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Crewing of ships in contemporary ship registry systems : safety and socio-economic considerations

Lyudmyla Balyk
World Maritime University

WORLD MARITIME UNIVERSITY
Malmö, Sweden

CREWING OF SHIPS IN CONTEMPORARY SHIP REGISTRY SYSTEMS: SAFETY AND SOCIO-ECONOMIC CONSIDERATIONS

By

LYUDMYLA BALYK
Ukraine

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DECLARATION

I certify that all material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

(Signature): …….

28 August 2006

Supervised by: J. Horck
World Maritime University

Assessor: Professor Mukherjee P.K.
Institution/Organisation: World Maritime University

Co-assessor: Storhaug Haakon
Institution/Organisation: Norwegian Maritime Directorate

ABSTRACT

Title of Dissertation:	**Crewing of Ships in Contemporary Ship Registry Systems: Safety and Socio-Economic Considerations**
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It is evident that as the international maritime economic landscape is undergoing structural changes. In the crewing of the world fleet there is a clear shift of preference from the traditional closed registry system to the so-called open registries. This dissertation surveys and examines the currently prevailing ship registry systems in the context of crewing and a comparative analysis is carried out highlighting their pros and cons.

The issue of crewing in the wider sense is discussed from two perspectives, namely, the socio-economic factor of safety and the economic implications for today's shipowners and operators. It is recognised that safe manning as a factor of maritime safety has important socio-economic implications that are intimately connected to training and competency of seafarers.

The raging debate over open versus closed registry systems is examined focusing primarily on the question of crew nationality. The ITF perspective of the crew nationality element is also presented. Two other perspectives are examined, namely, cost/benefit analysis for the shipowner in terms of crew nationality and the viewpoint of the flag state. The latter is largely dependent on whether the flag state only sees itself as a regulator, which is typical for closed registries, or whether it also views itself as a facilitator which is characteristic of the other variations of registries.

In conclusion, the dissertation culminates into some tentative prognosis regarding competent crews in light of the above-mentioned analyses. Whether the object of safe manning can still be achieved in the face of current socio-economic considerations is what this dissertation attempts to determine.

KEYWORDS: Crewing, Ship Registry, Crew Nationality, Supply and Demand of Seafarers, Competency.

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LIST OF ABBREVIATIONS

BIMCO	Baltic and International Maritime Council
COLREG	Convention on International Regulations for the Prevention Collisions at sea, 1972
CSO	Company Security Officer
DOC	Document of Compliance
DP	designated person
FIS	French International Ship Register
FOC	Flags of Convenience
GIS	German International Ship Register
ILO	International Labour Organisation
IMO	International Maritime Organisation
ISF	International Shipping Federation
ISM Code	International Safety Management Code
ISPS Code	International Ship and Port Facility Security Code
ITF	International Transport Workers' Federation
ITMMA	Institute of Transport and Maritime Management Antwerp
LL	International Convention on Load Lines, 1966
MARPOL 73/78	International Convention for the Prevention of Pollution form Ships, 1973, and its Protocol of 1978
MSC	Maritime Safety Committee
NIS	Norwegian International Ship Register
NUSI	National Union of Seafarers of India
OECD	Organization for Economic Cooperation and Development (includes Western Europe, Turkey, North America, Japan, Australia and New Zealand)
POEA	Philippines' Overseas Employment Administration
SMS	Safety Management System

SOLAS	International Convention for the Safety of Life at Sea, 1974, and its Protocol of 1988
STCW 1978, as amended in 1995	International Convention on Standards of Training, Certification and Watchkeeping of Seafarers 1978, as amended in 1995
UNCCROS	United Nations Convention on Conditions for the Registration of Ships, 1986
UNCLOS	United Nations Convention on the Law of the Sea, 1982

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CHAPTER 1

INTRODUCTION

1.1 Preliminary

The central theme of this dissertation is crewing of ships. Within the framework of this theme a number of specific issues arise in the context of globalisation in shipping. It is evident that as the international economic landscape is undergoing structural changes, so in the crewing of the world fleet there is a clear shift of preference in the shipping industry from the traditional closed registry system to the so-called open registries. This dissertation emphasizes the fact that registry systems today lie within a spectrum; some are totally closed, others are totally open, but there are a sizable number that fall somewhere between these two extremes. The two major considerations in terms of a shipowner's choice of registry is compliance with safety and environmental protection requirements on the one hand and ownership restrictions on the other. The issue of crewing has implications for the safety side of the equation.

Safe manning is an international convention requirement. At the same time shipowners naturally look at the cost/benefit factor in terms of nationalities of crews when they engage them. The interaction between the need for compliance with safety requirements and the socio-economic considerations in relation to crewing is analytically examined in this dissertation. In the process of this investigation the supply and demand factor for ships crew is analysed, and consequently the focus is on the major crew supply countries. It is evident that to be successful in a globally competitive market shipowners have been forced to employ seafarers from low-cost labour supply countries. This is an important factor from the shipowner's perspective because the cost differential is some 15 times higher for able seaman and 5.6 times higher for chief officers than between a traditional flag state and low-cost labour supply state. (Joint Study of the Federation of Transport Workers' Unions in the

European Union and of the European Community Shipowners' Association [ECSA], 1998) These wage differences are even more significant if consideration is given to the fact that manning costs account for 50% of daily operating costs of the vessel and represent the largest single variable cost in ship operations. (Stopford, 1997, p.161) The ultimate question is whether the object of safe manning can still be achieved in the face of these socio-economic considerations.

1.2 Nationality, Registration and Ownership of Ships

In international law every ship must possess nationality. The principal reason for this requirement is that whereas in waters within the jurisdiction of a coastal state, a ship may be subject to its legal regime, on the high seas a ship without nationality is a stateless ship. With the purpose of avoiding a situation of anarchy and abuse on board (Coles & Ready, 2002, p. 1) and preventing a ship from floating in a legal vacuum every ship with its crew must possess a national character on the high seas. (Mukherjee, 1993, p. 31) Moreover, a stateless ship can be refused entry into port and therefore cannot trade; in addition it cannot be protected under international law. (Coles & Ready, 2002, p. 1)

Under public international law reflected in Article 91 of United Nations Convention on the Law of the Sea (UNCLOS), States are required to fix conditions for the grant of ship nationality. This Article also establishes the fundamental principle of "genuine link". It is unequivocally stated in this context that this so-called genuine link must exist between the state and the ship". It is important to stress this significant statement of law as it will emerge from the discussion later that there are differences in opinion among the various interested parties, that is essentially, flag states and shipowners. Another international convention that mentions the requirement of genuine link in relation to ship nationality is United Nations Convention on Conditions for the Registration of Ships (UNCCROS). Unfortunately, neither of these conventions provides a clear definition of what constitutes genuine link. For that, one needs to look at case law, which at any rate is

in short supply, and the writings of commentators and scholars. It has been described as an "elusive" phenomenon. (McConnell , 1985, p. 365) It is perhaps fair to say that in the current milieu of registries, discussed below, genuine link is what it is conveniently perceived to be by the interests concerned with it, i.e., the shipowners and flag states.

The Nottebohm Case (Lichtenstein v. *Guatemala*, [1955] I.C.J. Rep. 4), which concerned the nationality of an individual, is the principal authority regarding the doctrine of genuine link. It appears that the concept has been imported into the law of ship's nationality from this case although it involved the nationality of an individual. (Coles & Ready, 2002, p. 10) Its application to ship nationality has engendered much confusion; and it is still unclear as to what exactly genuine link means in terms of maritime law. (Mukherjee, 1993, p. 33) Some assistance may be had from the feeble attempt made in Article I of UNCCROS in which it is stated that flag states shall "exercise effectively its jurisdiction and control over such ships with regard to identification and accountability of shipowners and operators as well as with regard administrative, technical and social matters". One thing, however, is clear, and that is that the link referred to here, as in Article 91 of UNCLOS, is a link between the flag state and the ship. As will be seen later in this discussion, this is not precisely the opinion in certain quarters where the link is viewed as the requirement of common nationality between the beneficial owner of the ship and the ship itself. The alternative view of genuine link is, as illustrated above, a link between the flag state and the ship in terms of technical, administrative and social control over the ship.

Registration is the procedural device through which nationality is conferred on a ship by the flag state. Thus nationality is considered to be the substantive element for which the procedural formality is registration. (Mukherjee, 1993, p. 32)

Registration as a procedure consists of two functions; namely, the public law and the private law functions. Administrative matters such as conferment of nationality, the right to fly the national flag, national regulatory jurisdictions over maritime safety, pollution prevention, manning and seafarer labour conditions,

shipboard discipline, the right of the ship to diplomatic and naval protection by the flag state and the right of the ship to engage in cabotage activities *etc*., are public law functions of registration. By contrast, the protection of proprietary interests, such as providing for priority rankings of mortgages in ships and evidencing of title and ownership are private law functions of registration.

As evidence of registration and the consequential conferment of nationality of the ship, the flag state or state of registration issues a certificate of registry. This is also known as certificate of registration or certificate of flag in certain jurisdictions. This certificate must be kept on board as it constitutes a part of the ship's documentation. (Mukherjee, 1993, p. 32)

Ship ownership was traditionally linked to ship nationality by virtue of the presumption that a flag state is in the best position in so far as regulating the ship is concerned, if it could regulate its owner; and if the owner also held the same nationality then he would be amenable to the laws of the flag state. As will be seen in the discussion below, that view is no longer predominant and is hardly sustainable in the current climate of globalised shipping.

Without dictating any specific qualifications for ship ownership, UNCCROS requires that the laws of the flag-state pertaining to such qualification be sufficient to permit it to exercise effective jurisdiction and control over its ships. The Convention requires a corporate shipowner to be established and/or have its principal place of business within the territory of the state of registration. But where the corporation is not established in, or the principal place of business is not in the flag state itself, there must be a representative or management person, natural or juridical, who or which, must be a national of the flag state and must be available to meet all legal, financial and other obligations of the shipowner. Clearly, this provision represents a dilution of the "principal place of business" requirement.

The other aspect of ownership in the context of ship registration, as indicated earlier, is that registration provides *prima facie* evidence of ownership. Thus it is an

important element of the private law function of ship registration in the event of a potential dispute over ownership. Clearly, the substantive and/or procedural elements of nationality, ownership and registration of ships, are inextricably linked to each other.

CHAPTER 2

COMPARATIVE ANALYSIS OF CONTEMPORARY SHIP REGISTRY SYSTEMS

Registration of vessels is an antiquated maritime practice dates back to Roman times, although it was not until much later, consonant with the development of the medieval maritime codes of Europe, that it became a formalised practice. The practice of flagging out started during the period between the two world wars of the 20th century and grew significantly in the post-colonial era. In recent times it has proliferated to the extent that over 50% of the world fleet today is registered with a flag other than a traditional maritime one. (Stopford, 1997, p.161) This has largely been necessitated by the desire and need to be competitive in the world shipping market. The spectacular growth in the use of such flags is also attributable to other global developments such as the emergence of new aspiring maritime states looking to compete with the old guard.

The global shipping industry has undergone extreme changes over the last three to four decades. (Nielsen, 2005, p. 80) Until recently closed registries represented the norm. This system, which still prevails but has lost its status of pre-eminence, is based on the premise that the genuine link must exist between the owner and ship through the medium of common nationality. In other words, both the beneficial owner and the ship must posses the nationality of the flag state. A foreign owner would thus be banned from owning a ship registered in the flag state to the extent that if one did, his ship would be forfeited to the flag state. (United Kingdom Merchant Shipping Act 1894, s. 71, see Thomas and Steel, 1976, p. 53)

In the strictest of closed registry traditions, the ship is also required to be built in the flag state and be manned by flag state nationals. Seafarers of the flag state's

nationality are usually subjected to a high standard of maritime education and training at national maritime training and educational facilities before they can be granted the relevant certificate of competency. But the global scenario today has changed dramatically. As illustrated in the following chart, most of the world's fleet today is registered in a so-called open registry jurisdiction, many of which lack the compliance framework required under the relevant international conventions. (Nielsen, 2005, p. 80)

Table 1 - The ten biggest ship registers (per 1.01.2003)

Country	**No. of ships**	**1,000 gt**	**1,000 dwt**	**% share of world fleet**
Panama	5,276	123,072	185,598	22.7
Liberia	1,446	49,217	75,392	9.2
Bahamas	1,165	34,124	48,040	5.9
Greece	1,160	28,583	47,712	5.8
Malta	1,312	26,638	43,505	5.3
Cyprus	1,239	23,109	36,537	4.5
Singapore	966	20,962	32,887	4.0
Norway	1,108	20,855	31,147	3.8
Hong Kong	636	15,715	26,388	3.2
PR China	2,136	16,091	24,102	3.0

Source: Institute of Shipping Economics and Logistics. *Shipping Statistics Yearbook.* (2004), see Nielsen, D. Manpower Requirements in the Shipping Industry, *WMU Alumni Journal.*

In the open registry system there is usually little or no compulsion requiring flag state nationals to serve as seafarers on board flag state ships. Often the management entity that manages and operates the ship or fleet is located or resides in another state or in more than one state anywhere in the world. This state of affairs has engendered the practice of owners engaging ship management companies to hire crews from labour supplying states either directly, or through manning or crewing agencies that specialise in this enterprising field of maritime services. (Nielsen, 2005, p. 80)

