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Legal Issues and Challenges in Addressing the Coronavirus Outbreak on Large Cruise Ships – A Critical Examination of Port States Measures

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Declaration:

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Abstract: International cruises have drawn worldwide attention since the outbreak of coronavirus (COVID-19). This article first examines the legal issues, challenges and impact of the pandemic on large cruise ships, like the *Diamond Princess*, and then probes into corresponding pandemic preventive measures which port states employ. A State is obliged under the *International Health Regulations 2005 (IHR)* to grant foreign cruise ships *free pratique*, but there is an exception when public health emergencies of international concern occur. Therefore, this article argues that a port state is not obliged to allow foreign cruise ships to dock at its port at the cost of its domestic public health safety. Regarding the *Diamond Princess*, the Japanese government has undertaken pandemic preventive measures upon passengers on board the ship and complied with its domestic laws, including the *Japanese Quarantine Act*. This article further evaluates whether a port state's pandemic preventive measures concerning cruise ships are appropriate from the perspective of law. More importantly, it is necessary to consider the characteristics and specialities of international cruise ships to improve future pandemic preventive measures against large passenger ships and cruise passengers.

Keywords: International cruise, *Diamond Princess*, COVID-19, pandemic, Public health emergency measures, *International Health Regulations 2005*, *Free pratique*, the U.N. Convention on Law of the Sea

1. Introduction and Methodology

International cruise ships are the conveyances with the largest passenger carrying capacity per time (Mukherjee and Brownrigg, 2013), which poses a challenge to preventing and controlling infectious diseases. Furthermore, as cruise ships take routes across different States and utilise different ports, the ship operators, crew members, and particularly passengers usually have different nationalities. This

characteristic of international cruise shipping exacerbates the likelihood of creating conditions for the international spread of infectious diseases and increasing public health risk (Liu and Chang 2020).

Passage plans of many international cruise ships have been affected by the outbreak of coronavirus (COVID-19), which brings worldwide attention to international cruise ships. The severity of pandemic emergencies on cruise ships caused by mass gatherings has surpassed that of other places onshore (IMO, 2020; CCTV, 2020). In particular, the COVID-19 positive cases linked with the *Diamond Princess* cruise ship is the most prominent example that has attracted world attention (VSP, 2020).

As the WHO statistical data on COVID-19 reveal, positive cases linked with cruise ships are listed under a separate category called ‘international conveyance’, paralleling with those of individual countries (WHO, 2020). Notably, the people from *Diamond Princess* who were tested positive for COVID-19 outnumbered those of many counterpart countries, including Japan’s domestic COVID-19 cases (WHO, 2020).

It is worthwhile pointing out that the Japanese government demonstrated different attitudes towards the *Diamond Princess* and other cruise ships, both of which have the risk of COVID-19 on board. The *Dimond Princess* was accepted to dock, after a quarantine period, but another cruise ship *M.S. Westerdam* was refused to dock by the Japanese government (CCTV, 2020; ZGSY, 2020). Thus, this article investigates the rationales behind the seemingly conflicting actions of the port state, taking Japan as an example here, in the event of the pandemic on cruise ships.

This article critically examines a port state’s quarantine measures upon the cruise passengers and draws on lessons from the Japanese government’s ‘isolation onboard’ measures that exacerbated the spread of the COVID-19 on the large cruise ship. In addition, this article addresses two key legal issues: Firstly, in the event of a pandemic, is a port state, such as Japan, obliged to approve foreign cruise ships to dock? Secondly, are measures against COVID-19 of such port states, taking the Japanese government as an example, appropriate?

2. Overlapping and Conflicting Jurisdictions over Cruise Ships: Port States’ Territorial Jurisdiction vs Flag State Jurisdiction

Ships are conveyances travelling on different maritime zones. According to UNCLOS, the seas and coastal waters are divided into various maritime zones – namely, ‘international waters’ (e.g. the high seas), ‘territorial sea’, ‘internal waters’, etc. (UNCLOS, 1982). In the different types of maritime zones, a Port State has different capacities in maintaining a foreign ship acting on and observing that State’s navigation orders.

