

Research on the Necessity of Opening Statutory Inspection of International Trade Ships in Hainan Free Trade Port ---Big data analysis based on nationality of Chinese funded ships

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Abstract: Based on the analysis of big data on international Chinese-funded ship registration, this article finds that the proportion of Chinese-funded ships registering under convenient flags has been increasing year by year. This is highly detrimental to the concentration of shipping factors and the development of the shipping industry. The construction goals of Hainan Free Trade Port include attracting more ships to register in the port. However, the current development situation is still not ideal. By comparing the ship administration in places like Hong Kong and Singapore, this article discovers that China still adopts the system of Chinese ships entering the classification of CCS and the MSA shall carry out statutory inspection on Chinese ships. This system seriously restricts the registration of ships which not classified by CCS to Hainan Free Trade Port. The purpose of this paper is to study the necessities of China opening up of ship statutory inspection, establish a systematic international ship registration system focusing on free trade facilitation and free investment facilitation, promote the repatriation of Chinese-funded flag of convenience ships, and attract foreign-funded ships to register in Hainan Free Trade Port

1. Introduction

In recent years, with the rapid growth of China's economy, the comprehensive strength of China's shipbuilding and shipbuilding industry in the world has also been improved. However, there are still some problems, such as the low number and tonnage of ships registered in China for international navigation, and many Chinese ships choose to register in some countries with favorable taxes and fees for international trade, as well as the unclear navigation policies of Chinese ships.

Big data analysis is a process of analyzing a large amount of collected data with appropriate analysis methods, classifying and summarizing it with efficient analysis tools, extracting the most valuable information,

concluding effective conclusions, and mining the maximum value of data. According to the analysis of the big data of the ship registration of the United Nation Commission on Trade and Development (UNCTAD) by 2019.see tables 1& 2.

The tonnage of Chinese capital ships flying flags of convenience accounted for 55.9%,see figure 1&2 and in the past four years, the proportion is getting bigger year by year . see table 3,table 4 and figure 1&2 . The "expatriation" of a large number of Chinese-funded ships makes it impossible for China to gather shipping factors effectively, which directly impedes the development of shipping economy and high-lever shipping industry, and is not conducive to the effective implementation of the strategy of China's maritime power .

Table 1 Vessels (number of vessels) of main economies, 1 January 2019

Flag of registration (Ranked by number of ships registered)								
vessel number	Panama	China	Liberia	Marshall	Singapore	China,HK	Indonesia	world
China	573	3987	60	53	51	905	7	6125
Greece	454	0	958	952	32	20	1	4536
Japan	2060	0	178	189	128	58	9	3822
Singapore	257	2	152	122	1511	131	87	2727
Germany	32	1	673	137	70	20	0	2672
Indianian	17	1	7	0	7	4	2062	2145

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Norway	54	0	85	126	95	41	4	2038
U.S.America	74	0	95	356	6	49	0	1978
Russia	35	0	130	1	2	1	0	1707
Korea	455	0	43	255	3	25	5	1647
World	6465	4039	3456	3454	2600	2442	2216	51684

Sources :UNCTADstat(UNCTAD,2019a);Clarksons Reseach.

Note: commercial ships of 1000 gt and above;beginning-of-year figures

Table 2 Tonnage (thousands of dead-weight tons) of main economies, 1 January 2019

Flag of registrant (Ranked by Tonnage registered)								
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Note: commercial ships of 1000 gt and above;beginning-of-year figures

Table 3 Fleet ownership and registration, main economies, from 2019 -2022

Year	China flag	Chinese-funded total	Foreign flag	China flag ratio
2019	3987	6125	2138	65.094%
2020	4569	6869	2300	66.516%
2021	4887	7318	2431	66.781%
2022	5357	8007	2650	66.904%

Table 4 Fleet ownership and registration, main economies, from 2019 to 2023 tonnage (thousands of dead-weight tons)

year	china flag	Chinese-funded total	foreign tonnage	China flag tonnage ratio
2019	90930	206301	115371	44.076%
2020	100269	229247	128978	43.738%
2021	105657	244556	138899	43.204%
2022	113036	277843	164807	40.683%