The main characteristics, on which the closed registry can be summarised by paraphrasing the "Rochdale Criteria" of the British Committee of Inquiry of 1970, that is-

(a) the flag state requires citizens of the state to own and control the vessels;
(b) access to and transfer from the register is restricted;
(c) shipping income is taxed at full rates;
(d) the flag state requires a fleet for its own economic purposes;
(e) manning is only permitted by nationals;
(f) the country actively seeks to impose national and international regulations on its shipowners.
(Cohen, 1997)

2.1 Closed Registry

The characteristics of closed registries may vary from one closed registry to another. For example, completely closed registries will permit only a natural-born citizen to be a registered owner of a ship under its flag. A relatively more open jurisdiction of the closed registry type will, allow a domicile, a permanent resident or other person, who may not necessarily be a citizen, to be a registered shipowner. In the case of corporate shipowners, the usual requirement is that the entity must be a body corporate established under the laws of the flag state and must have its principal place of business in the flag-state. In a strictly closed registry the law requires that all involved individuals such as masters and all officers, shareholders and beneficial owners of the corporation be nationals or citizens of the flag-state; or, that the majority of the shares be held by citizens or nationals. In addition, the flag-state may require the ship to be built in a national shipyard; that certificates and licences of all officers and ratings be issued by national authorities; or that the ship be classed by the national or recognized classification society. These key factors are essential characteristics of the closed registry regime. (Mukherjee, 1993, p. 33)

2.2 Open Registry

For some shipowners, such a strict criteria proved to be a good reason for flagging out of a closed registry regime and choosing an open registry as a viable alternative for saving running costs and staying competitive in a fiercely competitive global shipping environment. Amongst the earliest open flags were Panama, Liberia and Honduras, first used by American owners to escape their burdens under the United States flag. In the reconstruction phase of the shipping industry after the Second World War, the use of open registries expanded rapidly. This is undoubtedly one of the most topical issues in contemporary shipping. The former Secretary General of the IMO, William A. O'Neil once stated that shipping is now virtually in the hands of the developing world and the process is irreversible. (O'Neil, 1999, p. 4)

In the open registries there is often zero tax incentives arise from the ownerships of vessels being allowed to non-nationals of the flag state. The main source of government revenue for shipping is not income tax but the annual ship registry fees. (Stephens, 2001) Another distinctive feature of the open registry is that the access to the registry is very easy. The shipowner has to pay a registration fee and subsequently annual fee, based on tonnage for the duration that the vessel is entered in the register.

The following is a sampling of zero tax regime of some of the popular open registers (Stephens, 2001):

	Cyprus	Malta
Income tax	exempt	exempt
Capital gains tax	exempt	exempt
Inheritance tax	exempt	exempt

A shipowner may also request from the flag-state authorities a guarantee from future taxation relief or tax exemption. Another typical characteristic of the open registry is that manning of ships on the global basis by non-nationals is freely

allowed. Some open registries states have neither the will nor wherewithal and administrative machinery to effectively enforce and impose any national or international laws. (Mukherjee, 1993, p. 34) Thus, the shipowner might have less regulatory control and more anonymity. That is because the capital of the shipowning company will generally be presented by bearer shares and the main persons such as the director and officers will be hidden in the shadow, having no say in the running of the company or the operation of the vessel. On the one hand having become virtually invisible the shipowner favours the situation, however, lack of control may lead to sacrifice of safety on the other hand.

In order to counteract the negative affect on safety some open registries have recently adopted requirements such as age limits on vessels; pre-condition survey requirement before the issue of the certificate of registry thus enforcing compliance with some international maritime standards.

2.3 Second Registry

The successful development of open registries gradually became a threat to the traditional maritime counties as a result of which they created second registries to support their maritime clusters. The expressions second, offshore or international registries are used interchangeably to describe these types. In such a secondary registry as that of the French Kerguelen Islands, for example, the principal of the genuine link between a ship and the flag state is retained because this secondary registry is maintained only for use by national shipowners. However, there are some second registries that do not meet the requirements of genuine link in the traditional sense. That is because access to the registry is open to foreign shipowners on the condition that certain technical standards are met. Examples of these kinds of second registries are the Norwegian, Danish and German International Ship Registries, the Isle of Man, and Luxemburg for Belgian-owned ships. There is also the Portuguese off-shore registry operating from Madeira (MAR), and the Marshall Islands Registry operating under an agreement of Free Association with the United States.

(Mukherjee, 1993, p. 32) A typical characteristic of all second registry regimes is that crewing of seafarers from foreign countries is quite freely permitted.

2.4 The Hybrid Registry

There are some varieties of registries that are generally considered to be closed but are actually not entirely closed. These are the hybrid registries. They are characterized by certain advantages offered by them which are not available in the closed registry regime. A typical example of hybrid registry is that of the United Kingdom. The shipowning company must be incorporated in the United Kingdom and have its principal place of business in that country. As distinguished from the traditional closed registry system there is no requirement for the shareholders of the company to be British citizens. Thus, the beneficial owners of such ships may be non-citizens. In contrast, the Ghanaian registry requires, in addition to the two above-mentioned requirements, that the majority of shareholders of a similar corporation be Ghanaian citizens. On the other hand, some registries have strictures pertaining to maritime safety matters which are characteristic of typical closed registry flags. At present, hybrid registry systems are becoming increasingly popular because of relatively easy access, fewer requirements than in the closed registry regime and a much better image of the registry in terms of safety. Examples of this type are the ship registries of Trinidad and Tobago, the Isle of Man, Cayman Islands, Singapore and Marshall Islands.

2.5 The Bareboat Charter Registry

There is another type of ship registration that is bareboat charter registry. In essence it is a temporary change of flag for the duration of the bareboat charter. The involvement of two registries in the context of bareboat charters has created a regime of dual or parallel registration. The system provides considerable advantages to the parties involved. The owners earn charter revenue without having to operate the ship, the charterer acquires a ship without having to purchase one and enjoys the benefits

offered by a flagging-in state, and the flagging-in state enjoys economic gains from more tonnage added to its national fleet and employment for its seafarers. In this system, the state of registration of the owner must ensure that proprietary interests in the ship including those of purchasers, mortgagees and other creditors are adequately protected.

From the above explanation it is seen that flagging out is unavoidable and a challenging step in the process of ship acquisition. There are numerous factors that influence the choice of the shipowner. Among them fiscal considerations are predominant. That is because in the competitive market environment of international shipping, the goal of the shipowner is minimizing costs and maximising revenue. However, legal and practical considerations are equally important because in the final analysis they have a major impact on the economic implications. (Mukherjee, 1993, p. 37)

CHAPTER 3

CREWING AS A SOCIO-ECONOMIC FACTOR OF SAFETY

3.1 Safe Manning Requirements under the Conventions

Manning of ships, since the post war era, has considerably reduced with advances in ship technology. Richard Morris describes these changes in the following way-

> Self-tensing mooring winches lessened the man-handling of ropes at arrival and departure times. Noncorrosive paints applied by spray and roller sped the continuous process of hull and superstructure maintenance. Cargo-handling cranes, relatively easy to prepare and overhaul, replaced cumbersome tackles and derricks. Press button hydraulic hatch covers superseded the apparatus of beams, wooden hatch covers and tarpaulins removed by hand whenever cargo was due for stowing or discharge. The later generation of dry cargo technologies, namely containerisation and "roll on roll off", abolished hatches and onship cargo lifting gear. Similarly, in the engine-room, self-lubricating diesels and marine turbines substituted for labour-intensive plant. The centralisation of control systems, the "unmanned engine room" controlled from the bridge without separate constant monitoring by engine-room personnel became a feature of new vessels. At the same time, on the bridge, the installation of the automatic steering device or "iron mike" dispensed with the round the clock operation of a manual helm. The gallery and mess are characterized by the labour saving household equipment. (Morris, 1990)

Thus, operations and maintenance became less labour intensive and caused the crucial changes in manning of ships. Among manning reductions which became

relevant during these times, the first was the tanker sector which cut down a number of crew members. The reason for this was the escalation of demand in the oil trade after 1945 when a tenfold growth occurred in liquid freights. By 1970, crude and refined petroleum represented roughly half the world's seaborne trade. Mass oil shipment augmented the rate of advancement in tanker design and construction. Hull sizes were increased as far as the availability of properly equipped ports would permit. Concurrently, automated pumping, navigation and propulsion systems incorporated into the new generation of vessels broke down the steam age relationship between tonnage, horsepower and crew numbers. (Morris, 1990) Changes in manning can be best exemplified by the following data of the largest United Kingdom tanker owners:

Table 2 - British Petroleum Standard New Vessel Tonnage and Crew Size

Date	Tanker Tonnage	Complement
1948	16,000	45
1958	50,000	62
1968	210,000	44

Source: BP Tanker Co. Retrieved 02 June 2006 from the World Wide Web: http://www.acirrtclient.com/pubs/WP01.pdf, see Morris, R. (1990). *New Industrial Relations Procedures and Work Reform in Australian Shipping 1982-1990*.

In the bulk and dry cargo sectors, crucial changes in manning scales occurred during the 1960s, the mainly due to shorter time lags. Japanese shipowners obtained trade union and government assent to the reduction of crew numbers from 50 to 32 on new cargo vessels in 1962. By the mid 1980s, reduction in manning scales in oil/bulk/ore carriers, container ships, and roll-on-roll-off ships typical crew led to a typical crew complement of 23. A substantial number of vessels in Japan, Norway and West Germany reduced their respective crews to 18. Furthermore, crews on prototype later generation vessels had experimentally reduced the numbers to as low as 8. (Morris, 1990)

There is no doubt that safe manning has significant implications for maritime safety. The tendency towards reduction in crew complements in recent times has evidently led to a lowering of maritime safety standards. This is mainly the connection to the issue of fatigue that became a subject of major concern within the international maritime community. Stress and fatigue are consequences of over-worked crew resulting from under-manning of ships. This state of affairs signals accidents and casualties at sea. Nevertheless, it is well known that it is interests of the shipowner to reduce crewing costs considerably. This objective is realized by employing of crews of different nationalities and reducing crew complement. Unfortunately, there are shipowners and operators who sometimes fail to appreciate that it is unlawful to reduce the crew complement of a ship to a level below its safe manning scale established by the flag state.

The responsibility of the flag state in terms of crewing, manning and the ship's readiness for its intended service is reflected in Article 94 of UNCLOS which is the framework convention for all maritime matters under public international law. Paragraph 3 of Article 94 requires flag states to take necessary measures to ensure safety at sea with regard to certain matters including the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments. This paragraph also requires flag states to ensure that the crew is appropriate in qualification and number for type, size, machinery and equipment of the ship; that the master, officers and, to the extent appropriate, the crew are fully conversant with the applicable international regulations which they are required to observe. These are the general obligations imposed by UNCLOS on flag states. The principles by which these measures are to be implemented are contained in other specific international instruments specialised in the subject matter, namely, the International Convention for the Safety of Life at Sea 1974 (SOLAS), and ILO Convention No. 109 on Wages, Hours of Work and Manning, now replaced by ILO Convention C-180 on Seafarers' Hours of Work and the Manning of Ships Convention, 1996.

Sufficiency and efficiency of crew, and safety pertaining to crew, are the essential ingredients of the fundamental principle of safe manning as envisaged by the above-mentioned international conventions. (Mukherjee, 2002, p.p. 183-184) In SOLAS 1974, Chapter V, Regulation 14 (see Appendix 1) and in ILO 109 Part IV, Article 21, paragraph 1 (see Appendix 2), the principles are stated in terms of sufficiency and efficiency of crew. The principles of sufficiency and efficiency were ILO requirements for many years; the element of safety was added through SOLAS and later, through ILO Convention C-180 (see Appendix 3).

Paragraph (2) of SOLAS (see Appendix 1) requires that every ship which is flying the flag of the flag state shall be provided with a safe manning document. The IMO through Resolution A.890 (21) has promulgated Safe Manning Guidelines elaborating on the above-mentioned principles. For determining the minimum safe manning of a ship the whole set of principles should be observed. Some of these are set out below:

> .1 the capacity to:
> .1.1 maintain safe navigational, engineering and radio watches in accordance with regulation VIII/2 of the 1978 STCW Convention, as amended, and also maintain general surveillance of the ship;
> .1.2 moor and unmoor the ship safely, *etc.*
> (IMO Resolution A.890 (21), 1999)

There is no particular procedure for determination of minimum safe manning levels. It depends very much on the size and type of ship; number, size and type of main propulsion units and auxiliaries; construction and equipment of the ship; method of maintenance used; cargo to be carried; frequency of calls, *etc.* The procedure for compliance with safe manning requirements adopted by some states is as follows. The shipowner presents to the Flag State Administration a proposed safe manning scale consistent with the IMO Guidelines for each ship. The Administration, if satisfied that the proposal is consistent with the relevant international instruments

of IMO, ILO, ITU and WHO then approves it. It is entirely the Flag State's responsibility to approve or reject or modify the shipowner's proposal; and when satisfied that there has been compliance with the Guidelines, to issue for each ship a Safe Manning Certificate. (Hill, 1995, pp. 485-486) It is the responsibility of the flag state to ensure that a ship is manned sufficiently, efficiently and safely. The instruments mentioned above deal with watchkeeping, hours of rest, safety management, certification of seafarers, occupational health and hygiene and crew accommodation. (IMO Resolution A.890 (21), 1999)

Bearing in mind that the driving force of the open registry is economic considerations, a nonchalant shipowner who simply wishes to increase his profits would look for a flag state which is relatively liberal, i.e., one that places few or no obstacles to his safe manning proposal. (Mukherjee, 2000, p. 111) Such a shipowner would naturally be interested in operating his ship with a reduced crew complement at the expense of safety. This would obviously result in a diminution of maritime safety standards ultimately leading to accidents and casualties. A responsible and prudent shipowner, on the other hand, would appreciate the dangers of compromising safety and environmental standards in terms of safe manning. A maritime accident such as a collision, grounding or oil spill resulting from an inadequate crew complement may, in the end, cost him a fortune. A prudent shipowner will make his choice of crew nationality not only on the basis of cost/benefit when he engages them, but also, and perhaps more importantly, on the basis of which crew will operate his ship in a safe and environmentally sound manner.

