OXFORD ECONOMICS

Independent Economic Advice on the impacts of increasing MCA fees

A report prepared for the Maritime and Coastguard Agency

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Executive Summary

The MCA currently perform certain statutory survey and certification work in-house. In order to move towards a closer alignment between costs and fees, it is necessary for the MCA to increase surveyor hourly fees from £94 to £147 (an increase of 56%). The topic of this research is to evaluate the likely impact on operators and vessels registered on the U.K. ship register.

Increasing surveyor fees will have a minimal impact on vessels registering in the U.K…

- Expenses related to the U.K. flag currently constitute 0.1% - 0.7% of the operating costs of vessels registered in the U.K, depending on the vessel type.
- Interestingly, fishing vessels incur a similar flag state expense as a proportion of total operating costs to large container ships.
- When accounting for the proposed surveyor fee increase to £147 per hour, flag state expenses will still remain below 0.9% of typical operating costs for those vessels considered.
- As such, it is unlikely that the increase in fees will have a significant impact in the number of vessels registered on the U.K ship register, or on their underlying cost structures.

… especially when considering the indirect impacts of flag choice …

- Reviewing the relevant literature on the subject suggests that ship operators choose where to register their vessels based on the indirect impact of a flag on operating costs.
- Most important is the effect it has on labour costs, with evidence in the U.S suggesting that the cost to crew a vessel can be as much as 5 times more expensive on the national flag compared to a foreign flag.
- In the U.K a quarter of all operators consider labour costs as the key factor in flag choice.
- Analysing historical fee increases supports the hypothesis that it has little meaningful impact on the number of vessels registering on the U.K ship register.

… while also remaining competitive with similar flag states.

- Most flag states have outsourced statutory survey and certification work to a number of recognised organisations, who charge up to an estimated £300 per hour to audit vessels, significantly higher than the MCA, even when considering the proposed increase.
- The two flag states (Norway and Denmark) that perform some survey work in-house will be at a competitive advantage once the MCA increase surveyor fees. However the U.K retains a more favourable tonnage tax system.

- The U.K flag is one of the highest quality flags for vessels to fly, with a high quality reputation, strong compliance with international conventions and a good level of customer service.

The MCA have proposed three different options to increase surveyor fees. As survey fees represent a very small proportion of operating costs, an immediate increase should have very little impact on vessels registered in the U.K. However, the situation may be different for smaller fishing vessels, such as those of 15-24 metres in length that still require regular MCA surveys in order to maintain a U.K. Fishing Vessel certificate. As such, it may be prudent to consider options supporting these smaller vessels, either through a phased increase in fees, or though some form of small vessel discount.

1 Introduction

Oxford Economics were commissioned by the Maritime and Coastguard Agency ('MCA') to provide independent economic advice on the impact of increasing the fees that they levy for statutory survey and certification work. The MCA currently charges a fixed rate of £94 per hour to undertake this work in the U.K. However, to comply with HM Treasury guidance on deficit reduction, it is necessary for the MCA to increase these fees in order to recover the costs of its operations. In order to do this, the MCA are looking to increase the hourly fee to £147; a 56% increase on the current rate charged.

The objective of this research is therefore to inform the MCA on the likely impacts of such an increase on the U.K shipping industry. In doing so, the MCA are considering three different options for increasing fees, recognising the need for full cost recovery while also considering the potential impact on all stakeholders.

- **Option 1:** Increase all fees to achieve full cost recovery from April 2013.
- **Option 2:** A phased increase of all fees over three years to achieve full cost recovery by April 2015.
- **Option 3**: As Option 1 or 2 but with special arrangements made for vulnerable groups (e.g. SMEs).

In order to asses the impact on a cross section of the U.K fleet, the research will consider how a change in the cost of statutory survey and certification work will affect the operating costs of 5 different vessel types. The vessel types are based on suggestions provided by the MCA – amended slightly to fit with the publically available data on typical vessel operating costs. The vessel types considered are:

- An internationally trading container ship vessel, built 10 years ago, with a cargo capacity of 6,000 twenty-foot equivalent units (TEU's).
- An internationally trading bulk size capsize vessel, built recently, with an approximate deadweight tonnage (DWT) of 175,000 tonnes.
- A near continental cargo ship, a decade old and with a DWT of 7,500 tonnes.
- A class III domestic passenger ferry, with a capacity to carry 200-300 passengers, operating all year round.
- A fishing vessel operating as a beam trawler, 20 years old and 28 metres in length.

The following report is structured as follow. **Chapter 2** introduces the concepts behind ship registration, including the main considerations on both cost and quality that impact the choice on where to register a vessel. **Chapter 3** continues to look at the typical operating costs of U.K. registered vessels and how ship registration expenses fit into these costs. **Chapter 4** explores how the proposed changes to the MCA fees will impact both the operating costs of vessels, and the decisions of ship owners to continue to operate under the U.K flag. **Chapter 5** summaries the preceding information and provides some concluding remarks in relation to the three options of introducing the higher fees, with **Chapter 6** containing appendix information, including a bibliography of sources.

2 MCA flag registration

International law – established under the various United Nations agreements such as the Convention on the High Seas and the Convention on the Law of the Sea (UNCLOS) – mandates that all merchant ships be registered to a particular country, known as the ship register or flag state. Once registered to a flag state, a ship falls under the national jurisdiction of that state. The flag state then has the responsibility to enforce both national and international regulations over that ship, including those on both safety and the environment. In the U.K, this responsibility falls under the mandate of the MCA, who are charged with implementing the government's maritime safety policy; including search and rescue, certification of seafarers and vessels and the maintenance of the ship register.

The U.K ship register is a national register, with eligibility limited to vessels owned or represented by U.K or E.U individuals and companies. However, the majority of the world's fleet are not registered in the country which they are owned or managed, but rather choose to be registered under an open registry, often known as a 'flag of convenience'. Recent decades have seen a significant growth in the number of ships choosing to register in open registries, often to benefit from more favourable tax and regulatory environments. Of those ships registered with one of the largest 15 flag states in the world (by DWT), approximately three-quarters have chosen an open or equivalent international register (Table 2.1).

Table 2.1: Merchant fleet by flag of registration, 2012

Flag State	Register Type	Dead weight tons (DWT) Thousand Tons	Gross Tonnage (GT) Thousands	Number of ships
Panama	Open	328,210	214,760	8,127
Liberia	Open	189,911	121,519	3,030
Marshall Islands	Open	122,857	76,054	1,876
China, Hong Kong SAR	National	116,806	70,206	1,935
Singapore	Open	82,084	53,830	2,877
Greece	National	72,558	41,276	1,386
Malta	Open	71,287	45,117	1,815
Bahamas	Open	69,105	52,390	1,409
China	National	58,195	37,924	4,148
United Kingdom	National	43,770	33,148	2,375
Cyprus	Open	32,986	20,993	1,022
Japan	National	23,572	17,423	5,619
Isle of Man	International	22,542	13,341	410
Italy	National	21,763	18,492	1,667
Norway	International	19,774	16,512	2,004

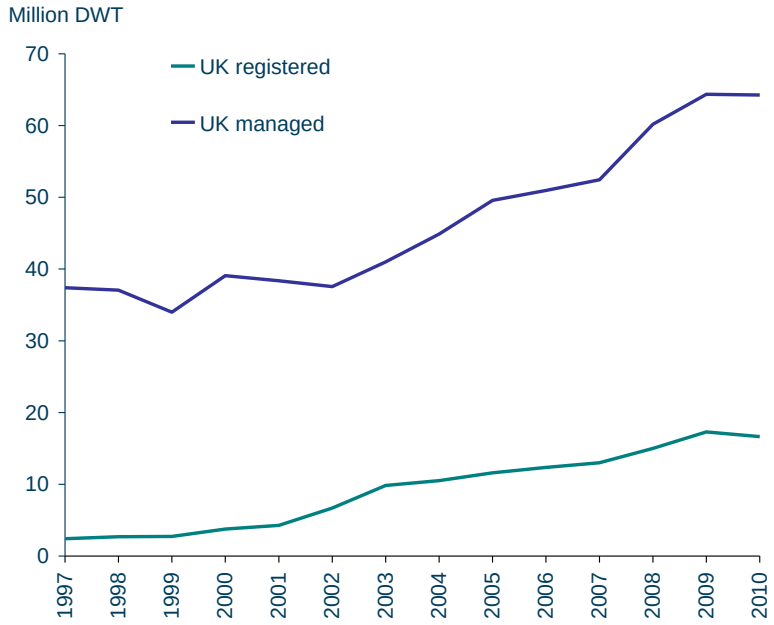
Source: UNCTADstat, MCA

The U.K ship register is currently the 10th largest in the world by DWT. There are many benefits to registering a vessel in the U.K. As one of the top performing flag states on the Paris and Tokyo MoU 'white lists' – as well as inclusion on the U.S Coastguard's Qualship 21 initiative – vessels registered in the U.K. will benefit from more favourable Port State

Control (PSC), reducing the probability of incurring costly delays at major ports around the world[1]. The U.K ship register is also one of the least expensive flags.

