

# **Impact of COVID 19 on Global Supply Chains and the Asian Shipping and Port Sector: An Operations Perspective.**

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## **Abstract**

The paper discusses the general impacts of COVID-19 and attendant response measures on global supply chains, and the operational aspects of the Asian shipping and ports sector. The paper then delves into the effects of global developments before and after COVID-19 on Asian shipping and ports industry, and suggests operational areas that shipping companies, ports, and shippers in Asia may need to pay attention to, going forward, in order to forestall further pandemic-related losses and risks.

## 1. Introduction

The onset of the Novel Corona Virus disease (COVID-19) in December 2019 in the city of Wuhan, China brought chaos and panic in China, and around the world (Xiao & Estee Torok, 2020; Guan et al., 2020a). COVID-19 also caused deaths and severe economic disruption within the populations and nations of the world respectively (Worldometer, 2020). Within six months of its outbreak, the COVID-19 disease was declared a global pandemic by the World Health Organization (WHO) (Xiao & Estee Torok, 2020; WHO, 2020; Worldometer, 2020). The pandemic affected more than six million people worldwide as at the first week of June 2020 (Roser et al., 2020a), and more than one million were confirmed dead by October 2020 (Roser et al., 2020b). As a response, many countries took various infection control actions, and deployed various mitigation strategies in February/March 2020 to prevent the spread of the infection (Anderson et al. 2020; WHO, 2020b). Although, these actions were rightly aimed at preventing loss of life and spread of the virus, they adversely impacted various global supply chains, including the Asian shipping and ports industry which is a crucial part of many global supply chains and networks, and many Asian economies (ADB, 2020).

The value and socio-economic significance of Asian shipping and ports industry is underscored by the fact that they are the economic catalysts of the cities, countries, and regions that they serve (Funke and Yu, 2011; Yu et al., 2017). Ports and shipping boost the integration of economic industries and the agglomeration of services, thus generating social and economic benefits (Funke and Yu, 2011; Yu et al., 2017). Due to the importance of seaports to the regional economy and human wellbeing, this paper discusses COVID-19, and its attendant global health response, and the adverse impacts of both on the Asian shipping and ports industry.

The rest of the paper is structured as follows: In section 2, the paper discusses the general impacts of COVID-19 and attendant response measures on global supply chains. In section 3, the paper focuses on impacts of COVID 19 and its mitigation strategies on the Asian shipping, and ports sector. In section 4, the paper reflects on global developments immediately before, and immediately after the breakout of the pandemic, and suggests some operational areas that shipping companies and shippers in Asia may need to pay attention to, to forestall further pandemic-related losses and risks. In section 5, the paper is summarised and concluded. Section 2 below now addresses the general impacts of COVID-19 and attendant response on global supply chains.

## **2. General impacts of COVID-19 and attendant response on global supply chains**

The response measures put in place by governments around the world were meant to stop infection. Thus, the response to COVID-19 is public health related, with a view to curtailing the spread of the virus (Wong et al., 2020). The response also varies from country to country, and response strategies amongst suppliers, and other business organisations are patchy, and uneven globally. However, in general, the health response as mandated by WHO included:

### *Mandatory use of face masks and sanitizers*

The sudden mandated use of face masks and sanitizers around the world resulted in sudden excessive demand and stock out of resources in national and global markets (Feng et al., 2020). Likewise, there was a shortage of personal protective clothing and equipment such as protective gowns worldwide (WHO, 2020c). The resulting shortage of appropriate personal protective equipment such as protective gowns and masks was a major cause of concern among medical and public health personnel worldwide, as China, the world's largest manufacturer and supplier of these resources had no spare manufacturing capacity to serve the rest of the world given its own internal demand for the same items (McCloskey et al., 2020).

