



University of Piraeus  
Department of Maritime Studies  
MSc in Shipping Management

**‘THE IMPACT OF COVID-19 IN THE DRY  
BULK INDUSTRY’**

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Master's thesis which was submitted to the Department of Maritime Studies of the University of Piraeus as part of the requirements for the acquisition of the Postgraduate Diploma in Shipping

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## ABSTRACT

The aim of this thesis is to examine the impacts of the Covid-19 pandemic on shipping with intention to bulk carriers. The Covid-19 epidemic has presented a significant juncture, during which certain markets have experienced both growth and decline. This case serves as a compelling illustration of how some circumstances can disrupt markets in unexpected ways, leading to significant alterations in their overall framework. The objective of this thesis is to provide a thorough examination of the positive and negative consequences arising from the global crisis triggered by the Covid-19 pandemic. The global pandemic has presented both advantageous and disadvantageous consequences for the maritime industry and global trade.

This thesis examines the analysis of the repercussions resulting from the Covid-19 pandemic, disruptions in crew changes, operational challenges, and volatility in freight rates.

## INTRODUCTION

The international maritime transport industry has long played a crucial role in facilitating worldwide trade and has become a major component of the phenomena commonly referred to as globalization. Ships play a pivotal role in facilitating the transportation of over 90% of the overall volume of global trade, as well as nearly 70% of its corresponding monetary value. The global interchange of commodities and services is facilitated by a large network of more than 59,000 vessels. From a statistical study, one may make the argument that shipping is the most environmentally sustainable and least harmful form of transportation, especially when considering its productivity. Furthermore, in comparison to terrestrial sectors, the shipping sector is regarded as a very minor contributor to marine pollution stemming from human activities.

In recent years, the shipping industry has undergone several disruptions. The shipowners and ship management enterprises are confronted with substantial decisions about their vessels and fleet configuration. These decisions require significant financial investments of millions of dollars, which involve modifying ships to incorporate ballast water treatment facilities and scrubbers. The implementation of these regulations, specifically the International Maritime Organization (IMO) 2020, which is widely recognized as a highly impactful modification to fuel regulations, will have a significant impact on the shipping industry and the global economy, ultimately leading to the transfer of costs to final consumers. The implementation of these standards became progressively complex during the Covid-19 epidemic, due to the imposition of restrictions on port visits and drydock operations for maritime vessels.

In addition, there are currently operational challenges being observed in crew changes, inspections, and drydocking. These challenges arise from the restrictions imposed by governments and port authorities at regional levels. Consequently, numerous seafarers find themselves stranded onboard vessels, exceeding the duration specified in their contractual agreements by several months.

There have been notable alterations in the structural aspects pertaining to the execution of work and the administration of daily vessel operations. The implementation of remote work in the maritime industry was executed with relative ease, owing to its inherent dependence on digital communication and workflow systems. In order to facilitate international trade, a growing number of port authorities have chosen to implement remote and digital approaches for conducting vessel

inspections at ports. There has been a rise in the prevalence of ports where the physical presence of port health officials is deemed unnecessary for the granting of free pratique to a vessel. There has been a growing trend among ports to embrace the use of databases and government websites as a means to streamline port clearance and customs procedures.

Significant structural changes are occurring in the way ships are operated and day-to-day operations are managed. Delivery operations, by their very nature, had an easy time adapting to remote working because most of their work and communication was already done through digital means of communication. In order to facilitate global trade, more and more port authorities are choosing to adopt digital means for ship inspection within ports. The number of ports that do not require the physical presence of port health authorities to allow free access to ships has increased. Additionally, an increasing number of ports are choosing to use databases and government websites to process port clearance and customs procedures. The global epidemic has had both positive and negative impacts on the shipping industry and worldwide trade as a whole. This study further analyzes both the positive and negative impacts of the global crisis due to the COVID-19 pandemic.

## CHAPTER 1

### THE UNEXPECTED RESULTS AND THE UPSETTING OF THE WORLDWIDE ECONOMY

The widespread has caused the moment biggest worldwide subsidence history taking after the Incredible Subsidence of 2009. Within the prior stages supply deficiencies were seen for fundamental merchandise due to freeze buying and expanded utilized of certain merchandise such as hand sanitizers and veils. The exceedingly expanded request for certain products has driven too to cost gouging and still there are far-reaching reports of deficiencies of pharmaceutical merchandise. Individual assurance equipment's expanded request which has risen 100-fold as specified already, has driven to costs increments of up to twentyfold the first cost of the individual assurance hardware products and has moreover caused delays on the supply and accessibility of therapeutic things from four to six months. Behavioral changes in people's every day propensities have driven to transitory nourishment shortages, price climbs, and caused disturbance to shopper markets. The entire time since the starting of the widespread till presently is characterized by wide instability.

In spite of the coronavirus crisis that has influenced the complete world, Greece remains among the top five ship-owning countries — at the side China, Japan, Singapore and Hong Kong — with Greek dispatch proprietors controlling 20.67 percent of worldwide shipping capacity and 54.28 percent of the EU tonnage, agreeing to 2019 information ( [Greek Shipping Dominates World Despite Covid-19 Pandemic \(greekreporter.com\)](#)). This welcome news comes from the yearly report by the Union of Greek Shipowners (EEE), displayed by EEE President Theodoros Veniamis. The report highlights that within the period from 2007 to 2019 Greek shipowners more than multiplied the shipping capacity of their fleet, whereas at the same time they brought down the age of their fleet to a normal of 9.17 a long time, well underneath the cruel age of the worldwide fleet (9.61 a long time).

The Covid-19 pandemic has naturally made unused challenges within the shipping sector, and this can be pointed out within the early on note of the yearly report:

*“It is completely clear that shipping was too unavoidably hit by the global financial and exchange stun due to the widespread, coming about in a major drop within the cargo advertise, where for a few categories of ships there was a sharp drop in passages and nearly zero request for transport administrations.*

*“Therefore, the viability of shipping companies must be guaranteed instantly, a key condition of which is to guarantee their liquidity and to supply adaptability in reimbursing their loans,”*

To that conclusion, the industry has moreover inquired European educate and banks to incorporate shipping firms in their financial alleviation measures related to the widespread.

“In the vortex of the widespread that humankind is encountering, shipping and sailors offer crucial administrations, giving the fundamental products that our society needs both in times of peace and times of emergency. The part of shipping requires and merits worldwide acknowledgment and bolster from the specialists, in arrange to guarantee each conceivable help for the unrestricted arrangement of oceanic transport services” Veniamis notes.

And he proceeds:

*“However, the genuine issues that have arisen within the development of seafarers and group changes must be settled instantly. The worldwide community must guarantee the smooth development of seafarers around the world, with a see fundamentally to their health and well-being, which contains a coordinate effect on the security of ships and navigation.”*

Veniamin emphasizes in conclusion that “within our national borders, the challenge, but too the vision, of Greek shipping remains the prompt reinforcing of the competitiveness of the Greek enroll, in arrange to halt the spillage of ships from the hail, sometime recently the circumstance gets to be irreversible, as well as the restoration of the seamanship of our individuals.

*“The two interrelated issues require all encompassing approach and methodology and are needs of national oceanic policy,”* he expressed.

<https://greekreporter.com/2020/09/09/greek-shipping-dominates-world-despite-covid-19-pandemic/>

## **CHAPTER 2**

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

The management of crew-related issues has emerged as a significant obstacle for the commercial operations within the shipping industry.

#### **2.1 Extended Duration of Onboard Residence for Maritime Workers**

Seafarers provide essential services that are crucial for maintaining the flow of global trade. The implementation of stringent lockdown measures, including widespread travel restrictions and the closure of national borders, along with the suspension of operations by most carriers, resulted in prolonged periods of aboard stay for several seafarers. Many ports implemented restrictions on team changes for an extended period as a measure to mitigate the transmission of the Covid-19 virus. Due to the global character of shipping, a significant number of seafarers are required to travel by air throughout the year in order to join or disembark from ships. This is necessary because the ports of entry or departure may be located thousands of kilometers away from their home countries. The majority of seafarers are transported by air to the designated port of a vessel's arrival, where they embark on ships and are required to remain on board for extended periods, typically spanning several months, until the fulfilment of their contractual obligations. After fulfilling their contractual obligations, individuals are typically repatriated to their home countries via airplanes, often departing from the port of call of the vessel.

In accordance with the Maritime Labor Convention (MLC) of 2006, it is stipulated that a seafarer may be permitted to serve continuously on a vessel for a maximum duration of 11 months. The controls are displayed in detail underneath.

Each section should mandate that seafarers employed on vessels, which display its flag, be provided with paid annual leave under appropriate circumstances, in accordance with the provisions outlined in the Code. Seafarers may be granted permission to disembark from their vessels in order to enhance their overall health and safety, as well as to fulfil the operational requirements of their roles.

#### Standard A2.4

Each section may encompass regulations and directives that establish the minimum standards for annual leave entitlements for seafarers employed on vessels registered under its flag, while considering the unique requirements of seafarers with respect to such leave.

The calculation of the annual leave entitlement, unless otherwise specified by collective agreements, rules, or regulations that account for the unique requirements of seafarers, shall be based on a minimum of 2.5 calendar days per month of employment. The determination of benefit duration should be entrusted to qualified experts or established mechanisms within each respective country. The proposition of abstaining from work may not always be regarded as a valid kind of annual leave.

Any agreement to waive the minimum annual leave entitlement stipulated in this Standard, except in instances permitted by the relevant authority, shall be void.

#### Standard A2.5.2

Each member is required to guarantee that its laws, rules, or other measures, as well as collective bargaining agreements, contain suitable provisions that prescribe:

This passage discusses three key aspects related to the repatriation of seafarers as outlined in paragraph 1(b) and (c) of the Standard. These aspects include the specific circumstances under which seafarers are eligible for repatriation, the maximum duration of service periods on board before repatriation is required (which should be less than 12 months), and the detailed entitlements that shipowners must provide for repatriation. These entitlements encompass various aspects such as the destine

According to Standard A2.5.2 (b), it is stipulated that the duration of service on board a vessel, after which a seafarer is eligible for repatriation, should not exceed a period of 12 months. This does not imply an obligatory repatriation of sailors, but rather acknowledges their entitlement to repatriation.

Nonetheless, it is evident from Regulation 2.4 that seafarers are entitled to receive remuneration for their annual leave. Furthermore, according to Standard A2.4, the calculation of annual leave

must be based on a minimum of 2.5 days for each month of service, resulting in a minimum of 30 days per annum.

According to Standard A2.4.3, it is unlawful to agree to waive the minimum annual leave with pay specified in the standard, unless authorized by the competent authorities. The interpretation of MLC 2006 necessitates that seafarers should not exceed a continuous period of 11 months on board a vessel without taking leave. The interpretation has been confirmed by the International Labor Organization (ILO). A total of 4,444 ship owners and operators have encountered challenges related to crew misconduct and have been had to adhere to both international laws and regulations, as well as the specific local laws and regulations of each country in which their ships are operational. I experienced a dispute. One aspect to consider is that the duration of stay for the ship's crew is limited to a maximum of 11 months. Conversely, the crew faces challenges in terms of repatriation due to restrictions imposed by local authorities, such as crew change limitations and travel prohibitions. The maritime sector has seen significant obstacles in relation to repatriation and crew replacement, prompting organizations like the International Maritime Organization (IMO) to call for government intervention. These issues have been given high priority in the industry. The concern regarding this matter was stated by the Secretary-General of the United Nations, António Guterres, who highlighted the escalating humanitarian and security crises faced by seafarers globally. Guterres acknowledged the critical role played by seafarers and other naval personnel, referring to them as essential workers. He urged all nations to officially designate it. Providing an assurance of unrestricted crew rotations. Mr. Guterres underlined this request in his address on World Maritime Day on September 24, 2020.

Moreover, a significant proportion of seafarers were unable to be repatriated due to the unavailability of substitute crew members. As a consequence of the aforementioned travel restrictions, a significant number of seafarers are encountering obstacles in their ability to travel by air to their respective vessels, so rendering crew changes arduous or, in certain instances, unfeasible. Consequently, sailors expressed dissatisfaction regarding the extension of their contracts by several months beyond the first stipulated termination date, so obliging them to continue their service on board the vessel. The individuals in question experienced a prolonged separation from their families lasting several months. According to estimates as of July 2021, over 250,000 seafarers find themselves in a state of being trapped aboard commercial vessels, facing

the inability to return to their home countries and dealing with expired employment agreements. In order to fill the vacancies, an equivalent number of seafarers were urgently required. According to estimations, around one million seafarers are employed on a global scale, serving aboard more than 60,000 large cargo vessels on a daily basis.

## **2.2 The rise in operational expenditures (OPEX) can be attributed to the significant expenses incurred for crew changes.**

Amidst the global pandemic, the process of crew changes posed significant challenges due to the prolonged confinement of seafarers on board vessels. The mobility of air transport and crew members was subject to limitations. A limited number of ports facilitated crew changes in order to facilitate the repatriation process. Nevertheless, the implementation of frequent crew changes incurred supplementary expenses due to the requirement for crew members to undergo quarantine periods and PCR tests in order to be permanently repatriated to their respective home countries. Despite the recent facilitation of crew changes for fully vaccinated sailors (with at least their second shot), it is worth noting that the expenses associated with crew changes continue to be substantial.

## **2.3 Filipino Seafarers**

The bulk of international sailors serving on ships are of Filipino nationality. As of December 3, 2021, the Philippine government has established stringent measures aimed at mitigating the transmission of the new coronavirus. It is imperative to acknowledge that we are in agreement. In order to enhance the efficacy of border control procedures, the next implementation will encompass testing and quarantine processes for incoming travelers.

I. In the case of individuals who have received complete vaccination, the act of leaving the place of origin It is mandatory for individuals to own a recent negative RT-PCR (reverse transcription polymerase chain reaction) test conducted within a 72-hour timeframe. Upon their arrival, individuals will be required to undergo institutional quarantine, and an RT-PCR test will be administered on the fifth day following their initial admission. Regardless of the outcome, it is imperative to observe a 14-day home quarantine period starting from the day of arrival.

II. In the case of persons who have not received any vaccinations, have received only partial vaccinations, or whose vaccination status cannot be reliably confirmed, it is mandatory to present

a negative RT-PCR test conducted within 72 hours prior to their departure from their country of origin. The possession of an item is deemed essential. Upon arrival, individuals will be required to undergo institutional quarantine, and on the seventh day following their arrival, RT-PCR testing will be administered. Regardless of the outcome, it is imperative for him to observe home isolation for a duration of 14 days following his arrival.

