



**IMLI/WMU SYMPOSIUM  
ON FLAG STATE RESPONSIBILITIES AND THE FUTURE OF ARTICLE 91 OF THE  
UNITED NATIONS CONVENTION ON THE LAW OF THE SEA  
Co-hosted by IMO and ITLOS**

**IMO Headquarters, Thursday, 5 March 2020**

# **Flags and Flag States: Global trends in vessel registrations**



**UNITED NATIONS  
UNCTAD**

[Jan.Hoffmann@UNCTAD.org](mailto:Jan.Hoffmann@UNCTAD.org)

- ▶ Data and trends
- ▶ Convention on Conditions for Registration of Ships
- ▶ Determinants of a vessel's flag





▶ Data and trends

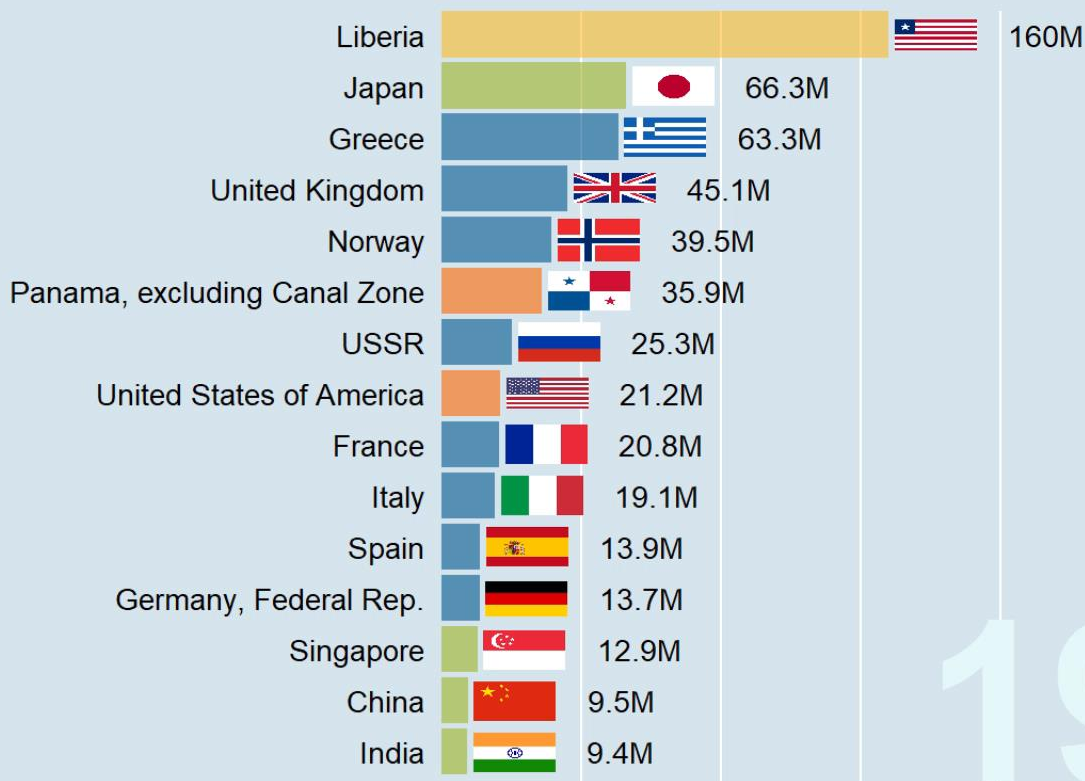
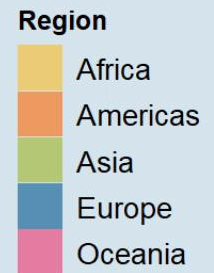
▶ Convention on Conditions for Registration of Ships

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# The story so far

## 40 Years of Flags of Registration

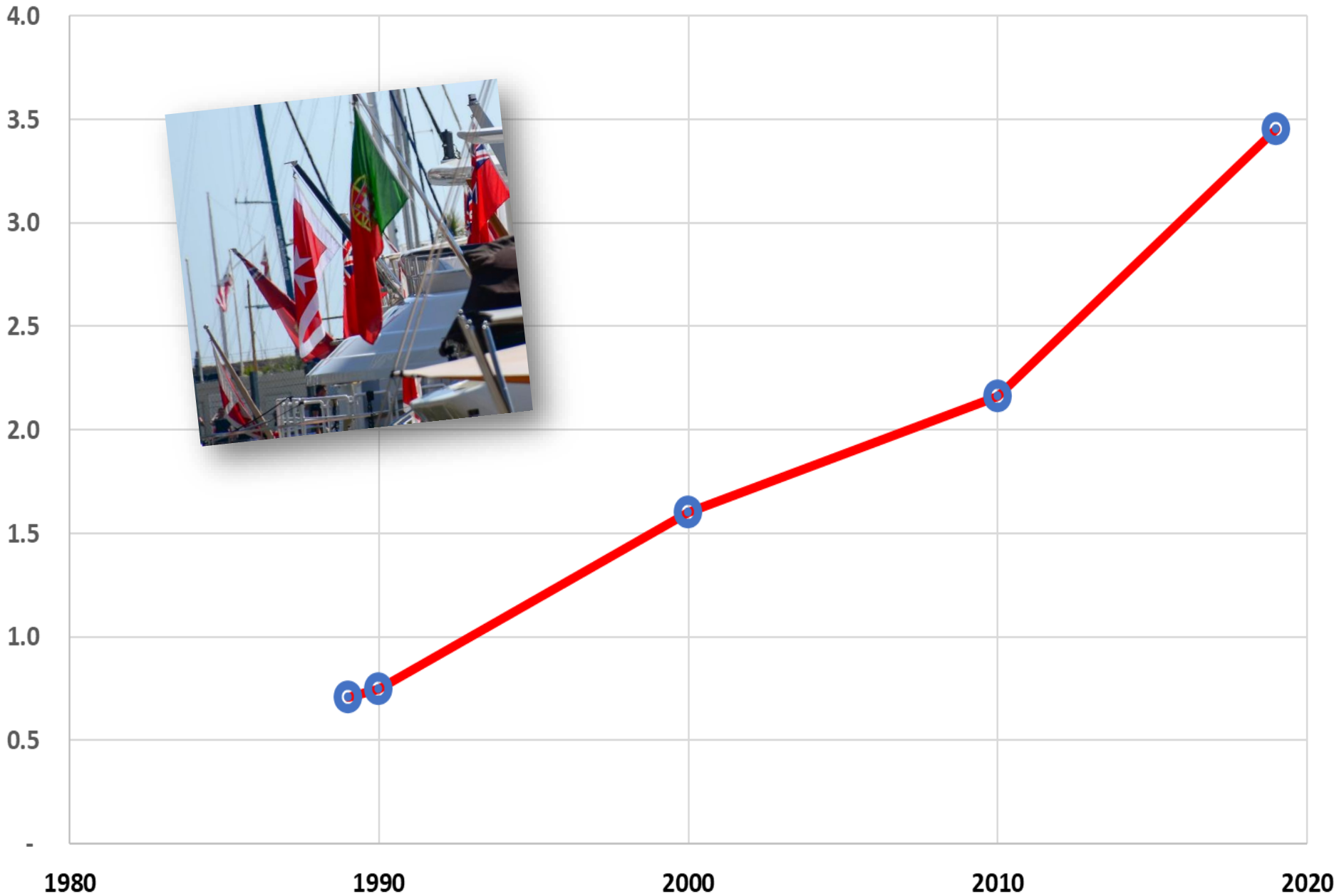
Top 15 national fleets, deadweight tonnage (dwt) from 1980 to 2020\*



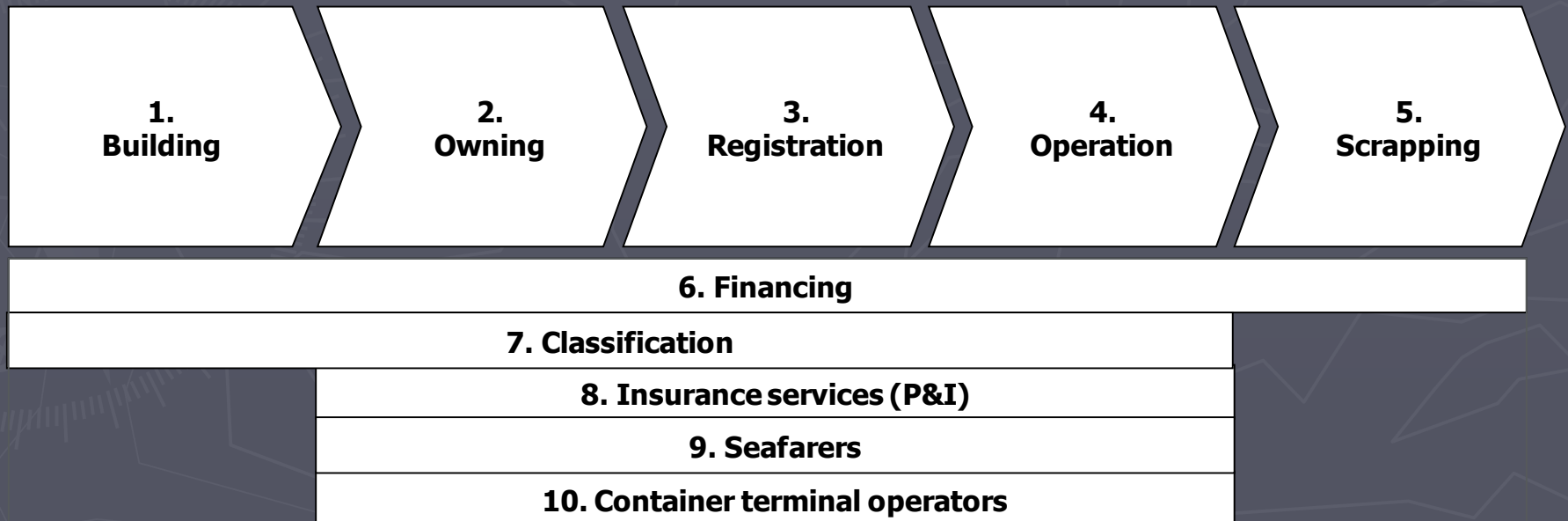
# 1980

Source: UNCTAD - <http://stats.unctad.org/maritime>, 2019  
\*2020 data: Preliminary, based on Clarksons Research