### *Mandated isolation and quarantine*

Isolation and quarantine of people were other protective and preventive measures taken by governments across the world based on WHO guidelines (Xiao & Estee Torok, 2020; WHO, 2020b). Related WHO guidelines to prevent the spread of the virus included hand washing and use of hand sanitizer, as well as sneezing or coughing into a bent elbow, as well as wearing of the N95 mask (Xiao & Estee Torok, 2020; WHO, 2020b). Other WHO recommended preventive measures included observing the 1m – 1.5m social distancing between individuals, and reducing the occupant density of public buildings, restaurants, public transportation and so forth (Loske, 2020; Xiao & Estee Torok, 2020). These health related infection control measures resulted in sudden reduction of capacity of transport vehicles, buildings, classrooms, stadiums, cafes and so forth in order to adhere to social distance health regulations, if not total closure (Tuzovic & Kabadayi, 2020). Social distancing and protective equipment requirements thus reduced the capacity of essential supply chains (Loske, 2020; Tirachini & Cats, 2020; Tuzovic & Kabadayi, 2020).

### *Mobility lockdown*

The singular most impactful health measure on global supply chains was the halting of almost all economic, commercial, and social activities, most importantly, national and international passenger and freight transportation. Thus, resulting in significant attendant impacts on logistics and supply chains (Queiroz et al., 2020; Adhikari et al., 2020). International and local travel restrictions, including *border closures* and *restriction of human and freight movements*, as well as lockdown of commercial activities nationally and internationally was singularly most impactful (Guan et al., 2020b). Borders closures highlighted a lack of credible local alternatives to global suppliers as many goods were quarantined and/or impounded at the border to prevent spread of the virus.

Similarly, transportation was disrupted globally (Guan et al., 2020a). For instance, the import of steel, iron, inorganic chemicals, from China, and other countries was grossly affected (Liu et al 2020). Transportation business even at national levels ceased, due to mobility lock-down in different countries. Mobility lockdown around the world contributed to the global economy halting production of many services and products (He et al., 2020). Lockdown in many countries resulted in the closure of manufacturing and service provision, and their associated supply chains (Bornaccorsi et al., 2020). This resulted in demand plummeting in many global supply chains while triggering excessive demand in others. It also resulted in supply plummeting in some global supply chains while triggering a scaling and ramping up of supply in other global supply chains. Therefore, similar to the bull whip effect (Forrester, 1961; Lee et al., 1997), affecting the pattern of import and export trade, and the global economy (Ebrahim et al., 2020).

As a result of the need to isolate, most companies and logistics and transport employees began working remotely online. Hence, the level of customer service in the delivery of cargoes and parcels was abruptly reduced due to extended order cycles. Also, service and freight delivery was delayed as businesses and staff began operating with induced capacity reductions, and additional safety measures to protect staff and customers from the pandemic (Choi, 2020). In particular, just as logistics and cargo companies were experiencing reduced facility capacity to comply with social distancing regulations, the reduction in domestic and international flights with loss of belly cargo of passenger planes literally halted logistics operations (Devi, 2020; Sun et al., 2020), and conventional retail consumer and grocery shopping suddenly migrated

online (Broughton, 2020). Thus, companies and online retailers suddenly needed to process unprecedented parcel and cargo volumes with reduced capacities (Dodds, 2020; Criddle, 2020; Smith, 2020). Reduced capacity coincides with increased demand. Hence, last mile delivery logistics struggled to scale up to demand, and struggled to deliver to consumers in lock-down (Dodds, 2020). Lastly, the common refusal of entry to truck drivers to enter quarantine zones, national and cross-border, or the sheer impossibility of drivers and equipment to get back out of these zones when stuck contributed to delays. In addition, accessing customers is not only a function of routing, and scheduling requirements, but also of observing public health regulations such as social distancing, and sanitisation of cargoes, and personnel (Wolfe & Brain, 2020; Tuzovic & Kabadayi, 2020).

Hence, the impacts of implementation of COVID-19 mitigation strategies prescribed by the WHO to national governments across the world resulted in immediate capacity constraints and supply chain disruptions. The mitigation strategies exposed the fragility and low resilience of many global supply chains when crises strike. COVID-19 being a health related life and/or death pandemic caused a rapid focus on a framework of hierarchy of needs given the immediate threat to *life, health, food, shelter* and *security*, in that order (Wolfe & Brain, 2020; Esper, 2020). At the initial stages of COVID-19, the aforementioned crisis supply chains very quickly came into focus. Some examples of COVID-19 impacts on two specific crisis supply chains are briefly highlighted in the listed order: (1) healthcare supply chains, and (2) essential consumer retail goods supply chains (Esper, 2020). The two were chosen for the visibly dramatic global TV reports about their sub-optimal management in the beginning of the pandemic. They were also selected for their criticality and importance to sustenance of human life, welfare, and community wellbeing.