The introduction of a tonnage tax regime in 2000 – bringing the U.K in-line with other EU countries with important shipping interests such as the Netherlands, Norway, Greece and Germany – is often credited to have been the catalyst for a steady increase in the number of vessels registering under the U.K flag over the last decade, reversing a longer term trend of declining numbers. Since 2000, the DWT registered under the U.K. flag has increased by over 4 times, from 3.8 million to a figure of 16.6 million in 2010 (Table 2.1).

Chart 2.1: U.K Shipping Fleet[2]



Source: Department for Transport.

2.1 The direct cost of a flag

There are many steps associated with registering a ship to a flag state. As a result, the structure of flag state fees can be complex. Fees can vary depending both on the type and size of vessel, and the type of register (National or Open). Vessels need to meet both national and international conventions on issues ranging from the competency of crew, ship security and radio communications. Approval and certification of each convention will generally have an associated administration cost. Generally these regulations will be more onerous when registering with national registries as opposed to the open registries. Broadly

[1] Port State Control (PSC) is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment complies with international regulations. The IMO has encouraged the establishment of regional PSC organisations (MoU) to ensure as many ships as possible in each region are inspected while preventing delays caused by unnecessary inspections. Ship registers are included on MoU White, Grey or Black lists depending on the safety record of ships flying their flags, with white lists containing the best performing flags and black lists the worst.

[2] Trading vessles 100 gross tons and over.

speaking however, the direct cost of joining and operating under a particular flag can be separated into two categories:

- **Initial one-off fees** – including an initial registration fee, certification, production of transcripts and application for a safe manning document. In the U.K, the MCA charges a flat fee for registration (varying depending on the level of service provision between 'standard' and 'premium'). Many registries however charge a sliding fee that depends on the net tonnage of a vessel, while others offer discounts depending on the number of vessels an operator brings to the flag state.
- **Annual fees** – ships must be surveyed to ensure compliance with the relevant national and international regulations. For merchant ships, these include the International Safety Management (ISM) code and the International Ship and Port Facility Security (ISPS) code. Certificates are renewed every 5 years, with vessels also required to undergo intermediate audits between the 2nd and 3rd anniversary dates of the certificate. Flag registries also typically charge a periodic registration fee, such as the MCA who charge ships a renewal fee every 5 years.

It is the surveyor fees that constitute the bulk of the direct costs for vessels registering to a particular flag and it is these fees that form the basis of this research. While delegating some surveying work to specialist certification authorities (also known as classification societies or recognised organisations[3]), the MCA currently employ their own surveyors to undertake the ISM and ISPS audits. In contrast, most other ship registries, both national and open, have delegated these audits. The MCA also undertake the relevant inspections to ensure fishing vessels hold valid safety certificates (the U.K. Fishing Vessel Certificate for vessels 15-24 metres in length and the International Fishing Vessel Certificate for vessels 24 metres or longer in length).

The MCA currently charge a flat rate fee of £94 per hour for statutory survey and certification work[4], a figure that has been fixed since September 2006. Table 2.2 illustrates the typical fees that each case study vessel can expect to pay if registering under the U.K flag. Survey and registration fees have been annualised, indicating that operators can expect to pay £2,000-£5,000 per annum, depending on the vessel size and type, to be registered in the U.K. As previously mentioned, statutory survey and certification work generally represents the bulk of direct fees for vessel choosing to register in the U.K. As such, revenues from surveying work represent a large proportion of MCA revenue – in 2011 it accounted for over 55% of MCA income from fees charged to provide statutory services[5].

[3] Examples include the American Bureau of Shipping, Bureau Veritas, Det Norske Veritas, Germanischer Lloyd, Lloyd's Register and Nippon Kaiji Kyokai (ClassNK)

[4] Specifically, the MCA conduct all shipboard audits for the ISM certification ISPS code. For fishing vessels, the MCA will survey all commercial vessels over 15 metres in length to ensure they comply with the relevant safety requirements. As such, all references to the MCA statutory survey and certification work will be in relation to undertaking these specific audits.

[5] MCA, Annual Report and Accounts 2011-12

Table 2.2: Cost of registering on the U.K flag[6]

Vessel Type	UK Flag Fees	
	Initial one-off	Annual
An internationally trading container ship vessel - 6,000 TEU	£300 - £500	£2,000 - £5,000
An international trading bulk ship - Capesize vessel	£300 - £500	£2,000 - £5,000
A near continental cargo ship	£300 - £500	£2,000 - £3,000
A Class III domestic passenger vessel	£900 - £1,200	£2,400 - £4,300
A fishing vessel operating as a beam trawler 28m (classed)	£150 - £400	£2,000

Source: MCA, Oxford Economics. Estimates for retained MCA survey work only, excluding surveys delagated to classification societies.

2.2 Other considerations of flag choice

A ship operator is likely to consider more than just the direct costs outlined in Section 2.1 when considering the choice of flag. They will vary according to the vessel type and age, on the routes operated and cargo carried, and even on where the ship was built. These include purely qualitative considerations, as well as factors that will indirectly impact operating costs. Like any profit maximising firm operating in a competitive market, it is assumed that ship owners will aim to minimise costs, subject to the constraints of their operational environment. By constraining them to a set of national and international regulations, a flag state will go along way to shaping the environment in which ships can operate, despite the global nature of the business. A review of the relevant literature[7] has identified some of the key considerations below:

- **Labour costs**

National ship registries sometimes impose limitations on crew, such as restrictions on their nationality or minimum skill requirements. For example, in the U.K, there is no restriction on

[6] Initial one-off fees Include registration, transcript and safe manning certificate, excluding registration of mortgages, seafarer certificates and other miscellaneous costs. Annual fees consist of the annualised survey (every 2-3 years or every 2 years for fishing vessels over 24 metres in length) and renewal of registration (due every 5 years or every 4 years for fishing vessels over 24 metres in length). Figures for annualised fees are presented as a range where uncertainty exists in the estimates.

[7] Including Luo, Fan and Li (2011), Yannopoulos (1988) and Alderton and Winchester (2002). Full a full list, please refer to the bibliography in Section 6.3

nationality, although officers need to obtain a certificate of equivalent competency from the MCA to serve on a U.K. registered ship. In countries such as Norway, Greece and Denmark, it is common that at the very least the Master of a ship is required to have the same nationality as the country in which the ship registers. In the U.S meanwhile, vessels must utilise domestic labour under the Citizen Crew Requirement. Flag choice will also have an impact on the cost of crewing a vessel. As highlighted in Section 3.1, manning a vessel can represent as much as half of total operating costs, depending on the vessel type.

Labour costs can be split into two components, direct and indirect wages. The direct, or basic wage, will depend on the level of development, standard of living and minimum wage legislation in the seafarer's country of origin. Indirect wages include items such as the level of annual leave, national insurance contributions, training requirements and pension contributions. As such, flag states with higher average wages, or more stringent regulations concerning the employment of labour, will be at a comparative cost disadvantage. A study conducted for the U.S Department of Transport (2011) found large differences in staff costs between U.S vessels and foreign flagged vessels, concluding that average daily crew costs could be over 5-times more expensive for U.S flagged vessels than their foreign counterparts. In a U.K survey of ship owners, Bergantino and Marlow (1999) found that the largest single factor affecting the use of a foreign flag is crew costs (26%).