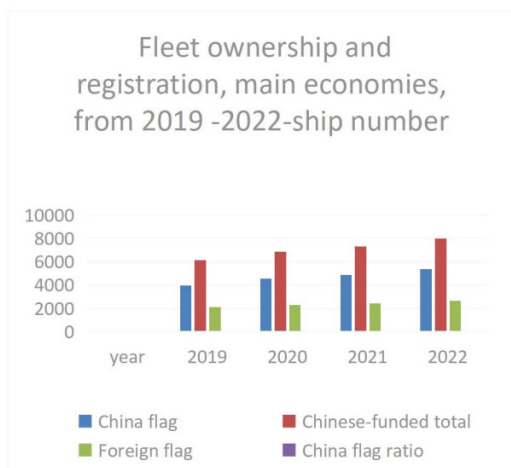


Figure 1 ships number from 2019-2022

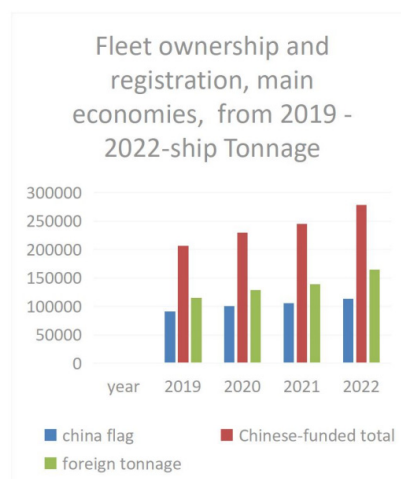


Figure 2 ships Tonnage from 2019-2022

Since the issuance of the Master Plan for the Construction of Hainan Free Trade Port in 2020, it has been proposed to gradually liberalize the statutory inspection of ships. However, Hainan Free Trade Port still adopts the current statutory ship inspection system, which seriously restricts the registration of ships to Hainan Free Trade Port [1]. Therefore, it is imperative to study the opening of statutory inspection for international ship. This paper conducts a preliminary study on the establishment of a free, convenient and systematic international ship registration system to promote the repatriation of Chinese-funded flag of convenience ships and attract foreign-funded ships to register in Hainan Free Trade Port.

2. Definition and characteristics of statutory inspection of ships

In Baidu Encyclopedia, the statutory inspection of ships is defined as the compulsory supervision and inspection of ships by the government of the flag state or region in accordance with relevant national laws and regulations, relevant international conventions, rules, etc. According to Article 11 of the Regulations on the Administration of Ship Inspection promulgated by the Ministry of Transport in 2016, China's ship statutory inspection is defined as the mandatory inspection of the safety and technical conditions of ships or maritime facilities by the government of the flag state or qualified ship inspection institutions in accordance with laws, administrative regulations, rules and statutory inspection technical specifications [2]. Statutory inspection includes the construction inspection and periodic inspection, which has the following characteristics:

2.1 Mandatory

As far as statutory inspection is concerned, it belongs to a special behavior of the state to perform ship safety supervision, and this behavior has certain mandatory. It is clearly stipulated in the "Regulations on Ship Inspection"

and "Regulations on the Administration of Ship Inspection" that all ships and aquatic facilities registered in China need to carry out safety and technical inspection in the qualified inspection institutions in China. If the ships that have not carried out qualified inspection in violation of relevant regulations go to sea without permission, it can be punished according to the Regulations of the People's Republic of China on the Administration of Inland River Traffic Safety.

2.2 Authority

In the provisions issued by the Ministry of Transport, it is clearly pointed out that when the Ministry of Transport and relevant government departments approve domestic agencies or foreign companies in accordance with the law, they need to carry out the approval conditions in accordance with the Provisions of the People's Republic of China's Maritime Administrative Licensing Conditions. If it meets the need to give corresponding approval, it is necessary to fully understand the domestic structure and the scope of inspection business of foreign companies, which fully shows that agencies need to obtain the approval of the government before construction, and in the process of inspection, they need to conduct ship statutory inspection according to the four categories A, B, C and D, which shows that after obtaining the authorization of the government, the agencies will be able to carry out statutory inspection of ships. In order to carry out the statutory inspection of the ship, it has a strong authority [3].

