

THE INTERNATIONAL SEAFARERS MARKET FUTURE EVOLUTION

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Abstract: Today, a seagoing ship is a floating factory that requires qualified crew with an unusually high professional and ethical level. The complexity of ships, the diversification of vessels and cargo types, the increasing number of ships have imposed firm and clear rules on the selection, preparation, employment, promotion and control of the training of seafarers.

Knowing the legacies that govern the international seafarers market is of crucial importance to those who do staff policy at international, national and ship company. The maritime transportation was among the first industries to adopt internationally recognized and widely implemented safety standards. The scientific approach of the international seafarers market is strictly related to the safety of navigation, and the protection of the marine environment.

Keywords: seafarers market, evolution, maritime transport

1. Introduction

Presently the world trade is around 90% carried out by the international shipping industry. Without international shipping, the import and export of goods necessary for the modern world would not be possible. The seaborne trade, with its ups and downs, continues to grow, bringing benefits to consumers around the world through its competitive freight costs. As a result of the increasing efficiency of shipping, the degree of economic liberalization has increased, and the outlook for growth following the recent global crisis (which has not yet exhausted) is still manifesting as a result of the global economic growth trend.

Today, there are more than 50,000 merchant ships in function, carrying all kinds of cargo at sea. The world fleet is registered in more than 150 countries and comprises more than one million seafarers from almost all countries of the world [1].

The world shipping fleet provides not only transport connectivity to global trade but also livelihoods to those working in maritime businesses. In 2016, world fleet capacity increased by an estimated 3.2 percent, down from 3.5 percent in 2015. The deadweight capacity of the world commercial fleet was 1.86 billion deadweight tons (dwt) in early 2017, worth \$829 billion [2].

Maritime transportation is considered to be the safest and least aggressive for the marine environment. It is estimated that, almost exclusively, among the industries involving a physical risk, the safety of all shipping operations is well implemented. The maritime transportation was among the first industries to adopt internationally recognized and widely implemented safety standards.

The approach of the International Seafarers Market is strictly related to the safety of navigation and the protection of the marine environment.

Since the 1980s, the economic evolution of the different regions has led to a transition from a bipolar world (Europe and North America) to a tripolar one, including East Asia, with the tendency for it to become a favorite by 2050 with the maritime transport playing a crucial role in sustaining such a trend.

Due to its inherently international nature, the safety of navigation is regulated by various United Nations agencies, in particular, the International Maritime Organization (IMO), which has developed a comprehensive regulatory framework for maritime safety at a global level.

The maritime transport is the least damaging to the environment, and, compared to the land industry, is a relatively minor contributor to marine pollution from human activities.

2. Materials and methods

The maritime transport is one of the best-regulated industries, and it was among the first to adopt internationally implemented safety standards on a large scale. Because the shipping is an international one, it is vital that it is subject to uniform regulations on issues such as construction standards, navigation rules, and crew competence standards. International shipping is mainly regulated by the International Maritime Organization, based in London, United Nations Agency for Safety at Sea and Marine Environment Protection. The International Labor Organization (ILO) is also responsible for developing work standards applicable to seafarers around the world.

The level of ratification and enforcement of the IMO Conventions is generally very high compared to the international rules adopted for shore-based industries.

Today, the world's maritime trade accounts for more than 1.5 million seafarers (seafarer: any person employed and carrying out work on board a vessel to which the MLC Convention applies, 2006. MLC Convention 2006 does not apply to vessels operating exclusively in inland waters and harbors or not engaged in routine fishing, recreational, military and auxiliary vessels). Thus, shipping is a truly international industry: in today's global market there are ships of a particular nationality, registered in countries other than the one of origin, with officers and mixed crews from various other states of the world.

However, the seafaring is one of the most dangerous occupations in the world, with 2,773 victims of accidents at sea (Figure 1 and Figure 2). The suicide rate for seafarers is three times higher than that recorded for land-based workers, and mortality at sea at work is 26 times higher.

