## Book Review: "UNCTAD RMT 2022"

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## **Reviewed by Peter Cook** Managing Editor International Journal of Maritime Crime and Security



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The maritime industry is quintessentially international. It is the most physically interconnected and commercially interrelated element of the world economy. When you look at the routes of shipping lanes along coasts and across oceans, you can appreciate that it is the backbone and circulatory system of the global economy. Before maritime crime and security can effectively be understood the importance and function of maritime transport must first be understood. This is undeniably a daunting task that should not be underestimated. Thankfully, there is an excellent annual (since 1968) free publication that provides a wealth of information and valuable insight into the industry, which is incisive, concise and influential. The United Nations Conference on Trade Development (UNCTAD - <a href="https://unctad.org/">https://unctad.org/</a>) publish nine flagship reports related to many aspects of international trade, including the Review of Maritime Transport (RMT). Historical RMTs back to 1969, can all be downloaded free of charge at <a href="https://unctad.org/publications-search?fl0]=product%3A393">https://unctad.org/publications-search?fl0]=product%3A393</a>.

The UNCTAD RMT is the most authoritative document on the commercial maritime industry and is an invaluable point of reference for students of any aspect of the industry. The RMT is politically neutral and purely comments on what has happened and why, across the ships and ports of the world in a factual, generic report. The list of referenced authoritative sources is extensive and comprehensive.

This 195-page document is designed as a reference text, with a brief Foreword and an excellent 13-page overview, or executive summary, providing the key points and statistics from across the report. The report is divided into seven chapters, International Maritime Trade, Maritime Transport Services, Freight Rates and Transport Costs, Key Performance Indicators for Ports and the Shipping Fleet, Maritime Trade Facilitation, Consolidation and Competition in Container Shipping, Legal Issues and Regulatory Developments. Each chapter is further broken down into four to eight clearly defined topic areas. There are twelve boxes or side bars, that provide subject-specific explanations including Impacts of the war in

Ukraine on the Arab region, and Concentration and cooperation in competition law. The ninety-five graphics in the publication bring it to life, helping to explain some of the more technical aspects with clarity, which along with the thirty-two tables, comprehensive list of abbreviations and description of vessel groupings make this annual review extremely user-friendly.

It is this reviewer's opinion that understanding the maritime industry first is fundamental to understanding how crime and security affects ships, ports, and seaborne trade. It must be remembered that security and the countering of crime supports the function of global trade and does not drive it. It is imperative that students of the industry understand the adoption of any security measure will have a cost impact which makes acceptance and implementation a commercial decision.

In 1968, UNCTAD published their first review of maritime transport. The purpose of the review was to "present statistical evidence of developments in international maritime transport … with special reference to factors affecting the trade and shipping of developing countries."<sup>1</sup> The review noted that the volume of trade moved by sea was 1.86 billion tons<sup>2</sup> and the global fleet was around 262 million deadweight tons<sup>3</sup>. "Total tonnage increased by about 120 per cent over this period [1955-1968], tanker tonnage by 160 per cent and dry cargo tonnage by 104 per cent."<sup>4</sup> The report commented on the burgeoning shipping industry and predicted significant growth in the innovative new methodology of "containers" (the first transatlantic routes had commenced only three years prior to the report) for moving general cargo.

UNCTAD RMTs have carefully and meticulously tracked the evolution of the industry over the intervening 54 years. The volume of cargo transported by sea has grown to 11 billion tons<sup>5</sup> (representing an almost 6,000 per cent increase), carried by a fleet "102,899 ships<sup>6</sup> of 100 gross tons<sup>7</sup> and above, comprising 2,199,107 thousand [two billion one hundred ninety-nine million one hundred seven thousand] dwt<sup>8</sup> of capacity"<sup>9</sup>. Whilst container statistics were not available in 1968, the number of containers or twenty-foot equivalent units (TEU)<sup>10</sup> in circulation is estimated to be 165 million<sup>11</sup>. This is astronomical growth in anybody's book.