2.3 Professionalism

In the process of the ship inspect, the professional requirements are relatively high, China's relevant requirements stipulate that the relevant staff engaged in ship inspection need to hold the corresponding qualification certificate, and the qualification certificate issued by the National Maritime Safety Administration, the certificate has strict requirements on the academic qualifications and experience of the staff. In addition, the

"Regulations on Ship Inspection" promulgated by China clearly stipulate that in the process of ship inspect, if the staff holds different opinions, they can re-apply for a second reinspection, and if they still have objections to the inspection structure, they can apply to the National Maritime Safety Administration for a second reinspection.

2.4 Legality

For the legality of ship inspect, there are mainly the following requirements: First, when conducting statutory inspection, the institutions need to obtain the authority granted by the government and comply with laws and regulations to complete the corresponding inspection; second, the scope of inspection business of the agency shall comply with the provisions of relevant laws and regulations, and shall strictly follow the business scope determined by the China Maritime Safety Administration to carry out the corresponding inspection; Third, in the process of ship inspection, the inspection procedures, the qualifications of the staff and the inspection results must meet the relevant legal requirements.

3. The process of opening up the inspection of China flagship

In recent years, with the improvement of reform and opening up, the free trade zones has been established in Hainan, Shanghai and other areas, in this environment, China has also formulated opening policies for the actual situation of the Chinese flag ship inspection.

As early as January 2016 promulgated the "Regulations on the Administration of Ship Inspection", in which it was pointed out that the business scope of foreign companies should be further opened up, and after the approval of the Maritime Safety Administration, the classification inspection of ships registered in China's free trade zones should be carried out within the scope of gradual opening. Subsequently, in June 2019, China's Maritime Safety Administration issued the Announcement on Matters related to the Classification Inspection of internationally registered Ships in the Pilot Free Trade Zone [4]. In the announcement, it is clearly pointed out that the international registration of vessels in the Free trade pilot zone refers to the special provisions of the international registration of vessels in the Free trade pilot Zone of the People's Republic of China (Ministry of Transport Order No. 85, 2016), which is registered for international navigation vessels of Chinese nationality. Ships registered internationally in the pilot free trade zone may, on a voluntary basis, apply to the China Classification Society or a foreign survey company approved by the Maritime Safety Administration of the People's Republic of China that meets the prescribed conditions for the classification inspection. This is an important measure to implement the central government to further enhance the level of China's opening to the outside world, to promote the free trade zone international registered ships have more options for the classification

inspection, and promote the high-quality development of the shipping industry.

By July 2019, in the "Announcement of the Maritime Safety Administration of the People's Republic of China on Matters related to Opening Up the Classification Inspection of internationally registered Ships in the Pilot Free Trade Zone" and the "Administrative Measures for the Establishment of Ship inspection Companies in China by Foreign Ship inspection Institutions", it is pointed out that other international classification societies (China) limited companies can be allowed to conduct ship classification inspection in China. With the support of this series of policies, the classification inspection market of China flag ships has been opened up to a certain extent. As far as ship classification inspection is concerned, the inspection can only be carried out after the shipowner applies to the corresponding classification society, which is a voluntary behavior. However, the relationship between classification societies and shipowner, shipyard and design institute is a service business with certain operational attributes. In the context of China's continuous strengthening of reform and opening up, China's reform and opening up to an all-round level, based on this situation, The State Council issued the "Overall Plan for the construction of Hainan Free Trade Port" in June 2020, in which it is clearly pointed out that the statutory inspection needs to be continuously opened. And establish a systematic international ship registration system focusing on free trade facilitation and free investment facilitation, so as to achieve highly developed international transport management.

4. The importance of the opening of the statutory inspection of ships to foreign classification societies

4.1 Helps to verify efficiency in the field

In the measures of the People's Republic of China on Ship Registration issued by the Ministry of Transport on December 13, 2016, it is pointed out that international ship registration mainly refers to the registration of enterprises registered in the free trade zone and ships on international routes and Hong Kong, Macao and Taiwan routes by ship registration authority. Therefore, all ships registered in the free trade zone are sailing on international routes and Hong Kong, Macao and Taiwan routes, mainly docking in large domestic ports and foreign ports. At present, China's large ports mainly include Shanghai Port and Hainan Port, both of which have established branches, providing convenient conditions for the ship inspection to a certain extent [5]. However, most of the ships sailing on international routes are docked at foreign ports. When economic regulation is needed, if there is no branch in the outer port in China, the ships need to go to other ports for statutory inspection, which not only increases the difficulty of ship dispatching, but also increases the operation cost and time to a certain extent.