3.2 Training and competency

With the world economy today being highly depended on foreign trade, there is a potential need for highly skilled manpower to man the ship that drives the trade. Nielsen, 2005, p. 78) Safety of seafarers, their welfare, competence and professional standards stretch to the concept of maritime safety. The reason for this is the so-called human element in shipping which is considered to be a major problem which

springs from maritime disasters. One research indicates that human error is the cause of 65 – 80 percent of maritime casualties (Maritime Safety Committee [MSC], 1995); another study revealed that over 90 percent of collisions and groundings and over 75 percent of fires and explosions were attributable to the human element. (Bryan, 2003, p. 2) Therefore, competency and experience among masters, officers and ratings are the most vital elements in the safe operation of any ship. As stated by Captain W.S.G. Morrison, a maritime disaster can be avoided by a well trained and experienced master and crew. (Morrison, 1997, pp.1) Moreover, no matter how perfectly designed a ship may be, or the extent to which automation prevails, it is no salvation for an incompetent master or unskilled crew from the consequences of faulty navigation or lack of requisite proficiency. While it is impossible to attain safety or environmental soundness in the operation of ships in absolute terms, a high degree of safety in their operation is not impossible at all, as indicated by studies and analyses of accident records of shipping companies and national fleets. (Morrison, 1997, p. 10)

The above-mentioned problem of human error and safety aspects of manning in terms of competence, professional standards, training and certification is addressed through the revised IMO Convention on Standards of Training, Certification and Watchkeeping of Seafarers (STCW 1978, as amended in 1995). (Mukherjee, 2002, p.184)

The STCW Convention pioneered the concept of competency of seafarers which highlighted the need for enhanced quality in crew proficiency and safety awareness. The terms “competency” and “competence” are sometimes used interchangeably. Regardless of the precision of terminology, in the present context the concept may be described as a combination of knowledge and proficiency in the fields of navigation and seamanship, or marine engineering together with their associated disciplines such as information technology, and also a good grasp of maritime English, and shipboard management for certain personnel. At this juncture, it is necessary to examine in some detail the relevant provisions in the STCW Convention regarding competency and related matters. In the discussion below an

attempt is made to address these matters with due regard to the contextual significance of each identified provision.

Paragraph (1) of Article VI of the STCW Convention provides that certificates for seafarers must be issued by and to the satisfaction of the Administration provided that the requirements for service, age, medical fitness, training, qualification and examinations in accordance with the appropriate provisions of the Annex to the Convention are met. Paragraph (2) requires each issuing Administration to endorse the certificates issued under Article VI in a prescribed form.

Paragraph (1) of Article VIII allows Administrations, in exceptional circumstances, to issue a dispensation permitting a particular seafarer to serve in a specified ship for a specified period of time not exceeding six months in a capacity for which he does not hold the appropriate certificate. However, the other capacity excludes that of a radio officer or radiotelephone operator except as provided by the relevant Radio Regulations. The granting of a dispensation is also conditional upon the requirement that the person to whom it is issued is adequately qualified to fill the vacant position. In this regard the Administration must be satisfied that safety concerns are met. In any event, no dispensation must be granted to a master or chief engineer officer except in circumstances of *force majeure,* and even then, only for the shortest possible period.

Paragraph (2) of the same Article requires that any dispensation granted for a post shall be granted only to a person properly certificated to fill the post immediately. Furthermore, this paragraph prescribes requirements for the Administration in terms of dispensation in cases where certification of the position is not required. In addition, it is stated that the position in question must be filled by the holder of an appropriate certificate as soon as possible.

Paragraph (3) was created in order to restrict and control the issuance of the dispensation certificates. It requires that a report containing the information about the

total number of dispensations that have been issued during the year to seagoing ships, together with those ships above and below 1600 gross register tons to be sent to the Secretary-General as soon as possible after 1 January of each year.

Paragraph (3) of regulation I/2 entitled *"Certificates and endorsements*" requires that the endorsement required by Article VI of the Convention to attest the issue of a certificate, is to be issued only if all the Convention requirements are fulfilled. By contrast, in paragraph 5 of that regulation, the reference to endorsement is in relation to attestation of recognition of a certificate issued by an Administration other than the recognising Administration. It is important to note, in this context, that the Convention addresses two different kinds of endorsements; one is in connection with the issuing of a certificate; and the other, with regard to the recognition by an Administration of a certificate issued by another Administration the state of which is a party to the Convention. Thus, the issuing state is responsible for the first kind of endorsement, but the second kind, i.e., the recognition endorsement is the duty and responsibility of the recognising Administration. The relevant provision in the Convention provides the standard form for each kind of endorsement with which the relevant Administration must comply. (Mukherjee, 2003, p. 3)

Paragraph (1) of regulation I/6 requires each state Party to ensure that training and assessment of seafarers, are administered, supervised and monitored in accordance with the provisions of section A-I/6 of the STCW Code. This section requires each Party to ensure that all training and assessment of seafarers for certification is structured in accordance with written programmes, and is conducted, monitored, evaluated and supported by persons qualified in according to paragraphs 4, 5 and 6. Paragraph 2 requires each state Party to ensure that those responsible for training and assessment of competence of seafarers, as required under the Convention, are appropriately qualified according to the provisions of section A-I/6 of the STCW Code for the type and level of training or assessment involved.

Regulation I/8, contemplates the issuance of a certificate by a Maritime Academy or other non-governmental training institution, or a government body other

than the Maritime Administration with a mandate for educational or vocational matters. In such circumstances, whether or not a certificate was issued under proper authority is safeguarded through the requirement of endorsement by the Administration. (Mukherjee, 2003, p. 3) Thus, training, evaluation of competence, certification, endorsement and revalidation must be carried out according to a relevant quality standards system.

The recognition regime created through Regulation I/10 in STCW 1995 is perhaps the most significant feature of that instrument. It undoubtedly impacts considerably on open registries. While it facilitates the use by a flag state that is party to the Convention, of certificates issued by another state party, it also imposes a number of strictures in relation thereto. Paragraph (1) of this regulation contains three requirements in this regard that recognising Administrations must observe. First, it must ensure there is compliance with regulation 1/10 as a whole by itself as well as the issuing Administration. Needless to say, the seafarer concerned must also fully comply. Second, the Administration must confirm compliance by taking all necessary measures in relation to standards of competence, the issuance and endorsement of certificates and the maintenance of records to ensure totality of compliance by the issuing Administration. Third, it must extract an undertaking from the issuing state that prompt notification will be given to the recognising state of any significant changes to the training and certification arrangements established in compliance with the Convention. (Mukherjee, 2003, p. 3)

One new and notable feature of regulation I/10 is that the recognising state, in order to confirm these three above-mentioned conditions, may have to inspect the facilities and procedures of the issuing state in relation to these matters. As stated by Mukherjee P.K., inspection of facilities will naturally involve a physical inspection of the premises. The task will have to be carried out by officials or representatives of the recognising Administration responsible for these matters. As pointed out rightly, it will need allocation and expenditures of substantial resources if the requirements of this provision are carried out properly. Furthermore, as mentioned above, the

issuing state concerned must agree to undertake to promptly notify the recognising state of any significant changes in arrangements, and the recognising state must be vigilant in ensuring that the undertaking is given and observed.

The second paragraph of regulation I/10 is also new and is indeed very important. The recognising state must establish measures to ensure that seafarers who present to it certificates for recognition in relation to shipboard service on board in a management capacity have a sufficient knowledge and understanding of the recognising state's maritime legislation. This provision has been created to ensure that the seafarers in the relevant category, *i.e.*, at management levels, possess at least adequate knowledge of the flag state's maritime laws to be able to satisfactorily carry out their duties and responsibilities. It is thus implied that a seafarer at a management level who wants his certificate issued by a foreign state party to be recognised must have the same knowledge of maritime law as that of a seafarer certificated by the flag state. (Mukherjee, 2003, p. 3)

This requirement is necessary because there are many aspects of maritime law where the laws of an issuing state may be quite different from those of the flag state. Before the era of open registries, a seafarer of a flag would invariably be a national of that state and be certificated by the flag state authorities. In the current environment of shipping, that scenario has all but changed. (Mukherjee, 2003, p. 3) The norm today is multi-national crews serving on open registry ships where a seafarer is a national of one state, his certificate is issued by another state, and he serves on a ship flagged with yet another state.

In the past, a seafarer was aware of the flag state's maritime laws by virtue of the fact that he was a national of the flag state and was certificated under the regime of that state. The ship was also subject to the laws of that state. A national certification regime would naturally include in its training curriculum, its own maritime laws. In addition, the curriculum would include the international maritime law, in particular, the convention law applicable to that state. No one would expect a state to include the maritime laws of another country in its curriculum relating to

seafarers' qualifications and certification. In this context, however, it would be reasonable to assume that the international law content would be the same as in any other state.

In the shipping world of today, a seafarer frequently serves on board a ship of a nationality different from his own; and furthermore, he is likely to hold a certificate issued by yet another state. If he serves on board in a capacity at the management level, especially as a master, he would obviously be required to know enough the maritime laws of the flag state pertaining to cargo operations, seaworthiness, carriage of goods by sea, marine insurance, salvage, general average, liability and compensation in relation to collisions, marine pollution and carriage of passengers and their luggage in order to carry out his duties and functions efficiently and effectively. For example, he must know which conventions apply to the flag state, and consequently, to his ship. As a master he must be aware of his rights as well as his obligations under those conventions, and what are the rights and duties that apply to his ship. Essentially, the public law issues would be pursuant to relevant public law conventions such as UNCLOS and various IMO and ILO specialised conventions covering matters of maritime safety, environmental protection and maritime labour including seafarers' welfare. (Mukherjee, 2003, p.7) Particular attention must be paid by a seafarer at the management level for the potential liability to which his shipowner, the flag Administration may be exposed due to lack of knowledge of some relevant law. It is most likely that the STCW Convention would be applicable to the flag state of his ship. Thus, he must be more than familiar with the safe manning, certification and watchkeeping requirements applicable to the flag state and to his ship. With regard to maritime labour matters, aside from the relevant ILO Conventions, other national laws pertaining to labour and worker welfare may be applicable. These would be outside the domain of ILO Conventions but would nevertheless be of significance with regard to the crew. (Mukherjee, 2003, p. 7)

Paragraph (4) provides for a relaxation under limited circumstances allowing service on board a ship of the recognising state even if the recognition endorsement procedure has not been completed, provided there is evidence that an application for such endorsement has been submitted. (Mukherjee, 2003, p. 7)

Paragraph (6) is extremely important because it prohibits recognition of a certificate that itself has been recognised by another state. Practically it means that the flag state can not just recognize the certificate and therefore entirely delegate responsibility in terms of standards of training, revalidation of certificates, their issuance, *etc*. to the state where the certificate was issued. This responsibility is non-delegable, that is why it the responsibility of the recognizing state to inspect the facilities and procedures of the issuing state to ensure that the issuing state is in compliance with the regulation 1/10 as a whole and that the convention requirements in respect of standards of competence, the issuance and endorsement of certificates and the maintenance of records, have been fully complied with by the issuing Administration.

