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COVID-19 and Maritime Transport

Impact and Responses

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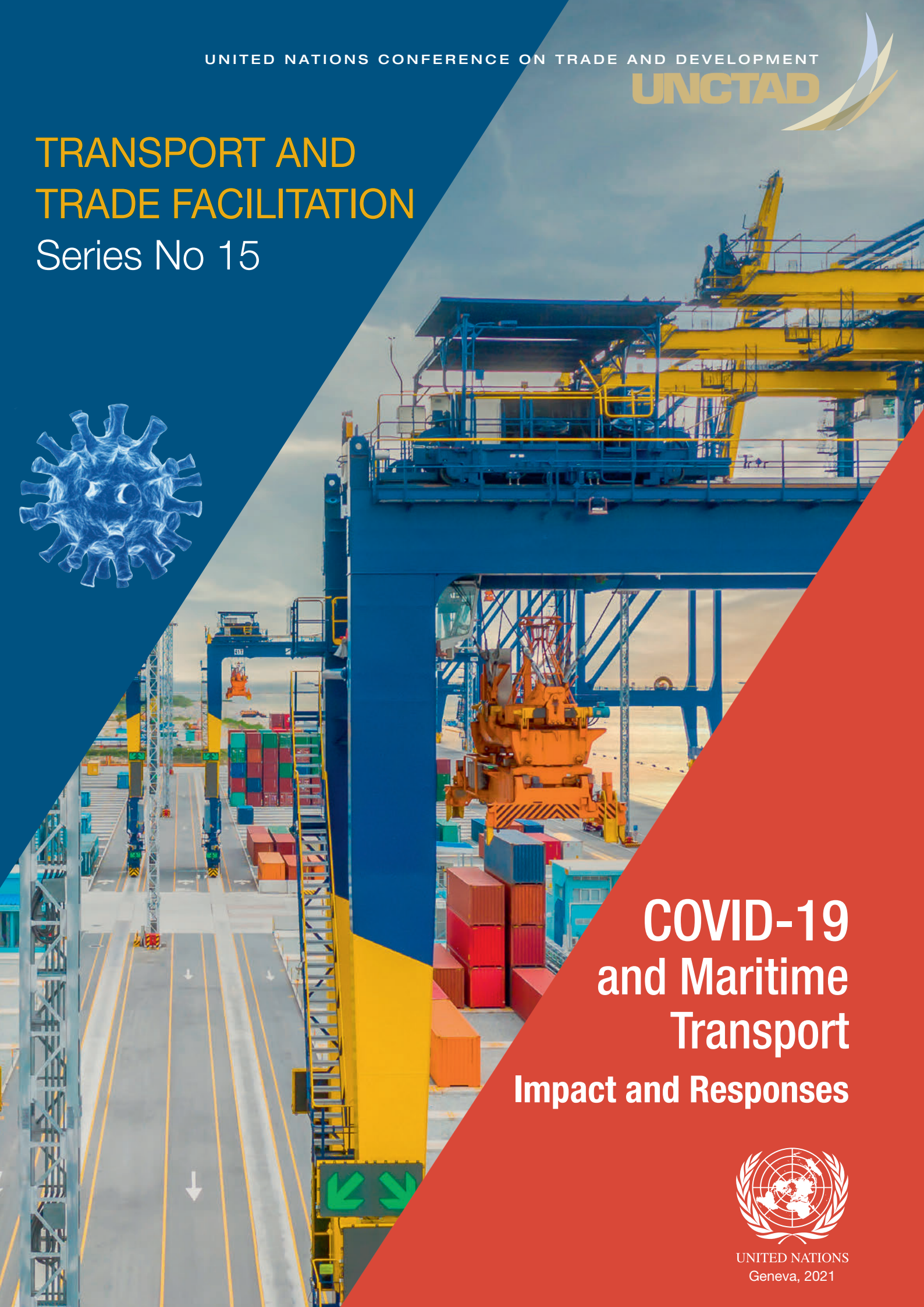

COVID-19 and Maritime Transport

Impact and Responses

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Beyond the extensive published information, the section on responses and adjustments introduced by ports has benefited from insights generated as part of the discussions and documents produced by the COVID-19 Task Force of the International Association of Ports and Harbors (IAPH). Furthermore, it builds on the findings reported in the various issues of the publication: Notteboom T. and Pallis A.A. (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer.

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Abbreviations

AIS: Automatic Identification System
EU: European Union
GDP: Gross domestic product
HPA: Hamburg Port Authority
IAPH: International Association of Ports and Harbors
ICS: International Chamber of Shipping
IMF: International Monetary Fund
ILO: International Labour Organization
IMO: International Maritime Organization
ISC: Indian subcontinent
LDC: Least Developed Countries
LNG: Liquified natural gas
LPG: Liquified petroleum gas
MDoH: Maritime Declaration of Health
MSC: Mediterranean Shipping Company
PAV: Port Authority of Valencia
Pax: Passenger ship
PMP: Port Management Programme
PCS: Port Community System
Ro/Ro: Roll on/Roll off
SDGs: Sustainable Development Goals
SIDS: Small Island Developing States
SoT: Suspension of Transit
SW: Single Window
ULCSs: Ultra-Large Container Ships
UNDA: United Nation Development Account
WCO: World Customs Organization
WFP: World Food Programme
WHO: World Health Organization
WPSP: World Port Sustainability Program

INTRODUCTION

Maritime transport underpins global supply chain linkages and economic interdependency with shipping and ports estimated to handle over 80 per cent of global merchandise trade by volume and more than 70 per cent by value. As a result, when disruptive factors such as pandemics occur, the sector works as a transmission channel that sends shockwaves across supply chains and regions. Disrupted transport networks and supply chains can significantly undermine world trade and economic activity. With developing countries playing a large role in global maritime transport and trade, and with vulnerable economies such as small island developing states (SIDS) depending heavily on maritime transport for their livelihood and access to the global marketplace, safeguarding the integrity of the maritime transport chain is a sustainable development imperative. SIDS are already burdened by disproportionately high transport costs and low shipping connectivity making their trade uncompetitive and costly.

The Coronavirus disease (COVID-19) triggered a global health and economic crisis with wide-ranging implications for maritime transport and trade. Restrictions introduced in response to the pandemic have caused disruptions affecting ports, shipping, and supply chains. Various industries faced challenges along their supply chain such as raw material shortages, lead time issues, ocean blank sailings, port closures, reduced working hours at ports, equipment, and labor shortages, as well as truck/transport capacity constraints. These obstacles undermine the smooth movement of trade flows and supply chain operations and can significantly erode the transport services trade liberalization and trade facilitation gains achieved over the years.

While the longer-term impact of the COVID-19 outbreak is yet to be fully understood, all indicators are pointing to significant immediate challenges for the sector. These differ depending on the maritime transport segment (e.g., container, bulk, reefer, tanker) and whether the transport operation is domestic or international. They also vary by region, level of development, and the state of prior preparedness to shocks and disruptions. Countries with a high share of forward and backward global value chain participation are more vulnerable to supply chain disruptions.[1] Countries having relatively higher shares of backward value chain participation are likely to be the most vulnerable. [2] Meanwhile any disproportionately negative impact on vulnerable economies such as SIDS and landlocked developing countries (LLDCs) and the least developed countries (LDCs) where logistical and developmental challenges are already significant, can be detrimental for their sustainable development aspirations.

Strengthening the capacity of countries to anticipate and recover from disruptions affecting their maritime supply chain is crucial. This requires a good understanding of how the COVID-19 affected the sector, including the challenges faced and the solutions that had been adopted. Therefore, and building on its broad mandate in the field of transport and trade facilitation, UNCTAD carried out a preliminary assessment of the immediate impacts of the COVID-19 disruption on the maritime supply chain and trade over the first half of 2020. The assessment was articulated around the following issues:

- Impacts of the COVID-19 on the maritime supply chain and challenges faced.
- Response measures introduced by relevant stakeholders.
- Lessons learned and implications for the maritime supply chain of the future.

Against this background, Chapters 1 and 2 of the present report describe the immediate impacts of the pandemic on maritime trade flows, ship calls, and liner shipping connectivity in the first half of 2020. Chapter 3 highlights relevant responses and adjustments made at the port level as well as by other stakeholders across the maritime supply chain to cope with the disruption and maintain business continuity, while at the same time, protecting workers and ensuring timely delivery of essential goods during the crisis. The assessment has generated some key findings and identified some lessons and good practices that could be leveraged to develop guidance and tools with a view to greater maritime supply chain resilience and preparedness in the face of shocks and disruptions.

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[1] World Trade Organization (2019). World Trade Statistical Review. Geneva.

[2] Ojala Lauri (2020). The impact of COVID 19 on global supply chains and the transport sector. PowerPoint presentation. 1 April.

Chapter 1

COVID-19 IMPACT ON MARITIME TRADE AND PORT CALLS

Any disruption to global maritime transportation networks can have far-reaching implications for a highly globalized world economy. When crises such as the COVID-19 pandemic arise, allowing continued port access to commercial ships ensures that the world continues to function with maritime trade persistently delivering the world's food, energy, and raw materials, as well as manufactured goods and components – including vital medical supplies. However, with the pandemic having spread in a sequenced manner across regions, keeping maritime transport moving and trade flowing during the disruption has been challenging. The following section examines the immediate impacts of the pandemic and related disruptions on maritime trade flows and port calls, with a focus on developing countries and SIDS.

1.1 COVID-19 IMPACTS ON GLOBAL TRADE FLOWS

The COVID-19 pandemic affected global trade flows at an unprecedented speed and scale. During the pandemic, access to essential goods and medical items has been secured largely by the ability of the maritime supply chain to quickly adapt.

UNCTAD estimates global merchandise trade to have fallen by 5 per cent in the first quarter of 2020 and expects a deeper contraction of 27 per cent in the second quarter.[3] For the full year, UNCTAD expects a drop of 20 per cent. The World Bank further noted that that merchandise trade appeared to have bottomed out in April, falling nearly 20 per cent year on year, after a 10 per cent decline in March. [4] The trade contraction caused by COVID-19 is deeper than the one observed during the financial crisis of 2008-2009 (**Figure 1**).

Global trade performance has been uneven (**Figure 2**) suggests that the sharpest year-on-year downturn in April took place in the Middle East, which registered trade declines of up to 40 per cent. Trade also collapsed in sub-Saharan Africa, Latin America, the Caribbean, North Africa, North America, and the European Union (EU 27), following the declaration of the pandemic by the World Health Organization (WHO) in mid-March 2020. Declines in East Asia and the Pacific trade were less severe, with exports registering a 7 per cent decrease in Q1 2020 and 4 per cent in April. In April, China appears to have performed better than other major economies, registering modest growth in exports. However, data for May 2020, indicate that China's imports and exports fell by about 8 per cent.[5]

Although the trade slowdown was visible in both developing and developed countries, trade in developing countries, especially imports, appears to have fallen relatively faster (**Table** 1).

While the decline in the exports of developing countries may reflect reduced demand in destination markets, falling imports are also driven by the suppressed demand as well as other factors such as exchange rate movements, concerns regarding debt and shortage of foreign currency. Meanwhile, with the continued lockdowns in Latin America, forecasts are increasingly pointing to a further and rapid deterioration in the trade of developing countries.[6]

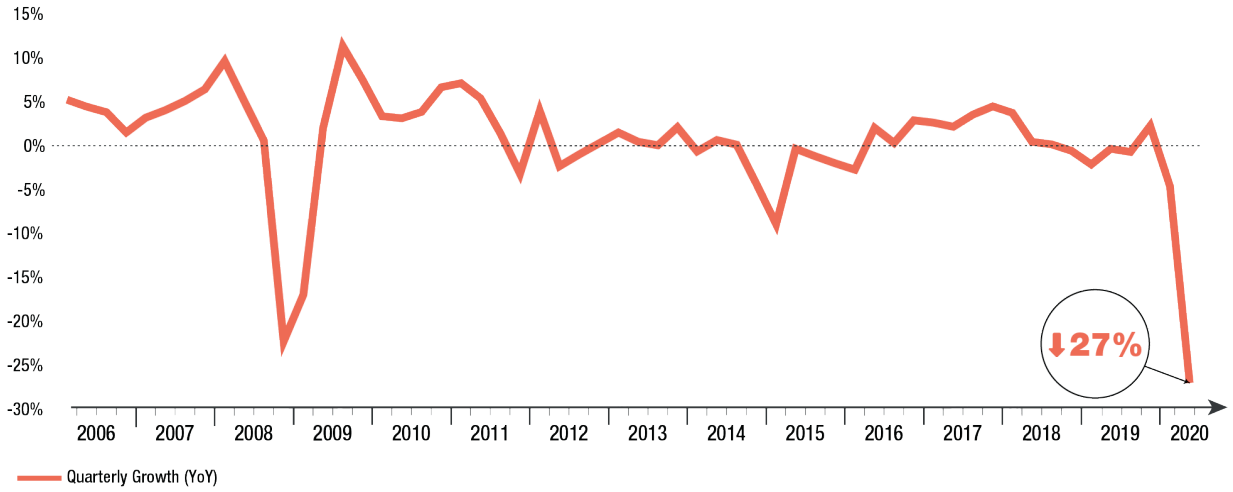
[3]UNCTAD (2020). Global Trade Update. June.

[4] World Bank (2020). COVID-19 Trade Watch #3 - Signs of Recovery? 29 June.

[5] UNCTAD calculations based on national statistics; Statistics for April are preliminary and based on a limited number of countries. Data excludes intra-EU trade. For details see: UNCTAD (2020). Global Trade Update. June. https://unctad.org/en/PublicationsLibrary/ditcmisc2020d2_en.pdf.

[6] UNCTAD (2020). Review of Maritime Transport 2020 (forthcoming). Geneva and New York.

Figure 1. Trends in global trade (Percentage change)



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

Table 1. Global trade in 2020 (Percentage change over 2019)

	Q1 2020		April 2020	
	Import	Export	Import	Export
Developed Countries	-6%	-3%	-10%	-14%
Developing Countries	-2%	-7%	-19%	-18%
South-South Trade	-2%		-14%	

*Source: UNCTAD (2020). Global Trade Update. June (*https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392).
Note: Statistics for April are preliminary and based on a limited number of countries. Data excludes intra-EU trade.

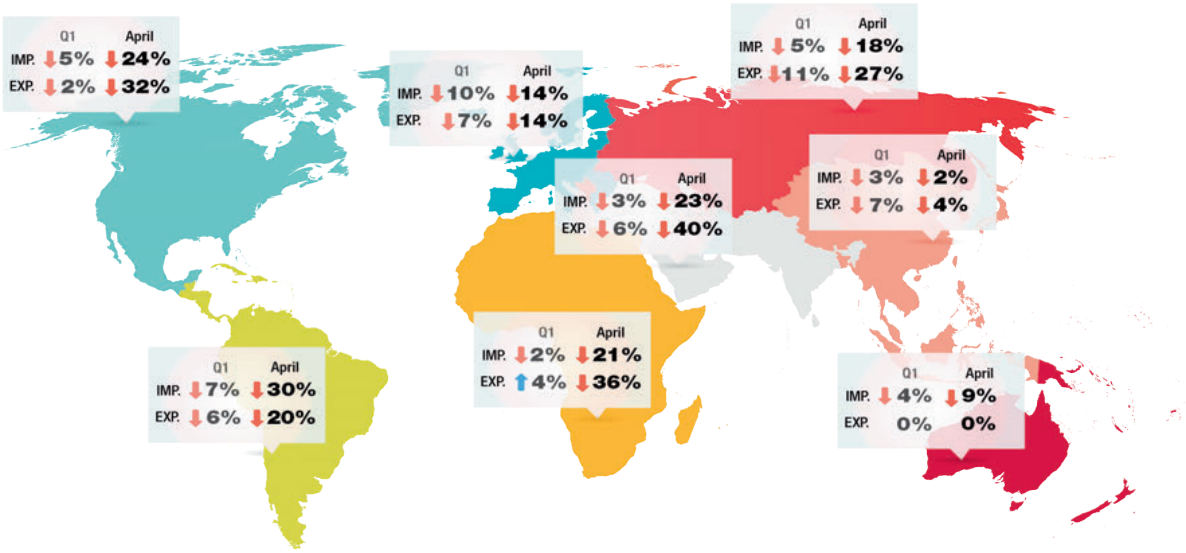
As shown in **Table 2**, many sectors have been negatively affected during the first four months of 2020. Variations across sectors reflect both reduced demand and supply-side disruptions. In the first quarter of 2020, Textiles and Apparel declined by nearly 12 per cent. Office Machinery and Automotive sectors fell by about 8 per cent. In contrast, the value of international trade in the Agri-food sector, which has been the least volatile, grew by about 2 per cent. Trade in Transport Equipment and Fuels fell respectively, by 30 per cent 50 per cent in April. Sharp contractions in Energy trade (-40 per cent) and Automotive Products (-50 per cent) have been recorded. Meanwhile, trade in Office Machinery appears to have rebounded in April, largely because of China's positive export performance. As can be expected, trade in Essential goods recorded a modest increase during the pandemic.[7]

With store closures in major consuming markets, the suppressed demand induced major apparel brands to reportedly delay and cancel orders. Suppliers in garment-producing countries have faced order cancellations, reduced order volumes and extended payment terms, which resulted in many having to reduce operations or stop them altogether. As it is standard practice for brands not to pay for products until after they are shipped, when an order is put on hold or cancelled, payments are also held or cancelled. Some brands have even reportedly asked for discounts on orders that had already been shipped.[8]

The precise trajectory of the economic recovery remains uncertain. Recovery will depend on the pandemic's evolution as well as the capacity of the economies to quickly recover from lockdown measures used to slow the COVID-19 outbreak.

[7]UNCTAD (2020). UNCTAD Global Trade Update. June.
[8] For additional information, see *https://www.workersrights.org/issues/COVID-19/tracker.* Accessed on 24 June 2020.

Figure 2. Global trade by region in 2020 (Percentage change over 2019)



*Source: UNCTAD (2020). Global Trade Update. June (*https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392).
Notes: UNCTAD calculations based on national statistics; Statistics for April are preliminary and based on a limited number of countries. Data excludes intra-EU trade.

Table 2. Global trade by sector in 2020 (Percentage change over 2019)

	Q1 2020	April 2020
Agri-food	2%	-2%
Automotive	-8%	-49%
Chemicals	0%	-14%
Communication Equipment	-6%	-4%
Electrical Machinery	-4%	-13%
Energy	5%	-39%
Machinery various	-8%	-11%
Materials and Ore	-2%	-7%
Office Machinery	-8%	8%
Precision instruments	-3%	-14%
Textiles and Apparel	-11%	-6%

*Source: UNCTAD (2020). Global Trade Update. June (*https://unctad.org/en/pages/newsdetails.aspx?OriginalVersionID=2392).
Notes: UNCTAD calculations based on national statistics; Percentage changes in world trade are year-over-year. Changes for Q1 are estimated from HS6 digits data of China, EU and United States, while these for April are estimated only from China and United States data. Data excludes intra-EU trade.

The first half of 2020 was marked by widespread lockdowns, travel restrictions, fast-rising unemployment, government rescue packages and oil and stock market crashes. The second half of the year remains highly uncertain but there is consensus for full year gross domestic product (GDP) single digit decline, and expectations for a muted recovery as lockdowns are lifted. In June 2020, the International Monetary Fund (IMF) projected a global GDP contraction of 4.9 per cent in 2020.[9] The performance in 2021 will depend on the ability to contain the outbreak, progress in the search for a vaccine, the effectiveness of the various stimulus packages, the impact on consumer habits, as well as the government debt-tackling policies. Current GDP forecasts scenarios for 2021 range from -2 per cent to +6 per cent.[10]

9 International Monetary Fund (2020). World Economic Outlook Update. June 2020.
10 Damas Philip and Heaney Simon (2020). Covid-19 container shipping market and operational issues update. Drewry Special Webinar. 14 May 2020.

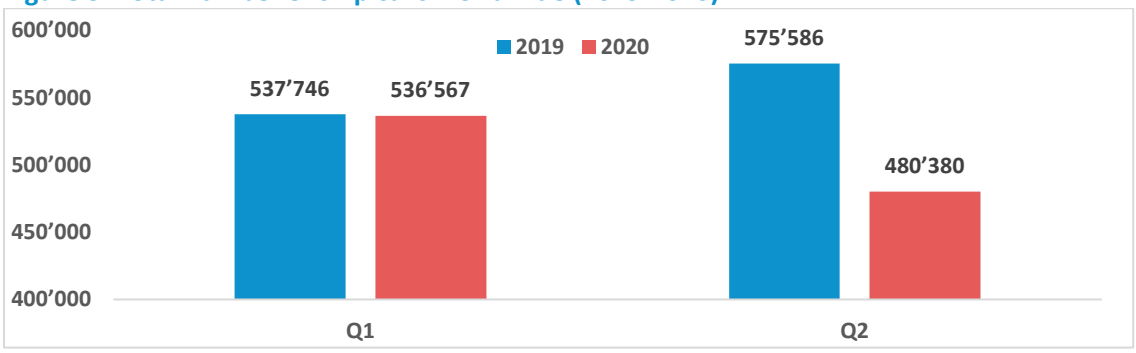
1.2 CHANGES IN MARITIME TRADE: REDUCED PORT CALLS

Automated Identification System (AIS) data that track and trace ship movements, provide near real-time information on maritime transport and trade in motion. This helps fill existing data gaps as traditional data sources and methods that rely on national official statistics are often produced with some delay. By tracking ship calls, AIS data can help identify underlying trends at an early stage and in a timely manner. Insights gained enables quick analyses of key variables and helps improve understanding of the short-term changes as well as anticipate potential longer-term structural shifts.

MarineTraffic's AIS data on weekly port calls for the first 24 weeks in 2020, provide a good indication of both the magnitude of the disruption as well as the resilience level of the maritime supply chain. Some key trends per ship type, as well as per geographical region and per type of economy are set out below.[11] While AIS data can be used as a proxy to inform about trends in economic activity, it is also recognized that such data have inherent limitations, including in terms of coverage. Therefore, and while indicative of underlying trends, insights derived from these data should be interpreted with care and calibrated against official statistics and more mainstream data sources.

In the first 24 weeks of 2020, global ship calls diminished by 8.7 per cent, down from 1.1 million calls recorded during the first 24 weeks of 2019. Much of the decline occurred in Week 12 of 2020, when COVID-19 was characterized as a pandemic (**Figure 3**). During the first quarter, variations in ship calls were marginal. The picture changed dramatically when countries started to impose economic and social restrictions and lockdowns. In the second quarter, the number of calls fell by 17 per cent, or 95,206 calls less than the same period in 2019.

Figure 3. Total number of ship calls worldwide (2019-2020)



Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

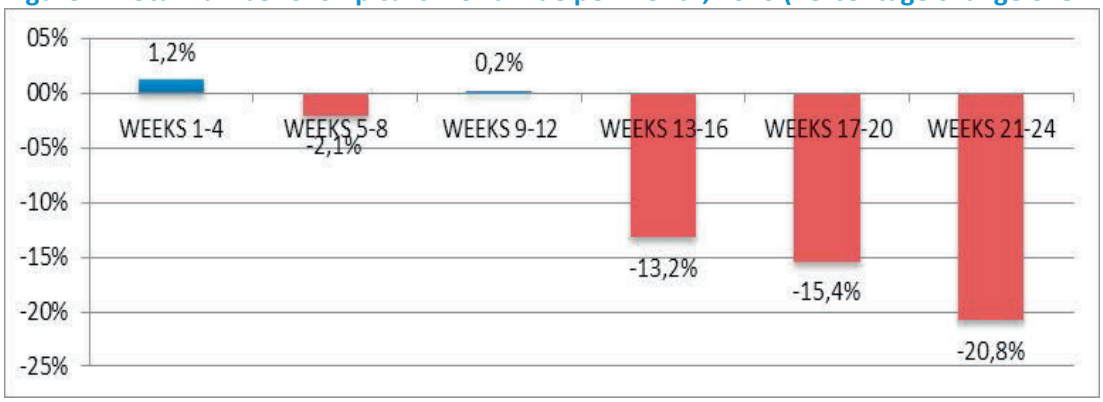
In Weeks 13 to 16, the total number of ship calls declined by 13.2 per cent **(Figure 4**). A drop of 15.4 per cent was observed over the following weeks (Weeks 17 and 20). The decline in Week 21 to Week 24 stood at -20.8 per cent compared to 2019. This trend did not reverse in the last two weeks of June 2020.[12]

A different picture emerges when looking at port calls per cargo type (**Figure 5**). Following a minor decline of 1.1 per cent in Q1 of 2020, containership port calls fell by 5.8 per cent in the second half. Port calls by dry bulks fell at the same rate as containerships. Meanwhile, port calls by wet bulk carriers fell by 6.3 per cent in the second quarter. At the same time, port calls by LNG and LPG carriers dropped at relatively slower rates of 2.3 per cent and 3.2 per cent, respectively. LNG and LPG are mainly used by electric power plants and for household energy purposes and have therefore been less affected by the widespread lockdown across economies. The decline was deeper in the case of break bulk ships, reaching -8.5 per cent compared to 2019.

[11] Calculations are based on data provided by MarineTraffic (www.marinetraffic.com). Aggregated figures are derived from the combination of AIS data and port mapping intelligence by MarineTraffic, covering ships of 5000 GT and above. Only arrivals have been taken into account to measure the number of port calls.
[12] Notteboom Theo and Pallis A. Athanasios (2020). IAPH-WPSP COVID-10 Port Economic Impact Barometer. No.9. Antwerp: IAPH-WPSP. June.

Port calls by Ro/Ro ships was more significant and reached -22.8 per cent in the second quarter. This large contraction has contributed to a 13.8 per cent decline in the total number of port calls for all ship types in 2020.

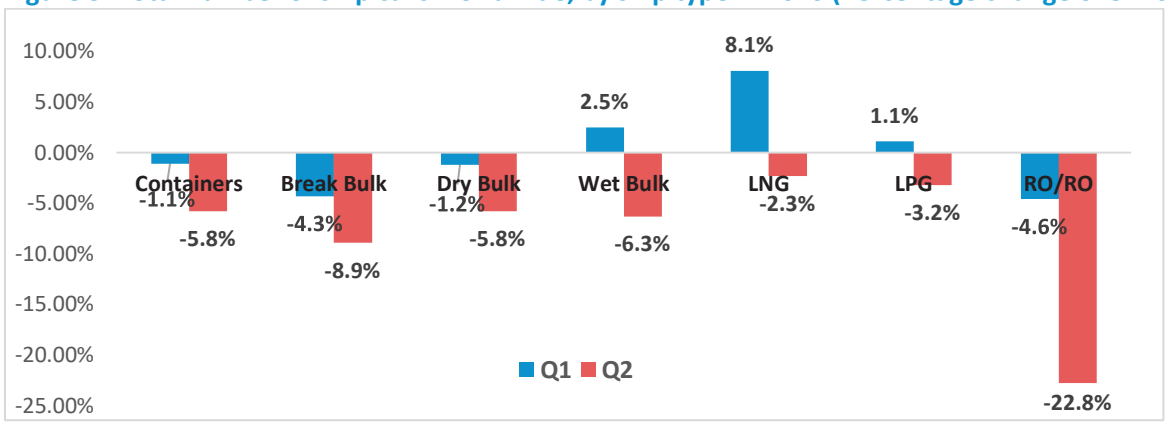
Figure 4. Total number of ship calls worldwide per month, 2020 (Percentage change over 2019)



Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic; Note: Data for Q2 of 2020 are preliminary; they are based on Weeks 13 – Weeks 24; and are compared with the same weeks of 2019.

Passenger ships have been affected the most. The nature of the COVID-19 pandemic, the consequent lockdowns in several countries and cities and the reduction in travel, are major factors behind the temporary suspension of coastal shipping services in many countries. At the same time, cruise shipping ceased operations worldwide. Since April, one in three passenger ship calls were cancelled. As a result, at the end of Q2 of 2020, the total number of global passenger ship calls were 17 per cent lower than the year before.

Figure 5. Total number of ship calls worldwide, by ship type in 2020 (Percentage change over 2019)



Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

1.2.1 Ship calls by region

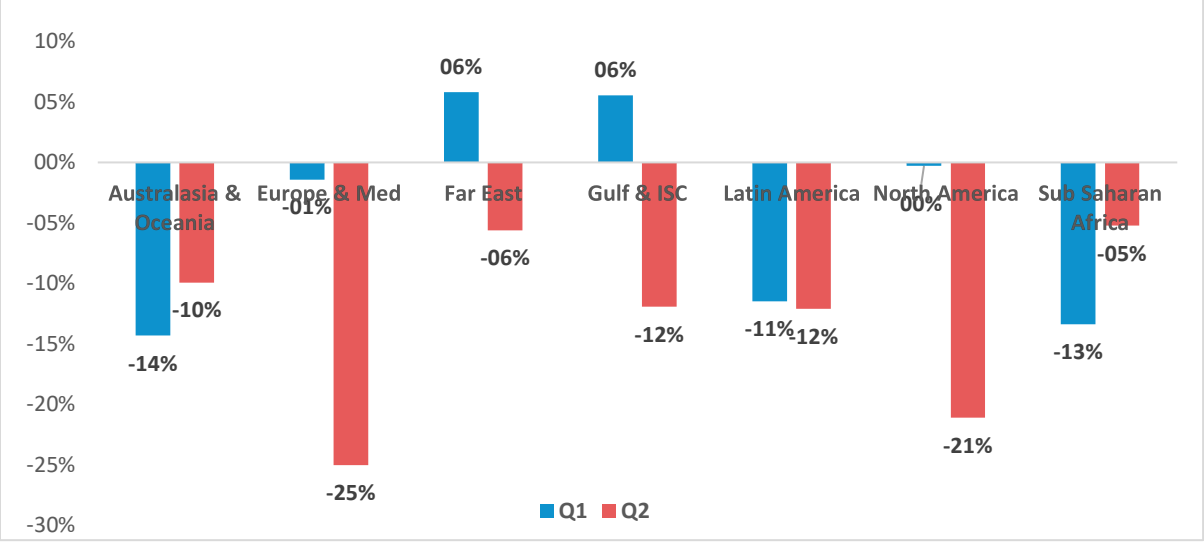
The pandemic's impact on the maritime supply chain varied significantly by region (**Table 3** and **Figure 6**). Europe and the Mediterranean saw the largest decline in calls with a drop of 13.9 per cent in the first 24 weeks of 2020, compared with the same period in 2019. By late June 2020, Latin America and North America recorded a similar decline of -11.7 per cent. While the drop in calls in Sub-Saharan Africa stood at -9.7 per cent, ship calls in the Far-East, as well as the Gulf and Indian Sub-continent (ISC) experienced moderate declines (**Figure 7**).