Due to the unique operational characteristics of international cruises, the COVID-19 outbreak on cruise ships has vividly demonstrated the conflicts between jurisdictions of coastal, port states and that of the ship’s flag state. The *Diamond Princess*, as a British ship, was allowed to dock in a Japanese port, which illustrated

such a conflict between the port state's territorial jurisdiction and flag state jurisdiction. It should be noted that Japan has refused several other cruise ships to call at Japanese ports.

A fundamental issue lies in whether a port state is obliged to allow foreign ships to dock, this article starts with a doctrinal legal analysis on the jurisdictions over ships and concurrent, conflicting jurisdictions when the ship is in different marine zones. The implication is, in the event of the existence of such jurisdiction, a country has both rights and corresponding responsibilities (*UNCLOS*, 1982; Mukherjee and Brownrigg, 2013), which will be discussed in the following sections.

The first and easiest situation is when ships are on the high seas. The jurisdictions over a ship are very clear under *UNCLOS*. Ships sailing on the high seas are subject to the exclusive jurisdiction and control of their flag states. the flag state jurisdiction applies to one ship which flies that country's flag, especially when it is in the high seas or passing other coastal states' territorial seas in accordance with the 'innocent passage' legal regime (*UNCLOS*, 1982: Article 19). It is also because the domestic laws of a country are not binding as for subject matters over the high seas (*UNCLOS*, 1982).

Secondly, when a ship is in close proximity to a port state which may be different from the ship's nationality, there exist concurrent jurisdictions (the territorial jurisdiction and nationality jurisdiction) over the ship. There are overlaps between the jurisdictions of different countries over the same ship. Apart from the existence of the flag state jurisdiction, the port state is entitled to concurrent jurisdiction over the ship, and this is based on its territory of maritime zones (e.g. coastal waters and port) (Shaw, 2021).

Under such a circumstance of the co-existing jurisdictions over the ship, it is necessary to determine which jurisdiction needs to be restricted. This question is important in order to evaluate the port state's decision and attitudes over a foreign ship. After the outbreak of COVID-19, many cruise ships faced similar circumstances mentioned above as the *Diamond Princess* did. The domestic fear in the port state led the state to prohibit foreign cruise ships from docking in its port. For instance, the *M.S. Westerdam* was refused to dock to disembark its passengers by Japan, as well as by several port states (Guam and Thailand). The attitudes of the port state (Japan) look self-conflicting on the surface, but it is legitimate under the current law of the sea. This is because the flag state's jurisdiction should be restricted by the territorial jurisdiction of the port state: on one hand, the flag state jurisdiction is merely based on the nationality of the ship; on the other, the ship is physically present in the territory of the port state. It should be pointed out that the port state' territorial jurisdiction and the flag state's jurisdiction are originated from the different legal bases as discussed below, and thus they have different legal effects:

Firstly, territorial sovereignty is the legal basis for a country to exercise territorial jurisdiction. Territorial jurisdiction is based on the spatial effect which is originated and associated with the territory (Mukherjee and Brownrigg, 2013; Shaw, 2021). A

state enjoys comprehensive and independent sovereignty powers over its territory. As such, the state can exercise exclusive jurisdiction over all personnel and matters within the geographical scope of its territory (Shaw, 2021). Whether the jurisdiction of one state can be extended beyond its territory depends on the joint effects of several other legal regimes, including personal jurisdiction, protective jurisdiction and universal jurisdiction (*UNCLOS*, 1982; Wang, 2010). Thus, the flag state's jurisdiction is a typical case of extending one state's legal spatial effect of its territory to a ship flying such a state's flag.

Secondly, the legal effect of the flag state's jurisdiction should not be exaggerated. When one seeks to identify appropriate jurisdiction over ships that are navigating through the high seas, the flag state's jurisdiction should be taken into consideration. Nevertheless, when the ship is physically near a port state, the territorial jurisdiction of a port state is superior to other types of concurrent jurisdictions, including the flag state's jurisdiction, in that the former directly links to state sovereignty over ships within the state's territory (Zhang and Zhang, 2016). Hence, territorial jurisdiction works as the fundamental principle to determine the spatial effect of state sovereignty.