Regulation I/14 requires that each Administration shall hold companies responsible for the assignment of seafarers for service in their ships in accordance with the provisions of the present Convention, and shall require every such company to ensure that:

> .1 each seafarer assigned to any of its ships holds an appropriate certificate …
> .2 its ships are manned in compliance with the applicable safe manning …
> .3 documentation and data relevant to all seafarers employed on its ships are maintained and readily accessible, and include, without being limited to, documentation and data on their experience, training, medical fitness and competency in assigned duties;

> .4 seafarers, on being assigned to any of its ships, are familiarized with their specific duties and with all ship characteristics that are relevant to their routine or emergency duties; and
> .5 …

STCW 1995 gave birth to the notion of the so-called "White List". This is the list of countries who properly implement the revised STCW Convention, which sets out clearly defined minimum competency requirements for all seafarers. A position on the White List entitles other Parties to the STCW Convention to accept, in principle that certificates issued by or on behalf of the parties on the list are in compliance with the revised STCW. (MSC, 2001)

As it was already mentioned earlier the driving force of open registries is financial considerations. They are well known for placing no restrictions on the nationalities of crews serving on board their ships. That is how the shipowner can reduce a considerable amount of operating costs. The freedom to engage less expensive crews is therefore a major attraction from his point of view. On the other hand, unless ships employ white list crews, at least at the management and support level, they are likely to be targeted by PSC and the flag state's reputation is likely to be potentially tarnished. In this case delays caused by the PSC and mistakes done by cheap or inadequately trained crew will cost hundreds time more by the end of the day. Therefore no compromise in safety standards must ever be allowed neither by the shipowner nor by the flag state itself. (Mukherjee, 2000, p. 111)

3.3 Crew nationality: The ITF perspective and socio-economic interests

3.3.1 The ITF perspective: the debate over open versus closed flags

The International Transport Workers' Federation (ITF), which is well known for its antagonism against shipowners who flag their vessels out to open registries or flags of convenience (FOC) states to gain economic advantages. The ITF definition of a flag of convenience ship is one that flies the flag of a state other than the state of its owner's nationality. (ITF, 2006) By corresponding definition an FOC state is a state which allows ships beneficially owned and/or controlled by owners elsewhere to be registered in its register. (Coles and Ready, 2002, p. 17) The ITF is of the view that the international law requirement of genuine link is only met when the nationality of the owner and its vessel is the same; in other words the link is manifested through the commonality of nationality between the owner and the vessel. In their view, it is the only way in which a flag state can exercise effective control over its ships. (ITF, 2006) This is the established ITF interpretation of Article 91 of United Nations Convention on the Law of the Sea (UNCLOS) and therefore their policy is directed towards elimination of flags of convenience. As such, it is their view that the genuine link requirement is not met with respect to ships registered with flags of convenience. (ITF, 2006) The position so taken is consistent with the closed registry system where traditionally the owner, the ship and the crew all possess the same nationality. In the most stringent of closed registries, the ship must also have been built in the flag state and at least a majority of the shareholders of the ship or the ship-owning entity must be nationals of the flag state.

By June 2006 the ITF Fair Practices Committee had declared thirty two countries and territories as flags of convenience, that is: Antigua and Barbuda, Bahamas, Barbados, Belize, Bermuda (UK), Bolivia, Burma, Cambodia, Cayman Islands, Comoros, Cyprus, Equatorial Guinea, French International Ship Register (FIS), German International Ship Register (GIS), Georgia, Gibraltar (UK), Honduras, Jamaica, Lebanon, Liberia, Malta, Marshall Islands (USA), Mauritius, Mongolia,

Netherlands Antilles, North Korea, Panama, Sao Tome and Príncipe, St Vincent, Sri Lanka, Tonga, Vanua. (ITF, 2006)

Another type of registry condemned by the ITF as belonging to the FOC group is the secondary registry, even though these registries being off-shoots or subsidiaries of some of the major traditional closed flag states claim to make no concessions on compliance with safety and environmental protection standards regarding its ships. The most successful secondary registry is the Norwegian International Ship Register (NIS). It is outlawed by the ITF because it is open to foreign shipowners and foreign crew are employed. Therefore, the principle of genuine link between ship and state is not retained. Only where the secondary registry is maintained for the exclusive benefit of national shipowners, such as the French Kerguelen registry (Mukherjee, 1993, p. 34), it does not fall under the ITF category of Flags of Convenience.

Those secondary registries which permit hiring of foreign crews such as the German International Ship Register, are considered "fully-fledged" flags of convenience by the ITF and all ships registered there are treated as Flags of Convenience. (Coles and Ready, 2002, p. 17) Additionally, the ITF may designate on an individual basis as Flags of Convenience ships, vessels registered in The Philippines (foreign owned ships bareboated-in) and Singapore (foreign-owned ships without approved crew agreements). Equally, ships flying the flags of countries not mentioned above are treated as Flag of Convenience ships if the ITF receives information that they are beneficially owned in another country. (Coles and Ready, 2002, p. 17)

When declaring a registry as a flag of convenience the ITF not only takes into account the degree to which foreign owned vessels are registered and fly the country's flag, but also such criteria as –

(i) The ability and willingness of the flag state to enforce international minimum social standards on its vessels,

including respect for basic human and trade union rights, freedom of association and the right to collective bargaining with bona fide trade unions;

(ii) The social record as determined by the degree of ratification and enforcement of ILO Conventions and Recommendations;

(iii) The safety and environmental record as revealed by the ratification and enforcement of IMO Conventions and revealed by port state control inspections, deficiencies and detentions. (ITF, 2006)

The ITF claims that in the absence of a genuine link in the traditional sense it is difficult to contemplate how a flag state can discharge its international obligations and impose penalties of adequate severity to discourage violations of international norms and standards. In other words, the problems are in terms of enforcing administrative penalties in another jurisdiction and in securing the extradition of key personnel within the shipping company. This means that flag states do not stop such vessels from trading, but just remove them from the register. The ITF also opposes the way the registration procedure is conducted. This is in respect of cases where registration is effectuated through provisional certificates issued by Consulates of the flag state or even through the internet. In these cases usually no flag-in surveys are carried out until some six months have passed. (Whitlow, 2004)

Other issues related to the opposition of the ITF to flags of convenience are-

(i) corporate secrecy as a way of avoiding liability;
(ii) while there may be non-criminal motives for shipowners to seek such levels of corporate secrecy, clearly FOCs are ideal for concealing the ownership of vessels engaged in many forms of criminal activity, including

people smuggling and trafficking, drugs smuggling, arms smuggling and money laundering;

(iii) the link between FOCs and other forms of criminality, including terrorism;

(iv) the failure of many FOCs to ensure the protection of seafarers' human and trade union rights;

(v) direct link between FOCs and poor scores on the welfare rights category and many of these flags keep no labour records for the workforce onboard ships flying their flag;

(vi) poor record of many FOCs in terms of casualty investigation, etc.

(ITF, 2006)

All of the above allegedly result from a lack of genuine link in the traditional sense by obscuring transparency in the ownership of ships. Such a tool as control of the beneficial owner who is also a national of the flag state is seen by the ITF as a solution in terms of providing better security and greater pressure on sub-standard shipping operations. The ITF, by seeking greater transparency, has focused on the link between the ship and the owner of the ship by explaining that only if the flag state knows the ultimate owner it is able to exercise control over the ship. (Howell, 2004) The ITF position is not without its critics. Those opposed to their position view the allegations as nothing but an attempt by the ITF to strike at the owners, for the plight of seafarers, *e.g*. in pollution matters, rather than strike at those responsible for the conditions. (Howell, 2004)

However, shipping being extremely capital-intensive, cyclical, volatile and a highly competitive industry, historically evolved into sophisticated ownership structures with roots in both traditional maritime practice and in legal protection against business risks. Such mechanisms as the corporate veil legally allows owners to conceal their identity by the creation of a separate corporate entity, i.e., with legal

personality separated from its beneficial ownership. (Corporate Veil, 2001) That is why the ITF believes that the flag state can exercise control over the ship only through transparency of beneficial ownership. What is overlooked in this argument is that the corporate veil exists across the entire world of business and commerce, maritime enterprises included. Historically it has existed in both open as well as in closed registries. (Corporate Veil, 2001)

Ships are owned by varieties types of organisations such as insurance companies, pension funds, savings banks, trust funds, finance houses, public companies (Stopford, 1997, p. 201); individual limited partnerships owing one or a group of ships; private limited companies owning one or a few ships, *etc*. Within these arrangements there are more sophisticated structures. A shipping company may well have several different kinds of shareholders. One may be a publicly listed savings bank, another a pension fund; and yet another may be a limited partnership of professionals such as doctors or dentists, not to mention a multiplicity of private investors. The savings bank and pension fund will have numerous shareholding members and the group of professionals will likewise have many limited partners as investors. It would be virtually impossible the beneficial owners in this ownership chain. Whatever may be the position advanced by the ITF regarding genuine link, in reality it is barely conceivable that such beneficial owners who are simply investors can be capable of exercising operational control over their ship. They are admittedly not the managers or operators of the ship.

Of course, in the shipping world there are many so-called single ship companies with limited liabilities. In these cases shareholders can be readily identified no doubt. This type of ownership structure is created basically to shelter owners from possible liabilities arising out of the sistership arrests and other situations attracting unlimited liabilities in respect of other ships in their beneficial ownership, as well as to gain fiscal advantages. These mechanisms aimed at maximising financial positions are totally legal and are a reality of the commercial

shipping world. Furthermore, such structures go a long way to alleviating the insurance burden of an owner with a large fleet of ships. (Howell, 2004)

In this connection the question arises as to how important in reality is the transparency of beneficial ownership to genuine link. It is indisputable that direct operational control over a ship is exercised not through its beneficial owners but through its managers. All operational elements of a ship pertaining to, inter alia, fleet management including safe manning, seaworthiness and cargoworthiness, technical support, including up to date surveys and certification, keeping the vessel in class, stores, arranging for ship's stores, equipment and spares so that the voyage can be properly prosecuted, are all functions and responsibilities of the ship's managers (Prasad, 2005, pp.14-15).

The responsibility for enforcing international convention requirements and oversight of the ship's compliance with international requirements lies with the flag state administration. This is clearly the case under the relevant provisions of UNCLOS and is the rational basis for the statement in convention that there must be a genuine link between the ship and the flag state. Nowhere is there a mention of genuine link between the ship and its beneficial owners through the common denominator of nationality. That is simply the interpretation of "genuine link" advanced by the ITF and proponents of the traditional closed registry system.

In its 84th session, held during 22-26 April 2002, the IMO Legal Committee concluded that the answer to the fundamental question as to who has effective operational control of vessels for maritime security purposes, is the person who appoints the crew, who fixes the use of the ship and who signs the charterparty. (Legal Committee, 2002) In the International Safety Management (ISM) Code the definition of "company" is - "[t]he owner of the ship or any other organisation or person such as a manager or the bareboat charterer, who has assumed the responsibility for the operation of the ship from the shipowner". (ISM Code, 2002, p.6) Indeed, the ISM Code goes further in stating that, if the entity is other than the

owner, the owner must report the full details of such entity to the Administration. (ISM Code, 2002, p.8)

The ISM Code has created a new entity known as the "designated person" (DP) who is the operational link between the shore-based management and the shipboard management. Under the International Ship and Port Facility Security (ISPS) Code, the corresponding entity is the Company Security Officer (CSO). The DP must have direct access to the highest level of management ashore and his responsibilities include monitoring the safety and pollution prevention aspects of the ship's operation. If he fails in his tasks and the crew on board do not know who he is there is a risk that the ship will not receive a Safety Management Certificate and will not be able to trade. Thus the DP must be readily identifiable. The role of the company as the operator of the ship is crucial to the process of safety management. If the owner (as distinguished from the operator) actually manages and operates the ship, he will also need to have a Document of Compliance (DOC) and his office will have to be audited under the ISM Code.

The flag state Administration is linked to the owner in the ISM Code scheme through the requirement of flag state audit. The company must submit itself to the audit. It is incumbent upon the Administration to observe closely all aspects of the operation of the ship from the perspective of safety and environmental protection. It would be impossible for the Administration to conduct an ISM audit if the identity of the company is not known to it. Knowing the identity of the beneficial owner is of little help in this regard. The Administration must be able to zero-in on the operator in order to fulfil its responsibilities under the ISM Code in relation to the oversight of safety management which invariably includes matters pertaining to safe manning and crew welfare. In this regard there is no doubt that the responsibilities of the flag state *vis a vis* compliance and enforcement relating to a ship flying its flag has little to do with the nationality of the beneficial owners and everything to do with the flag state Administration's ability and competence to regulate its ships.

If the owner contracts out the management of his ship to a ship management company, he is obliged to inform the Administration. The ship management company should know who has contracted with them and who is paying them. Even if this is concealed for whatever reason it is now the ship management company which carries the responsibility for ISM Code compliance including providing the DP and the CSO and putting into place the Safety Management System (SMS). If under the management contract, the operator or manager is the "company" pursuant to the ISM and ISPS Codes, then the identity of the owner becomes irrelevant. The company, as defined in these Codes, has responsibility for the operation of the ship.

In other words it is not the link between the beneficial shipowner and the ship that is important but the link between the operator, otherwise referred to as the "company" in the ISM and ISPS Codes, and the ship. Needless to say, the flag state is concerned with the ship, and its safety and security. Therefore a meaningful definition of genuine link is link between the flag state, the company and the ship. Any link between the beneficial owner and the ship through common nationality is irrelevant and insignificant in this context.

In the opinion of this writer, it does not matter whether the flag state allows its ships to be beneficially owned by non-nationals as it is done in the open registry systems, or if the registry only for exclusive benefit of national shipowners which is typical of closed registries. What is material is the link between the flag state and the ship and how the flag state exercises its responsibilities over the ship. Thus, "open registry" or "flag of convenience" is not necessarily synonymous with substandard shipping; and conversely, a closed registry is not necessarily synonymous with quality and responsible shipping. (Gallagher, 2004)

However, as the open registry systems are growing phenomenon in the current milieu and any reversal of the situation is highly unlikely in the foreseeable future, care must be taken to maintain the registry at a high quality level. Those registries of the hybrid type who refuse to be identified as FOC's or open registries, pride themselves as being responsible registries with quality standards which are

sometimes even superior to the standards maintained by some traditional closed registries. (Mukherjee, 2000, p. 114) Some of these claims are borne out by port state control detention and deficiencies statistics.