As explained in Yannopoulos (1988), the aggregate labour cost of employing someone aboard a vessel under a national flag of a traditional maritime country is generally higher than the cost of employing the equivalent person on a flag of convenience vessel. This is because even if nominal wages are the same, payments for social security, pensions and industry training schemes will likely differ, such that it is the non-wage cost that is the basic source of the difference. In the U.K, comprehensive employment laws will place ships operating under the U.K flag at a competitive disadvantage in comparison to vessels flying flags of convenience. Under a flag of convenience, it is likely that a ship operator will pay a gross remuneration from which the seafarer will make provisions for pension, income tax etc. As such, the literature almost unanimously agrees that the impact of a flag on crewing costs is the single largest factor affecting the choice of where to flag a vessel[8].

- **Access to skilled labour**

Not only do flag states differ in the relative cost of labour input, but they will also differ in the availability of skills. The supply of skilled labour will generally be higher in traditional maritime economies, such that ship operators choosing to 'flag-out' to a less recognised economy may struggle to take with them/recruit an appropriately skilled workforce. Consequently, this will have an adverse effect on the productivity of labour and the efficiency of shipping operations (Yannopoulos (1988)).

- **Tax burden**

While not the only determinant, the choice of flag goes a long way in deciding where a ship owner will pay tax. With some national ship operators also receiving public subsidies, an operator will need to consider the net impact of subsidies and tax allowances, including corporation tax, personal income tax and any other cost or benefit they could incur by

[8] See Bergantino and Marlow (1999)

registering on a particular flag (Bergantino and Marlow (1999)). As such, Luo, Fan and Li (2011) found a significant impact when introducing the top rate of marginal personal income tax in a particular country, indicating that a high tax environment motivates operators to choose a foreign flag.

- **Access to key markets**

Certain markets will restrict the use of ships to those flagged with certain states. This is evident in the EU, where regulation permits ships registered in a member state the right to carry passengers or goods by sea between any port of a member state, while oil tankers operating in the Gulf of Mexico need to be registered under the U.S or U.K. flag. In some instances, the flag of a ship will be reflected in charter rates, such that vessel owners can get a higher fee for vessels flagged in certain states, while the wrong flag may effectively bar access to a market where political tensions exist between countries.

- **Compliance with international conventions**

Among the principal registers (listed in Table 2.1 and which cover 83% of world tonnage); all are signatories to the major international conventions. These include but are not limited to the International Convention for the Safety of Life at Sea (SOLAS), which specifies minimum safety standards for the construction, equipment and operation of ships; the International Convention for the Prevention of Pollution from Ships (MARPOL), which is the main international convention covering the prevention of pollution of the marine environment by ships from operational or accidental causes; and, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), which ensures basic international requirements on training for seafarers. Flag states are required to take responsibility for the compliance of all ships on their registry of these conventions. However, flag registries may differ in how strict they are in monitoring compliance. It is questionable whether some states, particularly those operating open registries, have the resources capable of effectively monitoring their entire fleet. This is evident in the different rates of PSC detentions of vessels flying certain flags. Previous research by Luo, Fan and Li (2011) has found that flags of convenience do generally have worse safety records.

- **Port State Control**

Another example of how 'higher quality flags' can lower operating costs is in the cost of delays and detentions. PSC is the inspection of foreign ships in national ports to verify that the condition of the ship and its equipment complies with the requirements of international regulations. Many of the International Maritime Organisation's (IMO) most important conventions contain certain provisions to allow ships to be inspected when they visit foreign ports. PSC was introduced to complement flag state control with a view to controlling the standard of ships – especially those operating under 'flags on convenience' – who may not have the resources to inspect all vessels for compliance to international standards. The IMO has encouraged the establishment of regional PSC agreements – known as Memorandum of Understanding or MoU's – to ensure co-operation by region and ensure as many ships as possible are inspected. The most significant organisations include the Paris MoU and the Tokyo MoU. However, no PSC has the resources to inspect all ships entering their ports. As a result, they often target those vessels operating under flags with poor reputations. By flying a flag which is perceived to have looser shipping standards, there is a greater probability of incurring significant delays (and costs) through detentions by PSC.

This observation is confirmed by Luo, Fan and Li (2011), who found evidence that, all things being equal, ship operators prefer to register in a country with a low PSC inspection rate.

- **Home bias**

A number of national flags derive much of their membership from domestic vessels, while fishing vessels will always use the national flag in order to maintain a licence for their fishing quota. This is evident in statistics obtained from the UNCTAD (2011) on the proportion of ships owned by nationals on the registries such as Denmark (98.8%), Germany (98%), Japan (98.5%), Greece (90.2%), and China (90.2%). Some countries may operate a cargo preference, such as those operated in the U.S, limiting opportunities for foreign flagged vessels in winning contracts when coming up against nationally flagged competitors.

- **Repair and maintenance costs**

Some flag states may impose requirements on ship owners to use domestic shipbuilders to undertake repair and maintenance work. In the U.S for example, a 2011 report by PWC found that the high costs of using U.S shipyards was a significant factor in deciding whether to flag in the U.S, reflecting a lack of scale economies and high labour costs.

- **Insurance and finance costs**

Another often quoted factor that may affect flag choice is the cost of insurance and ability to attract finance for shipping operations. Some argue that flag states with good compliance records at PSC can indirectly lower vessel finance costs. Lending institutions and insurance underwriters will review the level of flag state control compliance and enforcement of international rules and regulations. Low standards might increase the potential liability and exposure to environmental damage, to seafarer casualty or to vessel detention with PSC, thus increasing premiums. In some cases, flag choice may be an outright impediment to obtaining finance. However the link between insurance and the flag choice is not obvious. Bergantino and Marlow (1999) argue that despite many authors concluding insurance does indeed enter the decision making process when operators are choosing a flag, it is in fact the ship owners past performance record that most influences the underwriters decision. In the same study, they actually found that insurance premiums for vessels registered under the U.K flag were in fact higher than for foreign flagged vessels. While the paper does not offer an explanation for this observation, the same result is found by the U.S Department of Transportation (2011), comparing U.S flagged ships with foreign ships, suggesting that the higher premiums in the U.S reflected the increased liability costs associated with mariner personal injury in the U.S

The above list introduces some of the main factors affecting flag choice; however there are many other considerations for ship owners such as the avoidance of red tape and bureaucratic control, the strength of the domestic legal regime and the anonymity of ownership which also play a role. It is evident therefore that flag choice is a multi-faceted complex decision and vessel owners will weigh up both the benefits and costs (both in strictly financial terms, through the direct and indirect impact on operating costs, and also more qualitative measures).

2.3 Flag competition

Shipping is a global business. Ship owners operate in a highly competitive environment and fully mobile marketplace. The homogeneity of the good on offer means that ship operators invariably compete on price. As such, the decision on where to flag a vessel is generally considered to hinge on its impact on operating costs.

Shipping businesses operating in international waters are generally faced with two options in terms of where to flag their vessel. They can either choose to flag at home with their national flag or they can choose to flag-out, choosing one of the many international or open registers that accept foreign owned vessels. The emergence of flags of convenience over the last 50-60 years has created a market with two distinct segments (Yannopoulos (1988)). The first sector comprises vessels registered under the national flags of the traditional maritime nations. This sector is often characterised by restrictions on vessel ownership and the nationality of crew. The second sector is comprised of those vessels choosing to register on open registries. Vessels choose to register on open flags for many different reasons, including the avoidance of burdensome regulatory compliance, low tax liabilities and the freedom to employ an international crew. Generally speaking, a vessel registered under a flag of convenience will therefore incur lower operational costs in comparison to its equivalent flying a national flag.

As a national flag register, the U.K flag cannot compete with the large open flags such as Panama, Liberia and the Marshall Islands in terms of its impact on operational cost. However the U.K and other traditional national registries still maintain a large number of international vessels on their registries. This is because, as outlined in Section 2.2, the decision to flag in a particular state hinges on much more than the impact on operational costs. As such, Yannopoulos (1988) developed a model where both sectors simultaneously exist in equilibrium, with differences in the quality of labour and managerial efficiency explaining why some vessels choose to register with their national flags despite the obvious cost differentials.