The danger of piracy in certain areas is very present. Although the overall trend is decreasing (7% in 2014 as compared to the previous year), piracy is on the increase in some areas: the South-East Asian waters, the Indian subcontinent, and Bangladesh, with an annual increase of 10%.

The international shipping also faces the danger caused by military conflict zones (citing the case of a Greek-flagged oil tanker off the coast of Libya in early 2015).

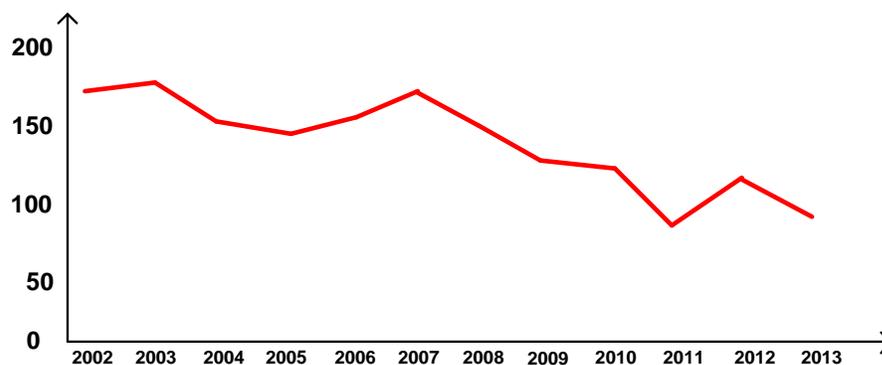


Figure 1 Maritime casualties, number of total losses by year (vessels over 100 GT)

Source: Lloyds List Intelligence Casualty Analysis: AGCS

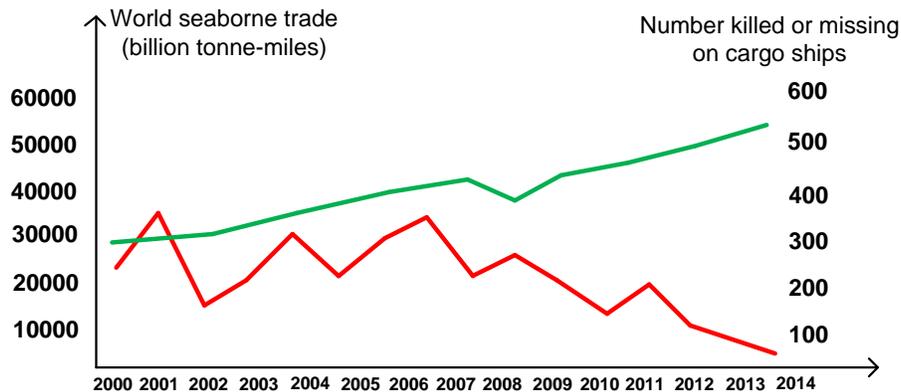


Figure 2 Lives lost on board, the number killed or missing on cargo ships/world seaborne trade

Source: IHS Maritime/UNCTAD

It should be noted that the figures for the number of merchant ships and seafarers are different from one source to another. Thus, the International Chamber of Shipping presents the situation of the world fleet as such (2014) [3], plus a significant number of passenger or special vessels:

Table 1 World commercial fleet in 2014

1	Passenger ships	6597
2	Oil tankers	13157
3	General cargo ships	16224
4	Bulk carriers	8687
5	Container ships	4831
	Total	49496

Worldwide, the number of seafarers working on board commercial vessels engaged in international voyages is estimated at 466,000 officers, and 721,000 ratings [1], with a total of 1,187,000 sailors plus staff serving coastal and technical ships.

Figures available to the European Union show a total of 143,967 officers and 110,152 ratings with a total of 254,119 sailors [4] (Table 2 and Figure 3).