Each chapter of the RMT is preceded by a short abstract, giving the reader a summary of what the subject matter will comprise. Chapter 1 covers International Maritime Trade. It provides a wealth of tables allowing the reader to explore variations in trading trends over the last 50 plus years by cargo category and geographic distribution for the year of the review, whilst the text highlights pertinent points, including comparative trade fluctuations. It identifies causations including hangovers from the pandemic that including port congestion triggered by lack of port equipment, labor and challenges incurred by inadequate hinterland logistics infrastructure. Tables and text also reinforce the dominance of Asia in international maritime trade, being greater than the Americas and Europe combined. The section on containerized cargo

11 UNTAD RMT 2022 p9



<sup>1</sup> UNCTAD RMT 1968 p1

<sup>2</sup> Ibid

<sup>3</sup> UNCTAD RMT 1968 p7

<sup>4</sup> Ibid

<sup>5</sup> UNCTAD RMT 2022 p2

<sup>6</sup> Of which, around 74,000 vessels are deepwater/oceangoing ships - p160

<sup>7</sup> Gross Tonnage (GT) is a measure of the total earning capacity of the ship, below the upper deck, a measurement adopted in mid nineteenth century that has now largely been superseded by Deadweight Tonnage (dwt) – see below:

<sup>8</sup> dwt - Deadweight Tonnage is a measurement of the weight of cargo a ship can carry.

<sup>9</sup> UNCTAD RMT 2022 p33

<sup>10</sup> Containers are two standard sizes; twenty foot and forty foot, a forty-foot container constitutes two TEU.

tracks the increase in global containerized trade (with an estimated 165 m TEU in circulation)<sup>12</sup> and uses a graph to show the growth of container trade since 1996. The section on dry bulk (grains and metal ores – dry bulk ships are the largest sector of the commercial fleet) identifies the greatest exporters of each category of bulk cargo and the greatest importers identifying China as the largest importer of Iron Ore (73 per cent of the global Iron Ore total) and coal (twenty-three per cent)<sup>13</sup>. Overall, the tanker trade is decreasing (crude oil is in decline, refined petroleum products, chemicals etc have plateaued whilst LNG increases)<sup>14</sup> because of reduction in demand during the pandemic, cuts in global production and the embargo on Russian oil – the world's second-largest oil exporter<sup>15</sup>. Key trends shaping maritime transport are discussed in detail examining diversification, safety stocks (build up and use), vertical integration of manufacturers, mining companies aim to reduce supply chain dependency, investment in longer term relationships, additional facilities and suppliers and utilization of digital technologies. Ports are intrinsic to maritime trade and to keep pace with increasing volumes of cargoes being loaded and unloaded the report estimates that between 2022 and 2027 the global smart ports market is projected to increase from \$1.9 billion to \$5.7 billion whilst highlighting the associated threats to security in the extensive use of IT<sup>16</sup>.

As a result of the shifting patterns prompted by the pandemic and the "deteriorating geopolitical environment"<sup>17</sup> the report highlights vulnerabilities which have exposed the "heavy reliance on a single or a few suppliers"<sup>18</sup>, and whilst a 2022 survey discovered that most senior logistics and supply chain executives believed that a major transformation of supply chains was underway, there is no evidence of outright re-shoring or of a mass exodus from manufacturing in distant locations<sup>19</sup>. As an example, the report cites a 2021 survey by the American Chamber of Commerce in China disclosed that only 14 per cent were interested in relocating and only 3 per cent planned a move to the USA. Whilst both US and European government institutions are urging supply chain diversification, "companies are pursuing the 'best cost' – weighing manufacturing and transportation czosts against factors like supply chain resilience and environmental sustainability."<sup>20</sup> Although there are signs of changes in supply chains, the process will take time. Meanwhile the west's reliance on SE Asia for manufactured products is a habit that seems very difficult to kick. Finally, the chapter looks at four scenarios for the path to normalization from recovery sustained to recovery derailed; all of which seem plausible and merit consideration in these uncertain times.