### **Critical supply chains in crisis**

#### *a. Healthcare supply chains to hospitals, care homes and general practice*

COVID-19 triggered the unforeseen requirement to keep healthcare supply chains scalable and open on demand (Govindan et al., 2020; Lemke et al 2020). This was as a result of the immediate and urgent need to scale up volume and care for increasing numbers of infected people. Other examples of COVID-19 impacts on crisis supply chains such as healthcare supply chains include:

- Sudden global shortages of intensive care unit (ICU) human resource capacity, personnel, and equipment for treating COVID-19 patients. Specifically, human

resource training systems based on specialization and minimal cross-training inhibited the flexibility to scale up supply and availability of critical ICU bed capacity, ventilators, and skilled staff;

- Global shortages of personal protective equipment (PPE) for healthcare staff. In addition, there was the occurrence of opportunistic procurement and pricing, and hoarding of stocks out of fear (Nowak et al., 2020; Baddeley, 2020); and
- A seeming lack of national abilities to orchestrate critical resources across diverse – public and private – healthcare providers in some countries (Kim & Kreps, 2020; Janssen & van der Voort, 2020).

*b. Essential consumer retail and grocery supply chains*

The focus on a framework of hierarchy of needs, and crisis supply chains included essential consumer retail supply chains which were adversely impacted by:

1. Uncontrollable panic buying and stockpiling in homes, such as e.g. toilet rolls, flour, pasta, bread and long lasting tinned foods (Corkery & Yaffe-Bellany, 2020; Hall et al., 2020). Other consumer items stockpiled by fearful consumers included protective face masks, and hand sanitizer triggering the impacts of associated ‘bullwhip’ effects in these supply chains (Nowak et al., 2020; Baddeley, 2020). Overall, uncontrolled panic buying of perishable food quickly resulted in increased domestic waste while some consumers started reselling excess purchases at high profit to other consumers who missed out in the panic buying. Scarcity of these goods appear to have caused fake products, unnecessary profiteering, and corruption to increase worldwide (Kirk & Rifkin, 2020).
2. Some industrial supply chains with limited agility and flexibility could not respond to sudden demand changes and adjust their capacities (Ivanov, 2020). Hence, resulting in wastage while some others have experienced scarcity. For instance, institutional supply chains for paper products and/or food products traditionally have excess capacity, while retail consumer supply chains lack the agility and flexibility to meet demand changes due to excessive leanness and cost efficiency given the traditional focus on supply chain cost savings, and not effectiveness, or outcomes (Paul & Chowdhury, 2020).

## **Operational management of critical supply chains in crisis and challenges**

The overall priorities of supply chain crisis response approaches to manage the impacts of COVID-19 seemed to be – business continuity, safety of workers, and helping consumers and communities to overcome the pandemic (Bove & Benoit, 2020). Some important issues and challenges highlighted in formulating and implementing an effective supply chain crisis management strategy have included:

- Some organisations and governments having never mapped their supply chains and networks for vulnerability before COVID-19, and so never had alternative / contingency / risk management plans in place;
- A lack of effective coordination and communication systems to search out, vet, and approve alternative geographical supply sources with adequate capacity whether locally, nationally, or internationally, likewise alternative suppliers;
- A lack of globally accepted standards for equipment and existing strict regulations and highly regulated industries inhibit take-up of potential alternative supply sources, particularly with medical equipment and pharmaceuticals.
- Prior mergers and acquisition activity, and outsourcing, and offshoring have focused on cost minimization. Such focus on costs appears to have substantially reduced robustness, redundancy and slack in supply chains to deal with disruption (Paul & Chowdhury, 2020; Ivanov & Das, 2020).
- An almost absolute cost minimisation mantra resulting in inappropriate implementation of ‘lean’ principles seems to have inhibited process improvement that might have enabled cost reduction, agility, responsiveness, and flexibility (Ivanov & Dolgui, 2020).
- The aim of preserving the sustainability of healthcare, food and other essential supply chains during lockdown and beyond seems to have become of paramount priority (Wolfe & Brain, 2020; Esper, 2020). Thus, increasing national, regional, and international competition for scarce resources. The US government was for instance accused of diverting face masks bound for Germany (Wall Street Journal, 2020).