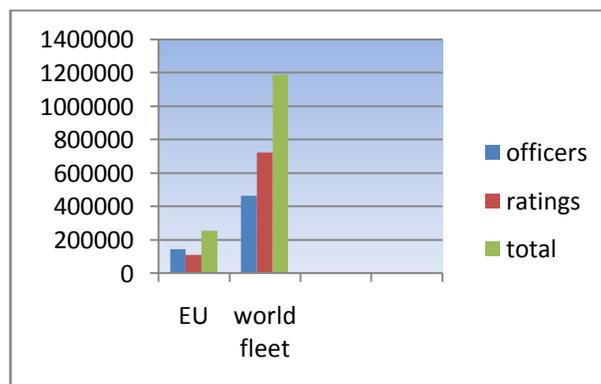


Figure 3 EU's seafarers

The OECD countries (North America, Western Europe, Japan, etc.) remain an essential source for officers, but an increasing number of officers are now recruited from the Far East and Eastern Europe. Most ratings are recruited from developing countries, especially in the Far East and Southeast Asia. The Philippines and India also supply labor force to the maritime and international shipping companies. And China has also witnessed a significant increase in the number of seafarers, but nowadays most Chinese workers work on Chinese-flagged ships. Eastern Europe is a dominant provider of seafarers from a large number of countries, including Ukraine, Croatia, and Latvia. Between the important countries providing a specialized labor force in the maritime field, we mention Greece, Japan, Russia, and the United Kingdom.

The maritime officers are qualified to the standards of competence required by the STCW Convention (*International Convention on Standards of Training, Certification, and Watchkeeping*). Of particular note is that all maritime qualifications (deck, mechanical and electrical) are recognized internationally.

Deck officers have to undergo a year of training at sea, in addition to their primary education. Depending on the country, the training of Maritime Officers lasts between 3 and four years - including onboard training periods, which can take place at the end of a course or intervals between basic classes.

Despite the international standards of training and certification of seafarers considered as minimal for certification by the STCW Convention, there is a wide variety of training procedures and educational institutions for seafarers both at a global level and within the European Union.

Given that the maritime transport industry is currently operating at the same level at the global level, it should be possible to compare and assess maritime education and training. In reality, this comparison is much more difficult to do, as, for example, in the European Union, the maritime education and training in any of the Member States, is part of the curriculum of schools, technical colleges, and universities, but in some countries, education and maritime training are taught in universities. Frequently, in most states, some regulations allow the progress of graduates from schools and technical colleges to universities. For example, in Norway, students aged approximately 16 have the option of attending a vocational school where they can choose the following specializations after the first year of study: navigation, mechanics, or electrician courses. These courses prepare them for the next two years of practice on board the ships, and at the end, they are qualified as unprivileged personnel and can enter a maritime education institution for 2-3 years of study to become qualified officers.

This research has shown that the information on the number of students in maritime universities or naval academies in the European Union participating in the STCW certification courses is not systematically available in each country. The number of students operating on national board ships is rarely mentioned in the documents, although this information is of great importance for assessing the future availability of officers and ratings.

The European Maritime Safety Agency (EMSA) has set up a database to collect certificates issued each year by the Member States for seafarers within the European Union and equivalence of documents for those outside the European Union.

The crew of a ship represents all patented or non-patented sailors who perform a function on board the ship. A crew of a maritime vessel consists of sailors and auxiliary personnel, and its composition is determined according to the type and destination of the ship.

For the qualification, the seafarers are made up of the following categories: officers; seafaring personnel holding capacity certificates.

The maritime labor market is in the midst of this connectivity of the maritime domain because human resources are available globally through a network of ship management companies with subsidiaries and transnational portfolios; knowledge, information strategies, and human resources are an aid to linking labor, companies and institutions. The labor market has access to information on employers and employees, as well as employers know the resources and working practices prevailing in industry; in such conditions of an interconnected world, a single labor market for seafarers is supposed to exist and work - a situation where both labor force and employers are supposed to compete freely for jobs and workers.

Companies can hire seafarers from anywhere in the world with fewer obstacles and operate in a free market environment looking for the highest return on their investment. The workforce is also relatively free to look for jobs globally. The reduction of restrictions allowed the hiring of seafarers from countries other than ship's home. This facilitated the recruitment of seafarers outside the national fleets. Therefore, the development of a market has brought global seafarers' employability by organizing a dynamic system of international crewing companies.

