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# The Enlightenment of Japan's and Britain's Pilotage Management System to China

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## Abstract

In view of the implementation of the national government institution reform policy in mainland China, on the basis of the researches of domestic pilotage institutions, the paper mainly studies the pilotage management system of Japan and Britain, and analyzes the current situation of China's pilotage system. According to the direction of the reform of government institutions in mainland China, according to the reality of the pilot reform, exploratory put forward the Chinese characteristic pilotage association management model, gives the frame structure, pilotage legislation, elected chairman of the board of directors, pilotage charges, salary budget proposals, for the pilot reform of the propulsion has certain benefits.

## Keywords

Japan Pilotage, British Pilotage, Pilotage Status, Association (guild).

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## 1. Introduction

After long-term exploration, the reform of government institutions has entered the overall promotion stage in mainland China, and various industries have started to reform successively, which is both an opportunity and a challenge for pilotage, and the focus is to change the system to promote the development of pilotage. China has a large number of pilotage agencies, and the number of pilotage associations in Japan's pilotage area is similar to ours. The development of Japan's pilotage system absorbs the experience and lessons of the early development of European pilotage industry, establishes pilotage associations, formulates pilotage laws, guides the operation of pilotage agencies, and standardizes pilotage services, so as to gradually orderly the development of pilotage industry <sup>[1]</sup>. Britain also set up its own pilotage association to ensure the safety and professional interests of pilotage dollars. The development of pilotage system in our country needs to be improved step by step, catch up with the whole industry system reform, pilotage must conform to the situation, not only to find a new path in line with the reform direction, but also to the international pilotage standard.

## 2. Related concepts

### 2.1 Pilotage

Pilotage refers to the act of guiding the safe navigation of ships by national professional pilotage personnel in order to safeguard national sovereignty and ensure the safety of ships, ports and facilities. Xu zuyuan, former vice minister of the Ministry of Transport of the People's Republic of China, said in response to a question from the reporter of China water transport news that the pilot is "the first man on the water". Pilot professional characteristics, the first is involved, the second is professional, the third is risk..

## 2.2 Government institution

The government institution is a special kind of organization situation in our country<sup>1</sup>. It is the main carrier of providing public service in social and economic development, and an important measure to promote the transformation of government functions and build a service-oriented government. There are 45 pilot stations in the country<sup>[2]</sup>, most of which are institutions of the nature of government institutions. The nature of government institutions can enhance the commonweal attribute of piloting institutions, and enhance the safety and stability of pilot teams. At present, government institutions are divided into three categories: public welfare category one, public welfare category two and public welfare category three.

## 2.3 Association

Industry association refers to a cooperative organization formed by competitors in the same rich and complex field considering each other's interests<sup>[3]</sup>. Industry associations are non-profit in nature and consist of industry competitors. The purpose of trade associations is often to improve the efficiency of one or more industries in this field; Or to increase the economic benefits gained by members of the industry<sup>[4]</sup>.

## 3. Japan, UK piloting industry overview

### 3.1 Japan

#### 3.1.1 Japan Pilot Area

Japan is located in the western part of the Pacific plate, from south to north, consisting of Kyushu, Shikoku, Honshu, Hokkaido and more than 3,000 small islands. A large number of ships sail in the waters of Tokyo Bay, Ise Bay, and Seto Inland Sea. Japan's location is on a low-pressure path, and weather and sea conditions are complex and variable. [5]

In the 1870s, the Japanese shipping industry had just begun to take off. At this time, the pilotage service organization had not yet formed an organization, and the free competition between private individuals was fierce. In this case, each pilot wants to provide pilotage services for the ship, so as to get a good reward. According to information, ship accidents occurred frequently, especially during the typhoon season. In the early days of providing pilotage services in Europe, there was also such overheated competition. At that time, each country planned to establish a piloting association to modernize the pilotage service system, and Japan was no exception. Since then, the Japanese government has gradually established a piloting association in each pilot area, and has launched a "one port, one piloting association" system to control excessive competition and provide safe and efficient pilotage services.