The other side of the coin becomes apparent when a registry fails to exercise its convention responsibilities properly. Examples of shoddy oversight are acceptance of a ship into the registry without a flag-in survey or without a proper check on a vessel's DOC or without verifying the identity of its operator. (Whitlow, 2004) A flag state of any persuasion can be reduced to a level of sub-standardness if it fails to comply with its international convention obligations. (Mukherjee, 2000, p. 114)

The duties of flag states are outlined in various international conventions and regulations, such as The International Convention for the Prevention of Pollution form Ships (MARPOL 73/78), the International Convention for the Safety of Life at Sea (SOLAS), the International Convention on Standards of Training, Certification and watchkeeping for Seafarers (STCW 78/95), the Convention on International Regulations for the Prevention Collisions at sea (COLREG) 1972, the International Convention on Load Lines (LL) 1966, and the 1982 United Nations Convention on the Law of the Sea (UNCLOS). Articles 94 (Duties of Flag States) and 217 (Enforcement of Flag States) in particular clearly defines the role of the flag state. (Gallagher, 2004)

The most important areas for the efficient flag state administration are considered to be registration of ships and mortgages, the conduct of surveys and certification and the engagement and welfare of seafarers. The third area includes maritime training and education of seafarers (Mukherjee, 2000, p. 113) and is tightly connected with STCW implementation. In this respect it is needless to say that the provisions of STCW 95 should be incorporated into the national legislation of flag states. Provisions relating to safe manning following the requirements of SOLAS, IMO Guidelines on Safe Manning and ILO Convention C180 of 1996 relating to safe manning, should also be incorporated. It is to be noted that the fundamental principle

is that a ship must be manned sufficiently, efficiently and safely. (SOLAS 1974, Chapter V, Regulation 14; ILO 109, Part IV, Article 21; ILO 180) The failure of flag state Administrations to adequately fulfil their obligations has led to the creation and proliferation of the phenomenon port state control and the introduction of the flag state implementation initiative at IMO. It has also fuelled increased enthusiasm, quite justifiably so, within institutions such as the ITF and the Paris MOU, for the eradication of substandard ships.

Given that the driving force behind the open registry activity is economic considerations, the legal notions of nationality and registration are manipulated to accommodate the economic interests of flag states and their constituent shipowners. By contrast, the flag state in a traditional closed registry assumes the role of a regulator, and the shipowner is forced to operate within the bounds of the regulatory regime. (Mukherjee, 2000, p. 114)

Therefore, only the highest levels of quality are acceptable in any ship registry, whether they are open, closed, secondary or hybrid; and no compromises should be made on safety and environmental standards. Only if the international obligations of a flag state are properly fulfilled and no trade-off is made between standards and fiscal interests, genuine link between ship and flag state will be maintained regardless of the nationalities of the beneficial owner and the crew.

3.3.2 The ITF perspective: crew nationality and socio-economic interests

The other major objectives of the ITF campaign are to improve wages and employment conditions of seafarers serving on FOC ships, to ensure their protection from exploitation by shipowners and the freedom to exercise their trade union rights. (ITF, 2006) The ITF campaign is implemented in tandem with ITF affiliated dockers and seafarers' unions through inspection of FOC vessels and refusal to load or discharge such ships. (Coles and Ready, 2002, p. 24)

A survey on the working conditions of ratings reported in the ITF Journal revealed that seafarers feel happier, healthier and more valued when employed on national carriers rather than on open registry vessels. In turn, those on open registry vessels feel better off if they are serving under an ITF agreement. (Erol, 2006, p. 8) The survey was based on the interviews with and on board observations of 627 ratings over a 21- month period. The ITF insists that shipowners operating vessels under open registries must have on board an ITF Collective Agreement which contains terms and conditions for the employment of seafarers. Evidence of this agreement is issuance of a "Blue Certificate" which must be kept on board of the vessel. Non-availability of this certificate on board may lead to industrial action against the vessel. (Coles and Ready, 2002, p. 24)

The following conditions must be satisfied for providing a Blue Certificate:

(a) the ITF Collective Agreement or an ITF-approved national agreement must be signed by the shipowner. One of the conditions of these agreements will be the same wage level for the seafarers as the average European wage level increased to allow for inflation;
(b) each crew member receives an individual contract of employment incorporating the current ITF wage scale endorsed, if necessary, by the authorities of the labour-supplying country;
(c) all crew members not already belonging to a union affiliated with the ITF are enrolled in the ITF's Special Seafarers' Department;
(d) the shipowner makes an annual contribution in respect of each seafarer to the Federation's Seafarers' International Assistance, Welfare and Protection Fund;
(e) the Federation is advised of future crew or contract changes and have access to all records;

(f) on demand, the crew are paid back-pay covering the difference between the ITF rate and the previous rate to the date of commencement of the ITF-approved contract. (Coles and Ready, 2002, p. 24)

It was estimated by the ITF that the number of vessels of all types under open registries constitutes about 60 per cent, and under national flags about 40 per cent. Of the 60 per cent, the ITF estimates that about 30 per cent are covered by collective agreements. (Erol, 2006, p. 8)

The ITF survey found a considerable difference between national flag, open registries with ITF agreements and open registries without ITF agreements in terms of ratings' relationships with the company, crewing agency, ratings' loyalty and pride, social welfare, hours of work, job intensity, satisfaction with pay and physical conditions. (see Appendix 4) An important factor is training and skills. The ITF claims that ratings who are serving on vessels under national flags have better relationships with their company and crewing agency (which in the case of national flags are usually company specific) than those working on open registry ships with agreements. (Erol, 2006, p. 8) This difference is not in favour of open registry ships without agreements because indicators of good relationships are lowest. The same trend is followed when loyalty and pride of the companies were asked to be evaluated by seafarers. On matters related to training and skill development the trend is the same again. Training provided by the company over the last twelve months constitutes 67 per cent under national flags, whereas under open registries with and without ITF agreements, only 40 and 10 per cent, respectively. In terms of encouragement to develop skills, the percentage for national flags was even higher at 84 percent. For others, the percentages were 51 and 40 percent, respectively.

Some may find it strange that such evaluations on officers' performance by ratings were also carried out in the survey. This was done on the premise that evaluation of performance of ship officers by ratings was not adequate in all cases. In

the case of open registries many such evaluations were done by the company or crewing agency.

The survey also found that the same general trend is peculiar to ratings' satisfaction with pay, physical working conditions and the extent to which they report suffering physical pain or discomfort in work.

The problems of pension and medical care of the seafarers were also raised in the survey. In was pointed out that ITF agreements are not fully comprehensive. In some instances, for example, there was no coverage for pensions. It was observed that seafarers from Asian countries, excluding Singapore, did not enjoy pension benefits as good as their counterparts from India and Eastern European countries. Most seafarers from the Asian countries did not have medical care coverage during their leave periods, except Filipinos who have health coverage for six months when on leave, and it is mandatory for them to contribute to a medical insurance system. (Erol, 2006, p. 9)

The overall results of the survey concluded that ratings working on open registry ships without ITF agreements suffer the most disadvantages. They are less likely to be encouraged to develop their skills, to feel that their jobs are secure or be consulted on crewing, wages, medical care and other issues. As we know from the previous chapters, welfare of seafarers, competence and professional standards are major components of maritime safety. On the basis of the above-mentioned ITF-sponsored survey it might be concluded that in open registry ships maritime safety is of less concern than in closed registry national flag ships.

The other side of the coin, however, needs to be noted as well. One commentator has pointed out that "although the ITF campaign is expressed to be directed against allegedly sub-standard labour conditions on board flag of convenience ships, the chief motivation has been to prevent loss of work opportunities for seafarers in the traditional maritime countries where spiralling wage costs have rendered the operation of ships increasingly uneconomic." (Coles and Ready, 2002, p. 24) Thus,

the International Bargaining Forum established by the ITF in 2002 with the objective "of increasing the number of vessels covered by ITF agreements and encouraging more shipowners and managers to negotiate with the ITF" (ITF, 2006) is just one example of such "motivation". It has been reported in the maritime media that the actual reason for a forum is to increase employment opportunities for developed country ratings even by using such methods as taking money from Filipinos to pay for expensive Danish ratings. (Guest, 2006)

CHAPTER 4

COST/BENEFIT FOR SHIPOWNERS IN TERMS OF CREW NATIONALITIES

4.1 The flag state versus shipowner perspectives

From the perspective of the flag state, it can be said, that lowering of standards in order to attract more tonnage may backfire on the flag state because of possible maritime disasters or accidents. In its turn it can negatively affect attractiveness and reputation of the flag state and decrease the tonnage. Therefore, fiscal success in the long-term is not attainable by simply compromising safety standards in respect of safe manning from the perspective of both – the shipowner as well as the flag state. (Mukherjee, 2000, p. 111)

The global recession in shipping during the 1980s, due to an over-supply of vessels, necessitated the curtailment of crew costs. The compounded effect was that approximately 50% (Stopford, 1997, p. 161) of operating budget of a ship was attributable to crew costs. The aspiration to succeed in a fiercely competitive global market forced shipowners to employ seafarers from low cost labour supply countries. Seafarers from traditional maritime countries were thus replaced. The recession of the 1980s also forced many shipping companies to cut back on their training budgets. Since then employment of seafarers from developed countries has been on the decline, much of it being attributable to significant reductions in recruitment. Furthermore, the prolonged retention of seafarers in service has resulted in a relatively old average age among active seafarers in the traditional maritime states. The scarcity of suitable seafarers from developed countries combined with reduction in shipboard labour costs has created an increasing demand for seafarers from developing counties. In turn this has introduced the phenomenon of the crew-supply state. In this context Heather and McConville have erroneously commented that the majority of these states have no maritime tradition. (Leggate and McConville, 2002, p. 449) This is certainly not true of countries like China and India whose nationals

have for generations served quite competently on British ships during and after the colonial era.

The substantial wage difference between EU and non-EU seafarers is certainly a key factor in shipowners' employment policies. The cost per crew may be more then 50 per cent higher for a vessel registered under a European flag than for a comparable "flagged out" vessel of "user-friendly" flags such as Panama, Liberia, where employment regulations are less strict (see Table 3 below).

Table 3 - Crew costs differences

Shiptype	**EU flags**		**Open Register**	**Cost Index**		
	A	**B**	**C**	**A**	**B**	**C**
Tankers						
Suezmax	Italy	Greece	Panama	368%	140%	100%
Product tanker	Italy	Greece	Panama	370%	141%	100%
Bulkers						
Cape Size	Italy	Greece	Panama	313%	138%	100%
Panamax	Italy	Greece	Cyprus	304%	137%	100%
Handy size	UK	Greece	Panama	227%	139%	100%
Containers						
Large	Netherlands	Denmark	Panama	279%	208%	100%
Line-Haul	Germany	France	Panama	433%	427%	100%
Feeder	Germany	Greece	Panama	433%	126%	100%
General Cargo						
Break Bulk	Germany	Greece	Cyprus	383%	122%	100%
Ro-Ro	Italy	Greece	Panama	265%	123%	100%

Source: Peeters, C. (2003). *Crew costs differences.* Unpublished lecture notes, Institute of Transport and Maritime Management of Antwerp

According to another source the highest EU wage for an able seaman is some 15 times higher than the lowest non-EU wage (both wages including social costs) and 5.6 times higher for chief officers. (ECSA, 1998) These wages differences are even

more significant if consideration is given to the fact that manning costs account for 50% of daily operating costs of the vessel and represent the largest single variable cost in ship operations. (Stopford, 1997, p. 161)

Aside from the cost factor, another significant issue is that qualified European seafarers are in short supply. As pointed out by the Commission of the European Communities, fewer European young persons today are choosing maritime careers. The younger generation evidently consider a career at sea socially and financially unattractive compared with careers ashore. It appears that-

> young people are increasingly unwilling to spend long periods of time at sea far away from home, from their families, friends, relatives and children. Even the more attractive sides of the job, such as the possibility of exploring the world and visiting exotic places, seems to have disappeared as a result of modern navigational practices, whereby ships only stay in port for short periods, or remain outside the harbour for their commercial operations.

Furthermore, today's ships carry a small crew complement who often hail from different alien nationalities and speak different languages. This state of affairs frequently results in social isolation.

The high drop-out rate from maritime education and training institutions points to the relative unpopularity of seagoing professions among the younger generation. It is reported that the average drop-out rate in the EU is between 22% and 32%, and in some member states could be as high as 60% or 70%. (Commission of the European Communities) All these factors have forced shipowners to employ seafarers from low-cost labour supply countries and to substitute seafarers from traditional maritime countries within the OECD in order to be successful in an increasingly fierce global competitive shipping market and in turn caused changes in nationalities of seafarers.

The determining role of wage factors can be explained by reference to the economic implications. The standard measurement for ratings' wages is based on the ITF levels. By contrast, market rates, which can be in excess of ITF rates in some countries, influence the wages of officers especially those in senior ranks. Supply and demand is an important factor in some countries. The general wage level for seafarers within the country of their domicile can affect the global wage level. The wage differences between a master and an able seaman of a tanker in such instances is illustrated by Leggate and McConville in the table and explanation below.