The global maritime seafarers market idea as a space without problems should be recognized as a combination of certain aspects of globalization with an emphasis on neo-liberal policies on the world labor market. The seafarers' work is regulated internationally by the MLC 2006 Convention. The Maritime Labor Convention (MLC 2006) contains the core international maritime labor legislation adopted by the International Labor Conference of the International Labor Organization (ILO-ILO) in Geneva, Switzerland in February 2006. The primary objectives of the MLC 2006 Convention are to ensure the comprehensive global protection of the rights of seafarers and to establish a level playing field for countries and shipowners providing decent working and living conditions for seafarers and protecting them from unfair competition from companies with substandard ships. Starting in October 2015, 67 states, accounting for 80% of world tonnage, have ratified the MLC 2006 Convention [9].

3. Results

The global recruitment and placement system is an essential part of the global maritime labor market. Crewing companies, either as shipping companies' subsidiaries or as independent entities, have the primary responsibility for selecting and recruiting seafarers. The MLC 2006 Convention sets out global minimum standards for the recruitment and placement of seafarers in Regulation 1.4. The purpose of this regulation is to ensure that seafarers have access to efficient and well-regulated recruitment and placement system.

Over the last 25 years, the maritime labor market has been a study topic for prestigious governmental and private institutions around the world. Of all these studies, there are analyzed some of the reference studies below. A first observation is that labor market research in the international maritime sector is labor intensive, involves qualified institutions and staff, takes a relatively long time and is made public, as a rule, every five years.

The most comprehensive study on international seafarers' demand and supply is the ISF (International Shipping Federation)/ BIMCO (The Baltic and International Maritime Council) made for the first time in 1990 and updated on a regular basis. The last update is 2015, for which no data are yet available. The 2010 study made public remains an excellent global assessment tool for maritime employment. Future demand includes fleet evolution (dismantling and new shipbuilding), the age profile of active seafarers, prediction of new entrants. All these elements are processed globally for each of the five geographic areas mentioned above.

Other maritime labor market surveys are Drewry Manning's reports. Drewry estimates worldwide demand and supply with a method developed by Precious Associates Limited. The study divides the workforce into four major geographical areas: Western Europe, Eastern Europe, Far East / India, and others. The scope of each group is not the same as that used by ISF / BIMCO, but cross-correlation between the data of the two types of reports gives a clearer picture of the situation in Europe. The size of the world fleet estimated in two studies is roughly the same as 57,000 vessels for the ISF / BIMCO study and 54,800 for Drewry. Globally, in 2010, Drewry has a larger staffing gap than ISF / BIMCO, but the projection of bid and demand for officers for 2014 is lower than the ISF / BIMCO figures for 2015. Both studies estimate the offer of ratings in balance or higher than demand. The Drewry study contains nine country reports with detailed employment information, including salaries and other wage costs. These reports include four European countries: Latvia, Poland, Romania, and the United Kingdom.

In 2010, the International Transport Institute of Japan and the Nippon Foundation conducted a study on *"The Global Future of Supply and Supply for Seafarers and Possible Measures to Facilitate Stakeholders to Provide Quality Navigators."* The study is based on the 2010 World Fleet (35,623 vessels, only ships over 2,000 tons), and estimates the demand for officers and ratings in 2010 and its projection for 2020, taking into account some economic issues and qualification needs with qualified staff. The study concludes that it would require about 32,000 officers and 47,000 additional crew members for the worldwide fleet projected for 2020. The study does not provide information on the current and future seafaring offer.

