

# REVIEW OF MARITIME TRANSPORT

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# 2021



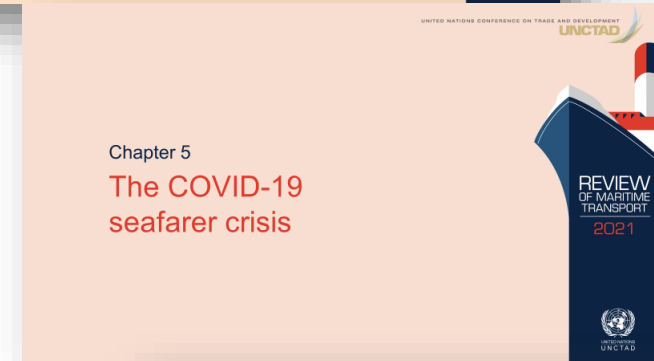
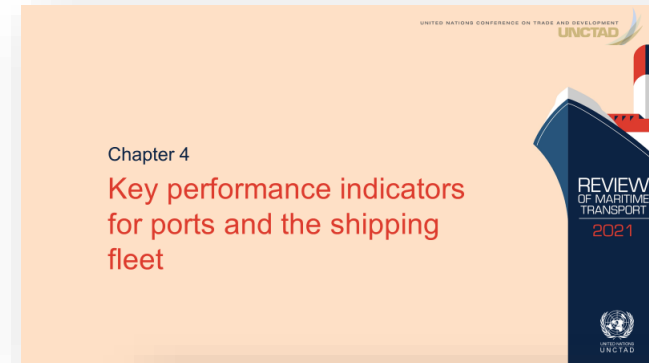
**COURSE ON KEY ISSUES  
ON THE INTERNATIONAL  
ECONOMIC AGENDA**



# Part 1: Demand, supply and markets



# Part 2: Cross cutting issues



# Part 1: Demand, supply and markets

Chapter 1  
Maritime trade  
and port cargo traffic

Chapter 2  
Maritime transport services  
and infrastructure supply

Chapter 3  
Freight rates, maritime  
transport costs and their  
impact on prices

# Part 2: Cross cutting issues

Chapter 4  
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## Chapter 1

# Maritime trade and port cargo traffic

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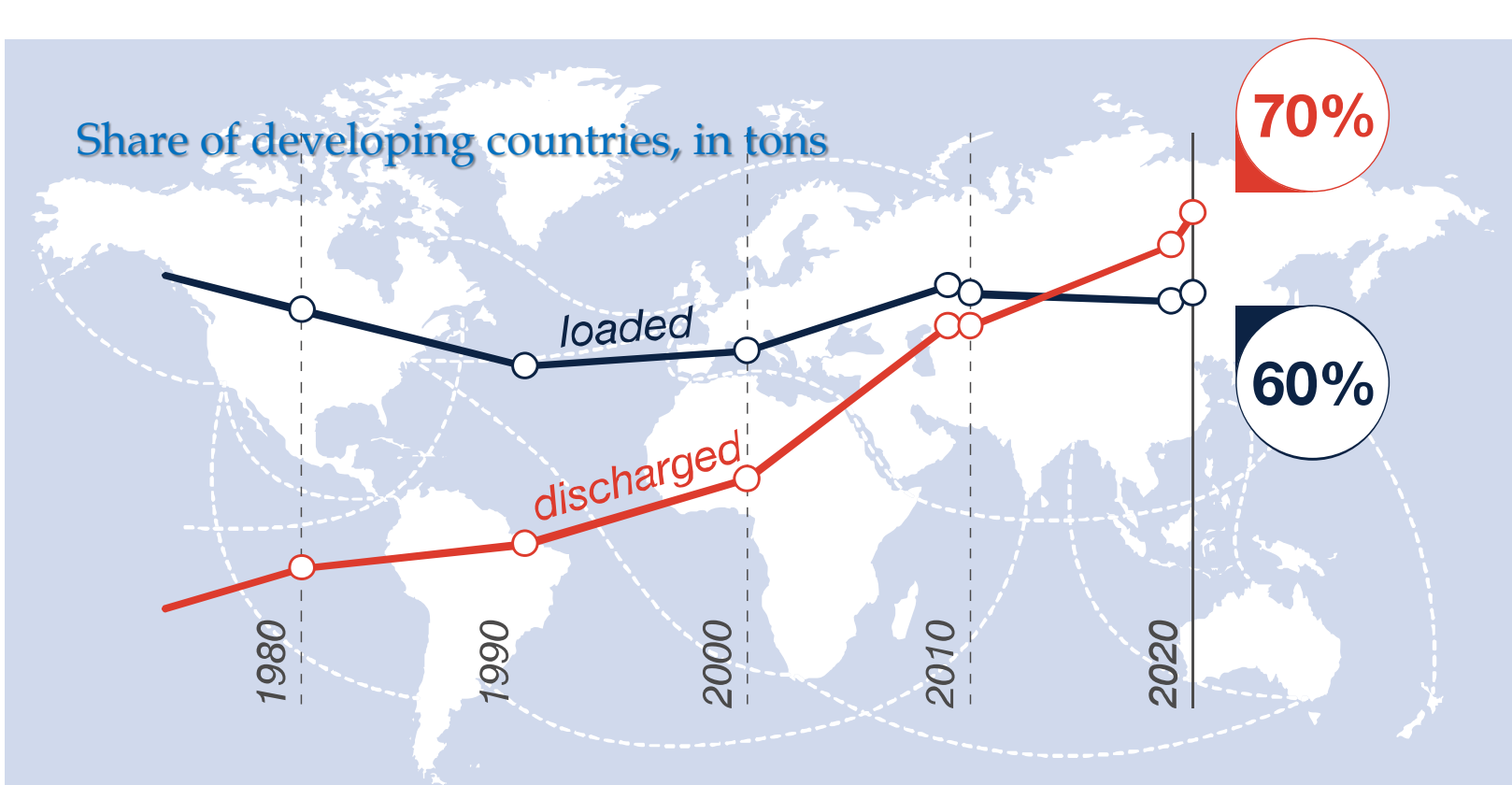
2021



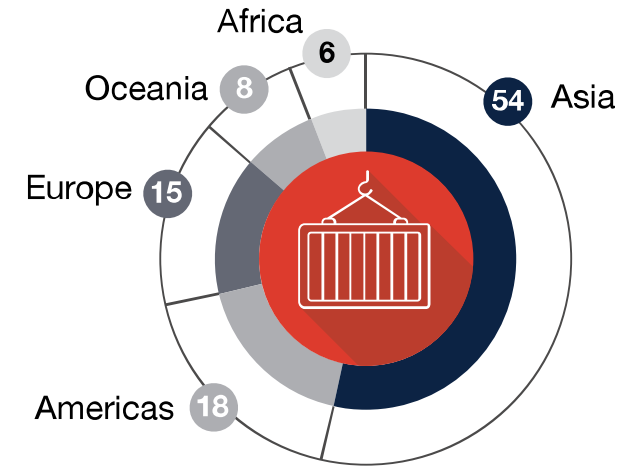
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# INTERNATIONAL SEABORNE TRADE

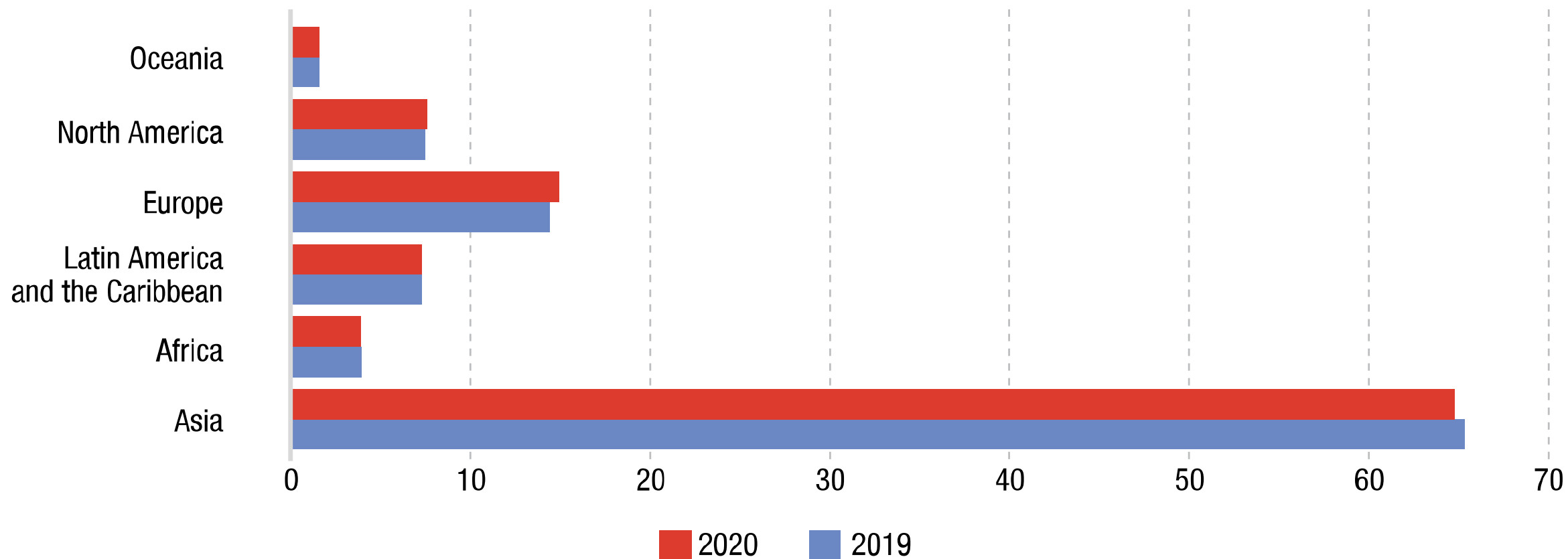
Developing countries continue to account for the lion's share of world maritime trade by volume



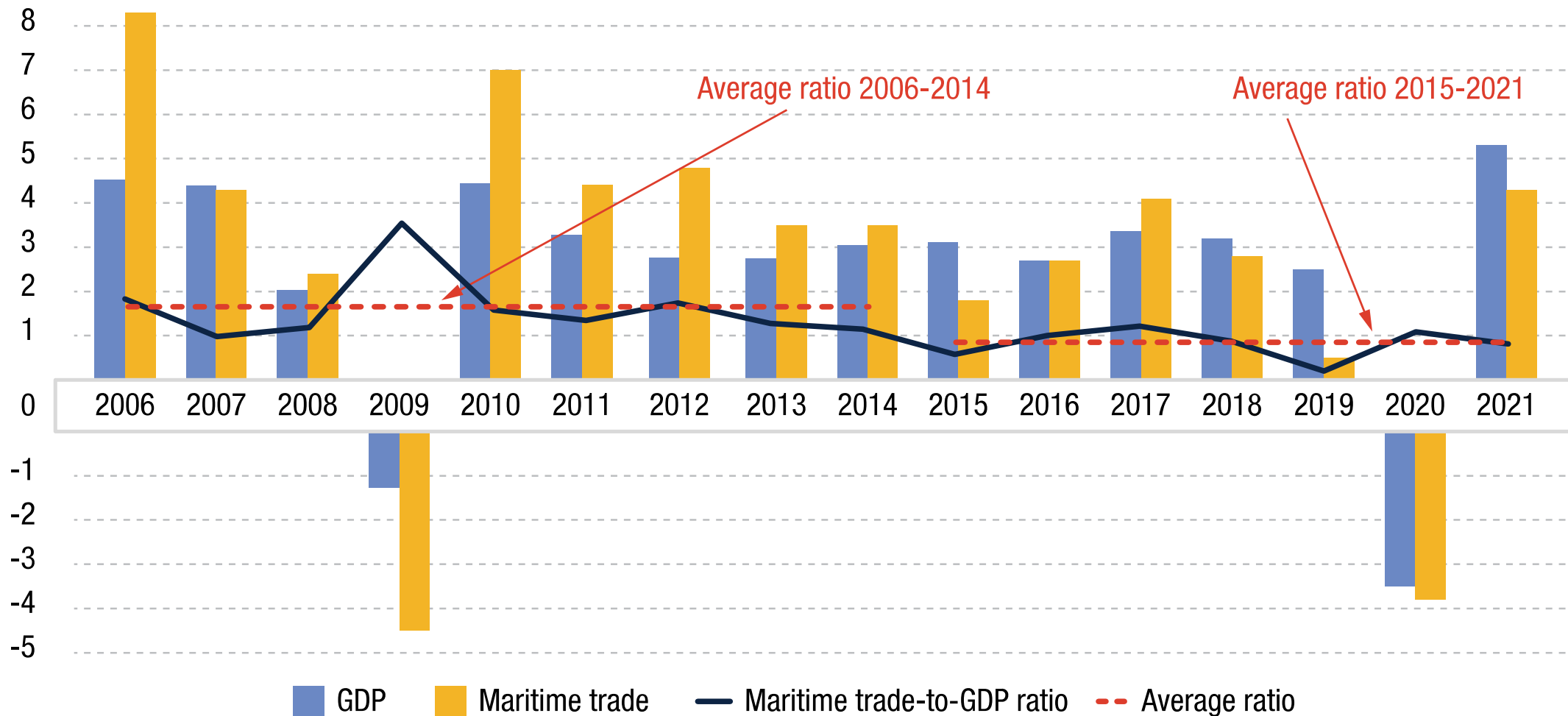
World maritime trade, percentage share per region



## World **container** port throughput by region, 2019–2020 (percentage share in total TEU)

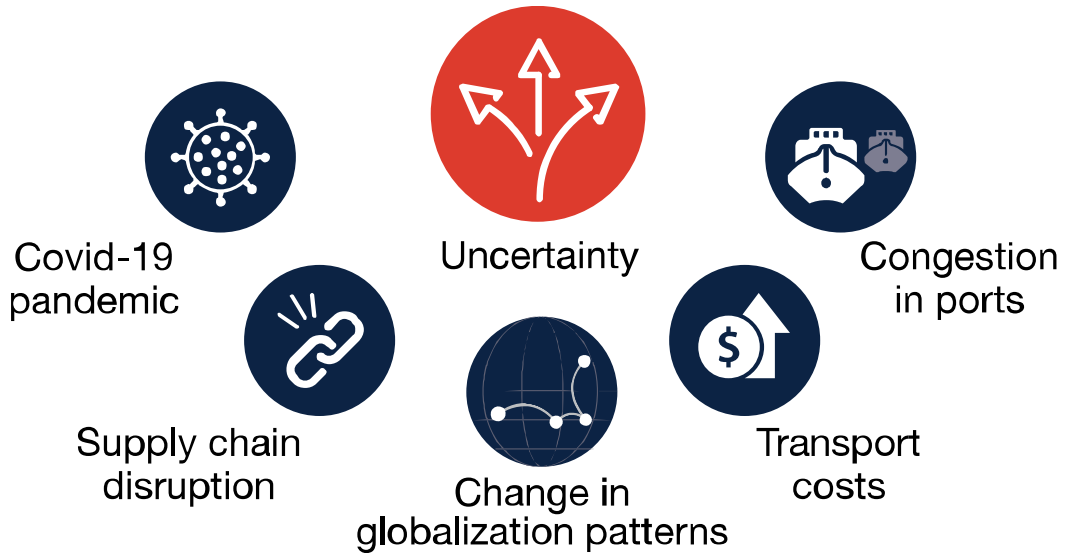


# International maritime trade, world gross domestic product (GDP) and maritime trade-to-GDP ratio, 2006 to 2021 (percentage annual change and ratio)



# OUTLOOK

Short-term outlook for maritime trade is positive, however, risks are manifold and uncertainty remains



UNCTAD expects world maritime trade to recover

by

**+4.3%** in 2021

Growth in maritime trade volumes expected to moderate and expand at an annual rate of

**+2.4%**

between 2022 and 2026

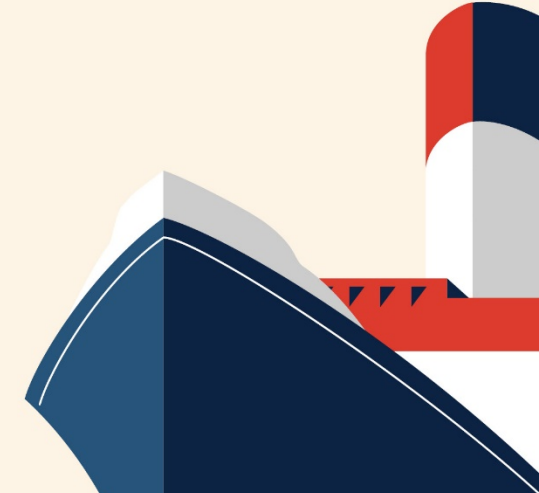






## Chapter 2

# Maritime transport services and infrastructure supply



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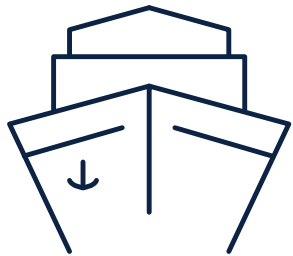
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# THE WORLD FLEET

In early 2021,  
the world fleet totalled

**99,800 ships**

of 100 gross tons and above,  
equivalent to **2,134,639,907** dwt  
of capacity



The global shipping  
fleet grew by

**+3%**

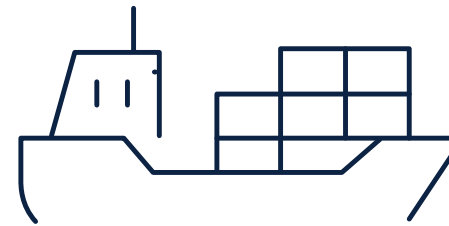
in the 12 months prior  
to 1 January 2021