The true competitors of the U.K flag will be those traditional maritime countries, either based in the EU or with access to the EU market, which offer comparable levels of service and performance compliance. Following discussions with MCA, 6 flag states were identified as key competitors to the U.K Flag:

- Norway
- Denmark
- The Netherlands
- Germany
- Malta
- Cyprus

The MCA is unique in so far as it continues to provide statutory survey and certification work in the U.K, rather than outsourcing this work to the recognised organisation, currently charging a fixed rate of £94 per hour, irrespective of the vessel size and type.

In contrast, of the main competitors listed above, the Netherlands, Germany, Malta and Cyprus ship registries have all authorised a number of certification societies, or recognised

organisations, to perform all statutory survey and certification work on their behalf. Only Norway and Denmark list annual charges in relation to the inspection of vessels, with Norway charging an hourly rate of NOK 1,003 (£112) for surveys carried out in Norway and NOK 1,784 (£198) for surveys carried out abroad, while Denmark charges a fixed amount of DKK 800 per hour (£93), covering time spent on board the ship as well as time spent on administration[9].

The amount recognised organisation charge for statutory survey and certification work is in contrast opaque. Fee structures will vary according to both vessel size and type, as well as by the number of vessels an operating company will have surveyed at a particular society. However, following discussions with surveyors at the MCA it is understood that a figure of approximately £300 per hour would be considered a reasonable estimate for the fee charged by these recognised organisations. It is therefore apparent that the fixed fee charged by the MCA of £94 is not only comparable with the other registers that perform some of their own work, but is also significantly less than that which the recognised organisations charge. It is worth noting here that the open flags, or flags of convenience will almost without exception also outsource the statutory survey and certification to the recognised organisations. Thus the U.K will also compare favourably with the open flags in terms of the direct cost of the flag.

2.4 Index of flag performance

Oxford Economics have designed an Index to compare flag states across a number of different qualitative measures, to capture some of the other factors that determine flag choice. The thought process behind creating an index was to provide an objective comparison of international flags – both national and open – across a number of qualitative measures (subject to the available data) that may be considered important in flag choice. The choice of which factors to include within the index has been influenced both by discussions with stakeholders and a thorough literature review. As such, the index is composed of three primary sub-indices, the components of which are outlined in more detail in the annex:

- **Reputation/Standing:** This captures the size and experience of the flag state – to proxy its ability to service clients effectively and efficiently, with the relevant maritime infrastructure in place; the size of the home market available to the shipping company; the level of political stability and quality of law in which owners will have to operate/have at their disposal.
- **Compliance:** This sub-index captures the performance and safety record of each flag with PSC, indicating, the general level of quality of the flag state and the degree to which it ensures ships comply with international regulations. It also accounts for the number of international conventions ratified by the flag state.

[9] See http://www.nis-nor.no/upload/regulation_of_21_december_2009_no._1738.pdf (Norway) and http://www.dma.dk/SiteCollectionDocuments/CFS/Synstakster%20juli%202010_engelsk_100101.pdf (Denmark). Currency conversions based on 2011 annual average exchange rate, source Haver Analytics.

- **Service level:** This index provides some colour on the level of service that vessels can expect to receive from the flag state, such as whether they offer a 24-hour service, whether they offer fee incentives and even if they offer online registration services. With PSC becoming an ever increasing force in safety regulation of international shipping, vessels are increasingly placing a higher emphasis on the quality of support services provided by their flag.

Table 2.3 illustrates the respective rankings for flag states for each of the three component sub-indices, as well as the combined ranking. With little evidence on the degree to which ship owners would value the three components of the index, each sub-index has been equally weighted in constructing the final rankings.

Table 2.3: Index of flag states[10]

Flag State	Flag State Rankings			
	Reputation / Standing	Compliance	Service	Total
UK	3	6	1	1
Singapore	1	8	7	2
Japan	7	1	9	3
Hong Kong	5	5	7	4
Panama	10	17	2	5
Bahamas	14	11	3	6
Norway	2	12	9	7
Marshall Islands	16	13	3	8
Malta	9	19	5	9
Liberia	16	13	5	10
Germany	8	4	11	11
Denmark	4	6	11	12
France	13	2	11	13
China PR	18	2	11	14
Netherlands	6	10	11	15
Greece	11	9	11	16
Italy	14	16	11	17
Cyprus	11	18	11	18
Antigua & Barbuda	19	13	11	19

Source: UNCTADstat, World Bank, MCA, Paris MoU, Tokyo MoU, US Homeport, Oxford Economics

Without placing too much significance on the results of the index, it is clear that the U.K flag performs well across the three different areas – particularly when it comes to providing a good quality service to clients. This is an area where the MCA stands out against the competition. When combining the three sub-indices developed by Oxford Economics, the U.K comes out top in the rankings.

It may be more appropriate to compare relative rather than absolute performance against those registers identified as being in close competition with the U.K (see Section 2.3). Using the Oxford Economics index, the U.K flag compares favourably in comparison with the flags

[10] The lower the ranking, the higher the composite score for each index, such that better performing flags will be those with the lowest rankings

of Norway, Denmark, Germany, Netherlands, Cyprus and Malta. The U.K flag ranks above all states except Norway in the reputation/standing index and is joint second with Denmark in it's compliance ranking, both behind Germany which exhibited very low levels of PSC detention. In terms of the provision of a quality customer service, the U.K. is ranked the highest of all the flag states.

It is therefore evident that the U.K ship register remains a strong flag in terms of its performance against its peers, such that a flag decision by a U.K shipping business based on quality and service alone would struggle to look past registering on the national flag.

3 Flag registration and vessel operating costs

3.1 Typical vessel operating costs

The key components that make up the cost of operating a ship vary considerably depending on both the size and purpose of the vessel. In merchant shipping, involved in the transport of freight and cargo, business costs are traditionally divided into three distinct categories; finance costs, operational costs and voyage costs.

- **Finance costs** include the capital costs of purchasing and/or leasing vessels, together with interest payments and depreciation. Certain administrational overheads can also be included within this category, such as provision for dry docking.
- **Operational costs,** or fixed operating costs, are those incurred when a ship is put into service. For the purposes of this research, these are grouped into 3 broad sub-categories:
    - **Crew:** Labour costs incurred when ships are out at sea. Includes direct wages, national insurance and pension contributions, training, travel and victualling.
    - **Insurance:** Marine insurance costs to cover both the vessel and the cargo, including cover for war or piracy risks.
    - **Other:** Including stores and lubes kept on board to ensure the smooth operation of vessels at sea, routine repairs and maintenance and other residual costs, including those associated with registering a ship on a flag.
- **Voyage costs** are variable costs that occur when a ship is in commercial use operating on a particular route or 'line', such as fuel, port charges and other voyage specific costs.

For smaller fishing vessels and domestic ferry services, the breakdown is slightly different. Without the same distinction between operational and voyage costs, elements such as fuel and port/harbour dues will be included within the much broader category of operational costs. As such, fuel is separately identified in the following analysis for these smaller vessels.

Oxford Economics have estimated the annual operating costs of the 5 different case study vessels in Table 3.1. Following both discussions with industry stakeholders and a review of the relevant literature, it was understood that the cost of flagging a vessel is incurred as part of the operating costs of a ship and thus the decision on where on flag a vessel is generally considered in relation to these costs only. In order to maintain a consistent approach, operating costs have been split into the 3 categories outlined above for merchant ships, with fuel included as this represents a significant proportion of ferry and fishing vessel operations. For fishing vessels, specific fishing related costs (such as quota leasing, boxes, ice etc), harbour dues and maintenance of the gear have all been included with other vessel costs. For domestic passenger

vessels, residual elements such as security, port costs and chartering costs have also been included in the 'other' category.