Overall, COVID-19 has clearly and dramatically demonstrated the impact that shocks such as pandemics, disasters, conflicts, and other disruption risks can have on global supply chains in general. COVID-19, a one in a hundred year pandemic has been the single most significant impact and shock that many global supply chains have faced since globalisation began many decades ago (Asian et al 2020; Rahman et al 2020). In summary, COVID-19 has had a significant impact on (a) the ability to get supply from suppliers in different countries around the world, and (b) on what is happening with the end consumer in various supply chains as impacts have included demand surges that have strained supply chains, not merely a demand drop-off, and not merely a supply problem. The impact has been felt across the entire gamut of the supply chain network.

In section 3, the paper addresses five impacts of COVID-19 mitigation strategies on Asian shipping and ports.

### **3. Impacts on Asian shipping and port operations**

While the current global COVID-19 crisis is unprecedented, Asian countries and organisations including shipping in and ports have had the experience of dealing with the SARS crisis in 2003 and the wider financial crisis in 2008, and so would appear to be better prepared than the rest of the world. However, anecdotal evidence appears to show that COVID-19, and its mitigation strategies has had direct impacts on the Asian shipping, and ports sector, particularly from an operational and legal perspective. In this paper, I focus on a few key operational impacts such as:

#### *A. Slump in global trade, shipping, and crewing*

The worldwide restriction of mobility, transportation, and logistical activities as a COVID-19 risk control measure triggered a global reduction in international trade with import and export trade volumes reduced as a result of global uncertainty (WTO, 2020; Economist, 2020). The global reduction in trade as a consequence, in turn triggered a reduction in demand for transport energy (crude oil, petrol, and diesel) as freight shipping is derived demand. In other words, a reduction in import and export activities results in reduced demand for freight shipping. For example, the Baltic Capesize Index (BCI) is an index/indicator of Chinese imports of iron ore, and a proxy for industrial production and industrial activity in China (BCI, 2020). The BCI vividly demonstrated COVID-19 shipping loses worldwide as it moved into negative territory for the first time ever in its almost 30-year history in first quarter 2020 (BCI, 2020). While the



first two or three months of a year are seasonally slow for Chinese iron ore imports given Christmas/New Year holidays, and Chinese New Year celebrations, the year 2020 was further compounded by the slowdown of the Chinese economy perhaps due to a combination of 25% increased tariffs and trade wars with the U.S. as well as outbreak of COVID-19 (BCI, 2020).

Likewise, mobility restrictions, and lockdowns seems to have triggered a slump in commercial and industrial activities resulting in reduced demand for non-transport energy (e.g. electricity consumption), all of which together seems to have contributed to a collapse in crude oil prices at the beginning of the pandemic (The Guardian, 2020). One unexpected impact on international shipping — is that the demand for tankers has been soaring as oil companies and countries sought to take advantage of temporarily low oil prices, and contract large vessels (ultra large crude carriers and very large crude carriers) to use as floating oil storage facilities (The Guardian, 2020b). Thus, taking many tankers off the market for use as storage tanks with the attendant rise in the pricing and cost of ‘fixing’ tankers left in the market (The Guardian, 2020b).

Similarly, the container and bulk carrier trades are experiencing major downturns in demand (Russell et al., 2020; Vidya & Prabheesh, 2020). Container ship operators have been cancelling sailings in order to minimise their losses, thereby reducing service reliability. There have been reports that Very Large Containership Vessels (VLCVs) are leaving Chinese ports filled to just 10 percent of their capacity (Safety4sea, 2020). More than 10 per cent of the global container fleet is now anchored as markets fall in the container trades (Safety4sea, 2020).

