undergo home quarantine up to the fourteenth (14th) day from the date of arrival.

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<sup>23</sup> Republic of the Philippines, Inter-Agency Task Force for the Management of Infectious Diseases, Resolution No. 152, Series of December 2021, p 3

iii. It is the duty of the Department of Transportation to ensure that airlines board only passengers who comply with the negative RT-PCR test before their travel.

### **Crew Changes at Singapore**

Singapore is one of the few places that has been allowing crew changes for most of the time during the pandemic. The regulations and requirements for a crew change at Singapore are presented below.<sup>24</sup>

#### **Sign on crew (See Annex A)**

- 1) Fully vaccinated crew from “Active Vaccinated Travel lane” may sign on without serving SHN and does not required to take VTL flight.
- 2) The crew must have a negative result test not more than 2 days prior departure for Singapore from a COVID-19 test (PCR) taken at a government-approved or ISO 15189-accredited testing facility at his/her originating country. (E.g. For example, if the PDT is taken on 1 January 2022, it will be valid for departure (for air/sea checkpoints) or arrivals (for land checkpoint) up to 3 January 2022, 2359 hours.
- 3) A professionally administered Antigen Rapid Test (ART) negative result taken within 2 days prior to departure from Category I/II/III/IV countries/regions can be used also for crew
- 4) FTT is removed for fully vaccinated crew prior departure for Singapore (i.e. non vaccinated crew will still need to have FTT within 24 hours prior departure home country)
- 5) Vessel should depart port once completion of crew change (to be read in conjunction with PMC 9 of 2015)
- 6) Crew who are fully vaccinated and recently recovered (i.e. within 90 days of their last infection) will be exempted from all testing and Stay at Home Notice requirements if they are able to provide appropriate documentary proof. Non-fully vaccinated recently-recovered travellers will be exempted from pre-departure testing requirements, but will still be subjected for Stay at Home Notice.

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<sup>24</sup> JCL Marine Singapore, Ship Agent

**Sign off (See Annex B)**

Before disembarkation from the ship, the crew must not have gone ashore in the past 7 days and no interaction with shore based personnel at previous port in the past 7 days. (i.e. from 14 reduce to 7 days)

At first the submission of crew change application required 7 days in advance, but since March 2022 it can be made at least 3 days in advance.

**Annex A**

<b>3.1 Summary of Country/ Region Classification for Recent 7-day travel history (for entry into Singapore from 2 March 2022)</b>	
<b>Countries/ Regions</b>	Macao, Mainland China and Taiwan
Fully Vaccinated and Non Vaccinated	<ul style="list-style-type: none"> <li>Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore</li> <li>E ticket</li> </ul> <p>Company SHN LOU w/o Annex A</p>
<b>Countries/ Regions</b>	Australia, Brunei Darussalam, Cambodia, Canada, Denmark, Fiji, Finland, France, Germany, Hong Kong, India, Indonesia, Italy, Malaysia, Maldives, the Netherlands, Qatar, the Republic of Korea, Saudi Arabia, Spain, Sri Lanka, Sweden, Switzerland, Thailand, Turkey, the United Arab Emirates, the United Kingdom, and the United States Israel and Philippines [From 4 March 2022]
Fully Vaccinated	<ul style="list-style-type: none"> <li>Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore</li> <li>Vaccination certificate</li> <li>E ticket</li> </ul> <p>Company SHN LOU w/o Annex A</p>
Fully Vaccinated & Recovered (from day 7 to day 90)	<ul style="list-style-type: none"> <li>E ticket</li> <li>Proof of first C+ PCR report</li> </ul> <p>Vaccination certificate Company SHN LOU w/o Annex A</p>
Non Vaccinated	<ul style="list-style-type: none"> <li>7 days SHN</li> <li>Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore</li> <li>Fit to travel within 24 hours</li> <li>Company LOU with Annex A</li> </ul> <p>E ticket</p>
Non Vaccinated and Recovered (day 14 to day 90)	<ul style="list-style-type: none"> <li>Proof of first C+ PCR report</li> <li>7 days SHN</li> <li>Fit to travel within 24 hours</li> <li>Company LOU with Annex A</li> </ul> <p>E ticket</p>
<b>ALL OTHER COUNTRIES</b>	
Fully Vaccinated and Non Vaccinated	<ul style="list-style-type: none"> <li>7 days SHN</li> <li>Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore</li> <li>Fit to travel within 24 hours</li> <li>Company LOU with Annex A</li> </ul> <p>E ticket</p>
Fully Vaccinated & Recovered (from day 7 to day 90)	<ul style="list-style-type: none"> <li>E ticket</li> <li>Proof of first C+ PCR report</li> <li>Vaccination certificate</li> </ul> <p>Company SHN LOU w/o Annex A</p>

Non Vaccinated and Recovered (day 14 to day 90)	<ul style="list-style-type: none"> <li>• Proof of first C+ PCR report</li> <li>• 7 days SHN</li> <li>• Fit to travel within 24 hours</li> <li>• Company LOU with Annex A</li> </ul> E ticket
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### **Annex B**

	Before arrival Singapore	Arrival Singapore	Type of Scenario	Protocol
<b><u>SIGN OFF</u></b>	<p>- must not have gone ashore within the last 7 days prior arrival Singapore</p> <p>- must refrain from interacting with shore-based personnel at previous ports in the last 7 days.</p> <p><b>Note:</b> <i>PDT from last port stated in PMC 39 will be removed</i></p>	<p>- PCR TEST to be carried out on board by medical service provider</p> <p>- to carry out Fit to travel by medical doctor</p> <p>- crew to remain onboard until the result of PCR test</p> <p><b>Note:</b> <i>Owner/Agent to submit the PDT request with the list of crew who require PDT together with the clinic name and details. PDT shall not be carried out onboard without MPA's approval</i></p>	PDT C-ve	<p>- Submit the document including crew who has carried out PDT test onboard for final no objection for crew to sign off</p> <p>- crew will either proceed directly from vessel to airport or MPA designated holding facility depending on flight availability</p>
			PDT C+ve	<p>- C+ve will remain onboard under MOH HRP protocol 1,2 and 3.</p> <p>- only crew who required urgent medical attention shall be evacuated as per existing protocol</p>

Since 1<sup>st</sup> April all vaccinated crew are free to sign on and sign off at Singapore without restrictions. In case a PCR test is required from the airline company or the home country of the seafarers such as in the case of Philippines, the seafarer must go to a specific hotel where special medical personnel will perform a swab test and the crew must stay there until the results are out. For this procedure the cost would be as follows:

1-10 crew members - \$1800 per ship (3hrs assignment) for collecting swab test samples

PCR Swab test - \$230 per crew

Fit to fly memo via teleconsultation if disembark on day 3 - \$102 per crew

24hrs for results to be released, can arrange for an express lab test run, to be charged at \$200 per crew on top of the prevailing PCR

swab tests, and you are able to get your results within 8hours once specimens are dropped off at the lab.

In the event if the swab request is on a weekend, there's a surcharge of \$800 to be added on top of the quoted boarding fee.

Final price is subjected to 7% GST

The above means that for offsigning crew of 5 seamen on average there are additional expenses of approximate \$3,702 for one crew change only. For onsigners coming from the Philippines they will have to carry out one PCR test that will cost approximate \$150/crew plus the hotel expenses.

The above figures indicate that a crew change of 5 onsigners and 5 offsigners at a convenient port such as Singapore will incur additional expenses of more than \$4,500 to the ship owners.

### **Crew Changes at Indonesian Ports**

Vessel's that want to carry out crew change at Indonesian ports, the requirements as described below. The companies must ensure that they will provide proper and valid documents as agents will not tolerate if any unethical activity or behavior, fraud reported. They will all take disciplinary actions against the respective owner/crew/manning agent in such case.

#### **Requirements for the onsigning crew**

Arrange PCR test for the onsigning crew at their home country, issued within 2 days prior boarding, which states that the traveling crew is free from COVID-19 and any respiratory disease and fit to travel. The manning agent must ensure that the health certificate is valid.

- The negative result of the RT-PCR test in the country of origin where the sample is taken must be presented before departure

- The negative result of the RT-PCR test must be attached to the health examination or e-HAC International Indonesia
- The crew must take an additional RT-PCR test upon arrival at Jakarta airport and after the Mandate Quarantine
- The crew must undergo centralized mandate quarantine for 10 days
- If the RT-PCR re-examination results on arrival are positive, the crew must stay at the hospital for their treatment. All costs will be shouldered by the shipowner
- On the 9<sup>th</sup> day of the mandate quarantine, the visitor/crew must undergo the second RT-PCR test at Jakarta
- If the results of the RT-PCR re-examination are negative, crews are allowed to continue their journey and embark on the vessel and are advised to apply health protocols
- If the results of the RT-PCR re-examination are positive, the onsigning crew will be treated in the hospital (quarantined until declared healthy) and all the related expenses will be shouldered by the shipowner

#### Requirements for the offsigning crew

The Off-signers must follow the Covid-19 protocols as published from the Ministry of Health and the local government.

Upon vessel arrival at the anchorage or berth, the off signing crew must follow a hectic procedure. The off signing crew must present negative results of the RT-PCR from vessel's last port of call. This is applicable only for off signing crew at the port of Batam. If PCR test results from the last port of call are not available, then the off signing will have to follow the alternative option to be repatriated, as presented below:

- The crew must take the RT-PCR test on board upon vessel's arrival (off signer is not allowed to go on shore until the results are out) and wait for the result that take about 1 day
- After the results are out, if negative, the crew is allowed to go on shore and must undergo centralized quarantine for 10 days
- After the quarantine, which will start counting from the date of arrival at the hotel, the crew will have to take another RT-PCR for their flight back home
- The owner must provide the ship agent with the crew flight tickets. The flight must be direct without any transit or overnight stays.