Table 3. Total number of ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & Indian SC	Latin America	North America	Sub Saharan Africa
Calls 2020	24.128	418.531	334.405	60.108	66.540	88.507	24.728
Calls 2019	27.523	485.882	334.776	62.143	75.394	100.242	27.372
Total	-12,3%	-13,9%	-0,1%	-3,3%	-11,7%	-11,7%	-9,7%
Q1	-14,3%	-1,4%	5,8%	5,6%	-11,5%	-0,3%	-13,4%
Q2	-9,9%	-25,0%	-5,6%	-11,9%	-12,1%	-21,1%	-5,2%
Weeks 1-4	-19,4%	0,5%	10,9%	6,2%	-16,8%	-0,3%	-21,0%
Weeks 5-8	-19,4%	-0,9%	0,9%	4,1%	-13,3%	-0,2%	-18,0%
Weeks 9-12	-2,0%	-3,7%	5,6%	6,5%	-3,0%	-0,4%	2,2%
Week 13-16	-12,9%	-23,0%	0,9%	-6,5%	-12,7%	-16,7%	-8,9%
Weeks 17-20	-6,8%	-24,5%	-5,0%	-10,9%	-6,7%	-19,3%	2,3%
Weeks 21-24	-9,9%	-27,4%	-12,2%	-18,3%	-16,8%	-26,8%	-8,6%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Figure 6. Total number of ship calls by region in 2020 (Percentage change over 2019)



Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

1.2.2 Ships call per country grouping and economy

Drops in the number of ship calls varied among the different country groupings and economies. Developed countries have been affected the most (**Table 4**). While they host half of the annual seagoing ship calls per year, these economies saw their numbers drop by 23.1 per cent in Q2 of 2020. Calls fell by 9.1 per cent in developing countries and 10.9 per cent in the economies in transition. The LDCs experienced comparatively fewer negative trends; with the number of calls in 2020 being just 2.6 per cent lower compared to the same period in 2019.

Table 4. Total number of ship calls per type of economy and country grouping (2020-2019)

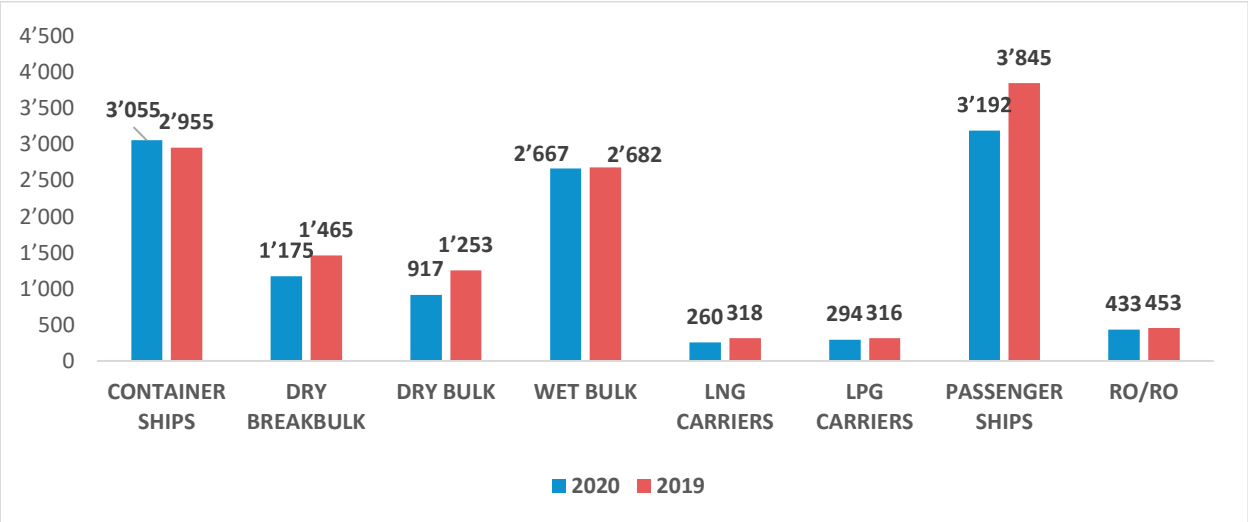
	Developed countries	Developing countries	Least Developed countries	Transition economies	Small Island States
Calls 2020	511.498	468.858	15.783	20.808	11.993
Calls 2019	586.207	487.111	16.200	23.814	13.287
Total	-12,7%	-3,7%	-2,6%	-12,6%	-9,7%
Q1	-1,2%	1,8%	-4,4%	-14,3%	-1,7%
Q2	-23,1%	-9,1%	-0,5%	-10,9%	-19,7%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

1.2.3 Small Island Developing States (SIDS)

The impact of the COVID-19 crisis on SIDS accelerated since Week 12 of 2020 i.e., the date on which the WHO called the COVID-19 a pandemic (**Figure 8** and **Table 5**). While in Q1 the decline was limited to 1.7 per cent, the number of ship calls diminished rapidly in the second quarter, with an intensified impact between Week 21 and Week 24. As a result, ship calls in the second quarter dropped by 19.7 per cent. SIDS were among the countries that were affected the most in the second quarter of 2020.

Figure 7. Total number of ship calls in SIDS by ship type (2020-2019)



Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

This decline however varied by ship type. Following a slow start, container ship calls in SIDS increased in the first months of 2020, returning to the 2019 levels during Weeks 21 to 24. As a result, container ship calls of 2020 continue to outnumber the calls observed the year before, with the data suggesting positive trends in both Q1 and Q2. With the absolute number of calls being already small (i.e., less than five calls per week in many SIDS), carriers maintained the services carrying essential cargoes and trade to and from SIDS. Meanwhile, dry bulk ship calls almost halved since late April and the situation was even worse in the case of passenger ships (-44.2 per cent). Substantially lower calls were recorded in the case of LNG and LPG ships. Ro/Ro services, which in many cases are considered the lifelines of SIDS, have been only moderately affected (-1.4 per cent in the Q2 of 2020, and -4.4 per cent throughout the first 24 weeks of 2020) allowing essential cargoes to reach SIDS, and their exports to be loaded on board calling ships.

Table 5. Total number of ship calls in SIDS by ship type (2020-2019)

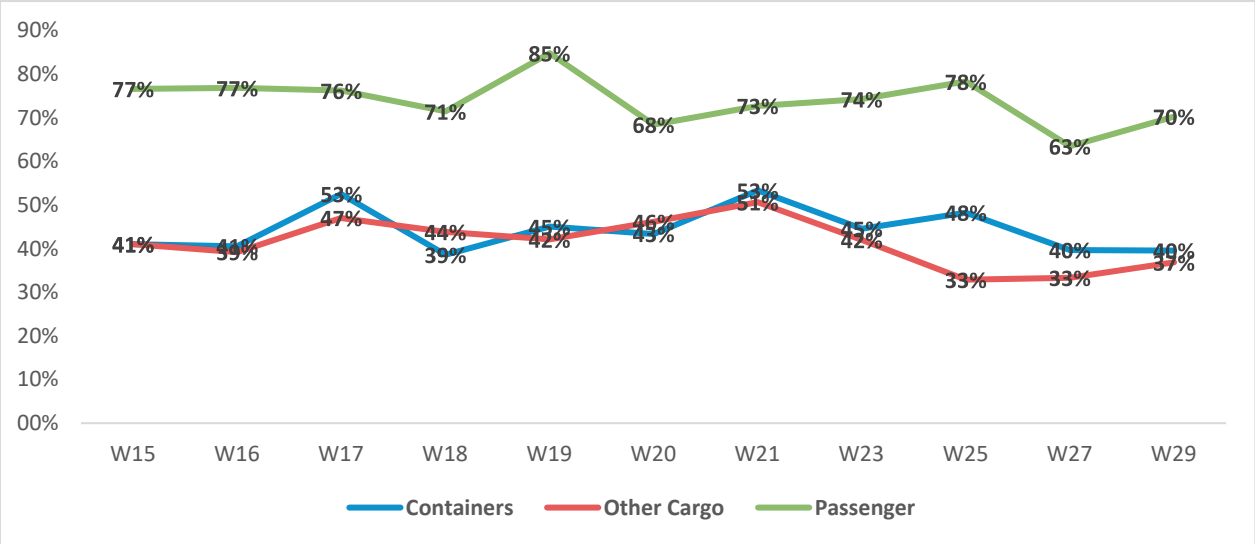
	Total Calls	Containers	Break Bulk	Dry Bulk	Wet Bulk	LNG	LPG	Pax	RO/RO
Calls 2020	11.993	3.055	1.175	917	2.667	260	294	3.192	433
Calls 2019	13.287	2.955	1.465	1.253	2.682	318	316	3.845	453
Total	-9,7%	3,4%	-19,8%	-26,8%	-0,6%	-18,2%	-7,0%	-17,0%	-4,4%
Q1	-1,7%	2,5%	-15,2%	-15,3%	7,9%	-18,5%	17,5%	-1,4%	-7,2%
Q2	-19,7%	4,3%	-24,8%	-40,1%	-9,6%	-18,0%	-25,7%	-44,2%	-1,4%
Weeks 1-4	1,5%	-4,5%	-10,2%	-14,9%	15,6%	-12,5%	12,2%	7,4%	-11,9%
Weeks 5-8	-3,8%	3,0%	-18,4%	-26,8%	1,9%	-13,6%	43,9%	-1,1%	-5,1%
Weeks 9-12	-2,8%	9,7%	-16,9%	0,0%	7,0%	-27,9%	1,8%	-11,4%	-4,0%
Week 13-16	-21,3%	9,8%	3,1%	-35,6%	-3,4%	7,3%	-11,3%	-65,7%	0,0%
Weeks 17-20	-13,5%	3,4%	-24,8%	-36,6%	-0,5%	-25,5%	-29,3%	-27,5%	7,8%
Weeks 21-24	-23,8%	0,0%	-45,7%	-48,6%	-24,0%	-29,3%	-33,8%	-26,1%	-10,7%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

1.2.4 Ship calls by ship type

The COVID-19 Economic impact barometer that has been developed by the International Association of Ports and Harbors (IAPH) reveals that, at the global level and since Week 12 of 2020, about 45 per cent of the ports have faced a drop of more than 5 per cent in the number of container ship calls compared to a situation of normal conditions (**Figure 8**). Things have slightly improved since Week 21, when the negative impact was at its peak.

Figure 8. Percentage of ports with less ship calls, Week 15-Week 29, 2020



Source: Notteboom Theo and Pallis A. Athanasios (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer. Issue No 11. Antwerp: IAPH-WPSP. July.

Trends in ship calls evolved along different timelines across ports and region.[13] The situation in Europe peaked in Week 19 of 2020 and has shown gradual improvement since then. In the Americas, the full impact of COVID-19 has been felt later than in Europe, and by Week 27 of 2020 there were no clear signs yet that the situation was improving. On a global scale, up to 11 per cent of ports have reported a decline

[13] Notteboom T. and Pallis A.A. (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer. Issue No 11. Antwerp: IAPH-WPSP. July.

in container ship calls of more than 25 per cent. A large portion of ports worldwide (41 to 51 per cent, depending on the week during which the industry was surveyed) reported that port calls of "other cargo ships" have decreased by more than 5 per cent compared with the normal situation.[14] The cruise and the passenger markets have been heavily impacted as most ports around the world have been confronted with a decline in passenger ship calls of more than 50 per cent. In some cases, the drop was even more significant at -90 per cent. This share peaked in week 19. Meanwhile, terminals that work with offshore supply areas have also faced a reduction in ship calls.

In April and May 2020, main ports have seen less containers being discharged during a given ship call. In other cases, few ships entered the port terminal carrying essential cargoes. Some service providers utilized smaller ships since cargo volumes decreased. As a result, additional regional feeder services have been reported. Overall, however, the overriding trend has been different. In some cases, blank sailings combined with the use of large ships, meant less frequent calls but larger volumes to handle at once when the port call occurs. This has caused challenges to ports and inland carriers as less frequent calls were associated with large call exchanges. Indicative was the new 'world record' registered by the Port of Los Angeles. The port recorded the largest number of container movements during a single ship call. This occurred in late June 2020 as the port reported that longshoremen successfully moved 18,465 containers from the MSC Isabella during a single ship call at APM Terminals' Pier 400.[15]

Container ship calls

Impacted by blank sailings, the number of container ship calls declined in the first half of 2020, with carriers introducing a series of blank sailings in long-haul liner services. Blank sailings can, subject to some limitations, serve as a leading indicator of changes in demand. In recent years, a correlation between blanked capacity and actual demand declines has been observed, as carriers have become better at capacity management.

According to the IAPH-WPSP COVID-19 Economics Impact Barometer, at least 40 per cent of container ports worldwide have experienced blank sailings each week since the declaration of the pandemic in mid-March 2020 (**Figure 9**). Blank sailings on the Asia-United States trade route reached a 19 per cent cancelled capacity in May 2020 (as 47 out of 249 calls have been blanked). Meanwhile, another wave of cancellations was announced in June 2020. Announced blank sailings for Q3 of 2020, suggest that cancellations will eventually lead to 20 per cent of the originally planned sailings.[16]

The disruption caused by the pandemic evolved along at least four stages. The first stage started in early 2020, with the typical pattern associated with the Chinese New Year (i.e., lowered container shipping demand due to Chinese factories shut down). The second stage saw the Chinese New Year being extended for extra weeks, with blank sailings continuing longer. During the third stage, the cargo that was originally scheduled to be transported from the Far East after the Chinese New Year and got delayed by the lockdown in Wuhan, was catching up and transported on a time lag just. Data available for early March reflect this development and may have given the impression that maritime trade was recovering. The fourth phase is marked by the COVID-19 outbreak outside China and the impact of lockdowns and restrictions on economic activity in Europe and North America as well as on the consumer and business demand.

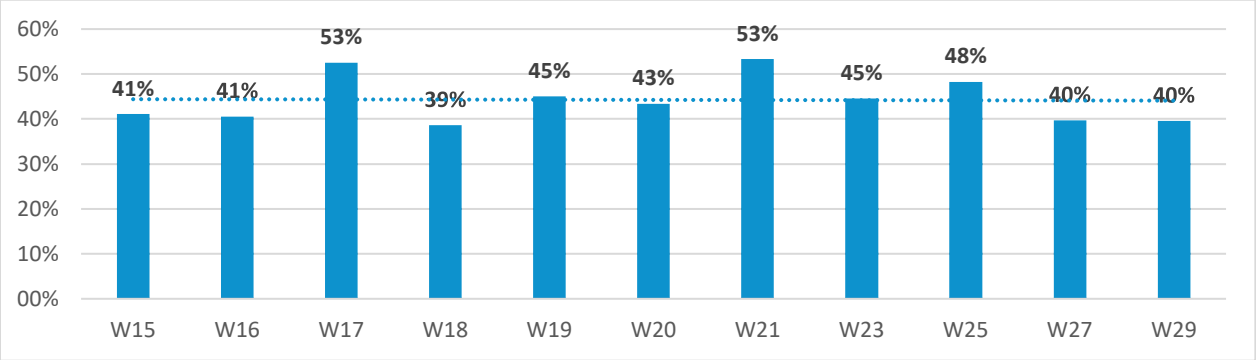
In total, after the first 24 weeks in 2020 (i.e., January to mid-June), container ship calls were 3.5 per cent fewer than in 2019, equivalent to a reduction of 213,283 calls. Since the declaration of the pandemic, container ship calls around the globe were 5.8 per cent below their level during the same period in 2019.

[14] Ibid.

[15] Port of Los Angeles (2020). Port of Los Angeles, MSC, APM terminals and ILWU set new world record for most cargo moves during single ship call, PLA, 19 June.

[16] Knowler Greg (2020). Alliances outline extensive blank sailings for Q3. 3 June.

Figure 9. Containerized maritime transport, 2020 (Percentage of ports affected by blank sailings)



Source: Notteboom Theo and Pallis A. Athanasios (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer. Issue No 11. Antwerp: IAPH-WPSP.

Australasia and Oceania (-12.4 per cent) and Sub-Saharan Africa (-12.7 per cent) have been impacted the most (**Table 6**). Lower container ship capacity deployed in these two regions has been evident since the beginning of the year. For countries that were more distant from the epicenter where the COVID-19 disease had first erupted (China), the effect of the pandemic hardened in Q2 of 2020. Overall, countries such as the United States, the Netherlands and Italy, where the outbreak has been severe and recorded high number of infected cases, are among those where less container ship capacity was deployed during this period. Europe and the Mediterranean registered a decline of 11.6 per cent compared to the previous year. Meanwhile, North America recorded a drop of 8.8 per cent. It remains to be seen whether the continuation of the crisis in the United States will affect the number of ship calls even further. As economies in Latin America remained under tight restrictions in Q2 of 2020, the precise effect might be higher than suggested by current data.

Blank sailings have serious consequences on container ports, especially the biggest ones. Port calls by ultra large container ships (ULCS) may have declined in numbers but not in size as these megaships carry more volumes. Major container ports in both North America and Europe report that the average moves per ULCS per call have reached 10,000 TEUs. This creates peaks in both ship-to-ship operations and yard activity and create operational challenges for terminals. It also affects landside operations, as the use of technology for notifications and cargo release for hinterland transportation might not always be enough. Ports report that it takes days to have the situation back under control at the yard and gates and lost movements of cargo are on the rise. Even the workforce is under pressure as peaks on some days are followed by several days off duty.[17]

Developed economies (-6.7 per cent) and the economies in transition (-7.4 per cent) are the ones that recorded significant declines in the number of container ship calls since the beginning of the year. Developing countries and the LDCs have also experienced a decrease, which, in both cases, was more significant in Q2 of 2020. Conversely, an increase in the number of calls has been recorded in SIDS; 100 more ship calls than in 2019 have been recorded in these economies since the beginning of 2020. When capacity management by liner shipping companies lowered the number of ships operating on the main routes, the number of regional feeder services in some parts of the world increased in order to serve regional demand (**Table 7**).

[17] Notteboom Theo and Pallis A. Athanasios (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer. Issue No 11. Antwerp: IAPH-WPSP. July.

Table 6. Container ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	4.081	54.663	103.801	15.045	18.574	11.279	5.840
Calls 2019	4.658	58.996	104.001	15.005	19.363	12.230	6.688
Total	-12,4%	-7,3%	-0,2%	0,3%	-4,1%	-7,8%	-12,7%
Q2	-11,6%	-11,6%	-1,9%	-6,3%	-4,3%	-8,8%	-8,6%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 7. Container ship calls by economy and country grouping (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
Calls 2020	68.125	138.546	4.169	2.443	3.055
Calls 2019	73.044	141.018	4.242	2.637	2.955
Total	-6,7%	-1,8%	-1,7%	-7,4%	3,4%
Q2	-8,5%	-4,4%	-2,8%	-8,8%	4,3%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Dry Bulk carriers

The number of dry bulk ship calls declined at a rate equivalent to that of container ship calls. Following a 5.8 per cent decline in Q2 of 2020, the overall decline in 2020 stood at -3.6 per cent.

Yet, the distribution of this impact in the case of bulk shipping is different from that of containers (**Table 8**). In the case of bulk carriers, the negative effect of the COVID-19 crisis has been severe in Latin America (-21.6 per cent) as well as Australasia and Oceania (-18.6 per cent) as these regions are major exporters of dry bulk cargoes (coal and iron ore). The impact was significant in Europe (-11.4 per cent) but less pronounced in the Far East, where it decreased by only 3.6 per cent. In North America, the number of ship calls by bulk carriers remained stable. In the Far East, the 3.6 per cent decline in Q2 of 2020 has not been enough to reverse the positive trend that had been observed during the first three months of the year as was the case in the Gulf & ISC region.

In contrast with the situation in the containerized trade segment, countries with economies in transition, SIDS and the LDCs experienced the steepest declines in bulker ship calls with 18 per cent, 26.8 per cent and 12.8 per cent, respectively. Meanwhile, developed countries recorded a 6.5 per cent decline while developing countries registered a decline of 1 per cent (**Table 9**).

Table 8. Dry bulk ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
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%
Q2	-14,5%	-15,1%	-3,6%	-7,0%	-19,0%	2,8%	-1,6%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 9. Dry bulk ship calls by type of economy and country grouping (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
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%
Q2	-7,8%	-4,5%	-13,6%	-7,5%	-40,1%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Break-bulk ships

Total ship calls by break-bulk ships in Q2 of 2020 fell by 8.9 per cent compared with the previous year. Latin America (-21.6 per cent since the beginning of 2020), Europe and the Mediterranean (-15.1 per cent) and Australasia and Oceania (-18.6 per cent) all recorded declines in break-bulk ship calls. The decline was less pronounced in Sub Saharan Africa (-7.7 per cent). Meanwhile, calls in the rest of the world, Gulf & ISC, the Far East and North America seemed to be less affected (**Table 10**).

Since the beginning of 2020, the impact has been significant in developing (-12.7 per cent) and developed (-10,3 per cent) countries, as well as in the economies in transition (-9.2 per cent). On the other hand, the number of ship calls in the LDCs has remained substantially higher than in the first 24 weeks of 2019 (**Table 11**).

Table 10. Break-bulk ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
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%
Q2	-14,5%	-15,1%	-3,6%	-7,0%	-19,0%	2,8%	-1,6%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 11. Break-bulk ship calls by economy and country grouping (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
Calls 2020	26.529	41.479	3.343	3.077	1.175
Calls 2019	29.591	43.607	3.013	3.523	1.465
Total	-10,3%	-4,9%	11,0%	-12,7%	-19,8%
Q2	-11,7%	-8,5%	12,8%	-9,2%	-24,8%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Wet bulk carriers

Port calls by wet bulk carriers diminished at a lesser rate than calls by dry cargo ships. In the second quarter of 2020, less ship calls were recorded in North America (-14.7 per cent), the Gulf & ISC (-10.3 per cent), Latin America (-8.6 per cent) as well as Europe and the Mediterranean (-6.8 per cent). Elsewhere in Sub Saharan Africa and Australasia there has been some recovery in port calls. Overall port calls by wet bulk ships in 2020 have been 1.9 per cent less than in 2019 (**Table 12**). Developed countries (-8.3 per cent) and countries with economies in transition (-7.3 per cent) experienced the largest decline since the COVID-19 was characterized a pandemic. As to developing countries, they saw a 5.8 per cent drop in wet bulk ship calls. Unlike other regions which saw a contraction, port calls by wet bulk carriers recorded a 6.6 growth in the LDCs (**Table 13**).

Table 12. Wet bulk ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	2.649	53.425	52.875	21.441	15.700	17.711	6.414
Calls 2019	2.651	54.517	51.084	21.653	17.605	19.566	6.502
Total	-0,1%	-2,0%	3,5%	-1,0%	-10,8%	-9,5%	-1,4%
Q2	11,5%	-6,8%	-2,3%	-10,3%	-8,6%	-14,7%	5,3%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 13. Wet bulk ship calls by economy and country grouping (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
Calls 2020	57.954	102.202	3.451	6.608	2.667
Calls 2019	60.239	103.002	3.237	7.100	2.682
Total	-3,8%	-0,8%	6,6%	-6,9%	-0,6%
Q2	-8,3%	-5,8%	18,6%	-7,3%	-9,6%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

LNG and LPG ships

The aggregate data suggest that the impact on the LNG and LPG carrying ships has been comparatively minimal. Yet a closer look indicates large variations around the world.

LNG carriers had started dynamically in 2020, mostly due to increased traffic in North America, Europe and the Mediterranean, as well as in the Gulf and the ISC. The arrival of the pandemic reversed this trend. In the second quarter of 2020, Latin America experienced a drop of 3.9 per cent in LNG vessel port calls. During the same period, calls by LNG carriers declined in Australasia and Oceania as well as in Sub Saharan Africa (**Table 14**).

In the LDCs, the number of calls by LNG ships in Q2 of 2020 has been a quarter less than the same period in 2019 (-15 per cent in Q2 of 2020), while developed (-3.5 per cent) and developing (-1.6 per cent) countries experienced modest declines. Countries with economies in transition were also affected. However, after the first 24 weeks of 2020, these economies registered an increase of LNG ship calls compared with the same period in 2019 (**Table 15**).

Table 14. LNG ship calls by region (2020-2019)

LNG	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	676	2.504	2.517	1.005	363	579	248
Calls 2019	716	2.194	2.608	1.008	398	451	298
Total	-5,6%	14,1%	-3,5%	-0,3%	-8,8%	28,4%	-16,8%
Q2	-10,5%	3,5%	-5,1%	-4,1%	-3,9%	10,8%	-16,8%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 15. LNG ship calls by economy and country grouping (2020-2019)

LNG	Developed	Developing	LDC	In transition	SIDS
Calls 2020	3.384	4.201	38	269	260
Calls 2019	3.194	4.188	51	240	318
Total	5,9%	0,3%	-25,5%	12,1%	-18,2%
Q2	-3,5%	-1,6%	-15,0%	3,1%	-18,0%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

The number of global LPG ship calls recorded in Q2 of 2020 has been 3.2 per cent lower than the number in Q2 of 2019. Like the LNG carrying ships, variations by region were significant. Australia, where the LPG maritime trade was dynamic in Q1 of 2020, reversed trends in Q2 of 2020 (Q1: 29.6 per cent year-on-year versus Q2: -4.5 per cent). The same holds true for North America, where the 21 per cent increase in Q1 fell to 3.3 per cent in Q2 and the Far East, where the 7.6 per cent increase in Q1 fell to -3.6 per cent in Q2. Europe experienced similar trends, with LPG ship calls in Q2 dropping by 7.3 per cent compared to the year before. The decline in the number of ship calls has been severe in Latin America since the beginning of 2020. The trend has been substantially different in Sub Saharan Africa as LPG ship calls increased in Q2 (**Table 16**).

Countries with economies in transition have seen a collapse in the number of LPG ship calls in Q2 of 2020 (-30.9 per cent), adding to a declining trend that started in Q1 (-25.1 per cent). However, in absolute numbers, the size of the market is small. More than half of the LPG ship calls take place in developing countries, where the calls have been almost the same with those that had taken place in 2019. One third of the market is taking place in developed countries where the decline in Q2 reached -8.4 per cent. The LDCs which represent another small LPG market, have seen the number of calls increase by 34 per cent in Q2 of 2020. However, in terms of absolute numbers the change in LDCs has been moderate (**Table 17**).

Table 16. LPG ship calls by region (2020-2019)

LPG	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	176	6.169	4.193	2.427	1.655	1.423	823
Calls 2019	159	6.421	4.117	2.402	1.914	1.272	762
Total	10,7%	-3,9%	1,8%	1,0%	-13,5%	11,9%	8,0%
Q1	29,6%	-0,4%	7,6%	-1,0%	-19,4%	21,0%	1,5%
Q2	-4,5%	-7,3%	-3,6%	3,3%	-7,2%	3,3%	15,3%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 17. LPG ship calls by economy and country grouping (2020-2019)

LPG	Developed	Developing	LDC	In transition	SIDS
Calls 2020	6.021	10.164	422	259	294
Calls 2019	6.266	10.053	382	346	316
Total	-3,9%	1,1%	10,5%	-25,1%	-7,0%
Q2	-8,4%	0,0%	34,0%	-30,9%	-25,7%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Ro/Ro ships

The COVID-19 Pandemic has significantly impacted on Ro/Ro services. Since March 2020, port calls by Ro/Ro ships worldwide declined by 22.8 per cent compared with the same period in 2019. One in four ship calls has been suspended. Total calls by Ro/Ro ships since the beginning of 2020 declined by 13.8 per cent as compared with the same period in 2019.

Almost all regions experienced a decline. The decrease exceeded 30 per cent in North America, 25 per cent in Europe and the Mediterranean, and 20 per cent in Latin America. In Sub Saharan Africa, the decline was almost 20 per cent and in the Far East, the number of calls dropped by over 16 per cent. Even in the case of the Gulf and the ISC region, the decline eroded the market dynamism observed in early 2020 (**Table 18**).

Developing (-27.7 per cent in Q2) and developed countries (-22 per cent) recorded the largest declines in Ro/Ro operations. The decline in Ro/Ro ship calls in the LDCs reached double digit levels. In contrast, Ro/Ro operations in the economies in transition remained steady with the number of ship calls in the second quarter recording an increase (**Table 19**).