Likewise, the demand for dry bulk shipping is also down due to disrupted commodity supply and economic challenges in key destinations. For example, in the first three months of 2020, the Baltic Dry Index — a key indicator of bulk shipping demand — fell 43 per cent with the rapid spread of the pandemic around the world (BCI, 2020). Many unemployed vessels are either laid up with skeletal crews or, in the case of bulk carriers, drifting at sea with full crews awaiting another contract (BCI, 2020).

Another impact of COVID-19 is that mobility restrictions and border closures has literally halted international travel, with adverse impacts on seafarers and the operations of crewing/manning agencies around the world (Dolumbia-Henry, 2020). Every month around 100,000 seafarers are rotated on and off vessels worldwide (WEF, 2020). However, in recent months, scheduled crew changes have not always been possible. Thousands of seafarers are currently stranded on-board vessels for periods beyond their contracts with cascade effects for

many developing countries who depend on the USD remittances of their seafarers (WEF, 2020; Doumbia-Henry, 2020). The economy of the Philippines for instance depend on the USD wages of its 400,000 seafarers — in 2018, its seafarers remitted more than US\$6 billion home (WEF, 2020). Indonesia, India and China are other countries significantly dependent on the incomes of their seafarers as they are some of the biggest suppliers of crew members worldwide. Overall, restrictions on seafarer contracting and repatriation obligations will likely be tighter resulting in increased costs for shipowners, particularly as the ILO wades in to address COVID-19 induced issues regarding seafarer work rights and working conditions (WEF, 2020; ). As a result of the above crewing challenges, shipowners may be tempted to cut costs by reducing crew numbers, lowering vessel maintenance standards, and/or employing cheaper less trained crews. These could increase the risk of accidents at sea as overworked, and underpaid seafarers are not conducive to maritime security and safety (WEF, 2020).

The depressed market for shipping has also adversely impacted the cruise market (Ito et al., 2020). The cruise industry in Asia and elsewhere may not return to the boom it was experiencing in recent years due to the fear of cruise ships as potential incubators and spreaders of viruses and other diseases (Ito et al., 2020). There have been headlines about cruise ships not allowed to port and placed under quarantine for weeks. The negative global publicity and perception of cruise ships as bringing disease will take a long time to recede in public memory. The *Diamond Princess* for instance had 2666 passengers, 1045 crew, totalling 3711, resulted in 712 infected persons, or about 20% of the ship's population, and thirteen deaths (Tokuda et al., 2020; Ito et al., 2020).

### *B. Port congestion*

As a result of countries imposing lockdown or restricting movement some retailers and manufacturers fail to pick up their cargoes and containers (Chetty et al 2020; Russell et al 2020). This may be because their warehouses are full or closed. Thus, uncollected cargoes and containers at ports creates congestion, takes up space, and reduces capacity for incoming cargo and containers (Chetty et al 2020; Russell et al 2020). As a result of such congestion some ports have declared ‘force majeure’ to pre-empt legal claims from cargo owners, and avoid legal liability (Carr and Ramezani, 2020). The closure of ports and port congestion have contributed to the disruptions in supply chains, and import and export activities (Carr and Ramezani, 2020; Donaldson, 2020). In addition, some ports have remained open but have reduced workforce, which further exacerbates the cargo congestion in ports.

### *C. Marine insurance and potential claims*

The disruption of shipping and port logistics due to the pandemic has several adverse impacts for shipping, ports, importers, risk managers, cargo owners, and insurers. These parties all need to closely monitor: (1) cargo accumulation; (2) delays; (3) delay clause (s); (4) demurrage charges; (5) deviation; (6) force majeure; and (7) disruptions in transit.

Insurance implications of COVID-19 induced disruptions include:

1) Cargo accumulation, where cargo throughput is reduced. Similar to port congestion, cargo accumulation results as a result of limited workforce availability, which in turn reduces throughput capacity to distribute and handle goods promptly (Carr and Ramezani, 2020). Cargo is therefore held for longer at ports and for storage locations to see a volume increase while cargoes await their next destination (Carr and Ramezani, 2020).