- The owner must ensure with proper coordination with his travel agent and relevant airlines that the crew can safely fly until their final destination without any problem (Filipino crew are required to have face shield, hotel booking confirmation for quarantine at the Philippines and some airlines and countries require the PCR test to be carried out at specific labs)
- The ship agent will arrange for the immigration permit “Exit Permit Only” (1-2 working days needed for the arrangement after receiving the flight ticket) with the following requirements:
  - Copy of e-Ticket for the flight
  - Copy passport
  - Copy of the negative PCR test
- From the sea port until Jakarta Airport, the crew either must be escorted by an immigration officer or hold an immigration letter of supervision (depending on the port of disembarkation)

Due to the above regulations, the additional expenses to carry out a crew change for 1 on signer and 1 off signer only, would be approximately \$7,000. The breakdown is presented below:<sup>25</sup>

#### Onsigner

10 day mandatory quarantine+2nd PCR USD 950.00 USD 950/Package x 1 crew + 2 time PCR, as per bill – total 1,045

Covid-19 coordination fee USD 20.00 USD 20/crew x 1 Crew, ISS invoice  
+vat 10% - total 22

#### Offsigner

Boat services medical team for PCR offsigning USD 215.00 USD 215/Trip x 1 trip, as per local receipt +vat 10% - total 236,50

1st PCR for Crew Off signer on Vessel total 154

Boat services off signer crew (6 seat) USD 215.00 USD 215/Trip x 1 trip, as per local receipt +vat 10% - total 236.50

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<sup>25</sup> Inchcape Shipping Services, Jakarta (Ship Agent)



Escorting for Crew Off signer by Immigration Officer at Hotel USD 100.00 USD 100/activities, as per local Receipt +vat 10% - total 110

10 day quarantine at Hotel accommodation USD 550.00 USD 55/Crew/night x 10 day x 1 crew, as per bill- total 605

2nd PCR for Crew Off signer at Hotel for flight USD 105.00 USD 105/crew x 1 crew, as per local receipt – total 115.50

Quarantine Supervision USD 105.00 USD 105/pack x 1 Pack, as per local receipt +vat 10% - total 115.50

### **3.3 Charterers' requirements for crew matters during pre-fixtured negotiations**

In order to avoid any delays in cargo operations, claims and demurrage during a voyage, the charterers are adding additional clauses in the charter parties, related to crew changes and Covid-19 cases.

#### **Vitol fixtures**

Vitol is using the below standard clause in all in all fixtures, which has been added to the Vitol Warranties. If owners are planning a crew change during a Vitol voyage, this must be agreed beforehand when the vessel is on subs.

Will the ship or crew call India, Pakistan, Bangladesh, Nepal, Indonesia, Myanmar and Sri Lanka in the past 21 days before laycan?

**Addition to Vitol Warranties** xii) No crew change has taken or will take place (nor is any crew change required), either in the 14 days prior to the first day of the laydays or thereafter during the performance of this charter (unless caused by crew injury, illness or similar occurring after the date of this C/P). If this is not the case and a crew change is required or planned, owners to confirm in their response the number and rank of crew to be changed and planned location of any change; below questionnaire table to be duly filled in (basis completion of vessels current voyage).

<b>3.2 Vitol Preamble for Crew Change</b>		
	Information Required	Comments
a.	Name of Vessel:	
b.	IMO:	
c.	Last Port of Call:	
d.	Last Port of Call Departure Date:	
e.	Next Port of Call:	
f.	Was there any crew change within the past 28 days prior to entering Singapore? (If yes, where and when was the last sign on crew and kindly provide us PCR Swab test result?)	
g.	Was there any shore leave or physical interaction with any overseas individuals other than their own crew within the past 28 days prior to entering Singapore?	
h.	Was there any contact operations done in the past 28 days prior to entering Singapore? (If yes, please provide voyage memo indicating contact/contactless operation done.)	

### **Korean fixtures**

For Korean fixtures the requirements are also strict and are directly related with local government and port regulations. All voyages for loading or discharging at Korea must comply with below requirements. South Korea Energy, who are the suppliers in most cases, have also their own requirements in order to accept a vessel to load at their terminals. Also the crew changes are restricted and there is no possibility to carry out a crew change, unless under exceptional circumstances.

Please confirm that vessel and its crew can be approved by South Korean quarantine authority without additional PCR Test and will have no problem of entering South Korean ports and performing the load/discharge operations in all aspects.

Please confirm there has been no crew change within 14 days before terminal arrival and the Vessel will not proceed crew change (embark & disembark included) before terminal arrival, at terminal before and/or after loading.

Without prejudice, SK shall not assume any responsibility for delayed loading and/or demurrage resulting from quarantine imposed to your performing vessel by the port authority.

Also SK reserves its right to claim all direct and/or indirect cost that will be incurred as a result of vessel's failure/delay to perform loading/discharging due to incorrect information provided by owner regarding quarantine regulation.

PCR result submission regulation if the ship has carried out crew change within 14 days before arrival at South Korean ports. During the pre-arrival formalities of a vessel, the ship operator must submit negative PCR test results for the onsigning crew, issued within 72hrs from onboarding or departure time, to the local quarantine office the port of call in South Korea.

### **Cosmo Oil fixtures**

#### **Novel Corona virus condition**

In order to prevent possible infection to novel coronavirus by employees, officers, workers of the Charterers or their affiliated companies / sub-contractors (hereinafter collectively the "Charterers' Interests"), the Charterers shall, at its sole discretion, be entitled to prohibit, disallow and/or ban the Master, officers, crew members, security personnel and/or any other person onboard the Vessel at the time of her arrival to discharging port, and/or substitute Master, officers, crew members, security personnel and/or any other person who intend to start to work onboard the Vessel to enter into any parts of berth, quay, terminal, port, site, premises, facility and/or building managed by the Charterers or their affiliated companies (hereinafter collectively the "Berth"), irrespective of whether or not they are apparently having infected to novel corona virus. When practically possible, all of the Master, officers and/or crew members onboard the Vessel who actually engage in loading and/or discharging operation shall properly wear mask, goggle and glove to prevent possible infection to novel coronavirus by the Charterers' Interests during all the time of loading or discharging operation at the Berth. The Owners shall instruct the Master, officers and/or crew members to strictly comply with this provision. The costs of masks, goggles and gloves shall be borne by the Owners.

Please confirm Master, officers and/or crewmembers of the Vessel shall comply with instruction by managing company and/or manager of the Berth for prevention of possible infection to novel coronavirus by the Charterers' Interests.

### **Shell fixtures**

Please note that given to the evolving situation in COVID-19 (Coronavirus Disease 2019), we are taking the necessary measures to ensure the safety and well-being of all personal.

Please advise:

1. Vessel's last 5 ports of 2 visit or port within the last 15 days (if different) and dates.
2. Within the last 14 days, have any of the vessel's crew had contact with covid-19 confirmed case, suspect case, or a person issued quarantine order (QO) or stay-home notice (SHN)?
3. Is there any vessel's crew feeling unwell or having any respiratory symptoms (such as fever, cough, sore throat, muscle aches, or shortness of breath)?
4. If any of the above have been answered with yes – please confirm what action vessel and or her owners have taken to mitigate the transmission of Covid-19.

### **Singapore loading or discharging**

For cargo operations at Singapore, the vessel must comply with the Singapore EDB (Economic Development Board) requirements in regards to the pandemic.<sup>26</sup>

Please be advised that, from 17th September 2021, EDB/ESG-managed shipyards and process terminals must ensure all inbound vessels from any of the Not-to-land (NTL) countries (India, Bangladesh, Nepal, Sri Lanka, Pakistan, Myanmar and Indonesia) must fulfil all three pre-arrival criteria prior to conducting the Enhance or Segregated Contactless Operations:

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<sup>26</sup> Singapore Economic Development Board

Please provide the below mentioned required information for acceptance assessment and berthing approval at Singaporean terminals.

Pre-Arrival Criteria information required are as follows;

- a. No crew change within the past 21 days prior to entering Singapore.
- b. No shore leave or physical interaction with any overseas individuals other than their own crew within the past 21 days prior to entering Singapore.
- c. No contact operations done in the past 21 days prior to entering Singapore.

### **Aramco Trading Company Coronavirus Clause for Voyage Charter Parties**

#### **Affected Areas**

- (a) In the event that any relevant port, waterway or area is affected, or becomes affected, due to the coronavirus disease (COVID-19) (“**the Coronavirus**”) during this Charter (an “**Affected Area**”), then the terms of this Clause shall apply.

#### **Vessel Restrictions in Affected Areas**

- (b) The Vessel shall not be bound to enter an Affected Area where notices by the port authority, or other relevant governmental bodies of the port state, prohibit the Vessel from entering such area due to the Coronavirus.
- (c) No port shall be considered unsafe solely by virtue of it being located in an Affected Area.

#### **Crew Exposure Risk**

- (d) Owners shall use their reasonable judgment to determine whether there is a material risk that crew members may be exposed to the Coronavirus, and risk contracting such disease, at any stage during the Charter. Such consideration shall be guided by the advice and directives of the World Health Organisation (“**WHO**”) and similar reputable international advisory bodies, relevant port

authorities and appropriate governmental bodies of port states (“**Crew Exposure Risk**”).

- (e) **Load Port.** If at any time prior to NOR tender for cargo loading it becomes apparent that there is a Crew Exposure Risk at the load port, then Owners shall not be obliged to call at such load port. In such instance, Owners may give notice to Charterers requiring Charterers to nominate any other port which lies within the range for loading. If the Charterers have not nominated such port or ports within forty-eight (48) hours of receipt of notice of such requirement, Owners shall have the option of cancelling the Charter.
- (f) **Discharge Port.** If after completion of cargo loading it becomes apparent that there is a Crew Exposure Risk at the discharge port, then Owners shall not be obliged to call at such discharge port (or remain at such discharge port if already there). In such instance, Owners may give notice to Charterers requiring Charterers to nominate any other port which lies within the range for discharging.
- (g) **Deviation.** If at any time it becomes apparent that a Crew Exposure Risk may be encountered due to the scheduled route of the Vessel, and there is a reasonable alternative route to either the load port or discharge port (as applicable), then Owners may elect to follow such alternative route. Such election by Owners shall only be made after advance notice and consultation with Charterers (“**Permissible Alternative Route**”).