Chapter 2 covers Maritime Transport Services, the fleet of commercial ships and trends within, including ship construction and scrapping/recycling and ports. As noted above there are almost 103 thousand ships of more than 100 GT, with a deadweight tonnage of 2.2 bn dwt. The average age of a merchant ship is around 25 years before the maintenance, regulatory restrictions and costs begin to impact on the operating margin, making them uneconomic. It is therefore surprising that the average age of the fleet is climbing, in 2022 the average age of ships was 21.9 years old demonstrating a 7 per cent increase since 2011<sup>21</sup>. The principal reasons for vessels being retained for longer is the uncertainty around regulatory restrictions and logistic practicalities linked to emissions (the global fleet account for around 3 per cent of

- 14 UNCTAD RMT 2022 p13
- 15 UNCTAD RMT 2022 p14
- 16 UNCTAD RMT 2022 p20
- 17 UNCTAD RMT 2022 p17
- 18 Ibid
- 19 Ibid

20 UNCTAD RMT p18

21 UNCTAD RMT 2022 p33



<sup>12</sup> UNCTAD RMT 2022 p9, based on data from MDS Transmodal (MDST), World Cargo Database Sep 22

<sup>13</sup> UNCTAD RMT 2022 p12

global greenhouse gas emissions<sup>22</sup>), and the most appropriate/cost effective propulsion engines and the global availability of different fuels. Until quite recently, almost all merchant ships used heavy fuel oil (HFO)<sup>23</sup>, which was the remnants of the crude oil after distillation to make other fuels (gasoline, diesel, aviation fuel etc.). Consequently, HFO was considerably cheaper than other fuels, but it also contained many of the nastier contaminants (Sulphur, Nitrogen Oxides, and other toxic gases) within the base crude product. On 1st January 2020 the International Maritime Organisation (IMO) imposed a 0.5 per cent Sulphur limit on ships operating worldwide.<sup>24</sup> The consequence of this was ships either had to adapt their engines to use a cleaner fuel or retrofit exhaust gas cleaning systems (EGCS) also known as scrubbers<sup>25</sup> at significant cost (both cost of conversion/installation and time out of cargo carrying) to limit their emissions. The other significant challenge was ensuring there was sufficient low Sulphur fuels at enough of the 5,000 plus ports globally<sup>26</sup> to refuel the ships. To provide an outline scale of the logistical task, a container ship with a capacity for 15,500 TEU consumes around 250 tons of fuel per day while travelling at 25 knots<sup>27</sup>. There is significant political pressure "urging the adoption of sector-wide goal of zero emissions by 2050 and the commercial deployment of zero-emissions vessels by 2030."<sup>28</sup> Technology is designing and manufacturing a range of new fuels including low Sulphur fuels, Liquid Natural Gas (LNG), methanol, Liquid Petroleum Gas (LPG), hydrogen fuel cells, biofuels<sup>29</sup> and even wind generated power. The ship owner's dilemma is which fuel will be the most cost effective and most widely available. At this stage it is impossible for them to know what fuel to go for, which is one of the main factors slowing down new ship building. Having said that more than 60.78 million new gross tonnage (GT) was launched in 2022<sup>30</sup> and 15.33 million GT were recycled<sup>31</sup>, resulting in a net increase to the world's commercial fleet of 45.45 million GT. To provide some context for this figure, 45 million GT is equivalent to 450 US Navy aircraft carriers - working on the basis that each aircraft carrier is around 100,000 GT.

"Maritime ship supply continues to be dominated by three countries – China, the Republic of Korea and Japan – which together in 2022 had 94 per cent of the market."<sup>32</sup> The largest increase in the proportion of vessel types being built are LNG carriers (8.15 per cent increase), container ships (4.11 per cent increase), dry bulk carriers (3.61 per cent increase) and other types of ships - which includes cruise ships - (3.19 percent increase)<sup>33</sup>. From the maritime security perspective these statistics demonstrate that none of the major ship building nations are US/European. Except for a relatively small proportion of cruise ships built in Italy and some specialist (one off) vessels being built in Europe, the ship building capacity and capability in Europe and the US is pitiful. Consequently, most western nations' only ship building industry is based on warship production and their maintenance, a notoriously expensive and erratic process. In the RAND report, 'A Strategic Assessment of the future of the US Navy ship maintenance' published in 2017 it stated, "ship inventory and the shipbuilding and repair industrial base that supports these ships have experienced

26 http://www.worldportsource.com/ports/region.php

33 UNCTAD RMT 2022 p33

<sup>22</sup> UNCTAD RMT 2022 p155

<sup>23</sup> A growing number of LNG carriers use the burn-off of their LNG cargo to fuel their propulsion engines.