III. The responsibility for ensuring that airlines exclusively permit the boarding of passengers who have obtained negative results from an RT-PCR test before to their flight lies with the Ministry of Transport.

## **2.4 Crew Changes at Singapore**

The legislation and requirements pertaining to crew changes in Singapore are outlined as follows:

Throughout the duration of the epidemic, Singapore has emerged as one of the limited number of locations that has facilitated crew swaps. The legislation and requirements pertaining to crew changes in Singapore are outlined as follows:

The registration of crew members is detailed in Appendix A.

Crew members who have received complete vaccination inside the Active Vaccination Travel Lane are eligible to enroll in the registration process without the need to furnish a Stay-Home Notice (SHN) and are exempt from the requirement to travel on a Vaccinated Travel Lane (VTL) aircraft.

Prior to departure to Singapore, it is mandatory for the crew member to possess a negative COVID-19 evaluation (PCR) outcome, which should be obtained from a testing institution that is either government-approved or accredited by ISO 15189, and conducted in the country of origin no later than two days before the scheduled departure. It will not have any effect. The statement regarding the validity of the PDT, which specifies that if it was given on January 1, 2022, the individual has until 11:59 PM on January 3, 2022, to depart (for air/sea checks) or arrive (for land checkpoints), is accurate.

A negative result from a professionally administered Antigen Rapid Test (ART) conducted within 48 hours before to departure from countries or regions classified as Category I/II/III/IV can also be utilized for crew members.

The requirement for pre-departure FTT (Fit-to-Travel) testing is waived for fully vaccinated crew members before their departure for Singapore. However, it is important to note that non-vaccinated crew members are still required to undergo FTT within 24 hours prior to their departure from their home country.

The vessel is required to depart from the port after the crew change has been completed, as stated in accordance with PMC 9 of 2015.

Crew members who have had complete vaccination and have recently recuperated from a previous infection, specifically within a 90-day period, will be granted exemption from all testing and Stay at Home Notice obligations, contingent upon their ability to furnish suitable documentary evidence. Travelers who have not had full vaccination and have just recovered from COVID-19 will be granted an exemption from pre-departure testing procedures. However, they will still be required to adhere to the Stay-at-Home Notice.

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.

**2.5 Annex A 3.1 Summary of Country/ Region Classification for Recent 7-day (for entry into Singapore from 2 March 2022 as per JCL Marine Singapore, Ship Agent )**

**Countries/ Regions**

Macao, Mainland China and Taiwan

Fully Vaccinated and Non-Vaccinated

- Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore
- E ticket

**Countries/ Regions**

Company SHN LOU w/o Annex A  
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**

- Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore
- Vaccination certificate
- E ticket

**Fully Vaccinated & Recovered (from day 7 to day 90)**

- Company SHN LOU w/o Annex A
- E ticket
  - Proof of first C+ PCR report

**Non-Vaccinated**

- Vaccination certificate Company SHN LOU w/o Annex A
- 7 days SHN

- Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore
- Fit to travel within 24 hours
- Company LOU with Annex A

E ticket

Non-Vaccinated and Recovered (day 14 to day 90)

- Proof of first C+ PCR report
- 7 days SHN
- Fit to travel within 24 hours
- Company LOU with Annex A

E ticket

## ALL OTHER COUNTRIES

Fully Vaccinated and Non-Vaccinated

- 7 days SHN
- Pre-Departure Antigen-Rapid Test (ART) or Polymerase Chain Reaction (PCR) Test within 2 days before departure for Singapore
- Fit to travel within 24 hours
- Company LOU with Annex A

E ticket

Fully Vaccinated & Recovered (from day 7 to day 90)

- E ticket
- Proof of first C+ PCR report
- Vaccination certificate

Company SHN LOU w/o Annex A

Non-Vaccinated and Recovered (day 14 to day 90)

- Proof of first C+ PCR report
  - 7 days SHN
  - Fit to travel within 24 hours
  - Company LOU with Annex A
- E ticket

**ANNEX B**

Before arrival	Arrival	Type of Scenario	Protocol
Singapore	Singapore		
<b>SIGN OFF</b>	<ul style="list-style-type: none"> <li>- must not have gone ashore within the last 7 days prior arrival Singapore</li> <li>- must refrain from interacting with shore-based personnel at previous ports in the last 7 days.</li> </ul>	<ul style="list-style-type: none"> <li>- PCR TEST to be carried out on board by medical service provider</li> <li>- to carry out Fit to travel by medical doctor</li> <li>- crew to remain onboard until the result of PCR test</li> </ul> <p><b>Note:</b>  <i>Note: PDT from Owner/Agent to last port stated in PMC 39 will be removed</i></p>	<ul style="list-style-type: none"> <li>- Submit the document including crew who has carried out PDT test onboard for final no objection for crew to sign off</li> <li>- crew will either proceed directly from vessel to airport or MPA designated holding facility depending on flight availability</li> </ul>

*require PDT  
together with the  
clinic name and  
details. PDT shall  
not be carried out  
onboard without  
MPA's approval*

- PDT C+ve
- C+ve will remain onboard under MOH HRP protocol 1,2 and 3.
  - only crew who required urgent medical attention shall be evacuated as per existing protocol

Starting from April 1st, crew members who have received the COVID-19 vaccination are permitted to travel to and from Singapore without any imposed limitations or constraints. In situations where an airline or the seafarer's home country mandates the use of a PCR test, such as in the Philippines, the seafarer will be directed to a designated hotel. At this location, trained medical personnel will administer the swab test, and the crew member will be required to remain at the hotel until the test results have been obtained. The expense associated with this particular step can be outlined as follows:

The cost for swab sample collection, with a crew size ranging from 1 to 10 individuals, amounts to \$1800 per vessel. This fee covers a labor duration of 3 hours.

The cost of the PCR swab test for each crew member is \$230 , **as per JCL Marine Singapore, Ship Agent**

According to the teleconsultation policy, crew members will be required to undergo a fit-to-fly assessment if they disembark on the third day. The cost for this assessment is \$102 per crew member.

The release of results can be expedited by arranging for an express laboratory test, which typically takes 24 hours.

Swab test costs an additional \$200 per crew member, and he can receive the results within 8 hours after the sample is submitted to the laboratory.

In the event that a swab request is made during the weekend, a supplementary price of \$800 will be levied in conjunction with the pre-established onboard charge.

The closing price is subject to a Goods and Services Tax (GST) rate of 7%.

Based on the given information, it can be inferred that the average cost incurred for a crew change involving five sailors is roughly \$3,702. Signatories originating from the Philippines will be obligated to undergo a Polymerase Chain Reaction (PCR) test, with an approximate cost of \$150 per crew member, in addition to expenses related to accommodation.

Based on the aforementioned data, it can be inferred that the substitution of a crew consisting of 5 on signers with another crew of 5 off signers at a port with favorable conditions, such as Singapore, would result in an additional expenditure above the amount of US\$4,500 for the shipowner.

## **2.6 CREW CHANGE (at LOW-RISK AREAS):**

Besides the seven countries listed as following

In countries other than those specified in items 1 and 2, a mandatory quarantine period of 28 days shall be enforced for crew changes, commencing from the day of crew member's signing on.

Upon the ship's arrival at the shipyard, it is imperative for the entire crew to undergo a Polymerase Chain Reaction (PCR) test and await the outcome prior to commencing any operational activities. In the event that both the shipowner and the ship's crew can provide assurance to the shipyard that the vessel would embark directly from the shipyard without undergoing any repairs, should the PCR test yield abnormal (positive) results, it is possible to reduce the duration of quarantine periods outlined in criteria 1, 2, and 4 by fifty percent.

Furthermore, as per the Zhoushan authorities, it is required that ships which have made previous stops at Chinese ports prior to arriving at Zhoushan must provide a crew sampling PCR Test record or report issued by the local Customs at the initial domestic port of call in China before engaging with any shipyard in Zhoushan. Alternatively, vessels may face rejection. In instances when PCR testing has not been conducted by Customs upon arrival at the initial domestic port, it is advisable for owners to engage with the shipyard to explore the possibility of obtaining specific entry

approval from the local government. This approval would be sought on an individual basis, facilitated by the shipyard's endeavors.

In addition, the Shanghai municipal administration implemented a period of restricted movement and activity in the nation's primary economic and international trade hub, commencing on the evening of March 27, 2022 and extending until the commencement of June 2022. With the exception of fundamental utilities such as water, electricity, fuel, and gas, the entirety of commercial establishments ceased operations, while the general population was mandated to remain within their residences to facilitate the implementation of polymerase chain reaction (PCR) testing on the entire population of 25 million individuals in Shanghai. The originally projected duration of the lockdown, first set to conclude on April 5, 2022, has been extended with no current indication of its termination until the conclusion of May 2022. In the event of a confirmed positive case, the building, corporation, or region in which the case was identified underwent a period of quarantine.

Superintendents who were required to travel to China for the purpose of attending drydock activities are subject to a mandatory quarantine period of 14 days in Beijing, followed by an additional 7-day quarantine in the port vicinity where the shipyard was situated. A total of three negative Polymerase Chain Reaction (PCR) tests are mandated for anyone entering Beijing. The first test is conducted immediately upon arrival, followed by a second test after the completion of a 14-day quarantine period. Lastly, a third test was administered after a 7-day quarantine period.

## **CHAPTER 3**

### **THE CREW-RELATED CONSIDERATIONS OF CHARTERERS IN THE CONTEXT OF PRE-FIXTURE**

To mitigate potential disruptions in cargo operations, claims, and demurrage occurrences throughout a voyage, charterers are incorporating supplementary provisions within charter contracts pertaining to crew rotations and instances of Covid-19.

#### **3.1 The topic of discussion pertains to Vitol fixtures**

Vitol has incorporated the following standardized clause into all fixtures, which has been included in the Vitol Warranties. In the event that owners choose to carry out a crew change while a Vitol voyage is underway, it is imperative that such arrangements be mutually agreed upon in advance, specifically while the vessel is operating under submarines.

Inclusion of Additional Vitol Warranties, specifically as there has been no occurrence of crew change, nor will there be any crew change in the future (nor is there a need for crew change), either within the 14-day period preceding the commencement of the lay days or subsequently during the execution of this charter (unless necessitated by crew injury, illness, or similar circumstances arising after the date of this Charter Party agreement). If the aforementioned scenario does not apply, and there is a need or intention to carry out a crew change, the owners are requested to provide confirmation in their response on the quantity and positions of crew members to be replaced, as well as the intended location for the crew change. Kindly find below an example of questionnaire that was required by Vitol during the fixture with the carriers.

Vitol Preamble for Crew Change

The following questionnaire table should be completed accordingly, based on the vessel's ongoing journey.

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. Were 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.)

### **3.2 The issue of vessel seaworthiness in the event of a COVID-19 incident.**

The concept of seaworthiness encompasses the comprehensive readiness of a vessel to undertake its intended journey. In addition to managing the inherent hazards typically encountered, it is imperative to ensure the secure transportation of one's cargo. This inquiry is to a matter of factual determination rather than legal interpretation. According to Franchina (2017), the concept of seaworthiness is a more specific phrase within the context of maritime safety. It pertains to the condition of a ship, including its equipment, cargo, crew, and any additional passengers present on board. In greater depth, the examination encompasses multiple facets, including the satisfactory state of the vessel's hull and deck, methods of propulsion and steering, installations and equipment, staffing requirements (with an adequately skilled crew), suitability of the ship for transporting cargo (including loading and unloading apparatus, well-maintained cargo holds), and preservation of merchandise (such as ventilation, cargo battens, dunnage, and refrigeration systems) (Aladwani, 2016).

Drawing from an extensive body of legal precedents, it is evident that the presence of unseaworthiness alone does not establish conclusive evidence of a ship's poor condition. The degree of care expected from the ship-owner in a charter contract is contingent upon the specific voyage to be undertaken and the nature of the products to be transported. The governance of this phenomenon is determined by established professional protocols and conventional methods (Cha et al., 2021- [05 Franchina DirNav 13062017.pdf](#) )

In accordance with English law, the shipowner's duty to furnish a ship that is fit for the intended purpose is of utmost importance and obligatory in all agreements pertaining to the transportation of goods by water. The conduct of due diligence is considered the fundamental factor in ensuring seaworthiness. The state of due diligence is not uniformly consistent across all ships, as its implementation and expectations vary depending on the unique circumstances of each instance. Several factors can influence the level of due diligence needed, including the vessel's classification, dimensions, age, and operational region, among others. However, it is important to note that in

practice, the shipowner typically possesses prior knowledge of the majority of variables and has already implemented proactive measures. The problem arises from unforeseen circumstances, such as an incident involving the crew, a collision, or a technological malfunction, which have the potential to occur at any given time and disrupt the normal operational procedures. In such instances, the collective knowledge gained from past shipping-related disasters has led to the development of protocols aimed at preventing the recurrence of such accidents and subsequently mitigating the extent of damages incurred (Zhang & Sun, 2021). The COVID-19 incident has been demonstrated to be distinct from other cases. The primary concern derives from the lack of implementation of necessary preventative measures and the subsequent contamination of the crew. According to the BIMCO Terms on Crew Changes (Time CP, 2020), it is necessary to consider the affected individual as being in a state of permanent incapacity, and it is the responsibility of the firm to arrange for their departure and repatriation from the closest port of call. Furthermore, it is indicated that the vessel is permitted to alter its course in order to facilitate crew changes in the case that COVID-19-related limitations impede crew changes from taking place at the designated ports or locations, or within the designated timeframe of arrival. The concern regarding this provision is in the shipowner's entitlement to deviate from the designated shipping route, without this entitlement being considered a mandatory requirement in terms of exercising due diligence. Furthermore, the current situation of the crew's well-being lacks substantiated evidence. Consequently, the decision to exercise the aforementioned "liberty" and opt for a deviation in the event of COVID-19 occurrences lies solely within the discretion of the shipowners. The shipowners may utilize this concept of "liberty" as a strategic mechanism to mitigate off-hire situations or as a contingency measure in the event of delays or other unforeseen circumstances. Moreover, it should be noted that sub-clause (b) of BIMCO Terms (Time CP, 2020) stipulates the following: "Owners are obligated to exercise the aforementioned right in sub-clause (a) while considering the interests of Charterers, and they must promptly inform Charterers in written form of any planned deviation for the purpose of crew changes." The rationale for this clause appears to prioritize the vessel's contractual obligation to promptly change course in the event of a Covid-19 incident on board, or else face liability for any resulting damages. This is instead of establishing "windows of exemption" that would allow the shipowner to evade contractual obligations while exercising due diligence at their own discretion (Coish & MacNeil, 2020).

