Abstract
This paper aims to provide evidence of historical documents in Chinese steamship industry and how these materials may provide context to better understand the underwater cultural heritage. What were the economic impacts of steamship industry on China’s littoral landscape? Through a discussion on maritime policies the following examples are noted:

a) Assistance Policy – In 1876 Japan ordered a cessation on Chinese steamships from entering Japan to purchase coal. In response the Chinese government enacted the September 1876 Decree for Coal Aggregate Industry in Kai Ping in support of the first national coal mining industry. This caused great changes in the littoral landscape with the building of mining infrastructure.

b) Preferential treatment – The 1872 Royal Act declared the development of the first Chinese steamship company. The China Merchants Steam Navigation Company gained monopoly of the inland-waterway systems (Yangtze River – Shanghai to Hankou to Chong Qing). In support of its development the policy entailed the following:

i. Raised high-prices on freights with the implementation of a tax to twice their value;
ii. Private company taxes were increased but taxes reduced on the steamship company.
iii. prohibition on other competitive steamship companies until 1896.

These historical records can help to interpret maritime archaeology by providing reasons for ship-type shifts in cargo assemblages. When the government stepped in with these raised freights and taxes then the private companies operating junks were ousted by the national steamship company. This could explain why a shipwreck would encase high-valued merchandise along the canal system. The cargo could be misinterpreted to represent a pirate ship. However, knowledge of the relevant policy clarifies the fact that working steamships would have been the preferred vessel to carry cargoes of high-value.

Introduction
In this discussion of policy I will first start with the definition of keywords and their context. 'Supportive Shipping Policy' means the governing state provides the national shipping companies privileges in finance, tax, operation and loans. Foreign shipping companies do not have the same privileges under these policies. The policies are an impetus for encouraging new ship building and the expansion of new and/or developing national shipping companies.

In the 19th century the world market expanded on a large scale after the Industrial Revolution. Private investments were made in attempts to adapt to the growing trade that brought about the increased demands of shipping transportation. National governing bodies, in countries geographically located in the western hemisphere, noted these dynamics in world economics and instated regulations to support their national shipping companies.

At the forefront of global maritime activities was Britain. The 1651 Navigation Act restricted trade by foreign ships between England (in 1701 under the Acts of Union became ‘Great Britain’) and its colonies. The goal was to force colonial development into Liners favourable to England and stop direct colonial trade with the Netherlands, France and other European countries. The original ordinance of 1651 was renewed during the Sovereign Restoration (1660’s), in 1660 and 1663, and subsequently subject to minor amendment. These Acts formed the basis for British overseas trade for nearly 200 years.
In 1837 the Peninsular and Oriental Steam Navigation Company (P&O) won a contract from the British Admiralty to deliver mail to the Iberian Peninsula. This was the first mail contract awarded to a commercial shipping company. Later it was paid by the Royal Post Office. The mail contracts provided P&O with a degree of financial security and a major source of revenue for more than 100 years until the outbreak of the Second World War. Other contracts, similar in nature, were awarded to other shipping companies, especially Alfred Holt’s Ocean Steamship Company.

Japan and other western states such as America, France and Germany followed this example and made similar steps towards the development of national shipping companies.

**Forms of supportive shipping policies**

**Ship-building Subsidy**
To encourage national shipping companies to build new vessels governments provided money towards the costs of construction. The amount was calculated according to load-tons.

For example, in 1881 France adopted ship-building subsidy acts which entailed offers of 25.10 francs per ton for iron boats, 11.58-15.44 francs per ton for wooden boats and 5.80 francs per 100 kilograms (kg) for new engines, boilers and affiliated parts.

On 1st October 1896 Japan enacted the Navigation Encouragement Law for vessels ranging in size from 700 to 1000 tons. The subsidy offer was 12 yen per ton. Larger vessels were offered 20 yen per ton. Additionally, the Japanese authority offered 5 yen per indicated horsepower (ihp) for machines made in Japan.

**Mail Allowance or Navigation Bounty**
Rapid expansion of new Liners and national mail shipments were encouraged and indeed occurred with the aide of subsidies towards national shipping companies. These subsidies were usually a contract between authority and company, not an act or regulation.

In the introduction I discussed how Britain was the initial country to enforce these policies, which was later followed by other countries. I will here introduce the initiatives of France, America and Germany respectively.

In 1851 the French state agreed on a subsidy to Messageries Nationales (in 1871 renamed the Compagnies des Messageries Maritimes) for the postal service of an annual subsidy of 300,000 gold francs. This original agreement was guaranteed for ten years (Ramona 2001).