Japan's pilot authority, the Ministry of Land, Infrastructure and Transport, has divided the country's waters into 39 water diversion zones (Figure 3-1-1). Each zone has a pilot association, a total of 35 pilotage associations, and pilot zones in small locations are arranged to the adjacent piloting association. The Pilots Association is a self-disciplined corporate body. The purpose of setting up the Pilots Association is to facilitate the pilotage business, such as setting up an office, accepting pilotage applications, training pilots, and conducting liaison and guidance among members<sup>[4]</sup>.

#### 3.1.2 Pilotage organization structure

In 1949, Japan enacted Decree No. 121, the Pilotage Law, which aims to regulate the qualifications and access requirements of pilots, ensure the safety of navigation and navigation, and improve the operational efficiency of ships. Article 48 stipulates that a piloting association shall be established in each pilot area. The piloting association of a pilot area should be formed by a licensed pilot in the area.

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<sup>1</sup> There are four types of organizations in China called units, namely, party and government organs, state-owned enterprises, public institutions and social organizations.

In April 2007, Japan established the Joint Pilotage Association, which was formed by 35 piloting associations. The Japan Joint Pilotage Association inherited the main activities and activities of the Japan Pilotage Association, and also established a number of special committees, for example, specializing in pilotage regulations. The Pilotage Service Research Committee, which explains and revise and abolish various feasibility studies, is responsible for studying various technical issues such as ship navigation safety, pilot training, pilot safety boarding and accident prevention. The Pilotage Service Quality Control Committee is responsible for the editing and publication of the Pilotage Services Press Committee, which includes various public information on the website of the Japan United Pilotage Association, and the publication of an internal monthly report on the pilotage system and services.

The highest body for decision-making by the Japan Joint Pilotage Association is the annual parliament, and the remaining special parliaments are held only when there is a demand. The quorum of the parliament includes representative pilots of most piloting associations. In the parliament, JFPA's activity report for the previous fiscal year and plans for the coming year, financial reports and plans, and other important matters will be discussed.

The board of directors is the decision-making body of the association's political affairs and holds several meetings each year. The board of directors consists of the president, vice president, managing director, executive director, auditor and directors who are selected from pilots in all pilot regions of the country. The board not only issues the necessary orders to perform pilotage services in accordance with the policies determined by parliament but also makes various decisions on matters which do not require a vote in parliament..

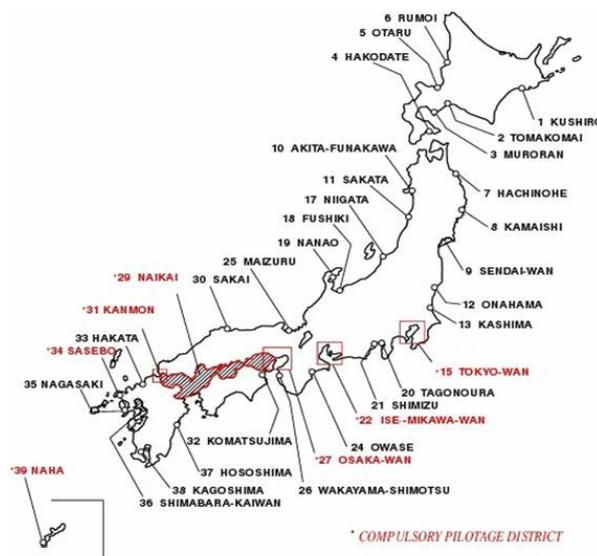


Figure 3-1-1 Japanese pilotage area map

### 3.1.3 Pilotage fee

The pilotage fee must be based on the total tonnage and draft of the ship. The water diversion fee for each diversion area must be determined by the Ministry of Land, Infrastructure, Transport and Tourism. The Ministry of Land, Infrastructure, Transport and Tourism adjusts the pilotage fee as needed. Under normal circumstances, after the pilot association proposes the adjustment request, the Ministry of Land, Infrastructure, Transport and Tourism will adjust the rate according to the opinion of the review committee. The pilotage fee is mostly for the pilot's remuneration. The fee collection standards for each pilot area in Japan are formulated and published by relevant government departments, and different pilotage standards are different. Pilotage costs include basic and surcharges. The base fee applies to ships of 1000 gross tonnage and below with a draught of 3 m or less. Additional charges apply to larger vessels.