### **Crewing Disruptions**

- (h) The parties acknowledge that the prevalence of the Coronavirus, and consequential restrictions on individuals, may cause disruptions to crewing operations pertaining to the Vessel including, but not limited to; the rotation of crew members, crew member repatriation, shore leave, ensuring adequate manning and potential restrictions on any particular crew member (by virtue of such crew member’s nationality, travel history or otherwise) in Affected Areas (“**Crewing Disruptions**”). Owners shall use their best endeavours to mitigate the extent of Crewing Disruptions, and shall keep Charterers closely informed in this regard.

- (i) Where a Crewing Disruption may result in delay and/or additional cost and expense, Owners shall notify Charterers thereof, detailing the nature and extent of the potential disruption and options to mitigate such exposure.

### **No Deviation**

- (j) If in compliance with this Clause anything is done or not done, this shall not be deemed a deviation, but shall be considered as due fulfilment of this Charter. In the event of a conflict between the provisions of this Clause and any implied or express provision of the Charter, this Clause shall prevail to the extent of such conflict, but no further.

### **Delays & Additional Costs**

- (k) Subject to sub-clauses (l), (m), (n) and (o) below, any delays, additional reasonable costs and/or expenses, directly arising out of Charterers' orders for the Vessel to call at an Affected Area and/or Owners' election to follow a Permissible Alternative Route, including but not limited to screening, cleaning, and/or the obtaining of medical treatment for any infected crew, either in an Affected Area or at subsequent ports of call, shall be 50% for the Owners' account and 50% for the Charterers' account, subject to Owners supplying documentary evidence of such reasonable costs (together with evidence that those costs have been paid), and shall be payable against Owners' invoice, and any time lost as a result of complying with the same shall be for the Charterers' account at half demurrage rate.

### **Owners' Obligations & Warranties**

- (l) **Clearance Procedures and Free Pratique.** Owners acknowledge that there may be heightened documentary and compliance requirements for Vessels to obtain clearances and be granted free pratique by the relevant authorities due to the prevalence of the Coronavirus. In this regard, Owners shall liaise with the relevant authorities to ascertain what documentation and procedures are required to obtain Vessel clearances and/or free pratique, and to provide the necessary documentation and comply with such procedures in a timely

manner. Charterers shall cooperate fully with Owners in this regard. Any delays and/or costs or expenses arising as a direct result of any failure of the Vessels' master, crew or Owners to fully comply with such documentary and procedural requirements (unless due to the direct act, fault or negligence of Charterers) will be for Owners' sole account and any time lost shall not count towards laytime/time on demurrage.

(m) **Previous calls.** Any delays and additional costs and expenses incurred at any load or discharge port under this Charter arising out of the Vessel having visited or called at an Affected Area prior to the commencement of this Charter shall be for Owners' sole account and any time lost shall not count towards laytime/time on demurrage.

(n) **Health & Safety.** The safety and protection of crew members and the Vessel remains Owners' responsibility. In this regard, Owners are required to implement and adhere to operational procedures which consider the risk posed by the Coronavirus to the physical Vessel and its crew members. Such risks include, but are not limited to: potential quarantine or detainment of the Vessel, and the health and safety of crew members. In this regard, Owners are required to:

- (i) restrict the extent of persons permitted to board the Vessel;
- (ii) screen all persons required to board the Vessel (including crew members) to the extent feasible under the circumstances, which may include inquiries regarding their current health status and travel history; and
- (iii) provide adequate sanitisation, facilities and procedures on board in accordance with guidance from reputable institutions providing such direction, including: the WHO, and International Maritime Organisation.

Any claims, losses or delays arising out of a failure of Owners to implement such operational procedures, including a failure to conduct sufficient checks on any persons attending on board the Vessel, shall be for Owners' sole account and any time lost shall not count towards laytime/time on demurrage.



- (o) **Calling at Affected Areas.** Owners warrant that, except to the extent necessary to comply with Charterers' orders, they will not, during this Charter, call at an Affected Area for bunkers, spares, crew changes or similar. Owners further warrant that shore leave for crew will be prohibited in an Affected Area and the Master will take all reasonable steps to ensure that crew are aware of the prohibition and comply with the same, provided there is no emergency repatriation required. Any claims, loss or delay arising, either in an Affected Area or at subsequent ports of call, as a result of Owners' failing to comply with this sub-clause (i), shall be for Owners' sole account and any time lost shall not count towards laytime/time on demurrage.

**Maersk Tankers Epidemic Clause (Version II)<sup>27</sup>**

In the event that ports are affected by severe epidemic, plague, or highly contagious diseases which are deemed to be extremely harmful to human health, (the "affected area") as determined and notified by the World Health Organization or similar or in the discretion of the Owner/Master, the following terms apply:

- (A) The vessel shall not be ordered to nor bound to enter any affected area where notices by the port authority or other governmental body forbid or prohibit vessels and people on those vessels from entering such place owing to severe epidemic, plague, or highly contagious diseases;
- (B) If at any time before the vessel commences loading, there is a material risk, as determined by the World Health Organization or in the discretion of the Owner/Master, port authority or governmental body or similar, that calling at load port(s) in an affected area exposes crew members to severe epidemic, plague, or highly contagious diseases, the Owners may give notice to the charterers requiring the charterers to nominate any other port which lies within the range for loading. If the charterers have not nominated such port or ports within forty-eight (48) hours of receipt of notice of such requirement, Owners shall have the option of cancelling the charter. If owners agree to proceed or to continue to remain in an affected area, Owners shall not be deemed to have waived any of their existing rights under this charter party, to

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<sup>27</sup> Maersk Tankers

the extent that the risk(s) is associated with calling at or remaining in such affected area worsens following Owners' agreement of the same.

(C) If at any stage of the voyage after the loading of the cargo commences, there is a material risk, as determined by the world health organization, or in the discretion of the Owner/Master, port authority or governmental body or similar, or in the discretion of the owner/master, that: -

(i) calling at the discharge port(s) in an affected area exposes crew members to severe epidemic, plague, or highly contagious diseases, the owners may give notice to the charterers requiring the charterers to nominate any other port which lies within the range for discharging within 48 hours of owners' request. Should charterers fail to issue new orders in due time, owners to be at liberty to drift/anchor the vessel in a safe area, and all time/cost/bunkers used, including the first 48 hours, to be for charterers account. Freight is payable basis the full quantity nominated irrespective of the actual quantity provided. Delays suffered are payable at demurrage rate every 7 days.

(ii) any part of the route (including any canal or waterway) which is normally and customarily used in a voyage of the nature contracted for, exposes crew members to severe epidemic, plague, or highly contagious diseases, and there is an alternative route to the discharging port, the owners shall give notice to the charterers that this alternative route will be taken. Charterers shall procure that all bills of lading issued under this charter shall contain the right to amend discharge port(s) to an alternative port within the range for discharging, in the event that this epidemics clause applies.

(iii) the owners shall not be obliged to sign, and the charterers shall not allow or authorize the signing of, bills of lading, waybills or other documents evidencing contracts of carriage for any affected area, without Owners prior consent.

(D) If in compliance with this clause anything is done or not done, such shall not be deemed a deviation, but shall be considered as due fulfilment of this charter. In the event of a conflict between the provisions of this clause and any implied or express provision of the charter, this clause shall prevail to the extent of such conflict, but no further

(E) Subject to sub-clauses (f, g, h, and i) below, any delays, additional reasonable documented costs and/or expenses, directly arising out of charterers' orders

for the vessel to call at an affected area, during or after completion of this charter party, including but not limited to screening, cleaning, quarantine, and/or the obtaining of medical treatment for any infected crew, either in an affected area or at subsequent ports of call, and any time lost as a result of complying with the same shall be for the charterers' account at demurrage rate, subject to Owners supplying documentary evidence of such reasonable costs and shall be payable against Owners' invoice.

- (F) It remains Owners' obligation to liaise with ports of call to ascertain what documentation is required to obtain vessel clearance under this clause and/or free pratique, and to provide the necessary available documentation to the port authority in a timely manner. Any delays and/or costs or expenses arising as a result of any failure of the master or owners to provide any required documentation or information to the port to obtain free pratique/clearance, will be for Owners' sole account and any time lost shall not count towards laytime/time on demurrage. Unless the vessel is at fault, all waiting time to be for Charterers' account at the demurrage rate if a valid nor cannot be tendered due to delay in obtaining clearance/free pratique. Any failure to obtain free pratique caused by charterers' orders/nomination shall be dealt with as per clause (e) above.
- (G) Any delays and additional costs and expenses incurred at any load or discharge port(s) under this charter arising out of the vessel having visited or called at an affected area within 15 days prior to the commencement of this charter shall be solely for owners' account and any proven time lost shall not count towards laytime/time on demurrage. This subclause shall not apply if charterers are aware of vessel's port call(s) the previous 15 days yet have opted to conclude this charter party.
- (H) The safety and protection of the crew and vessel remains owners' obligation and owners are required to satisfy themselves that any person coming on board the vessel from an affected area has not been exposed to such severe epidemic, plague, or highly contagious disease, and is healthy in all respects. Charterers shall procure that any non-vessel representatives, such as but not limited to cargo surveyor(s), expeditor(s), terminal/shore/charterers' representatives, who board the vessel, have not been exposed to any infectious disease and are healthy in all respects. Any claims, loss or delay arising, either

in an affected area or at subsequent ports of call, out of a failure of owners or charterers to conduct sufficient checks on any persons attending the vessel from the affected area will be for breaching party's account.