Ships between

**5–9 years old**

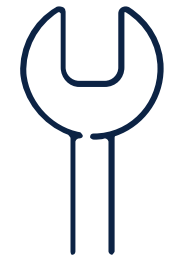
represented the highest  
proportion of the fleet  
carrying capacity



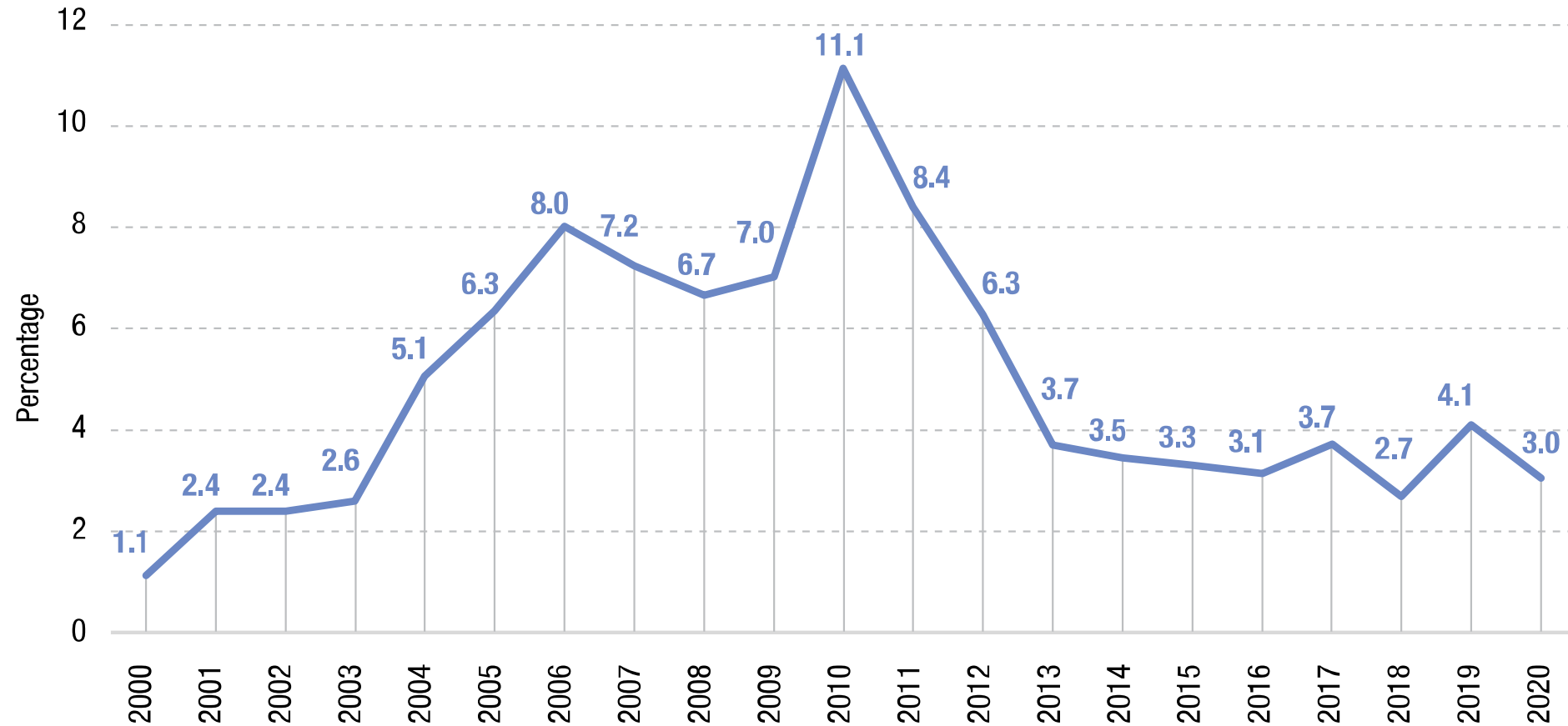
Ship deliveries  
declined by

**-12 %**

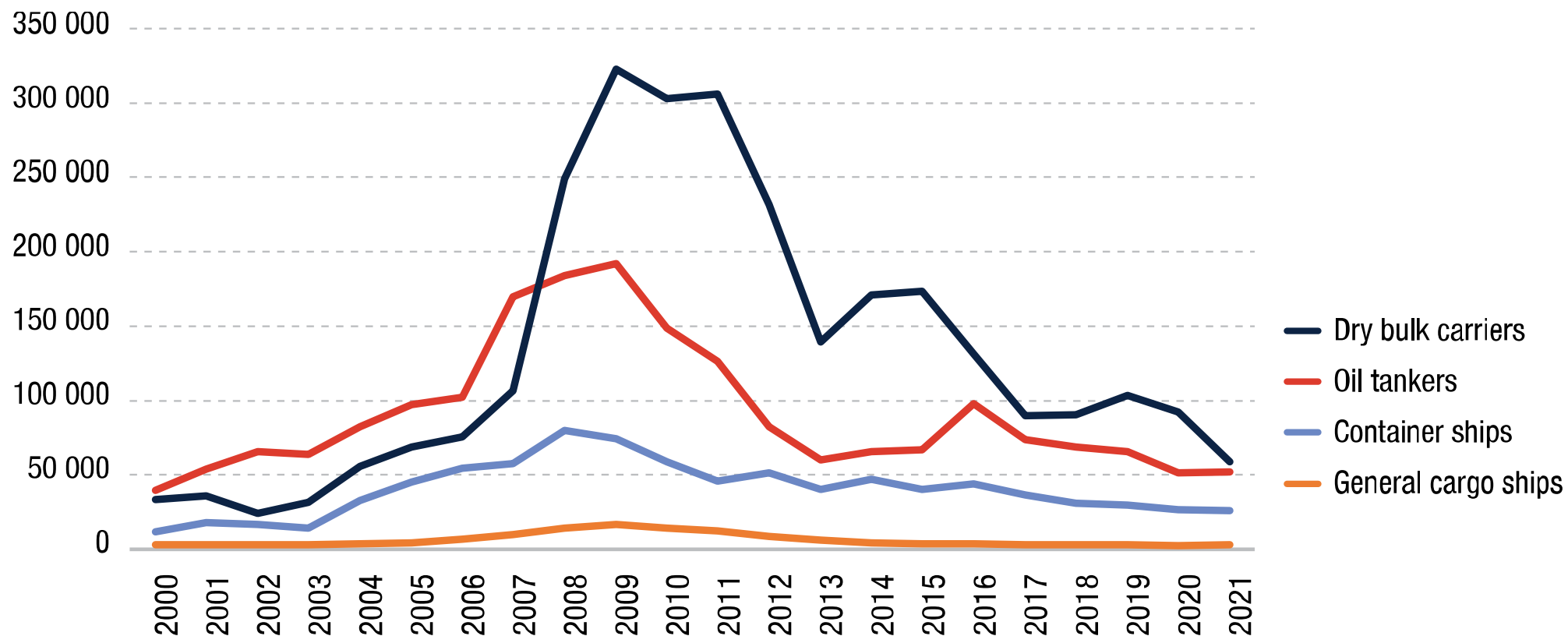
in 2020



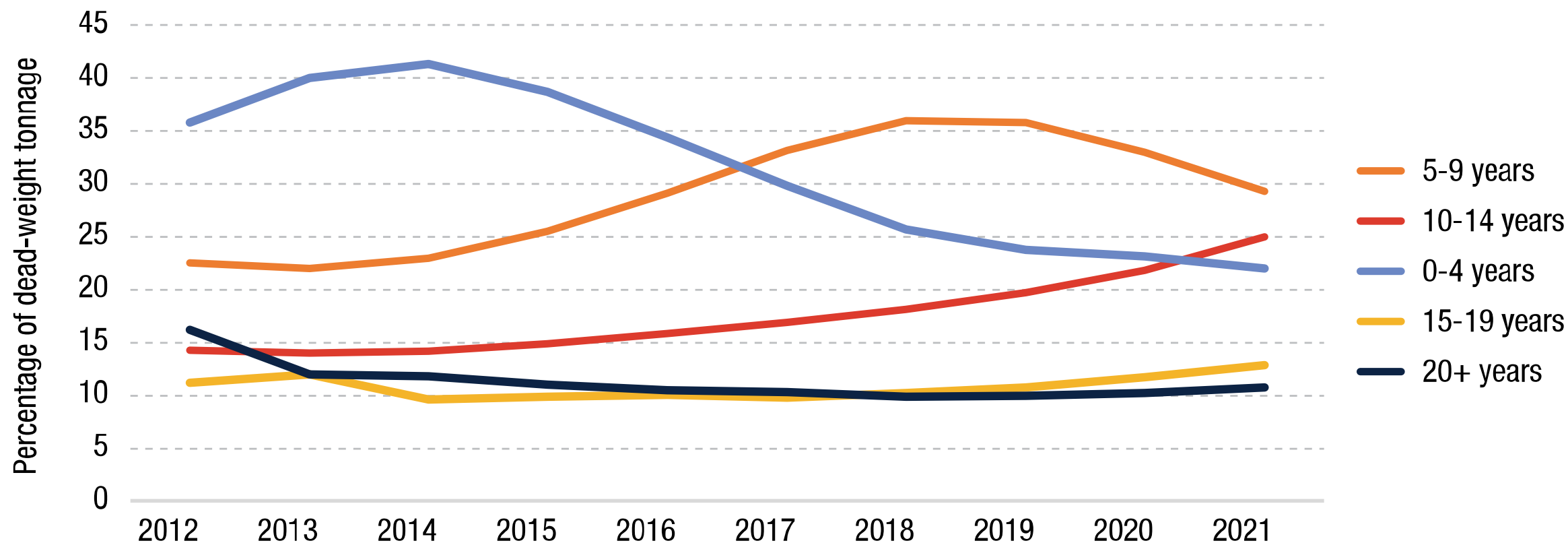
# Annual growth rate of world fleet, dead-weight tonnage, 2000–2020 (percentage)



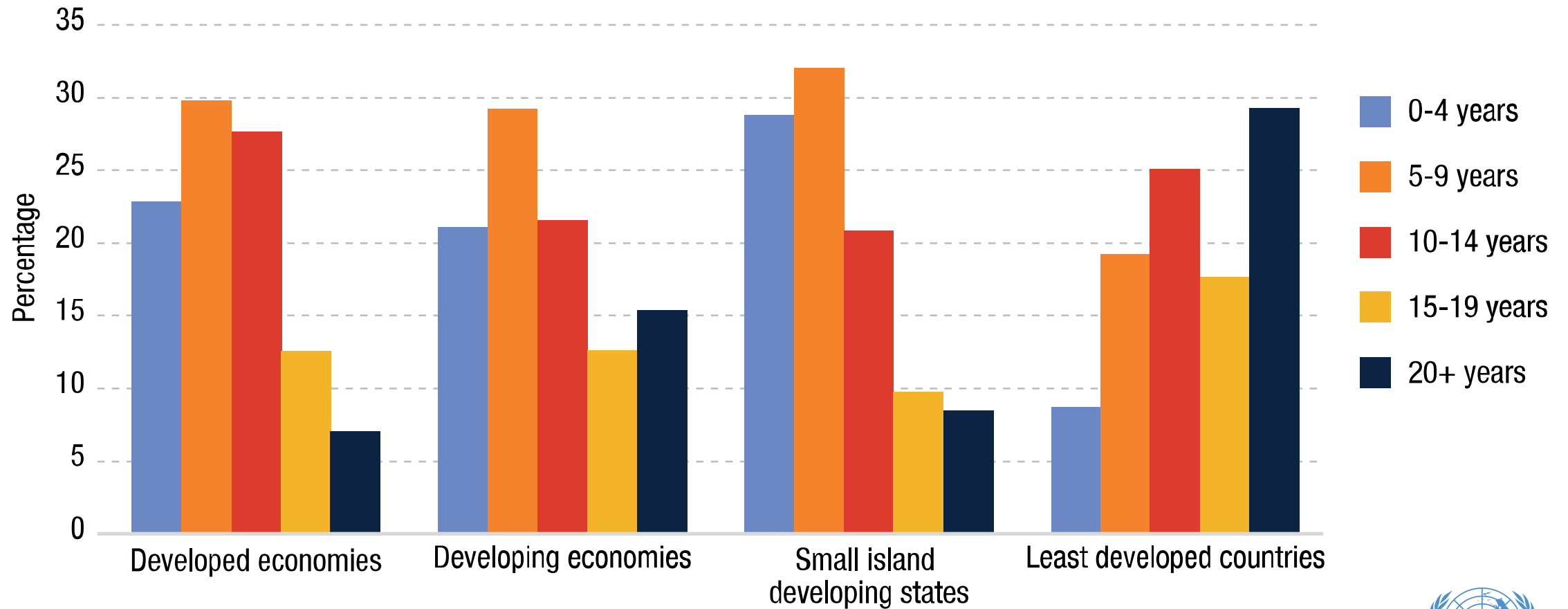
## World tonnage on order, selected ship types, 2000–2021 (thousand dead-weight tons)



## Age distribution of the global fleet, share of the global carrying capacity, 2012–2021

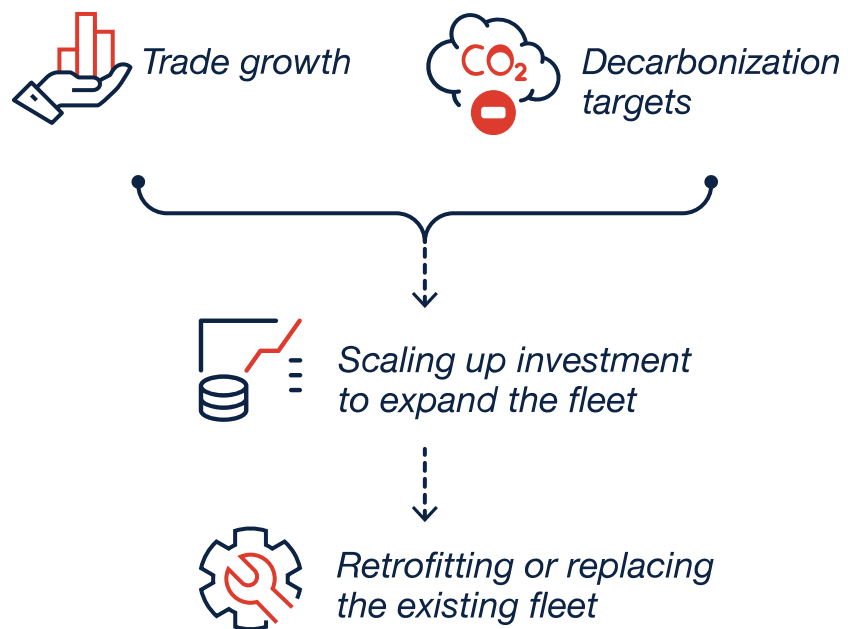


# Age distribution of the fleet, as at beginning of 2021, per development status groups



# SHIPPING COMPANIES AND OPERATIONS

## Adapting maritime transport supply



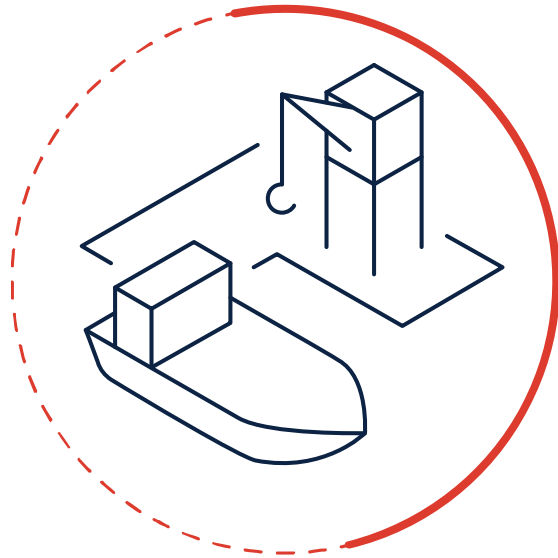
## Potential changes from the Green Transition



# PORT SERVICES AND INFRASTRUCTURE SUPPLY

Since 2020, ports resilience and adaptive capacity have been tested:

- Financial performance
- Congestion
- Equipment shortages
- Supply chain disruption



## New opportunities from the COVID-19 crisis



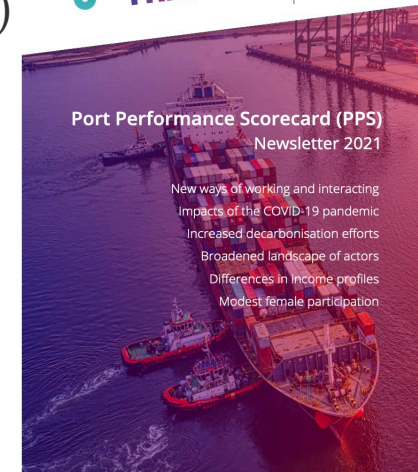
E-commerce, smart logistic hubs and intermodal connections



Greener industrial port activities



# TRAINFORTRADE PORT PERFORMANCE SCORECARD (PPS)



[https://tft.unctad.org/tft\\_documents/publications/port-performance-newsletter/](https://tft.unctad.org/tft_documents/publications/port-performance-newsletter/)