On 25th August 1865 the American Congress authorized a subsidy to the Pacific Mail Steamship Company (PMSS) for transporting mail to Yokohama and Hong Kong. From 1867 the initial subsidy was $500,000 for twelve round trips a year, to the total sum of $4,500,000 over nine years.

The German government provided support to Norddeutscher Lloyd with an annual subsidy of 4,400,000 deutsch marks to cover three routes of mail service. This initial contract lasted for 15 years.

**Government supported capital or loans**
At times the government has built up new shipping enterprises with government funds and then turned it over to renowned business groups to operate it. Otherwise, in order to develop its maritime enterprises, governments have bought steamers for
specific shipping companies free of charge, and/or they provided loans to be paid back in instalments. Japan's government has the reputation for providing the most to the development of its steam-shipping.

*Nippon Yusen Kabushiki Kaisha* (NYK) and *Nisshin Kisen Kaisha* (NKK) were founded by the Japanese government. In August 1872 the Japanese government gave 15 ships to NYK at the price of 250,000 yen, this was lower than the original cost to build steamships. Further, the company could repay the money by instalments. In September 1875 the Japanese government bought 13 steamships (total tonnage 11,174) and gave the ships to NYK without imposing any fee. In October of the same year the government lent $810,000 to NYK. With this money NYK purchased four steamships (total tonnage 6761) from the American company PMSS's Yokohama-Shanghai line, this sale included shore properties.

NKK or *Janpa-China Steamship Company* was established in March 1907. Originally there were four Japanese shipping companies that conducted business on the Yangtze River. They were a direct competition with British, German, French and Chinese firms. The Pass Letter Province of Japan decided that a merger of these companies would enable stronger competition against foreign companies. The new company (NKK) was formed with approximately 46% of shares held by OSK, 41% by NYK, 10% by shareholders of Hunan Kisen Company, and 2.5% by *Daiton Kisen Company* interests.

**Reducing tax burden**
The government took over the responsibility of covering the costs for shipping companies to operate on their routes. They started special tax policies to provide national shipping enterprises money towards custom charges, port dues, tonnage tax, transit duty, etc. This allowed for the companies to operate virtually free of charge along their transit. For example, when the Suez Canal was completed and opened for shipping traffic the British government covered the Canal transit dues for British shipping companies.

**Cabotage right (Coastal transportation right)**
Cabotage originally is the transport of goods or passengers between two ports in the same country by a vessel. Cabotage has since been expended to now cover aviation, railways and road transport.

‘Cabotage rights’ are defined as the right-of-passage of company ship(s) owned by one country to trade or transport in the waters of another country. Most countries do not permit cabotage by foreign companies, however in the late Ch’ing Dynasty, after the second Opium War, foreign shipping companies had this right. Only a few countries in the world have currently renounced this right.

**Speed rate allowance**
Only Japanese shipping companies operated the speed rate allowance. When the Japanese ships transported between foreign ports the Japanese government provided an allowance of 25 yen per 1,000Miles per ton. This came into action under the 1896 *Navigation Encouragement Law*. It was limited to vessel(s) with a gross tonnage over 100, which had the capacity to sail at a speed of over ten knots, and the age of the vessel was under 15 years old. The allowance would increase by 10% for every additional 500 gross tons, with a further 20% increase for every extra knot of speed it could achieve. The highest limit was 6,000 gross tons and 17 knots. However, this policy had a fatal flaw in that in order to get the allowance the shipping
companies focused on building larger and faster vessels in spite of hold capacity and economic benefit (Wray 1984:305).

Inspired by these policies the shipping companies quickly controlled many main lines of the world. For example, the shipping market of China was monopolized by foreign companies.

Chart 1. *Tonnage percentage of foreign flag ship entered and cleared in the ports of China (1864-1911) (data from Yang, et al. 1931)*

China Merchant Steam Navigation Company (CMSNC) was the pioneer Chinese-flag steam shipping venture. It was formed at the end of 1872 and began official operations on the 17th January 1873. It changed the situation that Chinese-flag shipping shared no more than 1% in the overall Chinese shipping market. The new company was a serious intervener and rival with the foreign lines. Unlike foreign companies the Ch’ing Dynasty government did not have any special law or regulation to support it. CMSNC mainly relied on the idea of its initiator---Li Hung-chang. Hung-chang’s support chiefly entailed the following four forms:

1. **Government Loans and moratorium**

   The Ch’ing Dynasty government provided loans to CMSNC and postponed the return on the capital. In 1873 the initial total capital for CMSNC was Tls.1,400,000; Tls.134,000 of which was a government loan. In 1876 CMSNC experienced difficulties under the pressure of their rivals Shanghai Steam Navigation Company (SSNC), China Navigation Company (founded by Butterfield & Swire) and China Coast Steam Navigation Company (founded by Jardine, Matherson & Co.). Li Hung-chang lent Tls.500,000 from the Navy and Land expenditures, along with taxes

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1 Tls, Shanghai Tael silver, Chinese monetary unit, one Tls approximately equals one-third Great British Pound in 1870’s.