*World fleet (dwt)*  
foreign or international / national flag



# Globalized production of "maritime transport"



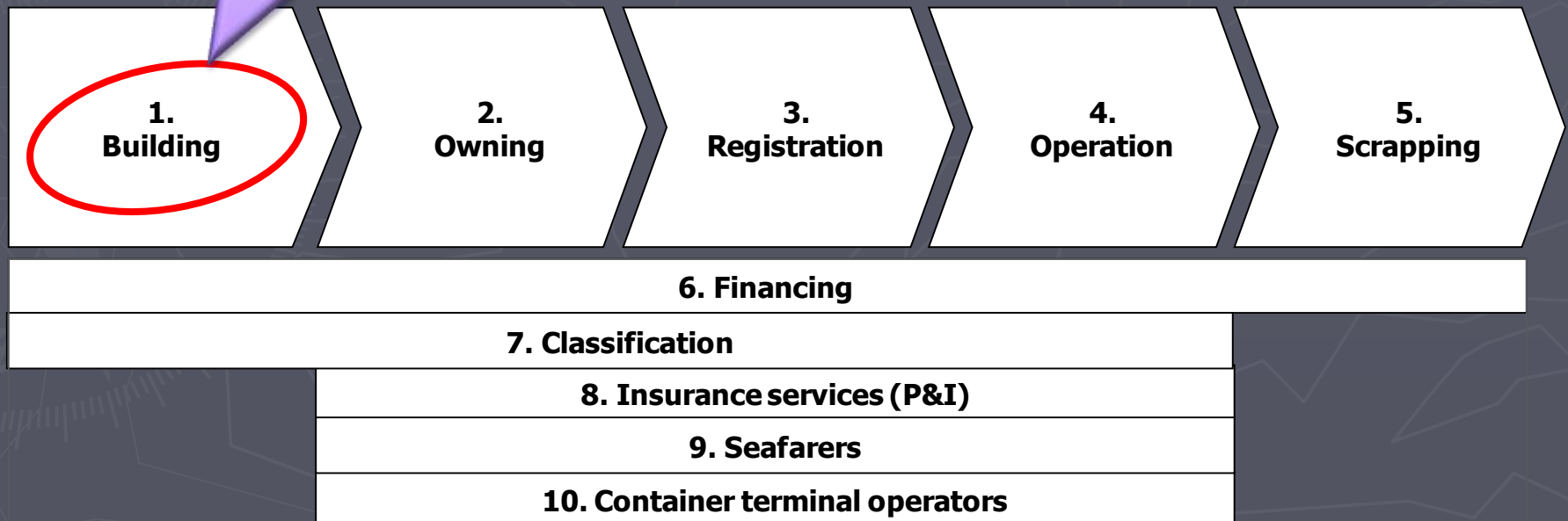
# Example: "Hoffmann Shipping":

- ▶ Owner: German
- ▶ Flag: Antigua and Barbuda
- ▶ Freight agent: Netherlands
- ▶ Seafarers: Poland
- ▶ Crewing agent: Cyprus
- ▶ Cargo: Turkey
  - ▶ to Canada
- ▶ Fuel: Spain
- ▶ Insurance: United Kingdom
- ▶ Shipyard: Portugal



# Globalized production of "maritime transport"

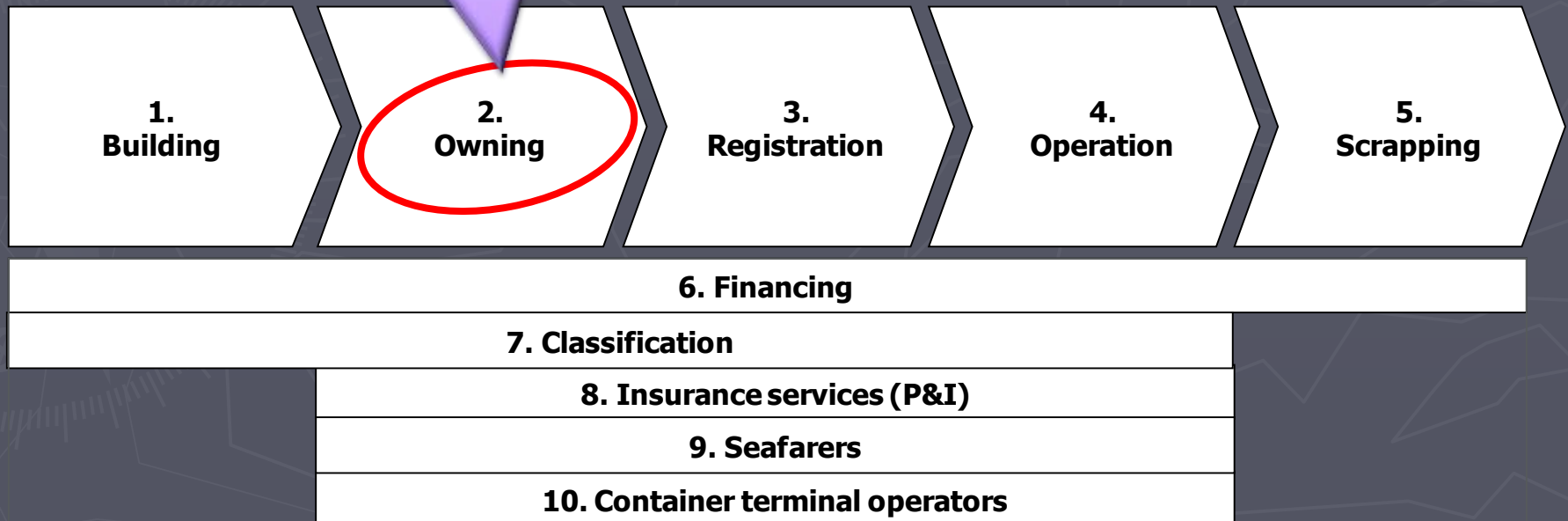
China, Korea,  
Japan 90.2% of  
**GT**  
*(RMT 2019)*





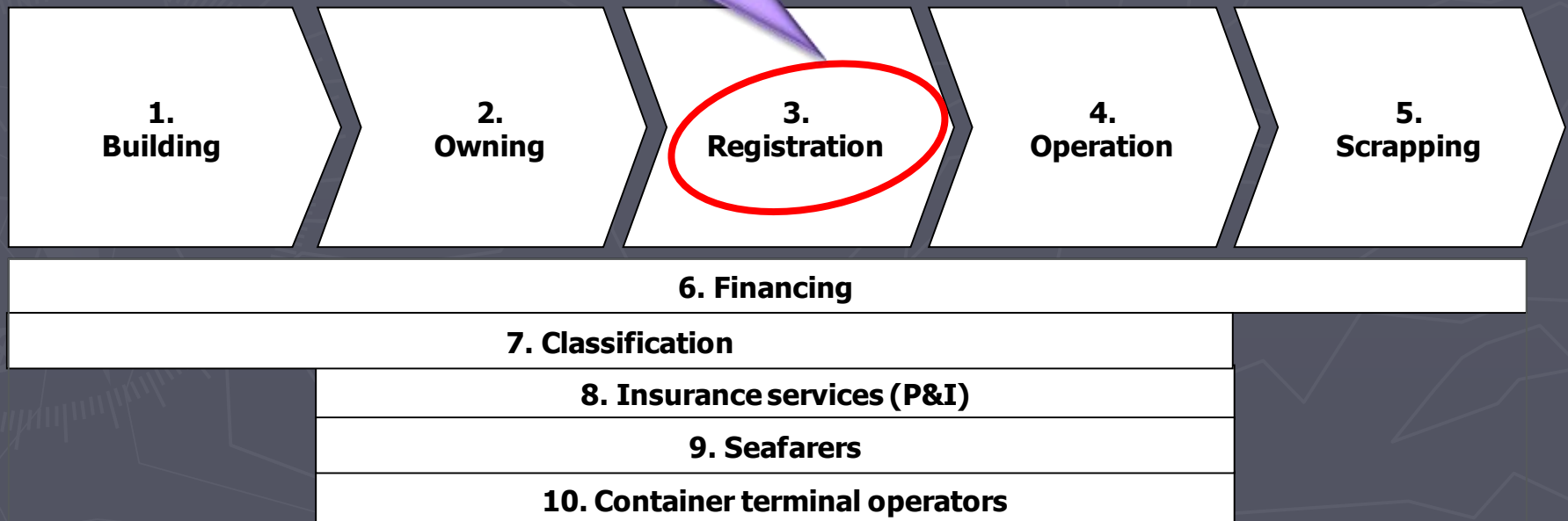
# Globalized production of "maritime transport"

