



The Effect of Maritime Security Regime (ISPS Code) on World Supply of Seafarers

Alexandros M. Goulielmos^a, Agisilaos Anastasakos^b, Androniki Gatzoli^c

^aUniversity of Piraeus, Department of Maritime Studies, 21 Gr. Lambraki & Distomou Str., 18532, Piraeus, Greece, e-mail: ag@unipi.gr

^bUniversity of Piraeus, Department of Maritime Studies, 21 Gr. Lambraki & Distomou Str., 18532, Piraeus, Greece, e-mail: aanastasakos@gmail.com

^cUniversity of Piraeus, Department of Maritime Studies, 21 Gr. Lambraki & Distomou Str., 18532, Piraeus, Greece, e-mail: ngatz@unipi.gr

Abstract

The efforts of IMO on the security of ports and ships after 11/9 are presented. IMO's resolution on *fatigue* of crews -cause of marine accidents- is also presented. The introduction of ISPS code -carried out under the pressure of USA- made by a *non holistic* approach, created a number of issues *involving and affecting seafarers*. IMO and ILO, and other industry's organizations, *but USA*, tried subsequently to *correct this repercussion*. ISPS created four issues: the fair treatment of seafarers –especially serious in USA ports; shore leave; SUA and PSI conventions, which all *changed* seafarers' working conditions, analyzed here. Important is also the '*criminalization of seafarers*', which had the most serious impact on crews. Moreover, examined is the possible impact of MLC 2006 Convention -in force since 2013- on seafarers supply. The efforts of OECD countries and EU, to reverse the falling supply of well qualified marine officers in last 10 years or so, showing in 2010 a deficit of 13,000 officers, are shown. This problem is more acute when world fleet grows, as this was the situation between 2003 and early 2013. OECD, EU, but Greece, also worried for the possible transfer of "shipowning know-how" from them...

JEL Classification: J22; J81; J88; J830; J880.

Keywords: Impact of ISPS on Supply of Seafarers (2004); Inadequate Supply of Seafarers by 2010; MLC impact.

1. Introduction

A new attitude emerged after 11/9. As a result '*seafarers*', and the broader concept of 'Human Element', became a subject of *political* debate. Four years after ISPS

(2008) a specific need identified -by at least one country-member of CSG¹- for the need of a more *holistic* view on ‘maritime human element’. A holistic approach was not followed in the first place in 2004 -year of the adoption of ISPS² Code- as it should. This unpleasant outcome was the result of the *urge* of USA for security measures the fastest possible way, under the weight of the passage of three years after the ‘twin towers’ disaster (2001).

Maritime nations -having a comparatively substantial supply of seafarers and a serious number of ships, like Greece- realized that there is a need for a set of ‘*policy recommendations*’ for seafarers. Indeed, a public intervention can play the role of facilitating the exploitation of opportunities and counter-act any threats, in sustaining *job creation* in maritime sector. This sector lacked 13,000 officers by 2010.

Indeed, certain sectors of maritime industry experienced *very severe shortages in properly certified seafarers, and in particular officers*. The problem, however, became more severe with the fast growth of world fleet –mainly due to a prospering trade with China. Seaborne trade exerted great pressure on crews (2003-2008). We believe that *the demand for qualified seafarers will continue to increase, as world fleet reached 1.63b dwt by 2013*.

New maritime security regime- ISPS Code and related legislation- by 2008 became already obvious that failed to take into account a *true concern about seafarers*. ‘Human element’ on board was not regarded as a potential partner to security, but...as a potential opponent. Seafarers from developed countries should remain on board to perpetuate shipowning know-how.

The 2004 security regulations created *a legal uncertainty, implementing a regional legislation, which, in the end, criminalized seafarers’ actions*. This lowered the *level of legal protection* used to be provided to worldwide seafaring community and to people engaged in maritime transport. This at the end had, we believe, created negative incentives for young people to choose maritime profession, and for additional ship-owners to emerge.

The paper is organized as follows: first, a literature review. Next, paper’s methodology. Then, IMO’s regulatory developments and policy initiatives on: human element- seafarers’ training/certification- and fair treatment of seafarers. Next, the Maritime security measures and policy implications imposed by SOLAS/ISPS Code are presented together with shore leave, SUA³ and PSI⁴ conventions. Final, the important issue of the Criminalization of seafarers and the essentials of MLC 2006/2013 convention are presented. Then, a presentation of the supply of officers and a brief analysis of the main characteristics of globalized seafarers’ market follows. Next, paper discusses the possible impact of regulations on the supply of officers. Then, come conclusions.

¹ Consultative shipping group consisting of : Belgium, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Korea Rep., Netherlands, Norway, Poland, Portugal, Singapore, Spain, Sweden and UK. Greece commented on the security issue with: “Current regulatory developments and shipping policy implications on seafarer’s issues” (14th May 2008).

² International security code for ports and ships.

³ ‘Suppression of Unlawful Acts’.

⁴ ‘Proliferation of Security Initiatives’.

2. Literature review

Leggate (2004) expressed a concern for the *future* number of *quality* seafarers. Lloyd's List (05/09/08) argued that ISPS transformed many ports from quite accessible to *veritable fortresses*. Seafarers found that getting ashore can be difficult, especially if their nationalities are deemed to pose *risk*. Seafarers, all too often, are treated like *potential* criminals or terrorist candidates; in fact are skilled professionals on whom global economy largely relies.

USCG head⁵ wrote a memo to ensure that foreign mariners -licensed and documented- will be treated more courteously and respectfully, when they call at US ports. Also, the 'US Coast Guard Authorization Bill' protects abandoned seafarers or seafarers who could not leave USA because of an ongoing investigation.