Table 18. Ro/Ro ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	1.416	36.160	19.881	2.175	2.664	4.126	1.290
Calls 2019	1.729	42.998	21.855	2.053	3.196	5.213	1.508
Total	-18,1%	-15,9%	-9,0%	5,9%	-16,6%	-20,9%	-14,5%
Q2	-19,7%	-26,4%	-16,6%	0,2%	-21,0%	-31,6%	-18,3%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 19. Ro/Ro ship calls by economy and country grouping (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
Calls 2020	47.762	17.570	804	1.576	433
Calls 2019	54.433	21.601	919	1.599	453
Total	-12,3%	-18,7%	-12,5%	-1,4%	-4,4%
Q2	-22,0%	-27,7%	-10,6%	10,3%	-1,4%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Passenger ships

The AIS data confirmed the huge impact of the COVID-19 pandemic on passenger shipping. More than one third of passenger ship calls did not take place in Q2 of 2020. Cruises were suspended with governments imposing lockdowns on economies and restrictions on people's movements. During the first 24 weeks of 2020, passenger ship calls fell by 17 per cent. The decline was universal and extended across regions, with Latin America and the Gulf & ISC being affected the most, and the Far East being affected the least. Yet, even in the Far East, the decline in Q2 of 2020 reached -17 per cent (**Table 20**).

During the second quarter of the year, passenger shipping activities in the LDCs decreased by 85.7 per cent. In countries with economies in transition, activities almost halved (-43 per cent), while in both developed and developing countries, the number of passenger ship calls was approximately 32 per cent lower compared to the previous year (**Table 21**).

Table 20. Passenger ship calls by region (2020-2019)

ALL	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	4.528	210.928	48.233	1.421	7.347	36.637	410
Calls 2019	5.525	260.790	50.646	2.158	9.972	43.352	524
Total	-18,0%	-19,1%	-4,8%	-34,2%	-26,3%	-15,5%	-21,8%
Q1	-7,0%	-0,8%	9,3%	-6,0%	-5,7%	7,3%	-13,2%
Q2	-35,3%	-34,6%	-17,0%	-65,8%	-69,3%	-33,2%	-40,1%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 21. Passenger ship calls by type of economy (2020-2019)

	Developed	Developing	LDC	In transition	SIDS
Calls 2020	256.436	51.241	272	1.555	3.192
Calls 2019	311.026	59.106	592	2.243	3.845
Total	-17,6%	-13,3%	-54,1%	-30,7%	-17,0%
Q2	-32,9%	-31,1%	-85,7%	-43,0%	-44,2%

Source: UNCTAD calculations, based on AIS data collected and provided by MarineTraffic.
Note: Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

1.3. KEY FINDINGS AND LESSONS LEARNED

The COVID-19 pandemic affected global trade flows at an unprecedented speed and scale. A double-digit decline in merchandise trade is projected for 2020. While existing forecasts are pointing to a recovery in 2021, expectations remain uncertain and subject to the pandemic's pathway as well as the extent and effectiveness of policy intervention measures aimed at stimulating growth.

The crisis induced a slowdown in trade across regions and all country groupings, developed and developing alike. Yet, trade in developing countries has fallen relatively faster. Declines in the exports of developing countries reflect, among other factors, the reduced demand in destination markets. A drop in their imports reflects, among other factors, reduced demand as well as exchange rate movements, concerns regarding debt and shortage of foreign currency. As lockdowns in Latin America continued in the second quarter of 2020, forecasts are pointing to a further and rapid deterioration in developing countries.

Economic disruptions affected some sectors more than others. Textiles and Apparel declined together with Office Machinery and Automotive sectors. In contrast, the agri-food sector, has been the least volatile and grew marginally despite the pandemic and related restrictions.

The pandemic's impact on maritime trade varied across regions. Europe and the Mediterranean experienced a major drop in ship calls. In both Australia and Oceania, the decline was also significant. Latin and North Americas recorded double-digit declines. Meanwhile, the drop in Sub-Saharan African port calls stood at -9.7 per cent. Both the Far East and the Gulf & ISC experienced moderate declines.

During the first half of 2020, global ship calls contracted by 8.7 per cent, down from 1.1 million ship calls recorded in the first half of 2019. In the first quarter of 2020 changes in ship calls were marginal. The picture changed dramatically when countries started to impose restrictions and lockdowns on their economies and societies. In Q2 of 2020, the number of ship calls was lower by 17 per cent. This translated into a cut of 95,206 ship calls compared with the second quarter of 2019. Compared with Q2 of 2019, ship calls in Q2 of 2020 declined by 23.1 per cent in developed countries, 9.1 per cent in developing countries, and 10.9 per cent in countries with economies in transition.

SIDS recorded a 20 per cent drop in the number of ports calls in Q2 of 2020, compared with the same quarter in 2019. With shipping being the main lifeline for these island countries, it is crucial that developments shaping the port call/connectivity patterns of these islands be closely monitored. It would be important to ascertain whether the observed negative trend is long-lasting or temporary. Building the resilience of SIDS to ensure improved connectivity levels emerges as a particularly important priority action area.

The impacts of the COVID-19 pandemic have varied by cargo type. Container and dry bulk ship calls fell by 5.8 per cent in the second quarter of 2020. The impact was more pronounced in the case of port calls by wet bulk carriers (-6.3 per cent). Calls by LNG and LPG ships declined at slower rates of 2.9 per cent and 1.1 per cent, respectively. Break-bulk ship calls fell sharply by 8.5 per cent while Ro/Ro ship calls collapsed by 22. 8 per in the second quarter. Passenger ship calls have also been significantly affected with a decline of 17 per cent.

Trends in port and ship calls reveal the magnitude as well as the differentiated impacts of the COVID-19 pandemic on maritime transport and trade. This calls for **further study to determine whether observed effects and trends are associated with structural shifts or are temporary phenomena** that will dissipate as the pandemic and its effects fade away.

APPENDIX I – DETAILED DATA ON SHIP PORT CALLS WORLDWIDE

All Tables are UNCTAD calculations, based on AIS data provided by MarineTraffic. Data for Q2 of 2020 are preliminary. They are based on Weeks 13 – Weeks 24 and are compared with the same weeks of 2019.

Table 22. Container ship calls (2020-2019)

Containerships	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	220.941	213.283	-7658	-3,5%
WEEKS 1-12 (Q1)	108.338	107.162	-1.176	-1,1%
WEEK 13-24 (Q2)	112.603	106.121	-6.482	-5,8%
WEEKS 1-4	35.729	36.210	481	1,3%
WEEKS 5-8	36.465	34.760	-1.705	-4,7%
WEEKS 9-12	36.144	36.192	48	0,1%
WEEKS 13-16	37.600	36.081	-1.519	-4,0%
WEEKS 17-20	36.864	35.150	-1.714	-4,6%
WEEKS 21-24	38.139	34.890	-3.249	-8,5%

Table 23. Container ships call by region (2020-2019)

Container ships	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	4.081	54.663	103.801	15.045	18.574	11.279	5.840
Calls 2019	4.658	58.996	104.001	15.005	19.363	12.230	6.688
Total	-12,4%	-7,3%	-0,2%	0,3%	-4,1%	-7,8%	-12,7%
Q1	-13,2%	-2,8%	1,6%	6,9%	-3,9%	-6,7%	-16,2%
Q2	-11,6%	-11,6%	-1,9%	-6,3%	-4,3%	-8,8%	-8,6%
W 1-4	-5,5%	-0,8%	5,5%	7,6%	-4,2%	-5,2%	-20,8%
W 5-8	-22,0%	-4,3%	-2,7%	4,3%	-9,5%	-7,3%	-21,2%
W 9-12	-10,3%	-3,3%	1,9%	9,2%	2,9%	-7,7%	-4,0%
W 13-16	-11,5%	-12,9%	2,0%	-3,0%	-2,6%	-7,3%	-13,5%
W 17-20	-11,0%	-8,7%	-2,4%	-6,8%	0,0%	-6,7%	-4,1%
W 21-24	-12,3%	-13,1%	-5,1%	-9,0%	-10,1%	-12,4%	-8,1%

Table 24. Container ship calls by economy and country grouping (2020-2019)

Containerships	Developed	Developing	LDC	Transition	SIDS
Calls 2020	68.125	138.546	4.169	2.443	3.055
Calls 2019	73.044	141.018	4.242	2.637	2.955
Total	-6,7%	-1,8%	-1,7%	-7,4%	3,4%
Q1	-4,9%	1,0%	-0,8%	-5,9%	2.5%
Q2	-8,5%	-4,4%	-2,8%	-8,8%	4.3%
W 1-4	-3,3%	4,0%	-4,3%	-7,4%	-4,5%
W 5-8	-7,4%	-3,3%	-3,8%	-0,9%	3,0%
W 9-12	-3,8%	2,2%	6,8%	-9,2%	9,7%
W 13-16	-9,7%	-0,8%	-5,6%	-10,8%	9,8%
W 17-20	-4,8%	-4,9%	4,7%	-0,7%	3,4%
W 21-24	-10,8%	-7,3%	-7,1%	-14,5%	0,0%

Table 25. Break-bulk ship calls (2020-2019)

Breakbulk	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	79.734	74.428	-5.306	-6,7%
WEEKS 1-12 (Q1)	39.294	37.607	-1.687	-4,3%
WEEK 13-24 (Q2)	40.440	36.821	-3.619	-8,9%
WEEKS 1-4	13.227	12.670	-557	-4,2%
WEEKS 5-8	13.041	12.317	-724	-5,6%
WEEKS 9-12	13.026	12.620	-406	-3,1%
WEEKS 13-16	13.478	12.527	-951	-7,1%
WEEKS 17-20	13.155	12.371	-784	-6,0%
WEEKS 21-24	13.807	11.923	-1.884	-13,6%

Table 26. Break-bulk ship calls by region (2020-2019)

Breakbulk	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
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 27. Break-bulk ship calls by economy and country grouping (2020-2019)

Breakbulk	Developed	Developing	LDC	Transition	SIDS
Calls 2020	26.529	41.479	3.343	3.077	1.175
Calls 2019	29.591	43.607	3.013	3.523	1.465
Total	-10,3%	-4,9%	11,0%	-12,7%	-19,8%
Q1	-8,9%	-1,2%	9,2%	-16,2%	-15.2%
Q2	-11,7%	-8,5%	12,8%	-9,2%	-24.8%
W 1-4	-10,3%	-0,7%	8,3%	-11,5%	-10,2%
W 5-8	-10,3%	-2,3%	10,0%	-17,6%	-18,4%
W 9-12	-6,2%	-0,6%	9,5%	-19,1%	-16,9%
W 13-16	-10,9%	-5,0%	22,5%	-20,8%	3,1%
W 17-20	-6,5%	-7,1%	10,6%	-1,9%	-24,8%
W 21-24	-17,4%	-13,1%	6,0%	-4,2%	-45,7%

Table 28. Dry bulk ship calls (2020-2019)

Dry Bulk	Calls 2019	Calls 2020	Var 20/19	Var (%)
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 29. Dry bulk ship calls by region (2020-2019)

Dry Bulk	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
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 30. Dry bulk ship calls by economy and country grouping (2020-2019)

Dry Bulk	Developed	Developing	LDC	Transition	SIDS
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%

Table 31. Wet bulk ship calls (2020-2019)

Wet Bulk	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	173.578	170.215	-3363	-1,9%
WEEKS 1-12 (Q1)	86.323	88.454	2.131	2,5%
WEEK 13-24 (Q2)	87.255	81.761	-5.494	-6,3%
WEEKS 1-4	29.171	29.805	634	2,2%
WEEKS 5-8	29.489	29.228	-261	-0,9%
WEEKS 9-12	27.663	29.421	1.758	6,4%
WEEKS 13-16	28.583	27.942	-641	-2,2%
WEEKS 17-20	28.811	27.638	-1.173	-4,1%
WEEKS 21-24	29.861	26.181	-3.680	-12,3%

Table 32. Wet bulk ship calls by region (2020-2019)

Wet Bulk	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	2.649	53.425	52.875	21.441	15.700	17.711	6.414
Calls 2019	2.651	54.517	51.084	21.653	17.605	19.566	6.502
Total	-0,1%	-2,0%	3,5%	-1,0%	-10,8%	-9,5%	-1,4%
Q1	-9,4%	2,9%	9,5%	9,0%	-12,7%	-3,9%	-7,1%
Q2	11,5%	-6,8%	-2,3%	-10,3%	-8,6%	-14,7%	5,3%
W 1-4	-12,8%	4,4%	14,6%	8,5%	-19,1%	-11,0%	-16,7%
W 5-8	-16,4%	0,8%	2,5%	9,0%	-18,1%	1,1%	-15,9%
W 9-12	3,2%	3,4%	11,6%	9,5%	1,8%	-1,2%	17,2%
W 13-16	8,6%	-5,9%	2,6%	2,6%	-2,8%	-11,8%	3,6%
W 17-20	21,1%	-2,8%	-2,6%	-9,2%	-7,7%	-12,5%	20,6%
W 21-24	5,0%	-11,4%	-6,4%	-23,1%	-15,3%	-19,6%	-6,9%

Table 33. Wet bulk ship calls by economy and country grouping (2020-2019)

Wet bulk	Developed	Developing	LDC	Transition	SIDS
Calls 2020	57.954	102.202	3.451	6.608	2.667
Calls 2019	60.239	103.002	3.237	7.100	2.682
Total	-3,8%	-0,8%	6,6%	-6,9%	-0,6%
Q1	0,9%	4,2%	-3,9%	-6,6%	7.9%
Q2	-8,3%	-5,8%	18,6%	-7,3%	-9.6%
W 1-4	0,6%	6,3%	-10,8%	-30,0%	15,6%
W 5-8	-0,5%	-1,4%	-9,5%	9,0%	1,9%
W 9-12	2,6%	8,2%	10,7%	11,5%	7,0%
W 13-16	-7,2%	0,0%	20,2%	-1,2%	-3,4%
W 17-20	-5,3%	-4,6%	38,6%	-3,6%	-0,5%
W 21-24	-12,5%	-12,3%	-0,4%	-16,6%	-24,0%

Table 34. LNG ship calls (2020-2019)

LNG	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	7.673	7.892	219	2,9%
WEEKS 1-12 (Q1)	3.810	4.117	307	8,1%
WEEK 13-24 (Q2)	3.863	3.775	-88	-2,3%
W 1-4	1.255	1.376	121	9,6%
W 5-8	1.306	1.379	73	5,6%
W 9-12	1.249	1.362	113	9,0%
W 13-16	1.255	1.299	44	3,5%
W 17-20	1.277	1.308	31	2,4%
W 21-24	1.331	1.168	-163	-12,2%

Table 35. LNG ship calls by region (2020-2019)

LNG	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	676	2.504	2.517	1.005	363	579	248
Calls 2019	716	2.194	2.608	1.008	398	451	298
Total	-5,6%	14,1%	-3,5%	-0,3%	-8,8%	28,4%	-16,8%
Q1	-0,6%	26,3%	-2,0%	4,0%	-14,0%	45,6%	-16,8%
Q2	-10,5%	3,5%	-5,1%	-4,1%	-3,9%	10,8%	-16,8%
W 1-4	13,8%	24,5%	2,1%	-0,6%	-10,5%	53,8%	-26,2%
W 5-8	-7,7%	24,3%	-5,5%	2,4%	-15,9%	51,4%	-11,8%
W 9-12	-6,1%	29,9%	-2,8%	10,6%	-14,9%	32,1%	-9,8%
W 13-16	-11,7%	12,6%	-1,9%	-8,6%	5,2%	57,4%	-16,7%
W 17-20	-5,2%	10,7%	-5,3%	6,0%	6,7%	14,1%	-23,9%
W 21-24	-14,3%	-12,9%	-8,1%	-8,7%	-17,2%	-33,8%	-9,3%

Table 36. LNG ship calls by economy and country grouping (2020-2019)

LNG	Developed	Developing	LDC	Transition	SIDS
Calls 2020	3.384	4.201	38	269	260
Calls 2019	3.194	4.188	51	240	318
Total	5,9%	0,3%	-25,5%	12,1%	-18,2%
Q1	15,4%	2,2%	-32,3%	22,1%	-18,5%
Q2	-3,5%	-1,6%	-15,0%	3,1%	-18%
W 1-4	15,0%	4,1%	-43,8%	77,8%	-12,5%
W 5-8	12,6%	2,0%	-44,4%	-12,5%	-13,6%
W 9-12	18,7%	0,6%	16,7%	26,3%	-27,9%
W 13-16	2,6%	5,3%	-37,5%	-4,8%	7,3%
W 17-20	1,5%	2,0%	20,0%	18,2%	-25,5%
W 21-24	-15,3%	-10,6%	-14,3%	-4,9%	-29,3%

Table 37. LPG ship calls (2020-2019)

LPG	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	17.047	16.866	-181	-1,1%
WEEKS 1-12 (Q1)	8.444	8.535	91	1,1%
WEEK 13-24 (Q2)	8.603	8.331	-272	-3,2%
WEEKS 1-4	2.805	2.788	-17	-0,6%
WEEKS 5-8	2.884	2.900	16	0,6%
WEEKS 9-12	2.755	2.847	92	3,3%
WEEKS 13-16	2.819	2.915	96	3,4%
WEEKS 17-20	2.837	2.818	-19	-0,7%
WEEKS 21-24	2.947	2.598	-349	-11,8%

Table 38. LPG ship calls by region (2020-2019)

LPG	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	176	6.169	4.193	2.427	1.655	1.423	823
Calls 2019	159	6.421	4.117	2.402	1.914	1.272	762
Total	10,7%	-3,9%	1,8%	1,0%	-13,5%	11,9%	8,0%
Q1	29,6%	-0,4%	7,6%	-1,0%	-19,4%	21,0%	1,5%
Q2	-4,5%	-7,3%	-3,6%	3,3%	-7,2%	3,3%	15,3%
W 1-4	4,0%	1,5%	12,1%	-1,0%	-30,4%	7,0%	-9,3%
W 5-8	48,0%	-3,9%	2,9%	2,2%	-19,1%	39,4%	4,8%
W 9-12	38,1%	1,5%	7,7%	-4,3%	-5,0%	17,0%	11,1%
W 13-16	-39,4%	1,5%	7,6%	6,9%	-8,3%	15,0%	7,6%
W 17-20	26,9%	-11,9%	2,9%	18,4%	-11,5%	1,4%	52,2%
W 21-24	6,9%	-11,6%	-18,9%	-14,8%	-1,4%	-5,8%	-2,2%

Table 39. LPG ship calls by economy and country grouping (2020-2019)

LPG	Developed	Developing	LDC	Transition	SIDS
Calls 2020	6.021	10.164	422	259	294
Calls 2019	6.266	10.053	382	346	316
Total	-3,9%	1,1%	10,5%	-25,1%	-7,0%
Q1	0,7%	2,2%	-6,3%	-17,8%	17,5%
Q2	-8,4%	0,0%	34,0%	-30,9%	-25,7%
W 1-4	-3,1%	2,6%	-26,4%	-16,3%	12,2%
W 5-8	1,5%	-0,4%	15,5%	-7,7%	43,9%
W 9-12	3,6%	4,5%	-3,1%	-28,1%	1,8%
W 13-16	0,3%	6,6%	31,5%	-40,8%	-11,3%
W 17-20	-10,7%	4,5%	68,9%	-21,2%	-29,3%
W 21-24	-14,6%	-10,3%	10,0%	-27,3%	-33,8%

Table 40. Passenger ship calls (2020-2019)

	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	372.967	309.504	-63.463	-17,0%
WEEKS 1-12 (Q1)	173.348	175.243	1.895	1,1%
WEEK 13-24 (Q2)	199.619	134.261	-65.358	-32,7%
WEEKS 1-4	55.665	59.095	3.430	6,2%
WEEKS 5-8	58.790	59.357	567	1,0%
WEEKS 9-12	58.893	56.791	-2.102	-3,6%
WEEKS 13-16	64.346	45.562	-18.784	-29,2%
WEEKS 17-20	65.377	43.328	-22.049	-33,7%
WEEKS 21-24	69.896	45.371	-24.525	-35,1%

Table 41. Passenger ship calls by region (2020-2019)

	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	4.528	210.928	48.233	1.421	7.347	36.637	410
Calls 2019	5.525	260.790	50.646	2.158	9.972	43.352	524
Total	-18,0%	-19,1%	-4,8%	-34,2%	-26,3%	-15,5%	-21,8%
Q1	-7,0%	-0,8%	9,3%	-6,0%	-5,7%	7,3%	-13,2%
Q2	-35,3%	-34,6%	-17,0%	-65,8%	-69,3%	-33,2%	-40,1%
W 1-4	-4,7%	2,4%	22,7%	-3,7%	2,3%	14,2%	-19,2%
W 5-8	-12,4%	1,0%	0,7%	0,0%	-1,3%	4,4%	16,7%
W 9-12	-3,0%	-5,5%	5,5%	-15,3%	-19,7%	3,7%	-33,0%
W 13-16	-40,8%	-32,0%	-3,4%	-72,0%	-82,3%	-26,9%	-72,0%
W 17-20	-38,6%	-36,0%	-17,7%	-63,3%	-58,8%	-33,1%	-53,1%
W 21-24	-25,1%	-35,4%	-28,5%	-59,7%	-55,7%	-38,9%	96,4%

Table 42. Passenger ship calls by economy and country grouping (2020-2019)

Passenger	Developed	Developing	LDC	Transition	SIDS
Calls 2020	256.436	51.241	272	1.555	3.192
Calls 2019	311.026	59.106	592	2.243	3.845
Total	-17,6%	-13,3%	-54,1%	-30,7%	-17,0%
Q1	0,7%	3,7%	-28,4%	-14,0%	-1,4%
Q2	-32,9%	-31,1%	-85,7%	-43,0%	-44,2%
W 1-4	4,4%	14,9%	-15,9%	-7,5%	7,4%
W 5-8	1,4%	-0,3%	-20,4%	-18,6%	-1,1%
W 9-12	-3,5%	-3,3%	-54,8%	-15,2%	-11,4%
W 13-16	-29,4%	-27,1%	-86,3%	-34,5%	-65,7%
W 17-20	-34,2%	-29,4%	-94,0%	-45,1%	-27,5%
W 21-24	-34,6%	-36,8%	-77,0%	-47,6%	-26,1%

Table 43. Ro/Ro ship calls (2020-2019)

Ro/Ro	Calls 2019	Calls 2020	Var 20/19	Var (%)
Total	78.552	67.712	-10840	-13,8%
WEEKS 1-12 (Q1)	38.991	37.183	-1.808	-4,6%
WEEK 13-24 (Q2)	39.561	30.529	-9.032	-22,8%
WEEKS 1-4	11.919	11.551	-368	-3,1%
WEEKS 5-8	13.536	12.539	-997	-7,4%
WEEKS 9-12	13.536	13.093	-443	-3,3%
WEEKS 13-16	13.384	10.962	-2.422	-18,1%
WEEKS 17-20	12.683	9.507	-3.176	-25,0%
WEEKS 21-24	13.494	10.060	-3.434	-25,4%

Table 44. Ro/Ro ship calls by region (2020-2019)

	Australasia & Oceania	Europe & Med	Far East	Gulf & ISC	Latin America	North America	Sub Saharan Africa
Calls 2020	1.416	36.160	19.881	2.175	2.664	4.126	1.290
Calls 2019	1.729	42.998	21.855	2.053	3.196	5.213	1.508
Total	-18,1%	-15,9%	-9,0%	5,9%	-16,6%	-20,9%	-14,5%
Q1	-16,6%	-5,1%	-1,3%	11,4%	-12,6%	-10,0%	-11,0%
Q2	-19,7%	-26,4%	-16,6%	0,2%	-21,0%	-31,6%	-18,3%
W 1-4	-7,1%	-3,4%	1,1%	23,3%	-17,1%	-11,9%	-18,2%
W 5-8	-29,0%	-7,2%	-4,2%	0,6%	-13,0%	-10,1%	-16,9%
W 9-12	-9,6%	-4,6%	-0,3%	10,7%	-7,8%	-8,0%	5,8%
W 13-16	-8,5%	-25,9%	-7,0%	7,0%	-9,5%	-16,1%	-20,2%
W 17-20	-20,6%	-27,7%	-21,5%	-1,2%	-20,1%	-34,3%	-11,9%
W 21-24	-30,6%	-25,6%	-21,4%	-5,3%	-33,7%	-44,1%	-22,4%

Table 45. Ro/Ro ship calls by economy and country grouping (2020-2019)

Ro-Ro	Developed	Developing	LDC	Transition	SIDS
Calls 2020	47.762	17.570	804	1.576	433
Calls 2019	54.433	21.601	919	1.599	453
Total	-12,3%	-18,7%	-12,5%	-1,4%	-4,4%
Q1	-2,3%	-9,4%	-14,1%	-11,8%	-7,2%
Q2	-22,0%	-27,7%	-10,6%	10,3%	-1,4%
W 1-4	-2,8%	-2,6%	-25,4%	-3,9%	-11,9%
W 5-8	-4,3%	-13,9%	-20,0%	-15,8%	-5,1%
W 9-12	0,0%	-11,2%	10,0%	-14,6%	-4,0%
W 13-16	-18,4%	-18,7%	-5,6%	-6,3%	0,0%
W 17-20	-23,9%	-31,0%	-13,9%	22,8%	7,8%
W 21-24	-23,8%	-33,1%	-12,5%	20,3%	-10,7%

Chapter 2

IMPLICATIONS FOR LINER SHIPPING CONNECTIVITY

COVID-19 affected not only maritime cargo flows and port calls but also liner shipping connectivity levels. It would be important to ascertain whether the observed shift is temporary or permanent. Of equal importance is to understand whether and, if so, how lower trade volumes and reduced ship port calls have affected the determinants of ports' and countries liner shipping connectivity levels. There is a need to investigate whether there has been a change in the number of services, operators, deployed capacity, direct connections as well as ship sizes.

This section looks at the different components used to estimate the liner shipping connectivity levels of container ports. Comparing the first and second quarters of 2020 with the same quarters in 2019 has generated useful insights regarding impacts. The crisis has caused a differentiated impact on port connectivity worldwide and triggered a break in the existing trend, whereby global port connectivity generally improved over time. The differentiated impact on connectivity patterns varied by region and with variations in types of economies and country groupings.

With maritime transport being the main channel for SIDS's access to the regional and global marketplace, the vulnerability of these economies to disruptions in the maritime supply chain cannot be overemphasized. For SIDS, transport is not a sectoral activity like any other. Shipping and ports are the lifeline sustaining SIDS and their livelihood.

Against this background, the following section examines the implications of the COVID-19 disruption for the six main components that underpin liner shipping connectivity levels of ports and countries as estimated by the UNCTAD's Liner Shipping Connectivity Index (LSCI).

2.1 TRENDS IN LINER SHIPPING CONNECTIVITY

MDS Transmodal data on liner shipping schedules underscored the negative impact of the pandemic, with worldwide variations in magnitude. As summarized in **Table 46** and Error! Reference source not found.**,** the number of shipping services, weekly port calls, shipping operators, deployed container ships capacity, and direct calls declined at different rates. During Q1 and Q2 of 2020, the maximum capacity in TEUs of container ships deployed increased for container ports across all regions. Thus, despite the crisis, cuts in services and deployed capacity, the strategy of liner shipping companies favoring an increase in ship sizes continued. **Figure 10** illustrates some of these trends as reflected in container shipping schedules for the first two quarters of 2020 as compared to 2019.