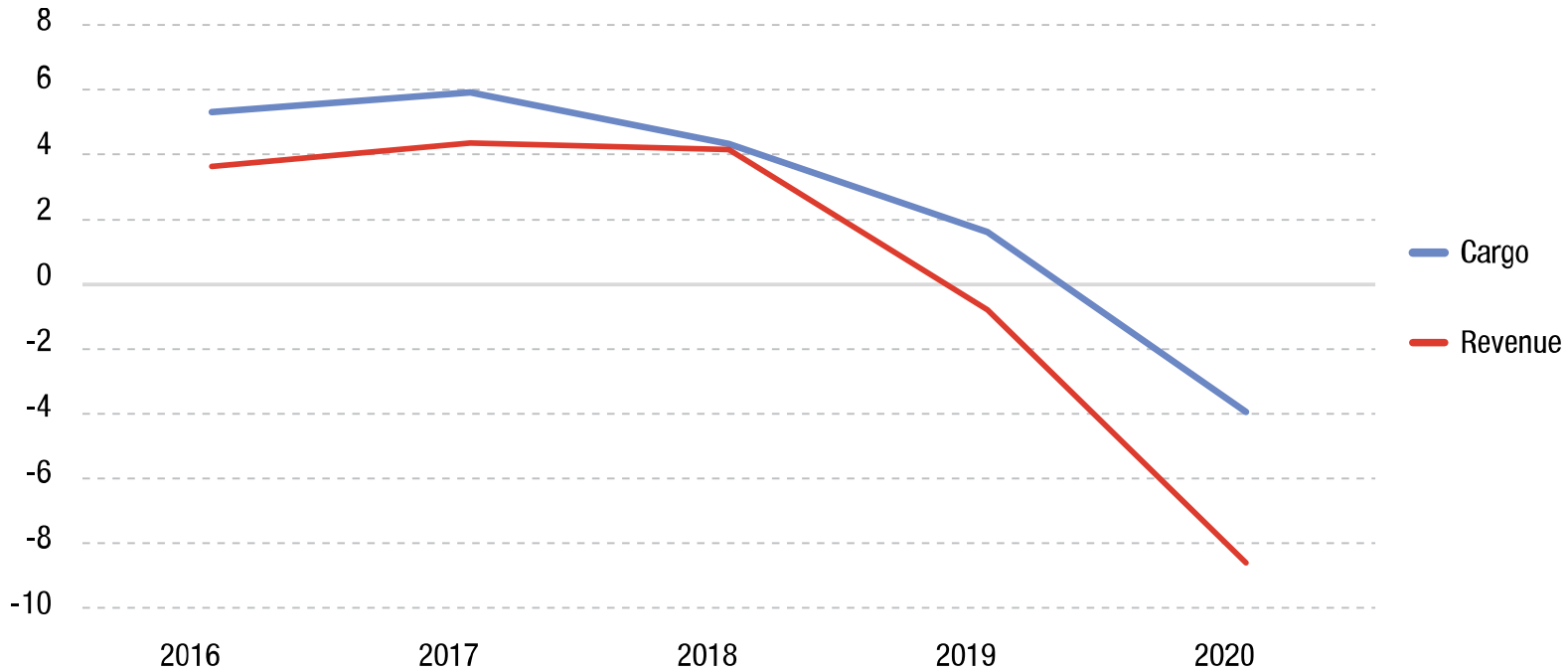
- ◆ 26 comparable indicators over time (2010>)
- ◆ Global & Regional benchmarks
- ◆ Yearly survey on dedicated web platform
- ◆ Data consistency checks
- ◆ Advanced analysis tools



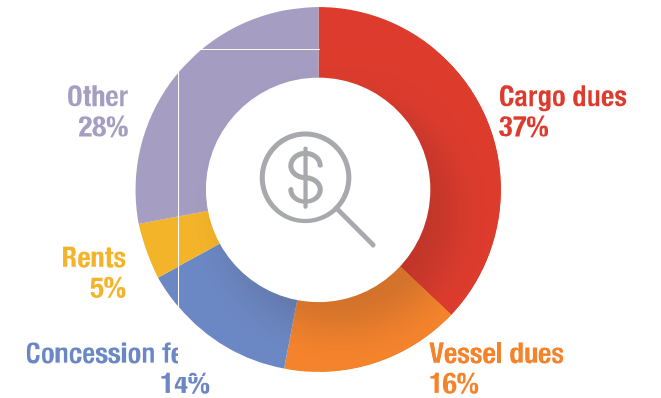
Category	Indicator number	Indicator	Number of values	Average
Finance	1	EBITDA/Revenue (operating margin)	98	33.1%
	2	Labour/Revenue	102	22.9%
	3	Vessel Dues/Revenue	101	15.8%
	4	Cargo Dues/Revenue	101	36.7%
	5	Concession Fees/Revenue	91	13.7%
	6	Rents/Revenue	96	5.7%
Human resources	7	Tonnes/Employee	108	65'054
	8	Revenue/Employee	101	\$189'180
	9	EBITDA/Employee	97	\$98'029
	10	Labour Cost/Employee	96	\$32'985
	11	Training Cost/Wages	96	1.3%
Gender	12	Female Participation Rate - All Categories	108	17.5%
	12.1	Female Participation Rate - Management	108	42.0%
	12.2	Female Participation Rate - Operations	100	16.0%
	12.3	Female Participation Rate - Cargo Handling	74	5.7%
	12.4	Female Participation Rate - Other Employees	46	29.1%
Vessel operations	13	Average Waiting Time (hours)	92	14
	14	Average Gross Tonnage per Vessel	106	18'184 t
	15.1	Average of Oil Tankers Arrivals	114	9.8%
	15.2	Average of Bulk Carrier Arrivals	115	10.5%
	15.3	Average of Container Ship Arrivals	114	30.7%
	15.4	Average of Cruise Ship Arrivals	113	1.1%
	15.5	Average of General Cargo Ship Arrivals	116	27.4%
	15.6	Average of Other Ship Arrivals	114	22.5%
Cargo operations	16	Average Tonnage per Arrival	117	8'162 t
	17	Tonnes per hour, Dry Bulk	77	317
	18	Tonnes per hour, Liquid Bulk	55	367
	19	Boxes Per Ship Hour at Berth	70	27
	20	Twenty-foot equivalent dwell time (days)	63	6
	21	Cargo Tonnes per hectare (all)	107	141'704
	22	Cargo Tonnes per berth meter (all)	113	6'482
	23	Total Passengers on Ferries	89	959'899
	24	Total Passengers on Cruise Ships	92	91'068
	Environment	25	Investment in Environmental Projects/Total CAPEX	54
26		Environmental Expenditures/Revenue	77	1.8%

# PANDEMIC IMPACTS

Cargo and revenue, 2016–2020  
(percentage change)



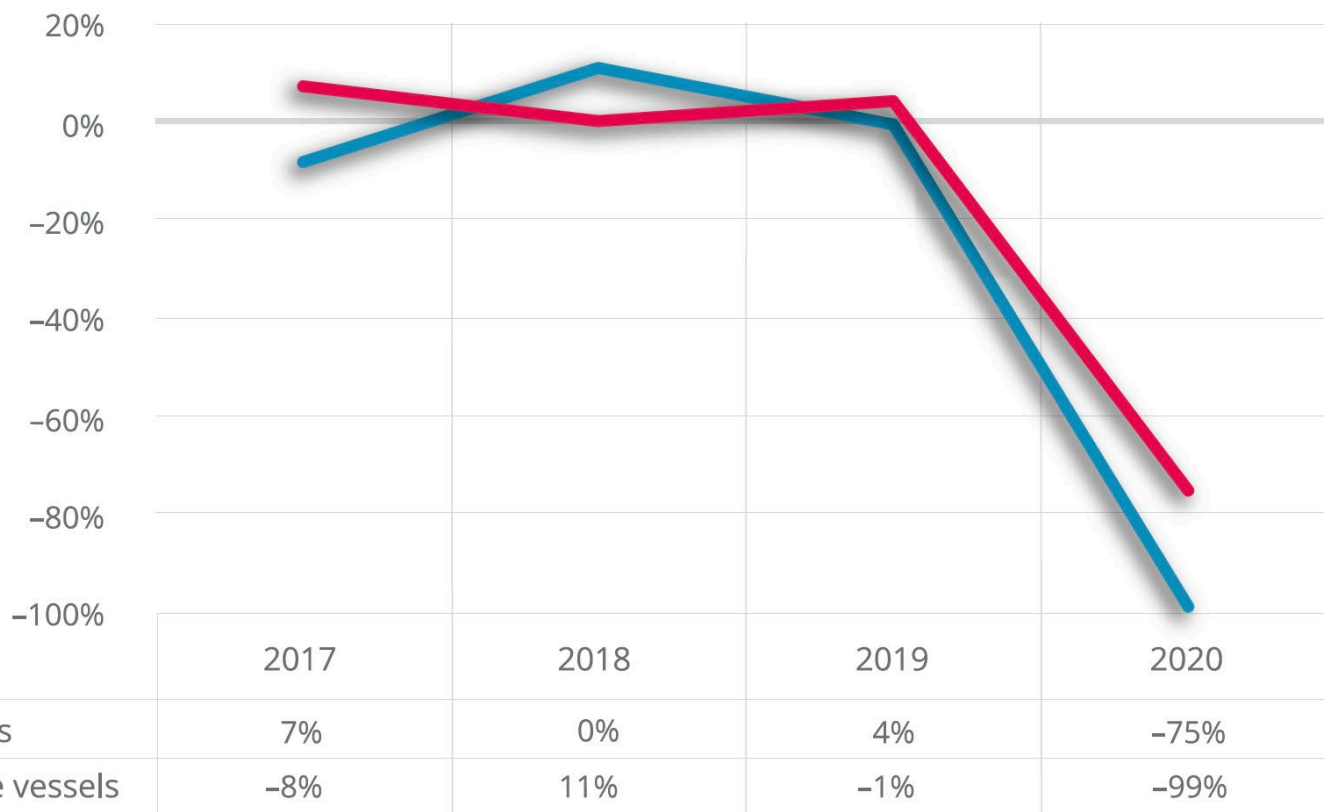
Average revenue mix of ports, 2016–2020



Drop:  
Volume -4%  
Revenue -9%

# PANDEMIC IMPACTS

Change in the number of passengers (%)



## Emerging strategies for ports during the pandemic

### KEY POINTS

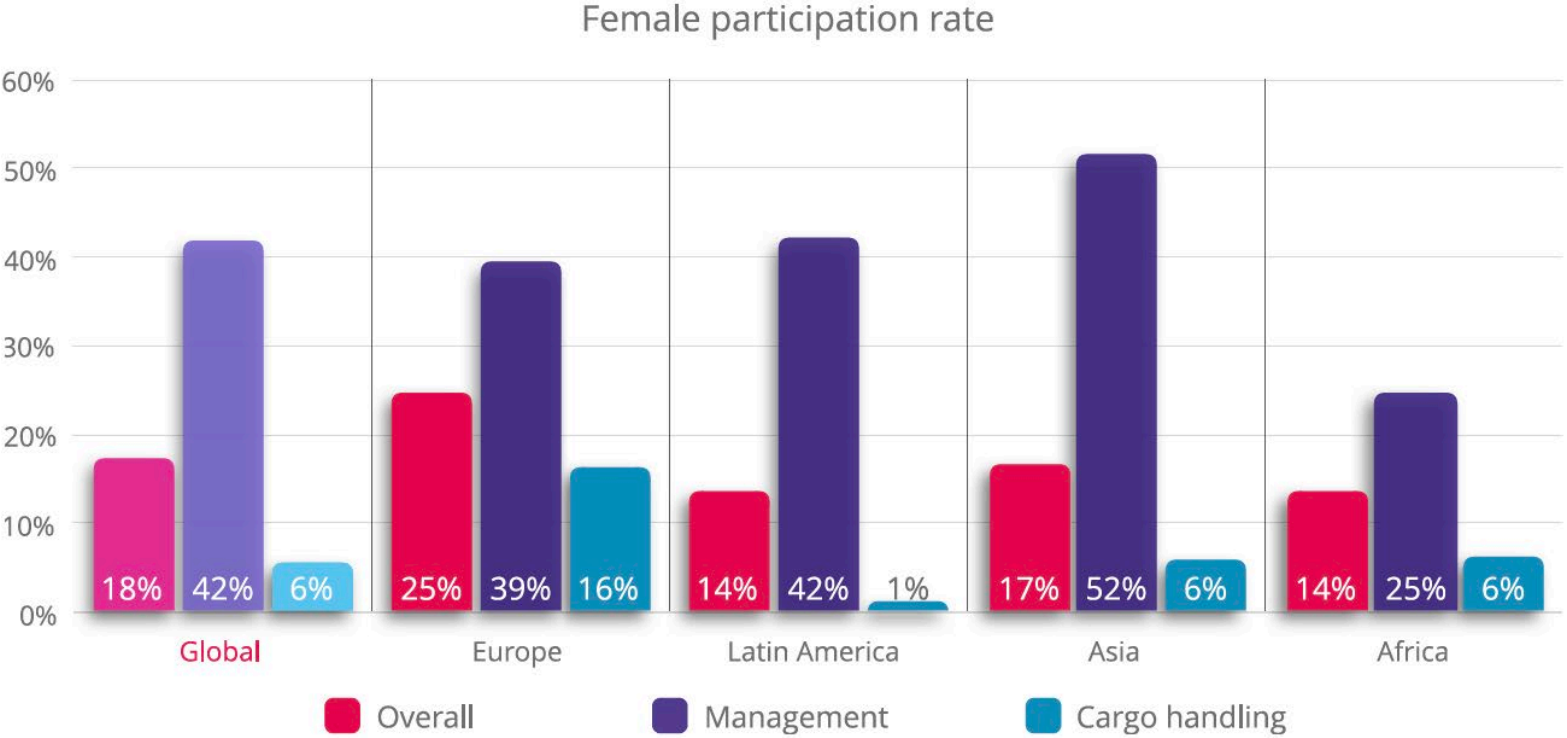
- Ports are essential facilitators of world trade.
- Public health advice is crucial in mitigating the impact of pandemics.
- Government policy and regulation is required to support port operations during pandemics.

<https://unctad.org/webflyer/emerging-strategies-ports-during-pandemic>

# PORT PERFORMANCE SCORECARD (PPS) – REGIONAL ANALYSIS & BENCHMARKING

**5 GENDER EQUALITY**

**SDG 5.5**  
Ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making in political, economic and public life



## Chapter 3

# Freight rates, maritime transport costs and their impact on prices

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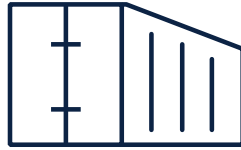
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# MARITIME FREIGHT RATE MARKETS

## Record-breaking freight rate levels

As of late 2020 and into 2021 freight rates surged across **containerised and dry bulk shipping markets** and hit record highs

**Tanker markets** came under pressure with tanker rates reaching low levels



### Container freight rates

Skyrocketed amid surge in demand for container shipping and limited capacity including container shortages and congestion at ports



### Dry bulk freight rates

Reached record breaking levels, driven by solid growth in demand that exceeded fleet growth