### **3.3 The subject of discussion pertains to the concepts of off-hire, laytime, and demurrage in the context of a COVID-19 incident.**

Within the context of time charter parties, there are specific provisions that have the potential to render a vessel off-hire. In a multitude of instances, these clauses make indirect references to the shortcomings of individuals or any other factors that impede the optimal functioning of the vessel. In situations when a significant portion of the group members have been affected by COVID-19, resulting in noticeable delays and operational shortcomings, and if the vessel's dynamic faculty does not meet the necessary standards and staffing criteria, it can be concluded that the vessel is indeed considered off-hire.

Following the declaration of the ship as off-hire, the matter pertaining to the hire payment persists. All contemporary Charter Parties have provisions that exempt the payment of rent in cases where the ship is unable to fulfil the charter's intended purpose. However, it is necessary to establish two fundamental criteria in order to invoke these exemptions.

1) Initially, the charterers have the burden of proof and are obligated to make hire payments unless they can provide evidence that they qualify for an exception. 2) The off-hire clause functions autonomously and is not contingent upon any violation committed by the owners (Russel, 2015). The BIMCO COVID-19 Crew Change Clause for Time Charter Party provides two alternative options in the event of deviation.

The vessel has the potential to continue its charter agreement, albeit at a diminished rate of compensation per diem, which will be explicitly stated. In the event that a specific hire rate is not established, it is recommended that fifty percent (50%) of the hire rate be applied. Additionally, the cost of bunkers consumed should be divided equally between the Owners and Charterers. Alternatively, if the ship is not in use, it shall be considered off-hire and the cost of bunkers consumed will be shared equally between the Owners and Charterers. The inclusion of these terms may be considered technical in nature, as they do not impose an obligation on the shipowner to deviate from the agreed route, nor do they alter the responsibility for verifying compliance or independently taking action in the event of a breach. In the subsequent analysis, we will investigate the impact of the aforementioned clauses on the customary procedure of evaluating an off-hire situation.

In accordance with Aqua charm (1982), it is imperative to ascertain whether the comprehensive functionality of the vessel has been foreseen. Once this phenomenon has been demonstrated, we proceed to examine its underlying explanation. According to Berge Sund (1993), the concept of a "Full working vessel" refers to a situation where the transportation vessel is unable to carry out any additional operations as required under the charter. In this scenario, if the subsequent operation is docking and the departure is unable to proceed, there is no expectation. As previously mentioned, the corrupt team is rendered ineffective. Furthermore, it is plausible that the deployment is inadequately manned, hence impeding its ability to operate under optimal conditions (Thomas, 2020).

In conclusion, the transportation is typically deemed off-hire alone in the event of a time loss. This situation could be interpreted as either an unfortunate occurrence at a moment of advantage, wherein the ship was not functioning optimally, or as a setback that resulted in a delay to the overall progress of the expedition. In the context of the COVID-19 pandemic, the unfortunate sequence of events commences with the decision to deviate from the established protocol of disembarking the crew members who have tested positive for the virus. In the context of trip charter parties, it is a prerequisite for a valid notice of readiness (NOR) and the subsequent commencement of laytime that the vessel is in a suitable condition to accommodate cargo. The concept of granting official authorization from port authorities to load the vessel should be deemed inconceivable in cases where it is established that a subset of crew members is afflicted or thought to be afflicted by COVID-19.

As a consequence, it is advisable for vessels to refrain from issuing a valid Notice of Readiness (NOR) in order to impede the initiation of laytime. In circumstances necessitating the issuance of a legitimate Notice of Readiness (NOR), a period of idleness will initiate and persist, unless there exists an exemption to the provision for temporary suspension of work as stipulated in the contractual agreements pertaining to the vessel's operational challenges arising from the global pandemic. In the event that late fees are applicable to a vessel, it is necessary for the chartering parties to explicitly exempt or suspend them. This exemption is permissible solely when it is explicitly established for that purpose.

BIMCO does not provide explicit terms and conditions for trip charter parties, akin to those offered for time charter parties. This implies that the COVID-19 clauses established by BIMCO do not

enforce severe accountability in cases of non-compliance with the corresponding provisions. Instead, they grant charterers and shipowners a degree of freedom and immunity from legal responsibility. This assertion may provide additional backing to the aforementioned viewpoint that the primary objective is to reinforce the contractual association between measures and protocols pertaining to the novel coronavirus illness (COVID-19). This viewpoint is grounded in the observation that in a charter journey, the contractual obligations between the charterer and owner are significantly reduced. In this arrangement, the owner assumes complete responsibility for the voyage, while the charterer's sole obligation is to remunerate the freight charges.

In accordance with the relation to trip charter contracts, it can be asserted that prevailing legal precedents typically pertain to instances involving COVID-19. With respect to the initiation of berth time, both charterers and owners own the right to utilize the allocated time without any obligation to act promptly. The Court of Appeals (CoA) contended that the process of loading should be considered incomplete until the cargo is securely positioned aboard the ship, ensuring the ship's safe continuation of its journey. Moreover, the CoA asserted that packaging should be seen as an integral component of the loading process. Hence, the fact that the owner's actions resulted in the excess of the vacation period is inconsequential. Nonetheless, a distinction can be made between two scenarios: a) the shipowner's inability to get an adequate number of stevedores due to circumstances beyond their control, and b) the shipowner's deployment of stevedores who then engage in negligent behavior. There exists. b) In instances where the individual in question supplies stevedores who exhibit negligence. In scenario b), the individual will bear responsibility for the delay due to their negligent actions. In the event that the delay is caused by the owner, it is not necessarily subject to legal action.

### **3.4 BIMCO Disease Clause**

The BIMCO Disease Clause is a contractual provision developed by the Baltic and International Maritime Council (BIMCO) that addresses the impact of diseases on maritime contracts.

The enduring COVID-19 epidemic persisted in exerting was influence on the industry, manifesting in various ways such as the shipping container crisis, the refusal of ports to provide entry, and the prolonged confinement of staff aboard vessels for extended durations. Numerous shipping corporations have exhibited hesitancy in venturing into specific nations owing to the elevated likelihood of crew members getting COVID-19 or the potential requirement for the entire vessel

to undergo quarantine as a result of COVID-19 limitations enforced by the receiving country. Furthermore, the occurrence of the delay can be attributed to the crew members contracting the COVID-19 virus, which subsequently necessitated their compliance with self-quarantine protocols or the pursuit of medical intervention. The aforementioned factor, in conjunction with the examination of the remaining crew members, is resulting in significant disruptions in port operations. The Infectious or Infectious Disease Clauses for Time Charters, developed by BIMCO, were initially formulated in response to the Ebola outbreak in 2015. These clauses aim to offer a standardized approach in dealing with disease outbreaks. This study examines the challenges encountered by ship owners in safeguarding the health and well-being of seafarers, as well as the potential repercussions that ships may face while engaged in the transportation of specific commodities. The term "region" refers to a specific geographic area that is characterized by certain physical, Certain aspects of the clause are centered around the rights possessed by shipowners. The definition of sickness is a notable aspect highlighted in the sentence. As to the stipulation, "Disease refers to a highly infectious or contagious ailment that poses significant harm to human beings." Furthermore, an indispensable aspect to consider in the discourse surrounding the ramifications of the COVID-19 pandemic is the concept of the "affected area". As per the stipulation, the term "Affected area" refers to any port or location where there exists a potential for the vessel, crew, or other individuals on board to be exposed to the disease, as well as a possibility of quarantine or other limitations being enforced in relation to the disease. To facilitate the decision-making process for vessel owners on the feasibility of docking at a port located within an impacted area, it is stipulated that ship owners are required to promptly inform the charterers once a decision has been reached.

In the event that it is determined, by a reasonable assessment, that the vessel is situated within a region deemed to be impacted, the vessel is permitted to depart promptly (according to BIMCO 2019). The charterer is required to give an alternative voyage order within a specified timeframe of 48 hours. Failure to comply with this requirement grants the shipowner the authority to unload any commodities that may already be present on the vessel at any port or location. In this scenario, it is the charterer who bears the responsibility for any supplementary charges, expenditures, and obligations that arise. Although the clause offers ship owners a clear and rational approach to assessing the safety of berthing in unclear seas, it is important to acknowledge its inherent limits. The term "mechanism" refers to a process or set of actions that lead to A significant inquiry pertains

to the utilization of the phrase "affected area." The COVID-19 pandemic outbreak has presented numerous issues in determining the scope of an "affected area" due to its unpredictable and intricate nature. This is particularly evident given the global impact of the pandemic, as it becomes difficult to define an area that is not affected. In relation to the matter of "affected areas," another concern that was expressed pertained to the original provision of COVID-19, which was specifically meant to be applicable to the initial strain of the virus. According to BIMCO, the terms and guidelines provided for charterers and ship owners are applicable not just to the novel strain of Covid-19 but also to potential future outbreaks of similar viruses. Nevertheless, owing to the fluid and constantly evolving characteristics of the Covid-19 pandemic, it is no longer feasible to categorize the virus under a singular classification.

The paramount concern for shipping firms should be the well-being and safety of seafarers. It is imperative that seafarers are consistently apprised of any forecasts or information pertaining to potential risks and hazards, such as the current epidemic, along with appropriate measures to safeguard their health. Regrettably, the prioritization of group security was not observed as the foremost concern in the revised BIMCO terms pertaining to crew changes within the COVID-19 pandemic, as well as in the newly introduced Disease Clause of 2021. The contracting parties made efforts to identify and minimize any risks, incorporating provisions that create opportunities to be exempted from any liability. Initially, the authors fail to fully embrace the notion of proactive measures, which are undeniably the most crucial approach for safeguarding the well-being of the crew. Instead, they refer to these measures as merely "exercising due diligence."

In relation to the matter of seaworthiness, instead of advocating for stringent obligations on both charter parties, it is advisable to establish provisions for the exceptional liability that arises in the event of a COVID-19 incident. However, it is essential to provide clarity on how the company's diligence will be demonstrated and specific measures will be implemented to mitigate such incidents. In relation to the fundamental deviations observed during a confirmed COVID-19 occurrence, there is a deliberation within temporal constitution parties concerning the allocation of financial resources to address the deviation associated with the disembarkation of the infected crew. However, it is noteworthy that no additional measures, such as thorough sanitization, mandatory quarantine, or robust proactive measures (e.g., comprehensive team disembarkation), are being implemented to adequately safeguard the health of the crew.

The primary emphasis of charter party agreements for voyages is centered on the submission of a legitimate Notice of Readiness (NOR) in the event of a COVID-19 occurrence, with no additional provisions outlined for addressing incidents that may arise throughout the course of the journey. The sole recourse available is to avail oneself of the opportunity to depart once again. With regards to port safety, the aforementioned provisions center around the port's lack of sufficient care, the anticipation of port safety measures, and the categorization of "unusual events" in the context of a COVID-19 incident. The absence of any discourse regarding enforcement, the lack of authentic charter party liability, and the absence of provisions mandating contracting parties to safeguard and uphold the well-being and safety of the crew were notable aspects. IMCO effectively protects the interests of its clients, who are referred to as charter parties.

Furthermore, it may be asserted that the shipping industry played a significant role in supporting nations amidst the outbreak of the COVID-19 pandemic. Nevertheless, these two pieces of information alone do not absolve the contractual parties of their obligations. Merely offering revised terms to safeguard the rights of the parties involved without addressing the underlying concerns is inadequate.

### **3.5 The inclusion of a Coronavirus Clause in Voyage Charter Parties by Aramco Trading Company.**

**Affected Areas** If any port, waterway, or place is impacted or subsequently impacted by the coronavirus illness (COVID-19) (referred to as "the Coronavirus") during the duration of this Charter, it shall be considered an "Affected Area" and the provisions of this Clause shall be applicable.

#### **Limitations on Maritime Traffic in Impacted Regions**

The Vessel is prohibited from entering an Affected Area if the port authority or other relevant governmental organizations of the port state have issued notices prohibiting entry owing to the Coronavirus.

The mere location of a port inside an Affected Area should not be the only determinant of its safety.

### **3.6 Crew Exposure Risk**

It is anticipated that owners will employ their rational judgement in evaluating the probability of crew members coming into contact with the Coronavirus, thereby potentially contracting the aforementioned disease, during the entire duration of the Charter. The decision-making process ought to be guided by the instructions and guidance offered by reputable international advisory institutions such as the World Health Organization (WHO), in addition to the relevant port authorities and governmental bodies of port nations. Owners are expected to exercise their reasonable discretion in assessing whether there exists a significant likelihood that crew members may encounter the Coronavirus, so potentially getting the aforementioned illness, at any point throughout the Charter. The decision-making process should be informed by the guidance and instructions provided by the World Health Organization (WHO) and other credible international advisory agencies, as well as the applicable port authorities and governmental bodies of port states. This is in relation to assessing the risk of crew exposure.

The term "loading port" refers to the location where goods or cargo are loaded onto a vessel for transportation. In the event that the owner of NOR (Notice of Readiness) becomes aware of a potential risk of crew exposure at the loading port prior to bidding to load the cargo, they are not under any obligation to proceed with calling at said loading port. In instances of this nature, shipowners possess the prerogative to dispatch a formal communication to charterers, wherein they request the latter to provide a definitive designation of an alternative port situated inside the loading vicinity. In the event that the Charterer fails to designate one or more specific ports within a period of 48 hours subsequent to receiving notice of the aforementioned request, the Shipowner shall possess the prerogative to terminate the Charter.

The exit port is a designated point of departure or egress. Once the process of cargo loading has been finalized, in the event that a potential hazard to the crew's safety is identified at the discharge port, the shipowner is not under any responsibility to proceed with calling at said port (assuming the existence of a discharge port, there is no compulsion to maintain presence there). There is an absence of information. In instances of this nature, shipowners possess the prerogative to provide a formal notification to charterers, thereby soliciting their designation of an alternative port situated within the designated discharge region.