Table 46. Trends in the liner shipping connectivity components
(Percentage change Q1 & Q2 2020 – Q1 & Q2 2019) – Major container ports in developed countries

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU capacity		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Los Angeles	↓	↓	↓	↓	↓	↓	-	↑	↓	↓	↑	↓
Long Beach	↑	↓	↑	↓	↑	↓	↑	↑	↑	-	↑	↑
NY&NJ	↑	-	↑	-	-	↑	-	↑	↑	↑	↓	↓
Rotterdam	↓	↓	-	↓	↓	↓	↑	↑	↑	↓	↓	↓
Antwerp	↓	↓	↓	↓	↓	↓	↑	-	-	↓	↓	-
Hamburg	-	↓	-	↓	↓	↓	-	↑	-	↓	↓	↓
Bremerhaven	↓	↓	↓	↓	↓	↓	↑	↑	↓	↓	↓	↓
Piraeus	-	-	-	↓	-	↑	-	-	-	↓	-	↓
Felixstowe	↑	↑	↑	↑	-	↑	↑	↑	-	↑	↑	↑
Marsaxlokk	↓	↓	↓	↓	-	↓	↑	↑	↓	↓	↓	↓
Melbourne	↓	↓	↓	↓	↓	↓	↑	↑	↓	↓	↓	↓
Sydney	↓	↓	↓	↓	↓	↓	↑	↑	-	↑	↓	↓

Memo ↓ *R <-2%* -- *-2% ≤ R ≤ +2%* ↑ *R> +2%*

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

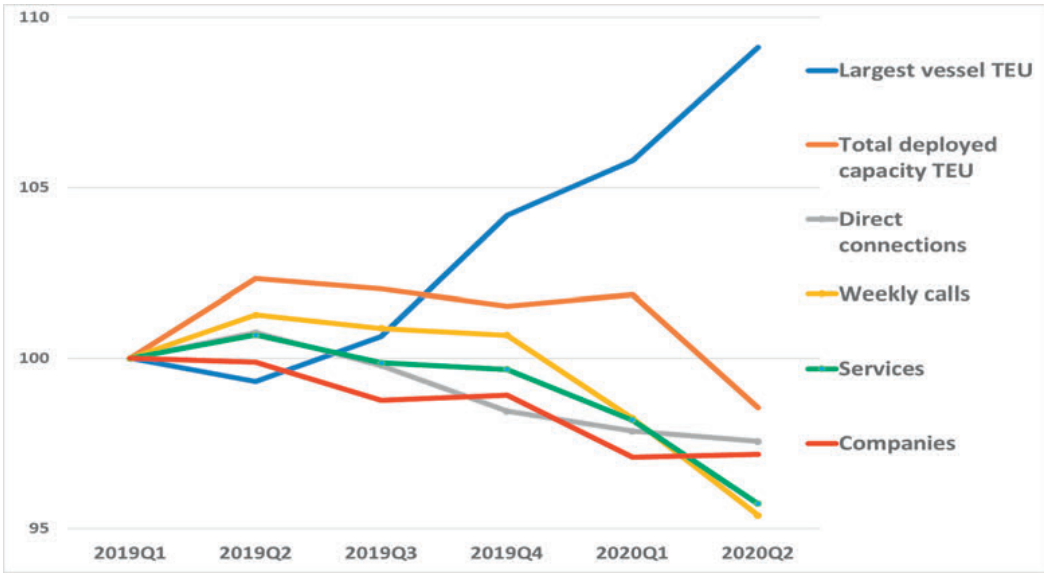
Table 47. Trends in the liner shipping connectivity components
(Percentage change Q1 & Q2 2020 – Q1 -Q2 2019) – Major container ports in developing countries

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU capacity		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Colon	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Santos	↑	↑	↑	↑	-	↑	↑	-	↑	↑	-	-
Tanger Med	↑	-	↑	-	↓	↓	↑	↑	↑	↑	↑	↓
Durban	-	↓	-	↓	↑	↑	↑	↑	↓	↓	-	-
Lagos	↓	-	↑	↑	-	↑	↑	↑	↑	↑	↑	↑
Mombasa	↓	↓	↓	↓	-	↓	↓	-	↓	↓	↓	↓
Shanghai	↓	↓	-	↓	-	↓	↑	↑	-	↓	↓	↓
Singapore	↓	↓	↓	↓	-	-	↑	↑	-	↓	↓	↓
Ningbo	-	↓	-	↓	↑	-	↑	↑	-	↓	-	-
Hong Kong	↓	↓	↓	↓	↓	↓	↑	↑	-	↓	↑	-
Busan	↓	↓	↓	↓	-	-	↑	↑	↑	↓	-	↓
Dubai	↓	↓	↓	↓	↑	↑	-	↑	↓	↓	-	↑

Memo ↓ *R <-2%* -- *-2% ≤ R ≤ +2%* ↑ *R> +2%*

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

Figure 10. Trends in fleet deployment, Q1 2019 -Q2 2020 (Index: Q1 2019 = 100)



Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

Asian ports experienced a moderate decrease in connectivity levels. Even though China was the first country to face disruptions due to the COVID-19 outbreak, the initial effect on the country's port connectivity was moderated by continued maritime trade shipments and exports during Q1 2020. The impact doubled in magnitude during the second quarter, as demand in importing and consuming countries slumped with growing lockdowns and restrictions on economic activity and movement of people and goods.

A look at two ports in Oceania, namely Sydney and Melbourne, suggests the presence of a trend consistent with that observed in Asian ports. Meanwhile, in Europe, container ports experienced lower levels of liner shipping connectivity, especially in transshipment ports. Lockdowns in major economies have had a sizeable impact. The decline in connectivity accelerated in the second quarter of the year in all ports of continental Europe. The United Kingdom where lockdowns have been less constraining illustrates differences in the stringency of lockdown measures. The port of Felixstowe continued to operate almost as usual.

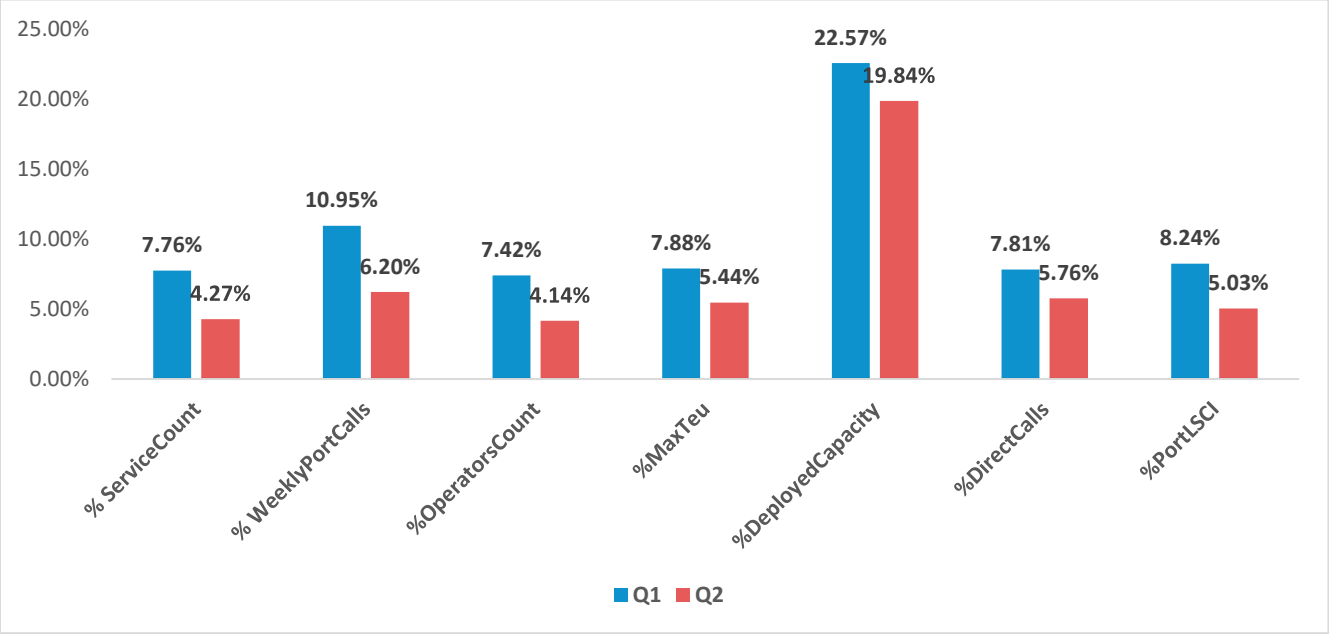
In North America, the picture was mixed. Ports in the West Coast of the United States experienced significant negative liner shipping connectivity trends, especially during the second quarter of 2020. The impact was not as severe in the East Coast port of New York and New Jersey. In contrast, Central and Latin American container ports showed signs of strength as they retained their connectivity levels and even sustained growth rates during the pandemic. Exporting foodstuff products partly explains this trend. Data for Latin America reflects the first quarter of 2020, a period during which the COVID-19 pandemic did not yet severely hit the region. It is worth monitoring how trends evolve in the region before drawing any final conclusions. Meanwhile, for three African ports (Lagos, Durban, Tanger Med) connectivity levels were found to have also coped well with the pandemic. However, for the port of Mombasa, the negative implications of the pandemic have been significant.

2.2 LINER SHIPPING CONNECTIVITY IN SIDS

Since early 2020, the components of SIDS' liner shipping connectivity index as calculated by UNCTAD, have been on the rise (**Figure 11**). Although the onset of the COVID-19 crisis has weighed down on the prevailing market dynamism, the number of liner services increased by 7.8 per cent in Q1 of 2020 while that of weekly port calls jumped by 10.9 per cent. This reflects partly the 7.4 per cent growth in the number of shipping operators. In Q2 of 2020, the increase was lower and in the case of some indicators almost halved. The size of the deployed capacity remained the key positive trend as it expanded by 22.5 per cent in the first quarter of the year and by almost 20 per cent in the second.

COVID-19 affected SIDS essentially in terms of deployed capacity and direct calls and not in terms of liner shipping services. The number of shipping services for half of the SIDS examined remained unchanged both in Q1 and Q2 of 2020. For most of the remaining SIDS, changes in liner shipping services were small in absolute numbers. SIDS are following a more stable pattern as regards liner shipping connectivity compared with mainland countries or even with island countries acting as hubs in the global sea transport system (e.g., Singapore and Malta). For the majority of SIDS, the number of liner shipping operators remained unchanged; these niche markets are less exposed to international mega trends, with existing operators providing a minimum level of service supporting trade flows.

Figure 11. SIDS liner shipping connectivity components (Percentage change Q1 & Q2 2020 - Q1 & Q2 2019)



Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.2.1 SIDS in the Atlantic and Indian Ocean regions

Table 48 details the change in liner shipping connectivity levels for the six SIDS located in the Atlantic and Indian Ocean regions. The implications of the COVID-19 pandemic reveal a mixed picture.

Cabo Verde has been negatively impacted by the pandemic. Compared with the same period in 2019, during Q1 of 2020, Cabo Verde recorded a 43 per cent decline in the number of liner shipping services. Meanwhile, port calls dropped by 36 per cent, while the deployed ship carrying capacity fell by 30.6 per cent and the number of direct calls slumped by nearly 64 per cents. These figures reflect the decision by shipping lines to temporarily suspend services or blank sail a total estimated to one-third of ship calls in SIDS. This trend continued in Q2 of 2020. Mauritius, which is the only SIDS in the region that has seen a double-digit number when it comes to liner shipping services and the only SIDS where ports handle ships of more than 14.000, has been slightly affected by the disruptions caused by the pandemic since Q2 of

2020. During the first quarter of 2020 most liner shipping connectivity components remained unchanged compared with Q1 of 2019. In the second quarter of 2020, Mauritius saw the removal of one liner shipping service out of the 13 shipping services that were servicing the county in 2019. Consequently, one weekly call was removed.

The remaining SIDS in the Atlantic and Indian Ocean regions recorded positive trends in liner shipping connectivity. In the first quarter of 2020, Comoros experienced an increase in nearly all the components that determine liner shipping connectivity levels. The exception was the number of direct calls which during Q2 of 2020 decreased by 8.3 per cent. Similarly, the Seychelles experienced an increase in almost every component of its liner shipping connectivity, although in absolute numbers the increase was marginal. For Sao Tome and Principe, analysis indicates a significant increase in the number of operators, but in absolute numbers the changes were far less significant (three operators in 2020 versus two operators in the same period of 2019). The most important change was the removal of six direct calls in the first and second quarters of 2020 compared with 11 direct calls recorded in 2019. The changes in Maldives remained notably marginal.

Table 48. Atlantic and Indian Ocean SIDS liner shipping connectivity components (Percentage change Q1 & Q2 2020 - Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU capacity		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Cabo Verde	↓	↓	↓	↓	↓	↓	-	-	↓	↓	↓	↓
Comoros	↑	↑	↑	↑	-	-	↑	↑	↑	↑	-	↓
Maldives	-	-	-	-	-	-	↑	↓	-	-	↓	-
Mauritius	-	↓	↑	↓	-	-	↑	↑	-	↑	-	↓
Sao Tome & Principe	-	-	-	-	↑	↑	-	-	↑	↑	↓	↓
Seychelles	↑	↑	↑	↑	-	-	↑	↓	↑	↑	-	-

Memo ↓ $R < -2\%$ -- $-2\% \leq R \leq +2\%$ ↑ $R > +2\%$

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.2.2 SIDS in the Caribbean region

With few exceptions, the liner shipping connectivity of the 10 SIDS located in the Caribbean seems to have been unaffected by the COVID-19 disruptions, with changes in absolute numbers being marginal (**Table 49**). Bahamas, Jamaica and Trinidad and Tobago were the only countries with double-digit numbers relating to liner shipping services, weekly calls, and shipping operators. Bahamas, however, had a limited number of operators.

In the case of Saint Kitts and Nevis, for example, a drop of 25 per cent in liner shipping services translated into one less shipping service, by one operator, per week port calls in Q1 and Q2 of 2020, compared with Q1 and Q2 of 2019. While these reductions may be considered small, the implications for SIDS should not be underestimated. The cancellation of any single port call even if on temporary basis is too important for the trade of SIDS. In the remaining Caribbean SIDS, liner shipping connectivity trends were either positive with mostly one call and/or operator addition per week or remained unchanged as compared with the period before the COVID-19 was declared a pandemic.

Meanwhile, existing data for Q1 and Q2 of 2020 indicate an increase in the total ship carrying capacity deployed in almost all the Caribbean SIDS. Demand for essential cargoes has been served by few additional regional services. These have been added to the small number of existing services and have resulted in this odd trend amid the pandemic.

Table 49. Caribbean SIDS liner shipping connectivity components (Percentage change Q1 & Q2 2020 - Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU capacity		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Antigua & Barbuda	↑	-	↑	-	↑	-	-	-	↑	↑	↑	↓
Bahamas	↑	↓	↑	↑	↓	-	↑	-	↑	↓	↑	↓
Barbados	-	-	-	-	-	-	-	↑	↑	↑	↓	-
Dominica	↑	-	↑	-	↑	-	-	-	↑	↑	↑	-
Grenada	↑	-	↑	-	↑	-	-	-	↑	↑	↑	-
Jamaica	↑	↑	↑	↑	↓	↓	-	↓	↑	↑	↑	↑
Saint Kitts and Nevis	↓	↓	↓	↓	↓	↓	-	-	↑	↑	↓	↓
Saint Lucia	-	-	-	-	-	-	-	-	-	↑	↓	↓
Saint Vincent & the Grenadines	↑	↑	↑	↑	-	↑	↑	↑	-	↑	↑	↑
Trinidad & Tobago	↓	↓	↓	↑	↑	↑	↑	↑	↓	-	-	↓

Memo ↓ $R < -2\%$ -- $-2\% \leq R \leq +2\%$ ↑ $R > +2\%$

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3.2 SIDS in the Pacific region

As in the case of the Caribbean, SIDS in the Pacific experienced a relatively stable environment during the pandemic; the changes in absolute numbers were rather limited, particularly in Q1 of 2020 (**Table 50**). Fiji and Solomon Islands are the only ones among the twelve SIDS in the region that enjoy double-digit numbers in terms of liner shipping services.[18] With SIDS being less integrated into globalized trading networks, suppressed demand in the major consumer markets has had a lesser impact on these island states and their liner shipping connectivity levels. Much of the services support local communities and are considered essential for the respective SIDS economies. Nevertheless, a significant change in percentage term has been observed when looking at ship capacity deployed and the number of direct calls serving some of the islands in the region. These changes are reflective of the capacity management strategies adopted by the liner shipping operators. The pattern whereby changes between 2020 and 2019 were limited, was also observed when considering the maximum ship capacity calling at ports in the Pacific SIDS. Except for Kiribati, Marshall Islands and Tonga, there has been no change in the remaining SIDS of the region.

The stability observed during the crisis might be interpreted as a positive sign. In truth, however, SIDS have had low and stagnating connectivity levels for a long time irrespective of the COVID-19 disruption. Rather, the limited impact on their connectivity is indicative of their marginalization from the global trading and shipping networks.

[18] Data were not available for the Trust Territory of Pacific Islands.

Table 50. Pacific Ocean SIDS liner shipping connectivity components (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU capacity		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Fiji	-	-	-	↑	-	-	-	-	↑	↑	-	-
Kiribati	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Marshall Islands	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Micronesia (Federated States of)	-	↑	-	↑	-	-	-	-	-	↑	-	↑
Nauru	-	-	-	-	-	-	-	-	-	-	↓	↓
Palau	-	-	↓	↓	-	-	-	↓	↓	↓	-	-
Samoa	-	-	↑	↑	-	-	-	-	↑	↑	↑	↑
Solomon Islands	↓	↓	↓	↓	-	-	-	-	↓	↓	↓	↓
Timor-Leste	-	-	-	-	-	-	-	-	-	-	-	-
Tonga	↓	↓	↓	↓	-	-	↓	↓	↓	↓	↓	↓
Tuvalu	-	-	-	-	-	-	-	-	-	-	-	-
Vanuatu	-	-	-	-	-	-	-	-	-	-	↑	↑

Memo ↓ $R < -2\%$ -- $-2\% \leq R \leq +2\%$ ↑ $R > +2\%$

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3 CONTAINER PORTS CONNECTIVITY BY REGION

2.3.1 Asia

During the first quarter of 2020, the pandemic undermined growth in the major Far East container ports (**Table 51**). The impact was magnified during the second quarter of the year. Overall, all ports examined in the context of the present analysis have experienced a decrease in the number of liner shipping services, the weekly number of container ship calls, the number of liner shipping operators and the size of deployed capacity. At the same time, the maximum capacity of container ship calling at ports continued to grow.

The impact on Shanghai, the biggest world container port, has been quite moderate despite its location in the country that was the epicenter of the pandemic when it first erupted. During the first quarter of 2020, Shanghai experienced a marginal decrease in the number of liner shipping operators (-1.5 per cent), a drop that may explain similar declines in the number of liner services and ship calls. The situation worsened during Q2 of 2020 as the number of liner operators decreased by 2.9 per cent while the number of services and ship calls fell by 6 per cent. The deployed ship carrying capacity decreased by 7.2 per cent even though the maximum size of the container ship calling at the port of Shanghai increased by 12 per cent. In Ningbo, the trends were similar. The effects of the pandemic were felt more during Q2 of 2020, when the number of liner services was reduced by 4.8 per cent and the number of calls fell by 4.9 per cent, i.e., as much as the drop of the deployed ship carrying capacity. At the same time, the maximum capacity of a container ship calling at Ningbo port increased by 11 per cent.

The impact of the pandemic was more severe in the case of Hong-Kong. Compared with the first quarter of 2019, the port was serviced by 9.8 per cent less liner shipping operators and 5.1 per cent less liner shipping services, and container ship calls in the first quarter of 2020. In the second quarter of 2020, Hong Kong experienced a significant further decrease in most of the liner shipping connectivity components. In Q2 of 2020, the number of liner shipping operators servicing the port dropped by 10.5 per cent over the second quarter of 2019. The number of liner shipping services calling at the port of Hong Kong fell by 10.1 per cent, while the number of weekly container ship calls dropped by 10.5 per cent. At the same time, the size of the biggest container ship visiting the port continued to increase at double-digit rates both in Q1 and Q2 of 2020. It should be noted, however, that the political tensions in Hong Kong have probably contributed to some of the observed downgrades in the port's liner shipping connectivity level.

Trends in the second biggest world container port, Singapore, were like those observed in Chinese ports. During the first quarter of 2020, the number of liner shipping operators decreased moderately (-1.8 per cent) as did the number of liner shipping services and ship calls (-4.8 per cent and -5.5 per cent, respectively). Compared to the second quarter of 2019, the equivalent quarter in 2020 has seen the port of Singapore lose about 4.8 per cent of the liner shipping services. Furthermore, it suffered a decline of 6.2 per cent in the number of ship calls and another 3.5 per cent in the size of the deployed ship carrying capacity. Like ports in China, the capacity of the biggest container ship calling at the port was more than 10 per cent bigger. As noted above, an increase in the capacity of the biggest container ship deployed has been observed in Shanghai as well. This is rather expected, as Shanghai and Singapore ports are very frequently part of the same liner services connecting the Far East with Europe.

Similar trends were also observed in Busan. The second quarter of 2020 was the most impacted, when compared with Q2 of 2019. Busan port experienced a decrease in the number of liner shipping services (-8.3 per cent) and the weekly number of container ship calls (-8.8 per cent). The number of liner shipping operators decreased slightly (-1.7 per cent) while the size of the deployed capacity declined by only 4.3 per cent. The maximum capacity of the container ships calling at the port in Q2 of 2020 increased by 14.7 per cent compared with Q2 of 2019.

In Western Asia, Dubai experienced comparable developments. The main components of Dubai port's liner shipping connectivity declined in Q1 of 2020 compared to Q1 of 2019. Dubai lost 3.6 per cent of the liner shipping services and 3.9 per cent of the weekly container ship calls. The deployed ship carrying capacity fell by 4.3 per cent while the number of direct calls contracted by 1.4 per cent. The situation worsened in Q2 of 2020, as the port lost 10.6 per cent of the weekly number of container ship calls, 9.4 per cent of the liner shipping services and 8.8 per cent of the size of the deployed ship carrying capacity. With the port being an intermediate stop of many services departing from the Far East, the 13.1 per cent increase in the maximum ship carrying capacity that is calling at the port, is in line with the observed trend of ship size upsizing across the major main ports located in the Far East-Europe containerized trade lane.

Table 51. Liner shipping connectivity of major Asian container ports (Percentage change Q1 & Q2 of 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Shanghai	-2,3%	-6,0%	-1,7%	-5,7%	-1,5%	-2,9%	11,0%	12%	0,9%	-7,2%	-2,0%	-3,0%
Singapore	-3,6%	-4,8 %	-5,5%	-6,2%	-1,8%	0%	11,0%	12%	0,9%	-3,5%	-3,8%	-4,6%
Ningbo	-1,1%	-4,8%	-1,1%	-4,7%	7,8%	0%	11,0%	12%	-0,9%	-4,9%	-1,6%	-0,8%
Hong Kong	-5,1%	-10,1%	-5,3%	-10,5%	-9,8%	-8,0%	15,0%	11%	-1,6%	-12,9%	2,4%	-0,5%
Busan	-3,1%	-8,3%	-3,6%	-8,8%	0%	-1,7%	13,8%	14,7%	4,4%	-4,3%	-1,4%	-5,2%
Dubai	-3,6%	-9,4%	-3,9%	-10,6%	5,4%	2,6%	1,3%	13,1%	-4,0%	-8,8%	-1,4%	2,1%

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3.2 Africa

African ports have shown mixed trends (**Table 52**)**.** Tanger Med (Morocco), a major transshipment port in the Mediterranean Sea, continued to improve its liner shipping connectivity levels, even though blank sailings negatively impacted on the weekly services. During Q1 of 2020, Tanger Med experienced an increase in the number of liner shipping services (18.6 per cent), ship calls per week (18.3 per cent), the deployed ship carrying capacity (27.8 per cent) and the maximum size of the container ships calling at the port (15.5 per cent). The only negative trend was the decrease in the number of operators (-7.2 per cent). In the second quarter of 2020, some of these indicators stagnated in comparison with Q2 of 2019. While the number of direct calls declined by 4.2 per cent, the number of liner shipping services and port calls remained practically unchanged. Similarly, in the first half of 2020, almost all the liner shipping connectivity components of the Nigerian port of Lagos, which serves mainly as a gateway port for Western Africa, improved. Further analysis is required to better understand the reasons behind the observed growth.

Elsewhere in Durban, trends have been negative in the second quarter of 2020. In Q1 of 2020, the only negative trend affecting the port of Durban was the 6.6 per cent drop in the ship carrying capacity deployed. In second quarter, the port lost 5 per cent of the liner shipping services, 6.2 per cent of ship calls and 2.8 per cent of the deployed capacity. In contrast, the maximum capacity of the container ship calling at the port increased by 14.5 per cent.

The picture in the Kenyan port of Mombasa, a major gateway port for Eastern Africa, is quite different. The port experienced a decrease in almost all the components that underpin the port's liner shipping connectivity. Compared with Q1 of 2019, during the first quarter of 2020, liner shipping services and port calls declined by almost 12 per cent in Mombasa while the number of liner shipping operators remained unchanged. However, it declined by 7 per cent in the second quarter of the year. Meanwhile, direct calls were cut by almost 15 per cent while the deployed vessel carrying capacity fell by 6 per cent. The maximum capacity of the container vessels calling at the port during this period dropped by 42.3 per cent. Reduced maritime trade volumes carried to/from the port are not irrelevant for the withdraw of the bigger vessel calling at the port. Liner shipping services remained operational securing the delivery of essential goods and trade by adjusting schedules and assets deployed while seeking the best possible capacity utilization. Notably, following the COVID-19 outbreak some African countries, including Kenya, experienced major challenges in forwarding cargoes to their destination as hinterland connections (i.e., both trucks moving in/out the port and cross-border crossings) were heavily congested. Trucks at borders have been severely delayed due to the restriction to enter neighboring countries. The need to put truck drivers in quarantine for 14 days before the trip continues while operations by many truck companies being suspended a shortage of public health staff at borders being observed. Administrative problems due to the different approaches of neighboring countries occurred as cooperation between national administrations during the crisis was rather limited; a situation reported by several ports in Africa, but also in Central and South America. As regards the other indicators, and comparing with the respective quarters of 2019, similar rates of decrease were observed during both Q1 and Q2 of 2020. The exception was the carrying capacity of the largest vessel calling, which remained unchanged.

Table 52. Liner shipping connectivity of major African container ports (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Tanger Med	18,9%	0%	18,3%	-0,5%	-7,1%	-7,1%	15,5%	23,7%	27,8%	19,1%	6,1%	-4,2%
Durban	0%	-5,0%	0,0%	-6,2%	7,1%	7,1%	2,1%	14,5%	-6,6%	-2,8%	-1,3%	-2,5%
Lagos	-12,5%	0%	11,9%	33,9%	0%	28,6%	25,1%	32,4%	50,8%	113%	2,4%	14,3%
Mombasa	-11,8%	-12,5%	-12,4%	-11,0%	0%	-7,1%	-42,3%	0%	-6,0%	-6,8%	-14,9%	-13,0%

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3.3 Europe

As shown in **Table 53,** Rotterdam started the year in the first quarter of 2020 with a drop in the number of liner shipping operators (-9.1 per cent), the number of ship calls (-0.5 per cent) and the size of the ship carrying capacity deployed (-7.5 per cent). In the second quarter of 2020, the port of Rotterdam lost 10.2 per cent of the liner services and 7.6 per cent of ship calls. Consequently, the ship carrying capacity deployed fell by 10.1 per cent. Similar trends were observed in Antwerp, although the decrease across most of the liner shipping connectivity components was smoother, in comparison. In the second quarter of 2020, Antwerp experienced a drop in almost all the components compared with Q2 of 2019. Weekly port calls fell by 7 per cent while the ship carrying capacity deployed was cut by 5 per cent. Hamburg followed the same patterns as Rotterdam, with Bremerhaven being the North European port that recorded negative trends throughout 2020. Both Hamburg and Bremerhaven were called by larger container ships in Q2 of 2020 compared with Q2 of 2019. The increase was approximately 15 per cent.

In the United Kingdom, the port of Felixstowe remained comparatively unaffected by the COVID-19 pandemic. In Q1 of 2020 the number of liner operators remained unchanged compared with the same period in 2019, as did the deployed container ship carrying capacity. The number of direct calls increased by 12.9 per cent, while the maximum ship carrying capacity servicing the port increased by 11 per cent compared with Q2 of 2019. Further improvements in the liner shipping connectivity levels were observed during Q2 of 2020. An increase of 7.7 per cent in the number of liner shipping operators, and a 5.0 per cent increase in the ship carrying capacity deployed were accompanied by an increase of 1.8 per cent in the number of direct calls. This may have resulted from the relatively lighter lockdown measures adopted in the United Kingdom.

In Piraeus, the Chinese owned transshipment-focused port in the Mediterranean, liner shipping companies maintained their services but used smaller ships (in capacity terms) during Q2 of 2020. Piraeus registered an increase of 5.3 per cent in the number of liner shipping operators, while the weekly port calls fell by 2.3 per cent. The ship carrying capacity deployed dropped by 11.5 per cent, while the number of liner shipping services and the capacity of the largest ship calling at the port remained unchanged compared with the second quarter of 2019. Meanwhile, the Port of Marsaxlokk suffered a significant drop in its liner shipping connectivity level since the early days of 2020. Compared with Q2 of 2019, the second quarter of 2020 saw the port lose almost 40 per cent of the liner shipping services and the port calls, along with a loss of 22.8 per cent of the deployed ship carrying capacity. Meanwhile, the reduced shipments, especially from Asia to Europe, and the cancellation of some of the liner shipping services seem to have affected the Maltese pure transshipment port heavily. Further analysis is required to ascertain the exact causes of the severe negative trends affecting Marsaxlokk and the extent to which these can be attributed entirely to the COVID-19 disruptions.

Table 53. Liner shipping connectivity of major container ports in Europe (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Rotterdam	-2,3%	-10,2%	-0,5%	-7,6%	-9,1%	-9,3%	11,0f	14,1%	7,5%	-10,1%	-4,7%	-4,0%
Antwerp	-3,2%	-4,0%	-4,7%	-7,0%	-10,9%	-3,8%	13,1%	1,1%	-0,6%	-5,0%	-3,6%	0%
Hamburg	-1,9%	-7,8%	-0,7%	-8,2%	-17,1%	-8,8%	1,1%	14,1%	1,2%	-8,8%	-4,2%	-3,7%
Piraeus	1,9%	0%	0%	-2,3%	0%	5,3%	1,9%	0%	1,6%	-11,5%	-1,7%	-10,3%
Felixstowe	5,0%	5,0%	5,0%	5,0%	0%	7,7%	11,0%	11,0%	0,2%	4,5%	12,9%	13,8%
Bremerhaven	-9,4%	-14,0	-8,7%	-14,3%	-19,0%	-15,8%	15,5%	15,5%	-11,4%	-4,1%	-13,7%	-4%
Marsaxlokk	-41,9%	-39,3%	-41,7%	-38,9%	0%	-7,7%	21,2%	3,3%	-34,5%	-22,8%	-26,0%	-23,9%

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3.4 Latin America and the Caribbean

The negative impact on the liner shipping connectivity levels of Latin America and the Caribbean (**Table 54**) seemed less severe, at least, in Q1 and Q2 of 2020. The port of Colon in Panama experienced a considerable increase in the values of all the components used to measure its liner shipping connectivity, except for the maximum capacity of container ships calling at the port during both Q1 and Q2 of 2020. Liner shipping connectivity levels improved with the number of liner shipping operators increasing from six in Q1 of 2019 to 12 in Q2 2020. It was achieved during the pandemic and even though the port experienced a 4.2 per cent drop in container traffic between January and May 2020. Similarly, in Brazil, the port of Santos saw an improvement in liner shipping connectivity levels during the first two quarters of 2020 compared to the same period in 2019. As COVID-19 hit Brazil, and Latin America in general, later than other countries, i.e., the pandemic spreads in the last part of Q2 2020, it is worth monitoring whether this improvement will sustain. Trends observed in Q1 of 2020 were amplified in Q2.

