

# International Maritime Transport Sector Regulation Systems and their Impact on World Shipping and Global Trade

A.S. Grzelakowski

*Gdynia Maritime University, Gdynia, Poland*

**ABSTRACT:** The main purpose of the paper is to analyze the impact of two nowadays existing global regulatory systems of the world maritime transport sector on international shipping industry and global trade development. The author has focused on the characterization of the autonomous regulatory system represented in this sector by freight market with typical for it mechanism as well as on public regulatory system expressed in form of the existing international regulatory scheme introduced by IMO and other international organizations. Both regulatory mechanisms has been analyzed and viewed in terms of efficiency and effectiveness of their influence upon shipping industry and global commodity markets. At the end, the results of functioning of both regulatory subsystems have been assessed with the aim to indicate how they are able to create growth potential for the world maritime transport and trade sector as well as the global economy.

## 1 REGULATORY SCHEME OF THE GLOBAL MARITIME TRANSPORT SECTOR

### 1.1 *The main systems and mechanisms of regulation of the global maritime transport*

Maritime transport sector just like many other forms and areas of international commercial and economic activity has been regulated for ages. Nowadays, real activity of that global sector is subject to regulation of the complex system which consists of two independent, however different in their nature, regulatory subsystems. Each of them has its own specific characteristics. It is a public subsystem, the essence of which consists in international as well as autonomous subsystem based on freight market regulatory processes. The first one is external to the transport sector, while the second, is both external and internal, largely because one of the markets, namely freight market, is an integral element of the sector itself – it is one of its subsystems. Each of them,

along with the set of regulatory tools typical for itself, affects to some degree the efficiency of the operational activity of maritime transport and its relationship with global environment. The mutual relationship between the regulatory scheme of the maritime transport sector and its subsystems, and the maritime transport real sector, is presented, in a schematic form, in fig.1.

The presented scheme shows that international maritime transport is subject to the regulation of the two, running in parallel, although to a large extent independently from each other, and hence, not fully coordinated with each other, regulatory subsystems. Each of them has its own independent regulatory mechanism influencing directly the real activity of the maritime transport sector and indirectly its various relationships with other sectors of the global economy. The primary regulatory subsystem remains as before the market subsystem. On a short-, mid- and long-term basis it plays a steering role in regulating

the real activity of the international, widely globalized maritime transport sector.

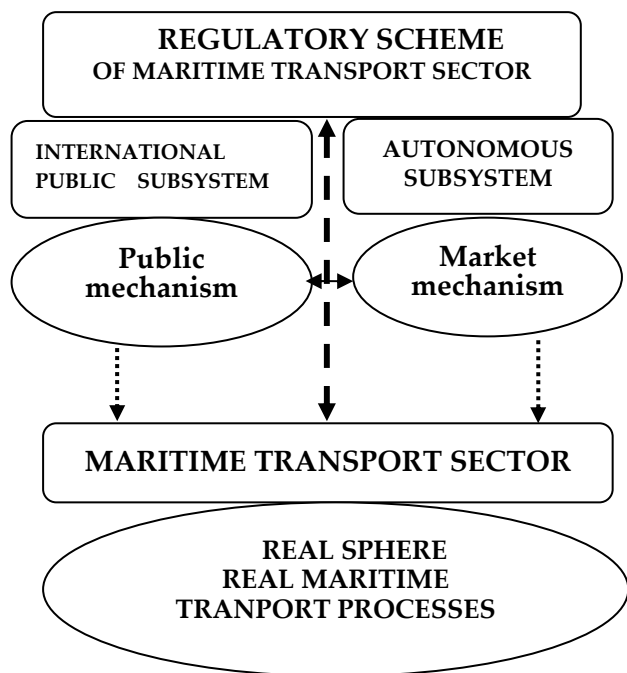


Figure 1. The regulatory system of the global maritime transport and its main components

The global maritime transport sector performs its duties within well-developed typical international market framework, still substantially fragmented. It is characterized currently in general by well-advanced degree of liberalization. However, in some of its segments, mainly regional ones, relatively strong state regulatory measures and simultaneously, protectionist practices are maintained. While characterizing market environment of the maritime transport sector, one should note that it consists not only of the global freight market but also of other types of transport markets as well as commodity, capital and labor markets. Each of them has a significant impact on the maritime transport sector. All these markets through their regulatory mechanisms shape real processes carried out in the maritime transport sector, i.e. its real activity and eventually determine the form of its links with the global environment which is a global logistics system (logistics megasystem). The position and function as well as the relations between the maritime sector and other components of the logistics megasystem, i.e. the logistics supply chains and networks are presented in figure 2.

It is obvious that the efficiency and effectiveness of the autonomous regulation of the real activity of maritime transport depends on the degree of coherence of various types of markets and, in fact, it is specified by the level of liberalization of each of them (fig.2). The more it is aligned, the more efficiency and productivity is generated by market regulation regarded as a complex autonomous subsystem. Such subsystem, along with its equally liberalized market mechanisms, able to produce synergy effects, is fit enough only to act as an instrument of optimization of the real activity of the international maritime transport. One should note that such a complex market optimization of the short-, mid-, and long-

term real processes carried out in the international shipping sector, applies not only to the sector itself but also to the whole environment it is closely linked with, i.e. to logistics megasystem (fig.2).