**Greece, Japan,  
China: 39.4% of  
dwt**  
*(RMT 2019)*



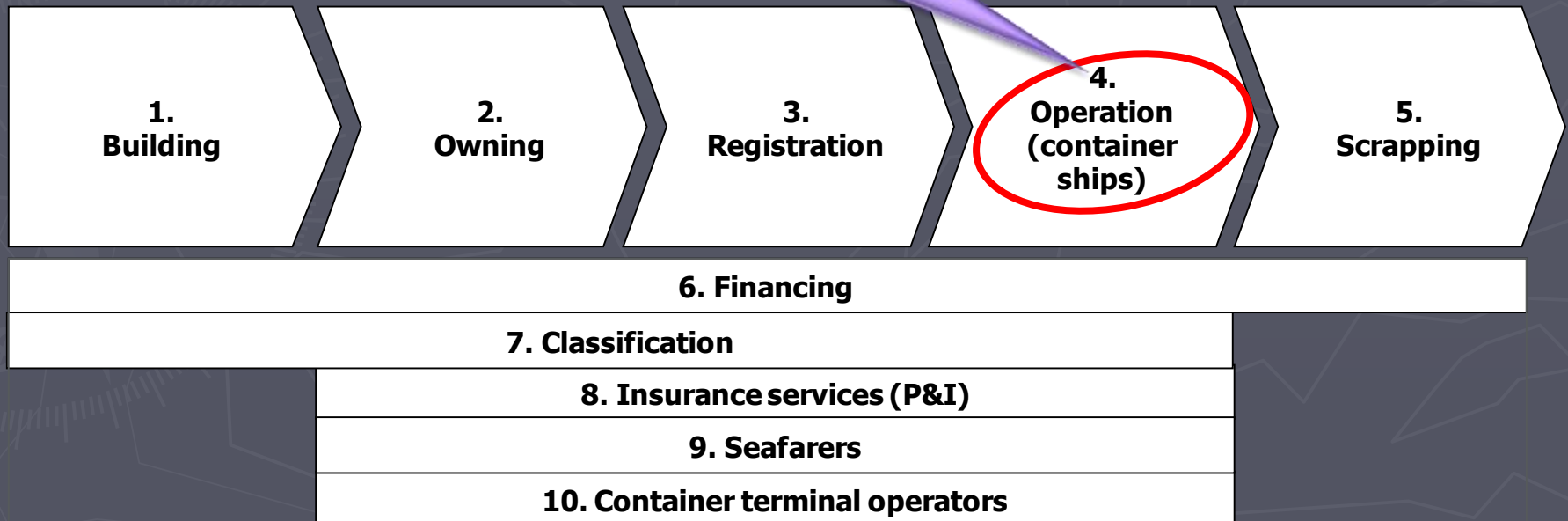
# Globalized production of "maritime transport"

**Panama, Liberia,  
Marshall Islands:  
41% of dwt**  
*(RMT 2019)*



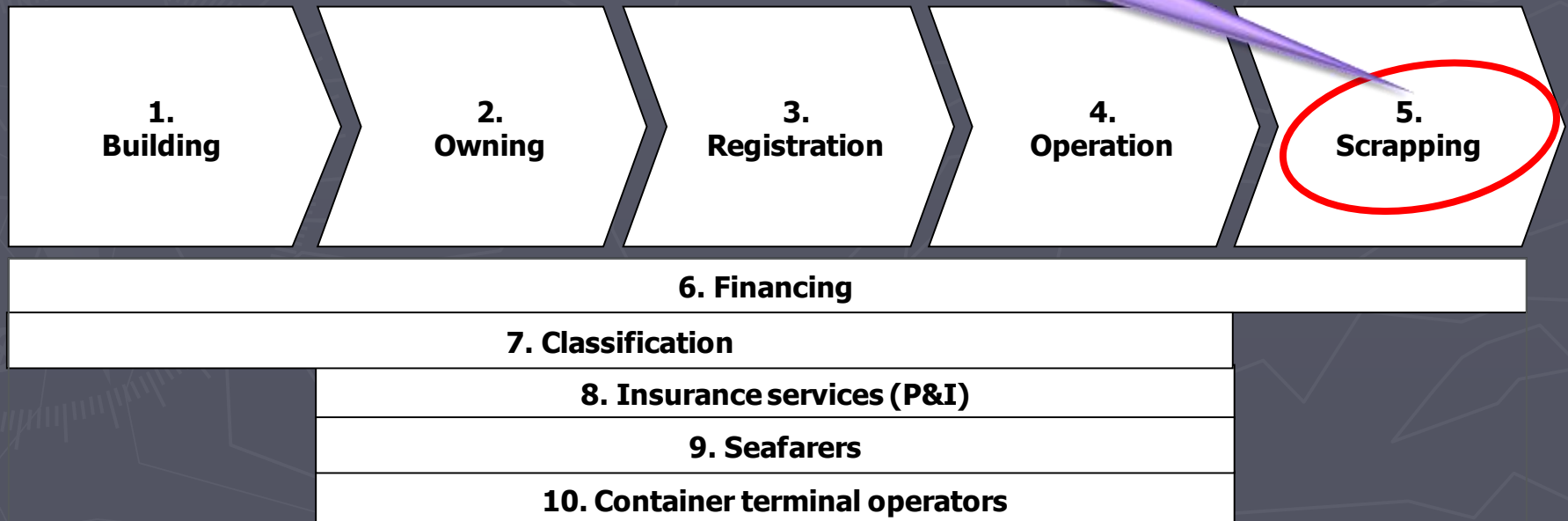
# Globalized production of "maritime transport"

Denmark and  
Switzerland  
~30%



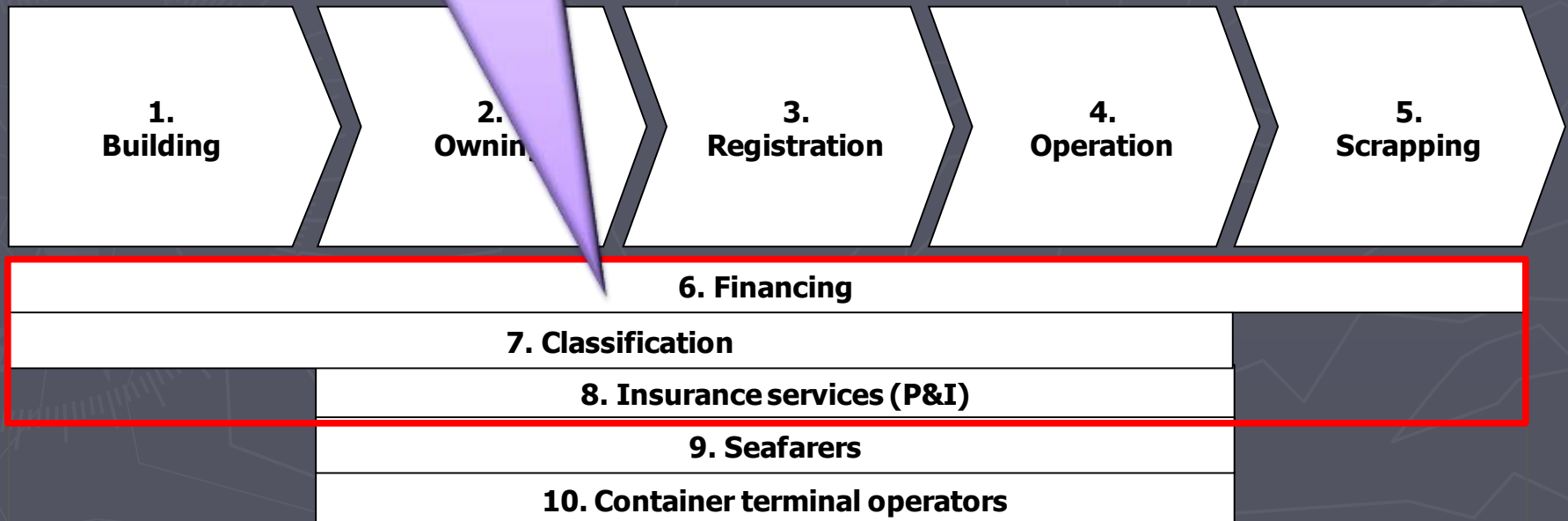
# Globalized production of "maritime transport"

**India,  
Bangladesh,  
Pakistan: >90%**  
*(RMT 2019)*



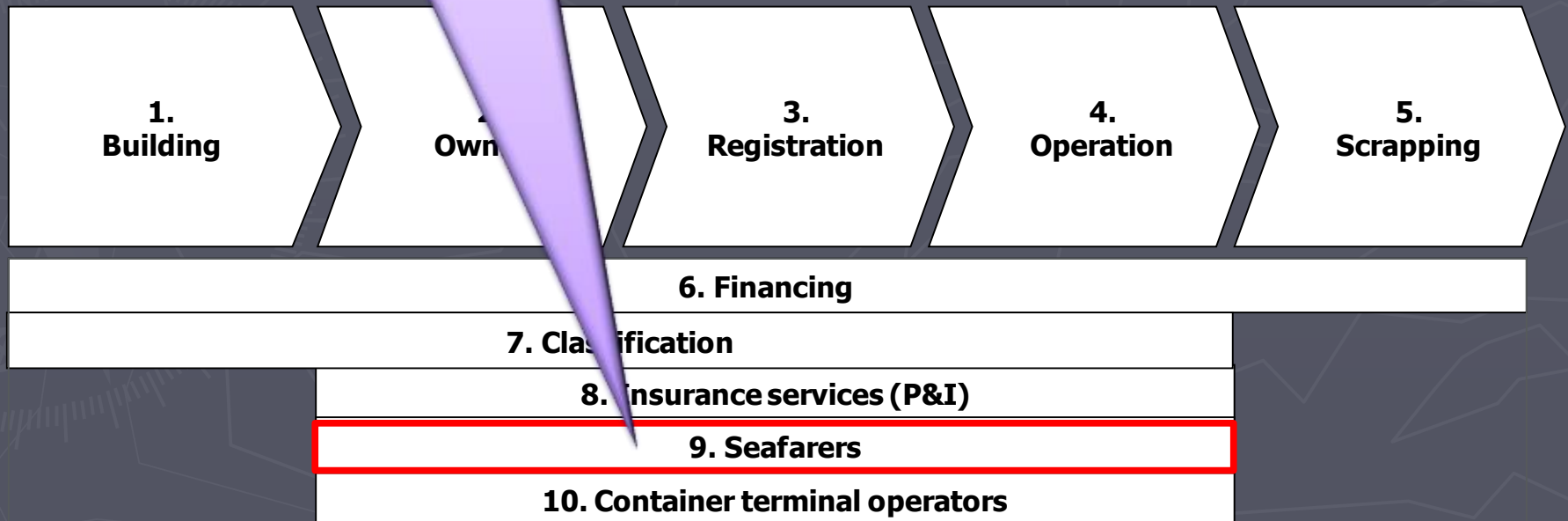
# Globalized production of "maritime transport"