The concept of deviation. In the event that it becomes evident that the intended course of the vessel poses a potential threat to the safety of the crew, and a viable alternative route to the designated port of loading or discharging exists, the shipowner retains the prerogative to exercise their discretion. Consider opting for an alternative course of action. The Owner must provide advance notice and engage in conversation with the Charterers before making a decision of this nature, which is referred to as "Permissible Alternative Routes."

### **3.7 The occurrence of delays and the subsequent incurrence of additional costs.**

Subject to the conditions outlined in sub-clauses (l), (m), (n), and (o) below, any delays, additional reasonable costs, and/or expenses that directly arise from the Charterers' instructions for the Vessel to visit an Affected Area and/or the Owners' decision to take an alternative route that is permitted, including but not limited to activities such as screening, cleaning, and/or obtaining medical treatment for any infected crew members, either in an Affected Area or at subsequent ports of call, shall be divided equally between the Owners and the Charterers. The Owners must provide supporting documentation of these reasonable costs, along with evidence of payment, and the costs shall be paid based on the Owners' invoice. Any time lost as a result of complying with these conditions shall be the responsibility of the Charterers, who will be charged at half the demurrage rate.

### **The responsibilities and guarantees of owners.**

The topic of discussion pertains to clearance procedures and the concept of free pratique Owners acknowledge that the widespread presence of the Coronavirus may lead to an increase in administrative tasks and regulatory requirements for vessels to get clearances and be granted free pratique by the competent authorities. In this particular context, it is anticipated that proprietors will initiate discussion with the relevant authorities in order to ascertain the requisite documentation and protocols for obtaining vessel permissions and/or free pratique. Owners are also responsible for submitting the requisite documentation and adhering to the specified procedures within the designated timeframe. Charterers are expected to engage in complete cooperation with Owners in relation to this matter. Delays, costs, or expenses that arise due to non-compliance with the specified documentation and procedural requirements by the vessel's master, crew, or owners (regardless of whether caused by the charterers, negligence, or time lost) will not

be considered as part of the berthing/waiting time. The responsibility for such delays, costs, or expenses lies solely with the owners and will be borne by them.

In the preceding communication. Shipowners shall bear the complete responsibility for any delays, additional charges, and expenses that arise at the ports of loading or discharging due to the ship's prior visit or call in the Affected Area before the commencement of this Charter. The measurement of lost time is commonly referred to as lay time.

The owner bears the obligation for ensuring the safety and security of both the crew and the vessel. In this particular context, it is incumbent upon owners to effectively implement and adhere to operational protocols that take into account the potential hazards presented by the coronavirus to both the physical vessel and her crew. The hazards encompassed in this context encompass the possibility of vessel isolation or detention, as well as the health and safety concerns pertaining to the crew. Consequently, the shipowner bears the following responsibilities:

- (i) Limiting the number of people allowed on board a vessel.
- (ii) To the extent possible under the circumstances, search for all people required to be on board the ship, including the crew; This may include questions about your current health and travel history.
- (iii) Provide adequate sanitary facilities, equipment, and procedures on board the ship in accordance with the guidelines of reputable organizations providing relevant instructions, including the WHO and the International Maritime Organization.

All claims, losses and delays resulting from the shipowner's failure to conduct these operating procedures, including the failure to carry out appropriate inspections of the ship's crew, shall be borne by the shipowner, but no loss. The shipowner will not be responsible for the time. The owner's wait/wait time will be taken into account.

Calling out to the affected areas the owners affirm that they shall refrain from navigating into the impacted regions for the duration of this Charter Period, for the purpose of procuring bunkers, spare parts, crew replacements, and similar requirements., except to the extent necessary to comply with the Charterers' instructions. The shipowner additionally recognizes the crew's obligation to

refrain from departing inside the designated region, and it is the responsibility of the captain to effectively communicate this restriction to the crew and secure their adherence, unless urgent repatriation is necessary. We guarantee that we will take the following steps. Any claims, losses or delays incurred in the affected area or subsequent ports of call because of the Shipowner's failure to comply with this sub-clause (I) shall be the sole responsibility of the Shipowner, including any loss of time. There will be no compensation. Any duration of time that is not utilized shall not be included in the calculation of laytime or time on demurrage.

## **CHAPTER 4**

### **The Influence of the COVID-19 Pandemic on Ports and Corresponding Management Strategies**

The closure of ports and the shortage of staff resulting from the epidemic have had a consequential effect on the capacity of ports and terminal operators to carry out vessel operations within the designated timeframe. Delays were also seen in the provision of essential services related to the interaction between the port and its hinterland. The ports in India experienced a decline in operational capacity as a result of labor shortages, leading to a disruption in the customs authorities' ability to complete customs clearance procedures for the cargoes. In addition to other operational challenges, customs clearance procedures were also affected by the implementation of a new requirement on June 22, 2020. This requirement mandated a comprehensive physical inspection of all import cargoes originating from China. This scenario resulted in the occurrence of induced port congestion, which therefore disrupted the movement of cargo and caused delays in the

shipment process. The free movement of individuals and goods in and out of ports was restricted. This resulted in additional expenses for the shippers. The phenomenon of container shortages was noted, accompanied by a decrease in the availability of cargo-free containers. The reduction in port stock prices and revenues can be attributed to the decrease of port calls. In order to mitigate the consequences arising from congestion and the resultant economic implications for carriers and shippers, some ports made the strategic decision to reduce or temporarily suspend fees. This measure has further exacerbated their already dwindling earnings, thereby augmenting the dangers of accumulating debt and facing bankruptcy. The implementation of containment measures by terminal operators, authorities, and intermodal transport providers in order to mitigate the transmission of the coronavirus disease led to an increase in the duration of ships' stays at ports that were functioning at a reduced operational tempo. The market for dry bulk carriers saw significant delays, characterized by prolonged loading and unloading procedures.

The significance of information and communications technology (ICTs) in facilitating global trade has been heightened during the pandemic crisis. Digital trade facilitation refers to the comprehensive use of Information Technology systems and the adoption of paperless procedures throughout all aspects of the cross-border trade process. The utilization of digital methods for trade facilitation has the potential to enhance work efficiency, reduce expenses incurred during cross-border trade operations, provide convenience for door-to-door transportation, and minimize or eliminate the need for interpersonal interaction throughout the entire process. The utilization of these technologies has been demonstrated to be essential during the pandemic crisis in order to maintain the flow of international trade, while minimizing face-to-face interactions through remote operations. The eventual implementation of international agreements has facilitated the ongoing enhancement of digital trade facilitation. One example that demonstrates this phenomenon can be observed in the International Maritime Organization (IMO) Convention on Facilitation of International Maritime Traffic, which was established in 1965. This convention mandates states to actively promote the seamless transmission of electronic data between ships and ports, with the utilization of maritime single windows being strongly advised. There exist multiple projects aimed at transitioning from physical documentation of maritime goods to digital templates, alongside a predominant reliance on electronic communication through email. Furthermore, the WTO Agreement on Trade Facilitation includes multiple mentions of Information Technology tools as a mechanism to enhance the convenience, predictability, and transparency of trade regulations in

cross-border transactions. These tools also aim to expedite the processes of transportation, customs clearance, and release of goods. In response to the crisis caused by the pandemic, certain developing nations have implemented or extended programs that permit the remote presentation of documents and facilitate remote verification by border officials. These measures aim to enhance transparency in the clearance processes. The National Single Window of Foreign Trade in Morocco, commonly referred to as Portnet, has recently opted for a complete shift towards the utilization of internet platforms and remote working tools. This facilitated the fulfilment of customs clearance procedures and enabled the utilization of government-affiliated services. According to a report by Morocco World News in 2020, the availability of services is continuous, spanning a duration of 24 hours per day and 7 days per week. Oman was utilizing electronic methods to their advantage. The aforementioned procedures were implemented prior to the onset of the pandemic, facilitating the remote authorization process and providing support to the officers engaged in trade operations. This included the electronic submission of cargo manifests, which were required to be completed 48 hours prior to the arrival of the vessel. According to the Global Alliance for Trade Facilitation (2020), the range of e-services has been broadened to encompass payment processing, document interchange, and data management.

#### **4.1 Shifts in Maritime Commerce: Decreased Frequency of Port Visits**

The utilization of Automated Identification System (AIS) data enables the monitoring and tracking of ship movements, thereby offering timely and accurate information on the dynamics of maritime transit and trade. The utilization of this approach aids in addressing the current deficiencies in data, as conventional data sources and methodologies that depend on national government statistics often exhibit a delay in their generation. The utilization of AIS data enables the prompt and accurate detection of fundamental patterns through the monitoring of ship communications. The insights obtained enable swift analysis of crucial factors and facilitate understanding of immediate fluctuations, as well as the prediction of probable long-term structural shifts.

The AIS data obtained from Marine Traffic for the initial 24 weeks of 2020 offers valuable insights into the extent of the disturbance and the resilience demonstrated by the maritime supply chain. The table shown below outlines major trends categorized by ship type, geographical region, and kind of economy. The use of AIS data as a proxy for informing about economic activity trends is widely recognized, although it is important to acknowledge the inherent limitations of such data,

including coverage. While the insights obtained from this data provide valuable information about underlying patterns, it is important to exercise caution when interpreting them. It is advisable to compare and validate these findings with official statistics and other traditional data sources.

During the initial 24-week period of 2020, there was an observed decline of 8.7% in the global tally of ship encounters, as compared to the corresponding period in 2019, with a reduction from 1.1 million to an undisclosed figure. During the twelfth week of 2020, the World Health Organization officially designated COVID-19 as a pandemic coinciding with a significant decrease in cases. The extent of fluctuations in ship interactions was minimal throughout the initial quarter. The implementation of economic and social constraints, as well as lockdown measures, brought about a significant transformation in the prevailing circumstances. During the second quarter of 2019, there was a reduction in the number of calls by 17 percent, resulting in a decline of 95,206 calls compared to the corresponding period in 2018.

Between Weeks 13 and 16, a decline of 13.2 percent was seen in the total volume of ship calls. A reduction of 15.4 percent was seen for the time period spanning Weeks 17 to 20. During the period from Week 21 to Week 24, there was a reduction of 20.8% in comparison to the similar period in 2019. The aforementioned pattern did not exhibit a reversal during the final fortnight of June in the year 2020.

A distinct perspective arises when examining the number of port calls based on the type of cargo. After experiencing a marginal decrease of 1.1 percent in the first quarter of 2020, there was a subsequent reduction of 5.8 percent in containership port calls during the latter half of the year. The decrease in port visits made by dry bulk carriers had a comparable extent to that witnessed in containerships. In the second quarter, there was a decline of 6.3 percent in port calls made by wet bulk carriers.

Dry bulk carriers are vessels specifically designed for the transportation of unpackaged bulk commodities, such as coal, iron ore, grains, and other similar materials.

The frequency of dry bulk ship trips had a reduction that was equivalent to the decrease observed in container ship visits. Following a loss of 5.8 percent in the second quarter of 2020, the overall decrease for the entire year was -3.6 %.

Nevertheless, there exists a discrepancy in the allocation of this influence between bulk cargo and container shipping, as evidenced by the data presented in Table 8. The COVID-19 pandemic has had a substantial negative effect on bulk carriers in Latin America (-21.6%) and Australasia and Oceania (-18.6%), regions known for their considerable exports of dry bulk commodities including coal and iron ore. The European region underwent a significant impact, resulting in a 11.4 percent loss, whereas the Far East witnessed a comparatively lower decline of 3.6 percent. The frequency of ship visits performed by bulk carriers in North America demonstrated a sustained level of consistency. The Eastern region experienced a decline of 3.6 percent during the second quarter of 2020. Nevertheless, the reduction in question proved to be inadequate in offsetting the previously documented increased trajectory witnessed during the initial three months of the year, a pattern that was similarly observed in the Gulf and Indian Subcontinent area.

In comparison to the containerized commerce industry, countries experiencing economic transition, Small Island Developing States (SIDS), and Least Developed nations (LDCs) had notable reductions in the frequency of bulk ship visits, with respective declines of 18 percent, 26.8 percent, and 12.8 percent. On the contrary, the data shown in Table 9 demonstrates that affluent nations witnessed a reduction of 6.5 percent, while poor nations observed a loss of 1 percent.

**Table 1. Dry bulk ship calls by region (2020-2019) ALL**

	<b>Australasia &amp; Oceania</b>	<b>Europe &amp; Med</b>	<b>Far East</b>	<b>Gulf &amp; ISC</b>	<b>Latin America</b>	<b>North America</b>	<b>Sub Saharan Africa</b>
<b>Calls 2020</b>	1.868	25.247	30.287	4.053	4.948	3.631	4.394
<b>Calls 2019</b>	2.294	28.507	30.225	4.006	6.309	3.632	4.761
<b>Total</b>	-18,6%	-11,4%	0,2%	1,2%	-21,6%	0,0%	-7,7%
<b>Q2</b>	-14,5%	-15,1%	-3,6%	-7,0%	-19,0%	2,8%	-1,6%

**Table 2. Dry bulk ship calls by type of economy and country grouping ( 2019-2020)**

	<b>Developed</b>	<b>Developing</b>	<b>LDC</b>	<b>In transition</b>	<b>SIDS</b>
<b>Calls 2020</b>	45.287	103.455	3.284	5.021	917
<b>Calls 2019</b>	48.414	104.536	3.764	6.126	1.253
<b>Total</b>	-6,5%	-1,0%	-12,8%	-18,0%	-26,8%
<b>Q2</b>	-7,8%	-4,5%	-13,6%	-7,5%	-40,1%

Source : UNCTAD calculations, based on AIS data collected and provided by MarineTraffic

The COVID-19 pandemic had a significant impact on global trade flows, occurring at an unprecedented rate and magnitude. It is anticipated that there will be a decrease of more than ten percent in merchandise trade for the year 2020. Although current predictions indicate a potential economic recovery in 2021, there is still much uncertainty surrounding this outlook. The trajectory of the recovery is contingent upon various factors, including the progression of the pandemic, as well as the scope and efficacy of governmental interventions implemented to stimulate economic growth.

The crisis resulted in a deceleration of trade among various areas and country groupings, encompassing both developed and developing nations. However, there has been a significantly greater decline in commerce inside developing nations. The decrease in exports from developing countries can be attributed, in part, to a decline in demand within the markets they export to. The decrease in their imports can be attributed to various factors, including a decline in demand, fluctuations in exchange rates, apprehensions about debt, and a scarcity of foreign money. During the second quarter of 2020, while the lockdown measures persisted in Latin America, projections indicate a significant and swift decline in the economic conditions of developing nations.