The whole matter of *maritime security* occupied maritime research (MPM, 2010) but it was Piracy, which attracted the core interest. Marlow (2010) argued that ISPS Code effectively replicated the model applied in air transport. It provided a consistent framework for the evaluation of risk, enabling governments to *offset changes* in 3 levels, with changes in vulnerability for ships and port facilities. Metaparti (2010) argued that security measures⁶, including ISPS⁷ Code, adopted and implemented in a record time -in 2 years, instead of 10⁸. He found 11 major gaps in ISPS Code security framework and proposed 6 recommendations.

Manuel (2011) argued that the potential sociological impact of the *unfair treatment of seafarers* and, particularly, the trend towards *institutionalised criminalisation of them*, epitomise the impact of security legislation. The denial of *shore leave*, is myopic, and in the long term detrimental to world trade and the progress in maritime security.

Lobrigo and Pawlik (2012) stressed the increasing lack of officers for an expanding world merchant fleet, with a focus on Brazil (having 2 maritime schools). Brazilians are motivated, 31%, by a planned activity to start own business after sea career; also by the prospect of a marine career ashore (28%). Brazilians become aware of maritime education/career, by more than 60%, by family and friends.

Thai et al (2013) argued for Singapore that recruitment will be the future challenge for officers. The way seafaring career can be marketed more effectively to enhance its image, attraction and to increase supply, studied. The attraction to seafaring profession depends there, by priority, on 3 main reasons: challenging a unique career, ensuring a financial income and securing a guaranteed employment. Moreover, another 3 reasons, that seafarers look by priority in choosing companies, are: level of pay, existence of bonuses and allowances for family education. In addition, good welfare on board, career advancement and individual training and development, are 3 more reasons, by priority, in choosing companies.

Schroder-Hinrichs et al (2013) argued that IMO's work related to 'Human element' changed from reactive, in the 1990s, to proactive⁹. Yang et al (2013) argued that maritime security incidents are *intentional*. They are threats defined as actions, or potential actions, with potential human injury, property loss and damage to environment. The 11/9 terrorist attacks implied that ships and ports can *much easier* be

⁵ Admiral Thad Allen (Feb. 2008).

⁶ UN, Container security initiative (CSI), Customs-Trade Partnership against Terrorism (C-TRAT). SAFE Framework of Standards, a World Trade Organization resolution (2008).

⁷ IMO, http://www.imo.org/Newsroom/mainframe.asp?topic_id=897#whathappen retrieved 27/01/2008.

⁸ Usual IMO's average time.

⁹ Meaning ISM Code.

targets than ‘twin towers’. They argued, however, that ISPS Code lacks an integrated strategy.

Summarising, ISPS and related security legislation, have been criticised. Moreover, research about seafarers, for last 40 years, was indeed low in comparison with its importance: between 1970 and 2010 only 24 (4%) papers were published in one journal out of 591 (Woo et al, 2013). Heaver (2013), writing on the evolution of Maritime Economics mentioned in a *note* only the ‘Guidelines of IMO/ILO’ for the fair treatment of seafarers in the event of a maritime accident.

3. Methodology

Economists believe in the effectiveness of market-based solutions to problems of extreme behavior like maritime security. Governments, and especially USA, and EU, traditionally, relied upon *direct regulation*. Regulation is preferred as it provides greater certainty than market (Stiglitz, 2000). It is uncertain whether ISPS repelled terrorist attacks to ships and ports after 2004, but history showed that airplanes/airports, railways/railway stations, busses and malls were preferred. Compliance with regulations is a matter of enforcement and compulsion (Besanko et al, 2010). Statistics show that regulation concerning security imposed in 2004 on ships and ports, accompanied by a *reduced supply of officers* to world Merchant Marine by 2010. Forecasts talk also that this situation till be unchanged by 2020.

4. IMO’S 2004 regulation and policy initiatives on human element

4.1 History

IMO reported its views to UN Secretary General (Goulielmos-Gatzoli, 2012) in the case of ‘Oceans and the Law of the sea’ in 2008, concerning also seafarers. For *human element*, IMO’s assembly adopted a resolution containing a vision as well certain principles and goals (November 1997). This resolution was updated (Nov. 2003). IMO moreover in its resolution¹⁰ of ISM Code (1998), invited Governments to encourage those responsible for management and operation of ships to develop, implement and assess ‘*safety and pollution prevention management systems*’. Moreover, on the recalled and brought up resolution on ‘*fatigue factors in manning and safety*’, IMO aimed at increasing awareness of the complexity of fatigue. It encouraged all parties involved in ship operations to take this factor seriously into account whenever making operational decisions.

Fatigue has been characterized by research as *one* factor contributing to marine accidents (Goulielmos-Giziakis, 2005) and illness is the other (physiological) factor contributing to human error. There are also errors emanating from character, lack of experience and knowledge, psychological factors (including stress), and lack of communication. This last factor has been found by authors behind a number of serious marine accidents (Goulielmos et al, 2009).

IMO acknowledged the need for an augmented focus on human-related activities in the *safe operation* of ships and the need to achieve and maintain high standards of *safety* and *environmental protection*, with a view to significantly reduce marine casualties (1998). We reckon that a proper research as to what are the main reasons of

¹⁰ IMO’s ‘guidelines on management for the safe operation of ships and pollution prevention’.

marine accidents, and why ISM Code did not succeed to *eliminate* them, is needed (Goulielmos-Giziakis, 2002; Goulielmos et al, 2008).