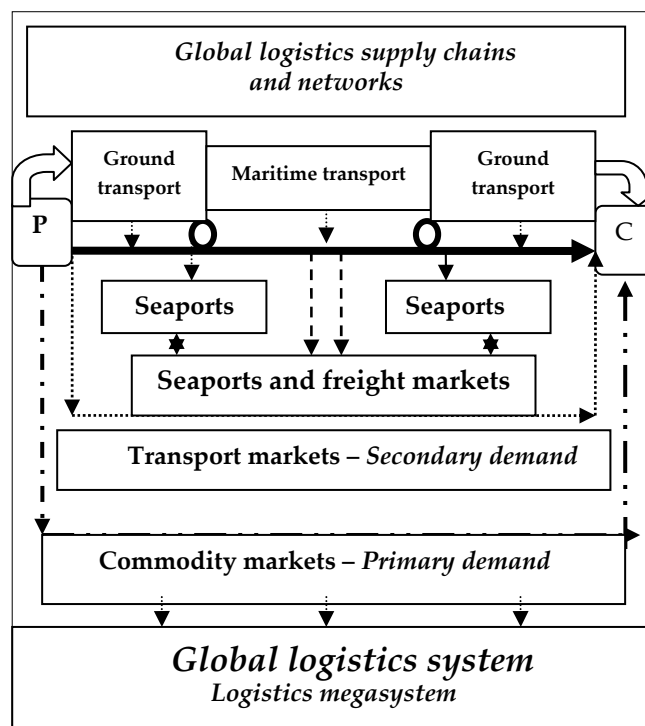


Figure 2. International maritime transport in the global logistics system.

### 1.2 Diffusion of regulatory processes within the global maritime transport regulatory scheme

The mechanism of market regulation of the global maritime transport sector which determines its position and function in the global logistics supply chains and networks constituting logistics megasystem is, in fact, autonomous. However, as such, it has long been subject to regulation. There are many reasons for this, but unlike other transport markets (road, rail, etc.), which have not been fully developed, and immature markets (infant markets) even at the stage of global deregulation (WTO) are nowadays still operating in many regions as generally imperfect ones, the freight markets do not need any form of de-monopolization of their supply side or support in terms of construction a fully-developed, competitive and transparent regulatory pricing mechanism. In the maritime transport sector, which is one of the most internationalized areas of global economic activity, the reason for public intervention in market activity is primarily to: 1/ provide adequate conditions and safety standards in the carriage of people and goods (in terms of safety and security), as well as ensure security of the supply chain (supply chain security) along with ecological and social security in this area of transport, 2/ establish uniform rules for access to the profession in the shipping sector and entry to its market as well as perform, in a proper way, all regulatory functions by maritime administration of coastal states, 3/ harmonize legal, organizational and technical standards (standardization of loading units, documents, etc.) in international transport by sea and land, in order to ensure better integration of intermodal transport and

logistics operations within the supply chains and networks in the global logistics system. The market mechanism is not able to pursue automatically all these tasks and goals in the international dimension. Attempts taken to regulate freight markets are generally focused on the supply side, both on potential and effective one.

Public intervention, which from the very beginning has been perceived as a form of public control in the maritime transport sector, and as such, is usually implemented indirectly through the market mechanisms, has been applied by two subsystems: These are: 1. national (domestic) regulation subsystem and 2. international one (fig.1). The first one contains general standards as well as legal and administrative arrangements set in each maritime country related to this sector of transport - its operational sphere of activity. The second one, however, comprises the package of international regulations related directly and indirectly to the maritime transport activity such as: conventions, resolutions and recommendations of international organizations, governmental and non-governmental organizations, as well as various trade and economic associations and communities. Nowadays, international public regulation of the world shipping sector has been carried out by many specialized international organizations such as: IMO, EU, WTO, ILO, UNCTAD and other regional branch associations e.g. ECSA, ESC. The second public regulation system since the very beginning of globalization has played the dominant role and in many areas has replaced the national subsystems the role of which is being gradually diminished. This process of growing internationalization of the public regulatory system in the shipping sector is irreversible on a world scale. It is the most advanced in the countries being members of free trade zones and especially in those ones integrated in form of economic communities, like the EU. The EU member states have worked out a common shipping policy which is oriented at substantial international (IMO) goals and instruments, especially as far as safety and security standards are concerned.