<sup>24</sup> UNCTAD RMT 2022 p157

<sup>25</sup> UNCTAD RMT 2022 p157

<sup>27</sup> www.maritimepage.com

<sup>28</sup> UNCTAD RMT 2022 p155

<sup>29</sup> UNCTAD RMT 22 p157

<sup>30</sup> UNCTAD RMT 2022 p46

<sup>31</sup> UNCTAD RMT 2022 p47 the largest ship recycling country is Bangladesh, followed by Pakistan, India and Türkiye who together account for 96 per cent of ship recycling. 32 UNCTAD RMT 2022 p46

significant changes over the previous three decades."<sup>34</sup> It goes on to say "[t]o ensure that the private-sector industrial base is available and able to support the Navy's future maintenance and modernization requirements, the Navy must understand the future maintenance needs and develop a strategic approach to ensure that the necessary capabilities—including facilities, engineers, and trade labor—are available."<sup>35</sup> Without a healthy national commercial ship building industrial base, its naval fleet is in danger of being hollow.

The nations that own the largest proportion of the fleet by commercial value are China (USD 154.827 bn), Greece (USD148.157 bn), Japan (USD144.477 bn), USA (USD85.966 bn) and Germany (USD 81.649 bn). By carrying capacity, the ranking is Greece, China, Japan, Singapore, Hong Kong, China.

Most ships are registered with open rather than national registries; Panama (15.2 per cent of the global fleet by dwt<sup>36</sup>), Liberia (15.2 per cent by dwt), Marshall Islands (13.2 dwt per cent by dwt)<sup>37</sup>, with almost all new tonnage flying their flags, resulting in these registries having the youngest fleets (for example the average age of the Marshall Island fleet is 9.9 years)<sup>38</sup>. By comparison, the flagged fleets of US (0.6 per cent by dwt), UK (0.5 per cent by dwt), Germany (0.3 per cent by dwt) are miniscule, and many of the vessels that constitute their registries are used along internal waterways and for coastal cabotage trade. The consequence of these statistics exposes the lack of national tonnage available in times of tension to import/export essential cargos.

According to Drewery Maritime Research, one of the many authoritative resources used by UNCTAD, "world container port traffic increased by 6.8 per cent, taking total volumes to 857 million TEU. Asia continued to play a leading role with the region's ports accounting for 62.5 per cent of world container throughput."<sup>39</sup> Throughput of containers also increased rapidly at ports in North America by 14.4 per cent … Europe 5 per cent"<sup>40</sup> putting the ports under significant pressure, resulting in "chronic congestion – which between September and December 2021 is estimated to have removed around 16 per cent of global container ship sailing capacity."<sup>41</sup> Which impacted "port productivity and undermined reliability of schedules."<sup>42</sup> The challenges facing ports were multiple, exposing vulnerabilities. The RMT provides a guide for the building of port capacity and resilience.

The third chapter focuses on Freight Rates and Transport Costs, which may not have an immediate impact on maritime crime and security, but can be an initial causation, prompting people in coastal communities who have been impacted by rising prices to turn to criminal activities across the maritime domain from piracy, to smuggling and trafficking of anything that turns a profit. The impacts of the pandemic demonstrated quite how intrinsically "Maritime transport is embedded in a complex global supply chain system in which disruption in one part can cascade to many others."<sup>43</sup>

One of the key elements of maritime crime and security is that it is multifaceted and extremely complex. As has been highlighted in another review in this issue of the Journal on "Maritime Crime and Policing" the science of criminology has effectively been landlocked, so there is a paucity of research and analysis into

35 Ibid

37 UNCTAD RMT 2022 p42

39 UNCTAD RMT 2022 p49, based on Drewry Maritime Research

40 Ibid p49

<sup>34</sup> RAND A Strategic Assessment of the future of the US Navy ship maintenance report, 2017, piii

<sup>36</sup> dwt - Deadweight Tonnage is a measurement of the weight of cargo a ship carries.