## 3.2 United Kingdom

### 3.2.1 British pilotage system

British pilotage is managed by the The UK Maritime Pilots' Association (UKMPA), which was established in Bristol in 1884 by commander George Cowley. Unlike most other industry stakeholders, the work of the British Pilotage Association is done entirely by pilots. The members of the association elect the executive committee, which consists of 9 pilots, 1 chairman, vice-chairman, secretary-general and 6 regional representatives. The executive committee is responsible for the day-to-day operations of UKMPA. In addition, there are six district representatives. Executive Committee members meet with industry stakeholders on a regular basis in many different forums to ensure that the pilot's professional interests are fully understood and considered (which directly affects the safe and efficient operation of UK ports). In its report on maritime pilotage, the House of Commons transport committee said that the department for transport (through the maritime coastguard) is the national pilotage authority, a government body charged with ensuring that the pilotage authority provides appropriate pilotage services.

### 3.2.2 Pilotage rate

The pilotage fees of the various ports in the United Kingdom are determined by the port administration. According to the provisions of the British Guide to the Pilotage Regulations in the first part of the British 1987 Law, the competent seaport authority (in this Act "the competent seaport authority" refers to any harbour authority. ) A reasonable fee may be charged for the port services provided. It can be seen that the pilotage rates in the UK are all adjusted by the port management department according to the actual situation.

## 4. Current situation of pilotage industry in China

### 4.1 Pilot overview

According to the Ministry of Transport's Vocational Qualification Center and the China Pilotage Association, the survey of 45 pilotage agencies in mainland China [6]. At present, China has 45 pilotage agencies, 43 coastal pilotage agencies, and 2 inland navigation agencies (Changjiang Pilotage Center and Heilongjiang Pilotage Station). By the end of 2016, a total of 2298 pilots, which harbor pilots 1744, 554 river pilot (Figure 4-1-2). In terms of level, there are 649 senior pilots, accounting for 28.24%; There are 725 first-class pilots, accounting for 31.55%; There are 416 second-class pilots, accounting for 18.1%; and 366 third-class pilots, accounting for 15.93%; 142 assistants and learning pilots, accounting for 6.18% (Figure 4-1-1). In terms of age, there are 240 pilots from 21 to 30 years old, accounting for 10.44%; 837 pilots from 31 to 40 years old, accounting for 36.42%; and 754 pilots from 41 to 50 years old, accounting for 32.81%; There are 467 pilots aged 51 to 60, accounting for 20.32% (Figure 4-1-3). It can be seen that after decades of development, the pilot team has undergone tremendous changes with the port industry [6].