Therefore, the real activity of the global maritime transport sector is formed by very complex regulatory system based on two mechanisms which in fact do not have complementary character. At that time when the leading shipping countries played the dominant role in the world maritime transport sector their national shipping policies strongly affected the international public regulation subsystem. As the freight market regulation subsystem was at that time barely in its initial phase and in fact unable to assure free and competitive market regulation, such public regulatory mechanism tried to substitute to some extent the market mechanism. Therefore, public regulatory subsystem replaced the market one in some areas through protectionist practices and, as a result, deformed market relations in the global shipping sector. Only as a result of ongoing processes of globalization of the maritime transport sector, growing integration and liberalization of cargo and freight markets and, consequently, the development of logistics and global supply chains, those subsystems and their mechanisms have begun to lose their typically substituting character bringing gradually closer each other. It is expressed in the form

of still closer and closer adaptation of the area of international public regulation (international shipping policy) to the requirements of the global freight markets and is being affected by the shrinkage of the national regulation in favor of the international one which has already been performed according to the much more liberalized principle: not instead of the market, but through the (freight) market. It means that the main area of its impact is becoming the freight market itself and predominantly, its supply side.

Such a strategy has been effectively implemented by IMO and the EC for more than 15 years. It has gradually increased the scope of international cooperation in the area of the global freight market regulation. The IMO has played the leading role, but in recent years the driving force, especially as far as the environmental standard in the shipping industry is concerned, was taken by the EC, becoming the trigger of initiatives and real changes in this field.

## 2 SHIPPING MARKET AS REGULATORY MECHANISM AND ITS IMPACT ON THE GLOBAL MARITIME TRANSPORT SECTOR

### 2.1 *Commodity and freight markets as autonomous regulatory mechanism in the international maritime transport*

Commodity markets as primary ones determine the dynamics and the efficiency of freight markets. As a result, the shipping markets, belonging to the group of secondary ones, in a natural way have to reflect the main tendencies and processes occurring on the primary markets. It means that all freight market components and primarily its demand side, is influenced to a great extent by numerous fluctuations of effective supply and demand for commodities transported by sea. Such a direct form of correlation existing between particular segments of adequate commodity markets and freight markets creates a special pattern of economic relations and ties. They are expressed in a traditional way in market terms by parameters of price elasticity of demand for shipping services. The method of calculating price elasticity of demand for services provided by shipping companies clearly indicates that: <sup>1</sup>

- 1 demand for maritime transport services has derivative character and is induced by demand for commodities carried by sea,
- 2 commodity markets play vital role in shaping and structuring the freight markets, simultaneously forming their dynamics as well as the effectiveness of meeting the effective demand for maritime transport services.

Taking the above into account it must be concluded that commodity markets constitute, alongside the international maritime transport policy, an important direct tool of freight market regulation.

<sup>1</sup> J. G. Jansson, *Transport System Optimization and Pricing*. The Economic Research Institute. Stockholm School of Economics. Stockholm 1980, p. 399 and A. Grzelakowski, *Natural equilibrium as optimum condition of port services market*. "International Journal of Transport Economics" 1985, no. 3, p. 49

It means that these markets, together with other markets such as: transport, capital or labor ones, influence indirectly the real sphere of activity of the maritime transport sector, determining its efficiency as well as the virtue of freight market mechanism. As a result, their mechanism, autonomous in its nature, is subject to relatively strong impact of other autonomous regulatory forces, induced, in fact, by the market-oriented environment of the global maritime transport sector. This means, de facto, that the autonomous mechanism in this transport sector is fairly comprehensive in its character. However, as such, due to regulatory weaknesses, accounts for the global public regulatory mechanism. The complexity of the nowadays existing autonomous regulatory system, along with all interactions occurring among all its components and especially between demand and supply on commodity and freight markets, are briefly presented below.

The international seaborne trade as an absolutely dominant component of world merchandise trade and world maritime transport that remains the backbone of international trade and global economy, has supported strongly not only the ongoing processes of globalization but also the rapid development of the global supply chains and networks. Both are fueled by the world economic growth, i.e. increasing world production and consumption stimulating GDP on a global scale and consequently, merchandise trade. The last one, due to highly advanced processes of deregulation of economies and liberalization of all types of markets on a global scale, has grown very fast in recent decades, leaving far behind other macro parameters reflecting those tendencies.

In 2011, the volume of international seaborne trade reached 8.72 billion tons. It means that almost 80 per cent of world merchandise trade by volume (tones) and more than 90 per cent in ton-miles have been carried by sea.<sup>2</sup> In 2011 world seaborne trade grew by 4 per cent, whereas the global economy, measured in terms of the world GDP, expanded only by 2.7 per cent (compared with 4.1 per cent in 2010). Such a significant slowdown was caused among others by decelerated industrial production in the OECD countries which grew at modest 2.1 per cent (down from 8.5 per cent in 2010) and sharp drop in the world merchandise trade. Growth in the world merchandise trade by volume expanded at an annual rate (2011/2010) of 5.9 per cent as compared with 13.9 per cent in the previous year.<sup>3</sup> Referring to WTO rough estimates, deceleration in the global trade continued in 2012 and the world merchandise trade volumes expanded presumably only by 2.5 per cent, rate far below the 6 per cent average recorded over the period of 1990-2011.<sup>4</sup>

<sup>2</sup> Ton-miles is a unit which offers a measure of real demand for shipping services and tonnage involved in their manufacturing as it takes into account distance, which determines true ship availability. Compare: 2012. *Review of Maritime Transport 2012*. Report by the UNCTAD secretariat. UNTAD/RMT/2012, New York and Geneva 2008, p. 4-17.