Table 4 - Wage differences of a master and able seaman employed in different countries

	Master	**Countries**	**AB**	**Countries**
Grade A	<$4080		<$1300	
Grade B (Benchmark)	$4080		$1300	Croatia : India : Philippines : Poland : Russia : Ukraine
Grade C	$4081- $5100	India : Philippines : Russia : Ukraine	$1301 - $1625	South Korea
Grade D	$5101 - $6120	South Korea : Croatia	$1626 - $1950	
Grade E	$6121 - $7140	Greece : Poland : Spain	$1951 - $2275	
Grade F	$7141 - $8160	Italy : The Netherlands	$2276 - $2600	Greece : Italy
Grade G	$8161 - $9180	Germany : UK	$2601 - $2925	Germany : The Netherlands : Spain
Grade H	>$9180	Denmark : France : Japan : Norway	>$2925	Denmark : France : Norway : Sweden

Source: Availability and Training of Seafarers. (2003, January). *Prepared for the OECD Maritime Transport Committee by Precious Associates Limited*. Retrieved 02 June 2006 from the World Wide Web:http://www.oecd.org/dataoecd/32/62/2489394.pdf#search=%22Availability%20and%20training%20of%20seafarers%2C%20Prepared%20for%20the%20OECD%20Maritime%20Transport%20Committee%20by%20Precious%20Associates%20Limited%2C%20January%202003%22

The Grade B (Benchmark) comprises the ITF monthly costs covering basic wages and vacation overtime. For a master it is USD 4080 and for an able seaman it is USD 1300. The escalating grades identify the relevant nationality, which fits in

with the appropriate Grade level. It can also be seen from the above Table 4 that Indian, Philippine, Russian and Ukrainian wages are lowest and therefore shipowners and ship managers will prefer to employ them. By contrast, a higher rate of wages for OECD seafarers will raise the manning costs and therefore will increase the manning costs considerably. As mentioned earlier, such factors as high wastage level, inappropriate inflow and age profile of OECD seafarers make them an expensive and ageing workforce.

It is obvious that the shipowner pays different wages for similar work and approximately the same level of efficiency. The economics of the seafaring labour market in the theory of "discrimination monopsony" clearly explains the economic reasons for the shipowner or ship manager's choice. Discriminating monopsony occurs in circumstances where the shipowner is able to distinguish between several groups in the seafaring labour market, with different supply functions. (Leggate and McConville, 2002, p. 460) The shipowner can make his choices for particular groups on the basis of skills, nationality, costs and loyalty of seafarers. Shipowners and ship managers are quite selective in terms of deciding which individual seafarer should be employed on their vessels. Such factors as loyalty are important considerations as they prefer long-term engagements with the same crew complement who know their tasks, their ship and their fellow seafarers, and are eager to forge long-term employment relationships with one employer. They prefer individuals who can demonstrate support for the employer in difficult situations. A shipowner or ship manager usually has a preference for a certain group which is based on his experience and perception. Some shipowners and ship managers have particular requirements for engineers with proper technical skills and the ability to use equipment requiring specialised knowledge. Some may prefer one type of crew to another regardless of the fact that both may have the same qualifications and skills.

However, the cost differential is still the most influential factor in the shipowner's choice which depends largely on the elasticity of the particular seafaring labour market. (Leggate and McConville, 2002, p. 460) The elasticity of supply is

different in each market which means, for example, that a decrease in wages of Ukrainian seafarers will not cause significant changes in the supply of Ukrainian seafarers. In other words, supply is inelastic. By contrast, a decrease in wages for German seafarers will result in a considerable decrease in the supply of German seafarers. Here the supply would be elastic. The reason for this situation with Ukrainian seafarers, for example, can be that the seafaring labour market is only limited by foreign shipowners, the absence of a national fleet and the possibility to transfer seafarers' labour to an alternative labour market. All these conditions will allow the shipowner to have the ability to discriminate by giving different levels of income in each market. (Leggate and McConville, 2002, p. 460) In reality, this is achieved by decreasing the level of employment in the more expensive market and substituting the seafarers from the cheaper market where the marginal cost of labour is lower and where the elasticity of supply is not high. (Leggate and McConville, 2002, p. 460)

As mentioned earlier, there is a significant difference in wages between national and non-national seafarers even where qualifications are the same, the work is similar and the level of efficiency is the same. Leggate and McConville state that only 40% of seafarers polled denied that there was any wage discrimination. As explained earlier, discrimination can take various forms. In Yemen, for example non-nationals receive higher wages then national seafarers. In Peru, non-national seafarers from EU countries and North America receive wages that are 50% higher than the wages of nationals (Leggate and McConville, 2002, p. 460). By contrast, in Papua New Guinea, Malaysia and Japan, non-nationals receive lower wages. In Denmark, Italy, Norway and other European countries non-national seafarers receive lower wages than EU domiciled seafarers. A detailed examination of wages in Denmark, India, the Philippines and Panama was carried out by Leggate and McConville. They pointed out that in Denmark wages are determined by collective agreement between the Danish Shipowners Association and relevant Trade Union for ships registered in the Danish International Ships Register (DIS). (Leggate and McConville, 2002, p. 460)

Table 5 - Monthly wage comparison

As at 1 April 2001	Wages of national seafarers	Wages for non-national/domiciled seafarers (Filipino)
1st Deck Officer	Dkr.14 648	Dkr. 8 918
1st Engineering Officer	Dkr. 14 648	Dkr. 8 918
Chief Steward/Chief Cook	Dkr. 16 005	Dkr. 9 645
A.B.	Dkr. 12 908	Dkr. 8 689

Source: Heather, L. & and McConville, J. (2002). The economics of seafaring labour market. In Grammenos, C. (Ed.), *The handbook of maritime economics and business*. LLP: London, Hong-Kong

It can be seen from the Table above that the employment of Filipino crew can reduce manning costs considerably. As shown in the study, a Filipino deck officer receives 39% less wages than the lowest rate of a Danish deck officer. The difference is similar with regard to engineering officers while in the case of a chief steward and chief cook it is 40%. The difference in the case of an able seaman is somewhat less at 37%. But, if a comparison is made with wages a Filipino seafarer can get in the Philippines under the national legislative standard, the DIS wages are considerably higher. The monthly minimum wage for seafarers in the Philippines is USD 385, whereas a seaman on domestic flagged vessels can only earn the equivalent of 134 USD per month. (Leggate and McConville, 2002, p. 460) As pointed out by Leggate and McConville, there is a general perception that Indian seafarers command higher than average wages on the international which is attributed to the high quality of their performance. However, it is apparent that at the time the analysis was conducted it was only in the case of ratings that the wages were higher and questionable in the case of officers. According to the Maritime Union of India, masters and chief engineers receive wages lower than those provided in the ITF and second registry scales as illustrated below:

Table 6 - Officer wages (USD per month)

International Transport Workers Federation	3899
Second Registers	4030 (NIS)
Indian National Shipowners' Association	3707 (pre-tax) 2595 (post)tax)

Source: Heather, L. & and McConville, J. (2002). The economics of seafaring labour market. In Grammenos, C. (Ed.), *The handbook of maritime economics and business*. LLP: London, Hong-Kong. Primary source: Maritime Union of India (MUI) estimates, November 2001.

The wages depicted above under the domestic Indian scale are net after tax. Taking that into account the difference is roughly 36 %. As such, foreign shipowners can offer wages less than the international but higher than the domestic scale, and this usually acceptable. In this scenario the shipowner wins by reducing his crew cost and the seafarer gains from a wage higher than what he can receive under the national scale. Both parties benefit and nobody is the loser.

4.2 Supply and demand of seafarers

It is reported in the maritime media that in relation to the issue of current demand and supply of seafarers, organisations like International Shipping Federation (ISF) and BIMCO prefer not to characterise the situation as a crisis (Guest, 2006) but rather as an imbalance. In line with that jargon, it appears that the current imbalance is represented by a shortage of 10,000 officers or 2% of the demand; and there is a sizeable surplus of 135,000 ratings. The current demand figures for officers, including back-up requirements add up to 476,000 against a supply of only 466,000. By contrast, the current demand for ratings stands at 586,000 against a global oversupply of 721,000.

The trend in the supply of seafarers in different countries is depicted in the table below:

Table 7 - Recent Trends in Supply by Area

	2000				2005				2005 Index (2000=100)	
	Officers		Ratings		Officers		Ratings			
	000s	%	000s	%	000s	%	000s	%	Officers	Ratings
OECD	147	36.4	191	23.2	133	28.5	174	24.1	90	91
Eastern Europe	62	15.2	107	13.0	95	20.3	115	16.0	154	107
Africa/Latin America	35	8.7	89	10.8	38	8.1	110	15.2	107	124
Far East	128	31.7	332	40.3	133	28.5	226	31.3	103	68
Indian sub-continent	32	7.9	104	12.6	68	14.6	96	13.4	214	93
	404	100	823	100	466	100	721	100	115	88

Source: BIMCO/ISF 2005 Manpower Update. (2005). Institute for Employment Research, University of Warwick.

It is evident from the table above that the number of seafarers from OECD countries has decreased significantly, both in terms of officers as well as ratings. By contrast, in crew-supplying countries in Eastern European, Africa, Latin America and the Indian sub-continent, there is a marked increase in the numbers of officers. Within those countries the growth rate in the pool of officers is highest in the Indian sub-continent depicted by a 213 % growth between 2000 and 2005. By comparison, the growth rate in the Eastern European countries is 153 % over the same period. It is interesting to note that the numbers of officers in the OECD and Far East countries rose to the same figures in 2005, *i.e.,* to 133,000 or by 28.5 %, whereas in the previous years OECD countries represented the largest proportion of available officers globally, i.e., 147,000 or 36.4% against 128,000 or 31.7 % in Far East.

This decrease in OECD country seafarers is illustrated by latest seafarer analysis published by the Department for Transport of the United Kingdom. The forecast is that the current pool of 13,200 deck and engine room officers will be reduced by more than 50% by 2021. This prognosis is attributable to a high average age, wastage rates and inadequate cadet recruitments. The study states that the number of officers in regular service at sea has fallen considerably by some 7% since

1997. In the deck department the decrease is 2% whereas in the engine room it is 12%. In 2002, the number of ratings was 9,300 representing a decrease of 2%. This year was chosen in the study as the one most relevant in statistical terms. The number of cadets in 2005 was 1,000 which included 500 new entry cadets. This represented a drop of 11% from the previous year. A government report states that the pool of domestically trained officers in the United Kingdom is likely to fall dramatically over the coming 15 years. (Guest, 2006)

It was estimated by the BIMCO/ISF that the total numbers of Eastern and Central Europe pool represent a growing component of available officers (95 000 in 2005) and a significant proportion of ratings (110 000 in 2005). (BIMCO/ISF, 2005, p. 10) Even though Indian sub-continent has a highest rate of growth of officers, total number in global terms represents only 68 000 officers and 96 000 ratings. While the shift in supply from the developed world to the Indian subcontinent, Far East and Eastern Europe has continued, the report claims that OECD countries still account for 133,000 officers and around 30% of senior officers and 174,000 ratings out of a total workforce of 1.2 million.

The demand for seafarers depends mainly on two factors, namely, the size of the world merchant fleet and manning levels. The latter, in turn, depends on the size of a particular ship. On the basis of these two factors it is concluded in the BIMCO/ISF report that the aggregate demand for officers is in the range of 476,000 and for ratings is 586,000. (see Table 8 below)

Table 8 - Trends in Demand

000s

	1995	**2000**	**2005**
Officers	427	420	476
Ratings	606	599	586
Total	1 033	1 019	1 062

Source: BIMCO/ISF 2005 Manpower Update, Institute for Employment Research, University of Warwick.

By comparing the current data for global supply and demand a negative imbalance was found to exist for senior level personnel, particularly engineer officers. (see Table 9 below)

The current situation of shortage of officers and surplus of ratings can be explained by the fact that the career path of an officer from a trainee to a qualified junior deck officer or engineer takes at least three years of theoretical and practical training. Beyond that level, another 36 months of sea-service and one or two years of theoretical training are required to qualify as master or chief engineer, *i.e.*, to obtain an unlimited Certificate of Competency. It is evident that in most cases the time period for reaching the highest level on deck or in the engine room takes approximately 10 years. A new recruit is admitted to these ranks only at such intervals. By contrast, the surplus of ratings is explained by the fact that it is a far easier career path. The duration of training for a deep-sea cargo rating is much less. Jobs at the lower levels require only a short introductory safety course and the position of a watchkeeping rating requires about 12 months of sea-service and little if at all, formal theoretical training. (Nielsen, 2005, pp. 84-85)

Table 9 - Supply and demand of seafarers by different national groups

000s

	Current Supply		Calculated Demand		Difference (supply-demand)	
	Officers	**Ratings**	**Officers**	**Ratings**	**Officers**	**Ratings**
OECD	133	174	168	218	-35	-44
Eastern Europe	95	115	30	29	65	86
Africa/Latin America	38	110	144	166	-106	-56
Far East	133	226	117	149	15	76
Indian sub-continent	68	96	18	23	51	73
All national groups	466	721	476	586	-10	135

Source: BIMCO/ISF 2005 Manpower Update. Institute for Employment Research, University of Warwick.

4.3 Future prognosis in the demand of competent crews and efficient supply

With an assumed benchmark projecting an increase in the world fleet of around 1 % per annum together with recruitment and wastage levels, age structure and manning levels, the report ("BIMCO/ISF Manpower Update 2005") forecasts that by 2015 the demand for officers will increase to 499,000 and for ratings to 607,000.