Table 3.1: Average Vessel Operating Costs

Vessel details				Average Ship Operating Costs (£000)				
	DWT	GT	Age (years)	Crew	Fuel	Insurance	Other	Total
An internationally trading container ship vessel - 6,000 TEU	80,000	-	10	780	n/a	310	820	**1,910**
An international trading bulk ship - Capesize vessel	175,000	-	0	810	n/a	320	560	**1,690**
A near continental cargo ship	7,500	-	10	420	n/a	80	270	**770**
A Class III domestic passenger vessel	-	500	20	270	130	40	160	**600**
A fishing vessel operating as a beam trawler 28m	-	380	20	250	270	40	370	**930**

Source: Oxford Economics

Table 3.1 indicates that the most expensive vessel to operate in the U.K is an internationally trading container ship, costing approximately £2 million per annum. Of this, over 40% goes on providing a crew. In contrast, a domestic class III passenger vessel, with a capacity to carry 200-300 passengers, will cost approximately £600,000 per annum to operate, including the cost of fuelling the vessel. Labour costs represent the single largest contributor to total operating costs for all vessels except the fishing trawler, which incurs a higher fuel cost. However, even for the fishing vessel, labour costs represent over a quarter of total operating costs.

3.2 The impact of flag state fees on operating costs

Oxford Economics' estimates of the cost of registering with the U.K flag for the 5 different vessel types from Chapter 2 are reproduced in Table 3.2, including a column estimating the proportion of total costs that the annual flag state expense represents.

Table 3.2: Flag fees as a proportion of total operating costs

Vessel Type	UK Flag Fees		Annual cost as a % of total vessel operating costs
	Initial one-off	Annual	
An internationally trading container ship vessel - 6,000 TEU	£300 - £500	£2,000 - £5,000	0.1% - 0.3%
An international trading bulk ship - Capesize vessel	£300 - £500	£2,000 - £5,000	0.1% - 0.3%
A near continental cargo ship	£300 - £500	£2,000 - £3,000	0.3% - 0.4%
A Class III domestic passenger vessel	£900 - £1,200	£2,400 - £4,300	0.4% - 0.7%
A fishing vessel operating as a beam trawler 28m (classed)	£150 - £400	£2,000	0.2%

Source: MCA, Oxford Economics. Estimates for retained MCA survey work only, excluding surveys delagated to classification societies.

As illustrated in Table 3.2, the cost of maintaining a registration on the U.K flag represents a very small proportion of the average operating cost of vessels. Although this varies depending on the type/size of ship registering on the U.K flag – it is never more that 0.7% of the total average operating cost. Interestingly, there is no discernable relationship between the proportion of operating costs and the size of the vessel. Indeed, it appears from the estimates that the flag state expense could be lower for commercial fishing vessels operating in domestic waters than it is for the larger international ships.

As indicated previously, it is understood that flag decisions are usually taken at the technical operations level of a vessel. However, it is worth considering that when comparing the cost of a flag to the total costs of running a ship, including both finance and voyage costs, they will become virtually insignificant. One significant constituent of total costs are those of fuel, or bunkering. International shipping business considers bunkering costs as part of voyage specific costs as they are unavoidable, depending on what specific route a ship is operating on. For example, if a ship is operating in Asia, then they will be subject to Singapore bunker fuel rates; if they are operating in Europe then it will be the Rotterdam bunker fuel rates that they will have to pay. Depending on the size as speed of a vessel, Notteboom and Vernimmen (2008) estimate that bunker costs can account for as much as 60% of total ship costs, a figure corroborated by a review of associated press articles[11]. As such, if one was to include fuel within operating costs of the larger internationally trading ships, as well as finance and other overheads, the direct costs payable in relation to registering on the U.K flag are very small. Another important issue to consider when discussing the impact of

[11] For example, see http://www.worldshipping.org/pdf/WSC_fuel_statement_final.pdf from the World Shipping Council

bunkering costs is the volatility of oil prices. This is covered in Section 4.2 when reviewing the impact of fuel on the operation of smaller vessels, such as fishing vessels, for which fuel costs are included in 'operating costs'.

4 The impact of increased flag costs

In consideration of the fact that an immediate increase of the fees charged on statutory survey and certification work may impact on industry costs and potentially reduce the contribution shipping currently makes to the U.K economy, the MCA have proposed three options for increasing the fees. These options vary in the length of time taken to achieve full cost recovery in order to spread the impact over a number of years, considering the impact may be different depending on the type of business. The options proposed by the MCA are as follows:

- **Option 1:** increase all fees to achieve full cost recovery from April 2013.
- **Option 2:** A phased increase of all fees over three years to achieve full cost recovery by April 2015.
- **Option 3:** As Option 1 or 2 but with special arrangements made for vulnerable groups.

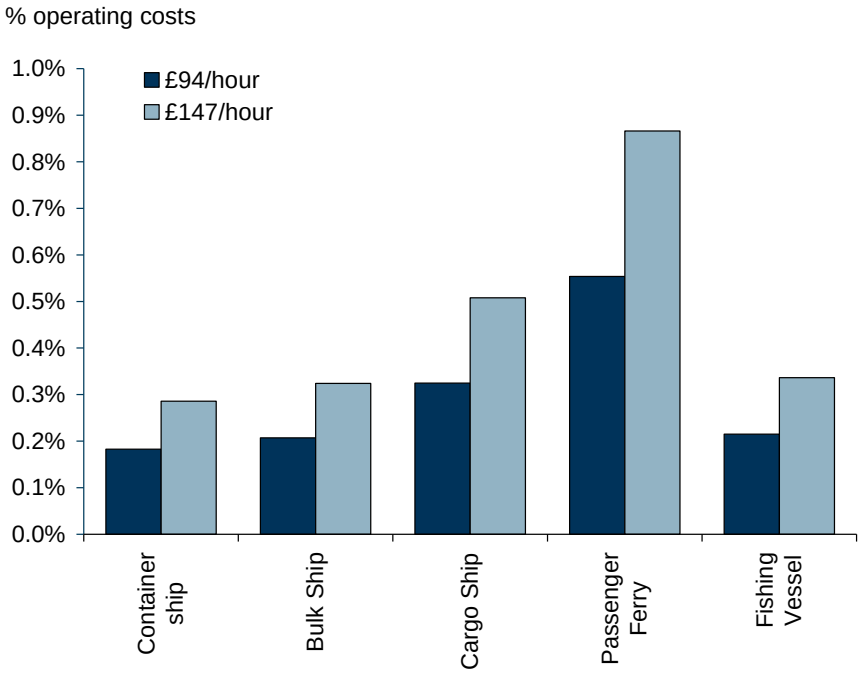
The final decision on which option to proceed with depends ultimately on what impact increasing surveyor fees will have on underlying vessel operating costs, and will be discussed further in the following chapter.

4.1 The impact of increasing surveyor fees on operating costs

As discussed in Section 3.2, the annual costs of registering on the U.K flag are a very small proportion of total operating costs. This is true both for large internationally trading vessels, as well as for smaller domestic ferries and fishing boats. The evidence suggests that flag fees are in fact proportionally lower for smaller domestic vessels. The extent to which any increase in fees will impact the decision of vessels to register under the U.K flag is likely to be very small.

Chart 4.1 illustrates the impact of increasing the hourly fee for statutory survey and certification work from £94 to £147 per hour for each example vessel considered as part of this research. With surveyor fees comprising the bulk of flag state expenses incurred in the U.K, increasing the hourly fee by 56% will lead to a near 1-for-1 increase in the annual flag expense incurred by vessels registered under the U.K flag. However, despite this, flag state expenses remain below 0.9% of total operating costs.

Chart 4.1: The impact of increasing surveyor fees on vessel operating costs[12]



Source: MCA, Oxford Economics

For the large internationally trading container vessels, an increase in the cost of statutory survey and certification work from £94 per hour to £147 per hour will lead to an increase in annualised flag state fees from an around £3,500 per annum (based on the mid-point of the range presented in Table 3.2), or 0.2% of total operating costs, to approximately £5,500 per annum, equivalent to less than 0.3% of total operating costs. Mid-sized continental cargo ships meanwhile would see annual flag costs increase from around £2,500 (0.3%) to £3,900 (0.5%), while domestic passenger vessels and fishing boats would face annual fees of around £5,200 (0.9% of total operating costs) and £3,100 (0.3%) respectively.