MSC and MEPC approved IMO's strategy, which was indirectly relevant to 'human element' (2006). It was addressed via a direction towards enhanced safety, securing and protecting marine environment (ISM Code). But what it has been looked after this time was human element *with a view of improving efficiency* of maritime transport.

For seafarers training and certification, IMO has long recognized its importance. But it connected it with the role of 'human element' in the *safe ship operation and the importance of maintaining high-level training standards for seafarers* (in 1978 STCW¹¹ convention, as revised, was adopted). STCW was loosely drafted originally and left intact for about 10 years or so, before its revision. Finally, IMO revised and updated this taking into account the importance of 'human element', but again in relation to *safety management* ashore and afloat. The differential element this time was the need expressed there to *maintain global standards in training seafarers*. This further helped globalization. The discussion shows that security, unlike safety, was overlooked by IMO prior to 11/9.

Despite IMO's trend to revise STCW convention in ten year installments, MSC in 2007 agreed to undertake a review of STCW by 2010, to accommodate new and innovative training methodologies like: *simulators, e-learning and the need for specialized training in transport of liquefied natural gas, petroleum gas, oil and chemicals*- an area of new challenges, which will be faced by shipping industry in years to come.

4.2 The fair treatment of seafarers

Worth noting is the global nature of shipping and the different jurisdictions that the ship and seafarers cross and contact in the case of an emergency. There is a need for seafarers, in particular, for *special protection* in their contact with public authorities. So, IMO's legal committee (2006) adopted a guideline¹² on 'fair treatment of seafarers' in the event of a marine accident, so that seafarers to be treated fairly during a possible investigation and detention by public authorities; moreover, detention is supposed to be kept at minimum time possible. The focus of guidelines is on co-operation and communication between all involved, ending in no discrimination, or retaliation against seafarers, for the mere reasons that participate in the investigations of a marine accident.

For the implications of 'maritime security' measures adopted', aimed at improving 'global maritime security regime', there is an 'asymmetry' support. Throughout international consultations to adopt a 'new maritime security regime', seafarers' organizations supported and contributed positively to the elaboration of many of the measures introduced...

ISPS put seafarers in the front line to improve marine security along with ISM...But ISPS had short term political targets and police-type measures¹³. These are different from the type of remedial measures, which would improve marine security... Administrations believe that seafarers must be treated as true partners, not as interested stakeholders.

¹¹ 'International convention on standards of training, certification and watch keeping for seafarers', one of the 3 pillars of IMO's conventions (with MARPOL and SOLAS).

¹² Advice is also provided on steps to be taken by *all* involved in an incident: the port- coastal- flag-seafarer's- state, ship-owner and seafarer.

¹³ Some speak about a flourishing 'security devices' producing industry in USA.

ISPS required (Goulielmos-Anastasakos, 2005) a significant increase in port security and on ship, and especially when she is in berth. The work load of seafarers obviously *increased* as crew has to supervise cargo loading and unloading *and* deal with all those¹⁴ wanting to visit the ship according to arrival formalities. This is causing additional *fatigue*, and perhaps this is why IMO legislated on it. Moreover, the time to be devoted to shore leave and seafarers' welfare is as a result reduced.

The 'UN General Assembly' declared that 'states must ensure that any measure taken to combat terrorism, complies with their obligations under international law, in particular 'international human rights, refugees and humanitarian laws' (UNGA A/RES/58/187). ISPS brought-in many changes to the working lives of seafarers, but most of them *are not welcome*...Hopes rest now on OECD/MTC and TUAC/ITF (2004)¹⁵ paper and MLC 2006.

As far as ISPS implementation is concerned, the negotiations at IMO, prior to the adoption of ISPS (Goulielmos-Anastasakos, 2005), were concerned with finding a proper *balance* between 'real concerns of civil society' and 'human rights of those working on board'. *Maritime security* had to be improved. But this should not be achieved by victimizing innocent seafarers. Seafarers are responsible¹⁶ for carrying-out ship's security plans in a way to detect possible threats (ISPS). Moreover, ISPS in a number of ports -largely but not exclusively- located in USA, created problems to seafarers, their welfare organizations and trade unions, to *secure access*¹⁷ to ships.

IMO reacted adopting MSC circular 1112 mentioning: 'from a practical perspective it is important that port facilities seek a *balance* between needs of security and needs of the ship and ship's crew'. The port facility operator must ensure coordination of shore leave for crew, or crew change-out, and access through the port facility for those visiting ship¹⁸ arranged with ship operators in advance of ship's arrival. A *singular focus on the security* of the port facility *seems not to be the case* in accordance with the spirit and letter of ISPS.

The fair treatment of seafarers had repercussions on international seaborne trade – an important component of global economy. Moreover, ISPS 'recommended' through its provisions that all port stakeholders work in co-operation for any arrangements and plans.

4.3 Shore leave

Seafarers must have leave to transit borders in joining and leaving ship. This for a long time was specified in IMO's convention on 'facilitation of international maritime traffic' (1965, FAL). This convention, introduced an exception to national and international laws, and specified that *seafarers need no visa for shore leave*. The conference of contracting Governments (2002) adopted resolution 11 "on human element related aspects and the shore leave for seafarers", but unfortunately a special protection to seafarers has not been provided...

ILO (2003) adopted convention 185 on "seafarers' identity documents", which left untouched by MLC 2006. Moreover, a conference resolution concerning decent work

¹⁴ The most important are: port state control inspectors, customs people, health authorities, agents, and pilots.

¹⁵ 'Seafarers comments on relevant regulatory and political developments'.