<sup>38</sup> UNCTAD RMT 2022 p41

<sup>41</sup> UNCTAD RMT 2022 p50 - Dierker et al (2022)

<sup>42</sup> UNCTAD RMT 2022 p51

<sup>43</sup> UNCTAD RMT 2022 p62

exactly how and why maritime criminality happens. It is entirely plausible that an increase in container rates (for example "Asia to Cameroon, the rate for 20-foot containers increased by 340 per cent, and 40-foot containers by 244 per cent."<sup>44</sup>) could push those hit by the additional costs to contemplate including illicit materials within the container to "cover costs". The pandemic has also increased pressure on ports highlighting "the core problems of inefficiency and disruptions"<sup>45</sup> providing criminals with the ideal opportunity to exploit weaknesses on a short- and longer-term basis.

Chapter 4 focusses on Key Performance Indicators for Ports and the Shipping Fleet. As with all other aspects of trade involving digital transactions, the wealth of available material for numbers to be crunched and statistics to be created, evaluated and analyzed is mind boggling, but they do provide tangible evidence for the researcher. The emergence of all these statistics allows the accurate ranking of ports by their efficiency based on several perspectives including finances, human resources, gender ratio of workforce, vessel operations including loiter time and speed of offload/onload of cargo and environment. Ships are most likely to call at the most operationally efficient and cost-effective ports in preference to less efficient and/or more expensive ports, as time is money and ships are only earning money when they are transiting between ports with cargo loaded. However, for the port State, the speeding up of procedures in port can be at the expense of a range of national requirements including security. In March 2002 the USA introduced the Container Security Initiative (CSI) because of the 9/11 terrorist attacks. CSI was designed specifically to address the threat to border security and global trade posed by the terrorist use of a maritime container to deliver a weapon of mass destruction. This was further enhanced in 2007, when the US President, George W Bush, "signed into law HR1 the "Implementing Recommendations of the 9/11 Commission Act of 2007." The 9/11 Act requires 100% scanning of US-bound containers at foreign seaports by 2012 using nonintrusive (NII) and radiation detection equipment."<sup>46</sup>. However, the significant increase in the movement of TEUs (estimated at a 250 per cent increase between 2003-2013), resulted in the aspirations of the initiative not being achieved. Indeed, globally it is assessed that less than 2 per cent of TEU are security checked. Whilst this is still a significant figure (17.14 million TEU across the world) it does leave more than 98 per cent unchecked. Even with the most conservative estimates for container traffic growth at 5 per cent, this will increase TEU movements by almost 43 million over the next 12 months. It is extremely unlikely that monitoring agencies and the procurement of the scanning equipment can keep pace with this level of growth and so the level of security checking of containers is more likely to drop than increase.

Chapter 5 looks at Maritime Trade Facilitation and examines the way processes and procedures support the efficient management of cargoes moving through the maritime element and its integration with the supply chain. The growth in volume of cargoes (TEU, dry and wet bulk) increases exponentially and invariably quicker than infrastructure is built. The report observes that shortfalls in physical capability and capacity because of outdated systems is replaced by the digitalization and automation of systems, which coincidentally results in the increased transparency of the processes. Port congestion is often the result of inadequate infrastructure, particularly lines of communication in and out of ports (road, rail, canal/rivers), problematic industrial relations with port workers and overly bureaucratic processes. "Good trade facilitation operates on four fundamental principles: harmonization, standardization, simplification and transparency."<sup>47</sup> The pandemic demonstrated that many ports were unprepared and un-coordinated with their policy responses, numerous ports had no regulations for emergency responses, used restrictive trade policies, lacked preparedness for emergencies or didn't have the infrastructure to manage the demand.

<sup>44</sup> UNCTAD RMT 2022 p63

<sup>45</sup> UNCTAD RMT 2022 p74

<sup>46100%</sup> Container Scanning: Security Policy Implications for Global Supply Chains, Bennett and Chin, p2

<sup>47</sup> UNCTAD RMT 2022 p120

According to the report "Responses to the supply chain crisis increasingly involve digitization, and smart technologies."<sup>48</sup> The report accepts this will take time, and in some cases, predicts a major change in the organizational structure of government agencies, especially those national institutions that tend to work in silos. Many of the innovative initiatives have been industry led, driven by growing demand. The digitization of documentation for customs management and charter party processes can improve efficiency considerably. There remains a reluctance however by companies to share confidential information, which relates to a need for protection from cyber-attacks on government networks and public websites.<sup>49</sup> The report observes "Ultimately, governments have little choice but to adapt to the new global context."<sup>50</sup> The final comment of the section suggests a way forward; "In the maritime transport sector, governments and the shipping industry are closely interdependent, so reforms must be based on public-private collaborations,"<sup>51</sup>.