4.2 The impact of increasing surveyor fees on U.K businesses

Despite increasing the hourly rate for statutory survey and certification work by 56%, annual flag state expenses will continue to represent a very small proportion of total vessel operating costs in the U.K. There will therefore be a minimal impact on the cost structures of businesses with ships registered in the U.K. This holds true for all types and sizes of vessel. Businesses owning larger vessels operating in international waters are likely to consider not only operating costs, but also financing and voyage related costs. Embedded within voyage costs are the volatile costs of bunkering, that can comprise as much as 60% of total costs of owning a vessel. As such, the inclusion of these additional categories of vessel related costs for a business would render the increase in MCA fees insignificant. In addition, commercial fishing vessels, with fuel included within operational costs, will still only

[12] Based on the mid-point estimates of the annual survey fees for each vessel type as presented in Table 3.2

be subjected to annual flag fees of around 0.3% of total operating costs after the increase takes effect. By way of a comparison, the impact of an 56% increase in annualised MCA fees on total operating costs of a typical fishing vessel operating in U.K waters is equivalent to the impact on operating costs of an increase in fuel prices of just 0.3%. Chart 4.2 illustrates not only the volatility of oil prices (which will filter through to fuel costs), but also the fact that since the January 2010, oil prices have increased by up to 35% over this period.

Chart 4.2: The average spot price of oil[13]

Source: Haver Analytics

A review of the relevant literature looking at flag decisions of ship operators suggests that the decision on what flag to fly is primarily driven by its impact on operational costs. This includes the impact of both the direct costs (i.e. those costs paid to the registry in question in order to fly their flag) and the indirect costs (i.e. other costs that hinge on the choice of the flag, such as labour and tax). When comparing the magnitude of the different elements of direct and indirect costs, it is evident that there are some key indirect costs that will have the largest impact on total operating costs.

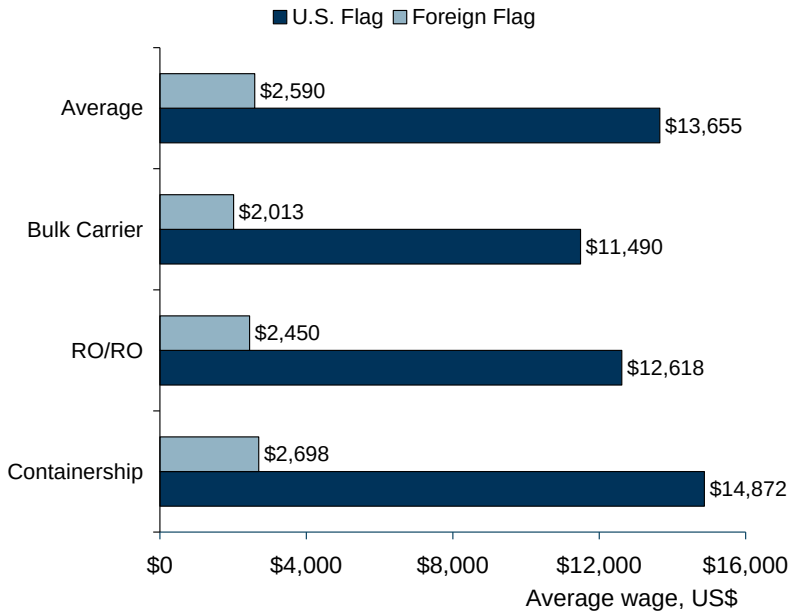
Bergantino and Marlow (1999) concluded that the most significant single factor affecting the choice of flag by vessels in the U.K was that of crew costs. In their analysis, it was crew costs, and specifically National Insurance Costs, that was the largest single statistically significant factor affecting the choice whether to fly a national or foreign flag. Furthermore, despite including flag registration costs (initial and annual costs) in the list of variables, it did not appear in any of the reduced form equations suggesting that they found little significance through the inclusion of this variable. In a study analysing the flag decisions of the world's

[13] Average spot price of Brent, Dubai and West Texas Intermediate oil

commercial fleet, Hoffman, Sanchez and Talley (2005) also found empirical evidence to support the fact that both higher wages and labour standards may scare operators away from national registries. As such, the authors found that doubling the GDP per capita of a flag state (a good proxy for domestic wages), all else equal, increases the probability that a vessel will choose a foreign flag by over 10%, i.e. more than one in every 10.

The significance of crewing costs becomes more acute when considering the potential differences in the level of pay for seafarers from different countries. A study comparing the operating costs of U.S and foreign flagged vessels by the U.S Maritime Administration (2011) found that despite having similar sized crew manning their vessels, the average crew costs for U.S vessels could be over 5 times more expensive (Chart 4.3).

Chart 4.3: Average daily crew costs by vessel type, 2010



Source: U.S Department of Transportation Maritime Administration

In Europe, it is also evident from research by the European Commission that wage disparities exist, both between European countries in comparison with developing countries such as China and India, but also between intra-European countries. Table 4.1 presents data compiled on the average wages of seafarers employed in the 6 main competitor flag sates to the U.K. The table indicates that crewing costs (in terms of wages) in the U.K are broadly comparable to the EU average. Compared with the more traditional maritime registers such as the Netherlands, Norway, Denmark and Germany, wages in the U.K are very competitive for both seafarers at the Officer level (3rd mate or engine officer) and the Able Seaman level. Vessels registering under the open registers of Malta and Cyprus however benefit from much reduced domestic wages, particularly in Malta, presenting an opportunity for businesses to make considerable savings in crew costs.

Table 4.1: Average monthly salaries of seafarers, 2009[14]

Average Monthly Salaries	Officer	Able Seaman
Cyprus	€ 2,650	€ 1,200
Denmark	€ 3,980	€ 2,000
Germany	€ 4,560	€ 1,900
Malta	€ 1,300	€ 330
Netherlands	€ 3,980	€ 2,000
Norway	€ 4,190	€ 2,100
UK	€ 3,710	€ 1,650
EU Average	€ 3,748	€ 1,812
China	€ 1,838	€ 595
India	€ 2,415	€ 753

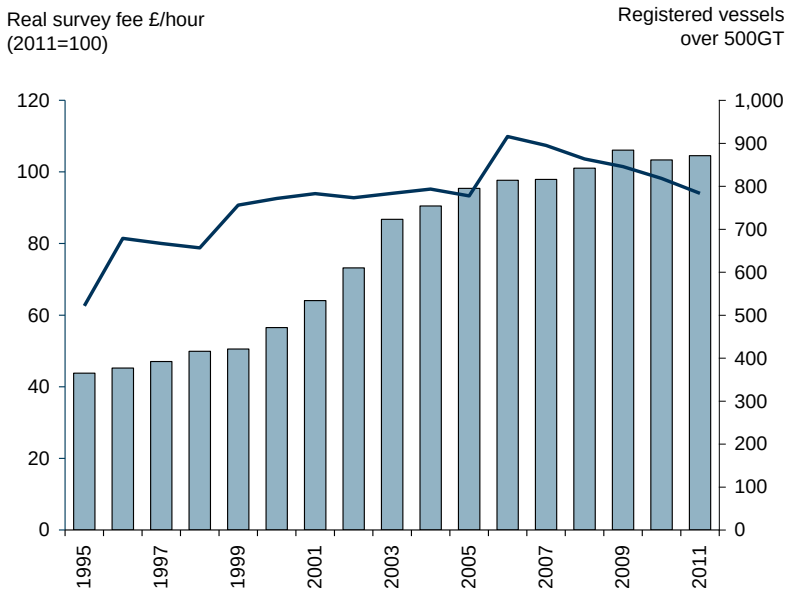
Source: European Commission 2011

Although placing considerable focus on crewing costs, due to both the assertion of the relevant literature as to its relative importance and to the large composition of labour costs in typical vessel operating costs, it is not the only significant factor in which a flag decision can impact operating costs. The cost of insuring vessels can represent 10%-20% of the operating costs of an internationally trading vessel, depending on its type (Table 3.1), such that small changes in the premiums charged by underwriters will have a large impact on operating costs. For example, a modest 0.9% increase in the premiums charged to a bulk ship operator will have the same impact on operational costs as the proposed MCA increase in surveyor fees.