- (I) Owners warrant that, except for emergency purposes only, to the extent necessary to comply with charterers' orders, they will not, during this charter, call at an affected area (as determined by the world health organization at the time of calling) for bunkers, spares, crew changes or similar. Owners further warrant that shore leave for crew will be prohibited in an affected area and the Master will take all reasonable steps to ensure that crew are aware of the prohibition and comply with the same. Any direct claims, loss or delay arising, either in an affected area or at subsequent ports of call, as a result of owners' failing to comply with this sub-clause (i), shall be for owners' sole account and any direct time lost shall not count towards laytime/time on demurrage.
- (J) The owner's/master's discretion, under this clause, shall be based upon a reasonable assessment of all available information from (but not limited to) the following: WHO, local authorities, any governmental institution having jurisdiction, flag state, owners p&i club.
- (K) The charterers shall procure that this clause shall be incorporated into all Bills of lading, waybills or other documents evidencing contracts of carriage issued pursuant to this charter party
- (L) Any delay in obtaining us coast guard inspection, in excess of 24hrs, to be for Charterers account, and to be calculated at demurrage rate.

### **3.3 Difficulties in drydocking and increased cost**

Drydocking is one of the most important maintenance and repair activities during a vessel's lifecycle, not only due to safety reasons, but also because without this scheduled survey the vessel will not be able to hold valid trading certificates and thus may not be able to fulfill or comply to its commercial obligations. Essential repairs still need to be carried out to keep ships moving, which is where a shipyard's role is crucial. Since the beginning of the pandemic the drydockings have become very challenging; especially, since the beginning of the Chinese lockdowns as most of the drydockings are carried out at Chinese shipyards.

In general most of the drydockings are carried out at the Far East, with Chinese shipyards holding the first position mainly because of the very low drydocking and raw materials' cost. Other attractive options for drydocking include Singapore, Indonesia, Thailand, Turkey, Middle East etc. due to being near to the most important trade routes and their drydocking facilities. Most of the shipyards and port health authorities imposed new regulations regarding health safety and strict quarantine periods before enabling a vessel to proceed with her scheduled drydocking at a specific shipyard.

There are two separate categories of restrictions imposed in this case. The first has to do directly with the vessel and its crew and the second has to do with technical and marine superintendents traveling and stay at the drydocking site for supervision.

### **Drydocking at Chinese Shipyards<sup>28</sup>**

China has the busiest shipyards in the world. Chinese shipyards have the proper facilities to accommodate almost any vessel type and size. Most of the shipyards are located at Zhoushan, Shanghai, Dalian and Guangzhou. The restrictions for drydocking a vessel at Chinese shipyards have been as as presented below.

#### **1. HIGH RISK AREAS: Korea, Vietnam, Malaysia, Thailand, Russia (total 5)**

In case vessels call or conduct crew changes at any of the above mentioned countries/areas, then a 42 days quarantine period to apply, start to counting as from next day of sailing date and/or crew change date.

#### **2. MEDIUM RISK AREAS: Japan, Brazil (total 2)**

In case vessels call or conduct crew changes at any of the above mentioned countries/areas, then a 28 days quarantine period to apply, start to counting as from next day of sailing date and/or crew change date.

#### **3. LOW RISK AREAS: Other countries except the above 7 countries, without crew change**

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<sup>28</sup> World Marine Corp., Ship Agent

In case vessels called/berthed without crew change at any other country except the above 7 mentioned in item 1, 2, then a 14 days quarantine period to apply, start to count as from the next day of sailing.

#### 4. CREW CHANGE (at LOW RISK AREAS): Other countries except the above 7 countries

For crew changes at any other country except the above 7 mentioned in item 1, 2, then a 28 days quarantine period to apply, start to count as from date of signing on.

Upon berthing at the shipyard, all vessel's crew must carry out a PCR test and wait for the results before commencing any operations. If the shipowner and all ship's crew can commit to the shipyard that vessel will agree to sail directly from the shipyard immediately without repairs, in case the PCR test show abnormal (positive) results, then the quarantine days in above conditions 1, 2 and 4 can be reduced to half respectively.

Additionally to above, as per Zhoushan authorities, if vessels have called other Chinese ports before Zhoushan, they must provide crew sampling PCR Test record or report issued by the local Customs at the first domestic port of call in China prior calling any shipyard in Zhoushan. Otherwise, vessels may not be accepted. If this is not feasible (no PCR test conducted by Customs at the first domestic port of call), Owners should check with the shipyard if special entry permission from the local government can be obtained by shipyard's efforts on case by case basis.

Moreover, Shanghai government had announced a lockdown at the country's economic centre and a global trade hub, beginning on the evening of 27 March 2022 and which lasted until beginning of June 2022. All enterprises - except for public services such as water, electricity, fuel, gas - were closed and the population remained isolated at home in order to run PCR tests for all the citizens of Shanghai (about 25 million). The initial advice was this lockdown to apply till 05 April 2022, but as being informed, there is no sign of lifting lockdown restrictions till the end of May 2022. If any positive case was being found, then the building or company or district, where the positive case is located by test, was being quarantined.

For superintendents traveling to China for drydock attendance, they must first be quarantined at Beijing for 14 days and afterwards for an additional 7 days at the port where the shipyard is located. Three negative PCR tests are needed: one upon arrival at Beijing, one upon completion of the 14 days quarantine, and the last after completion of the 7 days quarantine.

### **Drydocking at Singaporean Shipyards<sup>29</sup>**

All ships calling Singaporean shipyards for drydocking must carry out PCR tests for all crew on board at last port of call before Singapore. With negative results in hand, the ship is allowed to enter the shipyard and PCR tests are carried out once again before commencement of any operations.

For the attendance of superintendents, the shipyards are able to assist owner through liaising with the Government Agency (EDB) in order to act as Owner's representative and arrange entry into Singapore if travelers are from countries that do not have the RGL/ATP/PCA channel. For visitor entry into Singapore, the application process may take around 2-3 weeks.

The traveler must be vaccinated and for a short term stay of 14 days or less, a PCR SWAB test is performed upon arrival at the airport. After the PCR test sampling, all approved travelers must remain in their accommodation (hotel) until a "negative" test result is out within the next day. The superintendents are allowed to travel only from accommodation and to work place on a controlled itinerary. For a longer stay of more than 14 days, the traveler is required to be quarantined for 21 days at a dedicated facility upon arrival in Singapore. After the quarantine period is completed, the traveler is allowed to travel around Singapore freely without any restrictions. Cost per night for such hotel is about \$150 which means extra expenses of more than \$3,150 for the attendance of one superintendent only.

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<sup>29</sup> JCL Marine Singapore, Ship Agent

## **Drydocking in Thailand<sup>30</sup>**

For vessel calling Thai shipyards for drydocking, PCR test must be carried out upon arrival at anchorage for all crew on board. The vessel is allowed to enter shipyard only after negative results for all crew are issued.

For superintendents attendance at Thailand, for those who are fully vaccinated, 7 days of quarantine at a designated hotel are required and for the unvaccinated 10 days of quarantine.

Other than the above requirements, there are no other restrictions such as to the last port of call and PCR tests needed for the crew from the last port of call.

## **Drydocking at Indonesian Ports<sup>31</sup>**

The vessels calling at Indonesian ports for drydocking must follow the Covid 19 protocols issued from the Ministry of Health.

- Upon vessel's arrival at the port, a team of quarantine officers will go on board to check the crew's health condition and the vessel's condition
- If any crew with symptoms of covid is detected, then all crew members will undergo a PCR test and if all crew are negative then the quarantine office will issue free pratique to the vessel

For the attendance of technicians and superintendents the following regulations apply:

- Attending superintendents must hold a Visa to enter Indonesia. 4-5 working days are needed for the visa arrangement
- Certificate of vaccination with at least 2 vaccination doses, not in less than 14 days prior arrival at Jakarta Airport
- They must undergo mandated 10 days quarantine and 2 PCR tests (one on arrival and one at the end of the quarantine) for fully vaccinated visitors with 2 doses

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<sup>30</sup> Wallem Thailand, Ship Agent

<sup>31</sup> Inchcape Shipping Services Jakarta, Ship Agent



- After the completion of the quarantine period and the second negative PCR test, they need immigration working permit which is valid for 7 days and renewal is needed every 7 days

The major part of the increased expenses has to do with the deviation a vessel will have to perform to go to a different shipyard which will not be near her last discharging port. Example discharging China but having to go to Thailand for the DD. Example 2 discharging Chittagong and going to Singapore which is nearest but having to go to Thailand because Singapore is not available. Most of the shipping company's target to fix their vessels for discharging at a country or port where they will arrange also the drydock. But considering the unpredictable changes and circumstances, such flexibility is no longer feasible. Considering high bunker prices, such deviation may cost tens of thousands of dollars in ballast voyage expenses. At a vlsfo price of \$900/ton and deviation of three days, for a vessel that consumes 20tons/day in ballast condition, this will mean bunker expenses of \$54,000. The vessel's repositioning and first loadport after the drydock must be taken into consideration as well.

In addition to the above, further extra expenses may be incurred in case a covid case is detected among crew members which will lead the vessel to being quarantined for at least 14 days. This means 14 lost days for the vessel which will be counted in the drydocking, meaning that a vessel will delay in being again available in the market as initially planned.

## **CHAPTER 4 FREIGHT RATES FLUCTUATION IN THE SHIPPING MARKET**

Throughout the pandemic, the shipping industry has seen ups and downs in the freight markets, with the most fluctuations observed in the tanker vessel' market and many surprises seen in the container ships' and bulk carriers' market. The freight rates fluctuations in these three markets are further analyzed in this chapter.

### **4.1 Freight rates fluctuation in the tanker market**

The shipping market that was hardest hit by the pandemic is the global oil shipping market. Since second half of 2020, the tanker market went through a prolonged period of weak rates, with average tanker earnings in Jan-Aug 2021 standing at just \$6,297/day (VLCC: \$2,397/day), so far representing the lowest annual average for over 30 years. Continuing impacts on oil demand from Covid-19 and ongoing output cuts were limiting the rebound in seaborne oil trade.