2 This was drawn from the military expenditure of Chilli province.
collected from Yantai customs. In January 1877 the company purchased the entire fleet and shore properties of SSNC for Tls.2,220,000. This included an initial payment of Tls.1,000,000, this was obtained from a government loan. It was the largest loan in company’s history. In 1878 the government loans reached its height in the company’s history at Tls.1,960,000.

In 1885 CMSNC was to repay the last government loan of Tls.770,000. Simultaneously more than Tls.1,000,000 of the foreign loan was to be repaid. Without doubt it was difficult to repay both loans at the same time so Hung-chang decided to the foreign loan should be repaid first. Once this was accomplished the Chinese government loan was to be repaid. This meant that the Chinese government loan was postponed by 5 years, and was not repaid until 1890.

2. Monopolization of transport “tribute rice”

Tribute rice is a special tax for the eight provinces along the littoral of the Grand Canal3 (Shandong, Henan, Anhui, Jiangsu, Zhejiang, Jiangxi, Hunan and Hubei). The eight provinces were to transport different amounts of rice along the Grand Canal to Beijing by sampan every year. The amount of tribute rice was 4,000,000Picul4 per annum. The concession of transport tribute rice was a privilege reserved solely for CMSNC. Hung-chang explained to the Ch’ing Dynasty government on 23rd of October 1872, the reason for the build of a new steamship company. His points included transport tribute rice and the challenge of the foreign monopoly of steam ship companies in China. In 1873 CMSNC transported 20% of the tribute rice with a rapid increase to 40-50%.

Transporting tribute rice had great affect on the development of CMSNC in its early stage. Its freight was a stable source of income. This was due to the fact that the Ch’ing Dynasty government paid higher freights. Before 1879 the freight was Tls.0.5615833 per Picul and was later reduced by 10%, a fee for the Sea Transportation Office, and 5%, a fee for all daily costs. The net profit of it was Tls.0.4773. Additionally, the government paid Tls.0.15 per Picul for repairs. This included waste rice allowance and a 20% fee tax for carrying other cargo when ships returned from Tianjin, so the freight was in fact higher than it was for junks to conduct the same activity. Through the 1880’s the freight declined to Tls.0.531 per Picul, although essentially remaining higher. The following quote provides evidence of this:

> For the transport of tribute rice from Shanghai to Tientsin, the government for many years paid Tls.0.55 per Picul—a rate at least twice as high as that charged by foreign firms for moving cargo between the two ports (Liu 1959:443).

Some foreign shipping companies never attempted to transport tribute rice. In 1875 SSNC proposed to transport the tribute rice by Tls.0.1 per Picul. The freight was lower than the cost of the goods. A writer for the Shanghai News (16th March 1875) commented, "it was astonishing to hear this news and forced everyone have to think about what was the reason behind it". This may signify that there was no doubt that the manager of SSNC wanted to drive out CMSNC. In 1884 a German named Flexsys offered another proposal. He wanted to transport the tribute rice for ten years by seven steamships. His proposal included the fee of Tls.0.6 per Picul, at no

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3 The Grand Canal refers to ports along the north-south oriented River from Beijing to Hangzhou.

4 Picul, Chines unit of weight, one picul equals 71.616 kilograms.
less than 800,000 Picul annually; if, however, this amount was not reached he offered to pay Tls.0.3 per Picul for any sum that lacked. In return for this contract he would give seven steamships to China as a gift in kind. Li hung-chang said, "now in China, there are only two privileges of transport: for the Chinese shipping company one is tribute rice, and another is salt......It is obviously a bait [for the seven steamships], we should not believe this offer and instead politely refuse it" (Wu 1905-1908: 4-6). The tribute rice market did not open to foreign shipping companies for its entire duration.

Transporting tribute rice brought considerable profits to CMSNC. From 1873 to 1884 the net profit of transporting tribute rice totalled Tls.2,600,000. This did not include the subsidy for repairs and free taxes. The annual average calculation of the tribute rice freight was 18% of the total income. In 1874 the income from the rice tribute totalled one-third of the company’s income at Tls.155,000 (Zhang 1988). The privilege of transport tribute rice became a sharp weapon for CMSNC in the rivalry with foreign steamship companies.