Financial and other services:  
UK, Scandinavia



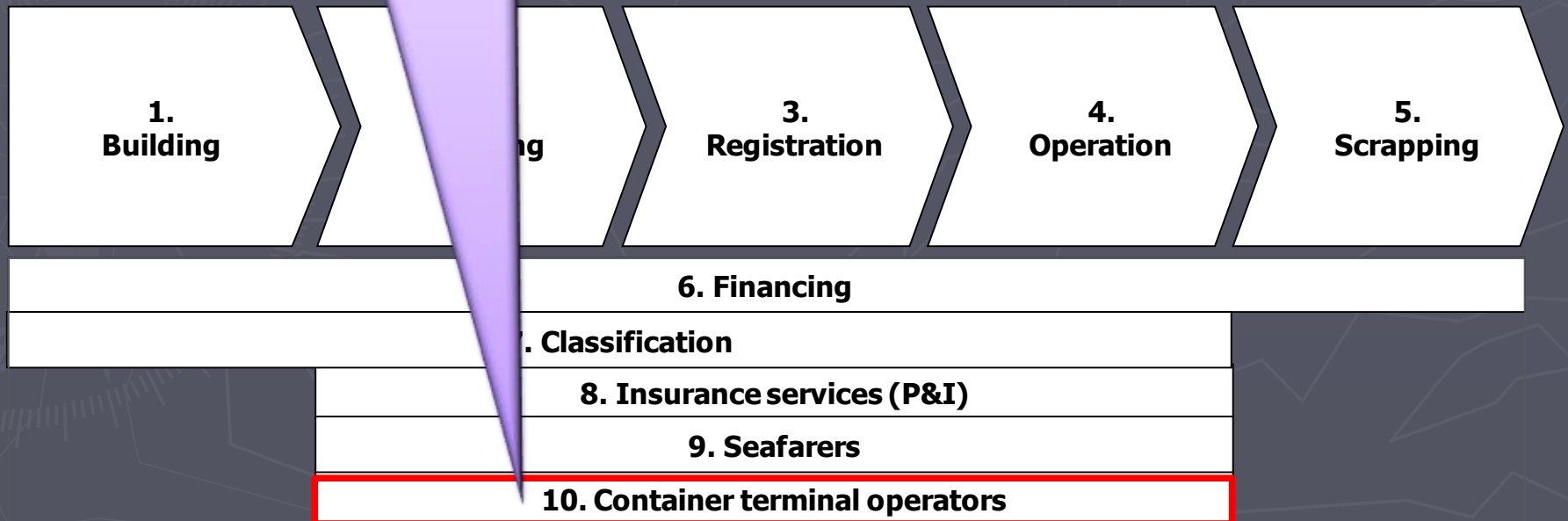
# Globalized production of "maritime transport"

**Philippines,  
Indonesia, ...**

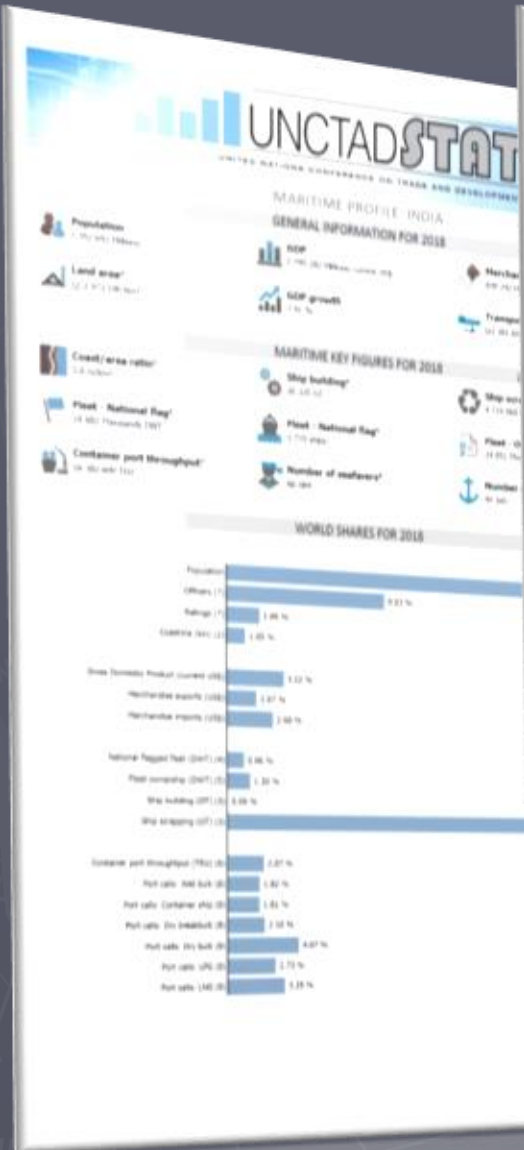


# Globalized production of "maritime transport"

Hong Kong,  
Netherlands,  
Singapore, UAE:  
~ 30%



230  
On-line  
country  
profiles







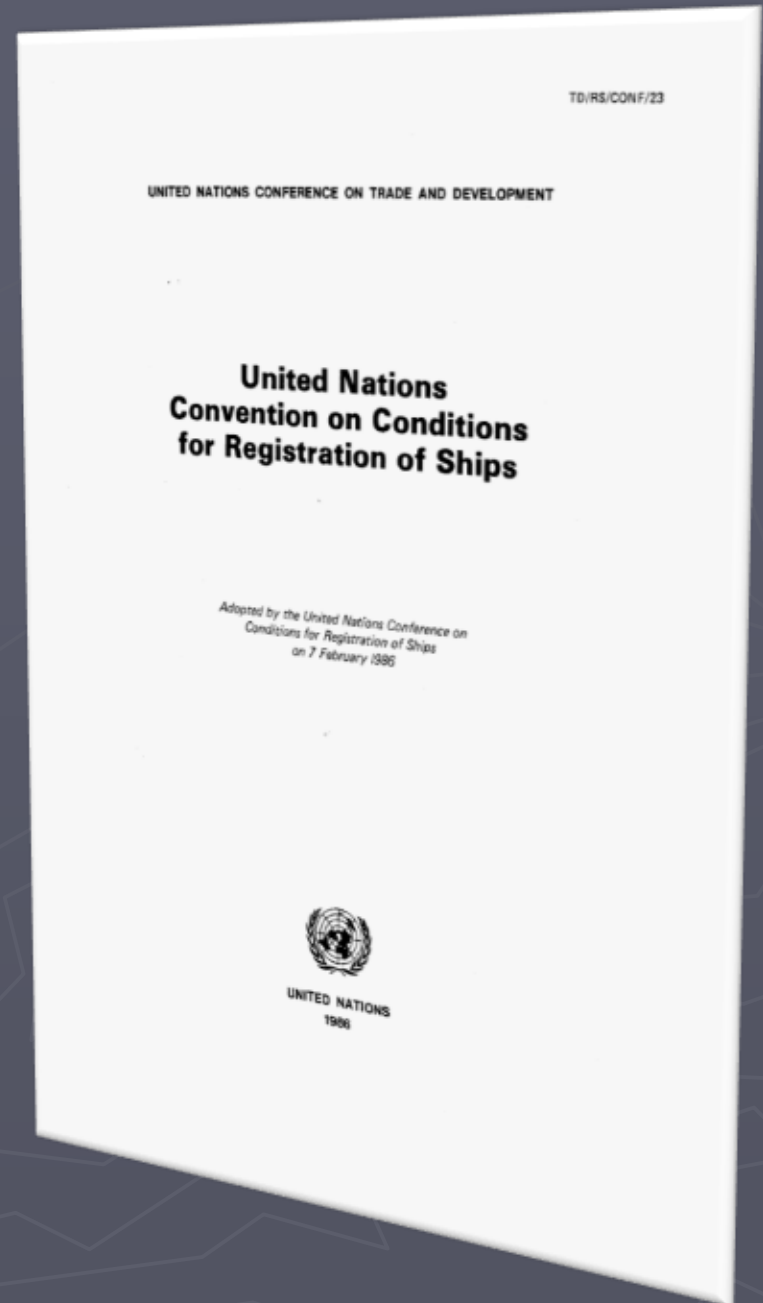
- ▶ Data and trends

- ▶ Convention on Conditions for Registration of Ships

- ▶ Determinants of a vessel's flag

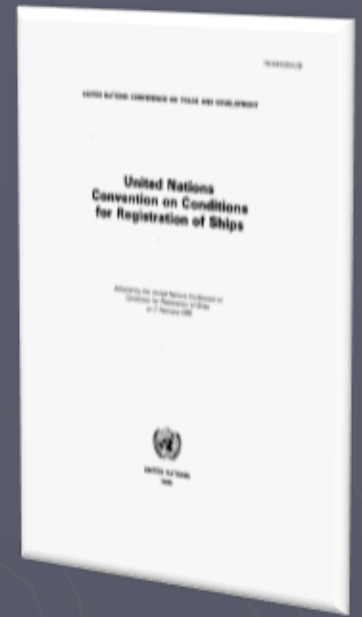
# UN Convention on Conditions for Registration of Ships

- ▶ Not [yet] in force
- ▶ Would require 40 contracting parties with at least 25 per cent of the world's tonnage
- ▶ Currently: 15 contracting parties



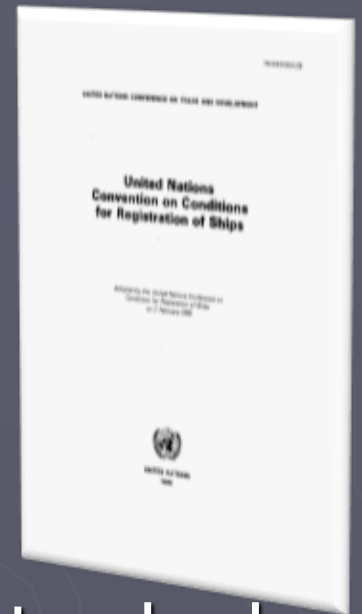
# UN Convention on Conditions for Registration of Ships

- ▶ The United Nations Convention on Conditions for Registration of Ships, 1986, was adopted under the auspices of UNCTAD, after intensive negotiations, among developed, “open registry”, and developing countries, on 7 February 1986.
- ▶ Its aim was to tighten the conditions under which States would be allowed to register ships, including by establishing the minimum elements of the “genuine link” between the vessel and the State of registration.