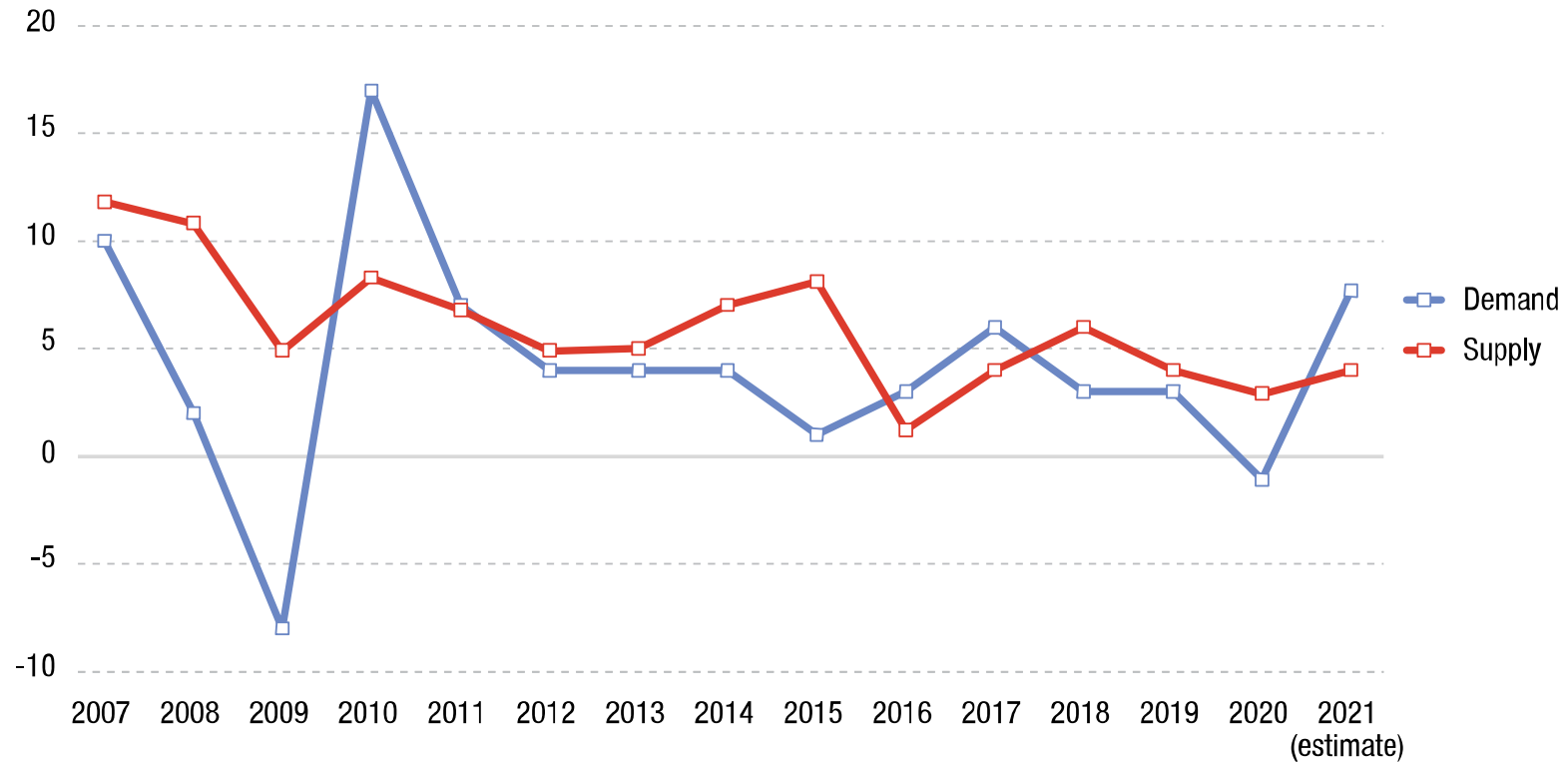


### Tanker freight rates

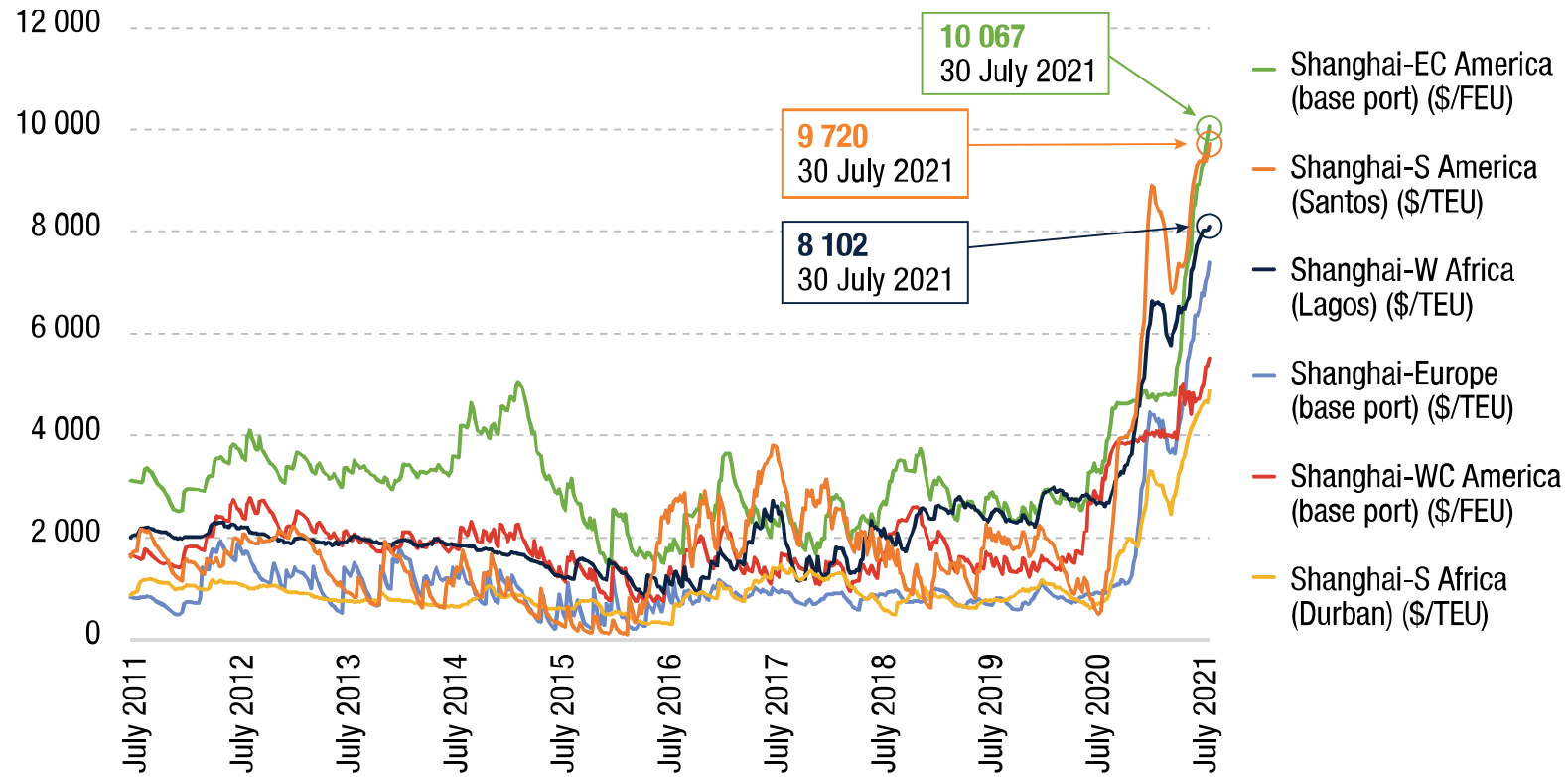
Fell to record lows as global fuel demand decreased and the supply of vessel carrying capacity remained high



Growth of demand and supply in container shipping, 2007–2021, percentage



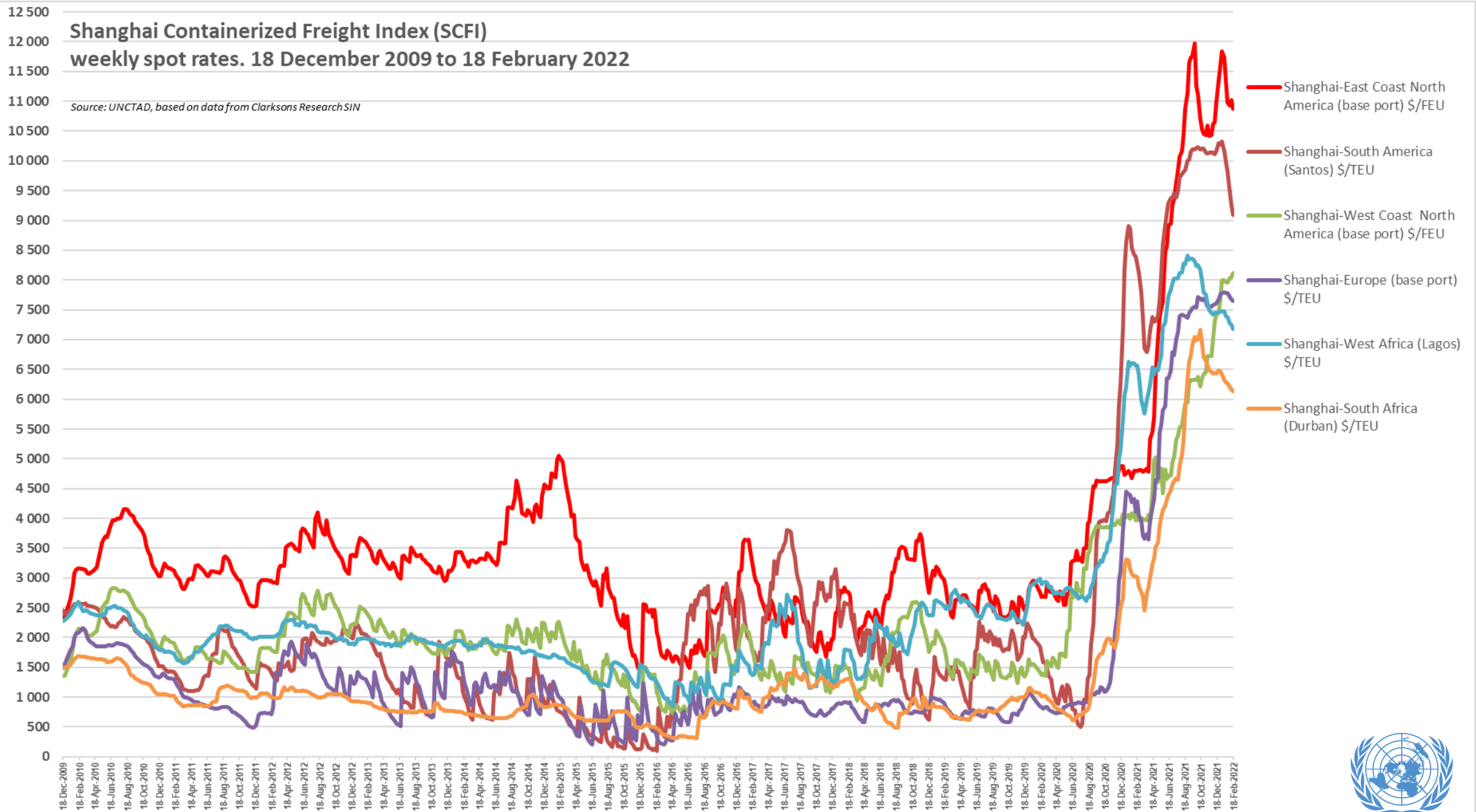
Shanghai Containerized Freight Index weekly spot rates, 1 July 2011 to 30 July 2021, selected routes



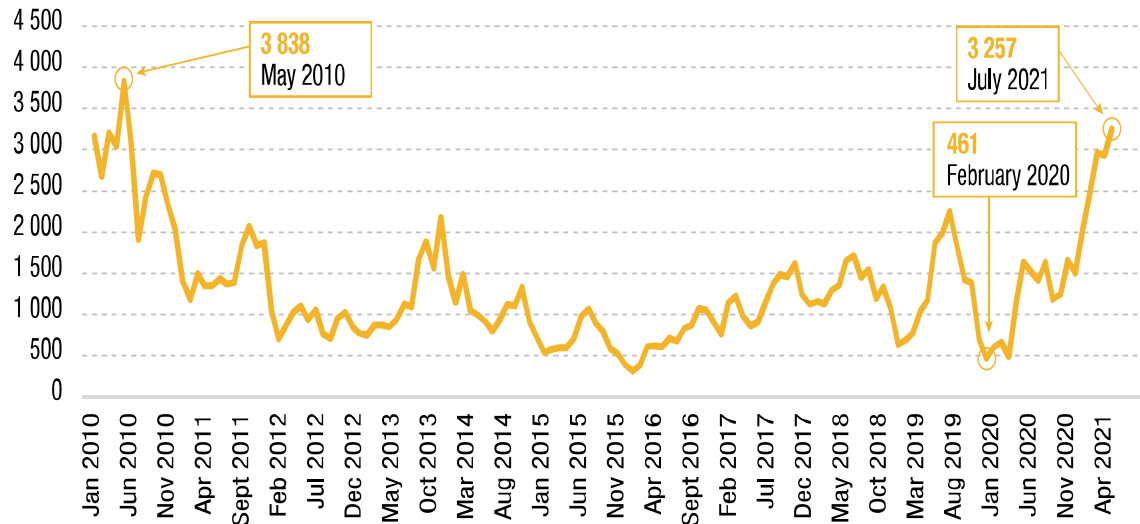


# Shanghai Containerized Freight Index (SCFI) weekly spot rates. 18 December 2009 to 18 February 2022

Source: UNCTAD, based on data from Clarksons Research SIN



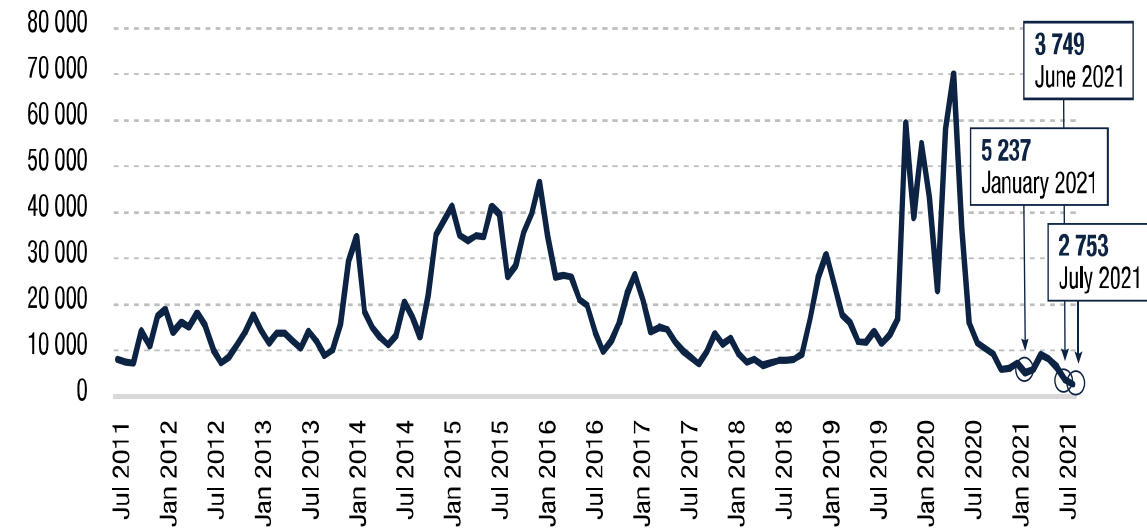
Baltic Exchange Dry Index, January 2010–July 2021



Average weighted earnings all bulkers (\$/day), July 2001–July 2021



Average earnings, all tankers, July 2011–July 2021 (\$/ day)

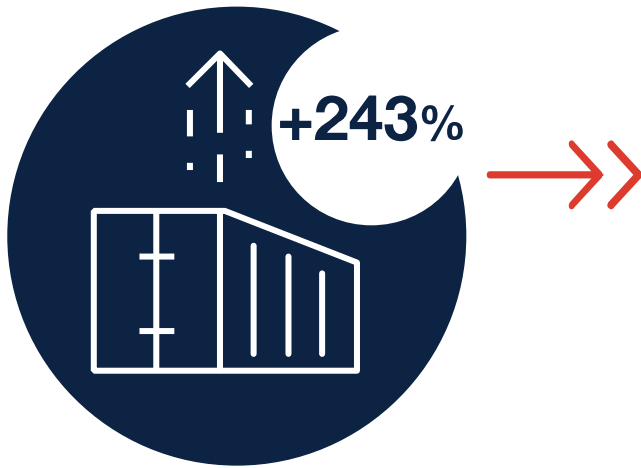


# SIMULATED IMPACT OF CONTAINER FREIGHT RATE SURGES

Hardest hit will be SIDS

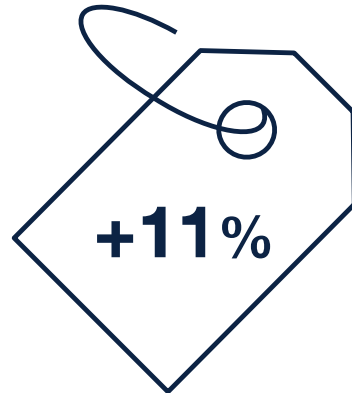
## Simulation assumption:

Sustained increase in container freight rates

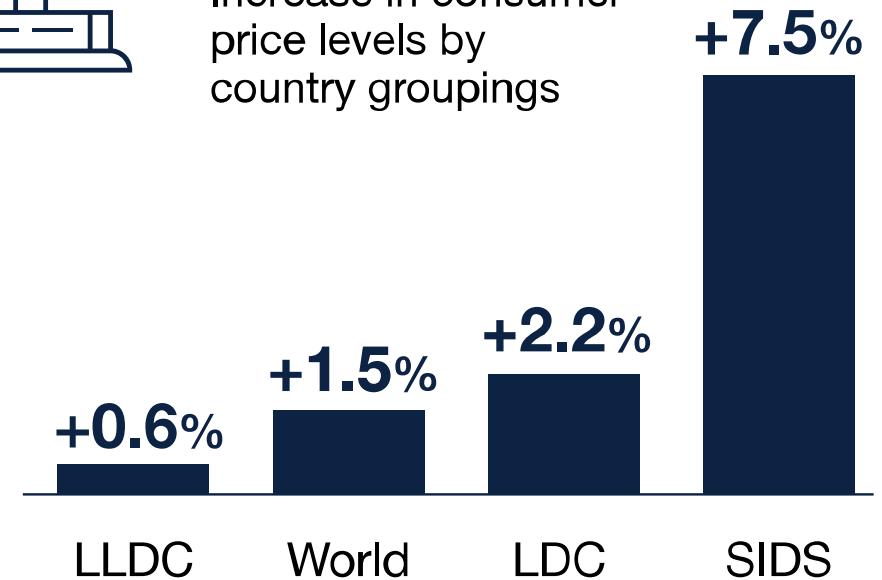


## Simulation results:

Increase in global import price levels



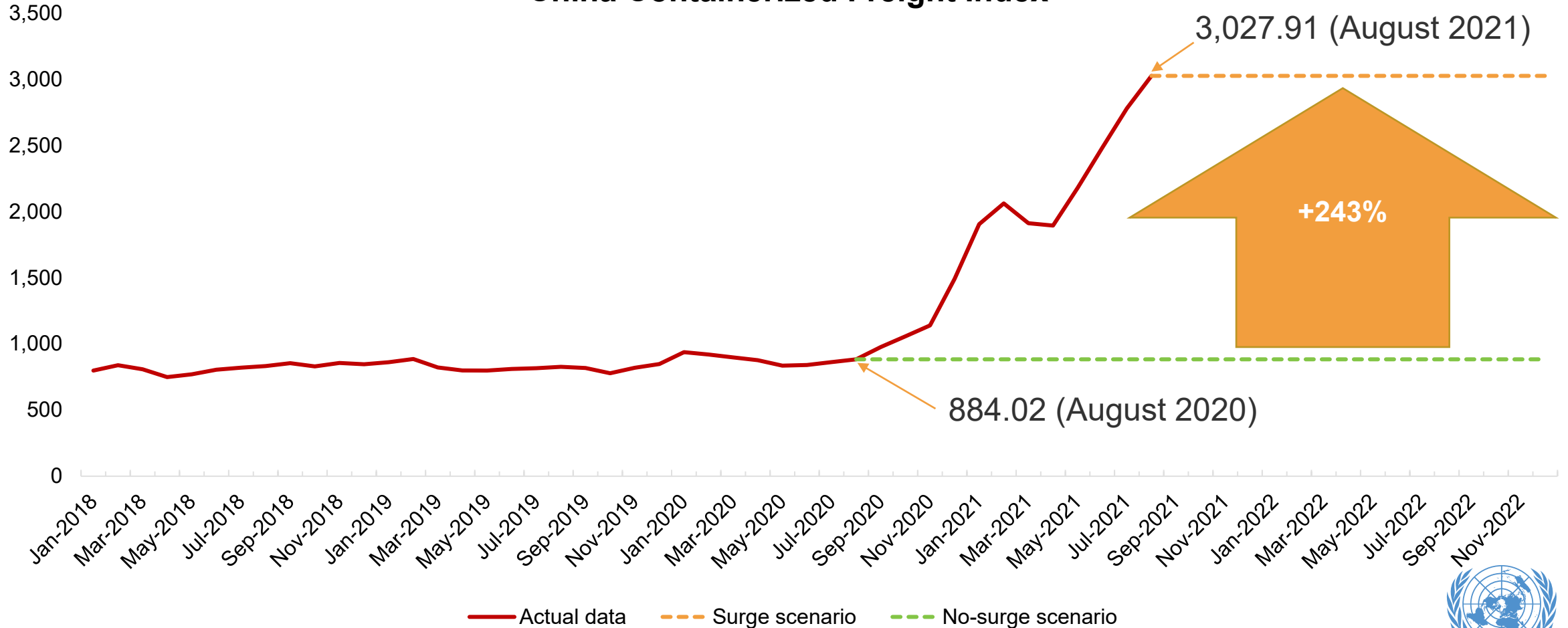
Increase in consumer price levels by country groupings