<sup>3</sup> The merchandise trade in value terms (based on export) increased however, due to the growing commodity prices in 2011, by 19 per cent and reached \$ 18.2 trillion. In 2010 it average annual growth rate accounted for 22 per cent. *Ibidem*, p. 19-21

<sup>4</sup> *Ibidem*, p. 19, 21

The recent growth in trading commodity volumes transported by sea, 4.0 per cent increase year-on-year, was not very much impressive, despite the still existing economic downturn, higher than the one recorded in the last decades. Indeed, since 1970 the annual average growth rate of the world seaborne trade has been estimated at 3.2 per cent.<sup>5</sup> In 2012, the volume of cargoes transported by sea was 2.4 times higher than in 1990. After all, its growth dynamics was still more than two times lower than the world merchandise export. Its annual average growth rate accounted for 8.7 per cent over the period of 2000-2012.

Taking into account that:

- 1 global seaborne shipments are growing in tandem with the world merchandise trade (measured on export base) as well as the world GDP and
- 2 currently existing barriers to development of the main economies being the trigger of global growth will have to be smoothly overcome in the next two years and the world production and trade will enter their previous path of growth;

one may assume that in 2020 the seaborne trade is likely to increase by 36-40 per cent as compared to 2010, reaching 12.0-12.5 billion tones.<sup>6</sup> By such dynamics, the volume of goods carried by sea can exceed in 2031 twice the level reached in 2010.

Therefore, the international forecasts regarding the development of seaborne trade and freight markets on a global scale in the next decades, despite the envisaged economic turbulences, are as previously assumed optimistic. They are based on assumption, as it was mentioned earlier, that despite growing global risks and uncertainties, the seaborne trade will increase in tandem with the world economy measured in the growing world GDP and production as well as global merchandise trade. It is assumed that the correlations between all these factors remain in the predicted period more or less at the same level as they were over the period of 1990-2011. At that time (1990=100) the global merchandise export grew 3.1 times what corresponded with the dynamics of seaborne trade (2.72 times), whereas the world GDP was enlarged 1.78 times and industrial production only 1.41 times.<sup>7</sup>

It is obvious that these relations are determined by many other economic factors inherited in other segments of the global economy which influence significantly the world maritime transport, too. They originate from other type of markets, e.g. capital or energy ones as well as primary markets themselves. The main factors here include: rising energy prices (bunker) with their potential implications for transport costs and trade, soaring non-oil commodity prices, the uncertainties on global financial markets, etc. All of them, as relatively strong regulatory instruments, will influence the global freight markets, both their demand and supply side, determining the

<sup>5</sup> Insight& Analysis. *World Trade Service Brochure* Global Insight 2011, p. 2

<sup>6</sup> A. Stachniol, The expected overall impact on trade from a maritime Market Based- Mechanism (MBM), March 2011, s. 2

<sup>7</sup> WTO 2011. Trade growth to ease in 2011 but despite 2010 record surge, crisis hangover persists. *World Trade 2010. Prospects for 2011, Press Releases/6287*, April 2011, p. 5

scope and the structure of the global maritime transport real sphere of activity. Despite the growing role of non-autonomous measures, their regulatory driving force in this sector seems to be still dominant

## 2.2 Freight market mechanism as regulatory instrument of global maritime transport sector

Maritime transport sector operating on a global scale has constantly undergone pressure of numerous market forces, especially these stemming from the freight market itself. Therefore, freight market mechanism as a powerful regulatory tool of the real sphere of activity of the maritime transport sector, able to fulfill its traditional autonomous regulatory functions in the global shipping industry, becomes the primary driving force of any changes in this area. Closely connected with other markets, it steadily affects the decision making processes of demand and supply side representatives concerning both their short-term operational activity and long-term investment engagements (forms of capital allocation). In such a way, freight markets not only inform all sides involved in the maritime transport operation about the current fluctuations of effective demand and potential supply, determining to some extent the future market pattern too, but also stimulate them to cause appropriate reaction and ensure pro-market oriented behavior. How efficiently it works as regulatory tool of this sector able to adjust the supply side, being less sensitive in adopting itself to demand fluctuations, to dynamic changes occurring on the other market side, may be viewed on the data base concerning predominantly the last five years. It was a very turbulent time, rich in many extraordinary and spectacular events, the effects of which significantly affected the global shipping industry. Hence, it can be used to examine the functioning of the freight market mechanism as well its evaluation as a regulatory instrument.