4.2 help to reduce the complexity of ship inspection

For the Hainan Free Trade Zone, the implementation of the ship registration is to attract ships to return to register. Under normal circumstances, some ships in order to save the operating costs, usually in the same classification society for the classification survey and statutory survey. After the opening of the free trade zone classification inspection, ships do not need to pay the conversion fee when choosing different classification societies for inspection, but the statutory inspection of ships can only be carried out in domestic institutions. If the shipowner does not initially conduct statutory inspection in China, the classification inspection and statutory inspection will become multiple institutions. From the original inspection in one institution to the inspection in two institutions, which increased the complexity of ship inspection to a certain extent. Therefore, after the opening of statutory inspection in the free trade zone, it not only reduces the cost that the shipowner needs to pay when converting to class, but also provides convenience for the inspection of ships.

4.3 Help to reduce the cost of ship inspection

After the opening of statutory inspection in free trade zone, it provides convenient conditions for the competition mechanism of ship inspection, which plays a very important role in reducing the cost of ship inspection. For ships, their number in the world is limited, and classification societies in various countries hope that ships can handle business in their classification societies. However, due to the relatively large business costs involved in the process of ship inspection, the competition among classification societies is becoming more and more fierce [6]. At present, the world recognized nine major classification societies including CS, GL, KR, ClassNK, RINA, DVN, ABS, BV, LR, and these classification societies are in the market competition, and for our country's classification society[7], the inspection price has clear provisions, in accordance with strict standards when charging. The inspection price does not change with the change of the market. Compared with foreign classification societies, the inspection fee is more flexible.

4.4 Help to improve service quality

In the process of ship inspection, there are relatively many procedures involved. In addition to charging corresponding ship inspection fees, professional ship surveyors are also required to be on board the ship regularly to complete the inspection during the annual and mid-term inspection of the ship, and the ship company is required to arrange the ship into the dock before the major inspection can be carried out. In this case, the time of ship operation is reduced to a certain extent.

As far as the shipping company is concerned, although the daily cost of the ship is fixed, the long time of ship inspection will occupy a lot of ship time, delay the

departure time of the ship, and reduce the economic benefits of the ship to a certain extent. After the opening of the statutory inspection in the free trade zone, shipping companies can select the classification society with good service quality and fast inspection according to the service quality of the classification society, which can effectively shorten the inspection time.

4.5 Help China Classification Society to expand business volume in the competition

According to the statistics of Tokyo Memorandum organization, the number of inspection offices of China's classification society is relatively low. After the opening of statutory inspection in the free trade zone, it will not only help the classification societies to obtain corresponding power in the fiercely competitive market, but also enable the classification societies to continuously improve the service quality of ship inspection in the fiercely competitive market environment, so as to attract ships in other classification societies or strive for registration to register in our country's ports.

5. Principles of building the quality system of ship statutory inspection

In order to effectively improve the quality of statutory inspection of ships, enhance the level of statutory inspection of ships in our country, and effectively implement the opening of statutory inspection of free trade zone, it is necessary to establish a legal quality inspection system, and the following principles should be followed in the establishment process:

first of all, the standards in the measures of the People's Republic of China for the Quality Management of Statutory Inspection of Ships (hereinafter referred to as the Measures) should be strictly implemented, and the statutory inspection system should be established during the inspection, and the inspection standards in the system should be consistent with the basic standards in the Measures.

Secondly, the construction of the consulting service system, and according to their actual situation to prepare a set of their own quality management system. In addition, it is necessary to fully master the personnel and units related to the legal survey of ships, and give them corresponding help.

Thirdly, relevant departments should pay attention to the effectiveness test based on the development situation. After the completion of the construction of the quality management system, it is necessary to adhere to the relevant documents and provisions in the operation during the operation period, and combine the actual situation of the position, on the basis of laws and regulations and relevant documents, the actual practices of different positions are closely linked together.