It is also useful to review historical changes in MCA surveyor fees to see if they have had an impact on the number of vessels registering on the U.K flag. Since 1995, the hourly fee to perform statutory survey and certification work in the U.K has steadily increased in increments from £45 in 1995 to the current figure of £94, last changed in 2006. This is illustrated in Chart 4.4 which plots the real hourly cost of surveyors (adjusted for CPI inflation, 2011=100), and the number of U.K and crown dependency registered vessels over 500 GT. It is clear from the chart that there is no discernable pattern between the steady increase in fees and the number of vessels registering in the U.K. Since 1995, there have been three large increases in the hourly surveyor fee – in 1997, 1999 and finally in 2006 – where the rate has been increased by more than a double digit rate. However, for each year after the hike there was an increase in the number of vessels registering in the U.K. While anecdotal in nature, this suggests that the increased fees had very little impact on the decision of ship operators to register their vessels in the U.K. The other interesting point to note is that, as fee's have not been changed since 2006, the real cost of statutory survey and certification work for ship operators is actually very similar to levels experienced a decade ago.

[14] China and India indications based on the mid-point between mini and maxi estimates

Chart 4.4: Evolution of MCA fees and number of vessels registered in the U.K[15]



Source: MCA, DfT, Haver Analytics, Oxford Economics

Indirect costs arising from compliance with the national tax regime will also impact vessel operating costs. Recognising this, the U.K introduced a tonnage tax regime to boost the competitiveness of the U.K shipping industry. This had a significant impact on the underlying cost structures of U.K shipping businesses, leading to a rapid increase in the number of vessels registering on the U.K. ship register (see Section 4.4)

4.3 How the U.K compares with other countries

There are 6 primary flag competitors to the U.K, as presented in Section 2.2 previously. The only flags that perform any of their own statutory survey and certification work are currently the U.K, Norway and Denmark. It is understood that the other registries – Cyprus, Malta, the Netherlands and Germany – outsource this work to recognised organisation much like the majority of flag states around the world. The structure of fees charged by these recognised organisations is opaque, however following discussions with the MCA it is understood that on average they charge considerably more than the MCA does. It is estimated that the hourly fees could be as much as £300 for surveyors from the recognised organisations. Clearly therefore, an increase in the MCA hourly fees from £94 to £147 will still be considered relatively inexpensive when compared to registering under these flags.

The increase in MCA fees will however place the U.K registry at a competitive disadvantage vis-à-vis the Norwegian and Danish flags. The new rate of £147 will be over 30% higher

[15] U.K and Crown Dependency registered trading vessels of 500 GT and over

than the hourly rate charged by Norway (only for surveys carried out in Norway, for survey carried out abroad the U.K. charges a lower rate) and 58% higher than the hourly rate charged by Denmark. However, as explored in the next section, the U.K register is more than competitive when comparing the respective domestic tax regimes.

4.4 Tonnage tax

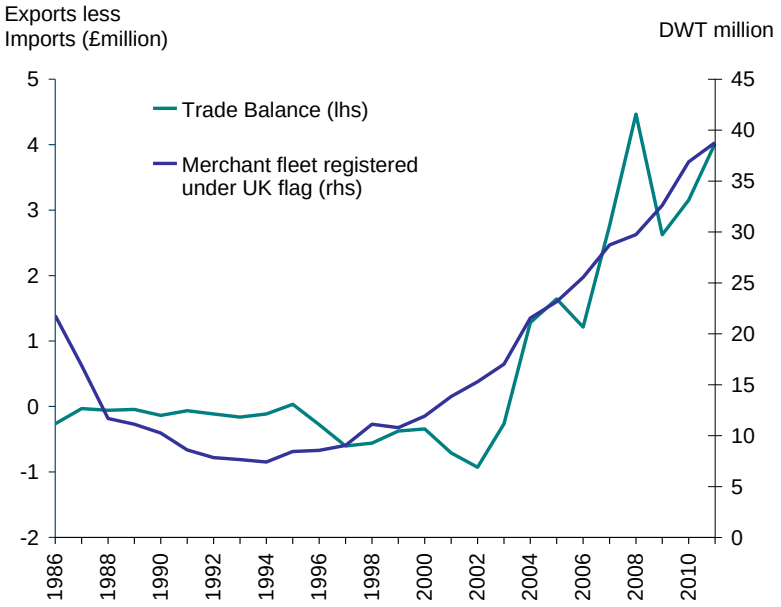
In 2000, the U.K introduced a tonnage tax regime in order to create a competitive fiscal environment for the domestic shipping industry, bringing it in line with other major maritime countries throughout the world. Tonnage tax was implemented following a consultation on the long-term decline of the U.K shipping industry and was aimed primarily at reversing this trend. Companies that elect to join the system are charged corporation tax on a fixed notional profit, determined by the tonnage of their ships, rather than by business results. The result is an environment of greater transparency and stability for companies choosing to opt-in to the system. The U.K regime also includes a specific commitment to train new recruits every year, designed to foster U.K seafarer talent.

The introduction of the U.K tonnage tax is believed to have been an important contributing factor to the increase in the number of vessels registered in the U.K[16]. Although there is no requirement for ships in partaking in tonnage tax to be linked to any particular flag, they must be 'strategically and commercially' managed in the U.K. As such, a high proportion of tonnage tax vessels are registered in the U.K.

Prior to the introduction of tonnage tax in 2000, the number of ships registered in the U.K was in steady decline, with the U.K recording annual deficits on shipping services up to nearly £1 billion. Since then however, as Chart 4.5 illustrates, the industry has grown rapidly. Since recording its first significant trade surplus in 2004, the U.K has continued to maintain its position as a strong net exporter of shipping services to the rest of the world. In terms of the DWT registered under the Red Ensign, the size of the U.K fleet has increase by more than 5 times since 1999.

[16] See Department for transport (DfT) and the Inland Revenue, (2004) and the House of Commons Transport Committee (2005)

Chart 4.5: U.K shipping trade balance and U.K registered fleet



Source: ONS, UNCTADstat

The growth in the number of vessels registered in the U.K as a result of moving to a simple low tax regime for the maritime industry highlights the importance of the indirect costs in driving flag decisions. Since the introduction of tonnage tax in 2000, HMRC estimate that shipping companies opting into the system have saved up to £670 million in corporation tax receipts. This is an average reduction in their tax liabilities of nearly £61 million per annum (Table 4.2). In contrast, the MCA impact assessment into the planned increase in the hourly fee for statutory survey and certification work forecasts that the costs to ship owners/operators will increase by £3.9 million per year.

In 2004, the DFT published a post implementation review of tonnage tax, in which they state that as of 2005, there were 76 shipping businesses elected into the tonnage tax regime, operating approximately 816 vessels. Table 4.2 further indicates that shipping companies saved £55 million in corporation tax liabilities in 2005 – suggesting very indicatively that the saving per ship was around £70,000 per annum. In contrast, increasing the fee for surveyors will lead to an increase in annual costs to the largest vessels of around £2,000. It is thus evident that the introduction of tonnage tax in the U.K has had a significantly larger impact on the baseline costs of operating vessels in the U.K, not to mention the enhanced simplicity in calculating levels of corporation tax.