As a result of the growing world economy and subsequently, international merchandise trade, the world merchant fleet, representing the potential supply of maritime transport sector, due to deliveries of new buildings expanded by almost 10 per cent during 2011.<sup>8</sup> The potential global supply in maritime transport reached in 2012 1.6 billion dwt. It means that the world tonnage grew 2.5 times faster than the world merchandise trade carried by sea in 2011.

The merchant fleet recorded an impressive increase of over 45 per cent in just five years. However, it should be noted that since the economic crisis of 2008 and 2009, far fewer new orders have been placed by global ship operators than tonnage delivered by the world shipyards. As a result, the existing order book of the global shipyard sector has been significantly reduced. Nevertheless, in 2010 and 2011 more tonnage was added to the existing world fleet than in any previous year, which in fact resulted from orders placed prior to the economic crisis.

This general tendency, however, concerns in varying degree particular groups of world tonnage. Looking at this trend at the supply side in long term

period, one must conclude that growth dynamics of each group of tonnage in recent 30 years was in line with the needs determined by the demand side of the freight markets, reflecting the quantitative and structural changes observed on global commodity markets. For example, since 1980 the general cargo fleet has declined by 7 percent, whereas the rest of the tonnage categories grew by more than 150 per cent; oil tankers grew by more than 164 per cent, dry bulk by almost 335 per cent and containers grew 18 times in deadweight tonnage.

Such tendency observed at the supply side of the global maritime transport freight market as compared with the demand fluctuations (its deceleration), has caused several consequences for both shipowners and shippers. On the one hand, the world tonnage has been renewed and its average age per dwt slightly diminished (11.5 years). Thanks to that, its potential earning capability is being increased. However, it does not mean that operational productivity of the world fleet has to follow the said capability (tab.1). On the other hand, the threat of speeding up the already ongoing tonnage overcapacity (oversupply) was getting much more realistic with all market consequences, e.g. for freight and charter rate distortions. In fact, all these negative economic and financial consequences were unfold on the freight markets at that time, painfully hitting not only ship operators but also other participants of the global logistics supply chain.<sup>9</sup> However, due to the existing freight market regulatory power, expressed in the efficient reactions generated by the ship operators and ship owners, the global freight market as well as its major segments have great viability to survive under turbulent time.<sup>10</sup>

Such elasticity and adaptability of the supply side of the freight market to the demand side, which obviously differs accordingly to the type of market: liner or tramp one, has its roots in free mechanism of ship registration (shipping assets distribution). In fact, any ship owner has generally free choice of national (ownership) or foreign flag, indicating the country where their ship is registered. The use of international open registers as well as the so-called second registers (DIS, FIS, NIS, etc) generates to ship-owners still more economic and fiscal privileges than flying the national (country owned) flag. Due to that, the share of the foreign –flagged fleet is gradually growing in the global total tonnage and currently accounts for more than 72 per cent. As open registers are in use, and many countries offering all ship-owners such administrative and economic instrument are nowadays competing with each other, the process of tonnage concentration in this “secondary shipping nations” is relatively high. The top 35 open and international registers run by foreign countries, the so-called *flag of convenience* have concentrated almost 92 per cent of flagged-out fleet. Ten major open registers concentrate 57 per cent of tonnage registered under foreign flags. This tendency intensifies since

<sup>8</sup> 2012. *Review of Maritime Transport 2012*. Op. cit., p. 51-62,

<sup>9</sup> N. Davidson N., *Global container terminal operators forecast: 2012. Global economic downturn, demand upturn and the changing face of terminal network investment*. Drewry Shipping Consultants, London, UK, 2011,

<sup>10</sup> E. Vanaale, *Black Sea Container Ports*. Drewry Maritime Advisors. ESPO Varna 2013, p. 5-6,

vast majority of new-buildings is registered under foreign flag.<sup>11</sup> As a result, the growth of most of the major flags of registration is getting higher than the growth of the total global fleet with all consequences for ship-owning countries.

Due to that free scheme of ship registration, ownership of the fleet which belongs to substantial maritime assets in this sector not necessarily implies that the ship-owning country effectively operates and controls the shipping operation). The ship owning countries can not fully benefit from possessing their maritime assets (taxes and other incomes) and try to take economic and administrative measures to stimulate the process of reflagging ships using open international register. However, the process seems to be irreversible.

This group of countries, quite different from those offering open registers, is characterized by very high degree of world tonnage concentration. As of January 2012, only 35 countries and territories with the largest owned fleet controlled 95.5 of the global fleet. Their market share is estimated to grow further. What is more, almost 50 per cent of the world tonnage is owned by shipping companies from just four countries.

As a result, tonnage concentration in a relatively small group of countries as far as vessels ownership is concerned, is getting some characteristics of the contemporary global freight market and may influence the primary markets as well as global logistics costs and final prices of commodities transported by sea. All external factors unequivocally indicate that such tendency will gradually go ahead in the next years, partially as a result of still growing international competition and already achieved position of the main shipping countries on the commodities and freight markets (economies of scale).