Finally, it is necessary to strictly implement the basic requirements of practical results. In the documents of the statutory inspection of the ships of the transportation department and the Maritime Administration, the

corresponding provisions have been made on the time limit and requirements of the inspection. Therefore, in the process of establishing the ship quality system, it is necessary to be recognized by the relevant departments.

During the specific implementation, it is necessary to ensure that the documents of the quality management system of ship statutory inspection are updated in time, promote the standardization and improvement of the business and management of ship statutory inspection, meet the requirements of ship owners and appropriate legal and regulatory documents, and improve the satisfaction of ship owners [8].

6. the adverse effect of statutory inspection on the liberalization of foreign classification societies

6.1 The support of national defense reserve forces has been weakened

for the statutory inspection of ships, it belongs to a method of ship inspection by China Classification Society, and this method is based on Chinese laws and regulations, after passing the corresponding inspection, during peace time, China needs to maintain its shipping and shipbuilding industries to prevent war. In addition, in order to strengthen China's national defense reserve force, it is necessary to give full play to the role of Chinese civilian ships. After China opened the statutory inspection of ships, it shows that the inspection standards of some Chinese-flag ships are not completely controlled by the Chinese shipping inspection institutions. When the construction and navigation of ships do not conform to the military purposes, China's national defense reserve force cannot be effectively strengthened.

6.2 Not conducive to the jurisdiction and control of the ship

It is clearly stipulated in the United Nations Convention on the Law of the Sea. The ship shall fly the flag of the registered flag State, and the administrative system of that state, and the corresponding jurisdiction and control, shall be effectively implemented. After the opening of the legal survey of ships in China, it has increased the difficulty of ship management in our country to a certain extent, and also weakened the jurisdiction and control of the transportation authorities over ships[9].

Through the above series of analysis, it is found that the opening of the statutory inspection of ships to foreign classification societies has both advantages and disadvantages. Since the original intention of the policy is to "attract the return of Chinese flag of convenience ships", the benefits brought by China's opening of the statutory inspection of ships far outweigh the disadvantages, and the disadvantages can be controlled by corresponding technical means [10].

7. Suggestions for the liberalization of foreign classification societies for the statutory inspection of ships

7.1 open the legal test in the way of "reciprocal opening"

in the way of legal ship inspection, major maritime countries in the world have adopted the method of equal opening. In addition to granting corresponding authority to their own classification societies, they are also equally open to other countries[11], see table 5 for details. Therefore, in order to effectively improve the interests of China's ship inspection institutions, we should follow the "reciprocal opening" statutory inspection method of other countries, which plays a very important role in simplifying the complexity of China's ship registration in China.

Table 5 the statutory inspection of the inspection of each country

	the British labor The ship class organized body LR	American vessel Grade club ABS	DNV GL group	DNV GL group	The French ship Grade BV	Italy ship classification society RINA
Britain ACS	--	O	O	O	O	O
America ACP	O	--	O	O	×	×
Germany	O	O	--	O	O	O
Norway	O	O	O	--	O	O
France	O	×	O	O	--	O
Italy	O	×	O	O	O	--

7.2 Improve the maritime legal system and its supporting facilities

At present, in the bonded port zone of China, its infrastructure and supporting facilities are still not perfect,

which leads to the transfer of nationality of most of the ships China. The main reason for this situation is that the shipping environment of China is relatively poor, lacks certain attraction, and the taxes and fees are high, which leads to the failure to be in line with the international financial market. Therefore, in order to effectively

enhance the competitiveness of China's shipping, it is necessary to establish the support system, and constantly strengthen the construction of supporting facilities in China, so as to facilitate competition between China's shipping institutions and other foreign international shipping registration institutions. Therefore, China can follow the example of the Hong Kong Special Administrative Region in improving support facilities flag state quality management system, in order to establish a strict ship management , the quality of registered ships for timely control.

8. Conclusion

with the development of China's shipping industry, China's Hainan Maritime Administration has established a set of legal systems for the ship inspection, which to a certain extent covers China's inland rivers and ships at sea, and effectively promotes the development of China's shipping industry. However, due to the relatively late development of ship inspection in our country, its management level and decision-making ability of competent authorities is relatively low. Therefore, in order to effectively improve the level of ship inspection in our country, the national technical system needs to be further improved, so as to establish long-term strategic planning.

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