Thirdly, the role, importance, and scope of application of flag state jurisdiction also vary when ships are in different maritime zones mentioned above. While being in a coastal state's territorial sea and internal waters, a foreign ship is governed by the laws of the coastal state, which is superior to the concurrent flag state jurisdiction of the ship (Mukherjee and Brownrigg, 2013). In this situation, the coastal state is also the port state, when the vessel docks in any port of the coastal state. Thus, the jurisdictions of a port state, a coastal state and flag state on one ship are interlinked to each other: as for a specific ship, the more the port state exercises its territorial jurisdiction, the more restrictions the flag state's jurisdiction is subject to.

In summary, this article finds that a ship that flies a foreign flag and voluntarily enters a state's port and internal waters is governed by the port state's administrative, civil and criminal jurisdiction, unless otherwise specified in a bilateral agreement between the port state and the flag state. This leads us to examine issues in the next section.

3. Is a Port State Obligated to Allow Foreign Cruise Ships to Dock?

3.1 Relationship among three essential legal regimes – 'Allow Foreign Cruise Ships to Dock', 'Innocent Passage' and '*Free pratique*'

After the COVID-19 outbreak on cruise ships, it is controversial whether a country can close or restrict its border ((Habibi et al, 2020; Foster, 2020). This article investigates this issue over the measures against cruise passengers who have been affected adversely. The issue is whether or not a port state should allow a foreign cruise ship to dock at its port or its maritime zones. This article has identified the governing law for this issue, i.e. the U.N. Convention on Law of the Seas and the WHO's International Health Regulations. In detail:

Under *UNCLOS*, one relevant authority is the 'right of innocent passage' which

grants foreign ships a right of innocent passage (*UNCLOS*, 1982: Article 17). The term ‘innocent’ is essential, but it is unclear and questionable whether a ship – for instance, a cruise ship – which is affected by epidemics, like COVID-19, can be considered as ‘innocent’. The basic connotation of ‘innocent passage’ lies in the foreign ships’ freedom of passing through a port state’s territorial waters innocently. Further, the legal regime of ‘innocent passage’ does not amount to docking at the port state’s port. As stated in the name of this right under *UNCLOS*, the core of the ‘innocent passage’ legal regime is ‘passage’ instead of ‘docking’. Thus, it is necessary to take a closer look at the legal regime of ‘innocent passage’.

The concept of ‘innocence’ has been explicitly specified by *UNCLOS*. In accordance with Article 19.1 of *UNCLOS*, ‘innocence’ means the passage is not prejudicial to the peace, good order or security of the coastal states and be in conformity with provisions of *UNCLOS* and other rules of international law. Furthermore, Article 19.2 of *UNCLOS* excludes 12 kinds of activities from being ‘innocent’; a foreign ship that conducts any of the activities are deemed prejudicial to the peace, good order or security of the coastal states, thus it does not meet the legal requirements of ‘innocence’. However, a pandemic outbreak on cruise ships is different from the activities that may cause environmental pollution, such as ship oil pollution or carriage of hazardous and noxious substances (Rocklöv et al., 2020). Because the ship’s internal space is relatively closed, a cruise ship that is affected by epidemics like COVID-19 would not, at least unlikely, spread the disease to the land territory of a port state and adversely affects the state’s citizens, when it purely passes through the territorial water of a port state. Therefore, epidemic outbreaks on cruise ships do not amount to the activities listed under Article 19.2 of *UNCLOS*, and such cruise ships are still entitled to the right of ‘innocent passage’.

Nevertheless, if activities of the affected ship violate port states’ domestic sanitary law and regulations, the ship is not innocent in accordance with Article 19.2(g) of *UNCLOS*. Thus, the occurrence of the epidemic outbreaks on a cruise ship does not inevitably stop the ship from being entitled to ‘innocent passage’; unlike the former situation, to disembark its passengers needs to consider the domestic sanitary law and regulations of a port state. Therefore, foreign cruise ships which are affected by COVID-19 might travel through the territorial waters of a port state under the ‘innocent passage’ legal regime, but such a state is not obliged to let the cruise ships dock in its ports.