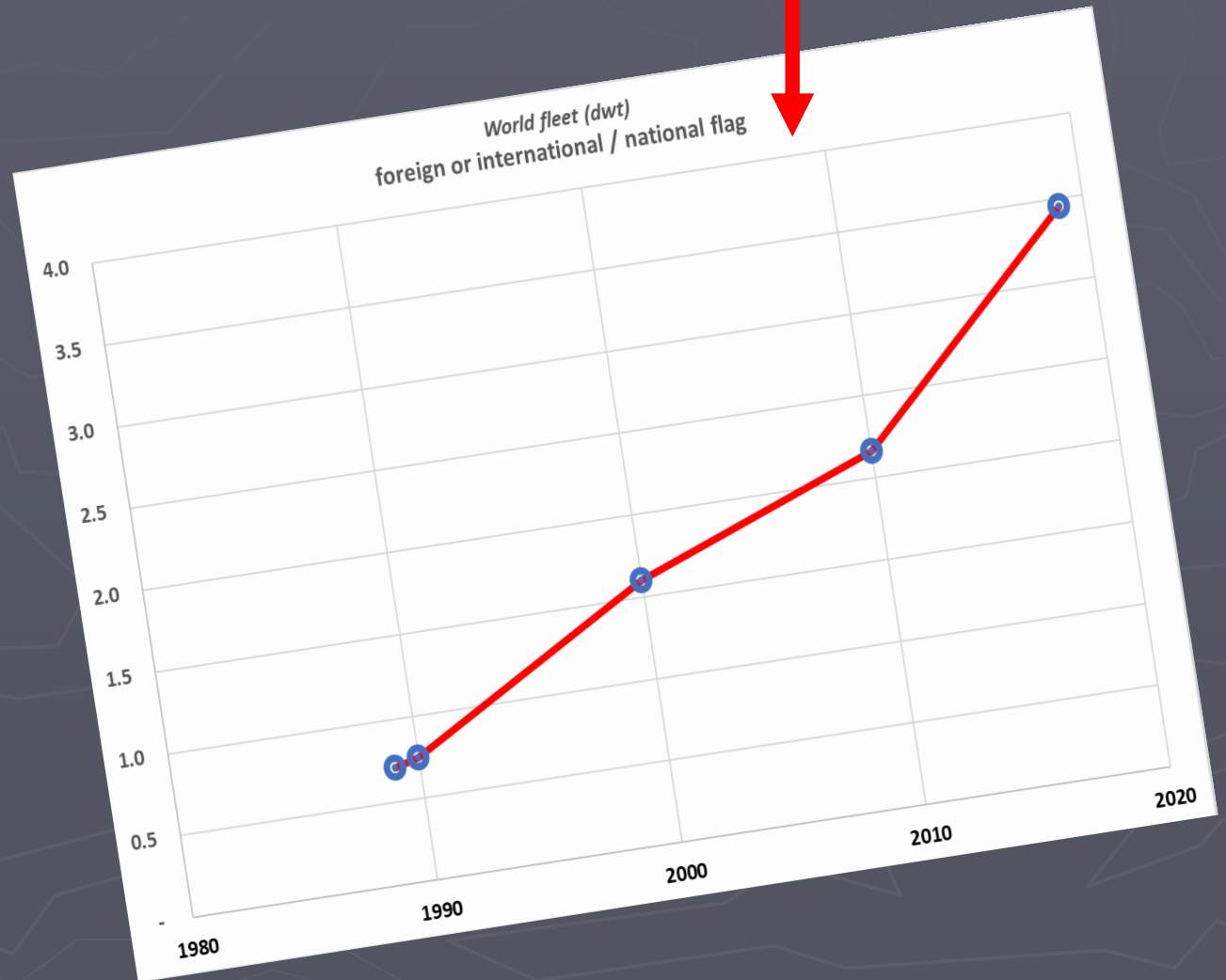
# UN Convention on Conditions for Registration of Ships

- ▶ Each State shall establish “a competent and adequate national maritime administration”, able to ensure compliance with international rules and standards concerning “the safety of ships and persons on board and the prevention of pollution of the marine environment”.
- ▶ Although the Convention has not entered into force, its provisions have significantly influenced a number of national laws on ship registration.



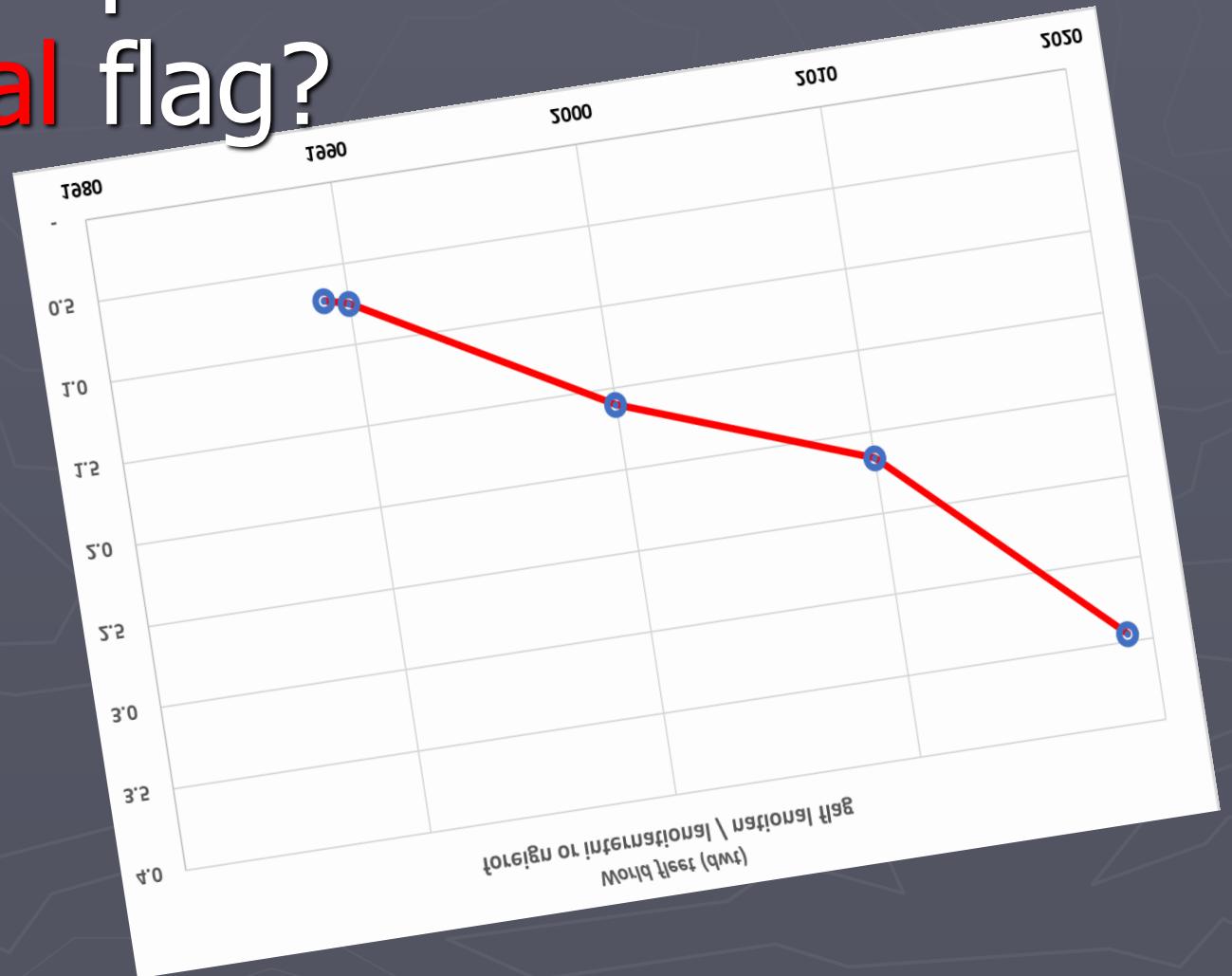
- 
- ▶ Data and trends
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# What explains this?



# Or rather...

- ▶ What explains the choice of the **national** flag?





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2019  
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Paper ID 325

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## Flagging in: Determinants of Adopting the National Flag in Maritime Transport

### Determinants of Choosing the National Flag for Ship Registration

Jan Hoffmann, Byron King, Ricardo J Sanchez and Wayne K Talley

#### Abstract

Since the establishment of the first open registries in Liberia and Panama half a century ago, the share of the world fleet that uses a foreign flag steadily increased. This development is part of the maritime industry's movement towards increasing globalization as different countries specialize in different maritime segments such as ship building, owning, operation, crewing, scrapping and flag registration. Seeking to lower their costs and obtain better services, many ship owners decide to register their ships under a foreign flag where taxes or crewing costs might be lower or where the registry may provide better services than the national administration in the ship owner's home country. Given this trend towards flagging out, in recent years nations have sought ways to make their national registry more competitive. This paper identifies determinants that may increase the likelihood that a ship-owner does not flag out and instead chooses the national flag. The authors find certain vessel types are more likely to remain nationally flagged than others. In addition, smaller ships are more likely to be nationally flagged, and registries that are attractive to foreign owners also increasingly manage to attract more of their own national owners to use the national flag.

Keywords: maritime transport, flag choice, open registries

## 6. DETERMINANTS OF VESSEL FLAG

Jan Hoffmann, Ricardo J. Sanchez and Wayne K. Talley

### 1. INTRODUCTION

For a vessel operator, the choice of the flag is one of the main business decisions. For the countries that register vessels under their flag, this operation implies responsibilities as well as income. For international organizations such as the International Maritime Organization (IMO), the United Nations Conference on Trade and Development (UNCTAD), the Organization for Economic Cooperation and Development (OECD), the International Labour Organization (ILO), the Food and Agricultural Organization (FAO), and also national governments who have an interest in cleaner oceans and safer shipping, the compliance with international environmental, safety and labour regulations is of high priority – and this compliance is assumed to be closely related to a vessel's flag.