¹⁶ Substantial paper work involved in ISPS. Little consideration has been given in both cases.

¹⁷ Report in News Bulletin of 'Greek Shipping Co-operation Committee' in March 2008 appeared titled: 'US transportation worker identification credential issues'.

¹⁸ People for maintenance ship's equipment/safe operation, representatives of seafarers' welfare/labor organizations.

for seafarers –incorporated into MLC 2006 convention- urged member states to take into account human element and the need to provide special protection and facilitation as well as *shore leave*, when implementing maritime security measures. This convention tried to *balance* ‘legitimate security concerns’ with ‘human rights of seafarers’ with a machine capable of reading biometrics, together with a comprehensive oversight system.

European commission¹⁹ stated that the point of departure of the ‘185 ILO convention’ is that seafarers who work and live on ships involved in international trade and wish access to shore facilities and shore leave, are vital elements of seafarers’ general well-being; and they help shipping to become safer.

Unlike EU, USA requires all seafarers to apply for individual visa...and this despite a letter from Secretary General of IMO and Director-General of ILO (2004) to the ‘Secretary of Homeland Security department’, requesting recognition by USA of the exceptional position of seafarers to enter into foreign countries and for the facilitation of their shore leave... Moreover, ITF, ICS, ISF, Intercargo, Intertanko and BIMCO in 2004, stressed the importance of shore leave and called for the ratification of ‘185 ILO convention’.

4.4 SUA and PSI conventions

ISPS caused the revision of SUA (1988). This convention is a ‘criminal law instrument’ adopted as a result of the possible unlawful actions, which threatened the safety of ships and the security of passengers and crews (1980s). The PSI deals with ‘bilateral ship boarding agreements’. Boarding on a vessel in high seas is inherently dangerous and there is a risk. Crew is unable -under certain circumstances- to distinguish between an authorized boarding party, a terrorist, a pirate or even an armed robber attacker. It is not easy to resist authorized boarding, implementing the recommended anti-piracy counter-measures, and in particular if boarders use ‘necessary force’.

Are not seafarers after all entitled to the same protection for their fundamental rights and freedoms? Why seafarers to be disadvantaged in comparison with shore based workers? Under SUA, matters are difficult if ship’s boarding is undertaken, in most of the cases, by a foreign force. So, industry’s recommendation is to provide a prior notification to ship and crew to verify the authorization of those wishing to board.

In case when boarders search the ship, and question the crew, seafarers must have the protection of a due process and normal checks and balances enjoyed also by shore-based workers. This means a legal protection in their treatment; securing legal assistance; not to be removed from the jurisdiction to which they consented to serve under (laws of flag state) to that of another state. This can be done by the extradition process and entitlement to, and the provision of, a mechanism to compensate them for any losses that may suffer, and for any abusive treatment they may endure. A ship search is better done in a port, and so the ship must sail to a port. By so doing some issues of jurisdictions are raised as well the impact of this on the protection of seafarers’ rights, meaning the necessity of providing diplomatic protection.

¹⁹ ‘COM 2004 final’ is a proposal for a council decision, authorizing member-states to ratify, in the interests of the community (ILO convention 185).

4.5 Criminalization of seafarers

Marine incidents that occurred appeared in the front pages of the press²⁰. Moreover, the concrete national legislative measures imposing criminal sanctions on seafarers, when in a ‘*serious negligence*’, follow. This established a lower threshold for *criminal liability*, and not just a *civil* liability. This puts seafarers in an invidious position and in a worse position in relation to other professionals...

What are the human rights in a case where seafarers are detained after a pollution incident? In a number of cases was unclear how criminal charges brought against them, and if they could be justified on facts, and under international law. Even the subsequent withdrawal or dismissal of charges proved *small consolation* for the defendants, where charges should have never been brought. Moreover, a considerable delay occurs when human rights are adversely affected. In addition one part of the world copies the other²¹.

Public is very sensitive to incidents of pollution for there is a personal threat and harm; also, the reaction of public, of media and of politicians, impose considerable pressure on prosecutors to bring-in criminal charges. Human rights of the defendants must have an analogous weigh to counter-balance an undue, or ill-informed, pressure²².

4.6 Maritime labor convention (2006; 2013)

This has been adopted by ILO (www.ilo.org/mlc) in 23 Feb. 2006 and is in force since 2013. It was the work (2001) of international seafarers and shipowners organizations, later supported by Governments. It is organized in 3 main parts: articles, regulations and code. It is considered as a *comprehensive* international labor convention, which sets out seafarers’ rights to *decent conditions of work*. It also wishes to boost fair competition among ship-owners for ships of 500 gt or greater (engaged in international voyages). It has the ambition to become²³ the 4th pillar of the international regulatory regime –after SOLAS, MARPOL and STCW- for ‘quality shipping’. It is impressive as it covers 14 key areas –including payment of wages- in the working and living conditions of seafarers; these areas moreover will be inspected and certified. MLC 2006 cares also for the social security of all seafarers over medical care and for 8 benefits. The subjects/titles of MLC are: minimum requirements for seafarers to work on a ship; conditions of employment; accommodation, recreational facilities, food and catering; health protection, medical care, welfare and social security protection and compliance and enforcement.

As it stands, MLC 2006 has no direct effect on the security quest of ships and moreover of ports, but it helps the improvement of working conditions of seafarers, and thus safety and quality of merchant marine. This no doubt will attract more people to seafaring profession.

So, what is the impact of above measures on supply of officers?

²⁰ The Captain of M/V ‘Prestige’ has been detained; and “eight” in the Karachi case” (‘Tasman Spirit’).