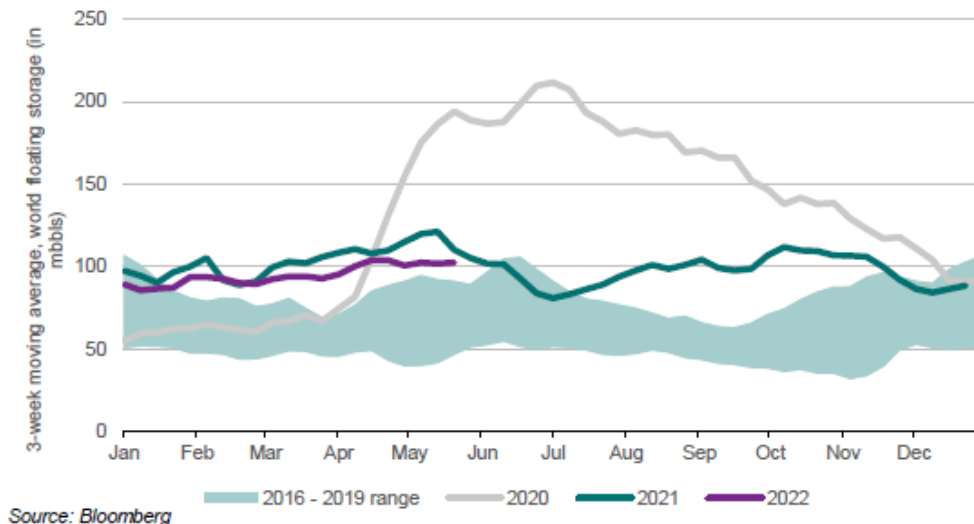
Crude oil trade was already decreased by 1.1% in 2019 due to supply cuts by OPEC countries in order to support the oil prices. Lower global oil demand, reduction in oil imports by the United States as their shale oil production increased, and a decline in global oil refinery activity due to extended refinery maintenance and small refining margins created pressure on the demand side. The extended refinery maintenance periods were occurred because many refiners were adjusting their production in preparation for the regulation on the Sulphur Cap for marine fuels. The fuel oil trade accounts for over 20% of the refined petroleum products seaborne trade.

The crude oil demand reduction in 2020 reflects a reduction in demand for fuel – Jet A1 for airplanes, gasoline for cars, and diesel for trucks – with volumes declining by more than 10% (Clarksons Research, 2021). By August 2021, as oil prices reached their peak levels in more than two years, OPEC+ members agreed to cut out 5.8 million barrels per day of production (OPEC, 2021).

<b>4.1 Tanker Trade 2018 – 2020 in million tons</b>				
Vessel type / Year	2018	2019	2020	Percentage change 2019- 2020
Crude oil tankers	1881	1860	1716	-7.8%
Gas carriers	416	478	480	+0.4%
Refined products and chemical tankers	904	825	722	-12.4%
Total tanker trade	3201	3163	2918	-7.7%

In the first half of 2020, there was a sudden rush upwards in tanker freight rates, increasing profits for tanker vessel companies. Tanker rates rose in March and April 2020 due to the very low crude oil prices, as floating storage demand grew. The oil market was in a state of super contango where front-month prices were much lower than prices in future months, leading to future sales being profitable by storing oil. Traders chartered tankers to store cheap crude oil. This led to availability of vessels for transport being reduced and supporting tanker rates. Freight rates began to fall suddenly in May 2020, with about 33% of all vessels were used in floating storage returning to active trade and boosting oil transport. In the second half of the year the pandemic's impacts weakened demand and rates started to drop in an oversupplied market. By January 2021, oil tanker spot earnings were \$5,237/day, and by July 2021 had fallen to \$2,753/day, the lowest levels ever recorded.

#### 4.2 Global Floating Storage as of June 2022



The product tanker market also went through a surge in earnings backed up by increased floating storage demand, especially for large vessels. However, after he

demand peaked in in March–April 2020, freight rates and vessel earnings in both markets declined in May 2020, as about one-third of all vessels locked in floating storage returned normal trade and inflated supply. The vessel capacity tonnage that was used as floating storage dropped from about 45 million dwt at the end of April to 30 million dwt at the end of May (Drewry, 2020). The number of very large crude carriers used as mother vessels dropped from 83 vessels to 56 vessels over this period. The above remains a historically high number.<sup>32</sup>

<b>4.3 Tanker Vessels' Spot Rates and Time Charter Equivalent Earnings in First Half of 2020<sup>33</sup></b>								
Tanker type	Geographic Region	Rate / TCE	January	February	March	April	May	June
VLCC	Arabian Gulf - Japan	Worldscale	100	48	137	174	66	57
		TCE	\$63.500	\$16.500	\$124.000	\$170.900	\$51.700	\$38.800
	Arabian Gulf - China	Worldscale	94	44	125	159	60	52
		TCE	\$70.000	\$18.300	\$128.200	\$176.000	\$53.800	\$40.600
	Arabian Gulf – North Europe	Worldscale	127	33	127	104	38	106
		TCE	\$63.200	\$20.900	\$205.600	\$169.200	\$169.400	\$167.000
Suezmax	WAF – North Europe	Worldscale	136	82	126	146	82	49
		TCE	\$54.800	\$26.400	\$59.700	\$77.400	\$37.600	\$14.400
	WAF – Caribs / East Coast North America	Worldscale	103	79	121	141	78	54
		TCE	\$35.900	\$24.800	\$59.600	\$76.800	\$36.200	\$18.200
	Black Sea – Med	Worldscale	147	90	134	151	86	54
		TCE	\$62.900	\$24.700	\$65.700	\$82.700	\$33.400	\$6.200
Aframax	Med – Med	Worldscale	149	81	143	157	107	63
		TCE	\$34.200	\$5.700	\$42.000	\$50.800	\$26.500	\$3.400
	North Europe – North Europe	Worldscale	147	118	136	170	109	74
		TCE	\$41.500	\$25.200	\$42.900	\$69.100	\$28.300	\$2.200
	Caribs – East	Worldscale	324	169	161	155	122	68

<sup>32</sup> UNCTAD, Review of Maritime Transport 2020, p 54

<sup>33</sup> UNCTAD, Review of Maritime Transport 2020, p 52

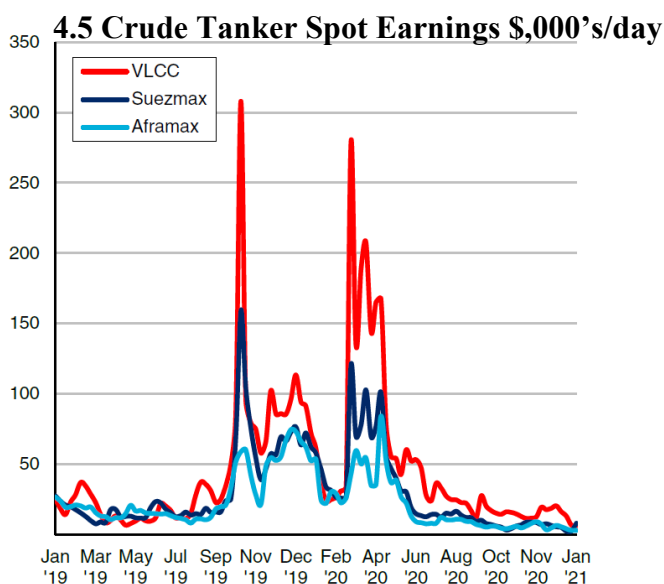
	Coast North America	TCE	\$91.600	\$36.900	\$39.700	\$41.300	\$28.000	\$5.300
	South East Asia – East Coast Australia	Worldscale	151	99	121	156	132	73
		TCE	\$30.100	\$15.000	\$31.000	\$50.500	\$39.400	\$12.900
MR1	Baltic – UKC	Worldscale	190	195	187	247	160	103
		TCE	\$18.400	\$21.400	\$22.800	\$36.400	\$19.300	\$6.900
MR2	US Gulf – North Europe	Worldscale	161	97	120	150	108	76
		TCE	\$16.100	\$5.200	\$13.600	\$22.100	\$13.000	\$5.200
LR1	Arabian Gulf – Japan	Worldscale	127	100	153	304	254	82
		TCE	\$12.300	\$9.900	\$28.600	\$70.400	\$56.700	\$10.800
LR2	Arabian Gulf – Japan	Worldscale	121	93	155	319	263	87
		TCE	\$15.800	\$11.600	\$40.400	\$102.200	\$81.400	\$17.000

The tanker market was doing good before the pandemic, especially for the VLCC vessels. In October 2019, a potent mix of regulatory, economic and geopolitical factors such as the recent update to the US sanctions list, some charterers avoiding vessels with links to Venezuela, followed by an alleged attack on an Iranian tanker in the Persian Gulf, led to a spike in VLCC spot earnings with time charter equivalent spot rates leaping from US\$35,000/day to US\$300,000/day. At the same period the Suezmax market rates climbed to unprecedented levels due to a similar combination of the disruptions apparent in the VLCC market.

<b>4.4 Tanker Market Spot Average Earnings 2019 – first half 2022</b>				
Vessel type/Year	2019	2020	2021	2022 (first half)
VLCC	41.364	53.145	3.218	-3.201
VLCC (Scrubber fitted)	-	58.750	7.018	7.018
Suezmax	31.560	30.240	7.338	24.000
Suezmax (Scrubber fitted)	-	33.163	10.568	30.690

Aframax	26.225	22.161	8.242	39.867
Aframax (Scrubber fitted)		24.473	11.229	46.548

A second short-lived spike in VLCC and Suezmax earnings was observed once again from February till April of 2020 due to the very low crude oil prices as have been mentioned above. Since then, the tanker market has experienced an extended period of very low earnings, with the period from January till August 2021 representing the weakest observed period for tanker earnings in more than 30 years. Seaborne oil trade has been impacted immensely from the pandemic, with sharply lower oil demand and subsequent deep oil production cuts leading to a 9% fall in trade in 2020. While global oil demand gradually improved in the second quarter of 2021 and OPEC+ had begun to wind back output cuts, improvements to seaborne oil trade were limited (especially in the crude sector), with oil trade still down by 10% in during the period January to July of 2021 vs 2019 levels. For the first half of 2022 the VLCC sector has seen only negative earnings so far. Another conclusion that can be derived is that the VLCC market is the most volatile of all the tankers' sector.