Most recently, for security reasons, interest in the linkages between flags and those who actually control the ships has re-emerged, although OECD (2003a) finds that in practice it is not so much the open registries themselves that enable reclusive owners to remain anonymous, but the corporate instruments and structures that are freely available internationally. In order to increase transparency about the linkage between the flag states and those who actually control the ships, UNCTAD (1986) developed a "Convention on the Registration of Ships," which, however, never entered into force.

Ample literature exists about comparisons between different flags concerning their compliance with international standards. OECD (2003b, p. 8), for example, highlights that the "principal responsibility for complying with the IMO's

Shipping Economics  
Research in Transportation Economics, Volume 12, 173-219  
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ISSN: 0739-8859 doi:10.1016/S0739-8859(04)12906-4  
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# Data

- ▶ All ships of 1000 GT and above
- ▶ Two Years
  - 2012: 46085 ships
  - 2017: 50153 ships
- ▶ Source:  
UNCTAD data provided by Clarksons

# The variable to explain:

## Likelihood to fly the national flag

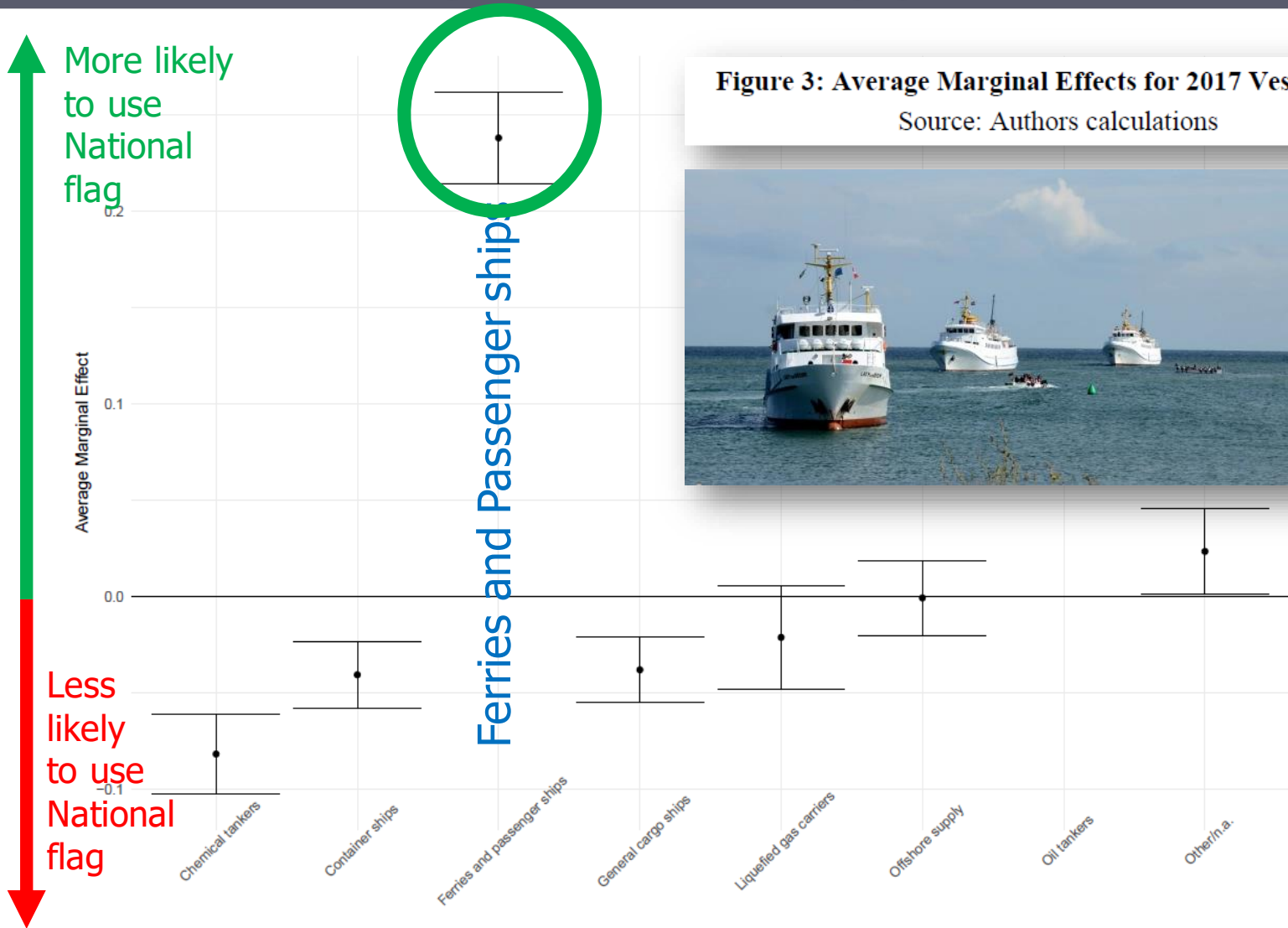
To compare the relative likelihoods for vessels of the 2012 and 2017 fleets to fly the national flag, we employ separate logistic regression models for the 2012 and 2017 datasets. This method allows us to evaluate the relative likelihood of a vessel in the 2012 and 2017 fleet to choose a national flag, while controlling for factors that differ between the vessels between each year. We also test the hypothesis that an owner is more likely to fly the national flag in 2017 than in 2012, while holding vessel characteristics and national indicators constant.

# The maths

logit function is a sigmoid function that maps a predictor input to a value between 0 and 1, in which the input is interpreted as the log-odds while the output is understood to be the probability. The mathematical interpretation of the logit probability, or the logarithm of the odds for regressor X for the  $i$ th vessel, is expressed as follows:

$$P(\text{National} = 1) = \log\left(\frac{P(\text{National} = 1)}{P(\text{National} = 0)}\right) = \text{logit}^{-1}(\beta \cdot X_i) = \frac{e^{\beta \cdot X_i}}{1 + e^{\beta \cdot X_i}}$$