The above indicated tendencies observed in the international maritime transport on its supply and demand side as well as in its contemporary existing regulatory mechanism, especially relating to merchant fleet distribution on the basis of tonnage ownership (real control) and vessels registration (fleet management), have great impact on the world fleet operational productivity and its effectiveness. As maritime transport constitutes a very important link in the global supply chains, servicing primary markets (see fig.1), such trends and tendencies have to influence significantly the efficiency and elasticity of the logistics supply chains and the international seaborne trade. To examine the scope and intensity of their impact on secondary and primary market use by global supply chains operators, the indices of the world fleet operational productivity need to be analyzed.

The main indexes of this kind are defined in tons and ton-miles per deadweight ton (dwt). They show the still changing relations between the growth in the supply of tonnage and the growth in the total seaborne trade as well as in ton-miles performed by

the world fleet, which corresponds with a distance one ton was carried over. Consequently, as the growth in the supply of the fleet outstrips the growth in the total seaborne trade, which on the highly competitive global freight market has been a standard relation in recent years, the tons of cargo carried per deadweight ton (dwt) decreases. In 2007 the global average of tons of cargo carried per dwt of cargo carrying capacity was 7.7 and in 2011 only 5.7 (see tab.1). In other words, it may be interpreted, that the average ship was fully loaded 7.7 and 5.7 times respectively during those years. Since 2007, due to the growing imbalances between the demand and supply side on the global freight market, the operational productivity has decreased significantly (see tab.1).

Table 1. Operational productivity of the total world fleet in the period of 1970 – 2011 (selected years )

Year	Tons carried per dwt	Thousands of ton-miles performed per dwt
1970	7.9	32.7
1980	5.4	24.6
1990	6.1	26.0
2000	7.5	29.7
2007	7.7	31.6
2008	7.4	35.1
2009	6.6	31.0
2010	6.0	29.3
2011	5.7	27.9

Source: Calculations on Lloyd's Register-Fairplay, Fernleys, *Review and Review of Maritime Transport 2008, 2010, 2012.*

During the same period, the ton-miles performed per deadweight dropped from 31.6 to 27.9 (tab.1). These indices inform all market representatives that the average dwt of cargo carrying capacity of the world fleet transported one ton of cargo over a distance of 31,600 nautical miles in 2007, i.e. 87 miles per day and, due to the growing overcapacity of the world fleet and slightly shrinking distances (growing fuel prices), its productivity decreased in 2011 as few as 27.900 miles.

The indices of operational productivity of the world fleet presented in tab.1 indicate that it varies significantly on year-to-year basis. On the one hand, it is a result of the high demand fluctuations, and on the other, it reflects the level of overcapacity generated by shipping operators accomplishing on the highly competitive freight markets the strategy of flexible and efficient demand meeting. The level of world tonnage overcapacity (tonnage oversupply in all groups and categories) is presented in tab.2.

Table 2. Tonnage regarded as idle (tonnage oversupply) as percentage of world fleet in selected years (1990 - 2011).

Year	1990	2000	2005	2008	2010	2011
	9.7	2.3	1.0	2.2	1.4	0,9

Source : Elaborated on data presented by *Lloyd's Register – Fairplay and Lloyd's Shipping Economics* as well *Review of Maritime Transport 2008, 2010 and 2012* p. 68

As regards the operational productivity of the world tonnage, one should mention that in response to still rising oil prices, ship operators usually run a slow stemming strategy. They are interested in

<sup>11</sup> Among the tonnage delivered in 2011 almost 83 per cent was registered abroad, i.e. in countries running open international registers. *2012 Review*, op. cit., p. 62

reducing even by 20 percent the service speed of their vessels with the aim to save fuel. Such a strategy has been widely used by shipping operators since 2007, especially in liner shipping. However, with lower service speeds, more vessels are required on a given route. On the one hand, it helps to reduce overcapacity, leading on the other, at the same time to significant decrease in operational productivity of the world fleet. The capacity constraints and congestion at ports also have negative impact on the fleet productivity, as ship capacity is tied up while queuing. All these factors stemming from commodity and freight markets (fig.1), their relations and existing imbalances, have influenced not only the degree of the idle world merchant fleet and its operational productivity, but also the level of maritime freight costs as a percentage of the value of imported and exported goods in the global merchandise trade.

Maritime freight costs still remain an important component of the price of goods purchased by final consumers.<sup>12</sup> High maritime transport costs for imported goods may impact significantly the price level of the basket of consumers' goods and in the end can stimulate inflation. On the other hand, excessive freight rates for exported goods affect sometimes painfully the trade competitiveness of the products of a country on the global markets. Hence, each country, their economic groupings and regions have to be interested in working out proper approaches to reduce both inbound and outbound maritime transport costs in their trade relations with partners. Their activity in this area is focused on commodity and freight markets and is expressed in the form of maritime transport policy, regarded as a regulatory measure able to affect the maritime transport sector and its freight markets.