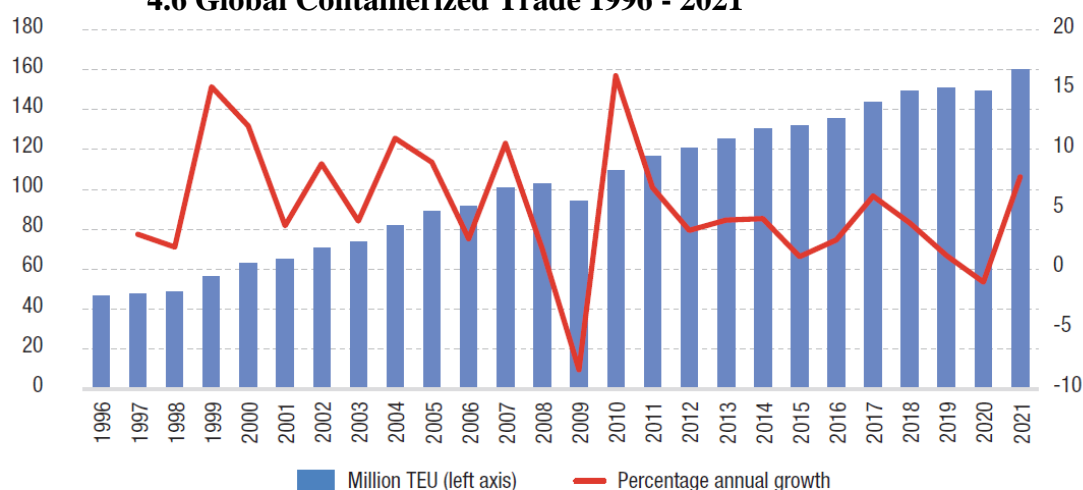
## 4.2 Freight rates fluctuation in the containership market

In an already bad market, the containerships were initially strongly affected by the disruptions induced by the pandemic, as containerized trade is closely linked to world economic developments, consumer activity and supply chains. Due to the very low market, the phenomenon of blank sailing - ships skipping a port or ports, or cancelling the entire string - and service cancellations announced by the carriers without the usual notice periods affect service reliability and the ability of shippers to plan their supply chains. Since container vessels move on a scheduled rotation, the cancellation of a sailing from the first port in the rotation cascades down to all the

other ports served by that carrier in that rotation. Some smaller ports may be particularly hard hit by multiple cancellations from different services. Ship capacity into and out of the ports of Manila and Odessa, the Russian Federation, for example, was reduced by 25% in May 2020. Additionally, ship capacity at the ports of Beirut and Visakhapatnam, India was reduced by 20%, and at larger ports such as Hamburg, Germany and Rotterdam, the Netherlands, by 10%. (UNCTAD, Review of Maritime Transport 2020, page 25).<sup>34</sup>

After the shock in early 2020, volumes swiftly returned, as consumer demand was boosted by stimulus packages and measures to support incomes. The bounce-back in 2021 reflected easing economic impacts and the unlocking of pent-up demand, as well as restocking and building inventory. But there was also a shift in consumption patterns away from services and towards goods, notably for health products and pharmaceuticals, as well as home office equipment, along with changes in shopping patterns and the expansion of e-commerce trends. The spike in trade was so big that shipping services and port operations were often unable to keep up, resulting in supply chain bottlenecks. By the end of 2020 and until the first half of 2021, the whole industry, including shipping, ports, shippers, and inland carriers struggled with shortages in containers, equipment and shipping capacity. This has added to port congestion and reduced service levels and reliability, while also increasing freight rates and surcharges.

#### 4.6 Global Containerized Trade 1996 - 2021



Source: UNCTAD secretariat calculations, based on MDS Transmodal, World Cargo Database, June 2021.

<sup>34</sup> UNCTAD, Review of Maritime Transport 2020, page 25

As observed from the above chart, the global containerized trade was already in decline since 2017. Following the first days of the global lockdowns, during the pandemic, the containership market saw the most spectacular gains of all shipping sectors in 2020, with freight and charter rates surging to extraordinary levels many times the previous records. Between the fourth quarter of 2019 and the first quarter of 2020, containerized trade from Asia to North America had dropped by 13%, but in the third quarter of 2020 it jumped by 36%.

Strong trade volumes and major logistical disruption including port congestion have led to freight rates rising dramatically, with the SCFI Comprehensive spot box freight index averaging 4,308 points in August 21 against an average of 1,106 points over the last 10 years. Against this backdrop, the liner companies have recorded financial results never seen before. Containership charter rates have also spiked; the charter rate index stood at 388 points at end August 21, four times the start year level and 126% above the previous 2005 peak. Multi-year fixture periods are now typical.<sup>35</sup> Between October 2020 and June 2021 the SCFI from Shanghai to Dubai rose by 176% and from Shanghai to the Mediterranean ports by 400%.<sup>36</sup>

To secure space on vessels, some shippers started seeking long term, multi-year, end-to-end contracts with carriers. For their part some carriers seek to convert ‘ocean customers’ to long-term ‘end-to-end logistics customers’. Under these arrangements, shippers have access to logistics services such as warehousing, customs clearance, visibility, and the ability to speed up or slow down shipments (Knowler, 2021).<sup>37</sup> Overall, since early 2020, when the pandemic first hit, the narrative for container shipping has thus shifted dramatically. Carriers have been able to manage ship capacity so as to mitigate initial disruptions but port and landside businesses required more time to adjust their yard and gate operations which often led to inefficiencies in terminal operations, such as the management of container stacking (Notteboom, Pallis and Rodrigue, 2021).<sup>38</sup>

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<sup>35</sup> Clarksons Research, Shipping Review and Outlook, September 2021, p 8

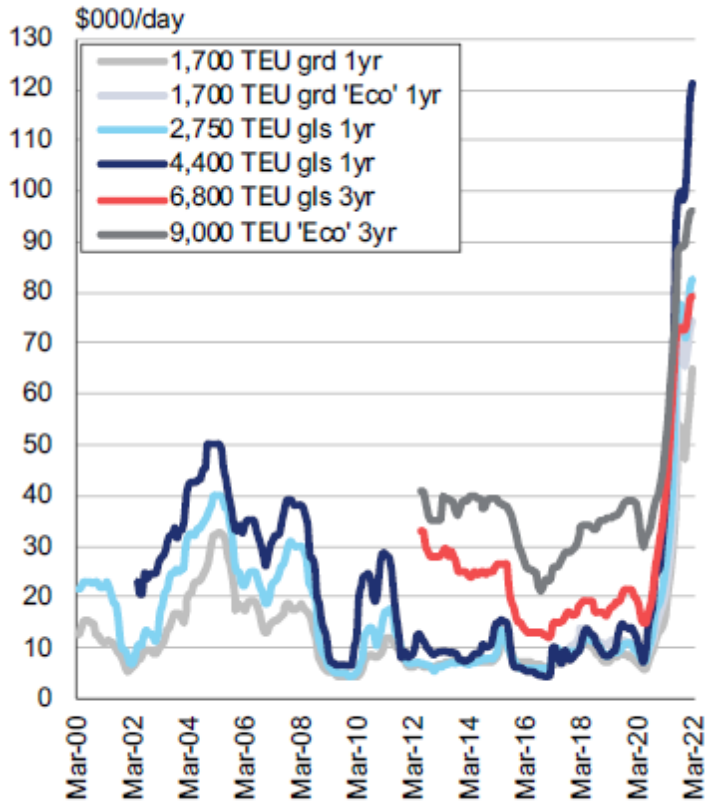
<sup>36</sup> UNCTAD, Review of Maritime Transport 2021, p 61

<sup>37</sup> Knowler, G., Maersk signals next logistics acquisition will be billion-dollar deal, The Journal of Commerce, 11 May 2021

<sup>38</sup> Notteboom T, Pallis A and J-P Rodrigue (2021) “Disruptions and Resilience in Global Container Shipping and Ports: The COVID-19 Pandemic vs the 2008-2009 Financial Crisis”, Maritime

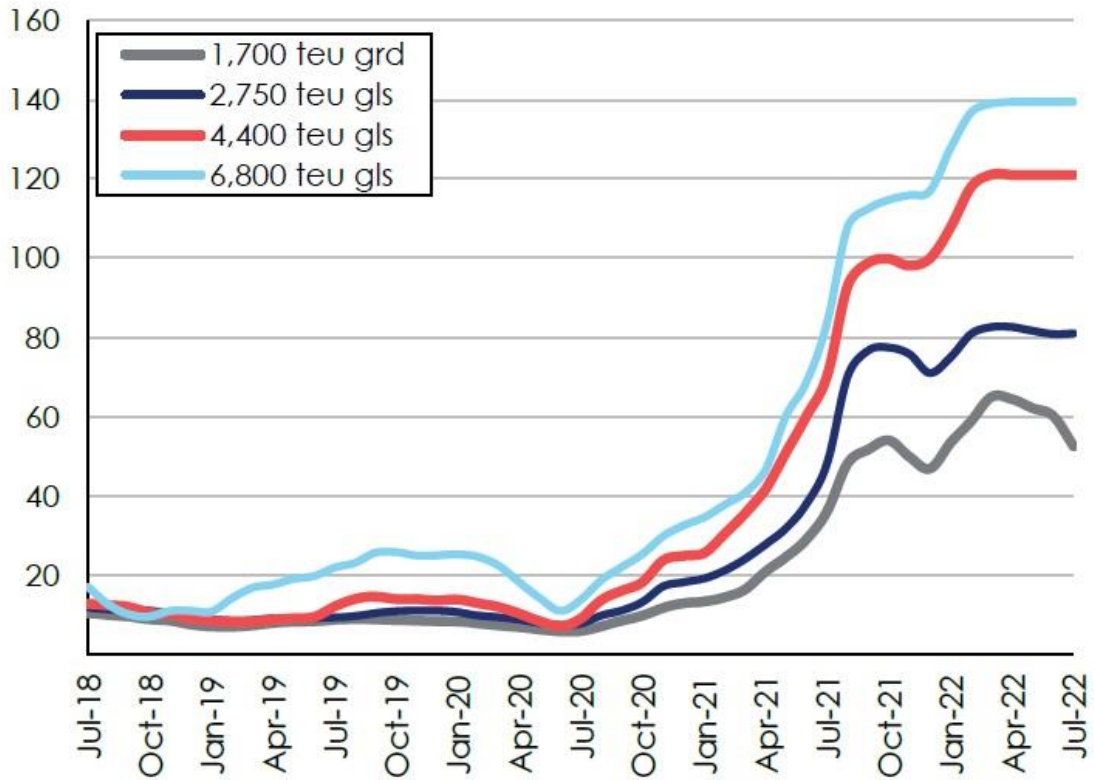


### 4.7 Containership Timecharter Rates



Source: Clarksons Research

### 4.8 Containership Earnings on a Quarterly Basis for 6-12 Months Time Charter



As observed from the above charts, the containerships have recorded the highest ever freight rates during the pandemic. The freight rates started to rise after July 2020 as the consumer demand for goods through online shopping increased. The freight rates have reached their peak by January 2022 and seem to have been steadied until July 2022. During the period April – June 2022, the rates for a Neo-Panamax containership with a capacity of 9,000 TEUs, stood steadily at \$170,000/day. The freight rates are mainly formed by the smaller size vessels because the very large containerships are owned by the liner companies themselves. The most significant difference for average freight rates was seen in 2021.