# SIMULATION ASSUMPTION ON FREIGHT RATES

Freight rate surge (i.e., 243% increase) is assumed to be sustained in the long-term

### China Containerized Freight Index



## (SIMULATION ASSUMPTION ON OTHER FACTORS)

**Following factors are held constant** over the entire simulation period:

- Exchange rate
- Foreign prices (i.e., a weighted average of consumer prices of trading partners)
- Real GDP
- Global commodity prices (energy, non-energy, precious metals)

$$\Delta \ln IPI_t^c = \alpha^c + \sum_{l=0}^L (\beta_{1,l} \Delta \ln CCFI_{t-l}^c + \beta_{2,l} \Delta \ln e_{t-l}^c + \beta_{3,l} \Delta \ln w_{t-l}^c + \beta_{4,l} \Delta \ln GDP_{t-l}^c + \beta_{5,l} \Delta \ln Com_{t-l}^c) + \sum_{l=1}^L \beta_{6,l} \Delta \ln IPI_{t-l}^c$$

What about **US monetary policy**?

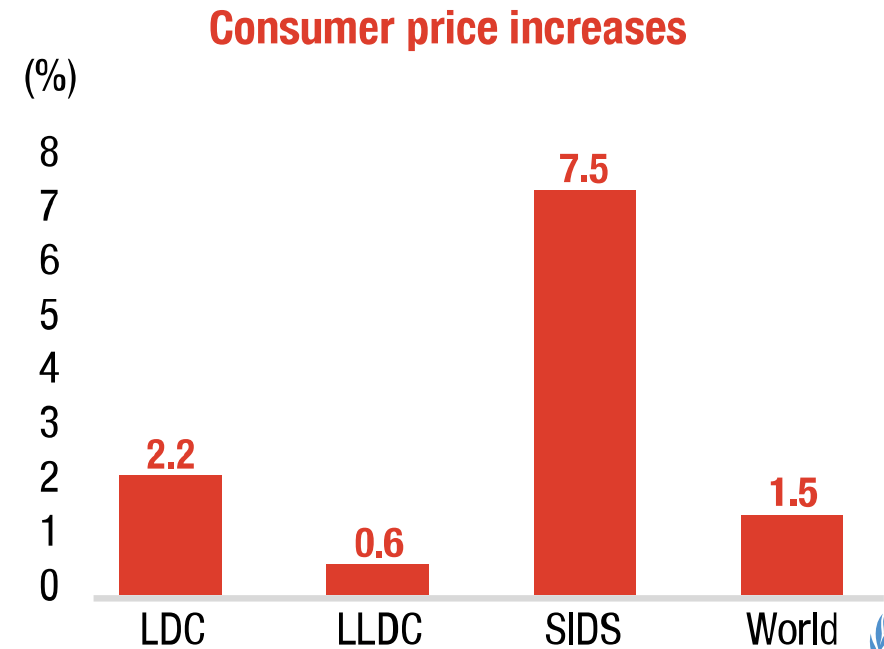
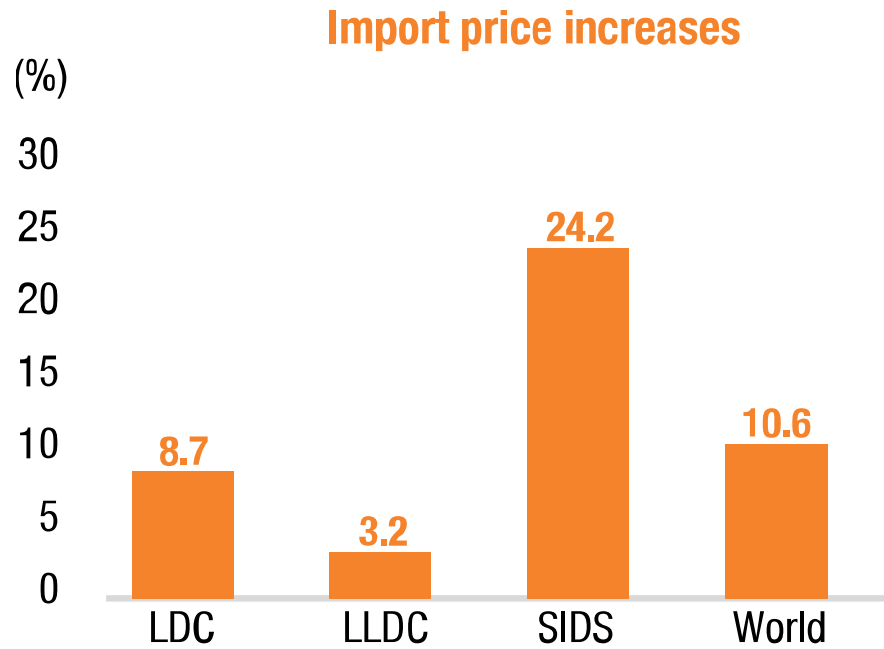
➤ **Following important channels are held constant:**

- Exchange rate channel (US interest rate -> exchange rate -> import and consumer prices)
- US GDP and freight rate channel (US interest rate -> US GDP -> freight rate -> import and consumer prices)
  - Note that the freight rate surge is assumed to be sustained in the long-term

## SIMULATION RESULT

- **Hardest hit will be SIDS** because of their dependence on imports
- **Impact is also high in LDCs**
  - In high-inflation economies, firms tend to assume that increases in import prices will be persistent and respond by increasing their prices
- **Impact on LLDCs is lower** owing to limited dependence on maritime transport

Simulated impact of current container freight rate surge on import and consumer price levels

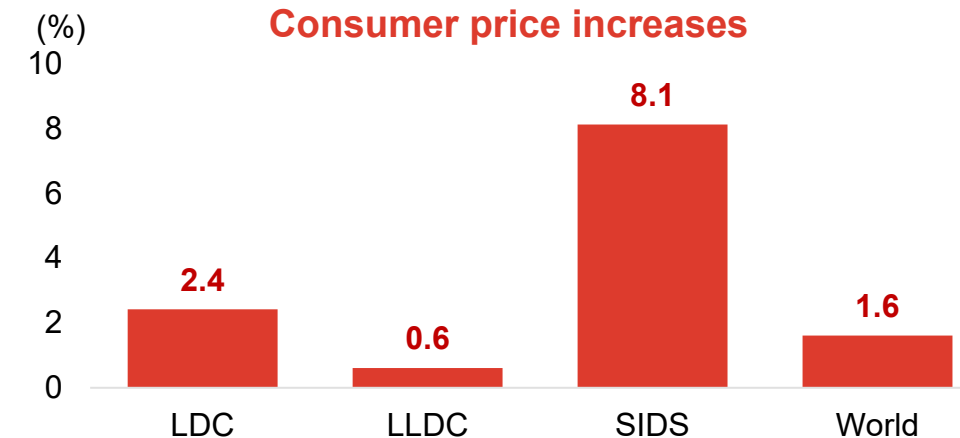
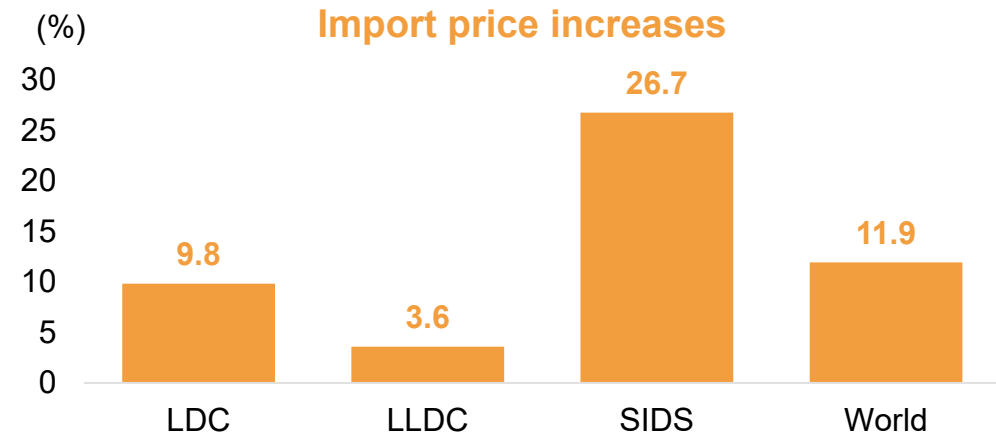
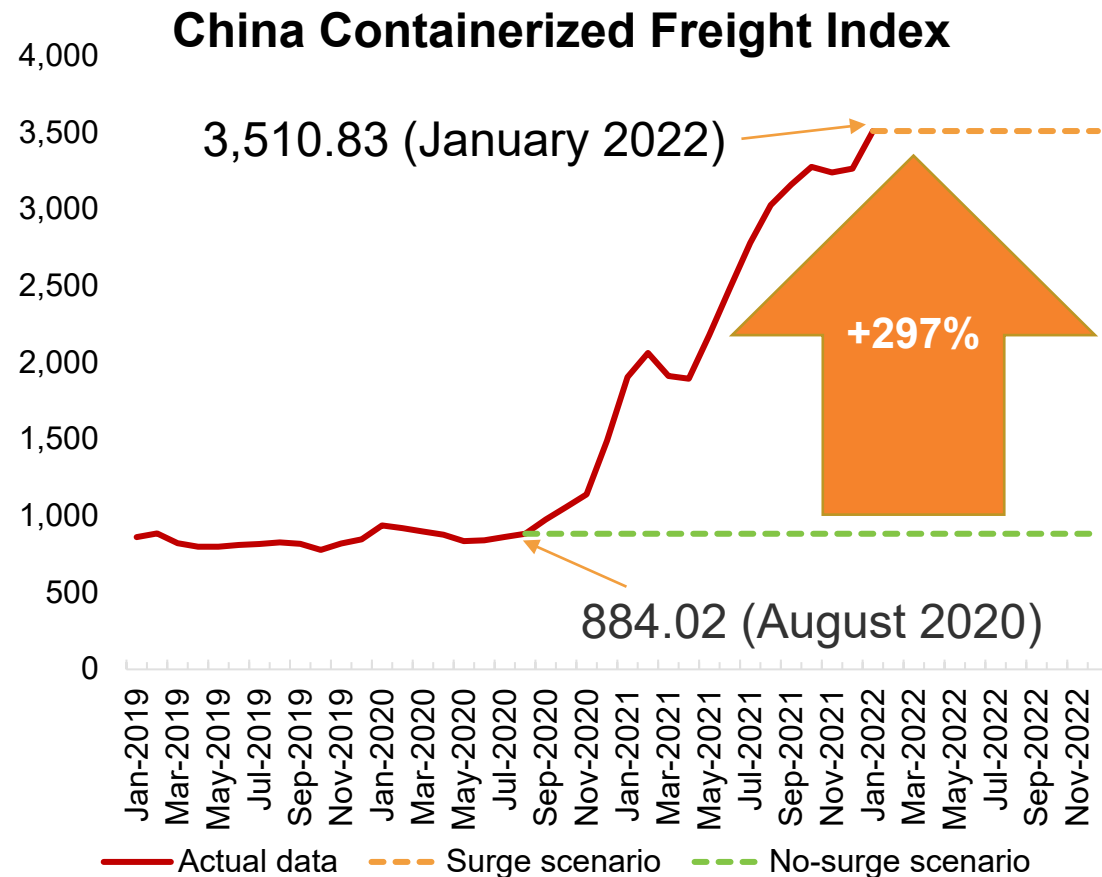


# UPDATED SIMULATION

Assumption: CCFI +297% (previously +243%)

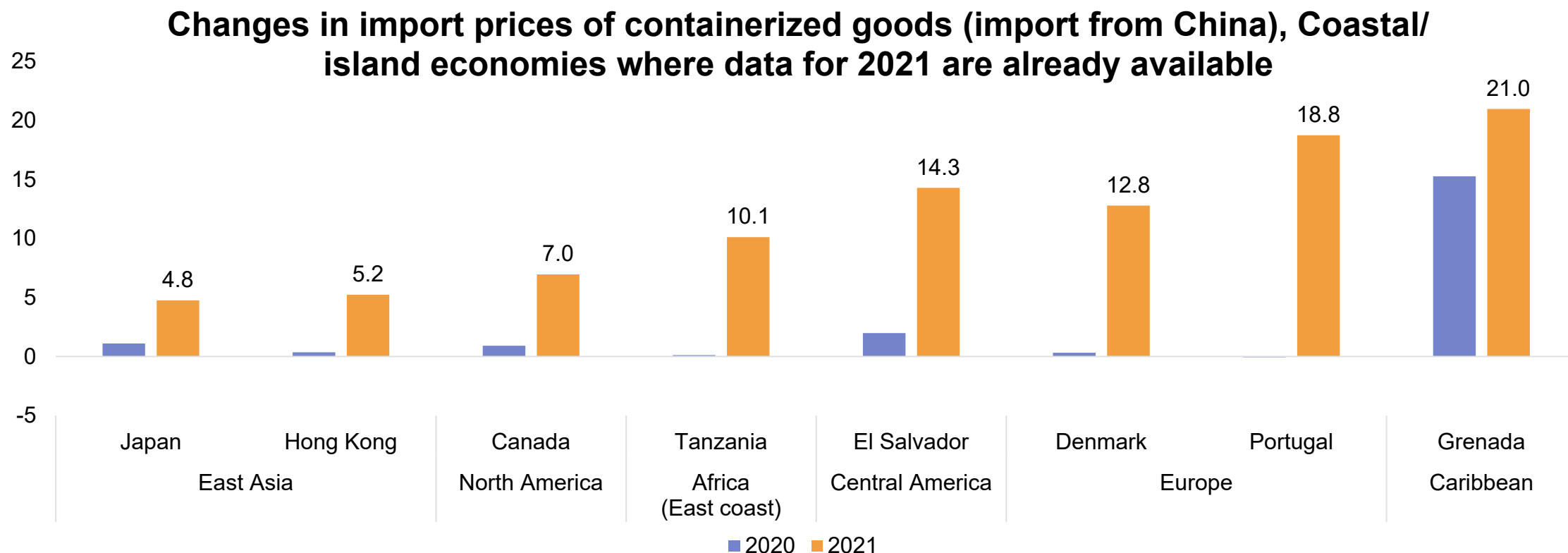
Result: World import prices +11.9% (previously +10.6%); CPI +1.6% (+1.5%)

SIDS import prices +26.7% (previously +24.2%); CPI +8.1%(+7.5%)



## LATEST DATA ON IMPORT PRICE INCREASES

- Latest data confirm that a small island economy, namely Grenada, suffered a higher increase in import prices than other economies in 2021.



Note: The definition of containerized goods is based on OECD's Maritime Transport Costs database. The indicated number is a median of import price changes at the HS 6-digit commodity level.