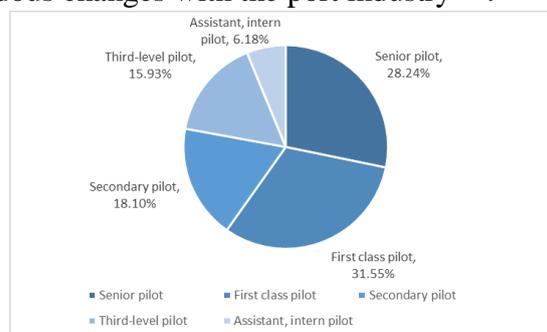


Figure 4-1-1 Pilot team level structure

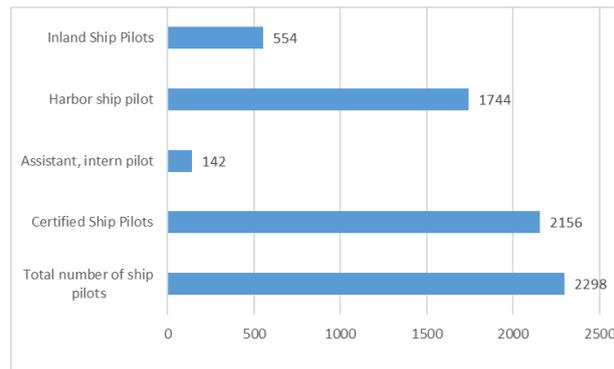


Figure 4-1-2 Number of Pilots distribution

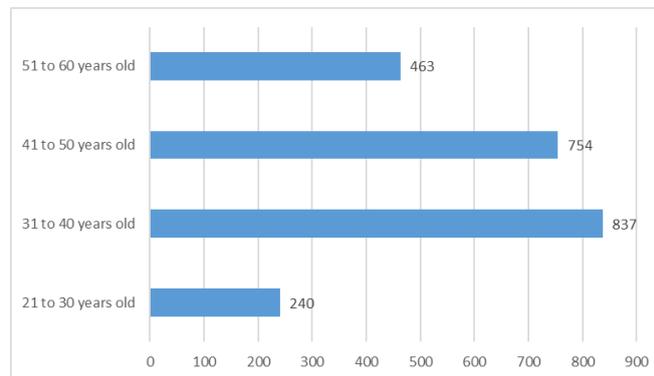


Figure 4-1-3 pilot ranks age profile

## 4.2 Pilotage service capabilities

The pilotage and service capabilities of ports in China are basically at the world-class level. According to statistics, in 2016, the country's 45 pilotage agencies piloted a total of 382,000 Chinese and foreign ships. Of which 329,000 trips ship pilotage foreign trade, domestic trade ship pilotage 53,000 trips. The number of pilot ships was 128,600, and the number of ships navigating dangerous goods was 72,000. The pilotage of super-large vessels reached 90,000 ships, including 400,000-ton ships and 18,000 TEU (twenty equivalent unit) container ships. Shanghai, Yangtze River, Ningbo, Shenzhen, Tianjin, Qingdao, Dalian, Guangzhou, Xiamen, and Yantai have piloted more than 10,000 vessels, and the Shanghai Pilotage Pilot Station has piloted more than 70,000 vessels, a record high. Yangtze River ship pilotage nearly 60,000 trips, up to a record high level. <sup>[6]</sup>

## 4.3 A common problem faced by national institutions pilotage

### 4.3.1 The problem linked with the restructuring of the pilot station

Among the 45 pilotage agencies in the country, most of the pilotage agencies were separated from the port group in the port system reform in 2001, becoming a separate government institution. The reform of the administrative system that is now implemented is to go to the cause of the institution. If the nature of the institution is changed, it cannot be linked to the Transportation Committee. If it becomes a franchise for the enterprise, it will be linked to the SASAC. This is contrary to the public interest and monopoly attributes of the pilotage. It is bound to cause major security incidents, such as the introduction of corporate competition mechanisms in the pilotage service market in Argentina. In 2000, 18 major security incidents occurred in Argentina. A new system is needed to ensure the sustainable development of pilotage.

### 4.3.2 Regional development imbalance

In recent decades, with the rapid development of China's port and navigation industry, remarkable achievements have been made in pilotage industry. Among the larger pilotage stations, there are Shanghai pilotage station and Yangtze river pilotage station, with a total number of over 300 people, and some smaller pilotage stations with only two or three pilots [7]. Due to the development of ports,

pilotage business volume is not large in some regions, so it is difficult to maintain the operation of the institution due to the pilotage expenses from pilotage income. As a result, pilotage vessel facilities, personnel allocation, professional skills and other aspects cannot be compared with pilotage institutions in other regions.

#### 4.3.3 Lack of pilotage laws and policies

In pilotage industry, there is no pilotage law, and the highest reference document is usually the administrative order signed by the minister of transport, such as provisions on vessel pilotage management, which has a low legal effect and has no clear provisions on pilotage management system, pilot training requirements, financial management system and pilotage subordinate institutions. Due to the imperfection of pilotage law and policy system, some competent pilotage agencies have their hands tied when carrying out business, so an effective and powerful pilotage law is needed to guarantee the development of pilotage agencies. In December 2016, general office of the ministry of transport of the notice on strengthening the management of the pilot, which demands ", we must give full consideration to the professionalism of the pilot positions and risks, establish a scientific and effective pilot's salary system and examination of reward mechanism, promote the pilot treatment is relatively stable ", but the reality is a pilot with drop in income stability, individual port pilot staff salary drop is bigger. This is inconsistent with the relevant requirements, which not only caused the loss of pilots in some pilot agencies, but also caused the instability of pilot team.