²¹ In a pollution incident Greek nationals were detained for several months on unclear grounds. After diplomatic negotiations, they have been released. For such a treatment, an attempt was made for action taken in similar circumstance in Europe to be adopted.

²² Observations submitted by Greece to the EU Court of Justice (case C-308/06).

²³ Consolidated 36 previous conventions and one protocol since 1920, excepting conventions 185, 108, 71 and 15.

5. Supply of officers

5.1 The Shortage of officers

It is worth-noting that shipowners were always concerned about officers' shortage. *Effective* measures, however, were lacking... 'BIMCO/ISF manpower update' (2005) showed a global seafarers supply²⁴ (Table 1) of 466,000 officers -short by 10,000²⁵. Officers recorded an increase by 135,000 since 2000. In 2010 the supply of officers increased by 220,000 (54%) –short by 13,000. BIMCO/ISF (2010) argued that by 2015 the deficit of officers will be 5%, 'improving' by 2020 to 1%, compared with 2% in 2010. Moreover, OECD countries fell behind other nations in supplying seafarers, though were protagonists in the past. In 2010 OECD reduced its share to 29% in officers compared with 40% in 1995...

Total supply, though, of the top 10²⁶ supply countries, fell, from 738,109 (1995) to 692,257 (2000). Then rose to 1,007,388 (2005), compared with 1,371,000 for all nations (2010). Officers for top 9 countries were 316,839 in 1995 vis-à-vis 624,000 for all countries (2010). Fortunately, China is an emerging supply centre –which will be more effective if Chinese improve English (Wu, 2004). BIMCO/ISF (2010) argued that the significant increases in seafarers' supply came notably from China (plus India, Philippines²⁷ and certain European nations). Chinese have been prevented so far to contribute to the supply of officers, by lacking a multinational environment. Chinese prefer strongly ocean going vessels, not owned by the state, due to better remunerations (Wu, 2004).

Table 1: Supply & Demand of Officers for World Merchant Marine 2000, 2005 and 2010

2000	Supply of officers: 404,000	Demand of officers 420,000. Deficit: 16,000
2005	Supply of officers: 466,000	Demand of officers 476,000. Deficit: 10,000
2010	Supply of officers: 624, 000	Demand of officers 637,000. Deficit: 13,000

Sources: Lloyd's list (05/12/2005). Bimco-ISF manpower, 2010 update. Shortages are more acute in tankers. Supply comes at 62.5% from: Far East (29.5%), S E Asia (13%) and Eastern Europe (20%). OECD officers cover 29.5%, but they are becoming ageing.

OECD countries were concerned about the increasing shortage of properly qualified *national* seafarers. Moreover, a variety of policy initiatives of international maritime community, and of certain OECD member-states, took place. This was with a view to take specific actions to "correct", if possible, the decline of the supply of officers. The indirect aim of certain OECD maritime nations was in particular, and correctly, we believe, to counter act the elimination of '*maritime know-how*' in industrialized

²⁴ Most recent national statistics provided by authorities in all principal labor supplying countries, and by other maritime nations. In 2010, figures were based on *numbers holding STCW certificates* (a much broader cover).

²⁵ BIMCO/ISF Manpower Update, Dec. 2005, 'the worldwide demand for and supply of seafarers', Warwick Institute for employment research.

²⁶ Philippines, Indonesia, Turkey, China (122,208 in 2005), India (78,849), Russia, Japan, Greece, Ukraine and Italy (Tsamourgelis, 2009).

²⁷ Philippines provided 257,000 seafarers (2005), behind Turkey, which supplied 263,000 (Tsamourgelis, 2009). One must be cautious with seafarers' statistics for Greece.

nations²⁸. This was the result of the persistent deficit of OECD officers. Know-how is a factor that guarantees, we believe -among other things- the future existence of the 'national' ship-owning. The shrinkage of national shipping know-how caused by foreign sea officers is equivalent with an elimination of national country from the list of maritime nations in a few decades (UK case; Smith and Lalwani, 1999).

In the case of Greece, many ship-owners came from marine profession, but unfortunately, Greek Merchant Marine Minister (2007) did not evaluate this properly, so that to have *mandatory* a certain % of *officers* (exclusive of Captain) of Greek nationality on board. He legislated²⁹ (15/05/07) that ships from 3,000 to 30,000 GRT, must have 4 at least Greeks- *of any rank* -including Captain, of Greek nationality plus 1 cadet; from 30,001 to 80,000 GRT at least 5 Greeks -including Captain plus one cadet; from 80,001 and over at least 6 Greeks -including Captain plus 1 Cadet. The aim of Greek Minister was to boost flagging-in (Goulielmos, 2000) and flag competitiveness and not to boost employment of Greek nationality marine officers. As a partial result of above policy, from January 2001 till March 2008, the number of ships under Greek flag increased by 4.8% to 38.4m gt (41% of total owned fleet) (April 2008). This can be compared with 73.4m dwt and 43.3m gt above 1000 gt in March 2013 (Lloyd's/GSC Committee).

Moreover, EU adopted 3 policy objectives: (1) Creation of a more positive image of seafaring profession –given that profession's image attracts young people -though this is not supported by research (Goulielmos-Goulielmos, 2003, for Greece) as the most important cause for one to become an officer³⁰. We run a regression between the 'number of marine schools applicants' and the 'number of ships in national flag', and the coefficient of correlation found 0.72. Greek candidates' numbers between 1979 and 2001 were affected by the 1981-1987 depression. McConville et al (1998) for Britain came to similar results.