Certain sectors were impacted to a greater extent than others by economic disruptions. The textile and apparel industry experienced a slump in conjunction with the office machinery and automotive sectors. On the other hand, it is noteworthy that the agri-food industry has demonstrated a comparatively stable nature with modest expansion, even in the face of the pandemic and its accompanying constraints.

Regional inequalities were observed in the impacts of the pandemic on marine trade. Europe and the Mediterranean region experienced a notable decrease in the number of maritime vessel trips. The decline in both Australia and Oceania was very significant. The recorded data in both Latin America and North America experienced substantial declines, characterized by double-digit falls.

On the other hand, there was a notable decrease of -9.7 percent in the number of port calls made in the Sub-Saharan African region. Moderate declines were observed in both the Far East and the Gulf & ISC regions.

In the initial six months of 2020, there was a decline of 8.7 percent in global ship calls compared to the corresponding period in 2019. The number of ship calls recorded during the first half of 2019 amounted to 1.1 million. During the initial quarter of 2020, there were few alterations observed in ship arrivals. The visual representation underwent a significant transformation as nations began implementing limitations and lockdown measures on their respective businesses and cultures. During the second quarter of 2020, there was a decrease of 17 percent in the number of ship calls. There was a reduction of 95,206 ship calls observed when comparing the translated data to the second quarter of 2019. In contrast to the second quarter of 2019, there was a notable decrease in ship calls during the second quarter of 2020. Specifically, developed countries experienced a decline of 23.1 percent, developing countries saw a decrease of 9.1 percent, and countries with economies in transition observed a reduction of 10.9 percent.

The Statistical Institute for Docking Services (SIDS) saw a decline of 20 percent in the quantity of port visits during the second quarter of 2020, in comparison to the corresponding period in 2019. The continuous monitoring of events that influence the port call and connection patterns of island countries is of utmost importance, as shipping serves as their primary lifeline. It is imperative to determine if the observed adverse trend exhibits a sustained or transient nature. Enhancing the resilience of Small Island Developing States (SIDS) in order to achieve higher levels of connectivity is identified as a crucial priority area for action.

The effects of the COVID-19 pandemic have exhibited variability among different types of cargo. The second quarter of 2020 witnessed a decline of 5.8 percent in both container and dry bulk ship calls.

The analysis of port and ship calls provides insights into the extent and varied consequences of the COVID-19 epidemic on maritime transit and trade. This necessitates additional research to ascertain whether the observed effects and trends are linked to structural changes or transitory phenomena that will diminish as the epidemic and its consequences recede.

**Table 3 : Dry bulk ship calls ( 2019-2020)**

<b>Dry Bulk</b>	<b>Calls 2019</b>	<b>Calls 2020</b>	<b>Var 20/19</b>	<b>Var (%)</b>
Total	162.840	157.047	-5.793	-3,6%
WEEKS 1-12 (Q1)	79.198	78.266	-932	-1,2%
WEEK 13-24 (Q2)	83.642	78.781	-4.861	-5,8%
WEEKS 1-4	28.242	26.706	-1.536	-5,4%
WEEKS 5-8	26.018	25.308	-710	-2,7%
WEEKS 9-12	24.938	26.252	1.314	5,3%
WEEKS 13-16	27.106	26.456	-650	-2,4%
WEEKS 17-20	27.502	27.310	-192	-0,7%
WEEKS 21-24	29.034	25.015	-4.019	-13,8%

**Table 4 : Dry bulk ships calls by region ( 2019-2020)**

**Table 3. Australasia & Oceania, Europe & Med, Far East, Gulf & ISC, Latin America, North America, Sub Saharan Africa**  
by region  
(2020-2019)

Calls 2020	1.868	25.247	30.287	4.053	4.948	3.631	4.394
Calls 2019	2.294	28.507	30.225	4.006	6.309	3.632	4.761
Total	-18,6%	-11,4%	0,2%	1,2%	-21,6%	0,0%	-7,7%
Q1	-22,0%	-7,5%	4,3%	9,4%	-23,8%	-3,4%	-13,0%
Q2	-14,5%	-15,1%	-3,6%	-7,0%	-19,0%	2,8%	-1,6%
W 1-4	-28,2%	-6,4%	7,0%	9,3%	-30,5%	-8,2%	-12,9%
W 5-8	-25,4%	-6,4%	1,1%	5,9%	-24,1%	0,4%	-16,5%
W 9-12	-10,0%	-9,6%	4,6%	13,3%	-14,7%	-2,4%	-9,2%
W 13-16	-6,9%	-15,5%	0,3%	-7,0%	-16,4%	3,8%	3,9%
W 17-20	-22,9%	-9,8%	-0,2%	-10,4%	-15,2%	1,6%	-2,5%

W 21-24      -12,7%      -19,6%      -10,5%      -3,5%      -25,0%      3,3%      -5,7%

**Table 5 : Dry bulk ship calls by economy and country grouping ( 2019-2020)**

<b>Dry bulk ship calls by economy and country grouping (2020-2019)</b>	<b>Developed</b>	<b>Developing</b>	<b>LDC</b>	<b>Transition</b>	<b>SIDS</b>
Calls 2020	45.287	103.455	3.284	5.021	917
Calls 2019	48.414	104.536	3.764	6.126	1.253
Total	-6,5%	-1,0%	-12,8%	-18,0%	-26,8%
Q1	-5,0%	2,7%	-12,1%	-26,6%	-15,3%
Q2	-7,8%	-4,5%	-13,6%	-7,5%	-40,1%
W 1-4	-11,2%	1,0%	-23,8%	-42,9%	-14,9%
W 5-8	-7,3%	0,4%	-11,3%	-15,1%	-26,8%
W 9-12	4,6%	6,8%	1,9%	-13,1%	0,0%
W 13-16	-4,8%	-0,1%	-16,7%	-13,3%	-35,6%
W 17-20	-1,2%	0,0%	-13,5%	-1,2%	-36,6%
W 21-24	-16,5%	-13,0%	-9,6%	-7,3%	-48,6%

Source : UNCTAD calculations, based on AIS data collected and provided by MarineTraffic

## **CHAPTER 5**

### **The challenges associated with drydocking and the subsequent rise in expenses.**

Dry docking is widely recognized as a critical undertaking for the purpose of maintenance and repair across several industries in a ship's life cycle and is not only for safety reasons, but without this regular inspection the ship cannot hold a valid commercial certificate and therefore this is because it may become impossible for the ship to operate. The performance of essential maintenance is needed in order to sustain the operation of ships, hence highlighting the significance of shipyards in this process. Dry docking has been a major challenge since the pandemic began. In light of the commencement of China's lockdown measures, it is noteworthy that a significant proportion of drydocks are now being conducted at shipyards located in China.

In general, most dry docking takes place in the Far East, with Chinese shipyards taking first place mainly due to very low dry docking and raw material costs. Other attractive options for dry docking include Singapore, Indonesia, Thailand, Turkey and the Middle East. The reason for this can be attributed to its close proximity to significant trade routes and the presence of dry dock facilities. Many shipyards and port health authorities have implemented stringent health and safety protocols, as well as enforced mandatory quarantine periods, prior to granting permission for vessels to undergo scheduled dry dock maintenance at specific shipyards.

In this scenario, there are two distinct classifications of limitations. The first aspect pertains specifically to the vessel and its personnel, while the second aspect pertains to the technical and marine supervisors who are responsible for overseeing operations within the dry dock.

## **5.1 The process of drydocking in shipyards in China.**

China possesses the shipyards with the highest level of maritime activity globally. Chinese shipyards possess the necessary infrastructure and capabilities to accommodate a wide range of vessel types and sizes. The majority of shipyards are situated in the cities of Zhoushan, Shanghai, Dalian, and Guangzhou.

There are five regions that are considered high risk areas, namely Korea, Vietnam, Malaysia, Thailand, and Russia.

If vessels make contact or carry out crew changes in any of the countries/areas indicated above, a quarantine period of 42 days will be implemented. This period will commence the day after the sailing date and/or crew change date.

There are two countries classified as medium risk areas, Japan and Brazil.

If vessels make contact or carry out crew changes in any of the nations or locations indicated above, a quarantine period of 28 days will be implemented. This period will commence the day after the vessel's departure or the crew change takes place.

**AREAS OF LOW RISK:** Countries other than the aforementioned seven nations, wherein crew changes are not permitted.

If vessels are berthed in countries other than the seven indicated in items 1 and 2 without conducting crew changes, a quarantine period of 14 days will be enforced. This time will commence from the day following the vessel's departure.

## **5.2 The process of drydocking vessels at shipyards in Singapore.**

It is mandatory for all vessels entering a shipyard in Singapore for the purpose of dry docking to ensure that all crew members have undergone Polymerase Chain Reaction (PCR) testing at their last port of call prior to arriving in Singapore. In the event of a negative outcome, permission will

be granted for the vessel to proceed to the shipyard, where a subsequent polymerase chain reaction (PCR) test will be administered prior to the commencement of operations.

In the event that the presence of a supervisor is necessary, the shipyard has the option to engage the Department of Government (EDB) as the shipowner's representative. The EDB would then undertake the responsibility of overseeing the arrival of travelers from countries not included in the RGL/ATP/Function. The application process for those entering Singapore as guests typically required a duration of roughly 2-3 weeks.

In order to ensure the safety and well-being of travelers, it is imperative that they receive the necessary vaccinations. Additionally, for individuals planning brief trips lasting no more than 14 days, it is required that they undergo a PCR swab test upon their arrival at the airport. Following the administration of a polymerase chain reaction (PCR) test, it is mandatory for all authorized individuals undertaking travel to adhere to a period of confinement within their designated lodging facility, typically a hotel, until they obtain a test result indicating a "negative" outcome, which is expected to be received within the subsequent 24-hour timeframe. Supervisors are only authorized to engage in travel activities solely between their lodging facilities and workplace, adhering to a regulated itinerary. For extended durations surpassing 14 days, those undertaking travel will be obligated to undergo a quarantine period of 21 days within a designated facility upon their arrival in Singapore. Upon the conclusion of the quarantine period, individuals will be granted unrestricted travel privileges within Singapore. The approximate nightly expense for accommodations in this particular hotel amounts to \$150. This implies that the presence of 4,444 administrators incurs an extra expense of \$3,150.

## **CHAPTER 6**

### **BUNKER PRICE FLUCTUATIONS DUE TO COVID 19**

In anticipation of the worldwide Sulphur cap imposed by the International Maritime Organization, shipping companies and shipowners were urged to select the approach by which their boats will

adhere to the updated guidelines pertaining to air pollution caused by ships, effective from 1 January 2020. The implementation of scrubbers on ships emerged as a practical resolution for numerous shipping corporations, leading to their installation on a considerable fleet of vessels. This measure enables compliance with international norms and standards in a cost-effective manner.

The onset of the pandemic coincided with the implementation of the IMO 2020 Global Sulphur Cap, which marked a global shift towards the adoption of very low Sulphur fuel oil in the shipping industry. In the initial weeks of 2020, there was a significant increase in bunker costs for very low Sulphur fuel oil (VLSFO), reaching values comparable to ultra low Sulphur marine petrol oil (ULSMGO), a variant of diesel fuel commonly employed in maritime vessels. The observed phenomenon can be attributed to the significant increase in demand for Very Low Sulphur Fuel Oil (VLSFO) during the transitional phase, wherein a majority of maritime vessels opted for compliant fuel options instead of utilizing scrubber technology. As of January 1, 2020, the prices for Very Low Sulphur Fuel Oil (VLSFO), Marine Gas Oil (MGO), and ordinary Heavy Fuel Oil (HFO) in the twenty leading global ports were recorded at \$674.75, \$712.50, and \$364, respectively. The price differential between Very Low Sulphur Fuel Oil (VLSFO) and Heavy Fuel Oil (HFO) stood at \$310.75. At select ports, there existed favorable circumstances wherein the acquisition of marine petrol oil (MGO) was possible at a comparatively lower cost in comparison to very low Sulphur fuel oil (VLSFO). In terms of technical characteristics, it is observed that MGO exhibits a lower density and viscosity compared to VLSFO, which is characterized by its high viscosity and density. However, these differences do not significantly impact the engine's performance within the combustion chamber. The primary factor influencing the choice of VLSFO versus MGO is the price gap, as VLSFO constantly proves to be the more cost-effective alternative. In the event that the cost of marine petrol oil (MGO) was to be less than that of very low Sulphur fuel oil (VLSFO), ship owners would likely choose MGO as their preferred option. It has been observed that MGO has constantly maintained a higher price in comparison to VLSFO. This can be attributed to the fact that MGO is classified as a lighter distillate fuel. Considering the enormous fuel consumption of most boats on a daily basis, even a minor disparity of \$50 in price can exert a significant impact on the overall bunkering costs borne by ship owners. Consequently, this can lead to a reduction in expenses associated with journeys. One further factor contributing to the declining cost of Heavy Fuel Oil (HFO), in contrast to the pricing trends observed for Very Low

Sulphur Fuel Oil (VLSFO) and Marine Gas Oil (MGO), is the implementation of bans on open loop scrubbers by various governments within their respective territorial seas. This regulatory action has rendered the utilization of scrubbers and HFO as an unappealing alternative, thus leading to a decrease in demand for HFO. Furthermore, on December 23, 2019, Shell issued a communication to the Owners and Technical Managers of vessels that are currently under time charter with Shell. The communication instructed them to refrain from utilizing scrubbers in SECA and ECA zones, as well as any location within port limits worldwide. Additionally, Shell is committed to providing compliant fuel that adheres to the relevant legislation for burning in these designated areas. Many vessel owners may have remorse regarding their decision to put scrubbers on their ships. Scrubbers are utilized to eliminate particulate matter and hazardous components from the exhaust gases produced during the combustion process, with the aim of mitigating air pollution. Once again, the advancements in the sector demonstrate that this decision may not have been as unfavorable as initially predicted, as we go more into our investigation.