<b>4.9 Containership average freight rates 2018 - 2021</b>				
Vessel size	2018	2019	2020	2021
1.700 TEU	12.483	11.088	10.573	45.205
2.750 TEU	10.813	9.604	10.901	48.498
4.400 TEU	11.096	11.164	14.151	67.081
6.800 TEU	14.542	20.362	21.470	78.451
9.000 TEU	28.000	35.630	34.903	99.581

### **4.3 Freight rates fluctuation in the bulk carrier market**

Bulk carriers of over 100,000 dwt generated most ton-miles that were contributed by shipments from Australia, followed by Brazil. In 2020, 58% of world iron ore exports were generated by Australia and 23% by Brazil. The majority goes to China. In 2020, 76% of world iron ore imports and 20% of coal imports were made by China. Vessel activity on the Australia-China route dropped in 2020, probably as result of the pandemic and the political conflicts between the two countries. China is targeting to diversify its sources of raw materials by investing in Africa. Trade in ton-miles by bulk carriers on the Africa-China route increased in 2020, which reflects increased iron ore shipments from South Africa. Guinea could also be a supplier since it is reported to hold large reserves of untapped high-quality iron ore. In 2026, Guinea is expected to start shipping iron ore, which will boost demand for bulk carriers. Guinea is already the world's biggest supplier of bauxite, the majority of which is shipped to China.<sup>39</sup>

<sup>39</sup> UNCTAD, Review of Maritime Transport 2021, p 9

<b>4.10 Dry Bulk Vessels' Trade In Million Tons And Percentage Change<sup>40</sup></b>			
	2019	2020	Percentage change
Main bulks	3.218	3.181	-1,1%
Iron Ore	1.456	1.503	3,2%
Coal	1.284	1.165	-9,3%
Grain	478	512	7,1%
Minor bulks	2.030	1.986	-2,2%
Steel products	373	354	-5,1%
Forest products	383	365	-4,7%
Total dry	5.248	5.167	-1,5%

Total dry bulk trade fell about 1.5% in 2020, as volumes decreased to 5.2 billion tons. China's rapid economic recovery has empowered its imports so it could take up extra cargo left by suppressed demand in other regions. Iron ore trade remained unaffected as cargo volume increased by 3.2% to 1.5 billion tons. Grain trade stood a firm ground, increasing volumes by 7.1%. Factors that supported this included a record harvest in Brazil, United States-China trade reconciliation, and better prospects in pig farming in China following the recovery from the 2018 African swine fever outbreak.<sup>41</sup> In 2021, bulk carrier trade was projected to expand by 3.7%, with iron ore and grain trade growing steadily, a rebound in minor bulk volumes and more coal trade. Coal trade plunged 9.3% in 2020, partly as a result of the pandemic, as demand for electricity was reduced. Additionally, the ongoing structural shift towards cleaner energy sources reduced demand. Minor bulk trade fell only by 2.2%. Forest products also saw a decrease in trade, as well as lower nickel ore exports due to Indonesia's export ban. The bauxite trade was much stronger and expanded by 8.2%, with China accounting for 77%, and Guinea providing 46% of the supply (Clarksons Research, 2021).<sup>42</sup>

During the first two quarters of 2020, the freight rates for bulk carriers continued to be affected by imbalances in supply and demand, which was enhanced by the impact of the pandemic and resulted in high fluctuations, especially among larger vessels during this period. As discussed earlier, overcapacity was already affecting the dry bulk market, as supply growth had been running over demand for many years. This was further intensified by the negative demand shock caused by the

<sup>40</sup> UNCTAD, Review of Maritime Transport 2021

<sup>41</sup> UNCTAD, Review of Maritime Transport 2021, p 12

<sup>42</sup> Clarksons Research, Shipping Review and Outlook, March 2021

pandemic, which added downward pressure on vessel freight rates. At the beginning of 2020, the bulk carrier freight rates and earnings were severely affected, especially the Capesize market. This was mainly due to the combination of a seasonal drop in bulk carrier demand and the outbreak of the coronavirus disease in China, which imports the majority of globally shipped dry bulk cargo volumes, including iron ore, coal, and major grains and oil seeds. Industrial activities in China were disrupted by the outbreak of the pandemic in early 2020, which resulted in reduced demand for dry bulk vessels, particularly for Capesize vessels that carry industrial raw materials to China. At the same time, low exports of iron ore from Brazil added pressure to bulk carriers' volumes, further impacting freight rate volatility and leading to unprecedented low and negative levels in Capesize market freight rates.

The Baltic Exchange Capesize index reached negative in February and March, dropping to -243 and -221 points because of a sudden extreme drop in globally shipped dry bulk cargo volumes due to the shutdown in China. In June 2020, the index increased to high levels of 2,267 points supported by a higher demand for iron ore in China following the easing of the restrictions related to the pandemic.<sup>43</sup> Although such a fall in freight rates for smaller vessel sizes was not experienced, they remained highly volatile and very low. Demand for Panamax and Supramax vessels, was higher as trade volumes remained relatively stronger. They are mainly used for global shipping of grain and oil seeds. All market segments' time-charter rates were affected by the pandemic that weakened market fundamentals. In June 2020, the average of one-year time-charter rate for Capesize bulk carriers was \$11,050 per day, \$9,785 per day for Panamax bulk carriers, \$8,513 per day for Handysize bulk carriers and \$8,150 per day for Supramax bulk carriers. The bulk carrier market recovery depends directly on global economic growth. However, the fluctuation of freight rates remains uncertain with the prospect of global recession and uncertainties concerning the impact of the pandemic across developed and developing countries. A main feature is development in China, which may act as the biggest driver for the recovery of the dry bulk industry. At the same time, overcapacity remains a threat to the industry and an increase arising from additional supply could offset any growth in demand.

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<sup>43</sup> UNCTAD, Review of Maritime Transport 2020, p 69

In the first half of 2020, the demand shock from the pandemic added downward pressure to an overly supplied market and led to a drop in dry bulk shipping freight rates. The second half, on the other hand, saw demand returning for dry bulk cargo, particularly for iron ore and grain imports from China. Together with slower growth in the active fleet this raised the freight rates. This was reflected in the Baltic Exchange Dry Index, which measures the cost of shipping various raw materials, such as coal, iron ore, cement, grain and fertilizer. In February 2020 BDI was at only 461 points but by July 2021 had reached 3,257 points.

Freight rates were high through the first half of 2021 as a result of continuing higher demand, combined with fewer new vessel deliveries and increased scrapping activity. Rates were also affected by delays caused by port congestion. The number of vessels caught up in port congestion rose from 4% of the fleet in the fourth quarter of 2020 to 5% in the first quarter of 2021. This was mainly due to increases of exports of iron ore and grain products from Brazil which blocked up to 100 Capesize and Panamax vessels in Brazilian ports during February and March 2021 (Danish Ship Finance, 2021).<sup>44</sup> The strength of the dry bulk market was good for carriers. In May 2020 the average monthly earnings of all bulkers were \$4,894/day, but by June 2021 they were \$27,275/day – the highest rates in a decade.<sup>45</sup>

<b>4.11 Bulk Carrier Average Earnings 2020 – first half 2022</b>			
Vessel type/Year	2020	2021	2022 (first half)
Capesize	10.677	28.038	13.184
Capesize (scrubber fitted)	13.428	31.134	19.681
Panamax	10.407	26.033	22.592
Panamax (scrubber fitted)	11.749	27.566	26.068
Supramax	9.511	22.264	20.207
Supramax (scrubber fitted)	11.351	24.101	23.892
Handysize	8.395	25.748	25.363

Early 2020 saw bulk carrier market conditions come under severe pressure, with weighted bulker earnings averaging just \$6,721/day in Q1, down by 47% compared to Q4 2019 and 18% year to year. The sharp drop came on the back of