3.2 Port State’s Obligations Based on the International Health Regulations and *Free Pratique*

In the event of pandemic outbreaks such as COVID-19 on ships, another relevant authority related to cruise ships’ disembarkment of their passengers is the WHO international health regulations. The latest version of the WHO regulations is the *International Health Regulations of 2005 (IHR)*, which stipulates a key regulatory norm – ‘*free pratique*’. This norm has been frequently discussed along with ships and vehicles which need to dock in a port state to disembark passengers (Zhang and Zhang, 2016; Zhang, 2020).

Different from the ‘innocent passage’ regime of *UNCLOS*, the concept of ‘*free pratique*’ is prescribed in *IHR*. Article 1.1 of *IHR* explicitly specifies that *free pratique* means “permission for a ship to enter a port, embark or disembark, discharge or load cargo or stores”. As shown from the wording of this article, there seems to be little relationship between *free pratique* under the international health regulations and ‘innocent passage’ under *UNCLOS*. In other words, the former is not based on the latter. Furthermore, this norm ‘*free pratique*’ is determined, depending on the scope of influence of many factors that endanger public health safety of a port state, such as epidemic outbreaks on a cruise ship. However, this does not mean such an affected cruise ship is forbidden from passing the territorial waters of the port states innocently, in that as explained above the epidemic will not spread to the port states until that ship enters a port.

Since the COVID-19 outbreak, both WHO and the U.N. International Maritime Organization (IMO) have called on all states to respect innocent passage of ships (IMO, 2020). Even so, many cruise ships and other ships have either experienced delayed in the port clearance process or have been banned from docking in ports without an evidence-based risk assessment. Therefore, innocent passage and *free pratique* are two different regimes: the former emphasises the passage of vessels, while the latter closely relates to a vessel’s right to dock in a port state.

IHR imposes responsibilities on port states to cope with public health emergencies, like COVID-19 (Fidler and Gostin, 2006). Furthermore, in accordance with *IHR*, whether foreign ships can dock in ports of a state depends on the availability of *free pratique* conditions in that state (*IHR*, 2005: Article 28.2). This article also serves as an indispensable legal regime to assess whether the port state is obliged to allow foreign cruise ships to dock.

In the case of the *Diamond Princess*, the Japanese government should comply with *IHR* and ‘*free pratique*’ regime, because Japan is a member state of the WHO and a party to *IHR*. In accordance with *IHR*, a ship shall not be refused to *free pratique* and call at any point of port for public health reasons, and particularly the ship shall not be prevented from embarking or disembarking, discharging or loading cargo or stores, or taking on fuel, water, food and supplies (*IHR*, 2005: Article 28). Therefore, a default principle of *IHR* is that a port state is obliged to allow the *free pratique* of a foreign cruise ship and its right to dock in ports.

However, there is an exception under *IHR* to the *free pratique* regime to set aside the default principle above. This exception is the occurrence of either specific public health risks or public health emergencies of international concern. Under such circumstances, a States Party to *IHR* can take additional health measures in accordance with its domestic legislation and relevant international treaties. Moreover, the State Party can refuse the *free pratique* of foreign ships and its request to dock. Nevertheless, such a refusal must be made on the ground of the following factors:

- Scientific principles;
- Available scientific evidence of a risk to human health;

- Where such evidence is insufficient, the available information including from the WHO and other relevant intergovernmental organisations and international bodies; and
- Any available specific guidance or advice from the WHO (Fidler and Gostin, 2006).

The WHO declared the outbreak of COVID-19 to be a public health emergency of international concern on 30 January 2020. This WHO pandemic declaration means an extraordinary event that constitutes a public health risk to other states through the international spread of the pandemic disease and requires a coordinated international response. Because a passenger of the *Diamond Princess*, after dismemberment, was confirmed of COVID-19 on 1 February 2020, this constitutes evidence showing that the *Diamond Princess* had a source of infection and possessed public health risk when it returned to Yokohama port, Japan on 4 February 2020. The evidence showing the cruise ship is affected conveyance means that the ship no longer meets the conditions of *free pratique* under *IHR*. Therefore, a port state (e.g. Japan), is entitled to ban a cruise ship, like the *Diamond Princess*, which is affected by COVID-19 from docking at domestic ports. Yet, in the case of the *Diamond Princess*, the Japanese government did not exercise this right and let the ship dock in the port of Yokohama, Japan (ZGSY, 2020).