In recent years, some maritime employment surveys (for seafarers) have been carried out in the European Union:

- A first attempt to estimate supply demand in OECD countries was made in a study for this organization in 2003 by Precious Associates Limited in the UK entitled *"Availability and Training of Seafarers."* The study contains useful information on hiring seafarers in OECD member countries and projections on ships of the future.
- in 2005, within the scope of Framework Program 6 of the Maritime Transport Coordination Platform, the World Maritime University produced a study on the offer and demand for officers and unrepresentative staff, but without a final conclusion due to the limited time taken from the EU side and mainly due to the lack of a uniform set of data on seafarers in all Member States;
- in 2006, the UK ECOTEC Consultant developed for DG Fisheries and Maritime a major maritime employment study entitled *"An Exhaustive Analysis of Maritime Employment Tendencies"*;
- in 2007, the ECORYS Consultant in the Netherlands prepared for DG-TREN a study on the impact assessment of the ILO MLC's entry into force, with some staffing considerations entitled *"Impact Assessment on the Entry into Force of Labor Standards of the Consolidated Convention ILO."*
- In 2009, the European Parliament issued a report (*Buck Consultant –B, and others*) on the lack of qualified personnel in maritime and inland waterway transport. This study itself was a compilation of existing data and highlighted the great difficulty of obtaining reliable information on seafarer occupation. The lack of centralized and harmonized data has created problems. All data on current employment in the maritime industry and the additional number of seafarers needed in the coming years are based on data, either incomplete or fragmentary;
- in 2009, the ECORYS Consultant developed a comprehensive study for DG Energy and Transport (Directorate G - Maritime Transport on *"Labor Market and Regime for Employment in*

Regular Community Sea Transport Services by Member State or Third Country Ship" The study was used as a reference for the section on intra-Community employment.

- in 2010, the ETF conducted statistical surveys on seafarers for selected countries for use in the ETF Workshop on *"Recruitment of Seafarers and their Formation in Europe"* (Nathan, University of Groningen, 2010 for Germany, Greece, Norway, Poland, and Great Britain).

The analysis of the current situation and the labor market developments in the maritime field is based on the world economic situation reflected in the situation and evolution of the seaborne trade. The sources used are UN and UNCTAD reports and statistics, as well as specialized publications, including the Review of Maritime Transport.

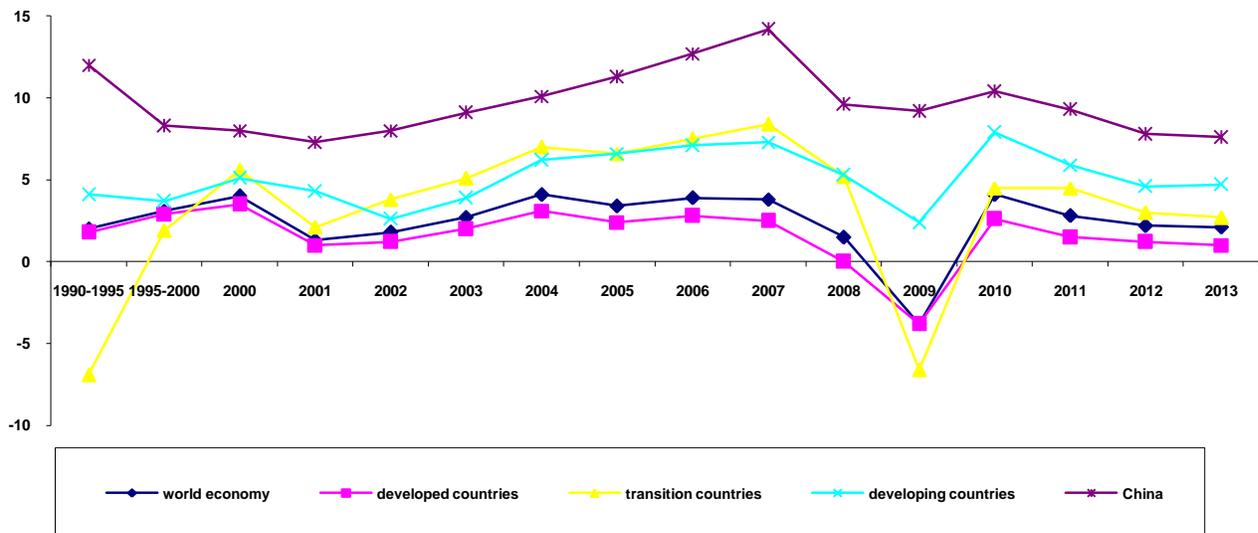
Conclusions

1. The evolution of the world economy has directly influenced the evolution of the world seaborne trade in recent years, and therefore a synthetic analysis of the latter is necessary. For analysis, we chose three groups of countries: developed, transition and developing countries, and China compared to the evolution of the world economy.