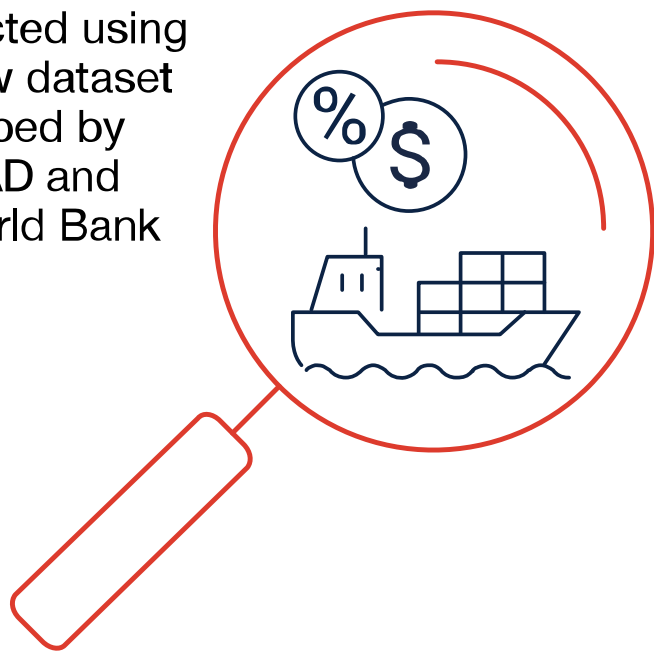
Source: UN Comtrade





# SIMULATED IMPACT OF IMPROVING MARITIME TRANSPORT COST DETERMINANTS

Simulation is conducted using the new dataset developed by UNCTAD and the World Bank



## Simulation assumption:

Improving structural determinants



Port infrastructure



Trade facilitating environment



Shipping connectivity

## Simulation results:

Reduction in maritime import transport costs

-4.1%

-3.7%

-4.4%

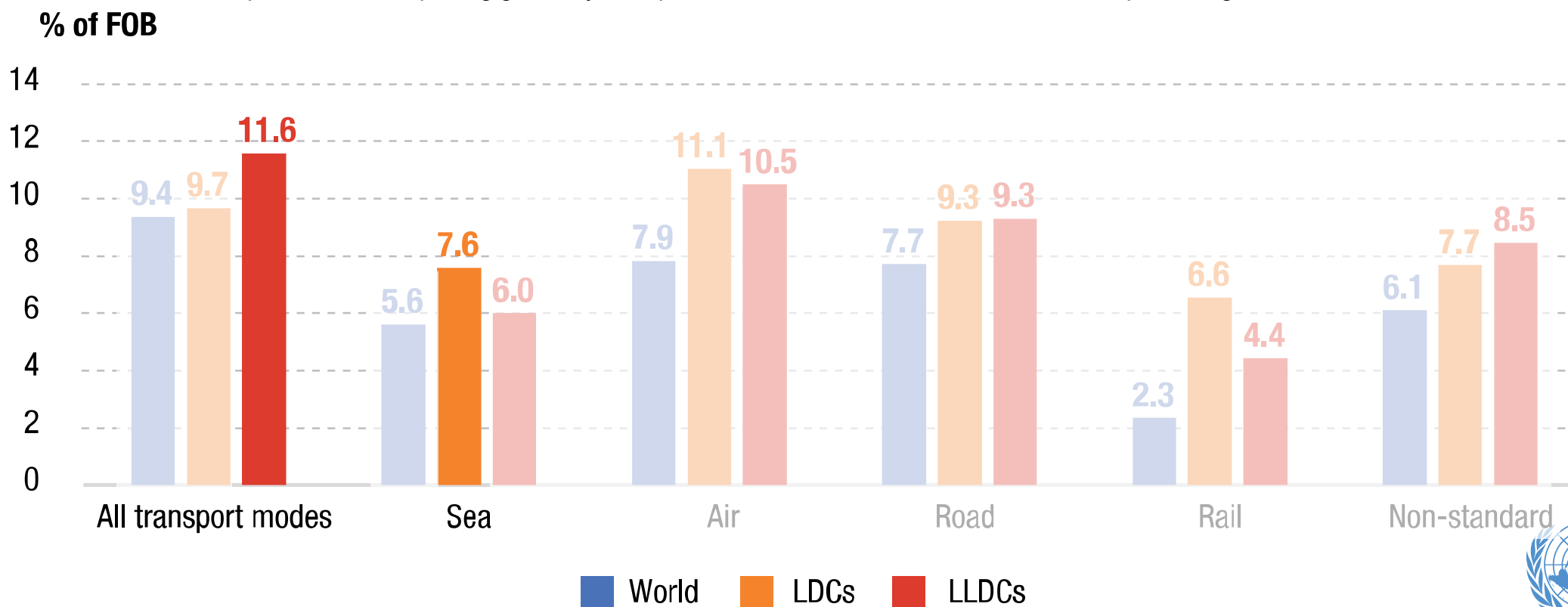
## NEW DATASET ON GLOBAL TRANSPORT COSTS

- UNCTAD and World Bank have developed a Global Transport Costs Dataset for International Trade
  - Interactive map: <https://unctadstat.unctad.org/EN/TransportCost.html>
  - Database: [https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?IF\\_ActivePath=P%2C207045](https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?IF_ActivePath=P%2C207045)
- The most extensive coverage of any public transport costs dataset so far
  - **Broken down by mode of transport** (i.e., sea, air, rail, road, non-standard)
  - Country coverage: bilateral data for **over 100 importing countries** and **over 200 exporting countries**
  - Detailed information at HS 6-digit commodity level
  - Depicting around 95 percent of the global merchandise trade in terms of value
  - Currently it contains data for 2016, but more data will be added in the future.

## OVERVIEW OF THE GLOBAL TRANSPORT COSTS 1

- Transport cost data have been aggregated for three importing country groups
  - LDCs, LLDCs and the world as a whole
- **The highest all-mode transport costs are for LLDCs**
- **For maritime transport costs, the highest costs are in LDCs**

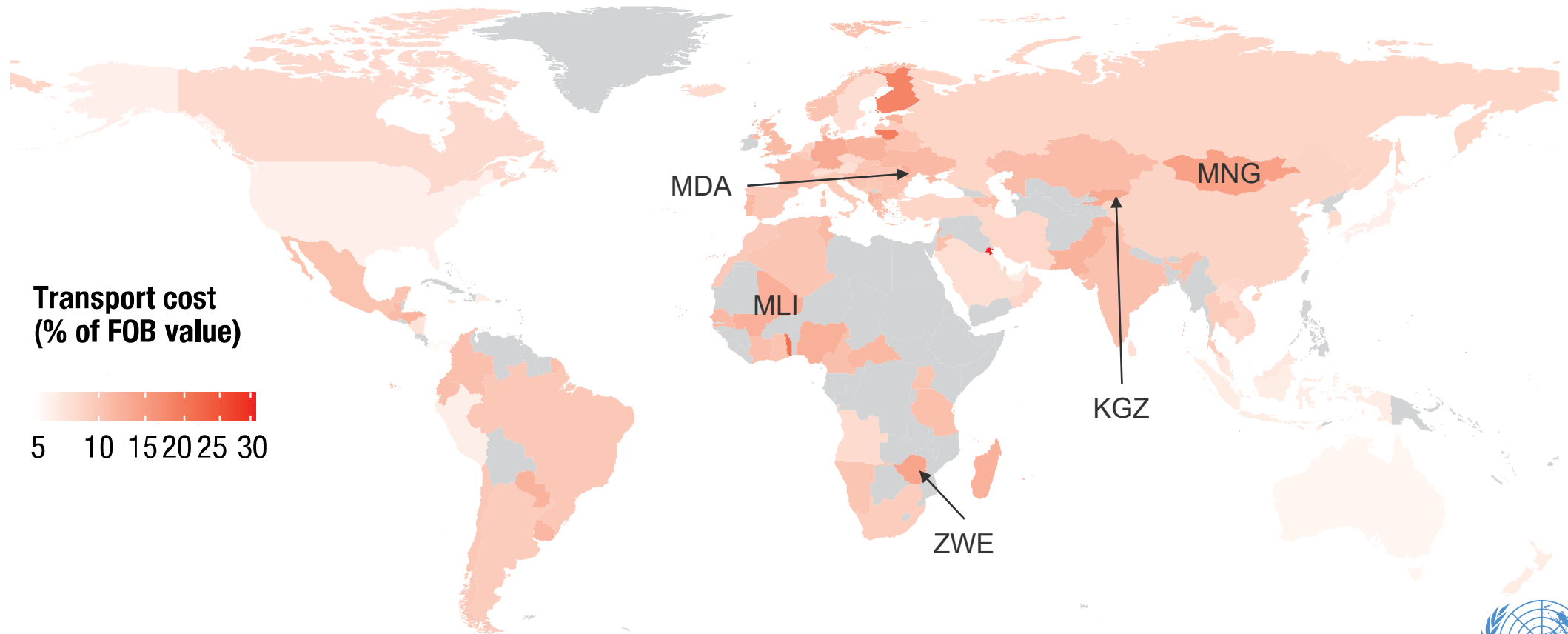
Transport costs for importing goods by transport mode, world, LDCs, and LLDCs, 2016, percentage of FOB value



## OVERVIEW OF THE GLOBAL TRANSPORT COSTS 2

- Heatmap also indicates **high transport costs (all mode) for LLDCs** such as Mongolia, Zimbabwe, Kyrgyzstan, the Republic of Moldova and Mali.

Transport costs heatmap for importing goods, all modes of transport, 2016, percentage of FOB value

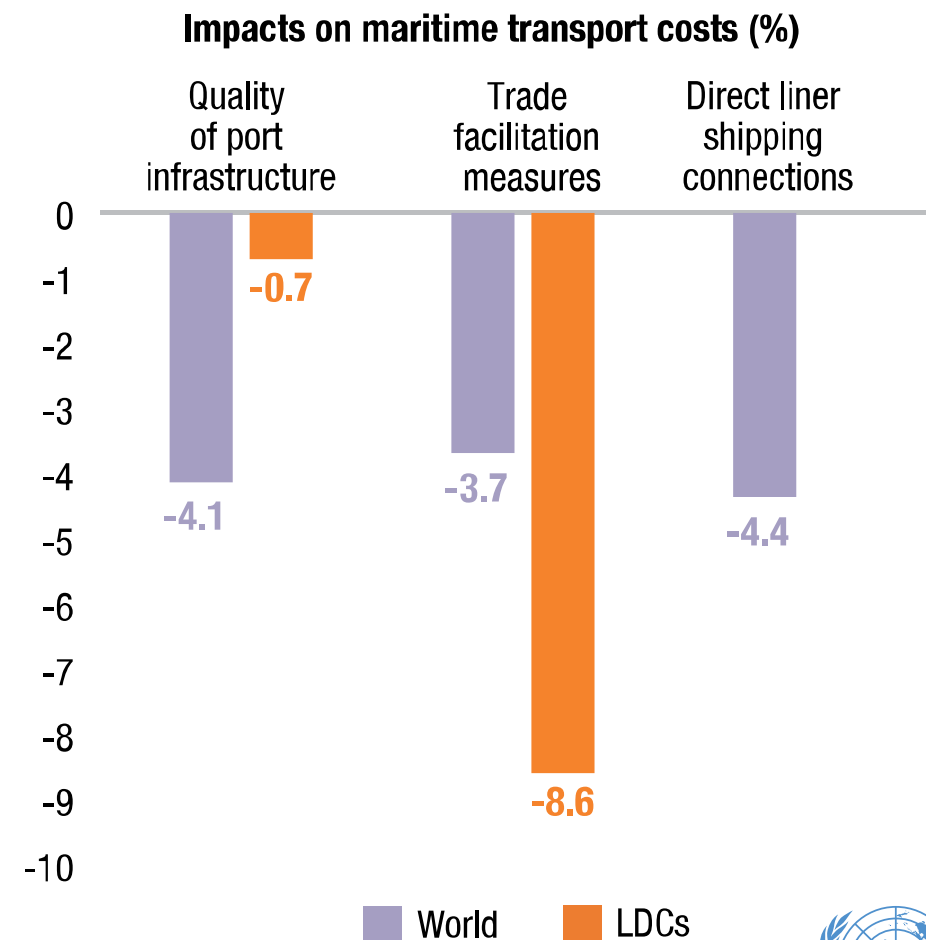


Note: Grey color indicates countries where import transport costs data are not available.

# TRANSPORT COST DETERMINANTS

- The dataset is useful to analyze the underlying relationships between shipping costs and their determinants
- Improving the following determinants is estimated to significantly reduce maritime transport costs:
  - **Quality of port infrastructure**
  - **Trade facilitation measures**
  - **Liner shipping connections**
- The impact of trade facilitation measures is expected to be larger in LDCs

Impact of structural determinants on maritime transport costs for importing goods



Note: Impact of improving the transport cost determinants from their 25th percentiles to 75th percentiles.

## POLICY CONSIDERATIONS – SHORT TERM

- **Monitor markets** – To ensure a fair transparent and competitive commercial environment, governments will need to **monitor freight rates**, as well as **fees and charges** applied by carriers and port terminals. Policy makers should **strengthen maritime transport competition authorities** so that they can better understand market development and provide the requisite regulatory oversight (UNCTAD, 2021).
- **Share information and strengthen collaboration** – To enhance transport efficiency and operations there should be greater **collaboration and sharing of data between various stakeholders along the maritime supply chain**, including carriers, ports, inland transport providers, customs and shippers.

## POLICY CONSIDERATIONS – LONG TERM

- **Analyse trends** – Relevant organizations, including UNCTAD, should continue to **monitor trends in shipping markets, collect data and deepen their analysis of the structural determinants of transport costs**. They can consider ways of cutting costs, enhancing efficiency and smoothing delivery of international maritime trade.
- **Upgrade ports** – To address congestion and ensure efficient and sustainable trade, port operations should be upgraded by **improving infrastructure, and investing in new technology and digital solutions**. Similar efforts should extend to trade facilitation to improve hinterland connectivity, particular for LDCs, SIDS and LLDCs.
- **Move up the value chain** – If smaller economies are to be more resilient to external shocks, including freight rate surges and maritime transport disruptions, they should be able to **diversify by graduating to higher-value-added products**.

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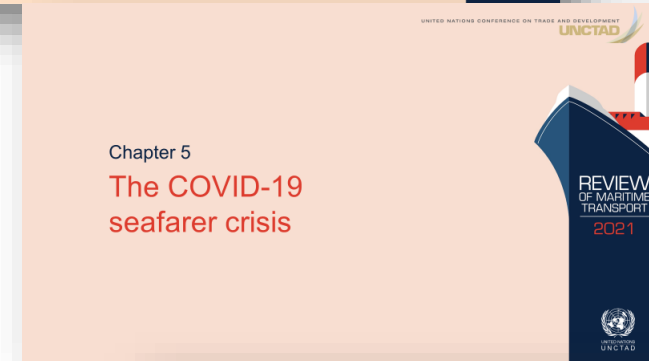
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# Part 1: Demand, supply and markets



# Part 2: Cross cutting issues





## Chapter 4

# Key performance indicators for ports and the shipping fleet

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# LINER SHIPPING CONNECTIVITY

**The top 5 economies** with the highest Liner Shipping Connectivity Index (LSCI) **are in Asia**



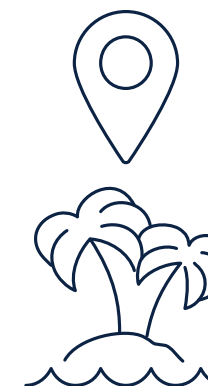
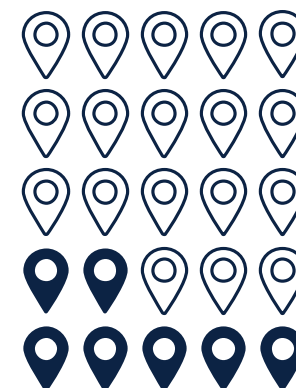
1	China
2	Singapore
3	Republic of Korea
4	Malaysia
5	Hong Kong, China

6	United States
7	Spain
8	Netherlands
9	United Kingdom
10	Belgium

The long-term trend in the distribution of the LSCI shows **a widening gap between the best and least connected countries**

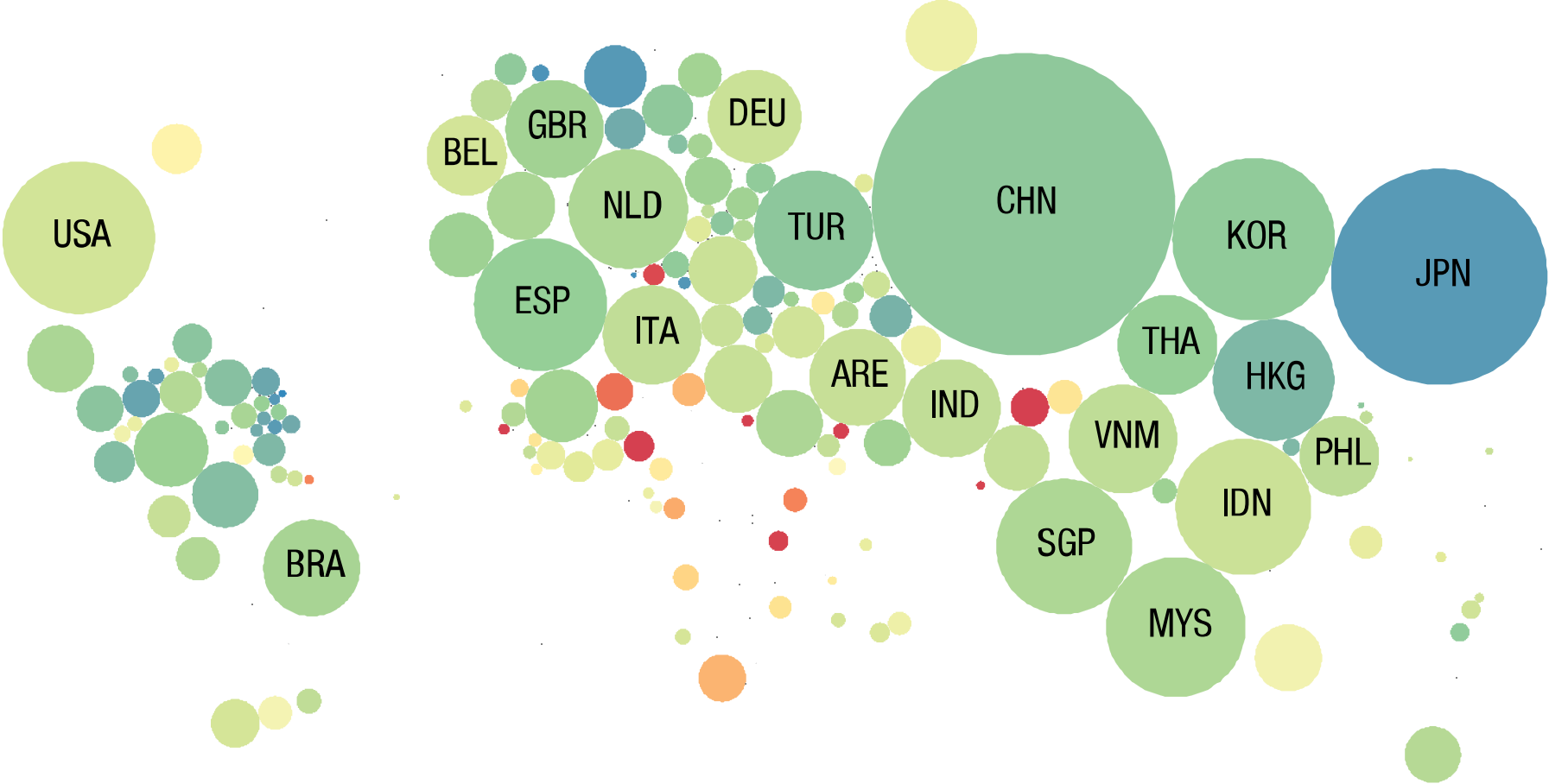
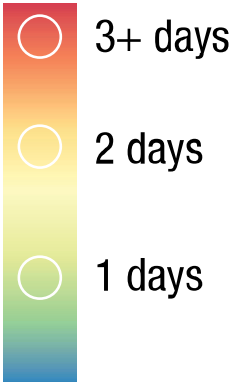