2) These COVID-19 related issues raise questions about the limitations of the normal marine insurance cover:

Delays – Shippers would want to keep their cargo moving, but delays during transit or (temporary) storage may be inevitable due to COVID-19 issues already discussed. Most cargo and stock throughput insurance policies exclude loss or damage solely caused by delay (Ferguson, 2020). Extra charges and costs will arise as a result of hold-ups, delays, or re-routing cargoes to alternative destinations as a result of government prohibition/legislation (Ferguson, 2020). While such costs are usually limited, the additional forwarding costs clause (or similar) should provide extra financial assistance to shippers to cover additional costs (Ferguson, 2020).

Perishable goods – perishable items such as **seafood**, fruit, vegetables, and pharmaceutical products generally operate on a strict and well-monitored time schedule. The normal marine insurance cover does not address the characteristics of these types of time and temperature sensitive cargoes as a result of exclusions for delay, and inherent vice (Carr and Ramezani, 2020). Exclusions for delay, and inherent vice will operate when ports are congested and cargo clearance is delayed in the current pandemic.

Potential legal disputes – COVID-19 disruptions have legal implications. For instance, a cargo owner who charters vessels to a seaport to load or to discharge cargo is required to identify and nominate a “safe port” (Carr and Ramezani, 2020). A safe port is a port that the vessel can call at safely, conduct cargo loading or discharging operations, and depart safely. If the intended port is closed, the charterer or cargo owner would be obliged to identify and nominate an alternative “safe port”. This is often not possible because there may not be alternative port destinations that the cargo can be discharged at, given most ports have been similarly impacted by COVID-19. In fact, if the cargo is classed as non-essential cargo, it cannot be moved to the ports during a national lockdown. This may result in the vessel arriving at the port and finding no cargo to be shipped, causing incurring of costly demurrage. In addition, before a vessel load cargo, it must first be cleared by port health authorities, and obtain “free pratique.” The process of a port vetting the crew for COVID-19 in pandemic affected countries may take time, and cause delays the costs of which must be borne by the shipowner rather than the cargo owner/charterer (Carr and Ramezani, 2020).

Although, the adverse effects of COVID-19 may be covered by invoking the “force majeure” clauses in some contracts, the clauses are not uniform or consistent, and may not always be available, or relevant to every case. Overall, the adverse impacts of COVID-19 will cause losses, legal issues, and disputes now and/or after the pandemic is over. The challenge will be to determine who will bear or share in these losses.

#### *D. Sourcing shift from China, and sovereign and regional supply chains*

At a higher level, many governments and manufacturers are now seriously re-thinking the structure and potential vulnerabilities of their supply networks. For instance, COVID-19 and its adverse impacts seems to have catalysed and accelerated the thinking in certain quarters before COVID-19 that globalisation should be slowed, and de-globalisation accelerated (Asian et al 2020; Hendry et al., 2019; Witt, 2019). For instance, this thinking may be seen in recent trade tensions between USA and China arising out of the “America First” and “Make America Great Again” mantra of President Donald Trump and associated trade conflicts (Liu et al 2020b). Another example is the stalling trade negotiations between the UK and the EU in the Brexit process as well as other business dynamics towards deglobalisation (Asian et al 2020; Hendry et al., 2019; Witt, 2019; Lund et al., 2019).

Deglobalisation thinking seems to have been accelerated by the adverse impacts of COVID-19 (Rahman et al 2020), and while trade openness is currently in a state of uncertainty and flux

(Aguilera et al., 2019), policy-makers around the world have emphasized on buying products from local suppliers (The-Premier-Victoria 2020; Reza-Gharehbagh, 2019), bringing back production facilities onshore (Wickware 2020), or sourcing from near shore (SCMP 2020; Foerstl et al. 2016).