2.3.5 North America

West Coast North American ports have been negatively impacted by the pandemic, especially during Q2 of 2020. In contrast, East Coast ports experienced an improvement in almost all the components defining their liner shipping connectivity levels (**Table 54**). As West Coast ports serve plenty of cargoes coming from China and other parts of Eastern Asia, their connectivity was rapidly affected by shipping lines capacity management adopted immediately following the COVID-19 outbreak. Liner shipping carrier strived to void sailings on the trades between Asia and North America due to lower demand, while ports on the East coast of North America continued to serve calls transporting cargoes from/to Europe and other parts of the world, even though at a lesser scale than the year before.

The port of Los Angeles was heavily affected while the impact on the port of Long Beach more moderated. The former suffered a loss of almost one-third in the ship carrying capacity deployed and of one-quarter in the weekly ship calls. The number of services in the port of Los Angeles decreased by 24 per cent in Q2 of 2020 while the number of calls per week dropped by 26.1 per cent. In the port of Long Beach, the ship carrying capacity deployed was cut marginally by 0.9 per cent despite the drop by 13.3 per cent in the number of liner shipping operators. The number of liner shipping services and weekly ship calls declined by 5.9 per cent and 6.5 per cent, respectively. The year 2020 had started with improvements in all six components defining the port's liner shipping connectivity level of the port of Long Beach. In Q1, the number of liner shipping services and liner operators along with the number of weekly port calls and the deployed ship carrying capacity have all increased significantly compared to Q1 of 2019. Since the COVID-19 was declared a pandemic in March 2020, the situation reversed.

On the East Coast, the Port of New York and New Jersey had a positive start in 2020. During Q1 of 2020 the number of liner shipping services increased by 5.1 per cent, while the number of weekly ship calls expanded by 4.0 per cent. The ship carrying capacity deployed rose by 6.1 per cent, a rate that had been largely maintained in Q2 of 2020. In the second quarter, the number of services calling at the port of New York and New Jersey remained stable, as did the number of ship calls per week. Meanwhile, the ship carrying capacity deployed increased by 3.2 per cent while the number of direct calls fell by 5.7 per cent.

The ship carrying capacity deployed at the port of Los Angeles decreased by 28.8 per cent in the second quarter of 2020. At the same time, however, the capacity of the biggest container ship calling at the port reached 23,756 TEUs, equivalent to a jump of 64.8 per cent compared with the same period in 2019. Similarly, the port of Long Beach saw an increase of 18.9 per cent in the biggest container ship capacity calling at the port. In the second quarter of 2020, the capacity of the biggest container ship was 16,652 TEUs well above the 14,000 TEUs recorded in the same period a year earlier. Increases in the size of the biggest container ship calling at the port were also noted in the port of New York and New Jersey. Nevertheless, the rise was relatively slower (+4.8 per cent bigger in Q2 of 2020 compared to Q1 of 2019).

Table 54. Liner shipping connectivity of major container ports in the Americas (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Los Angeles	-12,5%	-24,0%	-13,7%	-26,1%	-13,3%	-21,4%	1,0%	64,8%	-10,1%	-28,8%	4,5%	-2,8%
Long Beach	11,1%	-5,9%	12,1%	-6,5%	14,3%	-13,3%	5,2%	18,9%	5,1%	-0,9%	9,2%	10,9%
Port of New York and New Jersey	5,1%	0,0%	4.0%	0%	0%	4,8%	0%	4,8%	6,1%	3,2%	-2,2%	-5,7%
Colon	50,0%	66,7%	50,0%	66,7%	100%	83,3%	3,7%	2,2%	28,6%	38,1%	48,4%	50,0%
Santos	4,2%	12,5%	6,7%	11%	0%	12,5%	7,3%	0%	6,4%	4,9%	0%	1,2%

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.3.6 Oceania

The impact on Melbourne and Sydney ports mirrored that experienced by Asian ports, albeit more pronounced. Since the start of 2020, the number of liner shipping operators, liner shipping services and weekly container ship calls were lower than the year before. The impact of the COVID-19 pandemic was more severe during Q2 of 2020. The port of Melbourne lost one-fifth of its weekly container calls, 7.7 per cent of the liner shipping services and 8.7 per cent of the liner shipping operators. In Sydney, the number of liner shipping operators calling at the port fell by 10.5 per cent while the number of shipping services and weekly ship calls declined by 8.7 per cent and 7 per cent, respectively. However, one component defining the liner shipping connectivity levels of Sydney port, namely, the maximum size of the ship calling at the port, increased by 8 per cent in Q1 of 2020 and 18 per cent in Q2 (**Table 55**). The increase in the second quarter reflects the recent decision by CMA CGM to deploy a 10,662 TEU capacity container ship on the South-East Asia – Australia trade route.

Table 55. Liner shipping connectivity of major container ports in Oceania (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

	Shipping Services		Weekly Port Calls		Shipping Operators		Max TEU		Deployed Capacity		Direct Calls	
	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2
Melbourne	-3,8%	-7,7%	-7,4%	-20,6%	-4,3%	-8,7%	8,3%	18,1%	-2,4%	-2,1%	-7,8%	-8,8%
Sydney	-4,3%	-8,7%	-4,7%	-7.0%	-5,3%	10,5%	8,3%	18,1%	0,5%	3,1%	-8,6%	-11,9%

Source: UNCTAD calculations, based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

2.4 KEY FINDINGS AND LESSONS LEARNED

Trends in the components of liner shipping connectivity as measured by the UNCTAD LSCI have helped to shed some light on the implications of the COVID-19 crisis for container shipping and trade. **A negative trend has been observed across the six components that determine liner shipping connectivity levels.** The number of liner shipping services, weekly port calls, liner shipping operators, ship carrying capacity deployed, and direct calls, have dropped across the board over the first 24 weeks of 2020. The decline intensified since the COVID-19 pandemic was declared in Week 12 of 2020.

The negative impact of the COVID-19 pandemic on liner shipping connectivity levels varied widely across regions. In Asia and Oceania, ports experienced a moderate decrease in connectivity levels. Even though China was the first country to be affected by the pandemic, the initial **negative effect on the liner shipping connectivity levels of Chinese ports was relatively moderate**. **Europe, which was the second area where COVID-19 struck after China, has seen substantial drops in liner shipping connectivity levels.** In **North America, the picture was mixed**. West Coast ports in the United States experienced significant negative trends, especially during the second quarter of 2020. The impact on ports located on the East Coast was less severe. In **Central and Latin America**, container ports showed signs of strength as their **liner shipping connectivity levels remained steady** and, **in some cases, increased** during the early days of the pandemic. **African ports also performed comparatively well**.

During the second quarter of 2020 the decline in the components determining liner shipping connectivity levels accelerated. The negative effect on Asian ports aggravated. In continental Europe the stricter and more extended lockdown periods were accompanied by lower demand and deteriorating liner shipping connectivity levels in many ports. In Central and Latin America, the maritime supply chain has shown resilience in terms of connectivity but faced challenges such as difficulties to secure the presence of personnel, and movement of cargoes to/from ports to mainland. **Even for ports within the same region, impacts varied widely, with transshipment ports being affected the most**.

SIDS were particularly affected by a reduction in the deployed ship carrying capacity and cuts in the number of direct calls. For SIDS, missing one ship call might be vital for their economies and local communities as they depend heavily on maritime transport for much of their imports, including the provision of essential goods. It is crucial that the liner shipping connectivity of SIDS, which is already relatively low, not be further reduced.

The maximum size of the container ships deployed at each port continued to increase despite the pandemic. In seventeen of the total ports assessed during Week 24 of 2020, the size of the biggest container ship calling was higher by more than 10 per cent compared with the same period in 2019. Meanwhile, four other ports saw an increase below 10 per cent. In three ports, the size of the biggest ship in 2020 was equal to that of the biggest calling ship in 2019. As liner shipping continues to exploit the benefits of economies of scale, **the tendency to deploy larger ships continued during the pandemic despite the suppressed demand**. As a result, terminal operations and the entire maritime supply chain faced **additional pressure as they hosted fewer ship calls but with substantially more cargo volumes to handle per call.**

APPENDIX II – LINER SHIPPING CONNECTIVITY IN SELECTED PORTS

Source (all figures): Calculations are based on data provided by MDS Transmodal (www.mdst.co.uk). Data for Q2 of 2020 are preliminary and based on Weeks 13 – Weeks 24. They are compared with the same weeks of 2019.

Figure 12. Liner shipping connectivity of the port of Shanghai (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

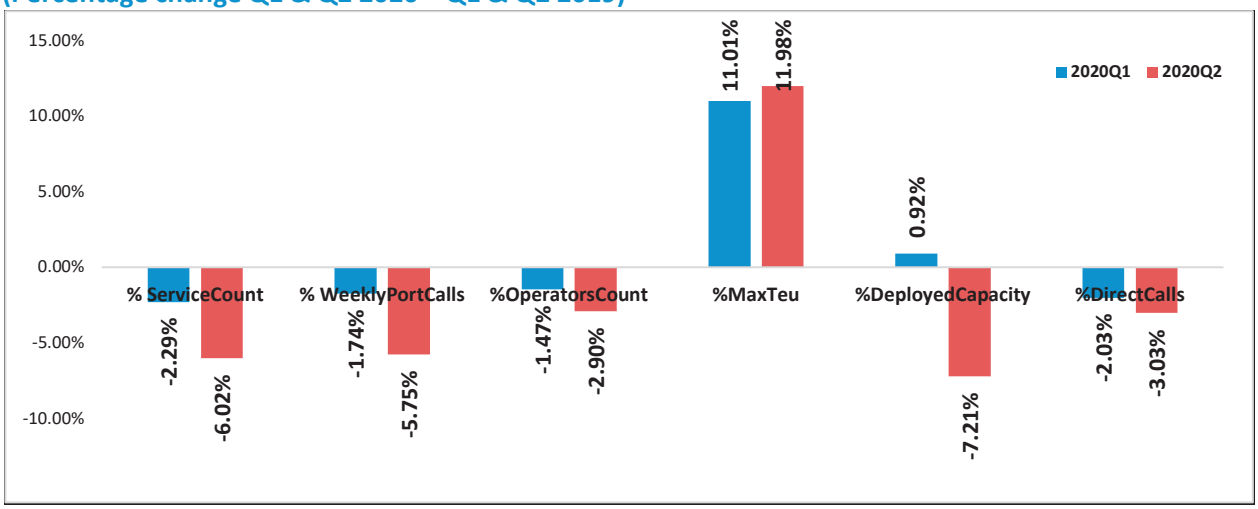


Figure 13. Liner shipping connectivity of the port of Singapore (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

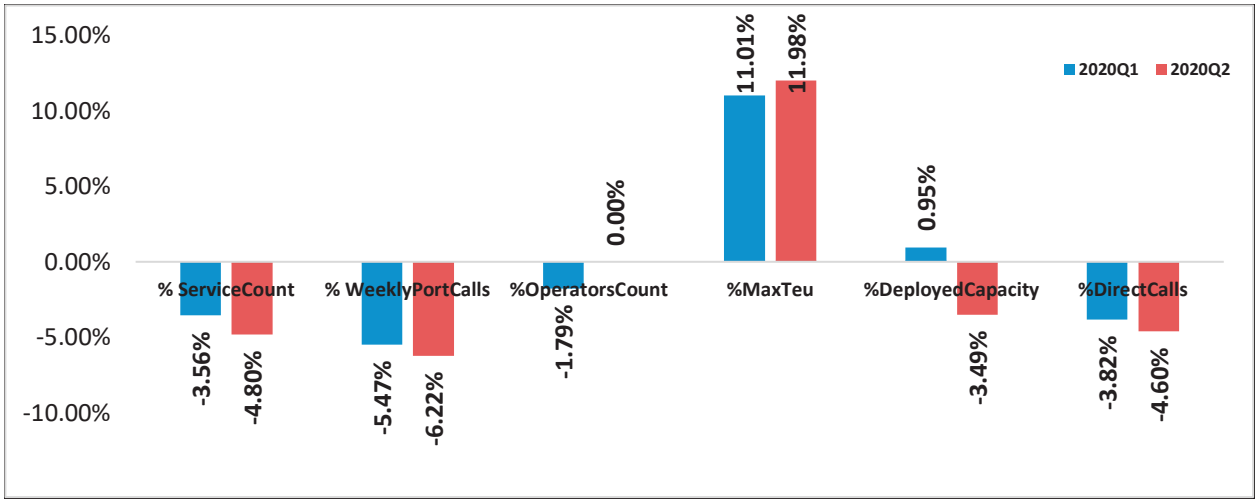


Figure 14. Liner shipping connectivity of the port of Ningbo (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

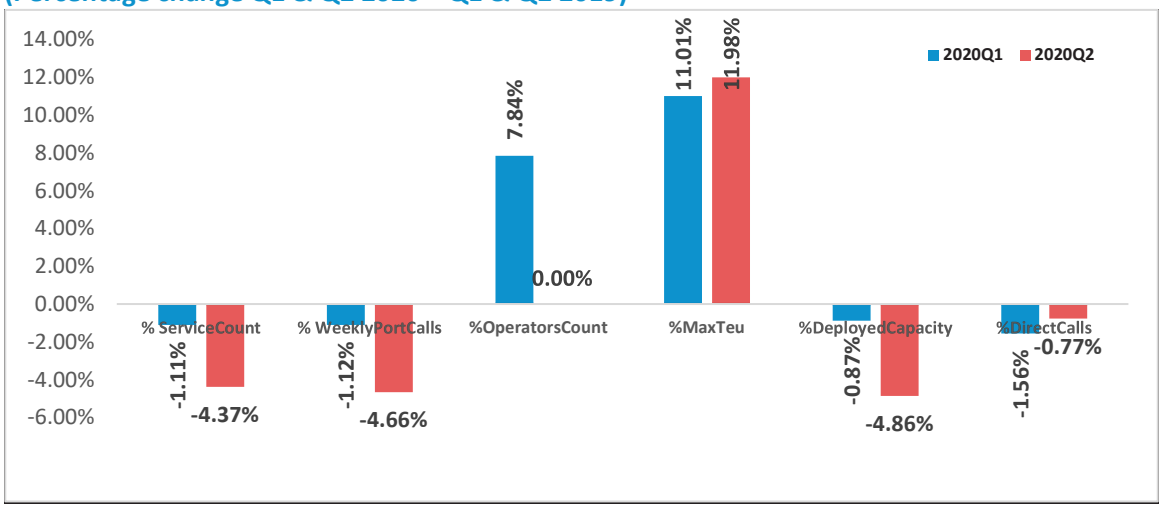


Figure 15. Liner shipping connectivity of the port of Hong Kong (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

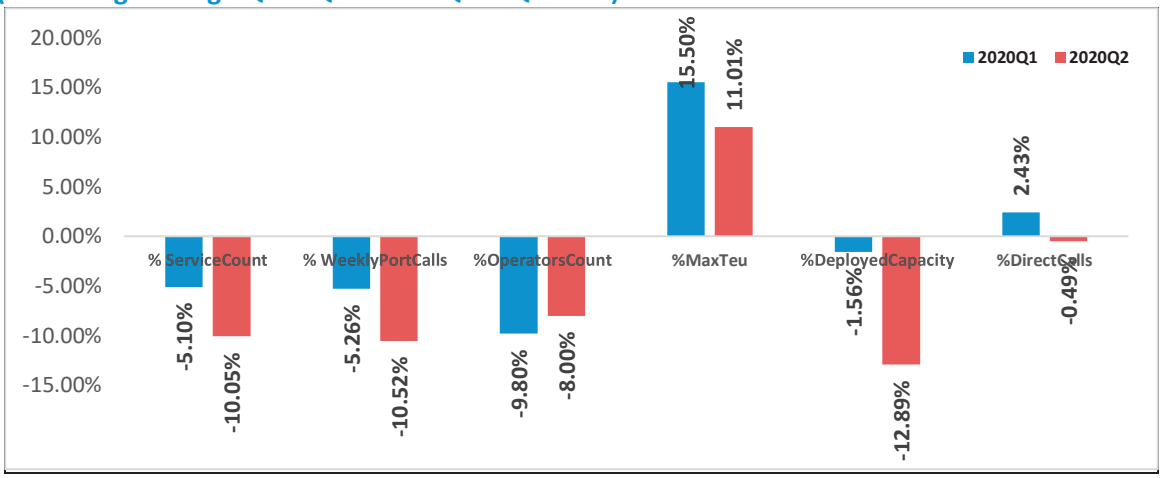


Figure 16. Liner shipping connectivity of Busan port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

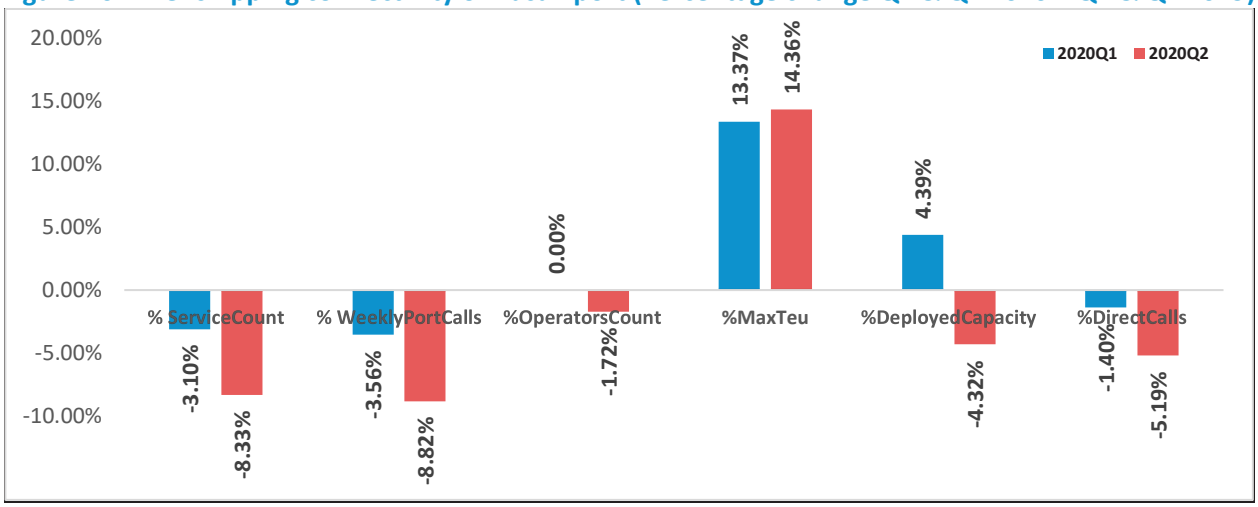


Figure 17. Liner shipping connectivity of Dubai port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

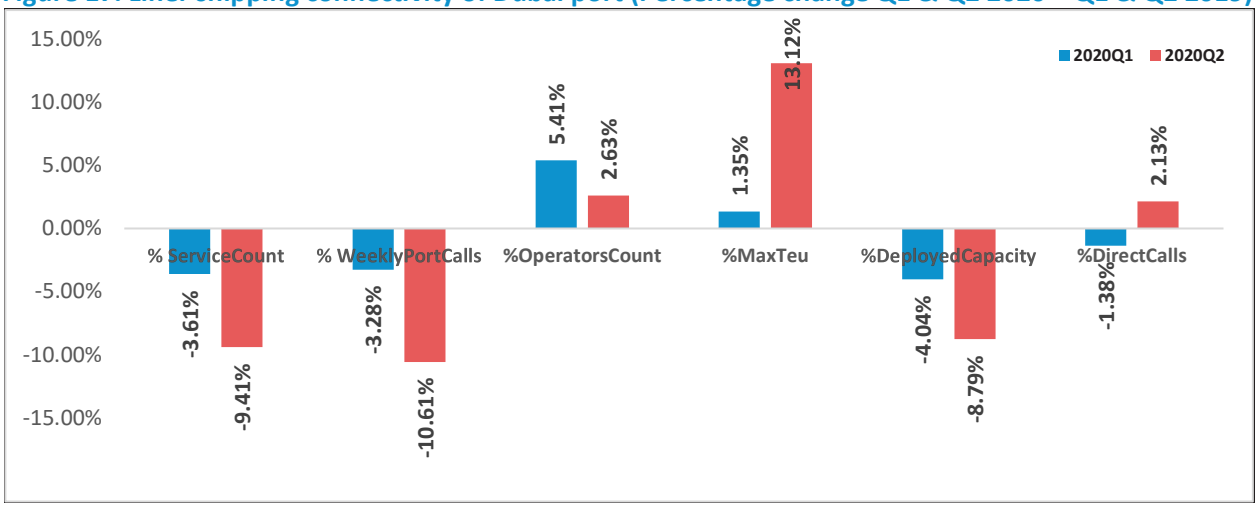


Figure 18. Liner shipping connectivity of Tanger Med port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

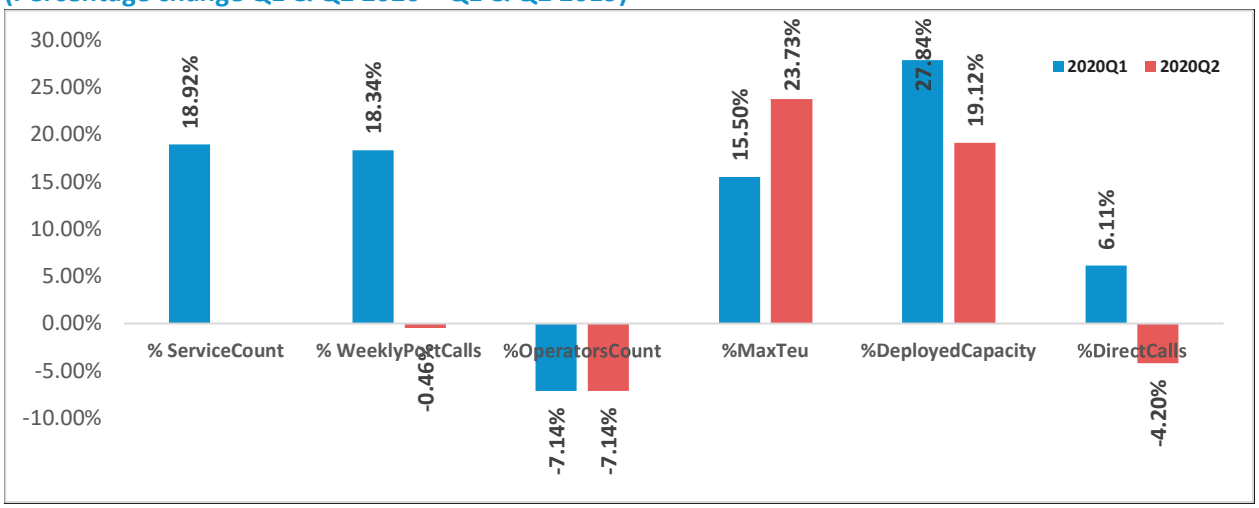


Figure 19. Liner shipping connectivity of the port of Lagos (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

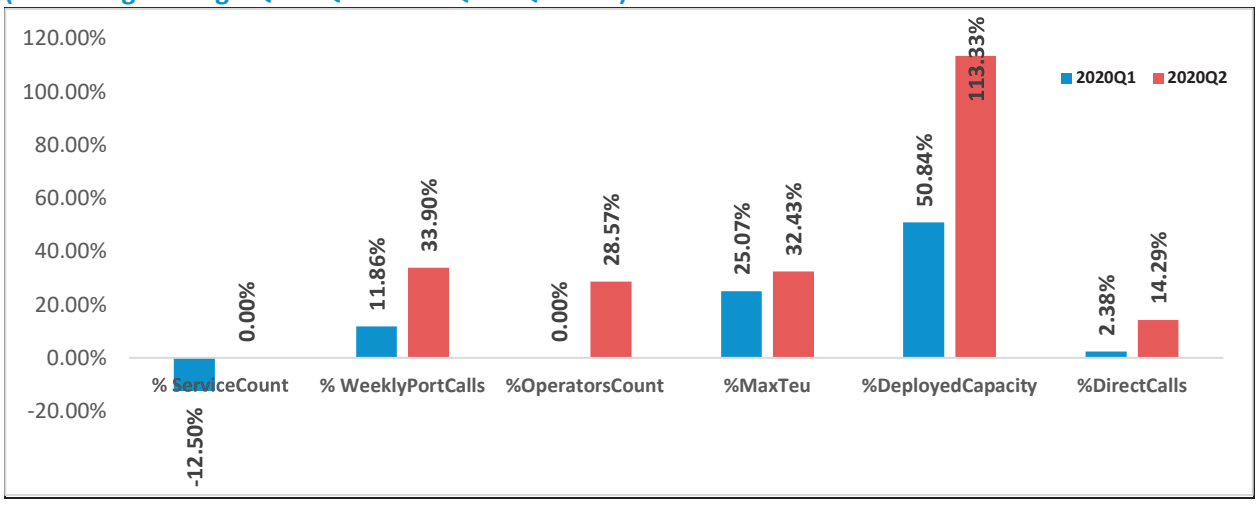


Figure 20. Liner shipping connectivity of Mombasa port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

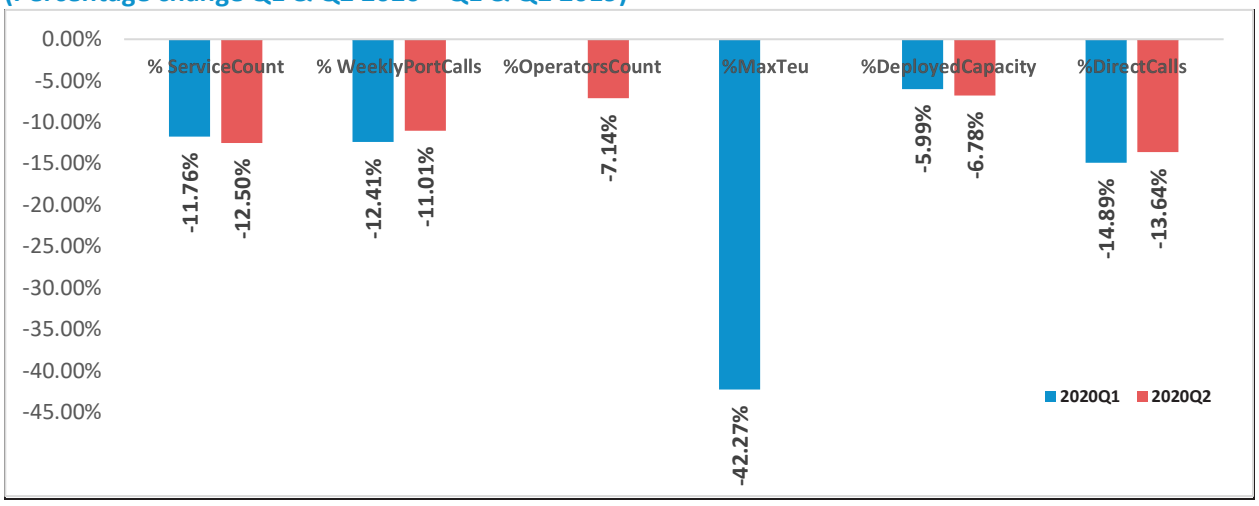


Figure 21. Liner shipping connectivity of the port of Durban (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

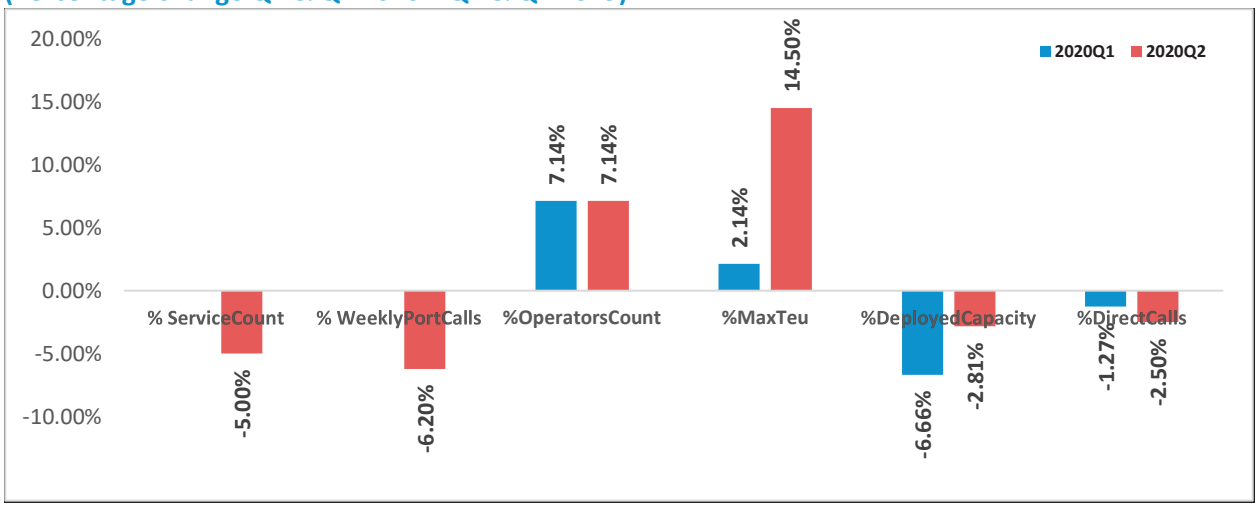


Figure 22. Liner shipping connectivity of the port of Rotterdam (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