Thus, it is estimated by BIMCO/ISF that by the year 2015, the total supply of officers is projected to increase marginally to around 472 000 and ratings to 774,000. This will result in a shortfall of 27,000 officers and a surplus of 170,000 ratings. (See Tables 10 & 11 below). The BIMCO/ISF report states that many of these seafarers may not be suitably trained and qualified to serve on ships engaged in international trade.

Table 10 - Projected Supply by Broad Area

000s

	2005		2010		2015	
	Officers	**Ratings**	**Officers**	**Ratings**	**Officers**	**Ratings**
OECD	133	174	116	154	102	136
Eastern Europe	95	115	95	130	95	148
Africa/Latin America	38	110	42	118	47	126
Far East	133	226	139	211	145	196
Indian sub-continent	68	96	75	127	83	167
All national groups	466	721	467	740	472	774

Source: BIMCO/ISF 2005 Manpower Update. Institute for Employment Research, University of Warwick.

The BIMCO/ISF report also claims that wastage, in effect, cancels out increases resulting from new training. The forecasts are that the current moderate shortage of officers will become more severe unless maritime training is further

increased and measures are taken to address the rate of wastage. (BIMCO/ISF; 2005, p. 35)

Table 11 - Supply/Demand Balances

	2005		2015	
	000s	**%**	**000s**	**%**
Officers	-10	-2.1	-27	-5.9
Ratings	135	18.8	167	21.6

Source: BIMCO/ISF 2005 Manpower Update, Institute for Employment Research, University of Warwick.

The BIMCO/ISF report forecasts that in Eastern Europe, the numbers of officers will eventually stabilise, while ratings numbers will rise. However, a senior executive of a leading ship management company has warned that as soon as the economies of the countries that were part of the former USSR improve, Russian and Ukrainian seafarers will likely move to jobs ashore. (Leca da Veiga, 2001, p. 145) In an IFSMA Newsletter the point was made that countries like Croatia, Estonia, Georgia, Latvia, Romania, Poland and Russia will probably not remain as crew supplying countries in the long term. Such an eventuality will be attributable to various macroeconomic factors including low or negative population growth, high per capita income and more positive interaction with the European Union. It appears that the Ukraine will remain as the only country with potential growth and will continue to pose a challenge to the Asian crew supply countries because of its large population and low per capita income. (IFSMA, 2003, p. 7)

According to the BIMCO/ISF report, crew numbers are likely to increase in other parts of the world especially in the Far Eastern countries and the Indian sub-continent. The report states, however, that in the Indian subcontinent there are serious shortages of officers due to the availability of more attractive jobs ashore. To counter this trend a significant drive to increase manning prospects has been initiated by owners and management companies coupled with wage increases. (BIMCO/ISF, 2005, p. 4)

Within the international maritime community there is currently a raging debate over the BIMCO/ISF report 2000. While some are supportive of the predictions of gloom and doom in the manpower industry, others have serious doubts about prognosis of future shortage becoming a reality. (Leggate, 2004, p. 3) Others are even of the view that the report contains a degree of bias and its projections are questionable in terms of usefulness to the industry. (Danzie-Black, 2005, p. 76) After the publication of the previous BIMCO/ISF report Leggate pointed out a number of contradictions with other reports produced by the International Commission on Shipping and the International Labour Organization (ILO). Apparently, the real number of Filipino seafarers as stated by the Philippines' Overseas Employment Administration (POEA) was higher than the BIMCO/ISF figure. It seems, also, that according to information provided by the Ministry of Communications of China, the number of Chinese seafarers was substantially higher than the BIMCO/ISF figures. (Leggate, 2004, p. 6) Another commentator has explained that the difference in seafarer statistics between the ILO study and the BIMCO report might be due to differences in approach in data collection. The ILO statistics reflect persons employed on board ships regardless the seafarer's nationality whereas the BIMCO/ISF report is based on numbers of seafarers from national pools regardless of the ship's flag. (see Appendix 5) (Nielsen, 2005, pp. 84-85)

In terms of shortage of officers and oversupply of ratings it was pointed out by the Leggate and McConville that the statistics highlight considerable potential for officers. It seems that officers have increased substantially in number by 131% but they still represent less than 1% of the total new entrants in any given year. The authors have stated that there is a visible decline in the number of ratings and that the data is a strong indicator of future trends. (Leggate, 2004, p. 6) It was also mentioned by the authors that in the near future it is expected that a large number of senior officers from these countries will replace aging seafarers from OECD countries. The ILO study suggested that the total supply was in fact higher than what was indicated in the BIMCO/ISF report. (Leggate, 2004, p. 10)

Debates have also raged over the predicted shortage of seafarers. The General Secretary of the National Union of Seafarers of India (NUSI) Abdulgani Serange made the following in 2004 in this regard:

> there is just too much of seafarers and not sufficient demand, there are 30 institutions putting out 6,000 seamen annually. Seamen today have to wait up to 30 months to get a job compared to 6 months wait just 6 years ago. There are just not enough jobs for the growing Indian seafarer population and the situation is no different in China and Japan."
> (Danzie-Black, 2005, p. 75)

Leggate states that the international maritime industry, namely, shipowners, shipmanagers, governments and unions think it is unlikely that there will be a shortage of officers as predicted above. Their concern is not regarding the numbers but rather the quality of future seafarers. (Leggate, 2004, p. 10)

Another point of view is that the European shipping media such as BIMCO and Lloyd's List, have erroneously branded this shortage as a manning crisis, which is in reality a reference to European shortage. The shipping press appears to also brand the European Seafarer as an endangered species using terms such as "rare breed". This whole notion seems to contradict the EU's Economic Reports 2000 which encourages globalisation and its impacts and refers to the need to remove protectionist markets. The fact that there is a shortage in Europe is not refuted but to use the term "global" to refer to this shortage is misleading. (Danzie-Black, 2005, p. 75)

The latest BIMCO/ISF Manpower Update still attracts considerable debate over the number of estimated seafarers in different countries and the future prediction of shortage. Whereas the latest statistics in the BIMCO/ISF Manpower report credits the Philippines with 46,359 officers and 74,040 ratings, totalling 120,399, the Philippines claims to have a figure that is 100% higher at 247, 707 (Guest, 2005) combining officers and ratings.

China similarly claims it supplies 28.5% of the global maritime labour market, but the ISF/BIMCO estimate of 1.2m seafarers reduces the share of China to only 10%. (Guest, 2005)

In the BIMCO report 2005 a slump in the number of Filipinos qualifying for deck and engine position was reported. Figures from the Professional Regulatory Commission (PRC) of the Philippines show that no new second or third mates or third and fourth engineers qualified in that year.

The total numbers for Filipinos have sharply declined from the 35,000 who either qualified as new officers or rose to more senior positions at the end of the last century, to the 5,000 to 6,000 in those positions now. In 1999 almost 3,000 candidates obtained their master's certificates but the figures dropped to only a couple of hundred in 2003 and further down to just about 500 in 2005. Similarly, those qualifying as chief engineers numbered over 2,000 in 1999, a figure that sank to a low of 324 in 2003 but the recover to finish at 424 in 2005. Other deck and engine ranks show a similar course between 1999 and the year 2005, but the figures for junior officers show the deepest decline with third mates dropping from 7,644 to nil in both 2004 and 2005 and fourth engineers dropping from 9,330 to nil. It is observed that the more recent decline is attributable to a combination of higher standards in the examinations, a declining interest in seafaring careers, enhanced bureaucratic hurdles and training costs being prohibitive for the average Filipino. (Guest, 2006)

Christopher Horrocks, the Secretary General of the ISF, stressed that the supply/demand calculations were an “art, not a science” and the report was a “back-up tool” to the message to industry to train more, with a target of at least one cadet per ship or around 50,000. (Guest, 2005)

The current debates and case studies reveal the uncertainty and inaccuracy of the baseline data on the current position on the number of seafarers. The surveys

illustrate the paucity or absence of definitive data on seafarer statistics. It was reported by Guest that the research undertaken by the Institute for Employment Research at the University of Warwick, suffers from a disappointing lack of interest by owners. Apparently, only 100 companies employing 12.5% of the total workforce returned questionnaires with responses representing only a 20% return against a target of 30%. As in previous surveys, data provided by national administrations are unreliable, with researchers having to make adjustments to the figures provided. (Guest, 2006) The reason seems to be that quantification of the seafarer population is an extremely onerous task because many countries have no established system to facilitate this. The figures are frequently based on employment statistics which is problematic because it does not indicate the number available for employment or in active employment. Furthermore, there are few records of seafarers leaving their profession to pursue other careers. (Leggate, 2004, p. 4)

The following extract from Tradewinds illustrates how manpower surveys are prone to statistical uncertainties:

> … statistical uncertainty has always bedeviled the manpower survey, hence its reliance on 100 companies' replies to provide reality filter. It also surveyed that 59 senior executives in international shipping companies, with replies from 25, including Bergesen's Hugo Haeselich, Cosco's Li Shanmin, Mitsui OSK's Toshiaki Sako and NYK's Takao Manji. Of the 25 38% strongly agreed and 54% agreed there was an officer manpower shortage crisis and noted the "steep" increase in salaries. "Good freight rates, lack of scrapping, more newbuildings coming into use and rapid growth in some trading sectors" were among the main causes of the shortage quoted. Even more, at 68%, strongly agreed there were shortages in some ranks and on some ship types, with senior deck and engineer officers most affected and LNG carriers (particularly steam powered ones), chemical and

> oil tankers the worst-hit types. Hopes that China (42,704 officers and 79,504 ratings, the report says) can fill any gaps are deflated, with only 41% agreeing there had been a "substantial" increase over the past five years and 45% disagreeing." (Guest, 2005)

The current shortage of officers, if any, may be compounded by the restrictions on the use of foreign seafarers by the closed and hybrid registries. According to the ILO study only 35 per cent of countries, have no restrictions on foreign seafarers. The reference is obviously to open and secondary registries. The ILO study stressed that 8.3 per cent of flag states require a full national crew complement, 13.3 per cent require all nationals except where authorised, 6.7 per cent and officers, whereas others 20 per cent of flag states require master and senior officers to be flag state nationals (see Appendix 8). The restrictive policies of the closed, hybrid and second registries in relation to masters and officers are the probable cause of officer shortages and are viewed as an impediment to the global balance of supply and demand. This state of affairs is not typical, however, for the open registries or FOCs, where crewing is on an open global basis.

The results confirm that the epicenter of the global market for seafarers continues to move in the direction of the Asian continent and some countries in Eastern Europe. In Asia the demographic and economic factors indicate that availability of seafarers is not a problem in the foreseeable future. However other factors must also be taken into consideration in predicting the long-term source of crew supply. It was said that Pakistan and Bangladesh have problematic security issues affecting seafarers, Sri Lanka has its own internal political problems that affect seafaring. Indonesia and Myanmar are low in terms of quality of training and the level of English which are major disadvantages. Myanmar's political situation poses concerns too. The Philippines has fundamental educational problems starting with

the elementary school system which will take time and determination to solve. The Philippines undoubtedly has long term potential as a source.

CHAPTER 5

CONCLUSION

In this dissertation an attempt has been made to address the issue of crewing in the context of the changing global environment of shipping. The principal parameters in relation to crewing have been examined are the currently prevailing systems of ship registration, the paramountcy of maritime safety and the socio-economic dimension of shipping.

The global trend today, which started several decades ago, is a major shift from traditional to functional ways of manning ships. Economic considerations, i.e., enhanced financial gains, are uppermost in the minds of shipowners and operators. Numerous newly independent and emerging sovereign states view themselves as aspiring flag states offering a service for a fee and have entered the field of ship registries which until relatively recently has been dominated by the traditional maritime states. The traditional maritime states' vision of ship registration and interpretation of the doctrine of genuine link is simply that the ship and the beneficial shipowner must have a common nationality. In their view it is only under such conditions that true genuine link can be maintained. The view of the open registries, of course, is that genuine link is manifested through the measure and degree of control and supervision that the flag state can exercise over a ship in terms of administrative, technical and social issues. The so-called responsible or quality open registries contend that this is achievable regardless of the nationality of the shipowner. The proponents of this view find support in Article 91 of UNCLOS which bestows on all states the prerogative to fix conditions for the conferment of nationality on ships. They are also inspired by the advisory opinion rendered by the International Court of Justice in the IMO *Reference Case.*

At the centre of this debate lies the core issue of this dissertation, namely, the subject of crewing or manning. The traditional view advocated by the traditional closed registry states with support from organisations such as the ITF, is that all three entities, namely, ship, shipowner and crew should belong to the same nationality. While open registry system is accepted as a reality predicated on the phenomenon of the crew supply states, there are genuine concerns over inequitable labour conditions and certain malpractices carried on by a number of dubious flag states. Among other activities the ITF has been in the forefront of actions designed to prevent and punish such deplorable practices. The IMO and ILO are also engaged in concerted actions in this matter. On the other hand, there are obvious economic factors some of which are undoubtedly justifiable that have fostered the growth of crew supply countries and the engagement of their seafarers by developed countries' shipowners. On this front the ITF expresses concern over exploitation of third world seafarers in terms of wage discriminations. However, there are counter allegations that these simply represent protective measures for the first world seafarers. It is also well-known that the third world seafaring population stands to gain much by accepting lower wages than those paid to their first world counterparts.