The level of cyber literacy varies around the globe and whilst there are various touchpoints, where every country interacts across commercial and financial interactions, arguably seaports are the most crucial to the stable economic health of a country, making maritime cyber risk management a great equaliser. The four main points of the reporting team are public-private collaboration for ports and the hinterland; the need for public-private collaboration to facilitate maritime transport, which will build resilience and finally the creation of tools defined to support cooperation and build on the inextricable link between port and hinterland. The key here is a holistic rather than segregated approach.

Container shipping has revolutionized the movement of a range of cargoes from manufactured goods, refrigerated foods and anything else that will fit into the pre-designated box. Seventy years ago, an American land haulage company owner called Malcolm McLean, watched the slow, problem prone process for loading and unloading ships, and developed the idea of placing break bulk items into standard sized boxes that could then be slotted into specially designed ship's holds, thus the concept of cargo containerisation was born. The first container ship was a 10-year-old tanker refitted to carry his containers. McLean's proof of concept demonstrated that cargo handling costs were significantly reduced from, at the time, USD5.83 per ton to just \$0.16 per ton. Containerised cargos were also far less prone to pilfering and damage, reducing insurance premiums. Additionally, there were also far fewer Stevedores required to load the new containers, significantly decreasing accidents. Containers are also inter-modal, which means they can easily be carried on ships, railway wagon, flatbed trucks and canal barges. The container shipping sector of the industry is perpetually evolving in the desire to improve efficiency and reduce costs.

Chapter 6 of the report looks at the consolidation and competition in container shipping. In the pursuit of improving margins in an amazingly competitive market there has been a "continuous process of consolidation and restructuring of relationships" with "horizontal consolidation, through mergers and acquisitions; vertical integration, through carriers investing in terminal operators and other logistics services; and strategic cooperation agreements in the form of carrier consortia and alliance."<sup>52</sup> The largest container ships are now capable of carrying 23,992 TEU; there is an ongoing debate about how much larger than can get. But for the carriers, no matter whether their ship carries just 6,000 or 24,000 TEU, the crew size will be the same, between 20-30<sup>53</sup>, supporting the economy of scale axiom. The principal restriction on ship size being port capacity (including navigability for large ships, gantry crane numbers and size,

53 Ibid p139, whilst larger ships cost more to build, they are more fuel efficient per TEU and effectively cost less for many operational and communication costs

<sup>48</sup> UNCTAD RMT 2022 p125

<sup>49</sup> UNCTAD RMT 2022 p126

<sup>50</sup> Ibid

<sup>51</sup> Ibid

<sup>52</sup> Ibid p137

container park capacity) and efficiency. Around the globe there are a network of over 900 container ports, but only a fraction can host ships of more than 14,000 TEU, and whilst many people seemed transfixed by the massive container ships, it is the much smaller "feeder" ships (average size of container ships 3,431 TEU)<sup>54</sup> that service most of these ports. However, "The three major container carrier alliances account for 83 per cent of the global container market."<sup>55</sup> because "Vessel sharing mitigates risk and increases utilization."<sup>56</sup> This dominance on the major routes (Trans-Pacific, Transatlantic and Asia-Europe<sup>57</sup>) mean that the companies comprising the three alliances made major profits (from Maersk at 55 percent increase to Evergreen 136 per cent)<sup>58</sup>, because during the pandemic, there was "an 11 percent increase in global container increases in rates are explored in detail within the chapter, along with other complementary sections in other chapters.

Bulk shipping (wet – tankers, and dry - ores and grain carriers) makes up almost 71 per cent<sup>60</sup> of the global fleet and tends to be owned by "independent companies, providing tramp shipping<sup>61</sup> services, comparable to chartered bus services."<sup>62</sup> "Some oil majors and commodity exporters may own their own ships"<sup>63</sup> but most of the bulk fleet are owned by smaller ship owning companies. So, whilst the container shipping sector may be relatively concentrated, especially for the bigger box ships (over 14,000 TEU<sup>64</sup>), the "market for ship ownership [in the bulk sector] is less concentrated, with the top five owners controlling only one third of capacity."<sup>65</sup> Tramp shippers can therefore adjust and adapt more quickly to market demands providing a different dynamic to this sector of the industry.