By contrast, the Japanese government refused another large cruise ship, *M.S. Westerdam*, on 6 February 2020, to call at a port in Japan, even though its cruise company consistently stated that there was no evidence or indication of confirmed or suspicious cases of COVID-19 on that ship. At the time of the refusal, *M.S. Westerdam* was not an affected conveyance by COVID-19 (CCTV, 2020). The specific reason why the Japanese government refused *M.S. Westerdam* to dock is based on Article 5.1.14 of the *Japanese Immigration Control and Refugee Recognition Act* (‘出入国管理及び難民認定法’) which stipulates that ‘a person whom the Minister of Justice [of Japan] has reasonable grounds to believe is likely to commit an act which could be detrimental to the interests or public security of Japan’. Hence, though the COVID-19 epidemic constitutes a public health emergency of international concern, whether the realities of the *M.S. Westerdam* comply with the requirements of adopting additional health measures for evidence-based risk assessment and whether it can be refused from docking after considering *free pratique* may go beyond the scope of application of which *IHR* applies. Therefore, it is necessary that the WHO releases further affirmation and clarification from technical perspectives concerning cruise ships’ docking and disembarking the passengers and crew on board in a port state.

In short, Japan employed different attitudes towards cruise ships’ docking and dismemberment requests. It accepted the *Diamond Princess* but refuses the *M.S. Westerdam* to dock and disembark the passengers in Japanese ports. There are at least three primary factors why the Japanese government treated the two cruise vessels differently. Firstly, the *Diamond Princess* takes the Port of Yokohama, Japan as its homeport, to which, it would return according to the original sail plan, whilst the *M.S.*

Westerdam just passed by several Japanese ports according to its ship route. Secondly, the approval of the *Diamond Princess* to dock stems from personal jurisdiction to a certain extent, in that the ship accommodated 1,285 Japanese tourists, which accounted for nearly half of the total passengers on board (IMO, 2020; CCTV, 2020). The current authors find that the *Diamond Princess* cruise ship mainly targets the Japanese market; in contrast, *M.S. Westerdam* only accommodated five Japanese tourists. This is echoed by the Japanese media, stating that ‘no country would give an active response to ships that are geographically far away from them and few of their citizens are on board’ (Nikkei, 2020). Thirdly, due to the shortage of quarantine resources, such as isolation facilities in Japan, the Japanese government did not have sufficient resources to approve another luxury international cruise ship to dock and disembark its passengers in Japan, at the time of the potential spread of the infectious disease.

More remarkably, *IHR* seeks to strike a balance between the prevention of disease transmission and facilitating international transport (Fidler and Gostin, 2006). On one hand, *IHR* aims to prevent, protect against, control, and provide public health responses to the international spread of disease in ways that are commensurate with and restricted to public health risks. On the other hand, *IHR* tries to avoid unnecessary interference with international traffic and trade. Accordingly, if the Japanese government is forced to accept *M.S. Westerdam* without considering objective circumstances as mentioned above, such as the domestic medical health conditions and availability of disease control facilities, Japan’s domestic epidemic spread would probably become worse, which frustrates the purpose of *IHR*. Moreover, to require a country to assume the so-called ‘international obligations’ at the cost of its domestic public health safety would be unjust and inconsistent with general principles of law. The need to ensure the safety of transport at sea has led to disparate State behaviours, but one point in common remains the need for asserting National Sovereignty (Choquet and Sam-Lefebvre, 2021).

Accordingly, the COVID-19 outbreak constitutes the ‘public health emergency of international concern’ under *IHR*; as a result, a port state (e.g. Japan) may justify its refusal to grant *free pratique* to foreign cruise ships which are affected by COVID-19, if the requirements of evidence-based risk assessment under *IHR* are met. If so, the port state would not be obliged to accept such an affected foreign cruise ship to dock in its port. Further, if all coastal states refuse the docking of an affected cruise ship successively, the flag state of the ship should take up its obligations duly in principle.