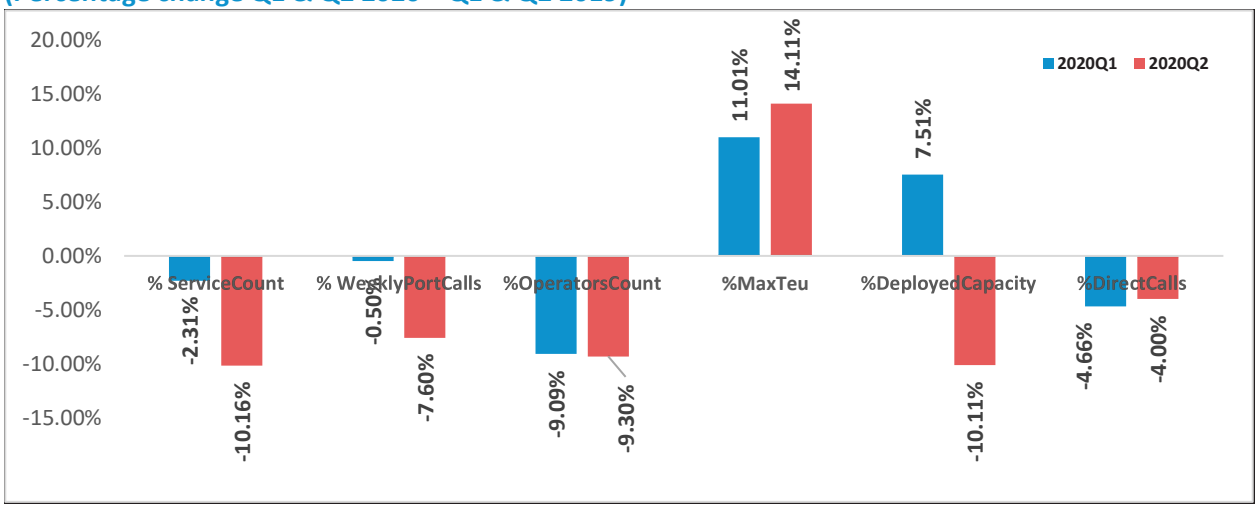


Figure 23. Liner shipping connectivity of the port of Antwerp (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

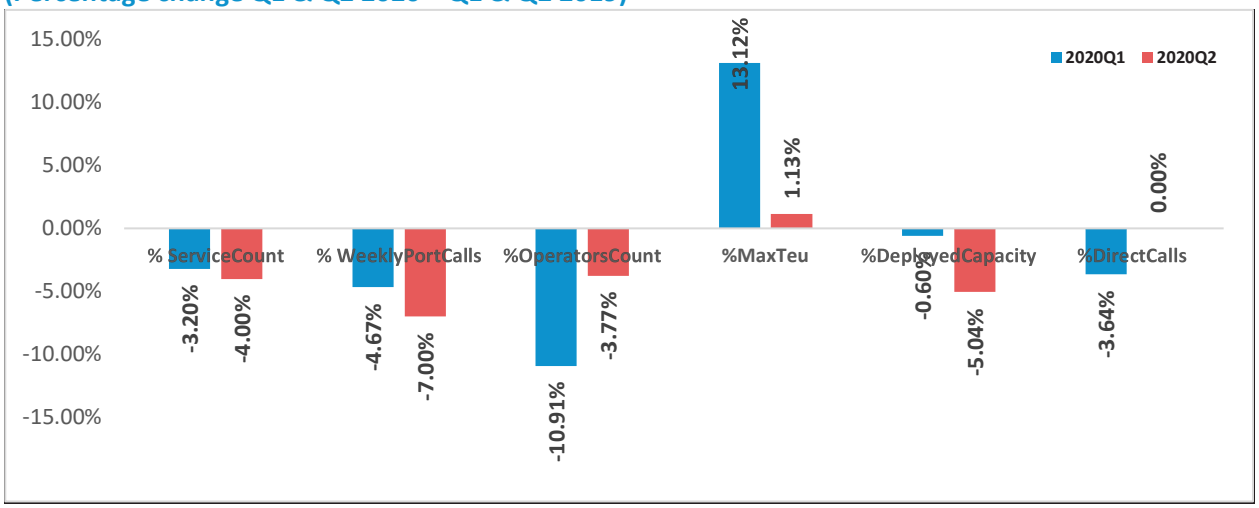


Figure 24. Liner shipping connectivity of Hamburg port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

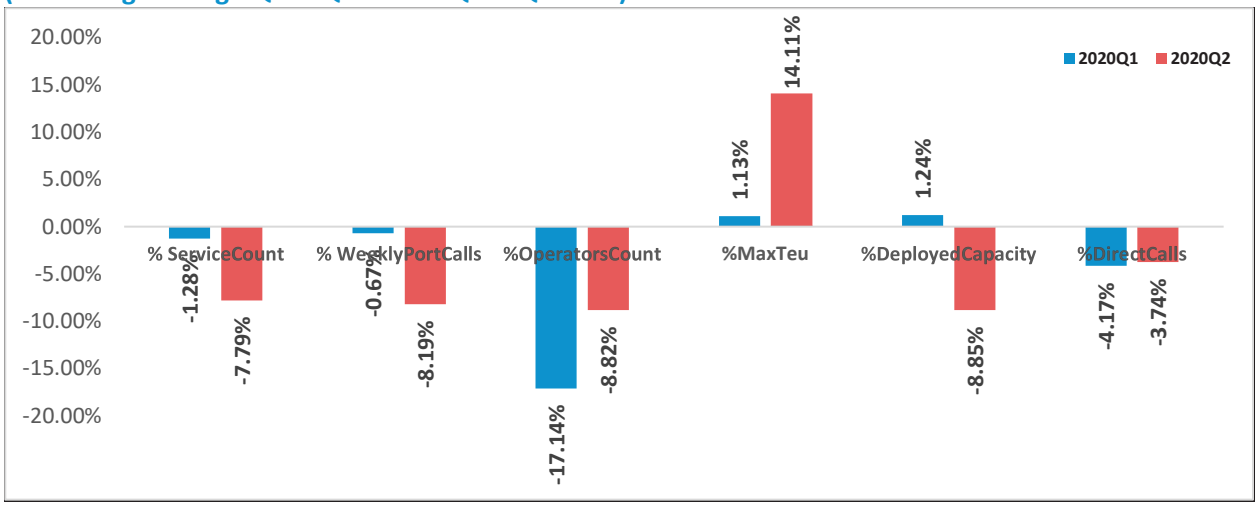


Figure 25. Liner shipping connectivity of Bremerhaven port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

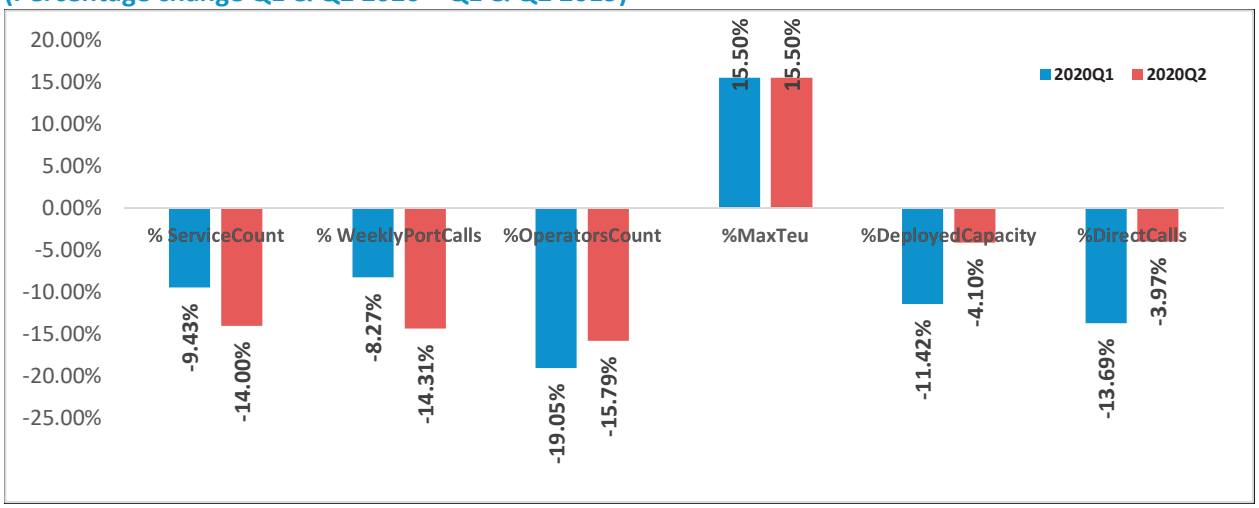


Figure 26. Liner shipping connectivity of the port of Piraeus (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

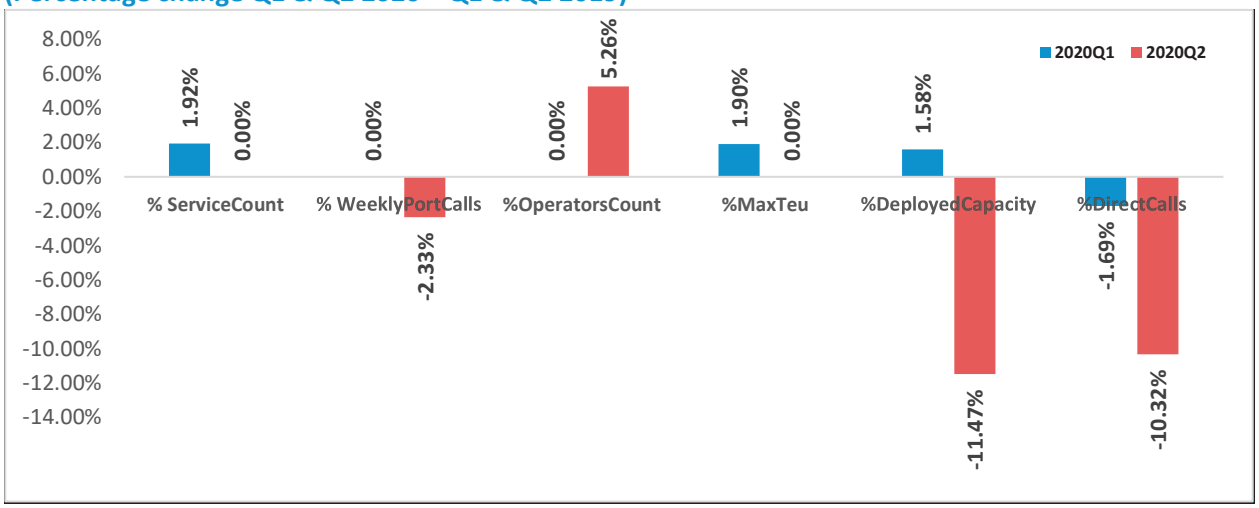


Figure 27. Liner shipping connectivity of Felixstowe port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

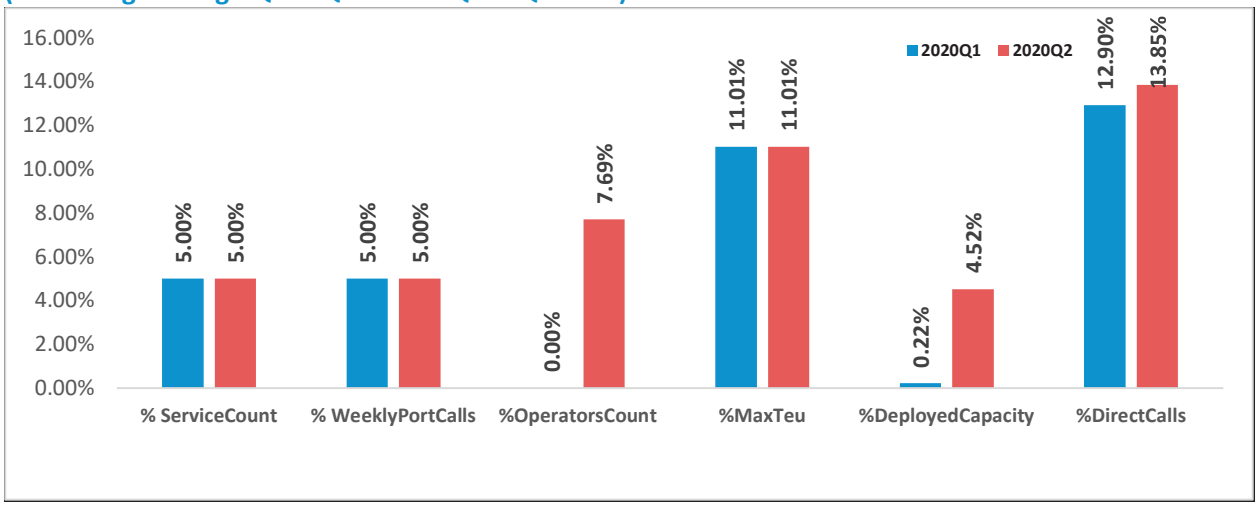


Figure 28. Liner shipping connectivity of the port of Marsaxlokk (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

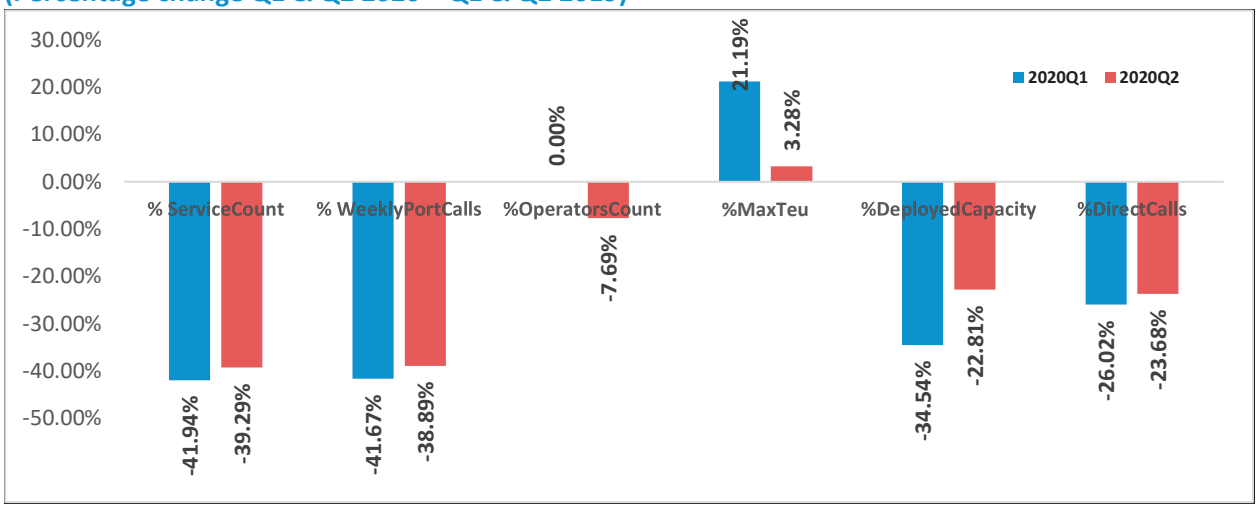


Figure 29. Liner shipping connectivity of Colon port (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

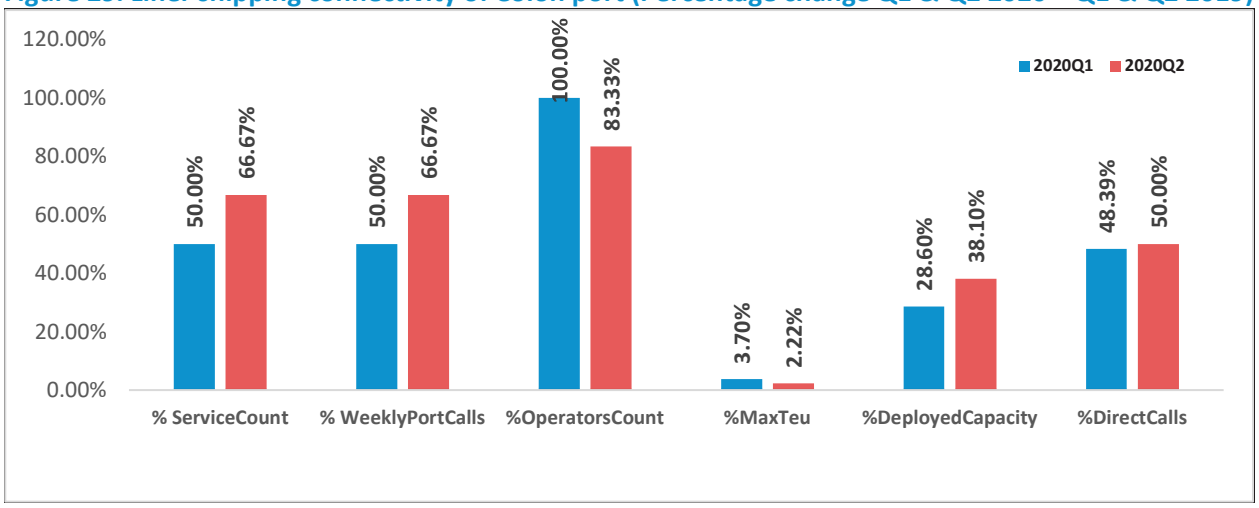


Figure 30. Liner shipping connectivity in the port of Santos (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

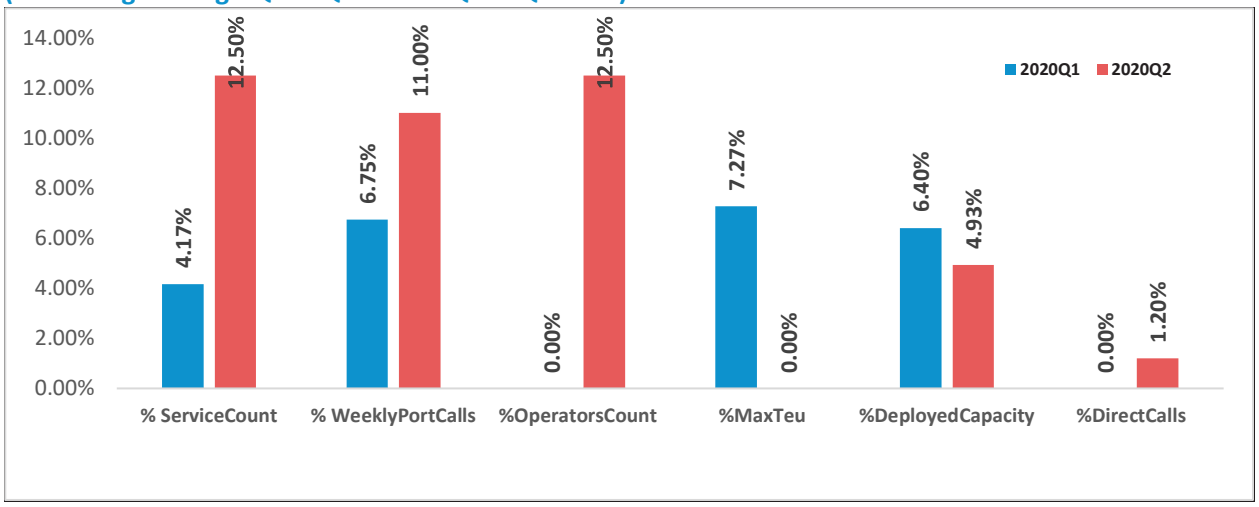


Figure 31. Liner shipping connectivity of the port of Los Angeles (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

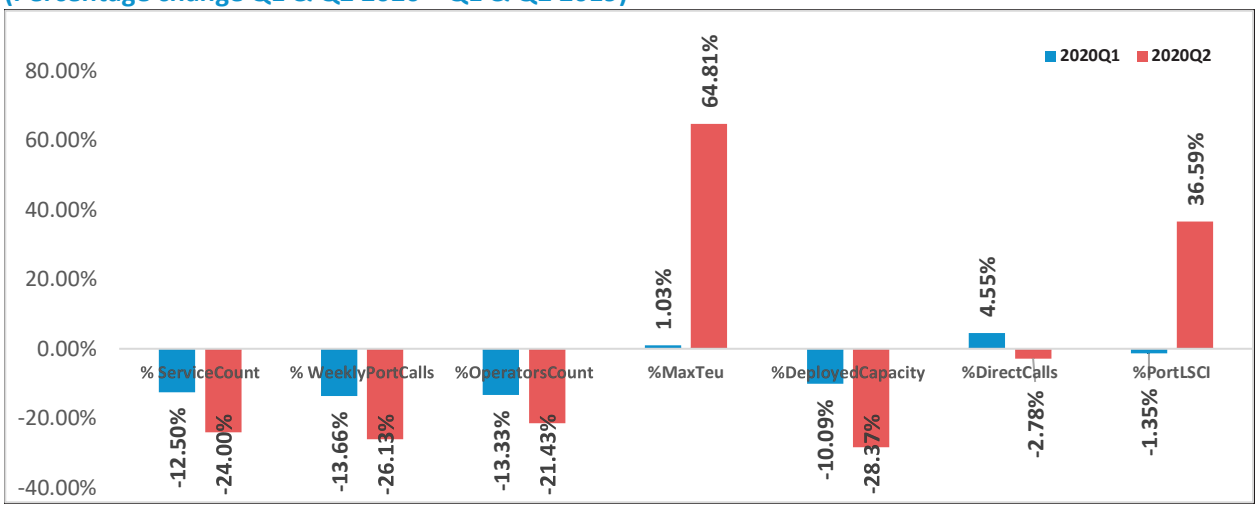


Figure 32. Liner shipping connectivity of the port of Long Beach (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

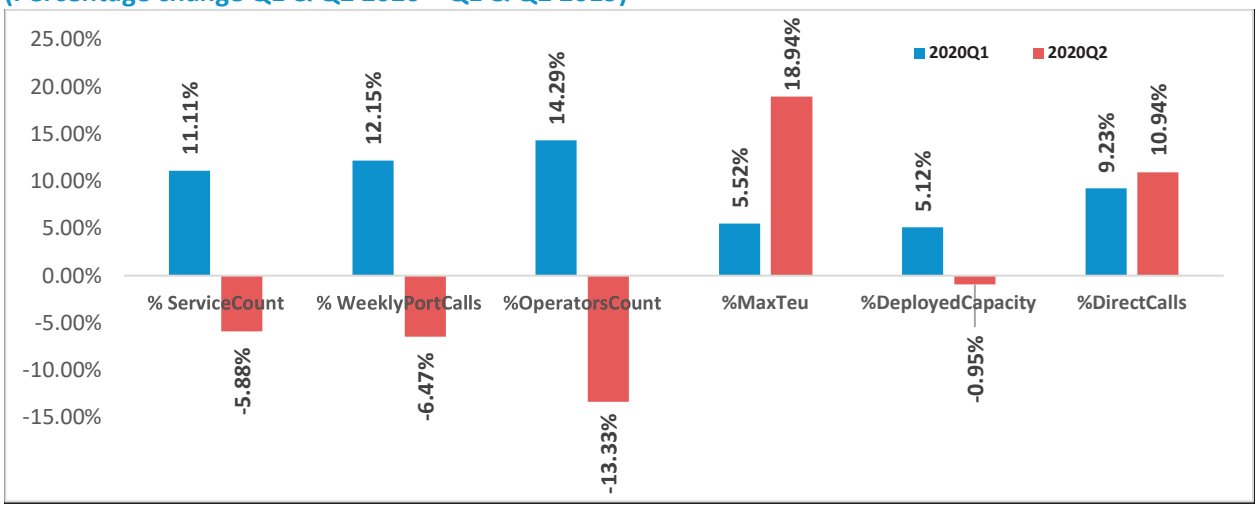


Figure 33. Liner shipping connectivity of the port of New York and New Jersey (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

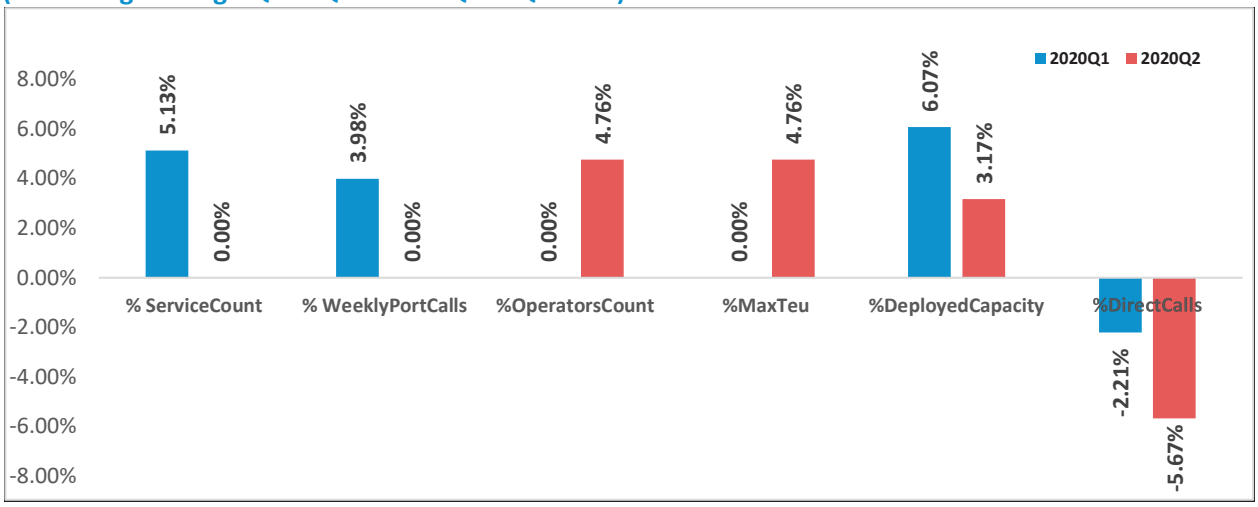


Figure 34. Liner shipping connectivity of the port of Melbourne (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)

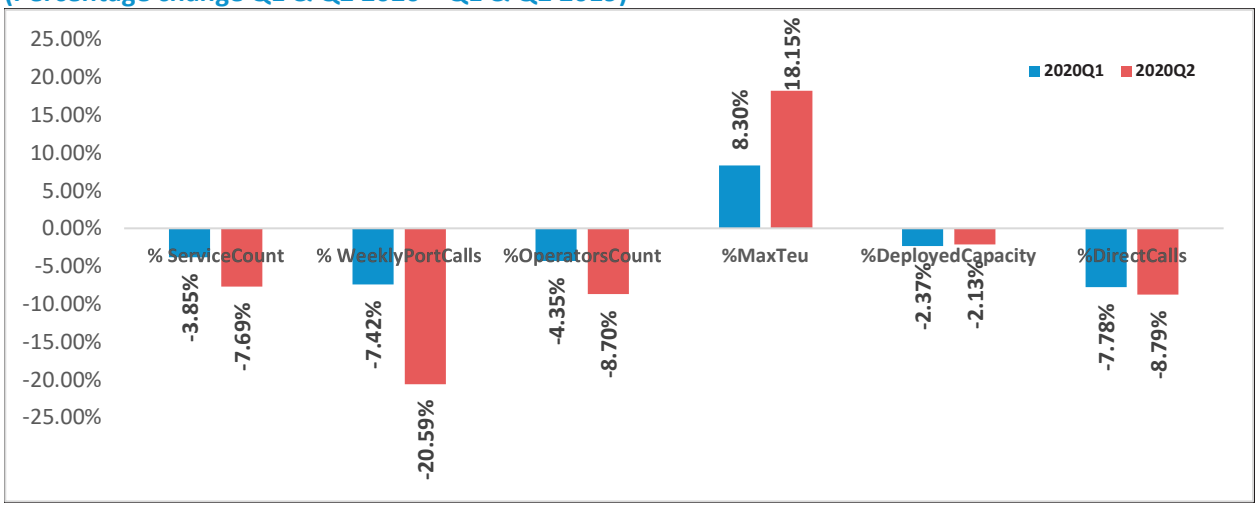
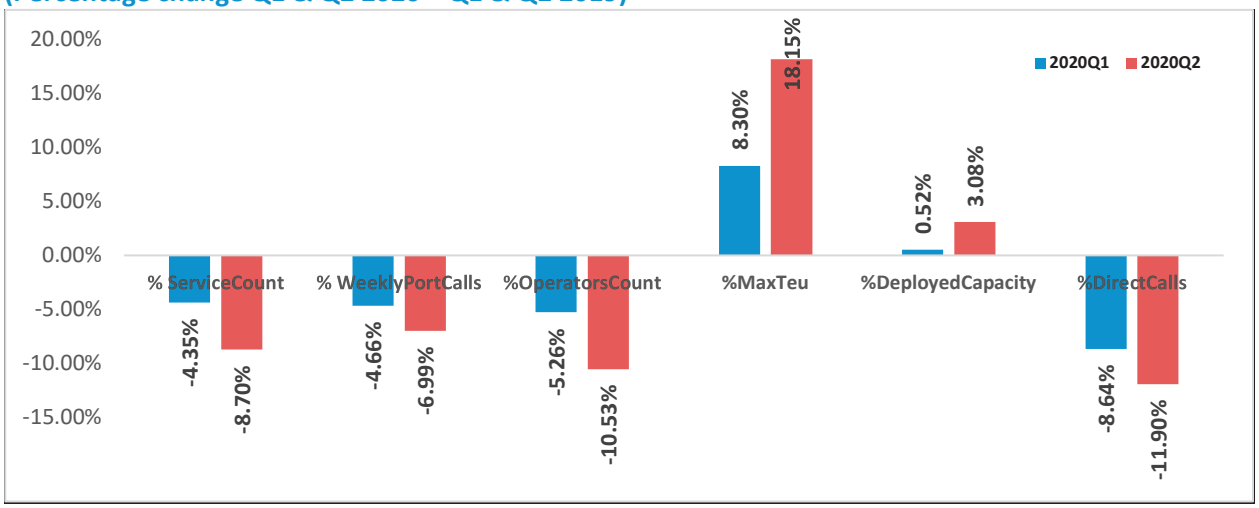


Figure 35. Liner shipping connectivity of the port of Sydney (Percentage change Q1 & Q2 2020 – Q1 & Q2 2019)



Source: UNCTAD, based on data sourced from MDS Transmodal (*www.mdst.co.uk*).