The provided tables illustrate the correlation between the onset of the pandemic, the implementation of worldwide lockdowns, the subsequent restrictions on global supply chains, and the subsequent decline in bunker costs. This decline in bunker prices closely followed the earlier observed decrease in crude oil prices. Following the historically unprecedented decline in crude oil prices on April 21, 2020, the subsequent decrease in bunker prices resulted in the nadir of bunker costs occurring on April 28, 2020. The recently introduced Very Low Sulphur Fuel Oil (VLSFO) had a significant decrease in price, dropping from its highest recorded value of \$692.50 per ton on January 7th, 2020, to a current selling price of \$211.25 per ton. The price of HFO (Heavy Fuel Oil) had a significant decrease from its peak of \$378.25/ton on January 7, 2020, to \$158.75/ton. The price of MGO had a significant decrease from its peak of \$719.25/ton on January 3, 2020, to its current value of \$270/ton. The historical advancements resulted in a decrease in percentage prices by 70%, 58%, and 63% for VLSFO, HFO, and MGO respectively.

According to the data presented in Table 2.12, it can be observed that following a two-year period of the pandemic, bunker prices exhibited an upward trend, reaching levels comparable to those reported before to the onset of the COVID-19 crisis. Towards the conclusion of December 2021, the prices of Very Low Sulphur Fuel Oil (VLSFO) and Marine Gas Oil (MGO) had reached a comparable level to that observed in January 2020. Conversely, High Sulphur Fuel Oil (HFO) was

being traded at a higher price in contrast to the rates witnessed in January 2020. The increased cost of HFO can be linked to the heightened demand for HFO towards the end of 2021, as a greater number of boats were equipped or received scrubbers throughout the two-year period of the epidemic. An increase in demand under specific circumstances leads to a corresponding rise in pricing. In March and April 2022, the prices of Very Low Sulphur Fuel Oil (VLSFO) and Marine Gas Oil (MGO) experienced a notable increase, surpassing the threshold of \$1000 per ton. The increase in tension can be ascribed to the significant rise in crude oil prices, which resulted from the Russian incursion into Ukraine. As of April 14, 2022, there was a price differential of \$186.75 per ton between Very Low Sulphur Fuel Oil (VLSFO) and High Sulphur Fuel Oil (HFO). From January 1, 2020 to April 14, 2022, the mean differential between Very Low Sulphur Fuel Oil (VLSFO) and High Sulphur Fuel Oil (HFO) has been recorded at \$114 per metric ton. Overall, this suggests that a considerable number of shipowners may not have yet recovered their investment in scrubbers.

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





Source : Global Average Bunker price ( Ship and bunker)

## CHAPTER 7

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

The Covid-19 virus is a newly discovered pathogen that was initially detected in Wuhan, China, during an epidemic in December 2019. The virus was not successfully contained by authorities, resulting in its rapid global proliferation within a matter of weeks. On January 30, 2020, the World Health Organization designated the virus as a Public Health Emergency of International Concern. Subsequently, on March 11, 2020, it was officially classed as a pandemic. As of the recorded date of 15 July 2022, the official reports indicate that the number of viral cases has exceeded 557 million, while the virus has claimed the lives of over 6.3 million individuals. According to the

Director-General of the World Health Organization, Tedros Adhanom, there has been a significant increase in the demand for personal protective equipment goods, with prices reaching levels that are 100 times higher than those observed prior to the pandemic.

The worldwide economy, particularly the marine industry, has had substantial repercussions as a result of the Covid-19 pandemic. Given its unusual nature, the full extent of its effects was not anticipated. As the transmission of the virus escalated, nations progressively implemented comprehensive lockdown measures in succession. To date, the global population of over 7.9 billion individuals has not encountered a pandemic of this magnitude. As the implementation of lockdown measures took place in several countries, the daily routines and lifestyles of their respective inhabitants were significantly impacted and underwent notable transformations.

The implementation of lockdown measures resulted in a significant alteration in the energy market framework, primarily due to the imposition of travel restrictions. The lockdown resulted in a decrease in the demand for petroleum products often utilized in cars driven on a regular basis, such as gasoline and diesel. Due to the imposition of strict stay-at-home measures, individuals were largely confined to their residences until faced with urgent circumstances. Consequently, the movement of vehicles was significantly curtailed, leading to a notable reduction in traffic volume and subsequently, a decrease in the consumption of gasoline and diesel fuel. Moreover, numerous nations implemented restrictions on air travel, resulting in the grounding of aircraft by the majority of carriers. Consequently, there was a notable decrease in the demand for jet fuel. The prices of crude oil experienced a substantial decline, with the WTI crude price plummeting by 306% to reach a negative value of \$37.63 on April 20, 2020. The analysis of the changes in the crude and bunker markets will be conducted in a dedicated chapter.

As a result of the lockdown measures, numerous retail establishments were compelled to suspend their operations. As a result, a considerable proportion of individuals actively participated in substantial online shopping activities, leading to an unparalleled increase in the need for maritime goods services to allow the shipment of these commodities. On the one hand, a considerable portion of the population encountered unemployment, while on the other hand, courier companies endeavored to enlarge their workforce to address the increased demand for the transportation and delivery of commodities. The importance of door-to-door transit has witnessed a substantial rise in contemporary times. Despite a period of subpar performance in recent years, the container

market has witnessed a remarkable upswing that has beyond the projections of even the most sanguine stakeholders in the container shipping sector.

### **7.1 The unanticipated ramifications of the COVID-19 epidemic and the subsequent disruption of the worldwide economic system.**

The ongoing epidemic has resulted in the second largest global economic downturn in recorded history, surpassing the magnitude of the Great Recession seen in 2009. During the initial phases, there was a noticeable occurrence of supply shortages for vital commodities as a result of panic purchasing and heightened demand for specific items like hand sanitizers and masks the notable increase in demand for certain commodities has led to occurrences of price gouging, while complaints of shortages of medicinal products continue to be widespread. The surge in demand for personal protective equipment (PPE), as previously stated, has resulted in a significant price escalation of up to twenty times the initial cost of these goods. Furthermore, this has resulted in significant disruptions to the procurement and accessibility of medical supplies, leading to an elongation of the waiting period from four to six months. The alteration of individuals' behavioral patterns in their daily routines has resulted in transient scarcities of food, increases in prices, and disruptions in consumer markets. The period spanning from the onset of the epidemic to the present day is marked by a pervasive sense of ambiguity and unpredictability. ([Impact of COVID-19 on the social, economic, environmental and energy domains: Lessons learnt from a global pandemic - PMC \(nih.gov\)](#) )

## **CHAPTER 8**

### **THE IMPACT OF CORONAVIRUS ON THE DRY BULK CARRIER MARKET**

#### **8.1 The phenomenon of fluctuating freight rates in the bulk carrier market.**

The majority of ton-miles in the shipping industry were generated by bulk carriers with a deadweight tonnage (dwt) exceeding 100,000. These ton-miles were primarily provided by cargoes originating from Australia, with Brazil being the subsequent leading contributor. Australia and Brazil accounted for 58% and 23% of global iron ore shipments in 2020, respectively. China receives the largest share. China accounted for a significant proportion of global iron ore imports,

at 76% of the total in 2020. Additionally, China's coal imports constituted 20% of the global coal import volume during the same period. The Australia-China route had a decline in vessel activity in 2020, likely attributable to the impact of the global pandemic and the prevailing political tensions between the two nations. China is strategically aiming to enhance the diversification of its raw material sources through investment activities in Africa. The ton-mile trade conducted by bulk carriers along the Africa-China route experienced a notable increase in the year 2020. This surge can be attributed to the heightened volume of iron ore shipments originating from South Africa. Guinea possesses significant reserves of untapped, high-quality iron ore, which positions it as a promising future supplier. It is projected that Guinea would initiate the exportation of iron ore in the year 2026, resulting in a surge in the demand for specialized vessels capable of transporting substantial cargo volumes. At now, Guinea occupies the prominent position of being the primary global supplier of bauxite, with a noteworthy proportion of its output being sent to China.

**Table 6 : Dry Bulk Vessels' Trade in Million Tons and Percentage Change**

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	2,03	1,986	-2.2%
Steel products	373	354	-5.1%
Forest products	383	365	-4.7%
Total dry	5,248	5,167	-1.5%

Source : UNCTAD, Review of Maritime Transport 2021, p 9

In the year 2020, the dry bulk trade had a decline of around 1.5%, leading to a decrease in quantities to 5.2 billion tons. The rapid economic recovery in China has enhanced its ability to handle

increased freight volumes due to reduced demand in other regions. The iron ore trade has demonstrated resilience, as seen by a significant gain in cargo volume of 3.2%, resulting in a hefty total of 1.5 billion tons. The grain trade exhibited a strong performance, as evidenced by a significant gain of 7.1% in volumes. Several factors contributed to this phenomenon, such as the notable increase in crop yield in Brazil, the resolution of trade tensions between the United States and China, and the improved outlook for pig farming in China subsequent to the recovery from the African swine fever outbreak in 2018. According to projections for the year 2021, the trade of bulk carriers was anticipated to see a growth rate of 3.7%. This growth was expected to be driven by the steady expansion of iron ore and grain commerce, a recovery in minor bulk volumes, and an increase in coal trade. The coal trade had a significant decline of 9.3% in the year 2020, primarily attributable to the global pandemic, which led to a decrease in electricity demand. Furthermore, the continuous transition towards more environmentally friendly energy sources has resulted in a decrease in demand. The volume of bulk trade experienced a modest decline of 2.2%. The trade of forest products experienced a decline, alongside reduced exports of nickel ore as a consequence of Indonesia's imposition of an export embargo. According to a report by Clarkson's Research (2021), the bauxite trade had significant growth, expanding by 8.2%. Notably, China emerged as the dominant player, accounting for 77% of the trade, while Guinea contributed 46% of the whole supply.

Throughout the initial two quarters of 2020, the freight rates for bulk carriers were subject to the influence of supply and demand mismatches, further exacerbated by the ramifications of the pandemic. Consequently, substantial volatility was observed, particularly among larger boats, throughout this timeframe. As previously mentioned, the dry bulk market has been experiencing the impact of overcapacity, with supply growth surpassing demand for an extended period of time. The negative demand shock resulting from the epidemic further exacerbated the downward pressure on maritime freight rates. During the early months of 2020, there was a notable disruption in the freight prices and earnings of bulk carriers, with a specific focus on the Capesize market. The primary factor contributing to this situation was the convergence of a decline in demand for bulk carriers during a specific season and the occurrence of the coronavirus sickness in China. China serves as the primary importer of dry bulk cargo volumes worldwide, encompassing commodities such as iron ore, coal, major grains, and oil seeds. The onset of the pandemic in the early months of 2020 had a notable influence on industrial operations within China, resulting in a

decrease in the need for dry bulk vessels. The decrease in demand was especially significant for Capesize vessels, which largely serve the purpose of carrying industrial raw materials to China. Concurrently, the reduced shipment of iron ore from Brazil placed further pressure on the capacity of bulk carriers, hence intensifying the instability of freight rates and leading to unprecedented levels of fall, including negative values, within the Capesize market.

In February and March, the Baltic Exchange Capesize index had a significant decline, reaching negative values of -243 and -221 points. This decline can be attributed to a rapid and substantial decrease in the volume of dry bulk cargo being transported internationally, which was primarily caused by the shutdown in China. In the month of June 2020, there was a significant increase in the index, resulting in it reaching a considerable level of 2,267 points. This increase can be attributed to a heightened demand for iron ore in China, which was a result of the relaxation of pandemic-related restrictions. Although there was no significant reduction in freight rates for smaller vessel sizes, these vessels still experienced considerable volatility and consistently low levels. The demand for Panamax and Supramax vessels has witnessed an upsurge as a result of the comparatively strong trade volumes. These vessels are mostly employed for the global transportation of grain and oilseeds. The COVID-19 pandemic had a significant effect on the time-charter rates across all market categories, leading to a deterioration in market fundamentals. The typical one-year time-charter rates for several categories of bulk carriers in June 2020 were observed to be \$11,050 per day for Capesize boats, \$9,785 per day for Panamax vessels, \$8,513 per day for Handysize vessels, and \$8,150 per day for Supramax vessels. The resurgence of the bulk carrier sector is dependent on the extent of worldwide economic growth. However, the unpredictability of freight prices persists as a result of the possibility of a global economic slowdown and the apprehensions regarding the impact of the epidemic on both developed and developing countries. A notable attribute is the advancement witnessed in China, which holds the potential to act as the principal driver for the rejuvenation of the dry bulk industry. Simultaneously, the industry continues to face the challenge of overcapacity, which poses a potential risk. The potential rise in supply might potentially counterbalance any growth in demand.

In the first half of 2020, the global pandemic led to a demand shock that negatively impacted an already saturated market, resulting in a decrease in freight rates for dry bulk transportation. On the other hand, throughout the later part of the period, there was a notable increase in the demand for

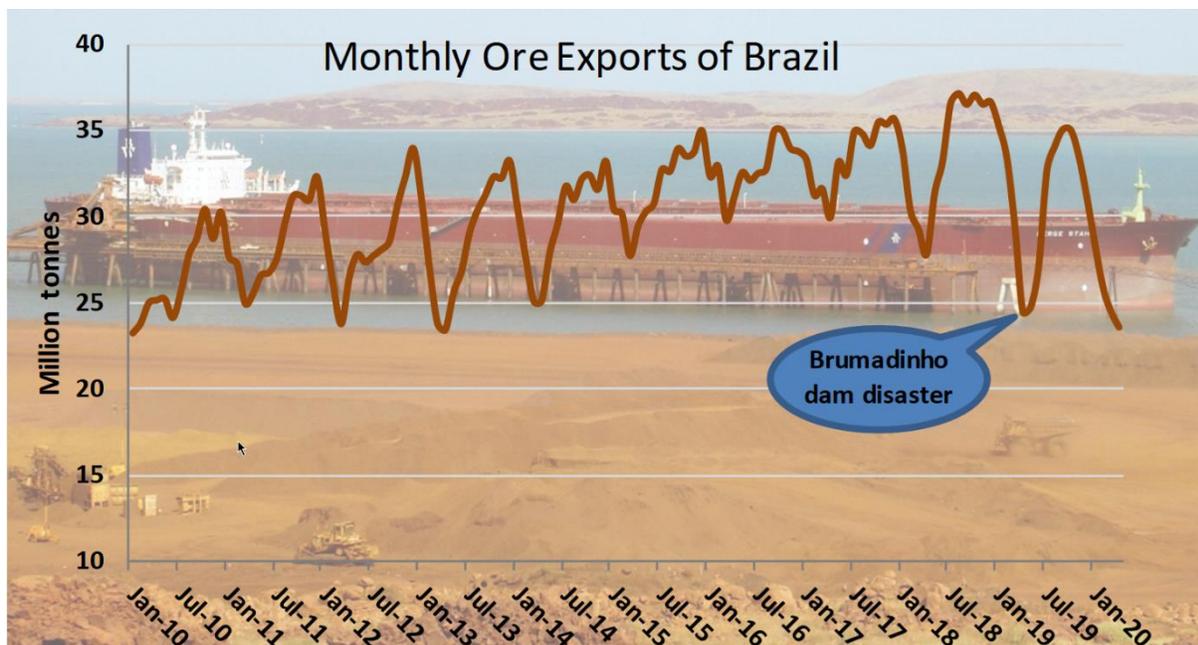
dry bulk cargo. This increase was mostly driven by the imports of iron ore and grain from China. The decrease in the expansion of the operational fleet resulted in a subsequent rise in freight charges. The aforementioned occurrence was noted in the Baltic Exchange Dry Index, which serves as a quantitative measure for the costs involved in the transportation of various raw commodities such as coal, iron ore, cement, grain, and fertilizer. In February 2020, the Baltic Dry Index (BDI) exhibited a value of 461 points, which subsequently experienced a significant increase to reach 3,257 points by July 2021.