**18 of the 25 least connected economies** and territories for which an LSCI has been generated **are islands**

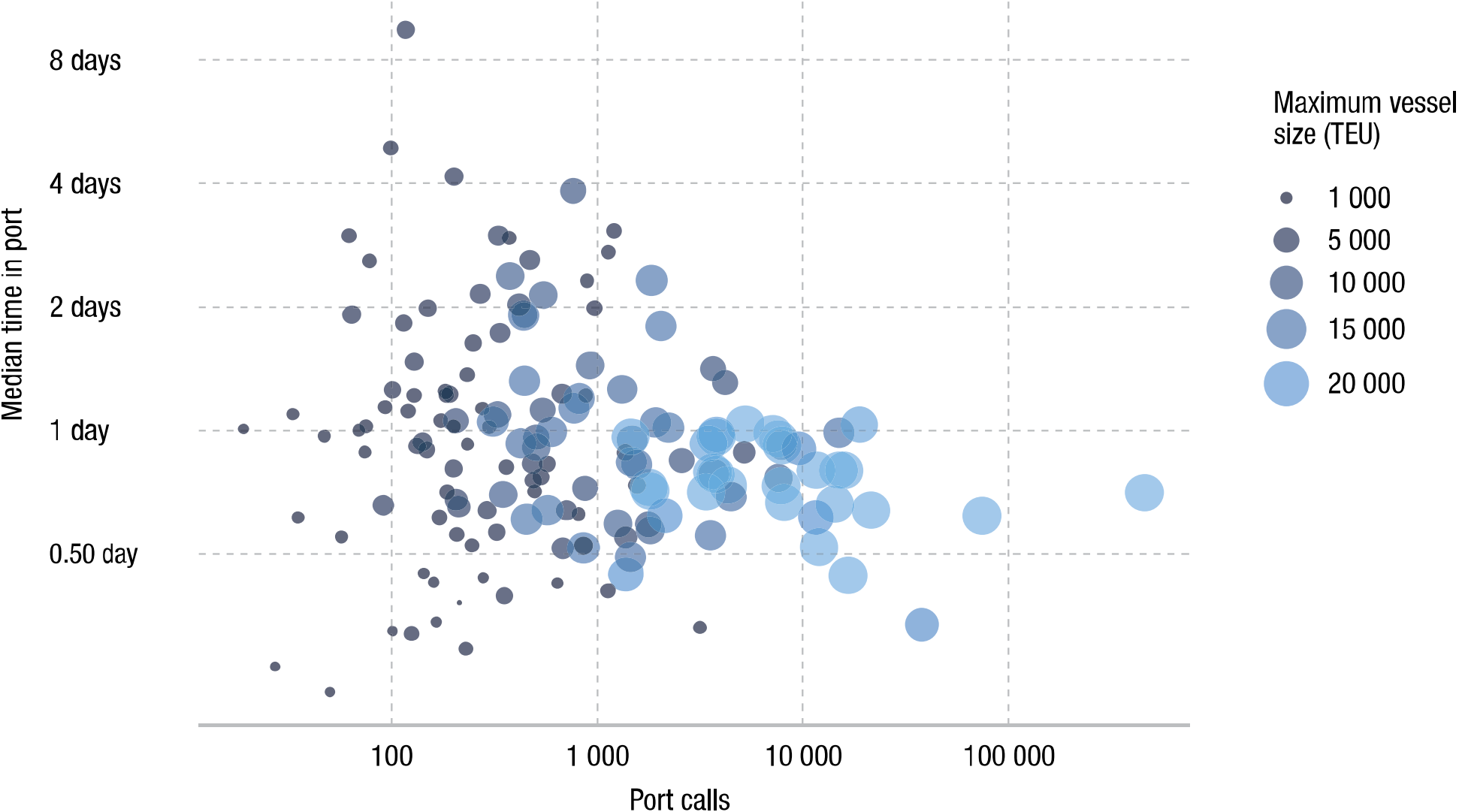


# Container ship port calls and time in port, 2020

Median time at port



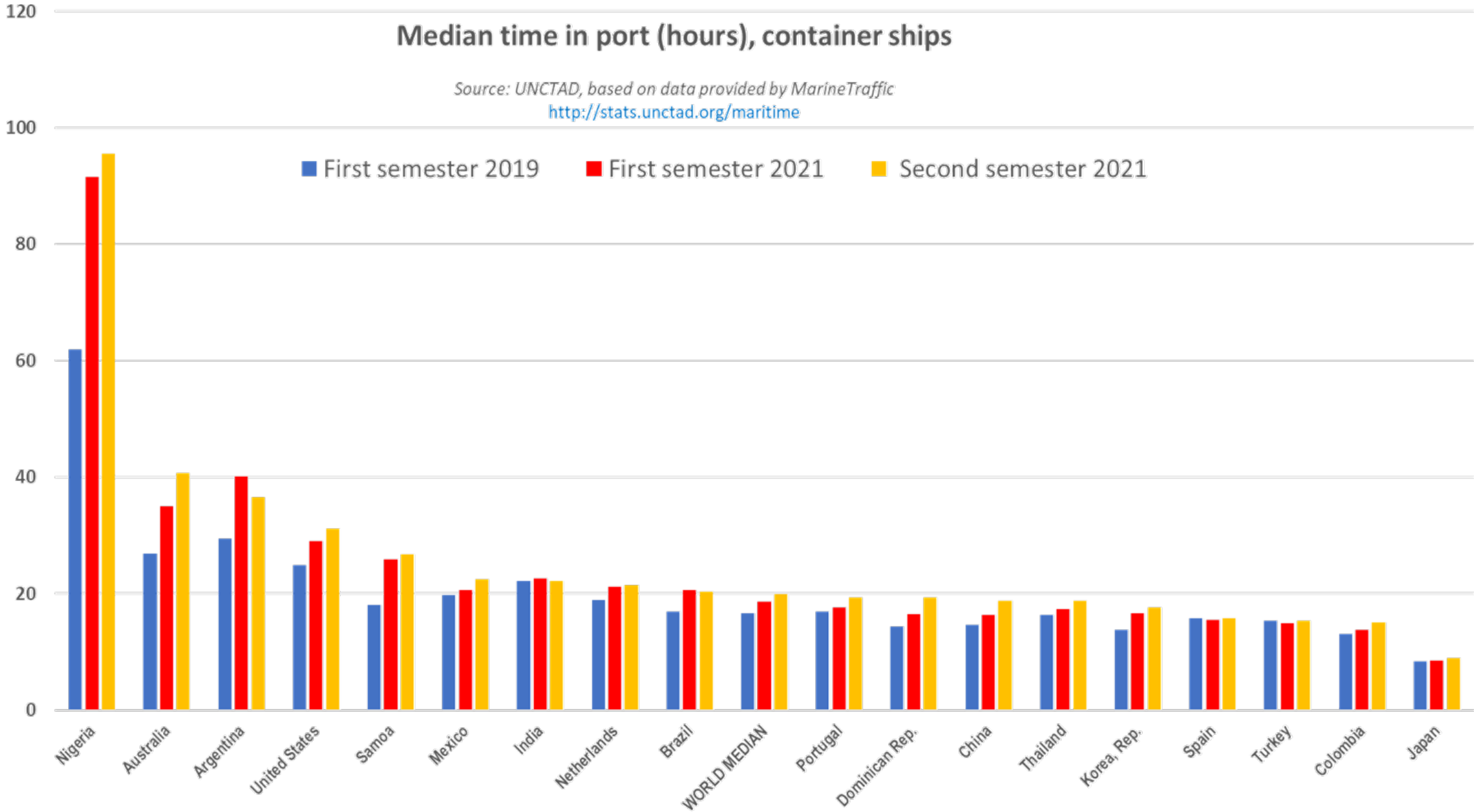
# Median time in port, number of port calls, and maximum vessel sizes, per country, container ships, 2020



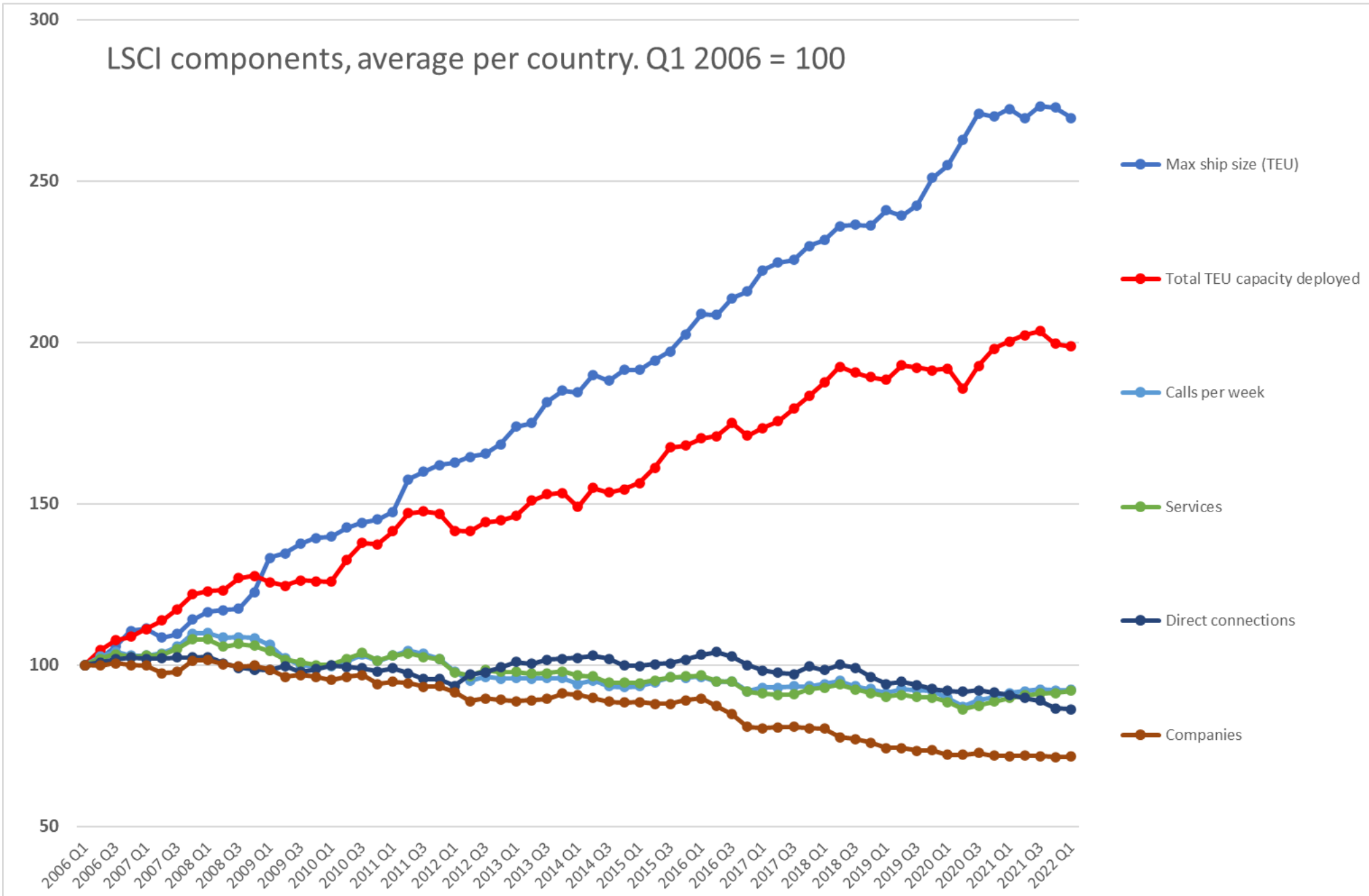
### Median time in port (hours), container ships

Source: UNCTAD, based on data provided by MarineTraffic  
<http://stats.unctad.org/maritime>