There is also the question of substandardness in terms of crew competence. On this issue there are allegations that third world crew (including Eastern European countries) serving on open registry ships are inadequately trained and are less competent than their first world counterparts. Apart from the efforts of IMO to upgrade MET standards and levels of competency through STCW 95 and the institution of the so-called "white list", the allegations regarding third world incompetence are not conclusively borne out by facts and evidence. This is illustrated in the following table.

Table 12 - Selected disasters, flag of vessels and crew nationality

Vessel	**Flag**	**Nationality of crew**
Prestige	Bahamas flag	Greek master, the Filipino and Romanian crew
Tasman Spirit	Maltese flag	Greek master and crew
Sea Empress	Liberian	a total crew of 27, all Russian nationals
Torrey Canyon	Liberian	Italian master
Exxon Valdez	Liberian	US master
Erika	Maltese	Greek master
Titanic	British	British master and crew
Zenobia	Swedish	Swedish master and crew
Marine Electric	US	US master and crew
Dara	British	All deck officers and most of engineers were British
Scandinavian Star	Bahamas	Norwegian master, Portuguese and Philippine crew
Estonia	Swedish	Swedish crew
Herald of Free Enterprise	British	British master and crew

Source: Cahill, R. (1990), extracts from different internet sources.

Comments: A sampling of major maritime disasters depicted in the table below indicates that the type of flag whether open, closed, hybrid or secondary, that is the primary decisive factor in maritime safety. All registry types are equally prone to human error. It is education, training, competence and safety culture that determines quality regardless of the type of registry and the nationality of the crew.

In conclusion it is the view of this writer that crewing of ships in contemporary shipping remains an issue that needs careful and serious consideration by all parties concerned, namely, the shipping industry, flag and port state administrations, MET institutions, unions, national and international, the international regulatory institutions such as IMO, ILO and the community of seafarers themselves. Issues such as the human element, training and certification, placement of seafarers in rewarding jobs should all be considered fairly and without discrimination as to nationalities and backgrounds of seafarers. The welfare of seafarers on board ships as well as when they are ashore are intimately connected to the safe operations of ships and this fact should be of paramount consideration in all

discussions and debates in all maritime fora. The harmonious resolution of contentious issues is the only way forward if seafaring is to remain as a respectable profession attractive to the younger generation. Without them shipping will eventually come to a grinding halt.

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Appendix 1 - SOLAS, Chapter V, Regulation 14

The provision in SOLAS, Chapter V, Regulation 14 reads as follows:

1. Contracting governments undertake, each for its national ships, to maintain, or, if it is necessary, to adopt, measures for the purpose of ensuring that, from the point of view of safety of life at sea, all ships shall be sufficiently and efficiently manned.

2. Every ship to which chapter I applies shall be provided with an appropriate minimum safe manning document or equivalent issued by the Administration as evidence of the minimum safe manning considering necessary to comply with the provisions of paragraph 1.

3. On all ships, to ensure effective crew performance in safety matters, a working language shall be established and recorded in the ship's log-book. The company, as defined in regulation IX/1, or the master, as appropriate, shall determine the appropriate working language. Each seafarer shall be required to understand and, where appropriate, give orders and instructions and report back in that language. If the working language is not an official language of the State whose flag the ship is entitled to fly, all plans and lists required to be posted shall include a translation into the working language.

4. On ships to which chapter I applies, English shall be used on the bridge as the working language for bridge-to-bridge and bridge-to-shore safety communications on board between the pilot and bridge watchkeeping personnel, unless those directly involved in the communication speak a common language other than English.

Source: SOLAS, Consolidated Edition, Chapter V, Regulation 14, IMO, London, 2004, p.365

Appendix 2 - ILO 109, Part IV, Article 21

The provision in ILO 109 "Wages, Hours of Work and Manning (Sea) Convention (Revised)", 1958, Part IV, Article 21 reads as follows:

1. Every vessel to which this Convention applies shall be sufficiently and efficiently manned for the purposes of--

(a) ensuring the safety of life at sea;

(b) giving effect to the provisions of Part III of this Convention; and

(c) preventing excessive strain upon the crew and avoiding or minimizing as far as practicable the working of overtime.

2. Each Member undertakes to maintain, or to satisfy itself that there is maintained, efficient machinery for the investigation and settlement of any complaint or dispute concerning the manning of a vessel.

3. Representatives of the organizations of shipowners and seafarers shall participate, with or without other persons or authorities, in the operation of such machinery.

Source: ILO 109 Wages, Hours of Work and Manning (Sea) Convention (Revised),(1958), Part IV, Article 21. Retrieved 15 June 2006 from the World Wide Web: http://www.ilo.org/ilolex/english/convdisp1.htm

Appendix 3 - ILO C180, Part III, Article 11, Paragraph 1

This provision in ILO C180 "Seafarers' Hours of Work and the Manning of Ships Convention, 1996", Part III, paragraph 1 of Article 11 reads as follows:

Every ship to which this convention applies shall be sufficiently, safely and efficiently manned, in accordance with the minimum safe manning document or an equivalent issued by the competent authority.

2. When determining, approving or revising manning levels, the competent authority shall take into account:

(a) the need to avoid or minimize, as far as practicable, excessive hours of work, to ensure sufficient rest and to limit fatigue; and

(b) the international instruments identified in the Preamble.

Source: ILO C180 Seafarers' Hours of Work and the Manning of Ships Convention, 1996, Article 11, Part III, paragraph 1. Retrieved 04 June 2006 from the World Wide Web: http://www.ilo.org/ilolex/english/convdisp1.htm, see Mukherjee, 2002, pp.183-184 and 209 for commentary on the issue.

Appendix 4 – Ratings aboard national flags and flags of convenience (FOCs), with and without ITF agreements

All ratings	National flag %	FOC with ITF Agreement %	FOC without Agreement %
Perception of shipping companies' attitude to unions			
In favour	27	17	7
Neutral	57	45	21
Not in favour	16	38	72
Good relationships			
With the company	82	67	48
With the crewing agency	84	55	42
Between officers and ratings	70	71	54
Company loyalty and pride I feel			
I feel loyal to company	86	78	72
I feel proud of who I work for	74	56	41
Social welfare provision-yes			
Retirement plan with employer	68	28	20
Medical insurance on leave	74	56	41
Training and skills			
Training provided by company over last 12 months	67	40	10
Encouraged to develop skills	84	51	40
Hours			
Have 6 hours uninterrupted rest every day	27	8	3
Work over 72 hours a wee	43	84	80
Positive perception of officer performance			
Keeping you up to date	85	59	42
Providing chance to comment	79	41	24
Responding to suggestions	77	42	27
Dealing with crew problems	81	53	42
Treating employees fairly	80	53	47
Consultation frequently or sometimes			
Crewing issues	38	13	9
Change to work practices	38	20	9
Pay issues	34	15	7
Health and safety	68	63	42
Perception of influence - a lot or some			
On range of tasks	56	36	20
On pace of work	57	21	23
On how work is done	61	25	15
Job intensity, work related stress and job security			
My job requires that l work very hard	62	79	85
I never seem to have enough time to get my job done	34	57	62
I worry about work during my resting hour	34	68	80
My job is secure	70	37	29
Satisfaction with pay and physical conditions			
Pay	82	73	40
Physical working conditions	78	44	30
Working in pain			
Worked with physical pain or discomfort	9	23	24

Source: Seafarers' International Research Centre, Cardiff, see Erol, 2006, pp. 8-9 for further comments.

Appendix 5 - A comparison of seafarers employment statistics

State	1LO study	B1MCO study
Algeria	35,605	2,635
Bahrain	423	unavailable
Bulgaria	31,761	5,147
Canada	900	14,633
Chile	19,882	3,110
China	340,000	82,017
Columbia	12	3,455
Croatia	6,500	19,500
Denmark	9,705	9,875
Egypt	114	9,140
Finland	10,400	10,000
France	9,522	6,330
Germany	11,818	14,483
Greece	45,363	32,500
Iceland	200	470
India	64,000	54,700
Israel	1,445	1,776
Italy	12,400	23,500
Japan	109,644	20,913
Korea	65,038	16,488
Lithuania	11,000	unavailable
Malaysia	61,830	12,671
Marshall Islands	17,805	40
Morocco	3,223	2,729
Netherlands	14,686	11,644
Norway	15,216	22,200
Pakistan	29,655	11,808
Papua New Guinea	2,530	987
Peru	3,240	1,700.
Poland	24	12,106
Portugal	229	2,221
Romania	1,099	10,257
Spain	2,243	10,000
Sweden	430	9,600
United Arab Emirates	1,080	unavailable
Uruguay	2,139	1,030
USA	15,000	15,207
Vanuatu	54,145	711
Total ILO respondents	**1,010,306**	
Total ILO for comparison with BIMCO	**997,803**	**455,583**
Difference		**542,220**

Source: Leggate H. (2004, January-March). The future shortage of seafarers: will it become a reality? *Maritime Policy and Management, 1,* pp. 10-12.

Appendix 6 - Top labour supplying countries in 2005

Country	Officers	Ratings	Total
China	42,704	79,504	122,208
Philippines	46,359	74,040	120,399
Turkey	22,091	60,328	82,419
India	46,497	32,352	78,849
Ukraine	28,908	36,119	65,027
Russia	21,680	34,000	55,680
Indonesia	7,750	34,000	41,750
Greece	17,000	15,000	32,000
Mozambique	6,000	23,000	29,000
Italy	9,560	11,390	20,950

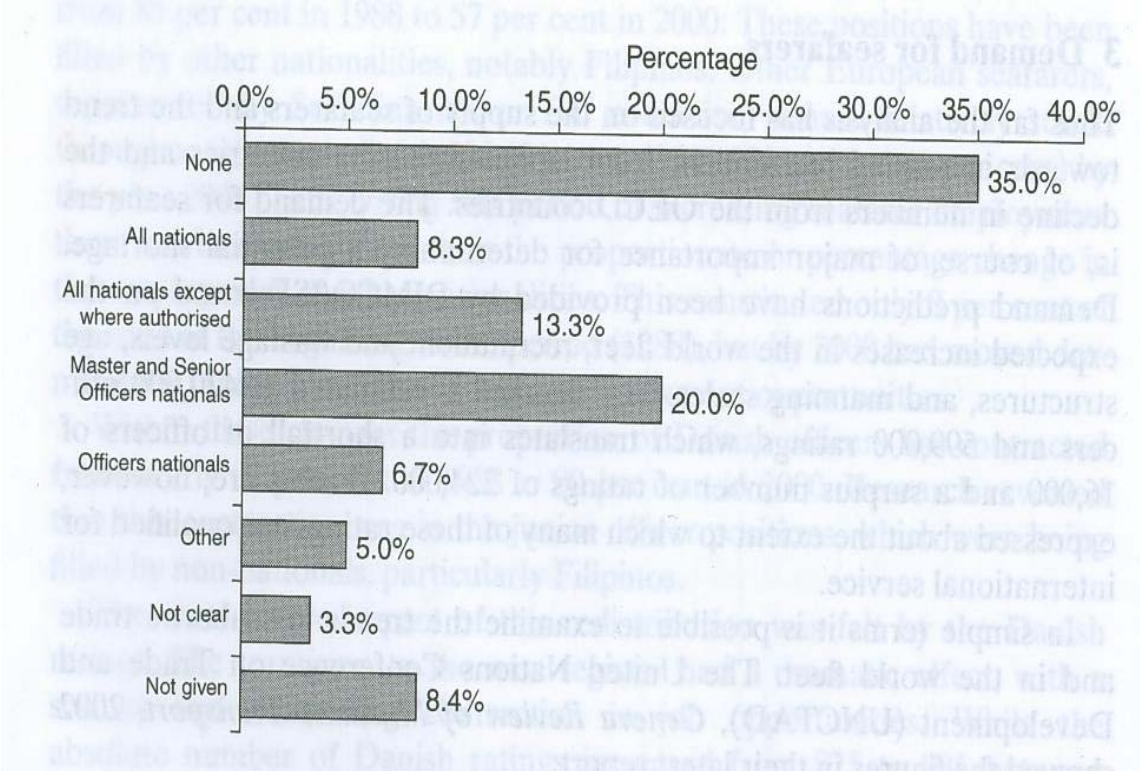
Source: Based on data compiled in (BIMCO/ISF Manpower 2005 Update)

Appendix 7 - Top labour supplying countries in 2000

Country	Officers	Ratings	Total in 2000	Total in 1995
The Philippines	50,000	180,000	230,000	244,782
Indonesia	15,500	68,000	83,500	83,500
Turkey	14,303	48,144	62,447	80,000
China	34,197	47,820	82,017	76,482
India	11,700	43,000	54,700	53,000
Russia	21,680	34,000	55,680	47,688
Japan	18,813	12,200	31,013	42,537
Greece	17,000	15,500	32,500	40,000
Ukraine	14,000	23,000	37,000	38,000
Italy	9,500	14,000	23,500	32,300
Totals	**206,693**	**485,664**	**692,357**	**738,289**
Grand total	**403,672**	**823,384**		

Source: Leggate H. (2004, January-March). The future shortage of seafarers: will it become a reality? *Maritime Policy and Management, 1,* p. 4.

Appendix 8 – Foreign seafarers restrictions



Source: ILO Study, see Leggate, 2004, p. 7 for commentary on the issue.