However, in today’s industry practice of tourist and cruise travelling, there is a technical problem in practice that the flag state takes up this responsibility, in that the sail area of international cruise ships is usually far and away from their flag states. Take the *Diamond Princess* for example. The ship was sailing mainly in East Asian regions, which are tens of thousands of kilometres far away from Britain, its flag state. Not only the fuels and materials on board could hardly continuously support the long-distance travelling, but also the journey that lasted a few days would intensify the epidemic spread on board.

Another legal problem in the flag state's approval of its ships to dock and embark passengers lies in the wide use of flags of convenience. Many international cruise ships fly flags of convenience, and the flag states usually lack the ability in fulfilling their responsibilities (Mukherjee and Brownrigg, 2013). This creates a dilemma for today's cruise shipping in the event of epidemic outbreaks onboard. For instance, the *Diamond Princess* was registered in British Bermuda before 2014, and the flag-of-convenience state systems and laws are usually incomplete and not enforceable. Hence, even though the flag state is certainly legally obliged to accept its affected cruise ship to dock and disembark, it is not practical for many flag states to perform the obligations. Due to the wide use of flags of convenience, such a flag state is usually incapable of offering timely and effective treatment against epidemic outbreaks on board (e.g. COVID-19).

4. Legal Justifications for Undertaking Health Measures by the Port States against Coronavirus-affected Cruise Ships

In accordance with *IHR*, port states may implement health-related measures, including isolation of conveyances, where necessary, to prevent disease transmission (*IHR*, 2005: Article 27.1). It should be noted that Japan has ratified *IHR*, which is applicable to the affected cruise ships at issue (WHO, 2020). In addition, the Japanese government's onboard quarantine measures on the *Diamond Princess* against COVID-19, such as isolating passengers in their cabins. Such measures were mainly based on Japanese domestic laws, particularly the *Japanese Quarantine Act (JQA, '検疫法')* and the *Japanese Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases ('感染症の予防及び感染症の患者に対する医療に関する法律')*.

These Japanese laws are applicable to persons and subject matters in Japanese ports. This is because port areas are part of the internal waters of a port state (*UNCLOS*, 1982), so such a state enjoys full territorial sovereignty over the port areas and any conveyances and passengers that go in and out of the port (Özçayır, 2015). For instance, in accordance with the *Japanese Quarantine Act*, quarantine station chiefs and quarantine officers may enter vessels when necessary to perform their duties that are stipulated under this *Act*. Furthermore, the officers can impose certain quarantine measures on contaminated or potentially contaminated conveyances (e.g. ships), including isolation ('隔離') and detention ('停留') (*JQA*, 1951: Article 14).

The Japanese government is entitled to take the health measures mentioned above. Both the isolation and detention measures are covered by the term 'isolation' of Article 27.1 (Paragraph 2) of *IHR*, but it seems that the scopes of application of these two types of quarantine measures are different in accordance with Japanese laws. Isolation applies to patients with an infectious disease, but detention applies to persons who are possibly infected with pathogens of infectious diseases, limited to when an infectious disease occurs overseas and the entry of the pathogens into Japan is found to present a significant risk to the lives and health of the citizens in Japan (*JQA*, 1951: Article 14.1). Furthermore, isolation and detention should be conducted by an entrusted medical institution in principle (*JQA*, 1951: Article 15.1). A detained

person may be accommodated in the medical institution, but the person might be detained on board a ship if there is the consent of the captain of the affected conveyance is given (*JQA*, Article 16.1). As such, Article 16.1 was the legal basis for the Japanese government to adopt onboard quarantine measures against the COVID-19 outbreak on the *Diamond Princess*.

