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Second ship registry in flag choice mechanism: The implications for China in promoting a maritime cluster policy



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ABSTRACT

In the highly competitive shipping industry, flagging out has become an important operation strategy for shipowners. To attract vessels to use their national flags, the traditional maritime countries (TMCs) have adopted various incentive-based and rule-based marine policies. Among them, the establishment of second ship registers is one of the most effective, as shown by the success of EU countries. To understand the influence of the second ship register upon vessel registration and the mechanism of flag choice decisions, this study transforms binary and nested logit models with individual-level data into aggregate-level models. The empirical estimate suggests that the policy of establishing second ship registers significantly affects the number of vessels register back to their national countries, though this effect varies for different countries. The results of the nested logit model in analyzing the flag choice mechanism suggest that the second ship register is clustered to the nest of foreign ship registers. This suggests that the second register is more similar to open ship registers in function than to national registers, which indicates the convergence of maritime policies between the TMCs and open registers. This result has significant implications for China as it develops as an international maritime center. This study strongly recommends that China reorient its maritime policy by incorporating Hong Kong as its second ship register to provide a competitive operational environment for shipping companies and thereby foster a maritime cluster.

1. Introduction

According to international maritime law, any nation can decide what kinds of vessels will be granted the right to fly its flag in identifying the vessels' identity. Consequently, a vessel can be registered under its own nationality, and that is called closed registration; it can also be registered under foreign countries, such as Panama or Liberia, and that is called open registration (Li and Wonham, 1999a). Open registration can not only reduce the operational cost of running a vessel, it also carries relaxed requirements on vessel quality because the open registration countries do not usually intervene in operations and have no specific requirements for vessel inspection, maintenance, or the nationality of sailors. As a result, the percentage of foreign registration (in dwt) grew from 41.5% in 1989 to 73% in 2014 (UNCTAD, 1997–2015).

Because of their relaxed legislation on ship registration, open registers have almost no control of the registered vessels. Not surprisingly, this increasing trend of flagging out has a huge effect on both the traditional maritime countries (TMCs) and the

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international environment. This is also one important reason for the implementation of various conventions from the International Transport Workers' Federation (ITF) and the International Maritime Employers' Committee (IMEC) to regulate the treatment of sailors and environmental pollution (Lillie, 2004). To attract vessels back to their national flags, the TMCs have adopted various marine policies that use an incentive-based approach or a rule-based approach (Yang, 2009). The incentive-based measures usually include cargo reservations, cabotage, port surcharges, maritime subsidies, and tax benefits. Although such measures were popular in the past, the flagging out trend is not effectively restricted (Yang, 2009). The rule-based approach tries to attract ship registrations by regulating the operating environment for shipowners. Among the different measures, the establishment of second ship registers is the most effective way to attract vessels back, as shown by the success of the Norwegian International Ship Register (NIS) and the Danish International Ship Register (DIS). Since their successful implementation, Germany, France, Brazil, and Italy have established their own offshore or international ship registers. The main purpose of these second registers is to maintain a merchant fleet under the national flag for control while leveling the operational costs for vessels (Sornn-Friese and Iversen, 2014).

However, is the establishment of a second register really effective in restricting the flagging out trend? Are there any underlying mechanisms in decision making when there are multiple options? What factors influence the decision makers' choices? These questions are relevant for both TMCs and international institutions in the shipping industry because flag choice can determine the operation of a vessel, and many countries, including China and Korea, are considering the establishment of their own second registers to compete with open registers in attracting vessel registration.

Although some researchers have discussed the practice and reasons for flagging out (Li and Wonham, 1999a; Hoffmann et al., 2005; Luo et al., 2013), the literature lacks a systematic and quantified analysis of roles or practices in establishing second registers. To understand the influence of the second ship register on vessel registration and the mechanism of flag choice decisions with second ship registers, we review the development of second registers, especially the NIS, DIS, and the UK's second register. We then investigate the role of second registers in ship registration using a binary logit model and the decision mechanism in choosing specific vessel flags using a nested logit model. This study can contribute from the following aspects. First, it reviews and summarizes the main development of second ship registers, which could help understand the TMCs' current expansion in establishing second registers. Second, it transforms binary and nested logit models with individual-level data into aggregate-level models. This could shed some light for the researchers who are suffering by obtaining individual observations to conduct empirical studies, since aggregate state by state level data are relatively easier to reach. Third, using the transformed model, it analyzes the flag choice mechanism, in addition to the role of second registers on ship registration. This could provide valuable information for various decision and policy makers.

The remainder of this paper is structured as follows. Section 2 provides an overview of the development of second ship registers. Section 3 reviews the related studies on ship registration. Section 4 presents the data source and methodology used in this paper. Section 5 reports the empirical results and discussion. Section 6 discusses the implications for China. Section 7 concludes the paper.

2. Development of second ship registers

Flag choice is important for the operation of a ship in the competitive global shipping market because open registration can help operators avoid strict regulations, increase competitive advantages, escape national taxation, or hide identities (Metaxas, 1981; Thuong, 1987; Bergantino and Marlow, 1998). Therefore, many vessels have been registered to open registration countries, and the proportion of open registered vessels has been growing since 1989, as shown in Fig. 1 (UNCTAD, 1997–2015). This fast expansion of open registered fleets has been noticed by the TMCs because it limits the growth of their domestic fleets and causes a decrease in the national income and a rise in unemployment rates. Most importantly, the high occurrence of marine accidents that have created environmental disasters has alarmed both the public and the authorities. As a result, the TMCs have implemented various measures to

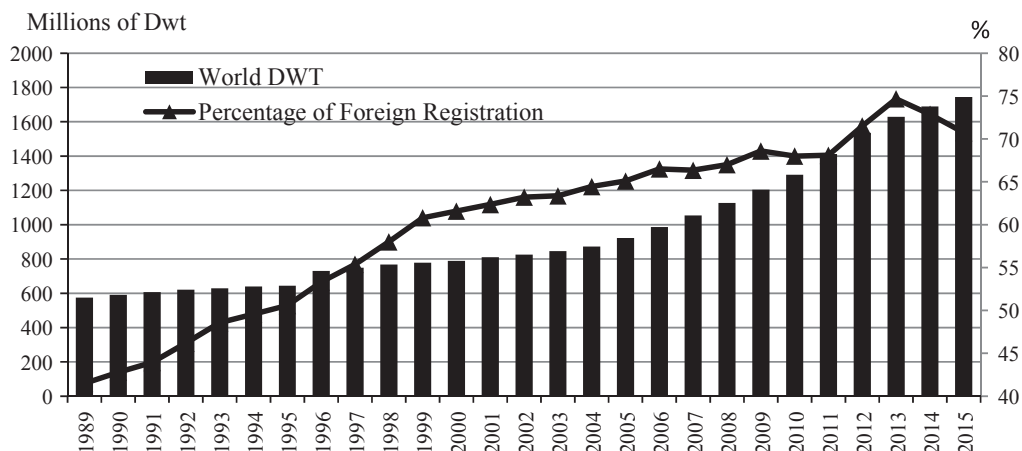


Fig. 1. Development of world fleet and percentage of foreign flag registration.

Source: UNCTAD's annual Review of Maritime Transport (1997–2015), and Clarkson (2015).

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