Throughout the first half of 2021, there was a noticeable upward trajectory in freight rates. This can be attributed to a consistent and heightened demand for shipping services, as well as a reduction in the number of newly arrived vessels and an increase in scrapping activities. The rates were further impacted by the delays arising from port congestion. There was a rise in the percentage of vessels impacted by port congestion, with an increase from 4% in the fourth quarter of 2020 to 5% in the first quarter of 2021. The main factor contributing to this circumstance was the increase in the transportation of iron ore and grain commodities from Brazil, leading to the accumulation of around 100 Capesize and Panamax ships at Brazilian ports during the months of February and March in the year 2021 (Danish Ship Finance, 2021). The resilience of the dry bulk market conferred benefits for carriers. In May 2020, the mean monthly profits for bulk carriers amounted to \$4,894 per day. However, in June 2021, these figures surged to \$27,275 per day, marking the highest rates observed in the past ten years.

## **8.2 DRY TRADING ( CLARKSONS RESEARCH SERVICES )**

The outlook for dry trading in 2020 is bleak, as per Clarkson Research Services.

Demand forecasts have been **revised** significantly downwards, **with the latest forecast** (mid-April **2020**) for dry bulk **ocean transport suggesting** a decline of **around 4%** this year. This development can be **explained** by the monthly development of **Brazilian** ore exports (see **figure**).



Here are some more numbers for the first quarter of 2020. The Baltic Dry Index (BDI) fell below 500 index points in January for the first time in four years. The quiet recovery did not last long, and the index fell again in March 2020. Clarkson's numbers for the first quarter of 2020 also suggest that the coronavirus outbreak is having a major impact on the shipbuilding industry. The shipyard said that in the first quarter of 2020, he had orders for 1 million DWT bulk carriers, while in the first quarter of 2019 he had 83 ships (7 million DWT), while in the first quarter of 2020 he had orders for 15 million DWT bulk carriers.

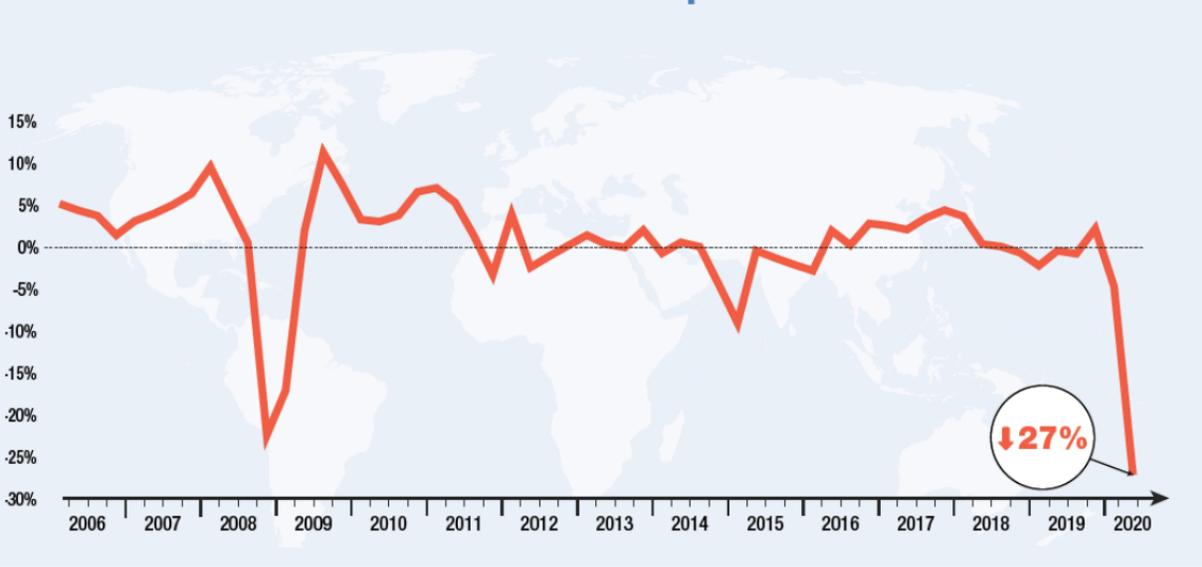
The COVID-19 pandemic has had a significant impact on global trade flows, occurring at an unprecedented rate and magnitude. Throughout the duration of the global pandemic, the ability of marine supply chains to promptly adapt has been vital in guaranteeing the universal accessibility of essential commodities and medical resources.

The United Nations Conference on Trade and Development (UNCTAD) reports a significant decline of 5 percent in global merchandise trade during the first quarter of 2020. Furthermore, it is anticipated that this decline will continue to escalate, resulting in a significant reduction of 27 percent in the following quarter. According to the United Nations Conference on Trade and Development (UNCTAD), there is a projected decrease of 20 percent for the entirety of the year. According to the World Bank, there is evidence to suggest that merchandise trade has reached its

lowest point, experiencing a decline of about 20% compared to the previous year in April, following a 10% decrease in March.

The decline in commercial activity caused by the COVID-19 epidemic exceeds the extent observed during the financial crisis of 2008-2009, as illustrated in Figure 1. The progression of global trade has exhibited disparities (Figure 2). This data indicates that the Middle East experienced the most significant year-on-year decrease in commerce during the month of April, with a loss of up to 40%. In March 2020, subsequent to the World Health Organization (WHO) declaring a pandemic, there was a discernible decrease in trade across several geographical areas, including sub-Saharan Africa, Latin America, the Caribbean, North Africa, North America, and the European Union (EU-27). During the initial quarter of 2020, the East Asia and Pacific region witnessed a notable reduction in commercial activity, shown in a 7% dip in exports. This was then followed by a 4% decrease in April. During the month of April, China exhibited a relatively positive performance in comparison to other significant economies, as seen by the modest growth witnessed in its exports. However, the data available for the month of May in 2020 demonstrates a decrease of almost 8% in both the exports and imports of China. The trade slowdown was evident in both developing and wealthy nations; however, the drop in trade, particularly imports, seems to have been comparatively more pronounced in developing countries. The decline in exports witnessed in developing countries may be ascribed to a fall in demand within the export markets. Nevertheless, the decline in imports can be influenced by a range of factors, such as decreased demand, variations in currency rates, concerns about debt, and shortages of foreign exchange. These causes, among others, can contribute to the fall in imports. This is the cause. In light of the ongoing lockdown measures in Latin America, there is a growing anticipation that trade among emerging nations will experience a further decline at an accelerated pace.

# Trade contraction from COVID-19 deeper than the financial crisis



Source: UNCTAD (2020). Global Trade Update. June (<https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392>).

According to the data presented in Table 2, a significant number of sectors experienced adverse impacts during the initial four months of 2020. The disparities observed among industries can be attributed to a combination of reduced demand and interruptions in the supply-side. During the initial quarter of 2020, there was a notable decline of around 12% in the textile and garment industry. The office equipment and automotive sectors had a decline of approximately 8%. On the other hand, there was a notable disparity in the volatility levels of foreign commerce within the agriculture and food sectors, with the least volatile category experiencing a modest growth of almost 2%. In the month of April, there was a notable decline of 30% in the trade of transport equipment, while the sale of fuel had an even more substantial decrease of 50%. Significant decreases were observed in the energy trade sector, with a decline of 40%, as well as in the automotive goods industry, which had a substantial drop of 50%. In April, there was a notable recovery in the trade of office equipment, mostly attributed to the robust export performance of China. As anticipated, there was a marginal rise in the trading of critical commodities during the pandemic.

According to reports, prominent apparel companies are either deferring or annulling their orders as a consequence of diminished consumer demand resulting from the closure of big hypermarket establishments. Suppliers located in nations engaged in textile manufacturing are currently

encountering challenges such as order cancellations, diminished order quantities, and prolonged payment deadlines. These circumstances have compelled numerous suppliers to curtail or halt their activities. It is a customary practice for brands to remunerate upon shipment of the item, thus if your order is detained or annulled, the corresponding payment will likewise be withheld or annulled. There have been reports indicating that certain brands have made requests for discounts on orders that had already been shipped.

The precise trajectory of economic recovery remains uncertain. The pace of recovery will be contingent upon the trajectory of the pandemic and the ability of the economy to swiftly rebound from the implementation of restrictive measures aimed at mitigating the spread of the coronavirus.

This analysis focuses on the impact of the Covid-19 pandemic on the market for bulk carrier freight.

The first half of 2020 has witnessed significant disruptions and volatility in the bulk carrier vessel industry, particularly in terms of cargo rates. This market has been greatly impacted by macroeconomic events that have affected the key drivers of supply and demand. Advancements in the oil supply chain, along with a significant decrease in demand resulting from the Covid-19 crisis, have resulted in a decline in freight rates during the initial two quarters of the year.

As previously mentioned, the surplus of oil barrels and its impact on oil prices was further exacerbated by a significant decline in oil demand resulting from the widespread deployment of lockdown measures aimed at preventing the global spread of Covid-19. The ability to travel was significantly restricted, resulting in a decrease in the presence of airplanes in the sky and automobiles on the road. Additionally, many ports worldwide implemented lockdown and quarantine measures specifically for bulk carrier vessels. In India, several ports declared force majeure in late March as the country initiated its lockdown. Similarly, countries such as China, the Philippines, Indonesia, Australia, and South Africa implemented restrictions on crew changes and mandated quarantine periods for vessels arriving from ports affiliated with "countries at risk." These procedures have caused concern to charterers involved in the transportation of goods, as they are uncertain about potential financial liabilities resulting from delays caused by coronavirus-related precautionary measures, such as extended quarantine periods.

The implementation of Covid-19 lockdown measures has resulted in a decrease in demand for bulk carriers by charterers. Simultaneously, there is a relatively high availability of bulk carriers from vessel administrators. This, coupled with the decline in bunker fuel costs, has led to a significant reduction in cargo rates.

### **8.3 The Impact of the Covid-19 Pandemic on Key Indicators of Fertilizers Cargo Rates**

According to the provided chart, it can be observed that during the middle of March, the freight rate for a bulk carrier with a capacity of 25-30,000 metric tons, engaged in a voyage from the Baltic region to Brazil, was reported to be in the range of \$22-23 per metric ton. This phenomenon typically occurs during the period when global oil production is experiencing growth, leading to a decrease in oil prices. Consequently, this translates into reduced bunker rates for maritime vessels, enabling operators to slash their tariffs. Furthermore, during this period, countries worldwide began implementing lockdown measures, resulting in a significant decrease in demand for bulk carriers due to the decline in consumption of non-essential goods. While cereals and fertilizers were categorized as essential commodities and so largely exempted from lockdown restrictions, there was apprehension regarding the impact of export quotas on grain shipments, potentially reducing demand for these goods from former Soviet Union countries. During periods of increased demand for vessels, it is common for rates to decrease as administrators attempt to stimulate trade by reducing expenses. By examining the chart, it becomes evident that this is really the pattern that unfolded. In early April, the assessed cost of cargo on the Baltic-Brazil route experienced a decline, dropping from \$22-23 per ton in mid-March to \$16 per ton. Subsequently, as April progressed, the cost further decreased to as low as \$13 per ton.

A noticeable decline in the chemical tanker industry was seen, characterized by a significant fall in both demand and overall transportation activity around mid-March, coinciding with the implementation of lockdown measures. The process of settling and coordinating logistics for numerous shippers and brokers has been experiencing delays beyond the usual timeframe. This may be attributed mostly to a reduced availability of specialists who are responsible for arranging shipments in accordance with newly implemented social distancing regulations.

The chemical tanker industry continues to experience volatility, as seen by the ongoing uncertainties in June. The prospects for recovery in Europe following the lifting of restrictions remain uncertain. Many downstream chemical producers and manufacturers in the automotive,

household, textile, and electronics industries currently have high inventory levels and are unable to significantly shift their materials until there is an improvement in end-user demand.

As governments begin to emerge from lockdown measures and ease restrictions, coupled with the gradual rebound of crude oil prices, there have been indications of a resurgence in bulk cargo rates in recent weeks. The balance between vessel supply and demand appears to be readjusting as provinces gradually ease restrictions and strive to restore conditions that resemble the pre-pandemic norm. Upon revisiting the Baltic-Brazil line depicted in the chart, it becomes apparent that the rate, which had previously reached \$13/t in mid-May, has since exhibited a trend of strengthening, ultimately settling within the range of \$16-18/t. This suggests that there is a growing need for bulk carriers, which enables operators to achieve greater prices. The chart also illustrates similar trends in the rates between Vancouver-China and the Middle East-China. The rates for shipping between Vancouver and China have increased to \$15 per ton from a low of \$11 per ton. Similarly, the rates for shipping between the Middle East and China have significantly improved to \$21 per ton, up from \$12 per ton in late April.

The perspective for the bulk carrier shipping industry is still uncertain and will heavily depend on the duration of lockdown measures and travel restrictions. The demand for transport, which, according to BP, constitutes approximately 55% of global oil demand, is not expected to swiftly recover to pre-Covid levels. The decrease in transportation demand will result in a decrease in fuel demand due to less economic activity. Given the decreased worldwide demand for oil, it is reasonable to expect that it may take a considerable amount of time for freight prices on certain routes to return to the levels observed prior to the epidemic of covid 19.

Given the possibility of a sudden increase in cases posing a significant risk in certain regions in the upcoming months, it is certain that the freight sector will be closely monitoring any forthcoming developments that could potentially disrupt the industry once again.