Chapter 3

RESPONSE MEASURES ACROSS THE MARITIME SUPPLY CHAIN

This chapter considers the responses and adjustments introduced by ports and other relevant stakeholders along the maritime supply chain to mitigate the pandemic's risks and alleviate its impacts while protecting workers and ensuring business continuity. An improved understanding of how key players in the maritime supply chain coped with the COVID-19 disruption is key to gaining insight into their level of preparedness and resilience to shocks and disruptions. Lessons learned from the COVID-19 crisis will help inform the future-proofing ports and the maritime supply chain. They will support relevant policy and decision-making processes that seek to enhance risk management and resilience building in the maritime supply chain.

Building on extensive published information and input received directly from relevant stakeholders, including ports and shipping companies, this chapter highlights some of the main challenges faced by the sector since the onset of COVID-19 and identifies key measures adopted in response to these challenges.

3.1 PORTS

Since the early days of the COVID-19 crisis, ports' resilience and ability to continue to move cargo is determined by their ability to provide both safe and swift cargo handling and nautical services (e.g., loading and unloading, storage and handling of cargo, patrol and emergency response ships, towing services, pilots, lashers, etc.). Keeping ports operational amid the COVID-19 outbreak, widespread lockdowns and proliferating restrictions on movement and travel, required ports worldwide to act quickly. Action focused on containing the outbreak, safeguarding the health and safety of the port community, as well as maintaining port operations and business continuity. Ports adjusted their operations and altered their governance and communication practices. They intensified collaboration with users and stakeholders including to ensure a coordinated response.[19]

3.1.1 Ports' operational adjustments

Port services were "essential services". Therefore, companies could continue operations despite the shutdown of national economies. Their personnel were also considered essential workers, allowing them to participate in daily port operations. Although allowed to remain fully operational, measures taken by ports have, nevertheless, slightly undermined productivity levels during the first weeks until the procedures and protocols became the "new normal".

A first operational adjustment has been the prioritization of the "essential port activities" to preserve freight transport and logistics chain and ensure the delivery of goods that were necessary to contain the pandemic. "Fast lanes" for medical cargo and foodstuff and for other types of essential services (oil production, fuel handling, etc.) have been established. These rapid lanes give priority to ships in the line-up, ensure the availability of pilots and tugboats together with cargo handling services and trucks.

In addition, these lanes provide for fast-track authorizations to trucks leaving the port (or heading to the port) to deliver goods. These special procedures have also been extended to other types of cargo such as

[19] Beyond the extensive published information, the section on the adjustments introduced by ports has benefited from information contained in documents produced by ports mentioned as examples, as well as the insights generated by discussions and documents produced by the COVID-19 Task Force of the IAPH. Particularly helpful have been the details reported in (a) the various issues of the report by Notteboom T. and Pallis A.A. (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer, and (b) IAPH (2020). WPSP COVID-19 Guidance document for Ports. Information on measures introduced by shipping lines draws upon different industry sources, including the contributions received from selected industry stakeholders with a view to the UNCTAD Review of Maritime Transport 2020.

the “non-essential consumer goods”. Applied throughout the entire port logistics chain the use of “fast lanes” has been particularly effective.

To ensure that cargo operations are not disrupted while, at the same time, minimizing contagion risks, some ports have ceased to handle non-essential services. Instead, they prioritized and guaranteed the continuity of core port activities such as maritime access, docking, and cargo operations. In some cases, port operations were made more flexible. For example, bunkering services were provided in anchoring areas to minimize the need for docking.

Port operations were also adjusted to enable implementation of the required social distancing and sanitary protocols, such as the use of facemasks. Several port terminal operators reorganized their work to allow for longer shift changeover times due to both social distancing and need for cleaning equipment and operational vehicles (ship-to-shore cranes, vans, side and front loaders) used by workers before each shift change. While the organization of operational teams varies according to port size and type of cargo handled, most ports have been operating with a rotation system after forming teams that do not physically interact. These teams generally alternate on a weekly basis. In some larger port and/or terminal organizations, the number of people working in shifts of two teams has been reduced and a standby third team was created. Some ports, however, have not made changes to their operational workforce. They have limited their measures to implementing protocols to protect their workers.

For example, Antwerp, minimized the number of staff on shifts, including by establishing an additional standby team of workers. Similarly, Hamburg reduced the number of shifts by introducing a standby team. Marseilles reduced crews in traffic towers, even though the consequence was to limit its capacity to a maximum of three simultaneous ship maneuvers in the port. Busan formed a replacement workforce, consisting of retirees, among others. Gothenburg introduced work rotation schemes to reduce the spread of the infection, with individuals working completely separately. This ensured that vital expertise was always available and that the freight hub remained open and operational. At the other end of the spectrum, the port of Houston in the United States continued operations, logistics services and maintenance works following a “business as usual” approach. On the nautical side, some ports experienced an increased number of ships at anchorage (e.g., containerized trade) or limited storage capacity ashore (e.g., tanker trade). In response, ports reconsidered their planning to optimize the use of existing anchorage areas and actively looked at options for extra temporary anchorage space to accommodate growth in demand.[20]

Overall, disruptions caused by the COVID-19 pandemic did not result in significant extra delays. Ports that had adjusted their operations have recorded only minor delays (i.e., up to six hours). Even as operations eased back into the ‘new normal’ in various parts of the world since the second quarter of 2020, the operational and working adjustments did not produce major delays. Some limited delays were inevitable. These include for example, delays associated with the loading and unloading of non-accompanied trailers on cargo Ro/Ro ships, as well as cars on car carriers due to workforce distancing measures. Reporting ports have also noted that the use of technology intensified as a means of addressing some of the new challenges. For example, new web and mobile phone-based release booking systems have been adopted in major container terminals.

As a result, most ports managed to avoid significant impacts on cargo operations. The reduced number of ship calls across all types of maritime trades and lower cargo flows (see chapter 1 and 2 above) have also helped to prevent major disruptions to cargo operations. However, fewer container ship calls by bigger vessels carrying more cargoes (un)loaded at ports has put pressure on port authorities, terminals and dock workers to increase productivity in order to send a message to shippers and carriers that they are “big-ship ready” and can thus continue to service increasingly bigger container vessels.

Extra yard space, availability of terminal (i.e., ship-to-shore cranes) and yard equipment, coordination of labor as well as coordination of gate operations with truck and rail operations become a larger challenge for terminal operators as the container exchanges become bigger.

[20] See footnote 19 above.

Meanwhile however, restrictions affecting inland transportation have created some challenges to cross border crossings. For example, in some African countries, time taken to pick up cargo after customs release, increased in 2020, compared to the same period in 2019. Trucks took longer times to return to their departure points due to the restrictions imposed to contain the pandemic. As to the number of rail services, they declined in line with lower demand.[21] Hinterland transport (e.g., inland shipping, rail and road transport) and distribution/warehousing had to remain operational to avoid congestion in ports and/or at their entrance area as well as creating barriers that would disrupt operations and potentially lead to market shortages. In some countries, commercial services were restricted, and only core services required for the transportation of essential goods could continue. The situation has been different and worse for passenger ports, as most passenger ship operations and almost all cruise ship activities were interrupted.

3.1.2 Governance and emergency response strategies: Intensified collaboration and coordination

Collaboration and coordination intensified during the pandemic. Ports started organizing strategic dialogues with public authorities aiming to establish collectively the basis for response measures. This was particularly important as many of the governmental emergency measures needed to be implemented within a short period of time, even being in place within a day.

Some of the biggest ports benefited from the previously established emergency control plans. Others had to develop new contingency plans in response to the crisis. Several ports established crisis committees to monitor developments and propose mitigation guidelines. Others have been reportedly able to develop more elaborate structures, including thematic subcommittees, such as financial and social responsibility committees. Several ports were interacting institutionally and regionally while focusing on strategic dialogues with government and other stakeholders through professional sector associations.

The level of engagement of stakeholders and actions varied. In the Republic of Korea, the port of Busan launched a COVID-19 Special Response Team responsible for the provision of round-the-clock emergency hotline for staff and customers; the monitoring for new COVID-19 cases, and the tracking and analysis of health reports by maritime labor staff. In Europe, the port of Gothenburg developed a regular dialogue with the different port operators and stakeholders with the mutual goal to keep the port operating. In Amsterdam, daily consultations with the terminals were held in the port area to discuss the impact of applied measures and the current state of play. In Antwerp, the dialogue developed via daily meetings (calls) with local community. In North America, the port of Houston established communications with terminals and employees.

Ports adjusted their communication strategies as part of their crisis management plans. Various ports provided communications to clients, terminals, government agencies and the port community on the status of the operations, the implemented responses, the contingency measures and the safety procedures for employees and port community members. They also devoted attention to communication and dialogue with other stakeholders. Managing the risk perception, by way of clear and transparent communications has been key to preserving reputation, avoiding tensions and undesired situations and, hence, ensuring business continuity.

The Communication Strategy by the Port of Rotterdam provide a good example.[22] The port issued a communication to ensure that despite the far-reaching social impact of the pandemic, the port remained operational and cargo handling continued unabated. This required the Harbor Master Division to monitor safety and public order on the water 24/7. The Port Authority informed that it was carefully complying with the recommendations of national authorities in the field of health and safety and had taken steps to safeguard the continuity of business operations. The key message was that every effort will be made to avoid disrupting the cargo handling process in a broader sense (i.e., shipping handling and directly related

[21] See footnote 19 above.
[22] Port of Rotterdam (2020). Corona virus at port of Rotterdam. March.

port processes; and the associated hinterland transport processes and warehousing). In addition, it indicated that efforts were also being made to advise clients and keep them and other stakeholders informed about relevant developments.

Mombasa port in Kenya provides another example. The port is a gateway to East and Central Africa and connects goods to consumers through the Northern Corridor. It is a member of the Northern Corridor and the East Africa Community (EAC) and includes road networks, railways, inland waterways, linked to a vast hinterland comprising Uganda, Burundi, Eastern Democratic Republic of Congo, Northern Tanzania, South Sudan, Somalia and, Ethiopia. To address the numerous challenges resulting from the pandemic and affecting trade and transport logistics in the region, the Northern Corridor and the EAC Secretariat initiated an online platform for key stakeholders to meet and discuss issues related to the Corridor and Trade Facilitation. The meetings bring together stakeholders from all the Northern Corridor Member States with an aim of sharing experiences and exchange views about challenges and opportunities arising with the pandemic. The platform also provides real-time updates on what is happening in each of the Member States, especially at each transit or transport node along the Corridor.[23]

3.1.3 Measures to support business profitability and financial returns

Business in ports has been impacted like in all sectors of the economy. As noted in preceding chapters, the downward trend in the projected world GDP growth, and the COVID-19 induced lockdowns and/or restricted function of most economies have been associated with reduced maritime trade, disrupted cargo flows, reduced number of ship calls, and falling connectivity levels. While ports look for opportunities to recover volumes handled before the pandemic, they also look to attract new cargo flows and for tools to mitigate the financial consequences of the pandemic.

Some ports and other stakeholders in the supply chain have mapped out the potential financial impact of the disruptions caused by the pandemic and modeled scenarios relating to the ports' exposure to the impact of changing cargo volumes and revenues. Several ports have referred to financial difficulties faced. Most ports have experienced slight declines in revenues and a rather manageable disruption in operations.[24]

The situation has been more demanding for the fully privatized profit-oriented ports. British ports for example, have prioritized concerns relating to borrowings and banking covenants. The exceptional circumstances generated by the crisis mean that banking covenants become restrictive or difficult to meet. This has implications for some ports' ability to access capital and invest to meet their customers' existing and future needs. Those that had planned similar investments may eventually need them to be deferred or even cancelled, as lenders want to protect their investments and might be reluctant to show flexibility on covenants or allow ports to take on additional 'recovery' loans despite their capital assets being fixed. Data collected by the British Ports Association (BPA)[25] showed that 55 per cent of the United Kingdom's ports were not satisfied with the existing public mechanisms and funding made available to British enterprises to address the challenges caused by the pandemic and called for Government COVID-19 debt underwriting schemes.

For other ports, financial stability has been achieved through inter alia, the following practices:

- Defer or suspend investment CAPEX savings and non-regret suspension.
- Place new contracting on-hold.
- Reconsider and adapt discretionary spending (e.g., marketing, advertising).
- Negotiate extending payment terms with suppliers to reserve cash.

[23] Northern Corridor and the East Africa Community (2020). The Northern Digest Corridor. No 4. June.

[24] In general, the financial risk probability and the level of impact is typically based on the classical three scenarios: Level 1 – Minimum Impact: with (i) changes in cargo flows or port calls, (ii) slight decline in revenues; and (iii) manageable disruption in operations; Level 2- Severe Impact: (i) shut down of terminals and operations; (ii) land-lease revenue impact; (iii) cargo handling revenue impact; (iv) severe impact to pro t and loss with probable multi-year effect; (v) operational disruptions beyond controlled environment; and Level 3– Liquidity Crisis: (i) severe descent in revenue levels; (ii) future feasibility of business case impacted.

[25] British Ports Association (2020). UK Ports: Coronavirus Economic Recovery Plan 2020 and Beyond. London.

- Evaluate cost position and create a mid to long-term term blueprint of cost saving opportunities (optimize general and administrative costs, run procurement savings programs, implement zero-based budget, etc.)

As regards port charges, several revenue-generating stakeholders have requested a revision of payments on port dues, concession fees etc. Ports' responses to these requests varied as local legislation (e.g., state aid rules) may apply. The response also depends on commercial relations and the governance model of the port. The impact of the COVID-19 pandemic varied by region and governmental aid and/or support programs available.

A notable example is the Port Authority of Valencia (PAV) that facilitated urgent and compensatory measures to contribute to mitigate the negative effects of the crisis on its users and providers. Specifically, the PAV has streamlined payments to 250 supplier companies to provide liquidity to companies working for the port. The objective of this initiative has been to make weekly payments that minimize the treasury difficulties that the port providers may have. This measure, which was implemented as early as March 19, has forced the PAV to establish internal mechanisms to process invoices as quickly as possible. Likewise, the PAV planned to advance 2019 pending rebates to its clients and implemented the reduction in rates affecting port dues, concession fees, minimum activity rates and penalties affecting traffic thresholds.[26]

Ports also tried to address the challenges imposed by the COVID-19 disruption on their tenants. An example is the Hamburg Port Authority (HPA), which proceeded with the deferral of rents and charges for port operations. Subject to an informal written application to the HPA,[27] all tenants in the port were able to apply for an interest-free deferral of building and property rents for April, May and June. Furthermore, sea and inland shipping companies together with port barge operators were able to apply for a similar deferral of payment of port fees. A third measure was to provide discounts on the mooring fees to relieve the burden on particularly environmentally friendly ships to some extent. The decisive factor was the so-called Tier level of the ships, an international classification of air emissions.[28]

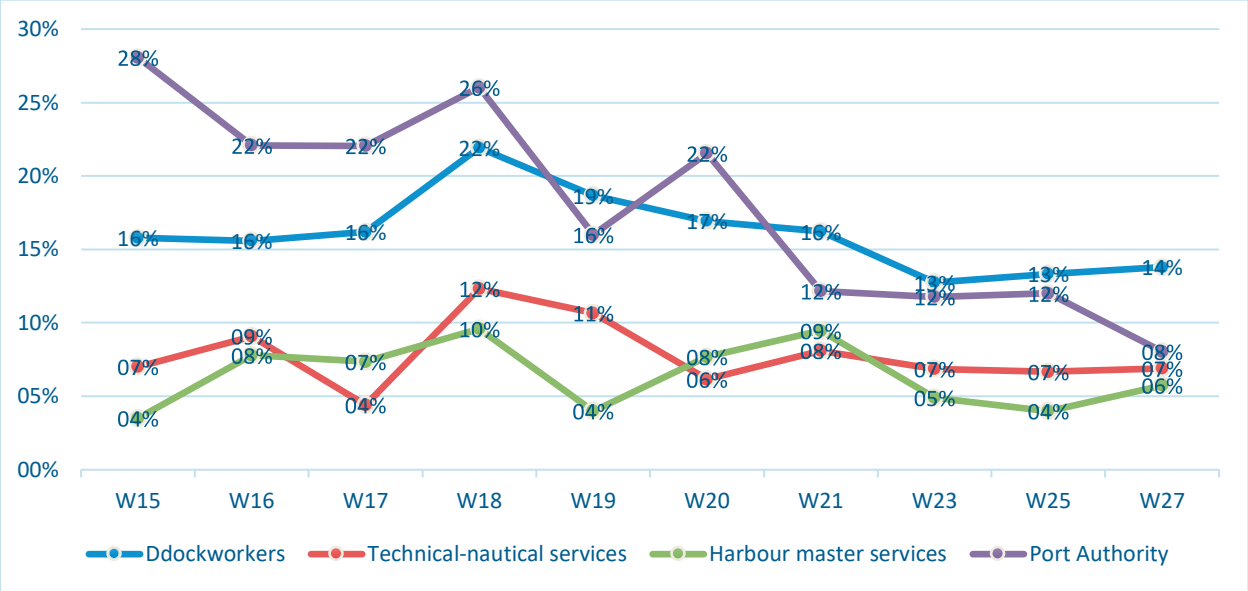
3.1.4 Adjusting working conditions at ports

Adjustments to working conditions were introduced across ports, terminals, depots, warehouses, trucking, rail and barge activities, which continued their operations during the crisis as permitted by governmental rules.

By early March 2020, ports introduced adjustments that helped mitigate several risks. Shortage of personnel (both dock workers and administration) was limited and the progressive return to work has taken/is taking place without major disruptions reported (**Figure 36**). Beyond the adjustment of working practices, crisis management involved another group of decisions regarding personnel. Hiring plans were frozen; non-critical training activities were cancelled. Rotation or part time working programs whenever temporary unemployment and/or leave receiving social wage support was allowed by national or local labor laws. Whether these are short-term reactions to the crisis, or practices that will remain in place for longer periods is worth monitoring. Port authority staff was also relocated to departments critically involved in the execution of the COVID-19 mitigation measures.

[26] Port of Valencia (2020). Valenciaport pays 3.6 million in two weeks and provides liquidity to supplier companies. Press Release. 9 April.
[27] Port of Hamburg (2020). Coronavirus Port of Hamburg: Deferral of rents and charges for port operations.
[28] For additional information see http://www.imo.org.

Figure 36. Proportion of ports reporting a shortage of port-related workers, Weeks 15-27, 2020



Source: Notteboom T. and Pallis A.A. (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer.

As regards the administrative personnel, several ports assigned home office to their entire relevant workforce while others adopted a case-by-case approach. Some limited this to "all non-essential people" while others opted for "working from home as much as possible". Another approach required "working for home for all vulnerable people such as employees over a certain age, pregnant employees, employees with small children, or underlying health issues are entitled to work from home following assessment by an in-house committee. The implementation of telecommuting has not been always easy as information technology and telecommunications infrastructure limitations posed challenges in some cases. The remote work authorization regime has its particularities and varies per port.

With parts of the labor force continuing to work on site, some have established a secondary office, relocating a small number of their employees to minimize disruption in case of a potential quarantine of the main office. The secondary office would take-on all major business roles. Ports have also proactively implemented special procedures for truck drivers, which included checking their body temperature, facilitating identification and access, and establishing social distancing guidelines.

Sanitary measures were strictly implemented by ports in line with the rules and recommendations established by national or local authorities. These rules and recommendations were considered when defining the internal and terminal operations protocols. Social distance, the utilization of personal protection equipment, the disinfection of all types of installations and the establishment of certain protocols for people interactions were some of the key measures.

Nearly all ports have prohibited domestic and international travel, institutional visits and face- to- face meetings, with only very special exceptions. Ports had to postpone or cancel all events, receptions and non-essential training courses. In countries such as France, travel and meeting restrictions were imposed by governmental authorities and/or quarantine days were put in place before the banning of flights. These restrictions have made travelling impossible.

Likewise, and regarding terminal operations, specific recommendations have been launched with implications for port services including pilots and dockers. These include keeping the safety distance in the working environment, disinfecting working spaces and surveillance of potential positives, and not letting the more vulnerable workers leave home. Pilots followed specific protocols regarding access to ships with specific requirements for when inside and on the ship deck. Dockers were encouraged to form "stable" gangs with the same members and to avoid mixing different group of dockers in different shifts.

3.2 INTERACTIONS BETWEEN SHIP AND SHORE-BASED PERSONNEL

Several ports have actively considered ways in which they could support users and other stakeholders to ensure business continuity and alleviate the pandemic's impact on the maritime supply chain. There were concerns over the interaction between seafarers and shore-based personnel during port calls due to the differences in regimes and procedures used to mitigate the risk of infection of crew members on board ships (set by flag States and shipping companies) and of shore-based workers (set by national and local authorities). Requirements and guidance can differ from country to country and company to company and these differences regarding what to apply to manage risks suggest that some parties were probably not following appropriate procedures, even though the procedures being followed may be those required by the responsible party.

In response, the IAPH and the International Chamber of Shipping (ICS) developed specific guidelines to ensure a safe shipboard interface between ship- and shore-based personnel.[29] The port of Houston for example, developed similar guidelines for all operations employed by the Houston Ship Channel Area. Special care provisions were applied in the interactions between stevedores and dockers, or any labor that interacts directly with the crew. In Germany, the port of Hamburg prepared quarantine zones to restrain possible infected crew and/or passengers. In France, the port of Marseilles put in place several organizational measures including limited access to terminal, closure of access for pedestrians and special garbage cans for professional pick-up of used masks and gloves together with a dedicated area for destruction of this material. In Malaysia, Port Klang introduced a strict screening of port workers and crews on arriving ships. People from affected areas and those showing symptoms were either denied entry or referred to hospitals. In Canada, the port of Vancouver waived the requirement for the bunker supplier crew to board the client ship to complete bunker checklists.

Initially, only a small number of ports worldwide authorized the docking of cruise ships for humanitarian assistance. As protocols for such operations expanded, this practice has been extended to many ports in different geographical regions.

3.2.1 Treating (suspected) COVID-19 cases

The treatment of ships with suspected or actual contamination cases by ports and local authorities has been governed by decisions of health authorities in each region. Ports, ships, and crew had to comply with all the recommendations in the pandemic's protocols and preventive measures issued by the competent entities (i.e., federal, state, municipal, health authorities or otherwise). Measures varied but the additional restrictions or procedures seem to have had a limited impact on operations. In addition, some pro-active, voluntary actions have been identified, such as the designation of dedicated berths (when possible) for ships with suspected cases onboard and implementation of quarantine areas on land for treatment. There were limits adopted related to ship moves to avoid port entrance and exit of ships at the same time, stressing nautical services (pilots, mooring services, tugs). In some cases, there have also been restrictions on ship movements at night.

As with protocols for treating suspected COVID-19 cases, in the case of two ports in Europe and North America, ships' quarantine procedures were also applied to avoid having critical berths taken out of service due to quarantined ships. Ports applied advanced contingency plans that went into action with all ships following new protocols for clearance to enter the port. Reports of COVID-19 patients or suspected cases on board, activated responsive measures, such as patrol boats intercepted offshore to bring victims under sanitary control measures, ships were anchored outside ports for few days before authorization was given to call the port's wharfs from the sanitary and international health officers and the harbor master, etc.

The increase in the number of ships that face longer stay at anchorage implies some additional safety concerns to be addressed by ports and terminals. These include higher probability of exposure to extreme

[29] ICS and IAPH (2020). COVID-19 Related Guidelines for Ensuring a Safe Shipboard Interface between Ship and Shore-Based Personnel. 6 May.

weather conditions and associated grounding and collision risks. In response, ports had to formulate and proactively communicate their policies on the use of anchorage areas.

In many ports such as Rotterdam and Hamburg, all seagoing ships are required to submit a Maritime Declaration of Health (MDoH) before arriving at, or being piloted in, the port, and regardless of the situation on board. The MDoH stipulates that if a ship reports that a member of the crew or a passenger on board is ill and has been in a WHO-classified risk area, the port's quarantine plan is activated, and an infectious disease physician is contacted. In other cases, such as the port of Antwerp, crew members are not able to come onshore due to shipping lines advice. In other ports, including the port of Houston, actions, or precautions such as quarantine are imposed on a case-by-case basis.

3.2.2 Crew changes

Crew changes have been and continue to be a major challenge for maritime transport. In the early days of the pandemic, even carriers implemented preventive measures to reduce exposure to risks at ports and terminals. Example of measures include temporary suspension of crew changes and prohibiting crews from disembarking at port terminals. There was an understanding that in the short-term, restrictions had to remain largely in place as a response to the immediate public health emergency presented by COVID-19. In few cases, sanitary corridors were set up to allow the return of seafarers back to their countries of origin and conveniently supply new crew members to ships. Yet, with the crisis lasting more than few weeks, restrictions on crew changes became a major concern for the shipping community, for humanitarian, safety and employment-related reasons. Seafarers have been hard hit with many working long periods at sea due to the closure of borders and other restrictions on the movement of people.

From mid-May 2020 onwards, the situation triggered a global search for a coordinated strategy involving key stakeholders to ease restrictions and facilitate the changeover of ships' crews. While this is primarily an issue for governmental decisions and requires the participation of other relevant stakeholders such as nearby airports, shipping lines and ports, as well as other stakeholders in the maritime supply chain, have been engaged in discussions for providing local answers to crew changes whenever this is possible.

At the local level, several ports introduced some limited exceptions on crew bans, inter alia for humanitarian reasons. The IAPH-WPSP survey on the impact of the pandemic for Week 29 of 2020 reported that a limited number of crew changes had occurred mainly in European ports, where the economies have gradually eased out of lockdowns. In North America, crew changes remain at very low levels while in Central and South America the crew change situation remains very precarious.

The same report highlighted the importance of coordination to secure that crews board their ships or can be repatriated from any seaport in the world. The main problem arises from factors that are outside the control of the port. In many ports, port authorities and immigration offices allow crew changes, however there are no regular/commercial international flights for completing the operation. In one case the nearest international airport in operation was reported to be 1,600 km away with private car and bus hire to transfer crew, being the only means of transportation. In another, regulators do not allow international crew to travel on domestic flights unless 14-day isolation period has passed.

In some countries no crew change is allowed. There are also ports where the maritime sanitary authority has not established the protocol for crew change. In other countries there is a clear distinction between ships based on their flag with crew changes being prohibited in the case of foreign-flagged ships while nationally registered ships can change nationals onboard. These crew members might even travel further if they confirm their marine credentials and carry letters from employer at border controls. The reopening of borders is expected to have a decisive impact, providing the conditions for further crew changes to take place.

Despite efforts at the international level to address the crew changes problem, at the time of this writing, the issue remains a concern. The ICS, in coordination with the maritime industry, supported the International Organization (IMO) in the formulation of a 12-step framework of protocols on crew changes. These standards have been circulated to ports and other stakeholders as a recommendation for implementing such changes. In early July 2020, 13 countries (Denmark, France, Germany, Greece, Indonesia, Netherlands, Norway, the Philippines, Saudi Arabia, Singapore, the United Arab Emirates, the

United Kingdom and the United States) agreed to new international measures to open up foreign borders for seafarers and increase the number of commercial flights to expedite repatriation efforts. The list of measures includes addressing the bureaucratic challenges, facilitation of visa issuance, and quarantine and border crossing exceptions for seafarers.

3.2.3 Humanitarian actions

Under the framework of their corporate social responsibility activities, ports have continued to support ongoing projects and further develop initiatives tackling current COVID-19 related challenges. Port practices include the direct purchasing, distribution and donation of medical supplies and cleaning products for use by the port community and for donating to health agencies and local authorities. For some ports, this is combined with establishing partnerships with port community stakeholders to financially support medical research and maintenance of medical equipment for COVID-19 treatment (e.g., maintenance/repair of mechanical respirators) and providing hygienic kits to port workers and port commercial visitors (e.g., truck drivers).

3.3 SHIPPING OPERATIONS

Despite the difficult operating conditions triggered by COVID-19, shipping lines have ensured the continuity of maritime trade flows, especially the essential goods such as food, critical agricultural products, raw materials, medical equipment and other vital supplies. For carriers, this success reflects to a certain extent, their capacity to act quickly.

At the height of the pandemic, shipping proved particularly useful beyond its traditional role of a trade facilitator. During the first half of 2020 when truck and rail movements were restricted, shipping lines had to work with shippers to use short-sea shipping networks as a reliable alternative to road transport. This helped to avoid new land-border blockages created by government actions to limit the movement of people.