In short, manufacturers and countries are being advised to seek alternative even if more expensive sources of supply other than relying on Chinese based sources. For instance, the Japanese government recently announced that it will allocate roughly \$US2.2 billion to attract Japanese manufacturers out of China, of which \$US 2 billion is earmarked for Japanese firms to move back to Japan, and \$US 200 million to move to other countries (SCMP, 2020). The Australian government is also looking at ways to move production of some “critical” products (such as personal protective equipment) from China and achieve what has been referred to as supply chain sovereignty (The-Premier-Victoria 2020). Currently, India, Thailand and Vietnam appear to be the ultimate destinations of much of the manufacturing currently in China, as well as a replacement source for goods traditionally sourced in China. While India, Thailand and Vietnam would benefit from this investment if it occurs, its benefits may not be immediately felt because China has excellent logistics infrastructure and other strengths which India, Thailand and Vietnam do not currently possess, and which would take time to replicate.

Furthermore, the cross-border sourcing of raw materials and sub-components would likely create increased demand in intra-Asia shipping volumes as strategies to reduce reliance on China, and other geopolitical risks by countries and individual firms, would trigger a greater demand for shipping logistics services, particular in Asian shipping and ports. Hence, Asian shipping and ports companies may need to observe, plan, and prepare for this sourcing shift from China, and emerging sovereign, and regional supply chains (SCMP, 2020; Foerstl et al 2020).

#### *E. Shipbuilding and repairs and ship sale and purchase*

The shipbuilding and ship repair sector in Asia has experienced steep declines in demand as buyers and vessel managers do not want to travel to South Korea and China for fear of catching COVID-19, and because of the strict travel restrictions in place. Similarly, shipping finance and ship brokerage have been adversely affected as they both involve travel and often face to face business meetings between “buyers” and “sellers”, and creditors and borrowers (SCMP, 2020b). On the other hand, a slowdown in shipping finance and newbuilding activity can serve to keep tonnage supply from expanding given the excess of tonnage in the market as a result

of COVID-19 induced reduction in demand. In section 4, the paper reflects on global developments immediately before, and immediately after the breakout of the pandemic, and suggests some operational areas that shipping companies and shippers in Asia may need to pay attention to, to forestall further pandemic-related losses and risks. In section 5, the paper is summarised and concluded.

#### **4. Reflections on COVID-19's impact on shipping, ports logistics, and supply chains**

Covid-19, and before that, the trade wars between China and the USA have offered lessons for the student of supply chains, trade logistics, and international trade. Trade wars, threats of trade wars, imposition of tariffs, and Covid-19 in less than one year have enabled a deeper multidimensional and operational analysis of global supply chains including Asian shipping and port operations. We can see how a disruption of the network of manufacturers, suppliers, vendors, and distributors, have demonstrated how interconnected the whole world really is. The disruption of global freight and passenger transport links has adversely impacted the supply chains of many products. We also see the logistical bottlenecks, and how they disrupt the intermodal transport chain, supply chains, and global deliveries of goods and services.

China is the largest exporter in the world, and home to seven of the ten busiest seaports as well as two major container shipping lines. This means the Asian shipping and port industry may need to re-analyse, re-strategise, and reimagine their operations in the light of Chinese economic and shipping developments arising (1) from the impacts of COVID-19 mitigation strategies and (2) issues of re-globalisation, localisation and geo-politics.

First, as regards issues of passenger and crew health, crew change schedules, and crewing operations. Attention also needs to be paid to potential delays at Chinese and other ports of call as freight may no longer be possible to load or discharge, or may not be available. Some key operational issues and potential implications that freight owners, shipping companies, and risk managers need to continue to monitor closely in this regard include: cargo accumulation, cargo delays, delay clause, demurrage charges, deviation, force majeure, and interruptions in transit.

**Cargo accumulation:** The value of accumulated goods in transit at a port or warehouse may exceed the accumulation limit allowed under an insurance contract. To ensure adequate insurance coverage is in place and to determine if more insurance premiums will apply, shippers need to undertake appropriate research in this regard.

**Cargo delays:** The arrival of freight shipments insured destinations after the expected date of arrival may have financial implications on all the parties involved in the shipping transaction, as delays are not often covered as a cause of loss under most conventional insurance contracts.