#### 4.3.4 Social awareness is not high

Pilotage agencies generally have the characteristics of small scale, scattered work, and low recognition. Many work developments are not well understood and supported. Staff salary, professional and technical posts set to talent enroll to introduce all aspects such as it is difficult to run smoothly into the existing institution system, everywhere is apt to occur only as a special case, pilot institutions often need to report to the leadership to explain many times pilotage particularity to strive for superior departments and finance, human resources and other relevant departments to understand and support; Some requirements of pilotage production line, such as pilotage base construction, traffic, vessel management and maintenance, pilotage equipment and facilities, etc., are often contradictory with the relevant regulations of the state on government institutions and the lengthy and rigid financial procedures.

#### 4.3.5 Pilotage fees not reflect the fair

China's pilotage charges are uniformly formulated and implemented by the Ministry of Transport, and the following problems exist in the whole country: 1. There are some problems in the basis of pilotage charge collection. China's pilotage charge is based on the net tonnage of the ship, which cannot reflect the size of the ship and the difficulty of pilotage. 2. The draft of the ship is not taken into account in pilotage billing, that is to say, for a ship, no load or full load is the same. 3. Pilotage time has nothing to do with fees, and the amount of labor paid by pilots for technical services provided by ships cannot be reflected. 4, domestic trade ships on foreign trade ships pilotage rate is much lower. 5. There are some problems in the determination of night shift time.[9]

#### 4.3.6 Pilots expanded business volume growth can not keep up

In recent years, the implementation of the "One Belt, One Road" initiative has enhanced trade between China and the countries and regions along the route, and has also accelerated the development of port and shipping enterprises. The port's business volume has grown rapidly, and the number of vessels piloted by pilots has also grown rapidly. The work intensity is also getting bigger and bigger, and some pilots are often in an overloaded working state, which poses a great threat to the safety of the ship and the safe production of the port. As for the Shanghai Port Pilot Station, the number of pilots per pilot in 2016 has exceeded 230 ships [2], which is obviously in a high-intensity working state. Some piloting agencies are also faced with the problem of queuing advanced pilots. They must wait for the older pilots to retire before they can vacate their quotas for new pilots. This mechanism has curbed the development of pilotage. The shortage of pilots has become increasingly

serious. If it cannot be effectively solved, it will cause immeasurable economic losses caused by pilot safety.

## **5. The development direction of reform**

Despite the history and the different national conditions, but Japan and the UK in the pilot some advanced methods of management and experience, to improve the management level of pilot institutions in our country, has the certain enlightenment and reference, according to China's new era of the national conditions of socialism with Chinese characteristics and institution reform direction, according to the reality of the pilot reform, exploratory put forward the trinity management system with Chinese characteristics. The trade association system meets the principle of pilotage public interest, the pilot's sense of acquisition and the production safety of ports, and strengthens the safety control of pilotage by the ministry of transport. Moreover, the tax rate of the association is low, which is more importantly in line with the current direction of system reform and the national conditions of pilotage in China.

### **5.1 Association set up the framework structure**

According to the orientation of pilotage as public welfare, safety, national defense and monopoly, China pilotage association is registered and established on the basis of integrating the existing pilotage association and pilot stations in various regions of China, so as to clarify the nature of the association as a legal person. China pilotage association provides advice and industry management in pilotage policy formulation, pilot qualification recognition, practice qualification, pilotage operation standard, pilot fee standard, pilot income and dispute resolution.