The final chapter of the review focuses on Legal Issues and Regulatory Developments, which is broken down into five sections covering commercial law implications of the COVID-19 pandemic, regulatory developments relating to international shipping, climate change and other environmental issues, seafarers, other legal and regulatory developments affecting transportation and finally a summary and policy considerations.

The shipping industry, by virtue of its function, moves cargoes from one sovereign nation to another across a vast ungoverned zone, where it is the flag of registration of each ship that provides the legal structure, effective on the ship. However, most registries (open registries) are commercial companies. Consequently, the regulatory structure within which shipping works, efficiently and effectively, is based on two pillars, the first pillar is the International Convention for Safety of Life at Sea (SOLAS)<sup>66</sup>, which sets out the requirements for the ships. The current version of the convention, SOLAS 1974, came into effect in 1980. The second pillar is the United Nations Convention of the Law of the Sea (UNCLOS) 1982. The Law

54 Ibid pxx

57 Ibid p11

59 Ibid p61

63 Ibid p142

passengers at sea

66 SOLAS was developed after the sinking of the passenger ship Titanic to provide a common standard for all shipping to follow, to ensure a safe environment for seafarers and

<sup>55</sup> https://alphaliner.axsmarine.com/PublicTop100/

<sup>56</sup> Ibid p139

<sup>58</sup> Ibid p65

<sup>60</sup> Ibid p33

<sup>61</sup> Tramp shipping is the phrase used to describe ships that do not work a regular route but will follow the business/cargo around the globe.

<sup>62</sup> Ibid p141

<sup>64</sup> A 14,000 TEU Container ships are the largest that can transit the Panama Canal.

<sup>65</sup> Ibid p142

of the Sea came into effect, after ratification, in 1994. Whilst shipping companies' offices are based within sovereign nations, the ships they own and manage are detached, moving across the high seas along with most of their company's employees, with limited oversight, transporting and safeguarding a multi-million-dollar ship and potentially a cargo worth hundreds of millions of dollars, making their situation unusual if not unique. These circumstances have allowed the shipping industry to conduct many of their operations and activities in isolation and below the radar, which has imbued a degree of conservatism across the shipping industry. Whilst digitalization has been on the horizon for some and over the horizon for others, the pandemic acted as an escalator making the adoption of new technologies more urgent. This impending digital change has sped up the movement of contractual arrangements to digital platforms, driven governments to ensure cross border checks are kept to a minimum, allowed dispute resolution to be conducted online and prompted institutions to strengthen mechanisms for informal dispute resolution. The pandemic also introduced a raft of contagious diseases clauses into contracts. COVID-19 also highlighted the importance of seafarers as key workers for the global economy.

The reduction of greenhouse gas emissions for shipping put in train prior to the pandemic, are beginning to take effect across the industry, reducing the carbon footprint of shipping significantly and protecting the marine environment and biodiversity by reducing air pollution, addressing plastics pollution, ensuring effective management of ballast water and defining liability and compensation for oil pollution from shipping. Whilst everybody has their own experiences of pandemic lockdowns the "1.89 million seafarers – most of whom from developing countries – are operating 74,000 vessels in the global merchant fleet."<sup>67</sup> had amongst the worst. "At the height of the pandemic, around 400,000 seafarers were unable to leave or join ships due to COVID-19 restrictions. A significant proportion still remains affected"<sup>68</sup>. Many nations denied seafarers the liberty to leave ships in ports, despite their contract being terminated and the shut down in air travel prevented them either getting home or joining ships. This resulted in many seafarers staying on board ships for more than 12 months. The report puts forward a ten-point plan to help remedy this unacceptable situation.

In conclusion, the UNCTAD RMT 2022 is a document rich in details, facts and statistics with incisive analysis about the crucial industry that drives the global economy. The UNCTAD RMT has an outstanding 54-year pedigree. Any student or researcher of the maritime industry should use this as a cornerstone of their work because without an understanding of this unique industry, the efficacy of their research and their analysis is devalued.

Peter Cook 30 June 2023

<sup>68</sup> Ibid p160



<sup>67</sup> Ibid p160 - ICS (2021)