**Delay clause:** The delay clause is of paramount importance amongst warranties included in cargo insurance contracts. Delay clauses often exclude coverage for losses due to delay even when such delay was caused by an insured peril.

**Demurrage charges:** Additional time to unload or load a ship, or to clear goods from the port of discharge beyond the prescribed time period may result in demurrage fees. Likewise, the late return of trailers, railcars, or containers may result in late penalties and/or demurrage fees charged to the shipper/owner of the cargoes. Such demurrage charges are not recoverable under the usual cargo insurance contract, unless the delay is at the instruction of the insurance company for survey or inspection following a loss.

**Deviation:** In the incident of unsafe ports (e.g. due to COVID-19), the ship reserves the right to deviate to another port that may not be described on the bill of lading. While, the conventional maritime cargo insurance policy includes a deviation clause that allows for certain deviations, or delays in transit without voiding coverage, not all cargo insurance contracts will cover the additional forwarding and freight costs associated with such deviations and/or delays in transit.

**Force majeure:** Several contracts with ocean carriers, vendors, truckers, and warehousemen often include a *force majeure* clause, which exempts them from fulfilling contractual obligations in case of uncontrollable or unexpected events such as COVID-19. Nonetheless, the specific actual events that constitute the *force majeure* should be clearly and in detail identified in the contract.

**Interruptions in transit:** For shippers, most cargo insurance contracts are meant to cover cargoes while in due course of transit. The scope of insurance coverage conventionally includes interruptions in transit that are beyond the control of the insured party (shipper) as well as conventional delays. However, there are time limitations, reporting requirements, and exceptions that must be taken into account as soon as shippers become aware of any risks that will impact their global supply chains.

**Other risks:** Other risks that should be monitored closely in these times by the Asian shipping and port industry include: potential port closures and/or the slowing or disruption of port and logistics services and operations; as well as disruption to deliveries. Shipping companies will need to clearly demonstrate the nature of the risk, and of any safety concerns about a particular port to substantiate their refusal to call at that port as scheduled, or other nearby ports.

Second, and last on issues of re-globalisation, localisation, and geo-politics: the Asian shipping and ports industry must closely watch developments regarding industrial and trade policies. For instance, the Brexit process, and trade tensions such as the U.S-China conflict, the Japan-South Korea trade dispute, and other business dynamics towards deglobalisation. The Asian shipping and ports industry must also closely monitor regional logistics infrastructure developments such as the *Belt and Road Initiative*—BRI, and the growth of breakthrough technologies, such as artificial intelligence (AI), blockchain, autonomous transportation, and additive manufacturing. These could change the nature of sourcing, manufacturing, distribution and delivery with profound demand implications for Asian shipping, port operations and allied services. These technological developments could serve as accelerant for speedier implementation of previously slowly emerging latent trends in the Asian shipping and ports sectors.

### **Summary and conclusion**

The paper has discussed the general impacts of COVID-19 and attendant response measures on global supply chains, and the operational aspects of the Asian shipping, and ports sector. This analysis was undertaken through secondary data sources. The paper afterwards addressed the impacts of emerging global developments before COVID-19 such as US China trade wars on Asian shipping and ports industry, and the impacts of COVID-19 mitigation strategies on the Asian shipping and ports industry. The paper then suggests operational areas that shipping companies, ports, and shippers in Asia may need to closely monitor going forward, in order to reduce and be prepared for further pandemic-related risks and losses even as COVID-19 is making a resurgence in Europe and the USA.

Given the ongoing pandemic, it seems that there will be significant permanent, or long term structural changes to shipping and port services demand, and the current situation could be considered an ongoing real life “stress test” of global supply chain and logistics markets. If so, shipping and port operations may need to be re-configured and adapted to the ongoing nature of the impacts of COVID-19. On the other hand, if COVID-19 is halted globally and an



effective vaccine found, we might expect a strong rebound of the market at the end of 2021, as factories in Asia would need to be provided with raw materials to scale up production and catch up quickly with warehouses low on stock. Overall, Asian shipping and port sector must have adaptable and flexible strategic preparedness plans to accommodate changing scenarios.

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