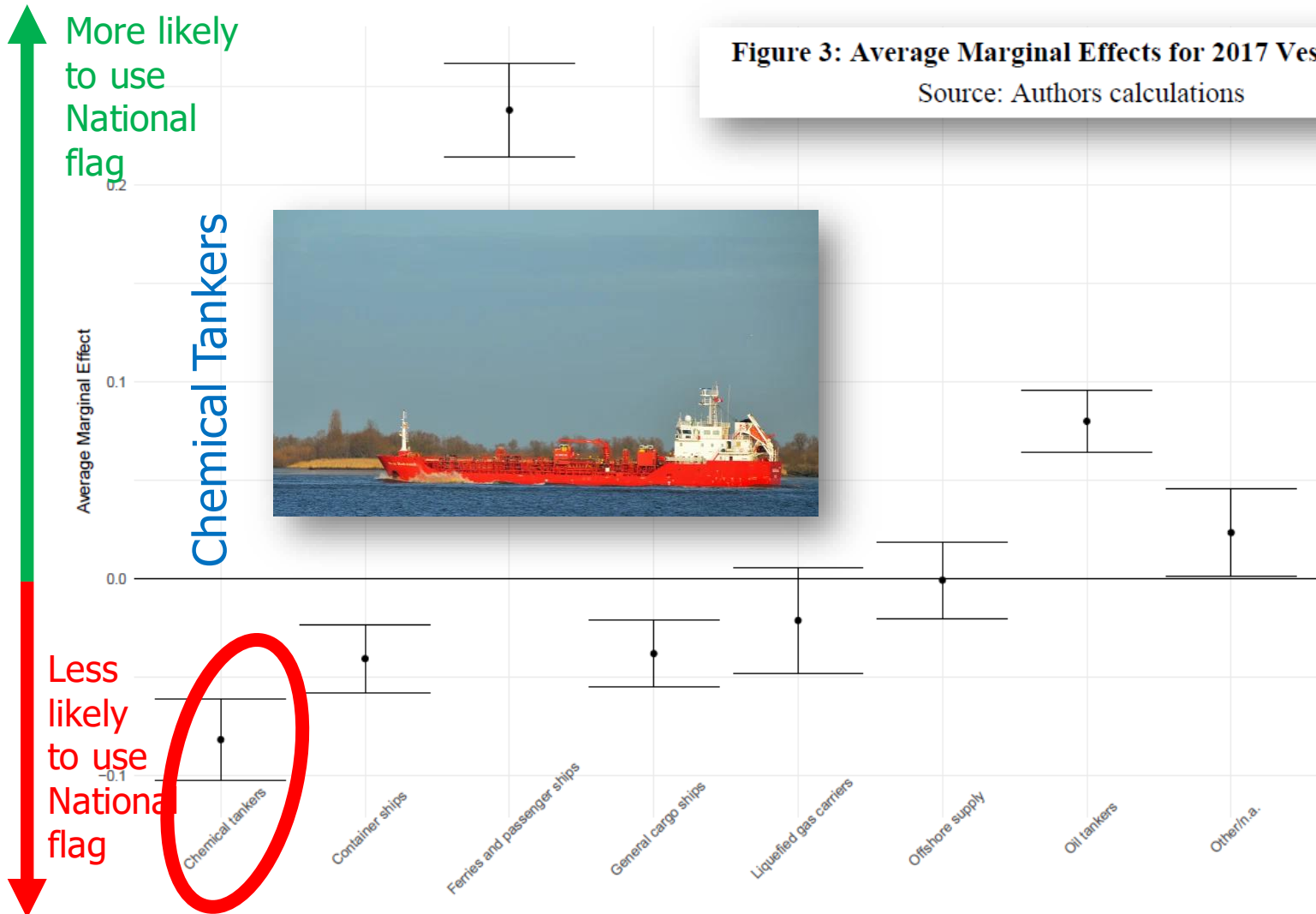
# By vessel type



# By vessel type

Figure 3: Average Marginal Effects for 2017 Vessel Types

Source: Authors calculations



# Country characteristics

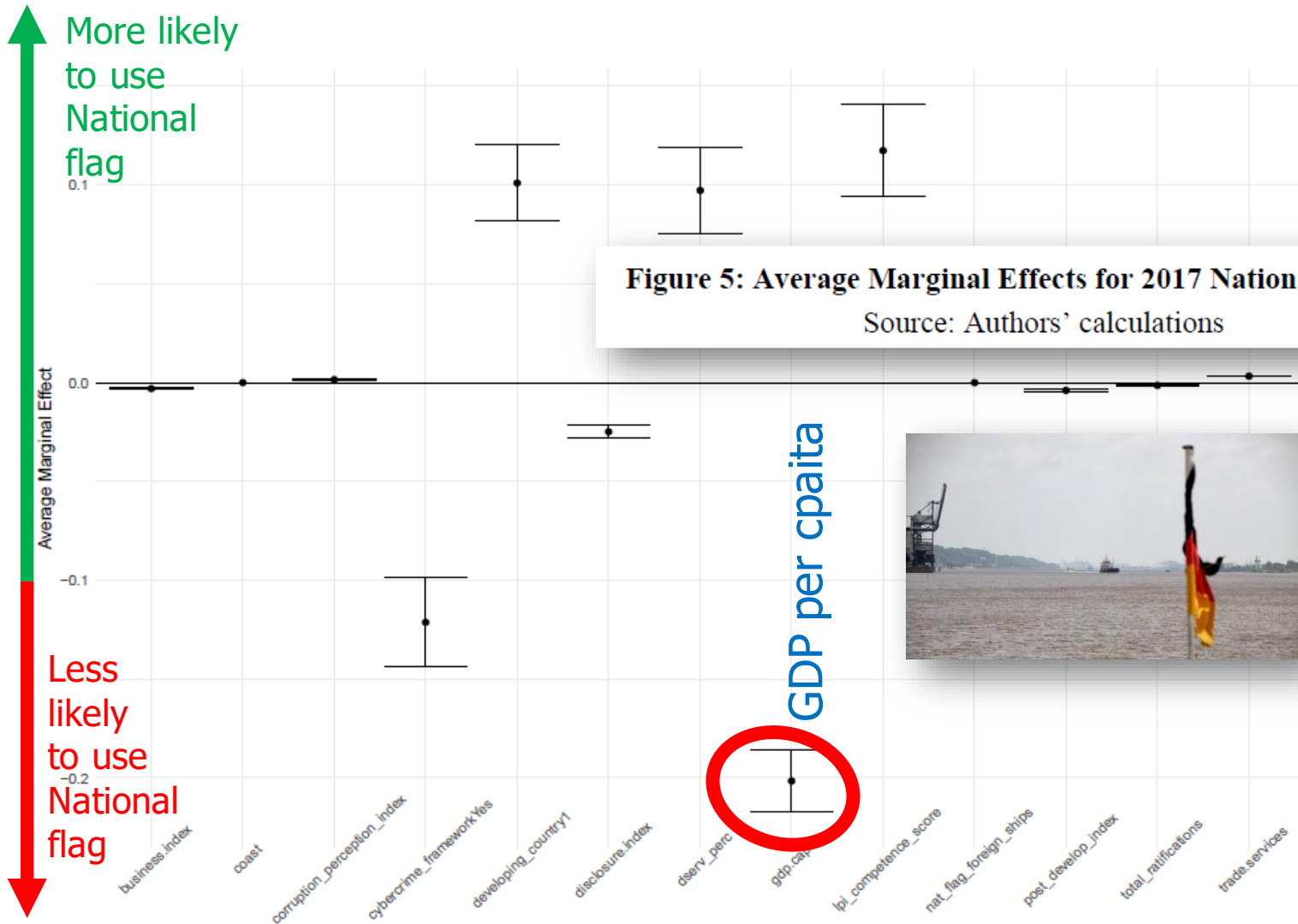


Figure 5: Average Marginal Effects for 2017 National Indicators

Source: Authors' calculations

# Country characteristics

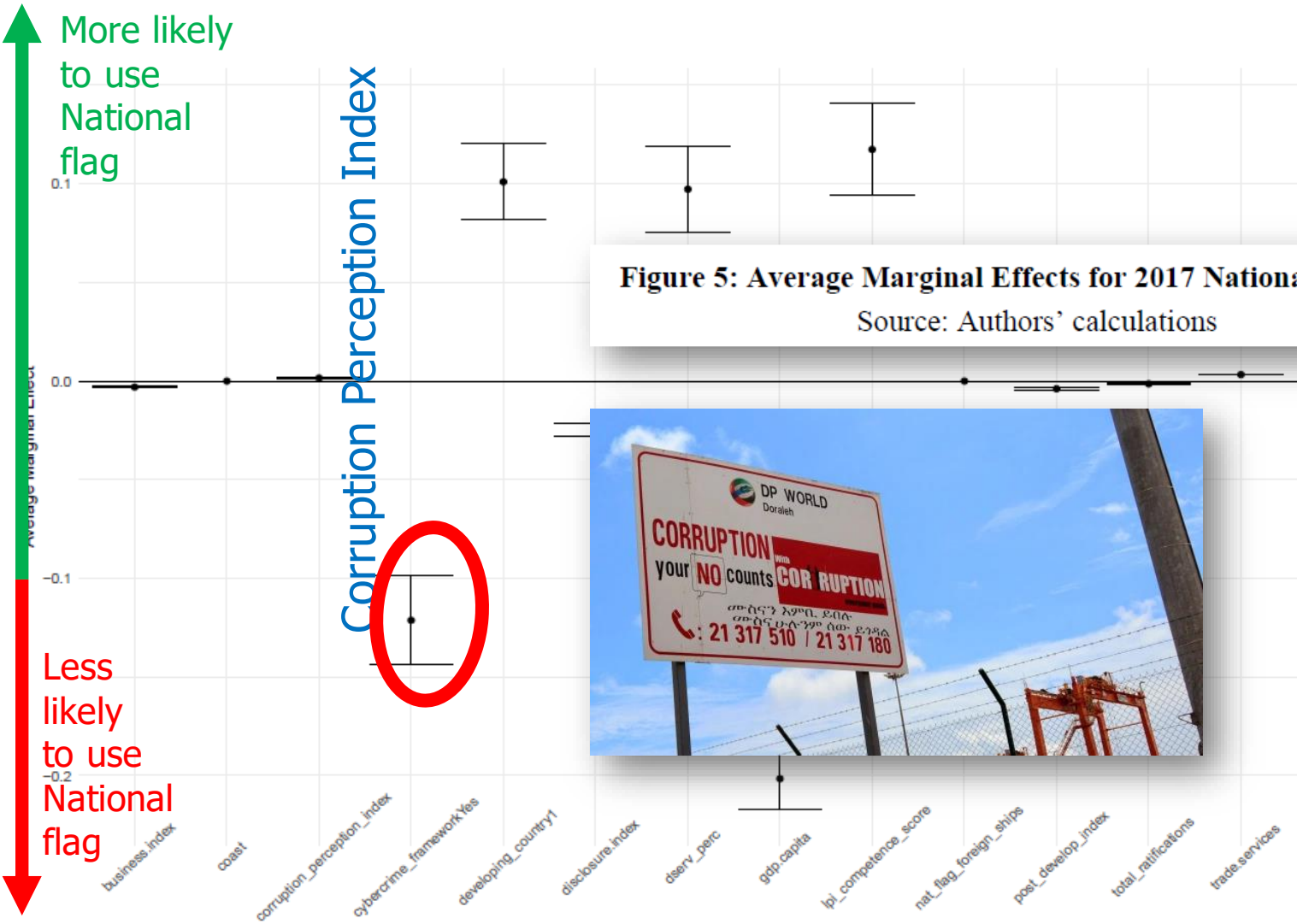
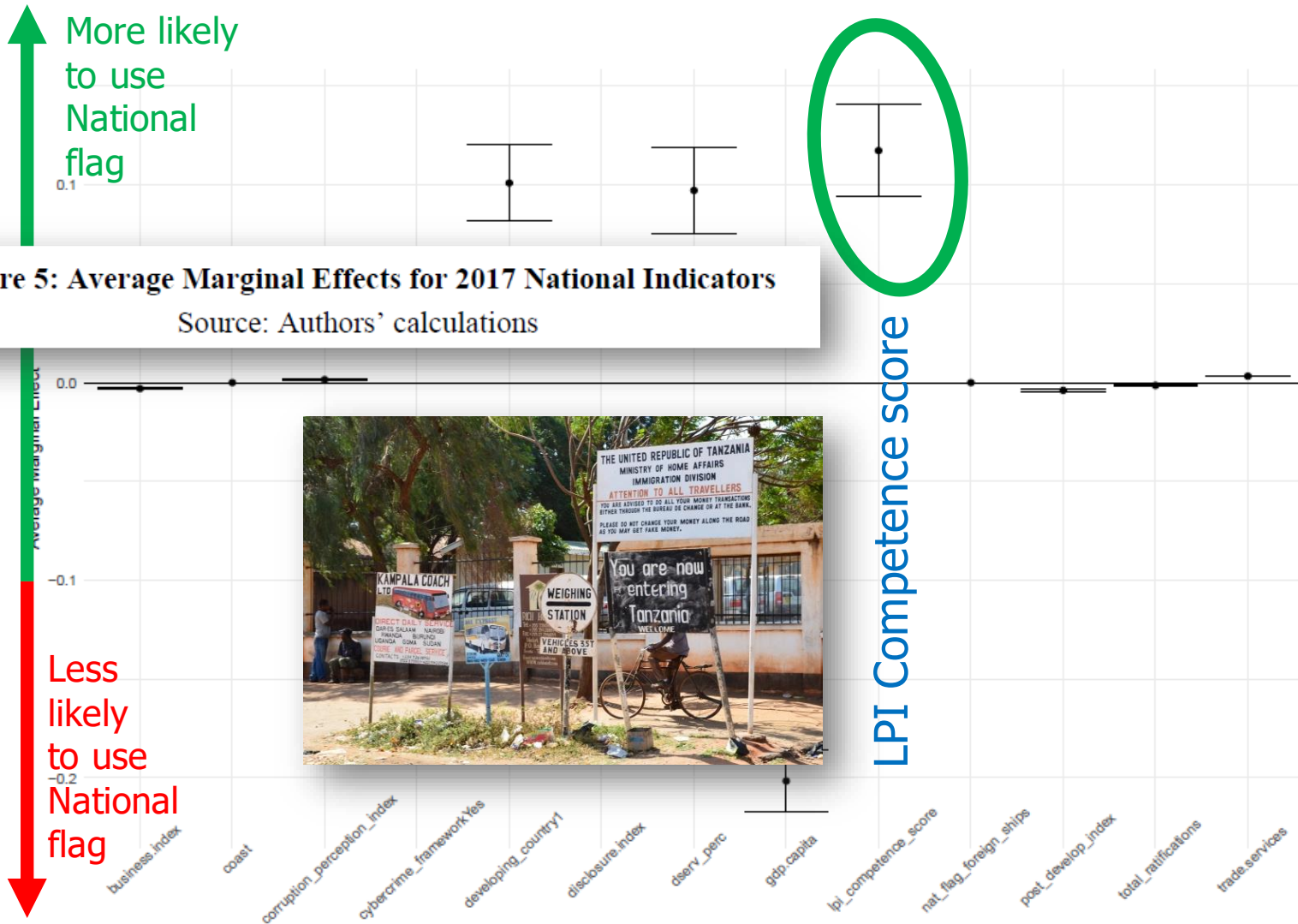