The share of global freight payments in the value of world imports has reached on average 6.7 per cent as compared with the recent five years.<sup>13</sup> In 2000 it amounted to 6.26 per cent in the developed countries and 8.63 in the group of developing countries from Asia and America and increased ten years later in the first group of countries to 6.52 percent, concurrently decreasing in the second group to 7.57 per cent.<sup>14</sup> These tendencies reflects the following fig. 3.

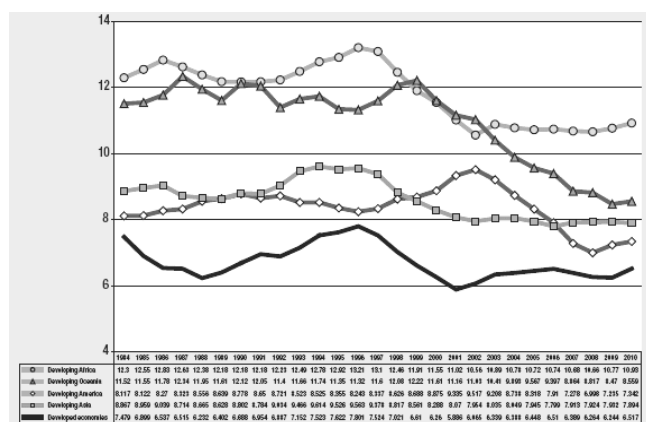


Figure 3. Seaborne transport costs (paid freight) as element of maritime trade value (as per import; (average annual

<sup>12</sup> *Review of Maritime Transport 2012, op. cit., p.89-91*

<sup>13</sup> See: *Review of Maritime Transport 2008, 2010 & 2012, op. cit., p. 91.*

<sup>14</sup> *Ibidem, p. 91*

changes during 5 years)

Source: Review of maritime transport 2012, p.74

These indices reflecting maritime transport costs as a percentage of the total value of imported goods as well as their volatility over time simultaneously indicate in the long term a tendency towards a lower ratio between freight costs and value of goods occurred among all groups of countries. Furthermore, the freight rates share of developing countries which is relatively high as a result of the existing trade imbalances (in value and volume terms of imports and exports), tend to converge to these developed countries. It is a positive sign indicating that the freight market price mechanism is efficiently reducing the economic differences generated by existing world trade pattern created by the developed countries. Moreover, this tendency created by the freight market mechanism, not rarely to the detriment of the shipping sector which does not belong in the economic terms to the beneficiaries of its activity, does not hamper the globalization processes. The more integration between global freight markets and commodity markets, the more effects for shippers and ship operators as well as in the end for the final consumers of goods transported by sea.

### 3 INTERNATIONAL MARITIME TRANSPORT POLICY AND ITS REGULATORY IMPACT ON THE GLOBAL SHIPPING INDUSTRY

The international maritime transport policy, created directly or indirectly by international organizations (i.e. IMO, ILO, HELCOM, and EMSA) and international (regional) groupings such as EU, NAFTA, BSSC, etc., constitutes in the contemporary world a very important and powerful regulatory mechanism of the whole shipping sector. It completes the still functioning, typical for this open, international transport sector, autonomous regulatory mechanism.

The said group includes primarily IMO, which plays the most important role in composing such regulatory subsystem in the world scale. The majority of conventions adopted under the auspices of IMO or for which this organization is otherwise responsible, fall into three main categories. The first group concerns maritime safety; the second the prevention of marine pollution; and the third the liability and compensation, especially in relation to damage caused by pollution. Outside these major groupings there are a number of other conventions dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage, etc. Taking into account the number of the IMO regulatory instruments existing in the form of conventions and protocols amending the first ones, as well as a number of contracting parties (countries) and the percentage of world tonnage covered by each of those legal instruments, it may be claimed that this organization creates real global shipping policy constituting the backbone of the world maritime transport regulatory mechanism.

In addition to IMO, ILO also participates in formatting the widely understood economic, social,

technical and environmental order in the world shipping industry. ILO prepares conventions and recommendations concerning regulation of social standards in maritime sector. The organization has set out many minimum requirements for decent work in the maritime industry. Recently, in 2006, ILO adopted a new consolidated Convention (C 186) that provides comprehensive labor charter for the world's 1.2 million or even more seafarers, addressing the evolving realities and needs of the sector that handles 90 per cent of the world's trade. The Convention sets minimum requirements for seafarers to work on a ship and contains provisions on the terms of employment, hours of work and rest, accommodation, recreational facilities, food and catering, health protection, medical care, welfare and social security protection.