3.3.1 Capacity management

The revision of capacity management plans and changes to shipping schedules have been a key feature of adjustments introduced by shipping lines. Consolidated carriers have managed capacity via blank sailings in a different way than in the past, when competition between 20 or more global carriers vying for business have operated all their capacity and drove rates down. In 2020, when cargo volumes depressed, the three East-West trade carrier alliances, namely, 2M (Maersk, MSC), THE Alliance (Hapag-Lloyd, ONE, Yang Ming), and the Ocean Alliance (CMA CGM/APL, COSCO/OOCL, Evergreen), introduced blank sailings and tailored container shipping capacity to match lower demand levels.

Capacity management, along with digitalization (e.g., advanced information exchange), and ship stowage planning procedures (i.e., software that enables the checking of loadable weight, stability etc.) have been leveraged to maximize ship utilization. Alliances reported increased loading of ULCS, adding more pressure on ports and the maritime supply chain and requiring operational upgrades. For example, in early July 2020, ONE (Ocean Network Express) recorded its highest loading of a 20,000 TEU class ship while utilizing 97 per cent of the containership MOL Tribute's 20,100 TEU capacity.[30] Further adjustments such as finding new storage and cargo forwarding solutions were crucial in keeping maritime trade flowing. This was important given the over utilization of existing facilities and the need for new storage and warehousing capacity.

In addition to blank sailing and the suspension of service, shipping lines had to innovate with new service and storage solutions to minimize booking cancelations by shippers. An example is MSC which introduced a Suspension of Transit (SoT) container shipping program using some of the world's leading transshipment

[30] World Cargo News (2020). Record box load for ONE. 8 July.

hubs such as Bremerhaven, Busan, King Abdullah Port, Lomé, Port of Rodman PSA Panama International Terminal, and Tekirdağ Asyaport as advance yard storage to help shippers quickly move goods in anticipation of a demand recovery.[31] This provided flexibility and cost savings by enabling shippers to better control storage costs at the point of booking, while adapting the delivery date to their own needs. It has also helped to decrease congestion in ports of discharge and improve efficiency, as products were placed closer to distribution networks. At the same time, they also had to use solutions from the past. For example, re-introducing a service that had been discontinued but was perfectly suited in the new environment for a partial recovery in cargo volumes on a route.

3.3.2 Freight rates

Effective capacity management by liner shipping companies helped to prevent the collapse of freight rates. Contrary to the 2008-2009 financial crisis, freight rates remained strong as carriers observed a strict capacity management approach. In the short-term, the key question relates to the levels of freight rates during and after the recovery. It might be the case that alliances choose to maintain sailings at a time of increasing demand thereby increasing rates or add capacity to the market, thereby reducing rates. If the economic fallout accelerates and cargo demand sinks further, one or more of the alliances could break down and opt for market share over price. This implies more blank sailings and more problems for the shippers of containerized cargo.

3.3.3 A regional SIDS case-study: Shipping in Pacific Island Countries

The pandemic's impact on the Pacific SIDS will probably be long lasting and critical. While the disruption caused by the pandemic showcased the resilience of these island countries, it also exposed their heavy reliance on shipping as the main mode of transport.

Lockdowns in the Pacific SIDS resulted in ships being diverted from some countries as well as in blank sailings and a reduction in cargo throughput. Within a short period of time, the World Food Programme (WFP) and other United Nations bodies activated a COVID-19 response team to collect data on the pandemic's implications for shipping and to share information,[32] with the region's stakeholders on advice from the International Labour Organization (ILO), IMO, the ICS, and others. Plans and systems were put in place and teams of government officials trained and briefed. Shipping issues were no longer predominantly resulting from quarantine restrictions and uncertainty, but from the massive reductions in demand with the shutdown of the international tourism industry and the lack of goods exported to SIDS from key supply hubs.

Once the first case of the COVID-19 was recorded in Lautoka, Fiji, the international port was closed (19 March 2020) and all ships diverted.[33] The Cook Islands government reacted by subsidizing inter-island shipping to the northern islands to ensure essential cargo is delivered. Others such as Marshall Islands have had no impact on inter-island shipping.

Restrictions affected the sector. Some delays have been experienced in Solomon Islands and Marshall Islands where quarantine regulations caused delays to shipping services. In most Pacific SIDS cargo vessels and tankers were considered as essential services and permitted to maintain their schedules while observing strict quarantine conditions.[34] Whilst there has been a significant drop in throughput through international Pacific ports, there have been only few reported instances of food shortages, mostly from atoll States. Import and export volumes have dropped, but a similar reduction was observed in the demand,

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[31] Mediterranean Shipping Company (2020). Suspension of Transit. https://www.msc.com/che/our-services/sot.

[32] The World Food Programme Logistics Cluster publish a weekly update on the international shipping situation in the Pacific SIDS identifying national quarantine requirements, ship schedules, issues, sources of information for further advice, etc. https://logcluster.org/ops/pacific.

[33] Singh Indra (2020). PM announces major restrictions including closure of some services due to COVID-19. Fiji Broadcasting Corporation. 19 March.

[34] World Food Programme (2020). Logistics Cluster Shipping Operations. 13 May. https://logcluster.org/sites/default/files/pacific_logistics_cluster_shipping_operations_update_200513.pdf.

for imported goods. The New Zealand feeder service to Fiji has been reduced from four to three sailings a month. There have also been blank sailings across the region. Some lines are omitting Micronesian ports or only servicing them less frequently. Meanwhile, there have been various surcharges and increases to shipping costs imposed by carriers (**Table 56**). These have increased the costs of international shipping to the customer despite the significantly lower fuel prices. Other impacts of the pandemic include a shortage in equipment and spares, with a 20' TEU no longer being unloaded in Federated States of Micronesia, Tuvalu, Kiribati or Marshall Islands.

Table 56. Surcharges and increases in the Pacific SIDS shipping costs

Shipping line	Additional charges	Application
Australian National Line	US$300 (20'FCL), $600 (40'FCL) and $15/m^3 (break-bulk).	Temporary surcharge to cover quarantine requirements in the Solomon Islands (resulting in ships spending four days awaiting clearance for a two-day voyage).
Neptune Pacific Line	US$ 349/TEU, US$ 25/revenue (break-bulk).	Temporary quarantine surcharge for Pacific ports.
	US$ 100/TEU.	Freight cost increase on shipments from Australia and NZ to Fiji from 3 and 5 July 2020.
Pacific Direct Line	US$ 100/TEU.	Rate restoration charge on shipments from Asia to all Pacific ports from 15 July 2020.
Swire Shipping	US$ 150 (20'FCL), $300 (40'FCL) and $8.50/revenue ton (break-bulk).	Rate restoration charge on shipments to Fiji.
	US$ 163-285 (20'FCL), $326-570 (40'FCL) and $10-16.75/m^3 (break-bulk).	Additional quarantine surcharge applied to ships calling at Honiara.

Source: World Food Programme (2020). Logistics Cluster Shipping Operations.10 and 18 June Update.

3.3.4 Further operational (working) adjustments by shipping lines

As soon as reports of the outbreak emerged in January 2020, shipping companies had to immediately implement health-protection measures across their ships, infrastructure, and offices, in line with the official guidance from the WHO and in compliance with recommendations by national authorities. Among the necessary measures introduced in some countries at the height of the crisis, is the requirement for ships to be equipped with protection equipment such as hand sanitizer, gloves and masks. New company policies restricted crew from mingling with people on shore at ports.

Remote working from home became the dominant practice. Beginning with shipping lines offices in China in January 2020, this practice was implemented in other countries as the virus continued to spread worldwide. Shifting to remote working has been part of shipping lines business continuity processes. There has also been a global ban on business travel and the cancellation of visits to headquarters or local offices from colleagues, customers, and suppliers. Some did so as early as the end of January, following advice from local management in China, the country where the first cases of COVID-19 were reported. International meetings were conducted via videoconferencing channels.

Operational flexibility and implementing existing business continuity plans ensured that operations and customer service continued while people avoided travel and observed the confinement or social distancing rules. For the bigger shipping lines, their capacity to shift some functions to other offices and support centers in other regions via shared services, have been part of their existing plans established prior to the pandemic.

These response measures have been effective in maintaining services ashore and supporting ships at sea. For shipping lines, the more serious challenge has been to identify procedures that enable crew changes. The most severe impact on seafarers resulted from governmental restrictions banning crew changes in many ports around the world due to the limited capacity to provide effectively adjusted protocols, and despite the best intentions of ship operators to provide relief.

Meanwhile and as a record number of people have used technology and video conferencing to work remotely, some new challenges emerged. The massive use of technology by workers has triggered the need to upgrade skills and knowledge in respect of both online conferencing and the efficient use of online

workspaces. It also heightened awareness around the use of digital tools to be more resilient for any future business continuity shocks. Preserving the essential close contact and relationships with customers without the obvious component of face-to-face meetings was also a challenge. Shipping lines, like ports, had to adapt their operating procedures and regularly advise customers on how to manage change.

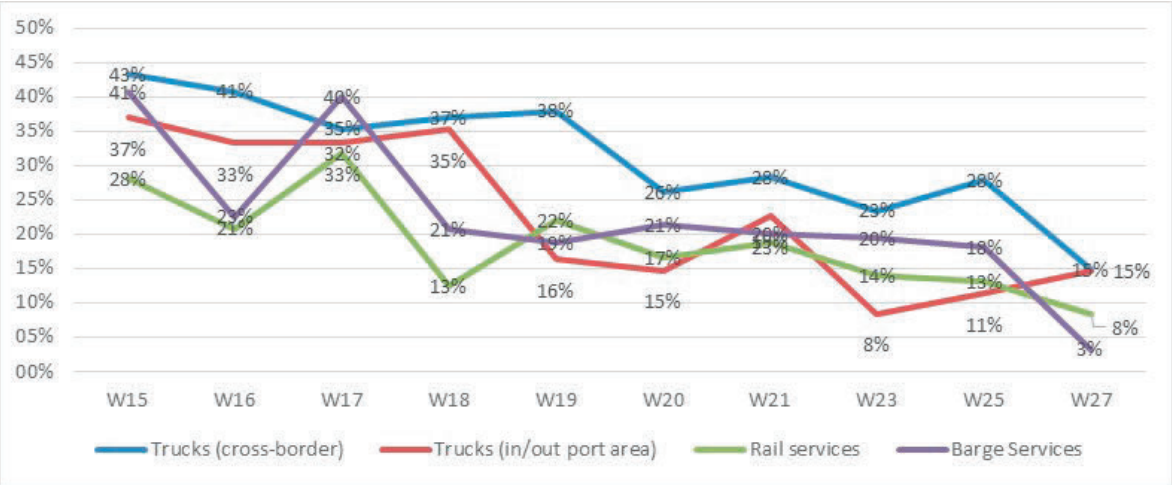
The COVID-19 crisis has made the case for greater investment in digital platforms and processes more compelling. Digitalization such as documentation and booking processes, e-business tools and equipment's' online connectivity, rose as a key solution to increasing the resilience of the maritime supply chain and securing business continuity during the crisis.

3.4 LANDSIDE OPERATIONS

Maintaining landside operations has been the most difficult task for stakeholders involved in the maritime supply chain. Long queues at borders highlighted the importance of reliable chains during crises. Ports experienced substantial problems as regards the availability of cross-border trucking services. They have also faced, although to a lesser extent, delays due to difficulties undermining trucks movements in and out of ports. When applicable, barge services were also disrupted in the first weeks of the pandemic, but they recovered by Week 20 of 2020. Meanwhile, reports by the IAPH port members suggest a less problematic situation in the case of rail services (**Figure 37**).

These difficulties did not affect maritime countries only. Land-locked and transit countries need to maintain their access to seaports. It was therefore important that transit countries and regional organizations continue to support transit transport and trade corridors and maintain customs transit regimes. As transit was impeded by increased health controls slowing down the flow of goods destined to land-locked countries, coordination was needed to ensure the use of special procedures and lanes for transit traffic. International organizations have a key role to play in this respect. UNCTAD, for example, already supports cooperation among transit countries and land-locked developing countries, through inter alia, the Empowerment Program for National Transit Coordinators and the Transport Corridor program.

Figure 37. Ports reporting hinterland transport delays compared to normal activity (Percentage of ports)



Source: Notteboom Theo and Pallis A. Athanasios (2020). IAPH-WPSP COVID-19 Port Economic Impact Barometer; various issues.

Restrictions to cross-border traffic have contributed to creating these difficulties. They have caused occasional obstacles, the exact effects of which are still difficult to be well understood. The restriction to enter neighboring countries, the need to quarantine the drivers for 14 days before the trip continues, and shortage of public health staff at borders, are among the administrative issues that led to such delays. Many hinterland trucking services have re-established a normal schedule following the reopening of many economies, albeit with strict enforcement of temperature screening, use of face masks, etc. All these measures are taking place in an environment of reduced trade volumes. Authorities at the federal and

state levels continue their efforts to align all relevant measures to avoid different procedures that can impact operations. Brazil, and the United States are two examples in the Americas where state level initiatives varied across states. Another example is Europe's efforts to detail 'green lanes' for fast transportation of essential goods at European rather than national level.

Interestingly, some positive developments were also reported. Of note is the improved programming by the port operators of loading and unloading operations involving trucks and rail cars amid reduced trade flows. While in other cases, trucks in and out of the port were allowed for essential goods only, trucks a have rapidly are reported to have adopted terminals' adjusted booking systems for a quick, coordinated release of containers. Meanwhile, rail services to and from ports were negatively impacted by the limited or lack of demand for international rail owing to the applied restrictions.

Adapting landside operations to better cope with the COVID-19 pandemic, has not been uniform or universal. In some cases, such as in the port of Mombasa many difficulties were faced.[35] Corridor performance indicators have deteriorated during the pandemic, with border crossing times being affected the most. Queues of trucks waiting for clearance at common border crossings were reported to have stretched to over 50 km by May 2020. Congestion was observed at various border crossings due to measures such as the COVID-19 disease testing of truck drivers. Transit time for example increased from an average of 3 days to 8 days for 648 km. These disruptions have led to delays, especially in the return of empty containers to the Port of Mombasa. These delays often attract retention charges by the shipping lines thereby adding to the cost of doing business. Consequently, the port of Mombasa joined forces with other stakeholders along the supply chain calling for harmonized regional guidelines and common response measures on cross-border transportation and health services. While these guidelines have yet to be issued, specific measures are already in place, including a regional COVID-19 surveillance system for trucks as well as extending free cargo storage period for transit import and export containers.

3.5 SUPPLY CHAINS

A survey measuring the effect of the pandemic on global supply chains[36] revealed that the implications were widespread. Some 59.2 per cent of shipping and freight professionals across the world have been significantly affected by the COVID-19 pandemic while 25 per cent were 'moderately affected'. Most of the shipping and freight experienced volume declines while more than half were hit with transit delays. Some 50 per cent were hit by delays from port to customers and 40 per cent had to address issues related to the lack of capacity. Operations were challenged by the inconsistent volume demand, but also financial factors that go well beyond increased costs such as late or non-payment from clients and cancelled credit lines from physical carriers. The results of the survey have established the need for adaptation. A total of 37 per cent of the respondents stated that they experienced a partial supply chain shut down with significant freight delays. Another 36 per cent had problems that delayed freight by a few days. Meanwhile, 9 per cent experienced a complete supply chain shut down and only 14 per cent stated that the supply chain was able to adapt with no problem. Half of these admitted, however, that they were not prepared at all.

As for the future, and irrespective of variations in expectations as regards the speed and levels of recovery, seven out of 10 professionals indicated that there was a need or a potential to change their shipping and supply chain strategy based on their experience with the COVID-19 experience. Supply chains seem to have been already adapting to the crisis with 92 per cent of the specific survey takers arguing that they experienced disruptions but that they managed to adjust in varying degrees. This has been a learning curve as no single country was effectively prepared to handle the impact of a pandemic on the entire supply chain. It has also been acknowledged that, while there has already been some evidence of flexibility built

[35] Northern Corridor Transit and Transport Coordination Authority (2020). The Northern Corridor Digest. Issue 4. June.

[36] Shipping and Freight Resource (2020). Survey on impact COVID-19 on supply chains. https://shippingandfreightresource.com/supply-chain-strategies-post-COVID-19-impact-survey.

into global supply chains and shipping operations, further change is needed as part of the post-pandemic recovery efforts post the pandemic. Respondents to the survey indicated that these changes referred to investments in technology (67 per cent), employees (33 per cent), assets (26 per cent), acquisitions (13 per cent) and other aspects (12 per cent).

3.6 DIGITALISATION

Digitalization has been crucial for the continuity of the maritime supply chain during the pandemic. Port Community Systems (PCS), Single Windows (SW) and other electronic exchange platforms, for example, have played a critical role during the COVID-19 crisis. Digital infrastructure has facilitated trade and cross border logistics by simplifying administrative and regulatory processes. It has been frequently reported during the crisis that those organizations managing such electronic platforms were able to easily transfer operations from office to home and still be able to provide quality services as trusted third parties. The crisis has made these electronic platforms more critical than ever. Stakeholders that are highly dependent on their digitalization expertise of the supply chain have underscored this importance.[37]

According to the Port Authority of Valencia, "Port Community Systems integration along the supply chain will be probably a trend to follow in order to foster resilience and innovation based on the 4.0 technologies a key element for competitiveness in a scarce traffic environment".[38] Bearing in mind these developments, the port decided to launch a new Strategic Plan to ensure preparedness in the face of the "new normal". The latter will entail more digital, innovative, responsible, carbon neutral and resilient ports.

Shipping lines' perspective does not differ as illustrated by the position of MSC.[39] The latter is of the view that "it is realistic to expect a slow recovery from the pandemic, considering the major hit that the global economy has taken but that technologies will play a crucial part".

As previously noted, the practice of working remotely was extensively applied, while videoconferencing and online meetings proved to be useful substitutes to face-to-face meetings. As resistance to change in working methods during the crisis was low, demands for additional support from the government and the digitalization of the maritime supply chain processes have been made. Paperless procedures were added to calls for other types of digitalization advancements, including cybersecurity and sharing of information. In line with the logistics sector, maritime transport is undergoing a technological transformation with high support for dematerialized processes and calls for "more online remote procedures to be included" and for "improvements in terms of transparency and flexible supply chains to allow change based on real-time events/impacts". There have also been calls for "better manpower management systems", "enhancement of IT capabilities", "integration of more digitized and paperless workflows", and "the introduction of automation". This transformation is likely to be multidimensional, including remote planning and managing both administrative and operational tasks.

An integral part of transport and logistics and, representing clusters of businesses in themselves, ports are well-placed to fully grasp the potential generated by technological innovation. Yet as stated by the IAPH, "*the COVID-19 crisis has painfully demonstrated the heterogeneous landscape that currently exists across ports worldwide*". Only 48 of the 174 IMO Member States have functioning Port Community Systems to date, systems that are considered the cornerstone of any 'smart' port.[40] Accelerating the digitalization process to avoid human physical interactions in trade logistics, has not always been possible. In many

[37] International Port Community Systems Association (2020). Considerations and Practicalities for Port Community Systems, Single Window and other electronic exchange platforms.
[38] See the contribution of the Port Authority of Valencia to the UNCTAD Review of Maritime Transport 2020.
[39] See the contribution of the Mediterranean Shipping Company (MSC) to the UNCTAD Review of Maritime Transport 2020.
[40] IAPH (2020). Accelerating Digitalisation of Maritime Trade and Logistics: A Call to Action. May.

emerging and developing countries, most of trade logistic processes and documentation are still paper-based and require massive, multi-stakeholder physical human intervention.[41]

Digitalization and a paperless maritime supply chain raise, some concerns, however. The stability of operations, the safety of crew and staff, the capabilities of information technology infrastructure and, not least, the potential human resource shortage due to the absence of skilled personnel, are some of these concerns. Remote data access means new codes of working and management practices of and between remote teams and a need for further system monitoring.

Apart from digitalization, future proofing the maritime supply chain requires reliable forecasts of trends and risks. The call has been made by service providers as well as cargo owners for "better forecast predictions" and the "creation of tools to anticipate disruptions". These will help improve transparency and ensure that actions and responses build on evidence-based assessments of events and impacts. Furthermore, ports should be aware of the new trade patterns resulting from the COVID-19 disruptions and prepare infrastructure and operations accordingly.

3.7 BACK TO BUSINESS

Like almost all companies, ports around the world started developing back to work planning and some have created special committees to tackle the issue. With the COVID-19 pandemic resulting in a lockdown of several economies, and imposing several adjustments of working, operational, and regulatory conditions, developing a return-to-work strategy emerged, and continues to emerge, as a demanding procedure. Yet, a strategic plan of how to make the work place a safe environment and ensure that employees confidently return to their routine in the so called 'new normal' working life, is essential.

Aiming to advance a best practice, the IAPH developed a return-to-work guidance, aiming to help ports worldwide face the challenge, by providing a menu of options based on best practices from ports worldwide. The aim is to support implementation of actions required to prepare and alleviate the COVID-19 related contingencies for port terminals and other relevant stakeholders. In addition, the actions could foster open collaboration to mitigate the pandemic. The IAPH guidance on back to work planning, accompanied by four annexes on the return phase definitions, ways to organize teams to get back to work, suggestions for ventilation, cleaning and disinfection, and suggestions for personnel protective equipment respectively, includes the following:[42]

- Protocols, with detailed procedures, prevention guidance, return conditions, hygiene and social distancing measures.
- Advice to personnel on what is expected from their side and how port protocols may change to adapt to new coronavirus conditions (i.e., facemask wearing, travelling to/from work, follow local legislative guidance, maintaining the operational environment etc.).
- Suggestions advancing teleworking for limiting use of indoor meetings, visitors and/or external meetings as well as international travel) and advanced sanitary measures such as testing and establishing partnerships with testing labs.
- Suggestions that detail procedures and practices (a) for port employee when entering and leaving port areas and offices; (b) for port employee mobility around the workplace; (c) for shift patterns and working groups; (d) for safe indoor and outdoor static workstations; (e) meetings; (f) for communal areas; and (g) for the facilitation of a positive workplace mind-set.

[41] Secretary General of UNCTAD Kituyi M. (2020). Coronavirus: Let's keep ships moving, ports open and cross-border trade flowing. 25 March.

[42] IAPH-WPSP (2020). Guidance on ports' response to the coronavirus pandemic. Antwerp.

Implementing such practices may require capacity building efforts. One such example is the UNCTAD TrainForTrade Port Management Programme (PMP), and the development of a training and capacity building course entitled "Building Port Resilience Against Pandemics". The capacity building package contains four blocks: (i) crisis protocol and communication strategy, (ii) staff well-being and resilience, (iii) technology preparedness, and (iv) cargo flow continuity, respectively. The training package will be made available to port communities worldwide.

In supporting the recovery and facilitating going back to business, public policy initiatives will also be important. Already, there has been a flurry of stimulus packages introduced in developed and developing countries, albeit with variations in magnitude and focus. While each country adopted some type of measure, there were large variations in response actions across regions and among supranational regional institutions. For example, the EU did not limit itself to relief measures such as immediate support for economic operators (to be provided between March and May 2020 to relieve emerging financial pressures), or the medium-term (2021-2024) economic relief packages that address economic recovery and ensure the sustainable development of the European industry over the years to come. To support continued freight flows and preserve supply chains, the EU has, in addition, adopted an extensive list of initiatives,[43] with a focus on the maritime transport sector, these include:

- Guidelines for border management measures to protect health and ensure the availability of goods.
- Communication from the Commission on the implementation of the Green Lanes; and essential services.
- Guidelines on protection of health, repatriation and travel arrangements for seafarers.
- Proposal for the amendment to the Ports Services Regulation (EU) 2017/352, to give to Member States and port authorities additional flexibility to waive, reduce, suspend or defer port infrastructure charges due for the period from 1 March 2020 to 31 December 2020.
- Interpretative guidelines concerning passenger rights on how certain provisions of the EU passenger rights legislation should be applied in the context of the COVID-19 outbreak.
- Proposal for a Regulation laying down specific and temporary measures in view of COVID-19 outbreak and concerning the validity of certain certificates, licenses and authorizations and the postponement of certain periodic checks and training in certain areas of transport legislation.
- A network of national transport contact points to reinforce cooperation and coordination on the issues related to transport.
- Tourism and Transport Package, to gradually lift travel restrictions on 13 May, with guidelines of general principles for the gradual resumption of passenger transport and detailed recommendations for measures in the maritime sector.

International organizations have proceeded with similar initiatives. An example in this respect is the cooperation of the World Customs Organization (WCO) and the WHO in providing a list of Harmonized System codes for critical medical equipment, to apply express clearance and release for these goods.

[43] European Commission's website on "COVID-19: Overview of the Commission's response". Accessed on 12 September 2020.

3.8 KEY FINDINGS AND LESSONS LEARNED

To cope with the disruption and continue to link supply chains and enable smooth cargo flows, **key stakeholders in the maritime supply chain** of which ports and shipping are key players, **have adopted a range of response and risk mitigation measures**.

Responses varied and covered different aspects and included (a) operational adjustments; (b) financial/economic adjustments; (c) sanitary protocols and processes; and (d) adjustments to working practices and organizational aspects.

Responses to the crisis and the 'back to work practices' varied in scope and type and the capacity for active and prompt interventions has proved to be crucial. Some responses by ports entailed a substantial reorganization of operations. These include (a) the prioritization of essential services; (b) the reorganization of operations and working conditions due to sanitary protocols; and (c) the advancement of digitalization and communication strategies.

Existing contingency plans have facilitated quick responses to the crisis in shipping and ports Stakeholders that lacked such plans, had to take ad hoc responses or develop plans in a short period of time during the crisis.

Digitalization of interactions and information sharing have been critical to the continuity of maritime transport operations during the pandemic. Digitalization has emerged as a key component of transport and supply chain resilience building efforts.

Working and operational adjustment measures that helped the sector adapt have been transformational for the maritime supply chain stakeholders. Digitalization of processes and the use of technology by much of the workforce have triggered the need to revisit operations and upgrade knowledge and skills.

Adjustments of working practices were used to limit personnel shortages Ports were able to diffuse several risks when they allowed for telecommuting, implemented sanitary protocols including social distancing, rearranged working shifts, limited meetings and travelling, took advantage of relevant social policies, and made greater use of technology. Similar adjustments were adopted by shipping lines.

Most ports managed to avoid significant disruptions of cargo handling operations. This was facilitated by the reduced number of ship port calls and the reduced maritime trade flows.

For ports, the financial implications of the crisis are manifold and more pronounced in the case of fully privatized ports. These include (i) the difficulties of ports themselves to continue their financing, (ii) the limited financial capacities of several port providers that are constrained by lockdowns and suppressed demand, and (iii) the challenges imposed on ports users. **The capacity of ports to adopt urgent and compensatory measures,** by for example, taking advantage of cash flows for early payment of providers, or delay of payments by some of their users, have **contributed to mitigate the negative effects of the crisis.**

The **revision of capacity management plans and changes in shipping schedules have been a key feature** of the adjustment measures introduced by shipping lines in the face of lower demand. The consolidation trends that marked the industry in the recent past has seemingly worked in favor of the carriers on this occasion. Container freight rates have not collapsed. They remained relatively strong as carriers closely managed capacity.

Challenges to 'crew changes' highlighted the need for orchestrating an integrated approach by all. Crew changes have been one of the major issues faced by the maritime supply chain. This is largely due to difficulties related to third parties (i.e., airports, and public policies imposing restrictions to travelling, etc.).

Developing guidelines to ensure a safe interface between ship and shore-based personnel has been critical, not least due to the nature of the crisis. This has taken place both at local and at international level and with support from relevant industry associations and international organizations.

Maintaining landside operations has been difficult, especially in developing regions. Long queues at borders have highlighted the importance of reliable chains to navigate through crises and disruptions.

These difficulties did not affect maritime countries only. **Land-locked and transit countries need to maintain their access to seaports as well.**

Shippers and ports have worked to address land-side operations, but the ability to adapt has not been always effective. Like shipping and ports, the main instruments used to address these issues have been digitalization and enhanced communications and coordination with other stakeholders and public authorities.

Responding to the COVID-19 challenges required collaboration and coordination among all stakeholders. When established, **collective actions have been more effective** in combating risks and improving resilience. The capacity to coordinate with national and/or local authorities and communicate with other actors along the chain was critical. Adjustments to governance and communication strategies of parties involved have been equally instrumental.

The implications of a crisis like the COVID-19 could be long lasting for SIDS. Although their levels of connectivity did not deteriorate, a case-study analyzing the Pacific SIDS revealed that the decision to divert a single ship from some countries, the absence of a ship call, or even a single operator due to the reduction in cargo available at a destination on key export markets, have put to test **the ability of maritime transport to deliver essential goods. There has also been an increase in shipping costs for SIDS**. These small island countries need to develop their risk mitigation capabilities and resilience building.

In supporting the recovery and facilitating going back to business, public policy initiatives are important. Already, there has been a flurry of stimulus packages introduced in developed and developing countries, albeit with variations in magnitude and focus. While each country adopted some type of measure, there were large variations in response actions across regions and among supranational and regional institutions. These initiatives include both economic and operational measures adopted at national level, with the challenge in some countries being the need to align federal and state level initiatives. Supranational institutions and international organizations have also adopted a long list of initiatives.

Transport service providers and cargo owners have called for better forecast predictions and tools to anticipate disruptions and enhance supply chain transparency and flexibility. It was also acknowledged that ports should be aware of new trade patterns to prepare and adapt infrastructure and operations accordingly. **Anticipating and preparing to face future disruptions are key to improving risk management and resilience building.**

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