Nevertheless, it should be noted that the quarantine measures specified under both the *IHR* and *Japanese Quarantine Act* are subject to ‘necessity’. The reason why the Japanese government chose not to take isolation measures within medical institutions is probably that there were too many passengers (approximately 3,711) on the *Diamond Princess* (WHO, 2020; IMO, 2020). It is challenging to accommodate such a huge number of persons and to isolate them in proper medical institutions and promptly as required under the Japanese Law as discussed above; the local authority of Yokohama, Japan did not have the capacity. Also, the epidemic control in the personnel transfer period indicates a high degree of difficulties and hazards, which even probably causes the spread of COVID-19 within Japan. Thus, it is beyond reproach that the Japanese government decided to adopt onboard detention measures based on the scale and infection conditions of COVID-19 at the arrival of the *Diamond Princess*. The onboard quarantine measures, which were undertaken by Japan, are supported by sufficient legal authority under both domestic laws and the *IHR* (Wang et al, 2010). However, this should not be exaggerated.

There is no solid legal basis for the Japanese government to use a cruise ship and passenger cabins on the ship as isolation venues. After travelling for half a month, the *Diamond Princess* had been docked at the Japanese port for several weeks continuously; the ship was still carrying roughly 3,711 passengers, which means it consumed a large amount of energy to maintain the living conditions on board. Due to the factors of mass gathering, large energy supply, limited air conditioning system and facility, it is not surprising that the epidemic spread among the passengers and crew onboard *the Diamond Princess*, which aggravated the severity of the spread of COVID-19.

In comparison, this article further scrutinises other Coronavirus-affected cruise ship that was quarantined in other port states. *Costa Serena*, a *Concordia-class* cruise ship for the Italian cruise line *Costa Crociere*, arrived in China, docked at the port of Tianjin, China, after the COVID-19 breakout. The governing law related to the health measures for such arrived ships which are affected by infectious diseases is *the Chinese Frontier Health and Quarantine Law of 1986* (“*国境卫生检疫法*” in Chinese) and the *Detailed Rules for the Implementation of Chinese Frontier Health and Quarantine Law of 1989* (“*国境卫生检疫法实施细则*” in Chinese) as amended in 2010 and 2016.

Comparing the health measures stipulated under Japanese and Chinese laws, both port states allow the use of detention or medical check-up detention on board a ship. The main difference is that the Japanese legislation stipulates that the quarantine station chiefs should decide whether to conduct the detention on board, but the Chinese legislation grants passengers a right to request medical check-up detention on

board. In contrast, the effect of the Japanese legislation will lead to conducting much detention on board, which will help to reduce the spread from the affected ship to the territory of Japan, but at the same time, it will increase the possibility of mutual and cluster infection of coronavirus among personnel on board. The counterpart legislation of mainland China is just the opposite. It can be seen that these two port states have made different choices for striking a balance between the protection of the interests of domestic citizens and that of cruise passengers.

5. Potential Improvement on the Disposal Mechanism of Public Health Emergencies related to International Cruises

In the past, the occurrence of major international disasters often propels the improvement of relevant legal regimes. For instance, the *International Convention for the Safety of Life at Sea*, one of the four pillars of the modern international maritime legal system, was promulgated on the background of the *Titanic* disaster that happened in 1912. The COVID-19 outbreak on the *Diamond Princess* has vividly revealed the loophole of the current international health regulatory system which make it unable to fit the characteristics and specialities of international cruise ships thoroughly, such as the dense population onboard, diversified nationalities of passengers, and sailing area that is usually far away from the flag states. These shall be improved after drawing lessons from the COVID-19 outbreak on several large cruise ships.

The *IHR* 2005 plays as a cornerstone of the world's health regulatory system at present and has the most influential legal binding effect (Fidler and Gostin, 2006). Due to the COVID-19 outbreak, many cruise ships were refused to access *free pratique* without undergoing evidence-based risk assessment. The port states' international obligations under the *IHR* are unclear and the measures that the Japanese government took are based on its domestic legislation which is naturally inclined to protect its national interests. Thus, the current international health regulatory system lacks practicality and operability in the event of epidemic outbreaks on cruise ships. Therefore, the *IHR* should be revised properly based on the characteristics and the market of international cruise shipping. The authors have some considerations for the future revisions as following:

First, though the *IHR* has set special provisions governing 'conveyances', the existing regulations regarding ships mainly focus on cargo ships with little consideration on ships that carry a large number of passengers, such as cruise ships. As an international treaty, compromise is inevitable after considering the acceptance level of numerous states parties. For the legislative purpose of preventing, resisting, and controlling the international transmission of diseases, it is still of necessity to further elaborate some of the existing provisions to enhance the operability of the *IHR*. In particular, special additional health measures against epidemics on affected ships and public health emergencies of international concern must be designed to accommodate the specialities of international cruises.