Table 4.2: Reduction in shipping tax liabilities due to tonnage tax[17]

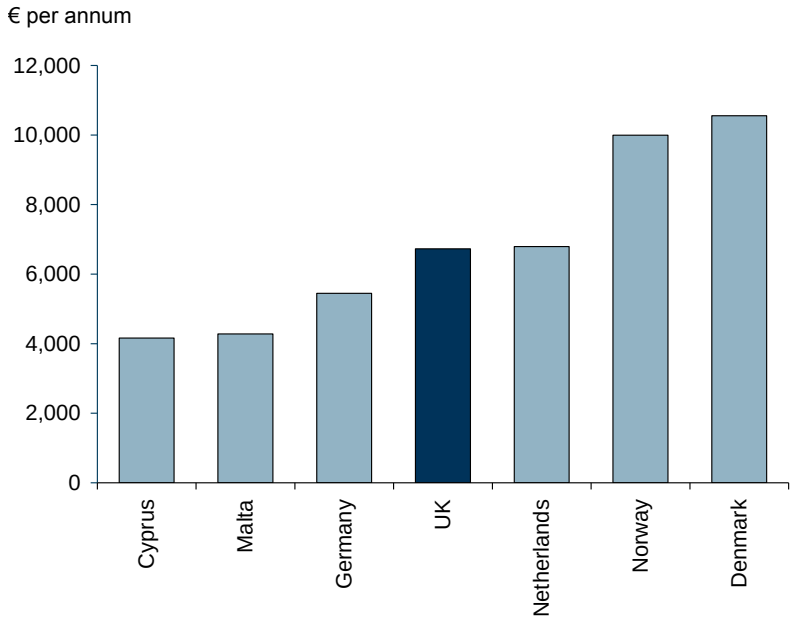
Calendar Year	Reduction in tax liabilities £ million
2000	35
2001	40
2002	40
2003	50
2004	55
2005	55
2006	50
2007	70
2008	135
2009	45
2010	50
2011	45

Source: HRMC

It is also worth comparing the level of tonnage tax in the U.K in comparison to the other flag registers that are in competition. This is illustrated in Chart 4.6 for a representative vessel of 15,000 net tons, assuming the operator in question qualifies for the national tonnage tax regime and pays the full amount due. As expected, the two open registers of Malta and Cyprus offer the most competitive tax incentives, however in terms of the other registers the U.K performs relatively well, with only Germany offering a lower level of tonnage tax. What is interesting to note is that the level of taxation in the U.K is approximately two-thirds of that charged in both Norway and Denmark – the two registers that offer in-house statutory survey and certification work. As such, although the U.K register will lose competitiveness to these two registers once the MCA increase the hourly survey fee, it maintains a comparative advantage over the two international registers when it comes to tonnage tax.

[17] Figures prior to 2005 are estimates based on scaling the 2005 figure by total DWT registered for tonnage tax

Chart 4.6: Comparison of tonnage tax[18]



Source: 2012 Shipping Industry Almanac, Ernst & Young

[18] Annual tonnage tax based on a representative vessel of 15,000 NT, 10-15 years old and operating for 365 days a year.

5 Conclusion

The MCA are currently reviewing their fees to move towards a closer alignment between costs and fees, working to achieve full cost recovery and provide value to the taxpayer. Currently set at £94 per hour, the MCA are looking to increase the fees charged for statutory survey and certification work by 56% to £147 per hour. In the preceding chapters, Oxford Economics have reviewed the potential economic impact of these changes. The research indicates that flag state fees represent a very small proportion of the cost of operating a vessel under the U.K flag, ranging from 0.1% - 0.7% of average operating costs, depending on the vessel type. Even when accounting for an increase in the hourly fee, flag state fees will remain below 0.9% of average annual operating costs.

It is likely that larger vessels operating in international waters will easily absorb the increase in fees. When considering additional finance and voyage costs, such as the volatile cost of bunkering that can amount to as much as 60% of total costs, the flag state expense is of marginal importance. In support of this, a review of the relevant literature points towards the impact a flag can have on other vessel operational costs. For example, the cost of employing a crew can vary significantly depending on where that ship is registered. In a survey of U.K registered vessels, Bergantino and Marlow (1999) found that the cost of a crew was the single largest factor in determining flag choice. Historical increases in the hourly MCA surveyor fees also suggests that they have had a minimal impact on vessels registering in the U.K, while the introduction of the tonnage tax regime in 2000 is largely credited for the significant increase in the number of vessels registering on the U.K ship register.

The U.K flag also compares favourably against its main competitors. Most flag states outsource statutory survey and certification work to recognised organisations. While their fee structures are not publically known, it is understood that a figure of around £300 per hour is not an unreasonable estimate of fees. As such, the proposed increase in MCA fees are still significantly below this figure. Only Norway and Denmark still provide their only surveyors, charging rates that will be lower than £147 per hour. However, a comparison of the tonnage tax regimes in each country, respecting that registered ships do net necessarily opt in to the flag states tonnage tax regime, indicates that the U.K scheme is more competitive. In terms of the quality of flag, it is also recognised that the U.K flag is one of the best performing flags in the world. Good quality customer service, low detention rates and a high reputation puts the U.K flag near the top of any qualitative comparisons.

In recognising the potential cost impacts on smaller operators, especially fishing vessels, the MCA have proposed three options for increasing their fees:

- **Option 1:** increase all fees to achieve full cost recovery from April 2013
- **Option 2:** A phased increase of all fees over three years to achieve full cost recovery by April 2015
- **Option 3:** As Option 1 or 2 but with special arrangements made for vulnerable groups

For the fishing vessel analysed as part of this report, flag state expenses were found to represent a similar proportion of operational costs as for the large international trading ships. Even after increasing surveyor fees, the flag state expense would still represent just 0.3% of operational costs for the average vessel. As such, increasing the MCA surveyor fees would lead to a 0.1% increase in the typical cost of operating a 28 metre beam trawler in the U.K. It is therefore anticipated that there would not be a great benefit in phasing the increase in fees (option 2) over a one-off increase (option 1) as the impact on operating costs is marginal.

When reviewing the operating costs of smaller fishing vessels, it becomes apparent however that flag state fees could increase in significance. In the U.K., fishing vessels of 15-24 metres in length have to undergo periodic surveys to maintain a U.K. Fishing Vessel certificate (UKFVC), while vessels of more than 24 metres in length are surveyed to ensure compliance with the International Fishing Vessel certificate (IFVC)[19]. Research by Seafish (2011) lists a number of different fishing vessels over 15 metres in length with typical operating costs significantly lower than the case study example used in this report. For example, a typical nephrops vessel operating along the west and south coasts of England, of an average length of 20 metres and main engine power over 250kW, on average costs around £150,000 per annum to operate. This is over 6 times lower than the representative fishing vessel in this report. Assuming the cost of performing the MCA survey and certification work is not too dissimilar to that presented in Table 2.2 for the 28 metre beam trawler, U.K. flag state expenses would represent around 1.3% of total operating costs for this typical nephrops vessel. This would increase to around 2.1% following an increase in the MCA surveyor fees from £94 to £147 per hour. While still representing a relatively small element of total operating costs, it is nevertheless somewhat higher than those figures presented in Table 3.2 and Chart 4.1.

Increasing surveyor fees for these smaller operators may therefore have a more tangible effect on operating expenses, especially when considering that domestic vessels do not have the option of choosing a different flag to fly. In this instance, it may be prudent to explore option 3 in terms of supporting these smaller vessels, either through a phased increase in fees, or though some form of small vessel discount.

[19] Vessels under 15 metres in length need to undergo MCA inspections to maintain the Small Fishing Vessel certificate, however these inspections are performed free of charge.

6 Appendix

6.1 Index of flag attractiveness

In order to contribute to the evidence base, Oxford Economics agreed to explore the possibility of constructing an index that measures important aspects of flag state regimes other than those related to cost. The idea behind this was to illustrate how flag states compare on more qualitative measures, such as their compliance with international conventions and the service provided to their clients. The components of the index were driven following a review of the relevant literature and discussions with the MCA, subject to data availability.

The final index is an equally weighted combination of three sub-indices. The final rankings of the flag states have been presented in Table 2.3. The components of each sub-index are listed below:

- **Reputation/Standing**
  - The size of the flag state – as indicated by the total number of ships and DWT registered with the flag as of 2012 (Source: UNCTADstat)
  - The experience of the flag state – as indicated by the total DWT registered with the flag state in 1980 (Source: UNCTADstat)
  - The size of the home market – as indicated by 2012 GDP in US$ (Source: Oxford Economics Global Macro Economic Model)
  - World Governance Indicators on Political Stability and Absence of Violence/Terrorism, the Rule of Law, Government Effectiveness and Regulatory Quality (Source: World Bank)
- **Compliance**
  - Performance/Safety record – illustrated by the 2009-2011 detention ratio's in the Paris and Tokyo MoU's, as well as the U.S Coastguard (Source: Annual reports of the Paris MoU, the Tokyo MoU and the U.S Coastguard)
  - Participation with international recognised safety conventions – illustrated by the total number of ratified international conventions (Source: IMO)
- **Service**
  - The number of additional services provided by each of flag states. Such services include whether a 24/7 service is offered, if there are fee incentives or fleet discounts, whether a handbook or registration guide is forthcoming, the availability of naval protection, on-line registration options etc. (Source: MCA)

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