(2) Encouragement for the creation of maritime clusters (Goulielmos, 2012). The relationship between a cluster and the attraction of people to marine profession has, however, first to be established. De Langen (2002) argued that firms cluster together *because of* the presence of a large labor pool inside the cluster, as this reduces search costs and allows training and educational programs.

(3) Encouraging maritime education and training to take into account the needs of shore-side industries³¹. Here again no tailor-made research has been carried out about motivating companies in a program of getting out -from ships- certain officers of certain age and sea experience. Today and for the last 30 years at least -according to our working experience- big Greek shipping companies did this for a limited number of seafarers, especially officers. Thomas et al (2003) argued that there are many things to do in this area, like: shorter trips, continuous employment and opportunities of families and partners to sail³². The same we believe is correct for Greece, which it could unite social security at sea with that at shore (Gardner and Pettit, 1999a, b).

²⁸ Council of EU, (23/11/2005), MAR 155: 'Boosting employment prospects in the Community Maritime Sector and attracting young people to the seafaring profession', conclusions.

²⁹ <http://www.yen.gr/wide/yen.chtm?prnbr=31019> for the draft of the law of 27th April 2007, 427319.doc pdf

³⁰ Research carried out among those requested admission to Greek Marine Academies (1995). Received were 2,241 questionnaires; 76% of them considered shipping as a *potential career* industry, while 68% were interested for an immediate employment and high wages. One third asked admission because belonged to a seafarers' family.

³¹ Ibid (p 6).

³² This is applied by Greek shipping companies for wives and children of their officers.

In addition, Mr. Borg in 2007³³ argued that EU was concerned for the sharp decline of the interest of young people in seafaring career. This is an area that EU is *focusing attention* with reference to ‘Lisbon agenda³⁴’. A lot of importance has been placed to promote maritime sectors as an attractive and alternative source of employment. He saw, as we did, that European skills will be lost otherwise, at a time when new technology and stricter environmental regulations will require most the contribution of seafarers. He also mentioned the potential loss of know-how; and that Europe’s maritime clusters *are very reliant on seafaring skills*. As a solution, he proposed the greater job mobility and clearer career path for seafarers. As for training, this must be brought at higher levels than at a minimum standard as so far. Finally, EU must provide a *greater job security* to maritime sector.

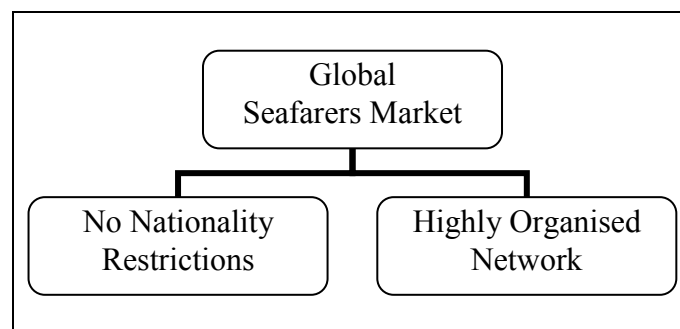
Officers, in the past, came mainly from OECD countries. Since then, Eastern Europe became an increasingly important provider with a significant boost in officer’s numbers (20% share in 2010). Moreover, Far East and S E Asia and Indian sub-continent *provided officers that may solve the shortage problem*. Indeed, in 2010, 264,000 officers came from East (42%). Although the shortage in officers is slightly above 2% of total supply in 2010, and the deficit increased by 3,000 since 2000, the growth of ship numbers is about 1.5% or so p.a. Moreover, the number of larger vessels *has not been anticipated*; and in 2000 also the scale of demand for officers *failed* to be predicted.

Demand for labor increased more rapidly than anticipated by 2010. So, the more the growth of world fleet continues, and the work pressures on crews maintained, the more the demand for qualified seafarers will be rising. A solution seems to be the higher recruitment/enrollment rates, the smaller wastage rates and higher maritime schools’ production. But as argued by Leggate (2004) we must look also after quality.

5.2 Globalization of seafarers

The market of seafarers became *global*³⁵, with two main characteristics (Figure 1). A large number of internationally trading, nationally flagged ships are not crewed exclusively by nationals, with the exception of China³⁶.

Figure 1: The Global elements of Seafarers Supply



³³ EU official; interview (in Greek trade magazine ‘Naftika Chronica’).

³⁴ Lisbon agenda put forward the full employment in EU before end-2008 depression.

³⁵ Exceptions exist in the coastal and short-sea trades and in regions (developing or developed) under cabotage.

³⁶ China has now a sizeable fleet of merchant ships crewed by nationals trained and certified by a well-regulated system of colleges and universities. For foreign flagged vessels, agents must be licensed in order to supply seafarers.

Seafarers' market has no nationality restrictions anymore. A seafarer of any nationality can be recruited. Moreover, recruitment is highly organized. In addition, there are extensive global networks with a link between: ship-owners, ship managers, crew managers, labor supply agencies and training institutions. In such a situation, the all-inclusive character of labor market and the existence of an efficient globally integrated supply chain, make the system relatively straightforward for employers to arrange and rearrange crew compositions at will.

EU by 1996 provided 72% of persons employed in its shipping sector (Tsamourgelis, 2009). We must admit that the EU maritime countries –with the exception of Greece- permitted foreign labor after the appearance of dual registers in 1986, under the pressure of the 1981-1987 depression. This was the time when Greece³⁷ lost one of its competitive advantages. Norway (with a dual register since 1987) had 67% non-nationals in the total number of its crews in 1996. Similarly, Denmark and UK adopted foreign crews by 30% and 28% respectively.