<sup>44</sup> Danish Ship Finance, Shipping Market Review, May 2021

<sup>45</sup> UNCTAD, Review of Maritime Transport 2021, p 91

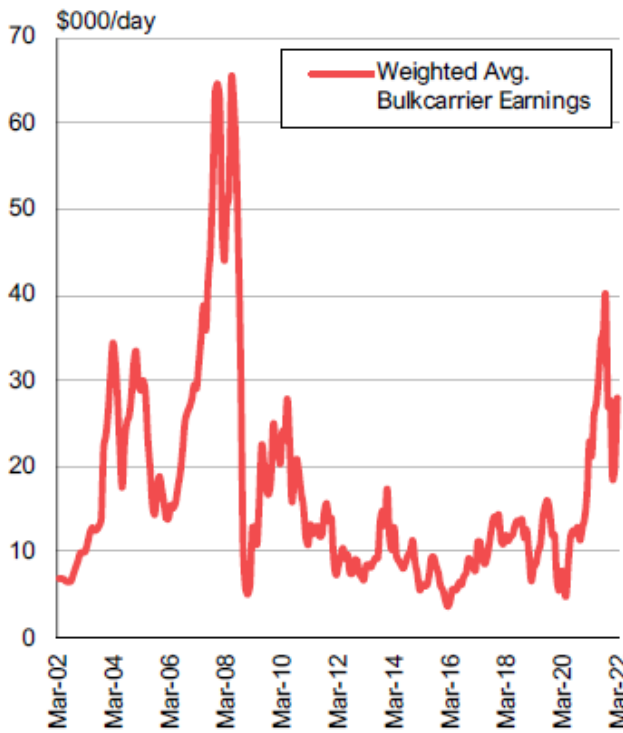
further (pre-virus) seasonal disruption to Brazilian iron ore exports, weak coal demand in a number of regions and the increasing impact of the Covid-19 pandemic on market sentiment, as well as an increased fuel bill in the early part of the year for many owners after the introduction of the IMO 2020 Sulphur Cap. Capesize vessels' voyage earnings (2010-built) fell into negative territory for non-scrubber fitted ships in mid-February 2020, while earnings for scrubber-fitted ships fell to \$5,000/day, still below typical operating costs. Earnings for smaller vessels also came under significant pressure, with Panamax spot earnings falling as low as \$5,730/day and Supramax trip rates falling below \$5,000/day in February 2020. While minor market improvements were apparent through March 2020, the escalating impacts of the Covid-19 pandemic on the global economy led to increasing concerns over the short-term dry bulk market outlook and downgrades to demand projections. It is imperative to mention that China accounts for 35% of global seaborne dry bulk imports.

The bulk carrier market started with optimism in 2021, following a very challenging 2020. A range of factors such as the increase in trade volumes after disruption from Covid-19 earlier in 2020, firm grain volumes, strong Chinese imports, a cold weather-driven pick-up in northern hemisphere coal demand (including the long-haul routes into Asia) provided support. Capesize port congestion rose to a ten-year high in February 2021, whilst a significant number of bulkers laden with Australian coal were still waiting off China unable to discharge, following increased trade tensions between the countries during 2020. In early March 2021, the average bulk carrier vessel earnings were at \$21,982/day, the highest level since 2010, and up 69% from the beginning of 2021. This compared to average earnings of \$15,247/day in January and February 2021, \$12,259/day in second half of 2020, and \$6,602/day in first half of 2020. 2020 overall saw earnings soften 18% year on year to \$9,431/day, the lowest annual average since 2016, but with momentum building significantly into 2021.<sup>46</sup>

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<sup>46</sup> Clarksons Research, Shipping Review and Outlook, March 2021, p 18

#### 4.12 Bulkcarrier Earnings



Source: Clarksons Research

Weighted average bulk carrier earnings stood at \$34,551/day in August, the highest monthly average since August 2008, while earnings across the first eight months of 2021 averaged \$23,921/day, up almost 200% year to year. Capesize spot earnings (for 2010-built non-scrubber fitted vessels) averaged \$39,589/day across August, the highest level in a decade, while scrubber-fitted ships earned around \$3,000/day more, and ‘eco’ ships also commanded a premium of c.\$4,000/day. Midsize and smaller vessels have fared even better by historical standards; Supramax trip

earnings averaged a 13-year high of \$35,638/day in August, while Handysize trip earnings averaged an impressive \$32,988/day across the month, standing more than double the highest level seen in the 2010s.<sup>47</sup>

<sup>47</sup> Clarksons Research, Shipping Review and Outlook, September 2021, p 19

## CONCLUSION

Key shipping stakeholders, including international legislative bodies and governments, have issued a number of recommendations and guidance which aim to protect the seafarers and ensure they are safeguarded from the Covid-19 pandemic, are medically fit, and have access to proper medical care. During the past two and a half years, the owners had to continuously ensure that their ships met international sanitary requirements. The IMO issued a number of circular letters addressed to Member States, seafarers and shipping industry stakeholders with guidance addressing global issues relevant to the health of seafarers, seagoing vessels, and offshore operations by establishing and implementing Covid-19 protocols for mitigating and preventing outbreaks at sea, following guidance from the European Commission, the International Chamber of Shipping, IMO and the World Health Organization on health and shipping in the context of Covid-19 (Circular Letters No. 4204/Add.1–Add.4).). The IMO also issued circulars with recommendations towards governing authorities and relevant national authorities on the facilitation of maritime trade during the pandemic (Circular Letter No. 4204/Add.6) and on ensuring the integrity of the global supply chain during the pandemic (Circular Letter No. 4204/Add.9).<sup>48</sup>

Various industries and stakeholders had to adopt protective measures against the disease. The International Association of Ports and Harbours adopted guidance on ports' responses to the pandemic, structured along a three layered approach to present a methodology and a range of good practices on immediate mitigating measures addressing port operations, governance and communication; measures to protect the business and financial returns; and measures to support customers and stakeholders in the global supply chains (International Association of Ports and Harbours, 2020).<sup>49</sup> Port state control regimes developed temporary guidance on how they intended to deal with the impact of the pandemic. These included acceptance of extended periods of service on board for seafarers; extended periods for statutory surveys, inspections and audits; and seafarers' certification, using a pragmatic and harmonized approach.

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<sup>48</sup> UNCTAD, Review of Maritime Transport 2020, p 134

<sup>49</sup> International Association of Ports and Harbours (2020). Guidance on ports' response to the coronavirus pandemic. Version 2.0



The surge in container freight rates has added to production costs which can feed through to consumer prices. This has led to high inflation and may slow national economies, particularly the structurally weak ones. The impact is greatest in small island developing nations most of whose imports arrive by sea. In 2019, globally 27% of total imports were seaborne, but for small island developing nations the proportion was 79%. As a result, the impact on their import prices is more than twice the global level. Final prices of some products are greatly impacted by higher freight rates than others, notably of those products that are more deeply integrated into the global supply chains, such as computers, electronic and optical products. For these goods, international shipping costs account for 2.6% of the consumer price, compared with 1.2% on average for other goods.<sup>50</sup> Higher prices will make such goods less affordable, so reduce consumer welfare.

The tanker market boomed for a very short lived period of time when the crude oil prices were at the lowest levels ever recorded. After mid 2020, the tanker market has been suffering in a similar way to the bulk carrier market, with owners covering just part of their operational and financial expenses. The VLCC market has suffered the most as the of these vessels trade in the Middle East to Far East route, especially China. They have been mostly impacted by the Chinese lockdowns and cut in demand for crude oil during these periods. The VLCC market has seen negative earnings for the first of 2022 while the MR and Handy market rose to high levels because of high demand for refined products.

The greatest impact was on the containership market which rose to levels never seen before. The containership market has gone through a long period of low freight rates due to oversupply and because of the mega containerships that have been increasing the capacity exponentially. The main reason the freight rates for the containerships rose was because of the sudden surge in demand for consumer goods and because suppliers and receivers were trying to make up for the time and earnings lost during the pandemic. This has led to port congestion at container terminals, which means less available capacity on water for transportation of goods. Danaos Corporation, a containership management company that charters out its vessel to major liner companies such as Maersk and MSC, saw the price of its share rise from

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<sup>50</sup> UNCTAD, Review of Maritime Transport 2021, p 68

\$3,41 on 17 July 2020 to \$104,34 on 01 April 2022. Also MSC became the biggest liner company in terms of operating capacity, surpassing Maersk. Although Maersk still holds first position in number of vessels (Baker J., Lloyd's List).<sup>51</sup>

The shipmanagement companies have seen the daily operational expenses of the vessels rise significantly. The major contributor to the increased operational expenses are the crew change expenses, arising from the prolonged quarantine periods the crew must undergo before joining a vessel and/or before their repatriation to their home country. Additionally, pcr test costs and personal protective equipment costs that are provided to the crew must be added to these expenses. Especially, in the first days of the pandemic, the cost for the pcr tests was very high. From data collected from shipmanagement companies, on average they have calculated \$90 per crew per month, as extra addition to the already existing monthly crew budgets. Crew travel expenses rose also due to the increase in the airfares. If any crew member tested positive for Covid-19, additional unforeseen expenses would add to the operational expenses as he would have to go quarantine as per local requirements where the test was taken and if any treatment would be needed that would add more to the expenses.

Maintenance and repair costs increased also as drydockings became difficult. Transportation costs for the spares increased also due to the rise in the seafreight and airfreight. Vessels had to be repositioned to different geographic areas due to the unavailability of shipyards, as most of the shipyards in China were closed due to the imposed lockdowns. China remains the most attractive area for drydocking due to very competitive prices. Repositioning the vessel in most of the cases meant ballast voyages and many days of sailing. Adding the cost for the bunkers that were consumed, increases the total drydocking cost of a vessel significantly. Economical losses due to the unemployment of the vessel during those days must be considered as well. The measure for the calculation of the lost freight or hire could be the time charter equivalent if the vessel is trading on the spot market or the daily hire if the vessel is on time charter. Vessel's had to additionally undergo 14 days quarantine upon arrival at the shipyards before any repair works could start. The attending technical and marine superintendents that were sent from the office, had to undergo prolonged periods of quarantine in hotels before being able to attend the vessel. The

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<sup>51</sup> Baker, J. MSC overtakes Maersk as the world's largest container carrier, Lloyd's List, 05 Jan 2022

requirements depend on the country and the port where the shipyard is located. After the opening of the Chinese shipyards, the Chinese authorities required for the office personnel to undergo 14 days of quarantine at Beijing and an additional 7 days of country at the port where the shipyard is located.

The long term impacts of the pandemic on the shipping industry cannot be predicted yet. The shipping industry has a dynamic structure that continuously keeps changing. The fluctuations observed in the shipping freight market cannot be seen in any other market. The law of demand and supply play a major role in the industry. Equilibrium is almost impossible to achieve. More structural changes will be observed when the pandemic will no longer be considered a global threat and the supply chains will work normally all year round. The pandemic has also taught us that cooperation at always is very important in order to keep a system healthy and running.

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