■ First semester 2019   ■ First semester 2021   ■ Second semester 2021



*Latest update*



# PORT OPERATIONS BEYOND CONTAINER: NEW DATA ON **BULK** CARGO

## The fastest loading operation



Dry bulk carriers

*Tonnes loaded  
per minute*

<b>48</b>	Australia
<b>28</b>	Colombia
<b>25</b>	Brazil



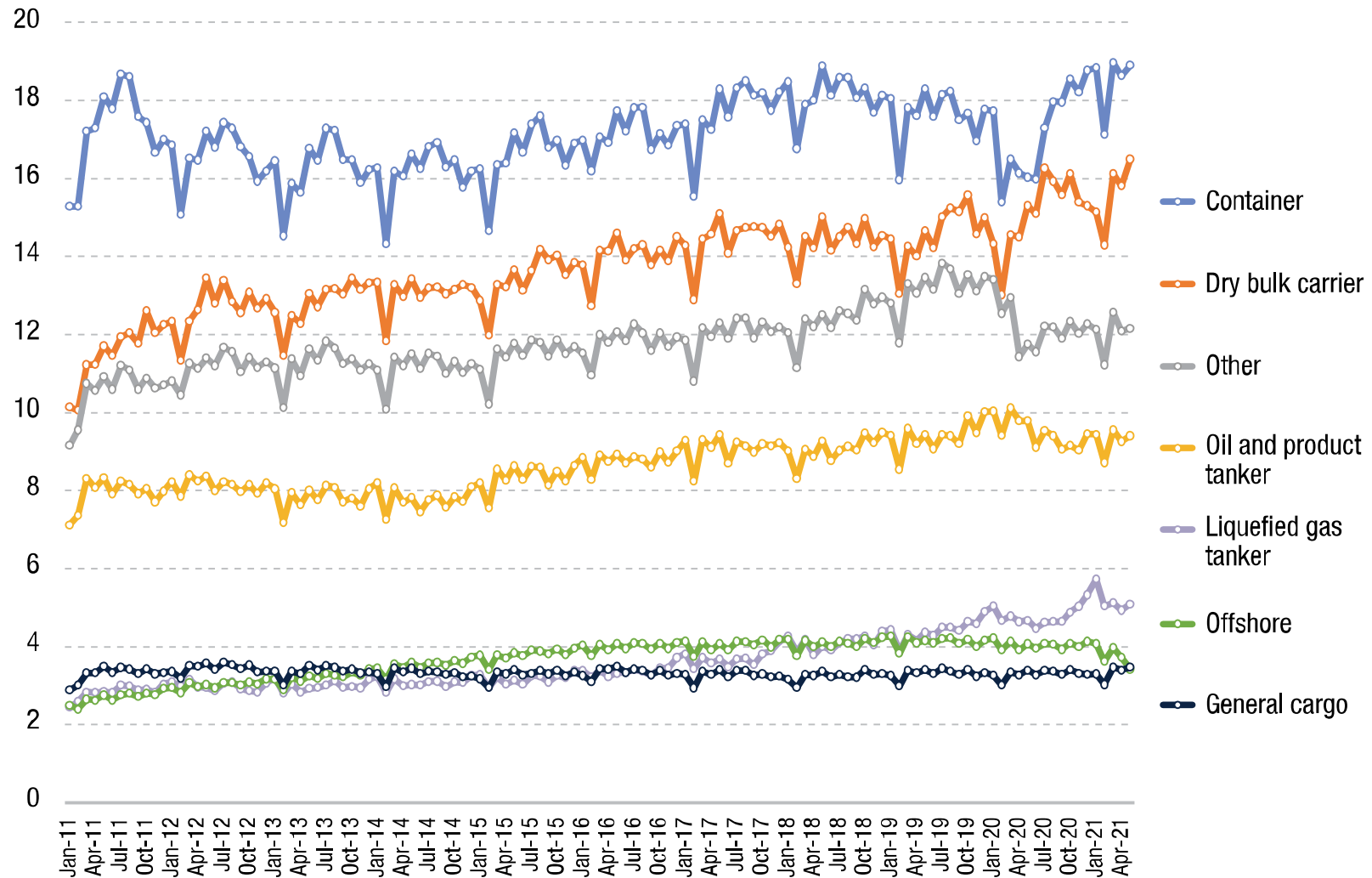
Tankers

*Tonnes loaded  
per minute*

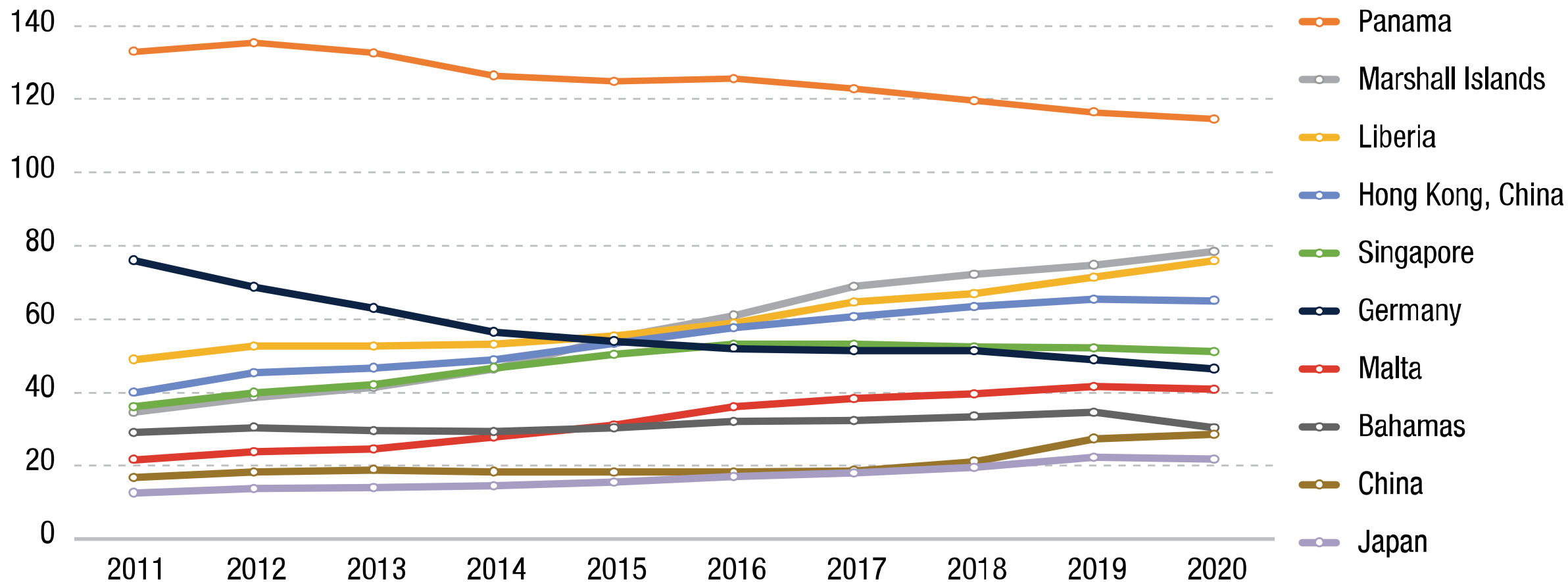
<b>113</b>	Angola
<b>95</b>	Qatar
<b>90</b>	Kuwait



Carbon dioxide emissions by vessel type, monthly, million tons, 2011–2021



# Carbon dioxide emissions by flag state, annual, 2011–2020, million tons





## Chapter 5

# The COVID-19 seafarer crisis

REVIEW  
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## Chapter 5 – The COVID-19 seafarer crisis

**Seafarers** – 1.9 million worldwide – most from developing countries - vital role - flow of critical goods across supply chains - keeping world trade moving

**Seafarers need to be changed over** – to prevent fatigue and to comply with international maritime regulations and standards for safety, crew health and welfare (MLC 2006)

**COVID-19 public health and travel related restrictions** - many seafarers unable to leave ships – stranded beyond expiration dates of contracts and default 11-month maximum period of continuous service on board (MLC 2006).

A **high of 400.000** seafarers affected in 2020; as of **July 2021**, estimated number around **250.000**

**Humanitarian and safety implications** – physical and mental health, fatigue, increased risk of accidents

As **variants of the virus** emerge - continued **border closures, lockdowns and preventative measures** (suspending crew changes, prohibiting crews from disembarking at port terminals) - also **shortage of international flights** and **insufficient vaccine supply**

**Despite a range of relevant guidance and recommendations by international organizations and industry stakeholders, two years into the pandemic** large numbers of seafarers remain stranded – still **no global consensus** on **uniform measures** allowing for efficient crew changes/ transfer



# Chapter 5 – The COVID-19 seafarer crisis

## Relevant key guidance and recommendations by international organizations include:

### IMO

- [Advice via Circular Letter](#) for IMO Member States, seafarers and shipping (including joint calls for action with ILO, WHO, UNCTAD, ICAO etc) - other useful links to [COVID-19 resource pages](#)
- IMO MSC resolution on [Recommended action to facilitate ship crew change, access to medical care and seafarer travel during the COVID-19 pandemic](#) (MSC.473(ES.2) - September 2020
- IMO Assembly resolution on [Comprehensive action to address seafarers' challenges during the COVID-19 pandemic](#) (resolution A.1160(32)) – December 2021

### ILO

[Resolution concerning maritime labour issues and the COVID-19 pandemic](#) – December 2020

### UN GA

- Resolution on [International cooperation to address challenges faced by seafarers as a result of the COVID-19 pandemic to support global supply chains](#) (A/RES/75/17) – December 2020 - UNCTAD and IMO were requested to report on issues related to the resolution – Chapter 5 of RMT 2021

### WHO

- [An implementation guide for the management of COVID-19 on board cargo ships and fishing vessels](#) – first issued 08/2020 (updated 12/2021)
- [WHO SAGE Roadmap For Prioritizing Uses Of COVID-19 Vaccines In The Context Of Limited Supply](#) - first issued 10/ 2020 (last updated 01/2022)
- [Public health surveillance for COVID-19: interim guidance](#) – first issued 12/2020 (last updated 02/2022)
- [Roadmap to improve and ensure good indoor ventilation in the context of COVID-19](#) – 03/2021 (corrigenda 04/2021)
- [Digital Documentation of COVID-19 certificates: vaccination status: technical specifications and implementation guidance](#) - 08/2021



## Chapter 5 – The COVID-19 seafarer crisis

### Relevant broader stakeholder initiatives include:

**Neptune Declaration on Seafarer Well-being and Crew Change** – January 2021 – 600 companies and organizations (currently over 850) - recognizes ***shared responsibility to ensure that the crew change crisis is resolved***

**Crew Change Indicator** - aggregated data from 10 leading ship managers - 90,000 seafarers on board ships - monthly since May 2021 - data as of the 15th of the previous month – **an indication of trends**

**February 2022 Indicator** – ***no. of seafarers onboard vessels beyond contract expiration slightly increased*** from 3.7% to 4.2% in the last month – ***no. of seafarers onboard for over 11 months remained stable at 0.4%*** - reflects ***challenges by Omicron*** – goes against decreasing trend since September 2021

***Vaccination of seafarers is progressing*** – countries' programmes to offer vaccines to international seafarers



# Chapter 5 – The COVID-19 seafarer crisis

## UNCTAD – related calls for action and other relevant documents and activities 2020/2021

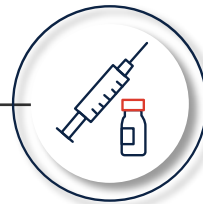
- Highlight the *pandemic impacts' risks to shipping and global sustainable trade and development*
- Urge all stakeholders to *ensure the continued safe operation of shipping*, and to *keep ships moving, ports open and cross-border trade flowing* during the pandemic
  - [ILO, IMO, UNCTAD, WHO - \*Joint Open Letter to United Nations agencies from the global maritime transport industry. Facilitating crew changes to keep world trade moving throughout the COVID-19 crisis\*](#)
  - [COVID-19: A 10-point action plan to strengthen international trade and transport facilitation in times of pandemic](#), UNCTAD Policy Brief No. 79
  - UNCTAD and IMO [Joint statement in support of keeping ships moving, ports open and cross-border trade flowing during the COVID-19 pandemic](#)
  - [Facilitating crew changes and repatriation of seafarers during the COVID-19 pandemic and beyond](#) Article No. 72, UNCTAD Transport and Trade Facilitation Newsletter N°89
  - [Maritime Webinar Series: The Crewing Crisis - Seafarers concerns in times of the pandemic and beyond](#)
  - [Strengthening international response and cooperation to address the seafarer crisis and keep global supply chains open during the ongoing COVID-19 pandemic](#), UNCTAD Policy Brief No.91– December 2021
  - **IMO, ILO, UNCTAD, WHO** – considering issuing a related **Joint statement** *urging continued collaboration to address the crew change crisis, safeguard seafarer health and safety, and avoid supply chain disruptions during the ongoing COVID-19 pandemic*

**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

All should be working together to implement relevant labour standards, protect seafarers' human rights and advance the objectives of SDG 8 of decent work and economic growth for sustainable development.



**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



1

### **Vaccination**

*Concerted collaborative efforts by industry, governments and international organizations should ensure that seafarers are designated as key workers and are vaccinated as a matter of priority*



**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

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**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



3

### **Route deviations**

*Charterers and other industry stakeholders should be flexible in accepting requests from shipping companies for route deviation to facilitate crew changes*

**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

All should be working together to implement relevant labour standards, protect seafarers' human rights and advance the objectives of SDG 8 of decent work and economic growth for sustainable development.



**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



4

### **International legal framework**

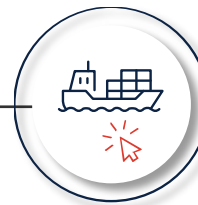
*States and other relevant stakeholders should keep under review the relevant legal framework and ensure that international obligations are respected and implemented*

**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

All should be working together to implement relevant labour standards, protect seafarers' human rights and advance the objectives of SDG 8 of decent work and economic growth for sustainable development.



**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



5

### **Maritime single windows**

*Port community systems should implement the Single Window concept to cover all the information and formalities resulting from FAL and other relevant instruments*

**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

All should be working together to implement relevant labour standards, protect seafarers' human rights and advance the objectives of SDG 8 of decent work and economic growth for sustainable development.



**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



6

### **Information exchange**

*Relevant public and private sector stakeholders should continue their regular exchange of views and best practices on seafarers' situation and needs*

**Seafarers, many of whom from developing countries, are playing a vital role in ensuring the flow of critical goods across supply chains and keeping the world trade moving.**

All should be working together to implement relevant labour standards, protect seafarers' human rights and advance the objectives of SDG 8 of decent work and economic growth for sustainable development.



**Despite important international efforts and support, the crew change crisis has worsened and seafarers are still facing serious problems which need to be addressed:**



7

### **Outbreaks and emergencies at sea**

*Specific guidance on measures to prevent and deal with COVID-19 and other outbreaks at sea should be updated regularly, in line with developing scientific insights*



## Chapter 6

# Legal and regulatory developments and the facilitation of maritime trade

REVIEW  
OF MARITIME  
TRANSPORT

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UNITED NATIONS  
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## Chapter 6 - Legal and regulatory developments

### Key legal issues and regulatory developments covered:

- A. Technological developments in the maritime industry
- B. Regulatory developments relating to international shipping, climate change and other environmental issues
- C. Legal and regulatory implications of the COVID-19 pandemic
- D. Other legal and regulatory developments affecting transportation



## Chapter 6 - Legal and regulatory developments

### A. Technological developments in the maritime industry

#### 1. Ensuring maritime cybersecurity



With increasing automation and digitalization, there is a growing need to effectively protect shipping assets and technology from cyber threats



Failure to address cybersecurity may result in potential contractual liability

#### 2. Maritime autonomous surface ships (MASS)



Development of maritime autonomous surface ships (MASS) technology and trials, as well as related regulatory responses, are advancing



IMO regulatory scoping exercise is progressing (completed at MSC and LEG)

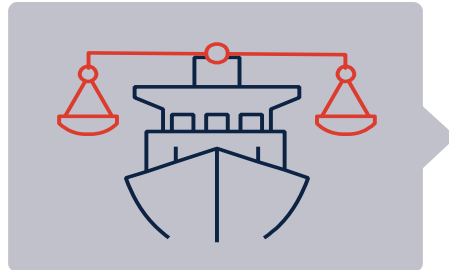




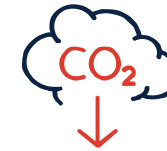
# Chapter 6 - Legal and regulatory developments

## B. Regulatory developments relating to international shipping, climate change and other environmental issues

### 1. IMO action on greenhouse gas emissions



IMO Member States agree on new mandatory regulations to further reduce GHG emissions from international shipping



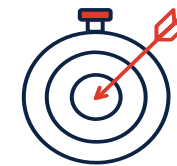
Amendments to MARPOL Annex VI - requiring operators to measure energy efficiency of all ships and meet specified targets (adopted 6/2021 -eif 11/2022)

GHG reduction candidate measures considered at IMO - initial and comprehensive assessment of impact on States - UNCTAD-IMO collaboration

### 2. Adapting transport infrastructure to the impacts of climate change



Climate-change adaptation and resilience-building for seaports is becoming an increasingly urgent challenge, especially for vulnerable developing countries that are at high and growing risk of climate change impacts



UNCTAD 15 pre-event HL dialogue - SIDS representatives highlighted the urgent need for better availability/access to green and blue infrastructure financing - also reflected in Bridgetown Covenant



# Chapter 6 - Legal and regulatory developments

## B. Regulatory developments relating to international shipping, climate change and other environmental issues (cont)

### 3. Protecting the marine environment and biodiversity

#### a. Implementing the IMO 2020 sulphur limit

From 1 January 2020 - Flag and Port State controls - ships comply with the **0.5 per cent sulphur limit**.

**Implementation - primarily with VLSFO – relatively smooth - compliant fuel oil widely available globally** - some disruption by COVID-19 - several more ports and countries banned open-loop scrubber wash water discharge - global enforcement facilitated by ban on the carriage of non-compliant fuel

#### b. Ballast water management

**Amendments to BWM Convention 2004 - commissioning and testing of BWM systems** and the **form of the International BWM Certificate** (adopted 12/2020 eif. 1/6/2022)

#### c. Biofouling

**Amendments to AFS Convention 2001 - prohibiting anti-fouling systems containing cybutryne** (adopted 06/2021; eif. 1/1/2023)

#### d. Oil-pollution from shipping

Oil spills - issues of **liability and compensation** - costs of reinstating the environment.

Comprehensive **international regime on liability and compensation** for oil pollution damage caused by **persistent oil spills from tankers** (CLC-IOPC Fund regime) - **does not apply for bunker oil and other spills** – covered by *Bunkers Convention* – **significantly lower compensation** (see e.g. Mauritius Oil spill 2020)

Issue needs to be revisited - IMO LEG started work to **develop an ‘IMO Claims Manual for the Bunkers Convention’ – important that this is not dominated only by shipowner interests and developing countries contribute actively**



## Chapter 6 - Legal and regulatory developments

### C. Legal and regulatory implications of the COVID-19 pandemic



COVID-19 pandemic - **delays and supply-chain disruptions** - affect the **performance of contractual obligations** - need for costly litigation

UNCTAD/UN regional Commissions - joint TA project: [Transport and trade connectivity in the age of pandemics: Contactless, seamless and collaborative UN solutions](#)

UNCTAD - leading several components, including work on the **international commercial transport and trade law implications of the pandemic, to assist commercial parties to better understand the key legal issues arising and consider potential approaches to addressing some of these, including as part of their contracts**

- Two related briefing notes published in 2021

[Carriage of Goods by Sea and related Cargo Claims; International Sale of Goods on Shipment Terms;](#)

- One analytical report published in 2022

[Contracts for the carriage of goods by sea and multimodal transport - Key issues arising from the impacts of the Covid-19 pandemic](#)

- Further work, including training activities are in preparation

**Delays in documentation** - impetus for more commercial parties to adopt **secure electronic solutions** that are already available and have been accepted by the market



## Chapter 6 - Legal and regulatory developments

### D. Other legal and regulatory developments affecting transportation

#### 1. Combating fraudulent registration and registries

UNCTAD participation in an IMO LEG intersessional correspondence group



#### 2. Multimodal transport discussions at UNCITRAL and ESCAP

**Multimodal transport - key driver of sustainable development** - enabling effective use of existing capacities and infrastructure - promoting a better balance between transport modes across supply-chains

**No uniform legal regime on multimodal transport into force internationally** - existing framework complex jigsaw of international conventions for unimodal carriage, regional and sub-regional agreements, national laws, and standard term contracts – **lack of legal certainty and a need for costly evidentiary enquiries and litigation**

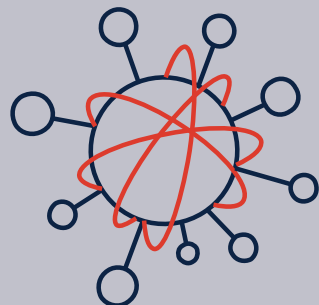
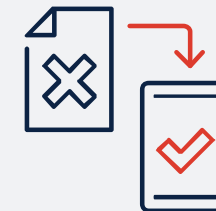
**UNCTAD active participation** in work at:

- ESCAP – Harmonizing multimodal legal frameworks in Asia and the Pacific
- UNCITRAL – preparatory work on negotiable multimodal transport documents

# The Facilitation of Maritime Trade



Digitalization and automation of trade procedures such as Maritime Single Windows are catalysts for more efficient and paperless compliance processes at ports



Multilateral Agreements such as the WTO TFA and the IMO FAL Convention provide solid international standards to build automated systems while ensuring interconnectivity and interoperability



Building resilient and efficient logistic supply chains requires public-private dialogue. Cooperation from businesses involved in maritime trade and port operations through National Trade Facilitation Committees foster successful trade reforms



THANK  
YOU



## Acknowledgements

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