## **CHAPTER 9**

### **BULK CARRIERS EARNINGS**

The initial months of 2020 witnessed a significant decline in the conditions of the bulk carrier market. During the first quarter, the average daily profits for weighted bulkers amounted to merely \$6,721, reflecting a substantial decrease of 47% when compared to the previous quarter of 2019 and a decline of 18% in comparison to the same period of the previous year. The significant decline in prices can be attributed to several factors. Firstly, there were additional disruptions to Brazilian iron ore exports prior to the outbreak of the virus. Secondly, there was a decrease in coal demand in various regions. Moreover, the market sentiment experienced a detrimental impact due to the escalating influence of the Covid-19 pandemic. Lastly, many owners experienced an increase in fuel expenses at the beginning of the year due to the implementation of the IMO 2020 Sulphur Cap. The profitability of Capesize boats constructed in 2010 witnessed a decrease and reached negative levels by mid-February 2020 for those ships that lacked scrubber installations. Meanwhile, the earnings for ships that had scrubbers installed decreased to \$5,000 per day, which nevertheless remained below the usual operating costs. The earnings of smaller vessels experienced considerable decline, as seen by Panamax spot earnings reaching a minimum of \$5,730 per day and Supramax trip rates falling below \$5,000 per day in February 2020. Although there were some slight market improvements observed in March 2020, the mounting effects of the Covid-19 epidemic on the global economy raised concerns regarding the short-term prognosis of the dry bulk market. As a result, demand predictions were downgraded. It is crucial to acknowledge that China constitutes 35% of the worldwide seaborne dry bulk imports.

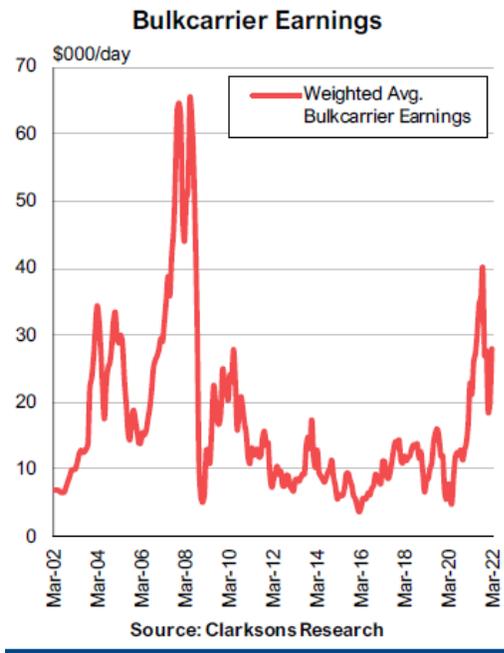
**Table 7: The average earnings of bulk carriers from 2020 to the first half of 2022.**

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

Source 1: Danish Ship Finance, Shipping Market Review, May 2021

Source 2: UNCTAD, Review of Maritime Transport 2021, p 91

The bulk carrier market commenced the year 2021 with a sense of confidence, subsequent to a highly arduous year in 2020. Several reasons contributed to the support of various industries. These factors include the rise in trade volumes following the disruptions caused by the Covid-19 pandemic in early 2020, stable grain quantities, robust imports from China, and a spike in coal demand driven by cold weather in the northern hemisphere, particularly in long-haul routes to Asia. In February 2021, there was a notable increase in congestion at Capesize ports, reaching the highest level in a decade. This congestion was exacerbated by a considerable number of bulk carriers carrying Australian coal that remained stranded off the coast of China, unable to unload their cargo. These circumstances can be attributed to the escalated trade tensions between the two nations throughout the year 2020. During the initial month of March in the year 2021, the mean daily earnings for bulk carrier vessels reached a notable value of \$21,982. This figure represents the greatest level observed since the year 2010 and exhibits a substantial increase of 69% compared to the commencement of the same year. In contrast to the mean daily profits of \$15,247 observed throughout the months of January and February 2021, \$12,259 in the latter half of 2020, and \$6,602 in the initial half of 2020. In 2020, there was a notable decline in profits by 18% compared to the previous year, resulting in an average daily income of \$9,431. This represents the lowest yearly



average since 2016. However, there is a substantial increase in momentum observed as we transition into 2021.

**Bulk carrier earnings**

In the month of August, the weighted average wages of bulk carriers reached \$34,551 per day, marking the highest monthly average since August 2008. Furthermore, the average profits for the first eight months of 2021 amounted to \$23,921 per day, exhibiting

a substantial year-on-year increase of nearly 200%. In the month of August, the average daily spot profits for Capesize vessels that were built in 2010 and not equipped with scrubbers amounted to \$39,589, which is the highest recorded level in the past ten years. However, vessels that were fitted with scrubbers earned almost \$3,000 more per day, while "eco" ships commanded an additional premium of over \$4,000 per day. In terms of historical performance, midsize and smaller vessels have exhibited even more favourable outcomes. In August, Supramax trip profits reached a remarkable 13-year peak of \$35,638 per day, while Handysize trip earnings averaged an astounding \$32,988 per day throughout the month. These figures surpass the highest level observed in the 2010s by more than double.

Source : Clarksons Research, Shipping Review and Outlook, March 2021, p 18

## CONCLUSION

Shipmanagement companies have observed a substantial increase in the daily operational expenses of boats. One of the primary factors leading to the rise in operating expenses is the inclusion of crew change fees. These expenses stem from the extended quarantine periods that crew members are required to undertake prior to embarking on a vessel or returning to their home country. Furthermore, it is imperative to include the charges related to PCR test fees and personal protective equipment (PPE) issued to the crew. Particularly during the initial stages of the pandemic, the expenses associated with PCR tests were considerably elevated. Based on data obtained from ship management organizations, it has been determined that, on average, an additional \$90 per crew member per month is allocated to augment the existing monthly crew budgets. The rise in crew travel expenses might also be attributed to the increase in airfares. In the event that a crew member was to test positive for Covid-19, unanticipated costs would be incurred, hence augmenting operating expenses. This would necessitate adherence to local quarantine regulations based on the location where the test was conducted. Furthermore, if any medical intervention were deemed necessary, it would further contribute to the overall expenditure.

The expenses associated with maintenance and repair experienced an increase concurrent with the growing challenges encountered during drydocking. The increase in transportation costs for the spare parts can be attributed to the concurrent growth in both sea freight and airfreight expenses. The need to relocate vessels to alternative geographic regions arose as a consequence of shipyard unavailability, as a significant number of shipyards in China were rendered inoperative due to the implementation of lockdown measures. China continues to be the most appealing region for drydocking, mostly because to its highly competitive pricing. In the majority of instances, the process of repositioning the vessel entailed undertaking ballast voyages and traversing numerous days at sea. The inclusion of expenses related to the bunkers consumed results in a substantial augmentation of the overall drydocking expenditure for a vessel. The economic losses resulting from the vessel's unemployment over that period must also be taken into account. The metric used to compute the financial loss incurred due to lost freight or hire can be determined based on the vessel's trading arrangement. If the vessel is operating in the spot market, the measure employed

is the time charter equivalent. Conversely, if the vessel is engaged in a time charter, the daily hire rate is utilized for this purpose. The vessels were required to undergo an additional 14-day quarantine period upon arrival at the shipyards prior to the commencement of any repair activities. The technical and marine superintendents dispatched from the office were had to endure extended periods of quarantine in hotels prior to their ability to board the vessel. The specific regulations vary depending on the country and the specific port in which the shipyard is situated. Following the establishment of Chinese shipyards, the Chinese authorities implemented a policy mandating a 14-day quarantine period or office personnel in Beijing, as well as an extra 7-day quarantine period upon arrival at the specific port where the shipyard is situated before 2 years.

The future ramifications of the pandemic on the shipping industry are uncertain at present. The shipping industry exhibits a dynamic structure characterized by ongoing and constant changes. The observed oscillations in the shipping goods market are unique and distinct from those found in any other market. The principles of demand and supply exert significant influence inside the sector. Achieving equilibrium is a really challenging endeavor. Significant alterations in structure will be evident if the epidemic ceases to be deemed a worldwide menace and supply networks operate consistently throughout the year. The pandemic has also underscored the significance of cooperation in maintaining the health and functionality of a system.

The International Maritime Organization (IMO) has released several circular letters that provide guidance on global health issues pertaining to seafarers, seagoing vessels, and offshore operations. These letters are directed towards Member States, seafarers, and stakeholders in the shipping industry. The purpose of these circulars is to establish and implement protocols for mitigating and preventing outbreaks of Covid-19 at sea. The counsel included in these circulars is derived from suggestions put out by esteemed organizations such as the European Commission, the International Chamber of Shipping, the International Maritime Organization (IMO), and the World Health Organization (WHO). These organizations have collaborated to address the intersection of health and shipping in the context of the Covid-19 pandemic. The circular letters in question are numbered as Circular Letters No. 4204/Add.1–Add.4. Circular Letter No. 4204/Add.6 and Circular Letter No. 4204/Add.9 were issued by the International Maritime Organization (IMO) to provide recommendations to governing authorities and relevant national authorities regarding the

facilitation of maritime trade and the preservation of the global supply chain amidst the ongoing pandemic.

Numerous industries and stakeholders were compelled to implement precautionary measures in response to the epidemic. The International Association of Ports and Harbors (IAPH) is a global organization that represents and promotes the interests of ports and harbors worldwide, has implemented guidelines regarding the response of ports to the pandemic. These guidelines are organized into three layers, which provide a methodology and a variety of effective practices for addressing immediate mitigating measures related to port operations, governance, and communication. Additionally, the guidelines include measures aimed at safeguarding business and financial returns, as well as measures intended to support customers and stakeholders involved in global supply chains (International Association of Ports and Harbors, 2020). Forty-nine port state control regimes issued provisional guidelines outlining their strategies for addressing the repercussions of the epidemic. The issues listed above include the recognition of extended periods of seafaring for maritime workers, longer timelines for required surveys, inspections, and audits, as well as the standardization of seafarer certification through a realistic and cohesive approach.

## BIBLIOGRAPHY & REFERENCES

1. <https://www.isl.org/en/news/the-impact-coronavirus-the-dry-bulk-carrier-market>
2. Republic of the Philippines, Inter-Agency Task Force for the Management of Infectious Diseases, Resolution No. 152, Series of December 2021
3. UNCTAD, Global Trade Impact of the Coronavirus (COVID-19) Epidemic. Trade and Development Report, 2020
4. [World Bunker Prices - Ship & Bunker \(shipandbunker.com\)](http://www.shipandbunker.com)
5. Republic of the Philippines, Inter-Agency Task Force for the Management of Infectious Diseases, Resolution No. 152, Series of December 2021
6. IMO, IMO 2020 – cutting sulphur oxide emissions
7. Clarksons Research, Shipping Review and Outlook, March 2021
8. IMO, Conventions, International Convention for the Prevention of Pollution from Ships
9. JCL Marine Singapore
10. Inchcape Shipping Services Singapore
11. Inchcape Shipping Services China
12. International Labour Organization, Maritime Labour Convention 2006
13. International Association of Ports and Harbours (2020). Guidance on ports’ response to the coronavirus pandemic.
14. Danish Ship Finance, Shipping Market Review, May 2021
15. 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 Economics and Logistics, vol. 23, issue 2, No 1, 179-210
16. OPEC Basket Price Fluctuations
17. European Maritime Safety Agency ( COVID-19 – IMPACT ON SHIPPING-12.11.2021 )

18. Boviatsis Michael and Daniil Georgios: Legal Analysis of Impact of Revised BIMCO Clauses on Crew Health and Safety During COVID-19 Era
19. Source: UNCTAD (2020). Global Trade Update. June (<https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392>).
20. <https://www.spglobal.com/commodityinsights/en/ci/research-analysis/article-spotlight-on-the-impact-of-covid19-on-the-bulk-carrier.html>
21. <https://greekreporter.com/2020/09/09/greek-shipping-dominates-world-despite-covid-19-pandemic/>
22. Trading Economics, Crude Oil Prices
23. International Labour Organization, Maritime Labour Convention 2006
24. <https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/covid-19-crew-change-clause-for-time-charter-parties-2020>
25. [https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/infectious\\_or\\_contagious\\_diseases\\_clause\\_for\\_time\\_charter\\_parties\\_2022](https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/infectious_or_contagious_diseases_clause_for_time_charter_parties_2022)
26. <https://www.imo.org/en/MediaCentre/PressBriefings/pages/41-crew-change-protocols.aspx>
27. <https://wwwcdn.imo.org/localresources/en/MediaCentre/Documents/Maritime%20Human%20Rights%20Risks%20and%20the%20COVID-19%20Crew%20Change%20Crisis%2020210425.pdf>
28. <https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392>).
29. <https://www.irclass.org/technical-circulars/imo-circular-letter-no-4204add6-on-preliminary-list-of-recommendations-for-governments-and-relevant-national-authorities-on-the-facilitation-of-maritime-trade-during-the-covid-19-pandemic/>
30. <https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/COVID%20CL%204204%20adds/Circular%20Letter%20No.4204-Add.4.pdf>
31. <https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/COVID%20CL%204204%20adds/Circular%20Letter%20No.4204-Add.35-Rev.9.pdf>

32. <https://www.iaphworldports.org/news/iaphnews/7351/>
33. Clarksons Research, Shipping Review and Outlook, March 2021, p 18
34. UNCTAD, Review of Maritime Transport 2021
35. Ship and bunker : <https://shipandbunker.com/prices/av/global/av-glb-global-average-bunker-price>
36. <https://www.ugs.gr/en/greek-shipping-and-economy/greek-shipping-and-economy-2019/>
37. [https://www.usitc.gov/research\\_and\\_analysis/tradeshifts/2020/special\\_topic.html](https://www.usitc.gov/research_and_analysis/tradeshifts/2020/special_topic.html)
38. [05 Franchina DirNav 13062017.pdf \(unipa.it\)](#)
39. [2767683-contracts-of-carriage-and-bills-of-lading-the-hague-visby-rules.pdf](#) (standard-club.com)
40. [Impact of COVID-19 on the social, economic, environmental and energy domains: Lessons learnt from a global pandemic - PMC \(nih.gov\)](#)
41. [MLC Convention \(ilo.org\)](#)
42. [Greek Shipping Dominates World Despite Covid-19 Pandemic \(greekreporter.com\)](#)