Provision of *employment* by Merchant Marines -especially when shore industries suffer from unemployment³⁸, like that after end 2008 - and in particular under socialistic governments - is surely most welcome. In fact, transport created 10m jobs, of which 2m by maritime transport³⁹. 190,000 seamen posts were provided (2001-2), of which only 30% to foreign persons, increasing to 360,000 after Malta and Cyprus joined EU (Goulielmos, 2005)⁴⁰ in May 2004.

The globalization of the supply of seafarers is crucial and it is considered differently by North and South EU-member maritime countries. More important, as outlined, is that officers are also involved in producing ship-owning know-how. The enrollment numbers must increase so that officers *remaining* finally on board to be those required, as mentioned. Moreover, officers are the pool of potential candidates for jobs in many of the land-based maritime sectors. Borg argued (Mare Forum conferences, 2005) that 'EU has to improve the attractiveness of marine profession by facilitating *mobility in land-based jobs and improving working conditions*'. We must be careful, however, not to get people out of the ships. We argue that officers employed at shore must have previously at least 10 years sea experience or being 40 years of age.

Thomas et al (2003) have interviewed seafarers from UK, China and India and suggested that the *negative* consequences of the profession can be reduced through companies' policies. UK provided in 1997 (Gardner et al, 2001) -despite that British Government had a non realistic strategy- 25,100 employment posts (7,500 British Officers; 10,500 British ratings; 6,000 British officers on foreign-owned vessels and 1,100 officers-cadets). Our supply estimates for Greece is 144,000 seafarers for 'Greek-owned shipping' of which 72,000 Greeks (McConville et al, 1998; McConville, 1999; Goulielmos-Goulielmos, 2003).

³⁷ Greece in 1983 allowed foreign crews to be paid according to the wages prevailing in their countries. This was a substantial competitive advantage provided by Government to Greek shipping.

³⁸ Greece will have almost 1/3 of its labor force in unemployment by 2014.

³⁹ ECSA, op. cit., p. 4.

⁴⁰ Employment by official figures is not reliable. More so when employment of nationals is seen only under national flag instead of taking into account ownership control under all flags (Goulielmos, 2005). See also ECSA notes in 2003/4.

6. Conclusions

The 'New Maritime security regime' legislated to *secure* ports and ships from a potential terrorist attack - initiated by USA, and adopted by EU, after the 11/9 attack, in 2004- has been recognized four years later (2008) that *failed to take on 'board' the concerns of seafarers*.

Human element should be regarded par excellence as potential partner in the security quest. Unfortunately, measures were unilaterally imposed without prior consent of seafarers, leading to a deterioration of working conditions of marine professionals with a potential impact of deterring new entrants and causing some to abandon marine profession. And all this in a time when there was a growing shortage of suitably skilled and trained officers. About 13,000 ships had no officers of the proper number, rank or quality...

Specific maritime security measures and criminalization of seafaring profession *in the name of security* have been introduced in an unbalanced way, causing negative developments for marine 'human element'.

Far away from a *holistic* approach, the measures taken and introduced, and the way implemented, had a significant adverse effect on *supply of seafarers*. The measures drove many of the most skilled seafarers away from ships to shore. This will further curtail the ability of merchant marine to continue in attracting, and succeed in maintaining, suitably skilled and qualified new entrants.

IMO concerned not so much with security (up to 2004), but more so with safety (1998) of sea transport to ensure no loss of life, of cargo, of ships, of injury of those working on board, for the protection of marine environment and of third party property (ISM). Moreover IMO concerned not only with standards of ship operations, but also with standards of training and watch-keeping (a sensitive area where many marine accidents have taken place), as well with the certificates that prove training (STCW).

Convention STCW should have been more clearly and specifically written in the first place (1978), and it should have been revised sooner. Thirty or so years elapsed for the third revision of this important convention (2010). Moreover IMO concerned with the *fair treatment* of seafarers involved in a marine accident after 'the criminalization of marine profession', which is an unpleasant outcome of ISPS code.

Efforts were spent in the wrong direction as industry must find ways to guarantee seafarers...from being, or used, by terrorists...On the other hand is valid the position of maritime community that real seafarers are *innocent, and condemns practices treating genuine seafarers as potential terrorists*. Unfortunately, *USA does not obviously want to take risks after 11/9*.

The whole matter, we believe, is one of a different view of the same issue, and as USA was a victim of terrorism, and a victim of its security philosophy, prior to 11/9, we see it difficult for USA to be persuaded to provide free access to seafarers to its ports *without a visa*. If the rest of the world wants to solve the problem of crew criminalization, must go all the way-out and understand first the fears of USA, and then take measures to dissolve these fears effectively. Convention 185 of ILO (2003) was to the right direction. Regulators did not realize in 2004 that ISPS -as shown- has probably affected the supply of officers and a greater deficit has been created.