Around the trinity established on the basis of the existing pilot station, the system of pilot area, similar to Japan can build Shanghai pilotage association, pilotage association Qingdao pilotage association, guangzhou pilotage association, xiamen pilotage association, etc., is registered as the corresponding corporation, organizations set up management agencies, the administrative department for industry and commerce registration, and receive a business license, with functions of independent financial and raise. Pilot stations with smaller ports and less pilotage operations shall, in principle, be incorporated into the pilotage association of neighboring ports. Thus solved the pilot station attached to the problem, after the restructuring of the pilot station under the unified jurisdiction of the ministry of transport, local transport competent authorities in charge.

In this way, the waste of resources and brain drain caused by the severe fluctuation of the operation of a port can be solved, and the safety and interests of pilots can be better guaranteed.

### **5.2 Explore the development of "Pilotage Act"**

Comprehensive reference to Japan and combined with China's national conditions, in order to further standardize the management of pilotage services, it is recommended to study and formulate the "Pilotage Law of the People's Republic of China" in line with China's national conditions as soon as possible, so that the pilotage has a legal basis, can clearly define the legal status of pilotage, and clarify its management. The organization, management level, and clear pilots' training, recruitment, salary, and qualifications define the scope of the pilot's powers and obligations from the law. The formulation of the law has a legal basis for the legal rights of piloting, and there are also laws to follow the accidents that arise in pilotage.

### **5.3 Election of council President**

The chairman shall be appointed by the ministry of transport and elected by the board of directors, and the chairman of China pilotage association shall be elected by various pilot associations. The chairman shall be supervised and managed by the ministry of transport. The appointment and removal of personnel of various pilot associations shall be determined by the local competent transport authorities and reported to the China pilot association for the record. The members of the guild council are composed of representatives of the selected member agencies and work around the objectives of pilotage.

#### 5.4 Formulating pilotage charges

As before, pilot fees are still set and promulgated by the ministry of transport. In addition, we should unify the charge standards of coastal and Yangtze river pilotage agencies for external vessels, unify the charge standards of domestic and foreign trade, and the charge standards should be as close as possible to the international standards. Reserve funds for pilotage development shall be set up within the China pilotage association to be used for national or local public welfare undertakings. In addition to meeting pilot expenditure and organization operation, part of the pilot fee income of pilot associations of various regions shall be deposited into pilot development reserve fund base. Pilotage service is non-profit in nature. The pilotage fee collected shall be submitted to pilotage development reserve fund base after daily operation of the institution and pilot's salary. Pilots in almost all countries are in high-paying positions. <sup>[8]</sup>

#### 5.5 Approved salary budget

China pilotage association shall discuss pilot income, pilot fee rate formulation, development policy formulation and pilot development reserve fund in an open, fair and transparent manner every year to form relevant opinions, which shall be used as the basis for decision-making and budget of the board of governors and submitted to the ministry of transport for examination and filing. Pilotage expenses of all local pilotage associations must be reported, itemized in accordance with relevant standards and regulations of China pilotage association, and examined by China pilotage association. Pilot's job is a highly professional and high-risk job, in bad weather, pilot also want to board the ship pilot, which has a high safety risk, pilot's death cases are also many. Therefore, pilot's income must match the risk level of the job, which can not only improve their work enthusiasm, but also contribute to the stability of pilot team and retain excellent pilot talents.

#### 5.6 Train pilots

Increase the number of pilots, pilot stations should learn to retain young excellent pilots, as a talent reserve training, low-level pilots should give them more opportunities to learn from the ship, go out for training. Pilotage association should give full play to its own role, gather pilots from pilot stations around the country, select teachers from universities, experts in the industry and experienced senior pilots to form a teaching team, give lessons to pilots, constantly update their knowledge and adapt to the requirements of pilotage in the new era.

### 6. Conclusion

Pilotage is an industry with high technical and public service, in the context of institution reform, in view of the pilot reform of institution, with reference to the successful experience of Japan and UK pilotage development, as a pilot for the country to reform the basis points, the pilotage association management system, clear the guild management service nature, balance of payments management pattern, the appointment of staff, salary budget, etc. So as to better clarify the relationship between central industry authorities and local industry authorities, integrate with international standards, increase the discourse power of China's pilotage industry and port and shipping industry in the international arena, and respond to the requirements of socialism with Chinese characteristics on water safety in the new era.

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