Upon discussing the international maritime transport policy, one should notice that the EU is strongly committed to setting up such regulatory mechanism and not only within the Community. The European Commission's transport policy aims at harmonious performance of the European maritime transport system as a whole. It performed two strategic goals, at once. Over the years, the Commission built quite comprehensive regulatory framework encouraging the efficiency of ports and maritime transport services, *inter alia* reinforcing market position of the EU fleet flying member states' flags and strengthening competitive advantages for the EU shipowners for the benefit of all other economic sectors and of the final consumers on the one hand and safety and security in shipping activities on the other. The Commission supports actively the efforts of the EU member states to promote the European merchant fleet offering quality shipping services in Europe and, what is important, all over the world. The Commission is also promoting short sea connections between all the maritime regions of the European continent, as this transport mode represents an opportunity to solve road congestion problems while reducing significantly the environmental impact of the overall transport and supply chains. Thanks to the Commission's decisive action Europe is protected today with very strict safety rules preventing sub-standard shipping and reducing the risk of environmental catastrophes (i.e. strict requirements for double hull tankers, accelerating phasing-out single-hull tankers, etc). The recent EU actions and regulations concerning maritime safety will hopefully limit the number of maritime accidents. The packages Erika I, Erika II or the third package of maritime safety measures should yield gradual but significant improvement of maritime safety<sup>15</sup>. The Commission also works actively against piracy and terrorism threats. Other important field of activity of the EC concerns the social dimension, looking after working conditions, health and safety issues and professional qualifications of seafarers. Finally, the EC works for the protection of citizens as users of maritime transport services, ensuring safe and secure conditions, providing them with adequate passenger rights and examining the adequacy of the public service maritime transport connections proposed by

the EU member states. Last but not least, due to the growing environmental constraints maritime transport is also regarded in the EU as the potential area for the internalization of external costs its generates on a global scale. Admittedly, it participates in the total sum of external costs at a relatively low level, but some cost categories related to air pollution (SO<sub>x</sub>, NO<sub>x</sub>, etc.) and ship accidents (mainly oil spills) regarded as typical maritime externalities amount to quite significant sums on a global scale. Due to that, in close cooperation with IMO, the EC within the EU's sustainable maritime transport policy has included this sector into its regulatory framework concerning internalization of external costs. In case of accomplishing the said objective, it would be the thorough recognized form of public intervention into the real sphere of activity of the international maritime transport.

#### 4 CONCLUSIONS

Maritime transport regulatory system with its typical dual mechanism interacting international shipping real sphere of activity, strongly affects both operational activity and the development of maritime transport on a global scale. We can currently observe there widely visible numerous global effects of its regulatory activity, such as:

- 1 forming the international order in this transport sector based on common, widely accepted international standards related to technical, operational, economic, social and environmental aspects,
- 2 growing safety and security at sea as well as security of maritime supply chains; it means that shipping is getting less risky and more reliable as mode of transport, able to support the development of seaborne trade and logistics supply networks,
- 3 enhancing intermodal competitiveness of the maritime transport operators, especially by promoting short sea shipping, development of intermodal transport and new concepts of logistics supply chain management; it applies mostly to the global container shipowners and operators,
- 4 increasing the operational productivity in the maritime transport which should bring about its higher efficiency and effectiveness in terms of time and costs of handling seaborne trade,
- 5 encouraging technical and technological progress in shipping industry as well as widely perceived innovation,
- 6 reducing vessels life cycles in purely technical and economic terms, speeding up implementation of digressive methods of ships depreciation,
- 7 growing exploitation costs of the existing fleet (the results of necessary technical conformity to the exorbitant environmental standards), which will undoubtedly escalate the competitiveness in maritime transport and subsequently the pressure towards further vertical and horizontal concentration in this sector.

The existing (dual) regulatory mechanism in the shipping sector, consisting of two in their nature different subsystems, needs to be internally coherent

<sup>15</sup> *Maritime Transport Policy*. European Commission. Brussels. 2006



and not self-contradictory. As a result of growing international public activity and the need for regulation (safety and security reasons), maritime transport sector is getting more international even in that sense that its globally dispersed markets become more international and unified, not so fragmented as it used to be. Consequently, autonomous regulatory subsystem in maritime transport becomes more homogenous and coherent as well. The process of relatively extensive public regulatory mechanism penetrating the autonomous one will have to last as long as freight markets being under growing pressure of the international maritime transport policy fully accumulate and in the end incorporate the main objectives of public regulation.

It may last for a very long time, being determined to some extent by the development of world trade and the global economy which significantly strengthen the market forces in shipping industry. The volume and value of the world trade and especially the commodity trade which handles maritime transport sector, unambiguously indicate its significant importance and functions in the global economy system. Its dynamic development expressed in the form of constant increase in the world fleet transport potential and its high adaptation to quantitative and qualitative requirements of commodity markets, unambiguously shows that maritime transport and especially container one not only follows the needs and requirements of the world trade handling efficiently and effectively enormous commodity flows but also secures and creates, in technical and operational, and also economic and financial aspects, the transport and logistics potential indispensable for its further undisturbed development and thereby the increase in global economy stimulated by globalization processes. The said situation univocally proves that international maritime transport sector which has been strongly based on well developed freight market closely connected with global commodity market is efficient and flexible enough even in the contemporary turbulent times. Its second international regulatory

scheme, public one, in its currently existing character neither has it considerably hampered nor deteriorated into a hybrid deformed and inefficient form. In fact, they complement each other, acting for the benefit of efficient international maritime transport development capable to fulfill its all functions in the growing global merchandise trade and globalizing world economy.

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