2. The seaborne trade is indissolubly linked to the evolution of the world economy, the development of current production and sales areas, and the emergence of new ones, with differences from one region to another. The analysis of official bibliographical sources (UNCTAD, World Bank, IMF), although they present slightly different information on the evolution of the world economy during the period 1990-2015, show the following (Table 1 and Graph 1).

Table 1 Evolution of the world economy in the period 1990 to 2015, annual percentage

Period	World economy	Developed countries	Transition countries	Developing countries	China
1990-1995	2,0	1,8	-6,9	4,1	12,0
1995-2000	3,1	2,9	1,9	3,7	8,3
2000	4,0	3,5	5,6	5,1	8,0
2001	1,3	1,0	2,1	4,3	7,3
2002	1,8	1,2	3,8	2,6	8,0
2003	2,7	2,0	5,1	3,9	9,1
2004	4,1	3,1	7,0	6,2	10,1
2005	3,4	2,4	6,6	6,6	11,3
2006	3,9	2,8	7,5	7,1	12,7
2007	3,8	2,5	8,4	7,3	14,2
2008	1,5	0,0	5,2	5,3	9,6
2009	-2,2	-3,8	-6,6	2,4	9,2
2010	4,1	2,6	4,5	7,9	10,4
2011	2,8	1,5	4,5	5,9	9,3
2012	2,2	1,2	3,0	4,6	7,8
2013	2,1	1,0	2,7	4,7	7,6
2014	2,5	1,7	0,9	4,4	7,3
2015	2,6	2,2	-2,2	3,8	6,9
Average	2,53	1,48	3,4	5,1	9,68



Graph 1

3. Numerous worldwide and regional studies, most incomplete and with relatively old data, show the dependence of maritime transport on the evolution of world economy and international maritime trade, with direct implications for the maritime labor market. But all indicate that the demand for seafarers on the world market is high (of the thousands and tens of thousands of officers and ratings) for another relatively long period.

4. The seafaring profession is still predominantly masculine.

5. Despite an increased interest in the allocation of female seafarers on the international maritime labor market, it still represents a tiny percentage of the total maritime workforce. It appears from the literature that the estimated rate for the presence of female personnel on board ships is between 2 and 4%. In the European Union, the number of women merchant maritime officers is undoubtedly higher than that of the global fleet, although the recruitment system for female seafarers has been tested only in low-level northern Europe. According to the UNATS, NUMAST (Nautilus International), the presence of female personnel on board ships represents only 1.4% of the total of over 19,500 members of the Union. The International Maritime Organization reported that female sailors are a resource for use and development that could provide an initial solution to labor supply issues for the commercial shipping fleet. The same point is supported in a communique from the European Commission which states that efforts are needed to promote and facilitate women's access to maritime professions. It recommends supporting shipowners in the recruitment of female staff in the maritime professions. According to specialty studies based on interviews with managers of large shipping and ship management companies, there has been a reluctance on the recruitment of female sailing personnel on board ships.

An ILO survey conducted by the International Center for the Recruitment of Boarding Staff in Cardiff, UK, shows that female sailors in the Scandinavian countries account for more than 10% of the total maritime workforce, 8.3% in the UK, 4.2% in Germany, figures for the other European countries are negligible. The ILO survey highlighted the fact that female staff is assigned to hotel staff on board passenger ships. The total number of patented and

unrepresentative female staff within the other departments is negligible, although the number of girls in maritime education institutions has increased in recent years. Compared to the figures for 2003, the results for 2010 are low, although shipowners and trade unions have made considerable efforts in the last years to attract the attention of female staff to a career in shipping.

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