3. Tax concessions
The company also benefited from certain government tax concessions.

(1) **Free tax of cargo.** If the company’s steamship succeeded in transporting tribute rice to Tianjin and carried cargo from the three opened northern ports: Tianjin, Yingkou and Yantai, when it returned, the export duty of the 20% of the total weight of tribute rice would be free. In 1876 this policy extend to transport relief food and the cent-tax\(^5\) was free.

(2) **Taxation of tea cargoes** was another outstanding example of favouritism. In 1873 Li Hung-chang proclaimed that tea brought by Chinese steamers to Tianjin would be forwarded to Zhangjiakou (Kalgan) for the Mongolian and Russian markets. These would not endure any payment of inland duties. The export duty of tea was usually Tls.2.5 per 100Jin\(^6\) but it declined to Tls.0.6 when tea cargoes were transported by CMSNC and this included free the coast duty.

(3) **Tonnage tax** was initially free for the company when it entered and left some ports. In 1877 after purchasing SSNC, the fleet of the company was enlarged. The Tonnage Tax started initially with a fixed tax at Tls.1000 per month for the whole fleet for all ports of China, thereby providing a savings of approximately Tls.3000-4000 every year.

(4) **Free Transit Dues for foreign companies** were only ever provided to the CMSNC.

4. Forbiddance of any other new company to be built
Before the Sino-Japan War (1894) the Ch’ing Dynasty government did its best to keep the CMSNC as a monopoly over Chinese shipping companies. Any one who wanted to operate a new steamer line were thwarted.

In 1895 Japan forced the Ch’ing Dynasty government to sign the unfair Treaty of Shimonoseki. In which it was agreed that Japanese steamships could sail alongside the Grand Canal from Shanghai to Suzhou and Hangzhou. This was the first time that China opened inland steam navigation to foreigners. Foreign shipping companies seized this opportunity to extend their business to inland waterways.

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\(^5\) Cent-tax, one of business tax. In 1853, the Ch’ing Dynasty government collected tax on overland cargo transport. At first the tax was 1% of the value.

\(^6\) Jin, Chinese weight, one Jin equals 596.8 grams.
With the power and capacity of steamships as well as the privilege of taxes they robbed the traditional junks’ business in no time. This situation aroused some Chinese to set up national shipping companies. Forced by peerage pressure the Ch’ing Dynasty government had to change their attitude. On 13th July 1898 the government issued *the regulations of inland steam navigation* which permitted Chinese people to set up their own steam shipping companies. This was the end of the CMSNC’s reigning era.

**Conclusion**

Though the Ch’ing Dynasty government took the above mentioned steps to support the CMSNC it was limited and insufficient. This could largely be attributed to the contemporaneous weak government. The CMSNC gave up ocean transportation first, the purpose of which was to improve the situation along the Chinese coastal trade and inland shipping markets so they were not monopolized by foreign companies. However, we can conclude from Chart 2 that these efforts received limited change.

Chart 2. Percentage of numbers & tonnage of Chinese flag ships that entered and cleared in the ports of China (1864-1911)\(^7\) (data from Yang, *et al.* 1931)

The government’s preference tended towards steamships over junks, although the change was slow. Largely, CMSNC initiated the privatized sector of modern historical Chinese maritime culture which of course has left its imprint in underwater cultural heritage. It was the first to have its own commercial ship’s flag, develop infrastructure for steamship dockyards, build steamship dockyards, build Chinese steamships, and lose a steamship in a shipwreck. From 1873-1877 the

\(^7\)The sudden rise of ship numbers in 1904 is because the statistics included junks from this year, however, we can see the percentage of tons decline.
tonnage percentage increased quickly from 1% to 33%, later the percentage declined due to the increase in shipwrecks.

The demands of War were another important factor. The three low points in Chinese steamship development during this period was caused by the following three wars: Sino-France War (1883), Sino-Japan War (1894) and the Boxer War (1900).

The CMSNC, the first Chinese steamship company, was also the impetus for new Chinese industries such as: the fuel support of Kaiping Coal Mining (started September 1876), the first Chinese business to offer insurance of goods and ships by the Renhe Insurance Company, communication development and independence with the Tianjin Telegraph Office and the first higher-education institution in maritime studies the Shanghai Industrial College of Ministry of Posts and Telegraph (started in 1909).

To appreciate the potential of Chinese underwater cultural heritage during the modern historical period we must turn to the development in maritime history of privatized industry. The first step of which was to compete with the fast globalized trade that was only possible with the advanced technology used in steamships. This paper attempted to lay out the history of that development through historical records and bring together the information in comparative charts. The next step would be to conduct critical analysis of specific sites related to this industry in China.

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