Secondly, specific requirements governing the port state's refusal to grant *free*

pratique to foreign ships should be articulated and revised, particularly the *IHR* provisions on the evidence-based risk assessment which would provide clear guidance for coastal and port states. Special attention shall be paid to the issue of how to strike a balance between the limited medical health resources of a port state and the population density on a foreign cruise ship. Efforts shall be made to ensure a timely rescue of the personnel onboard cruise ships and avoid the port state being overburdened by international obligations that require it to sacrifice its national interests and even public health safety.

Thirdly, Annex 1 to *IHR* explicitly specifies the ‘core capacity requirements for designated airports, ports and ground crossings’, but these provisions are generally abstract and need revision. Countries must establish and improve their health service systems for travel health, strengthen core capacities of ports, and establish comprehensive emergency response mechanisms for public health emergencies (Zhou et al, 2020). For instance, what is the basic standard for judging ‘adequate staff, equipment and premises’ that the port needs to provide at all times? International cruise ships are the conveyances with the largest passenger carrying capacity per time at present; accordingly, the core capacity of cruise ports shall be based on a higher standard. Therefore, the authors suggest the *IHR* revision specifying requirements for the core capacity of cruise ports separately and more elaborately. For example, the quantity of the supporting conditions, such as diagnostic facilities, staff, equipment and premises, should match and meet the need from the largest passenger carrying capacity of the cruises to dock in port (Chen et al, 2020).

Besides, the WHO has prepared guidance documents, such as ‘*Guide to Ship Sanitation*’ and ‘*Handbook for Management of Public Health Events on Board Ships*’ (WHO, 2020; IMO, 2020; Chen et al, 2020). The former is to standardise the sanitary measures taken as for ships, to safeguard the health of travellers and workers and to prevent the spread of infectious diseases from one country to another (WHO, 2011). The latter is to assist competent authorities at the local level to manage potentially internationally significant public health events at ports (WHO, 2016). Such kinds of documents do not have a compulsory binding effect but exert significant influence on shipbuilding and sailing in the long run, and they shall also be modified accordingly, taking into consideration the speciality of international cruise shipping. For instance, the ventilation system of cruise ships shall be able to effectively isolate all cabins, when necessary, to avoid the further spreading of an epidemic on the whole ship due to the ventilation system itself (Li, 2010).

6. Conclusion

This article discusses potential conflicting jurisdictions of a port state and the flag state over cruise ships and persons on board. When foreign cruise ships (or any ships) are at the ports or any maritime zones of a port state, this article argues that the territorial jurisdiction of the port state is superior to the flag state jurisdiction. Furthermore, whether the port state agrees a foreign cruise ship to dock at its ports is unrelated to the ‘innocent passage’ regime which is stipulated under *UNCLOS*. Although the port state is obliged to grant the foreign cruise ships *free pratique* as per

IHR 2005, there is an exception when public health emergency of international concern occurs. Thus, port states have no legal obligation to accept diseased-affected ships (such as large-passenger cruise ships) at the cost of their national public health safety.

This article further examines disease preventive measures and isolation measures onboard against COVID-19 by the Japanese government employed. In the case of the *Diamond Princess*, Japan complied with its domestic laws, particularly the *Japanese Quarantine Act* and the *Japanese Act on the Prevention of Infectious Diseases and Medical Care for Patients with Infectious Diseases* on relevant public health measures.

Further, the disposal mechanism of public health emergencies regarding international cruise ships shall be improved by taking into consideration of the specialities and characteristics of international cruises. Drawing from the experience of the COVID-19 outbreak on *Diamond Princess*, the WHO shall revise *the IHR 2005* and relevant guidance documents, including the *Guide to Ship Sanitation*.

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