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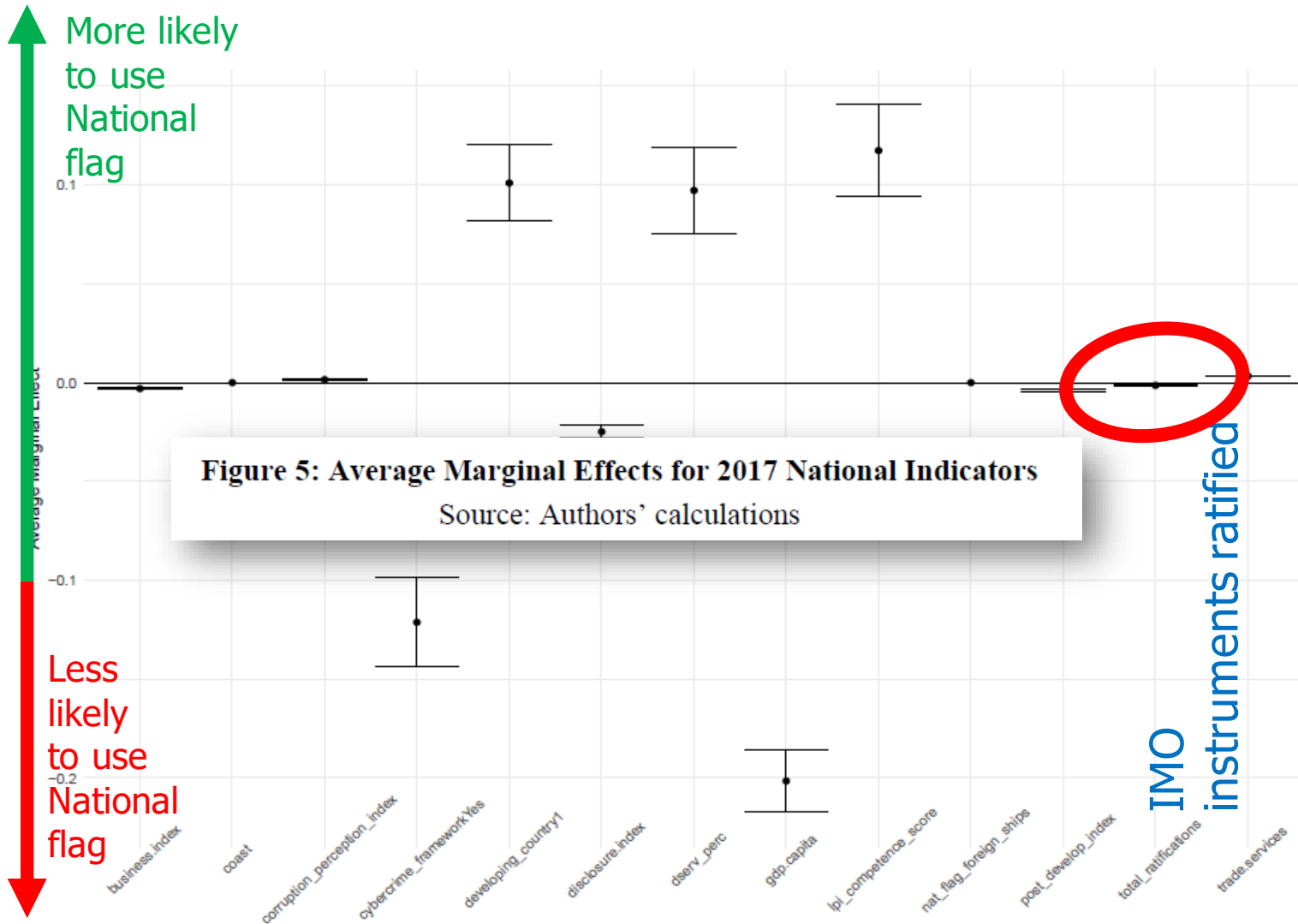


# Country characteristics





# IMO conventions?



6 concluding thoughts



# 1) History

## 5.1.1 *The default option*

Historically, a ship-owner used mostly his own country's flag. Everything else equal, the default option of where to register my ship would be at home – unless registering abroad is cheaper or provides better services or conditions. As market pressures have over the years led to fewer differences among different vessel registries, there is some reason to believe that at least some owners go back to the default option, i.e. registering at home. National priorities as regards to seafarers' rights, environmental regulations, maritime safety, representation at the IMO and ILO, and national security considerations all suggest that a government would in general prefer the default option, i.e. that its citizens register their floating properties under the national flag. It is possible that national governments provide additional incentives so as to attract owners to the national registry, including possible subsidies.



## 2) Competitive – also at home

To quantify the market potential of a national registry, we added variables to the model that capture the number of **foreign vessels that use a beneficial owner country's flag**. If a national registry has a critical mass of vessels that use it, then a registry is more likely to try to make it competitive internationally to attract other foreign vessels. The positive coefficient on this variable suggests that the more foreign vessels that use a nation's registry, the more likely a national vessel is to use the national registry, too. This supports the notion that if a nation's registry is competitive internationally, the more likely a vessel from that nation is to use its national registry.



# 3) National restrictions

## 5.1.3. Restrictions

Governments may impose restrictions on owners or on certain trade routes based on their flag of registration. In regards to cargo, this **may be reserved to the national flag** under a number of circumstances, including for domestic cargo (cabotage, such as under the US Jones act), foreign trade (cargo reservation regimes as for example applied in Ethiopia), or for certain cargoes (for example aid cargo that may need to be shipped under the donor country's flag). While these government restrictions are difficult to quantify and we did not have data to test their importance empirically in our models, it is clear that nations with long coast lines and large cabotage trades also have a higher share of nationally flagged ships.



# 4) Incentives

## *5.1.4 Subsidies and other support measures*

Governments can **positively** encourage owners to use the country's flag, for example through subsidies. Such subsidies can take the form of direct payments (an example is the national reserve fleet in the US), or subsidized loans (such as Switzerland, to maintain a certain number of nationally flagged ships), or below-cost charges for the services rendered by the national vessel registry (as has been claimed for the case of the Belgian registry). We did not have data to include such measures into our model.



# 5) Service cluster

## *5.1.5 Service quality*

Vessel registries need to provide competitive services in an increasingly competitive market. Owners have an interest to fly the flag of a country whose ships are not too frequently inspected at port state controls, which are accepted for insurance in the more respected protection and indemnity clubs, and which have access to bank mortgages. Those countries that are host to both a national ship owning community and a competitive open registry are expected to aim at reflagging especially the ships owned by their nationals. Examples here include the United Kingdom, Singapore, and Hong Kong. It is plausible that these vessel registries have in recent years influenced ship owners in these nations to reflag many of their vessels using the national flag, which could help explain the differences between the 2012 and 2017 world fleets.



# 6) “Owning out” (instead of flagging out)

## *5.1.6 Owning out*

Lastly, instead of flagging out, a determinant of choosing the national flag is that owners may choose to offshore the entire shipping business and move to those countries with a competitive environment for ship owners. Some of these nations that exemplify this phenomenon are also important flag countries, such as the United Kingdom and Singapore. Bermuda, Cyprus, Luxembourg, Monaco, Singapore, Switzerland, the United Arab Emirates and the United Kingdom are also major ship-owning countries that garnered a wider market share in terms of their beneficial ownership location than their “ultimate owner’s nationality” fleet would suggest. As previously mentioned, these countries are often also home to the corporate headquarters of a wide array of firms, not only those that engage in the shipping business. In this sense, shipping may be part of a broader services cluster in these nations that includes financial, classification, trading or logistics services.

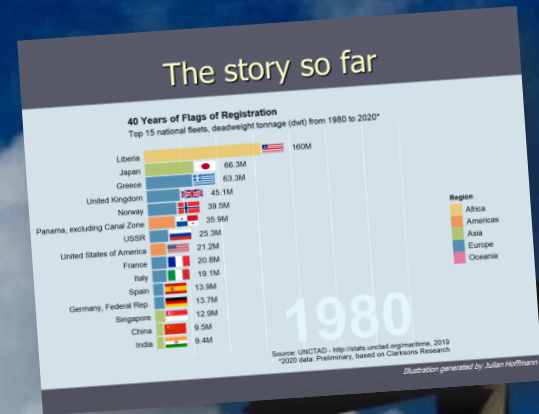




## ▶ Data and trends

## ▶ Convention on Conditions for Registration of Ships

## ▶ Determinants of a vessel's flag

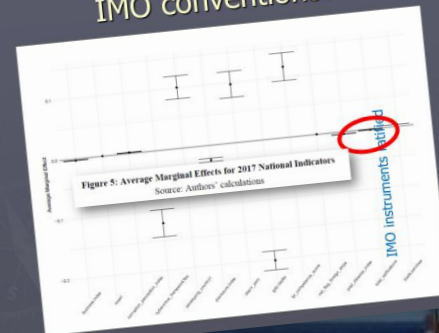


### UN Convention on Conditions for Registration of Ships

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- ▶ Currently: 15 contracting parties



### IMO conventions?





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