References

- BIMCO/ISF, 2010. Manpower 2010 update: the worldwide demand for and supply of seafarers, Highlights. Also in 2005.
- Besanko, D., Dranove, D., Shanley, M. and Schaefer S., 2010. Economics of Strategy, 5th ed., Wiley, for Asia.
- De Langen P. W., 2002. Clustering and performance: the case of maritime clustering in the Netherlands, *Maritime Policy and Management*, Vol. 29, 209-221.
- Gardner, B. M. and Pettit, S. J., 1999a. Seafarers and the land based jobs market: the present UK situation, *Marine Policy*, Vol. 23, pp 103-115.
- Gardner, B. M. and Pettit, S. J., 1999b. The land-based jobs market for seafarers: consequences of market imbalance and policy implications, *Marine Policy*, Vol. 23, pp 161-175.
- Gardner, B., Naim, M., Obando-Rozas, B., Pettit, S., 2001. Maintaining the maritime skills base: does the Government have a realistic strategy?, *Maritime Policy and Management*, Vol. 28, 347-360.
- Goulielmos, A. M. and Giziakis K, 2005. Quality control in shipping companies and ships, 3rd edition, A. Stamoulis publications, Athens-Piraeus (in Greek).
- Goulielmos, A. M. and Goulielmos, M., 2003. The attraction of New Officers to Shipping: An empirical investigation, *Essays in honour of Prof. Lazaris*, University of Piraeus, p. 101-118, (in Greek).
- Goulielmos, A M and Gatzoli A, 2012. The role of a ship's Master in theory and practice: Lessons from Marine Accidents, *Critical Incidence Analysis*, pp. 55-78.
- Goulielmos, A M- Mitroussi K and Gatzoli A, 2008. Marine Accidents: quality and one step further, *Ocean systems Management*, Vol. 1, pp. 45-67.
- Goulielmos, A M, 2000. A proposed shipping policy to counteract flagging-out: the paradigm of Greece, *Maritime Economics*, Vol. II, 27-47.
- Goulielmos, A M., 2005. First assessment of the impact of the New Countries' Accession-especially Cyprus and Malta-to EU, *SPOUDAI*, University of Piraeus, Vol. 55, pp. 78-93.
- Goulielmos, A M. Anastasakos, A. A., 2005. Worldwide security measures for shipping, seafarers and ports: an impact assessment of ISPS code, *Disaster Prevention and Management*, Vol. 14, 462-478.
- Goulielmos, A. M., Giziakis K., 2002. Marine accident prevention: an evaluation of the ISM Code by the fundamentals of the Complexity theory, *Disaster Prevention and Management*, Vol. 11, pp. 18-32.
- Goulielmos, A. M., Goulielmos, M. A. and Gatzoli, A., 2009. The accident of passenger-car vessel Samina Express 2000. when 80 persons died: an analysis by the principles of nonlinear management, *Disaster Prevention and Management*, Vol. 18, pp 338-358.
- Heaver, T., 2013. Evolution of Maritime Economics, *Maritime Policy and Management*, Vol. 40, 197-198.
- Leggate, H., 2004. The future shortage of seafarers: will it become a reality? *Maritime Policy and Management*, Vol. 31, 3-13.
- Lobrigo, E. and Pawlik, T, 2012. The seafaring labour market in Brazil, *Maritime policy and Management*, Vol. 39, 621-639.
- Lu, C.-S., Chang, C.-C., Hsu Y.-H., and Metaparti. P, 2010. Introduction to the special issue on maritime security, *Maritime Policy and Management*, Vol. 37, 663-665.
- Manuel, M. E., 2011. Potential sociological impacts of unfair treatment of seafarers, *Maritime Policy and Management*, Vol. 38, 39-49.

- Mare Forum Conferences, 2005. Joe Borg⁴¹: The New European Maritime Policy, Renaissance Hotel, 17th November, Brussels.
- Marlow, P. B., 2010. Maritime security: an update of key issues, *Maritime Policy and Management*, Vol. 37, 667-676.
- McConville, J., 1999. Shipping Policy, *Maritime Policy and Management*, Vol. 26, 103-4.
- McConville, J., Glen, D., Dowden, J., 1998. UK Seafarers Analysis 1997, London, Guildhall University.
- Metaparti, P., 2010. Rhetoric, rationality and reality in post-9/11 maritime security, *Maritime Policy and Management*, Vol. 37, 723-736.
- Schroder-Hinrichs, J-U., Hollnagel, E., Baldauf, M., Hofmann, S. and Kataria, A., 2013. Maritime human factors and IMO policy, *Maritime Policy and Management*, Vol. 40, 243-260.
- Smith, H. D. and Lalwani, C. S., 1999. The call of the sea: the marine knowledge industry in the UK, *Marine policy*, Vol. 23, pp. 397-412.
- Stiglitz, J. E., 2000. *Economics of the Public Sector*, 3rd edition, W W Norton and Co, NY.
- Thai, V. V., Balasubramanyam, L-Yeoh, K. K. L. and Norsofiana S, 2013. Revisiting the seafarer shortage problem: the case of Singapore, *Maritime Policy and Management*, Vol. 40, 80-94.
- Thomas, M., Sampson, H., Zhao, M., 2003. Finding a balance: companies, seafarers and family life, *Maritime policy and Management*, Vol. 30.
- Tsamourgelis, I., 2009. Selective replacement of national by non-national seafarers in OECD countries and the employment function in the maritime sector, *Maritime Policy and Management*, Vol. 36, 457-468.
- Woo, S.-H., Bang, H.-S., Martin, S. and Li, K. X., 2013. Evolution of research themes in *Maritime Policy and Management*-1973-2012, Vol. 40, 200-225.
- Wu, B., 2004. Participation in the global labour market: experience and responses of Chinese seafarers, *Maritime Policy and management*, Vol. 31, 69-82.
- Yang, Z. L., Wang, J. and Li, K. X., 2013. Maritime Safety in retrospect, *Maritime Policy and Management*, Vol. 40, 261-277.

⁴¹ Member of the European Commission responsible for Fisheries and Maritime Affairs; ‘Shipping at the heart of a future maritime policy for Europe’, Athens, Mare Forum Conference, 25th Sept. 2006 http://ec.europa.eu/maritimeaffairs/speeches/speech250906_en.html 20/06/06.