

Maritime Transport Development in the Global Scale – the Main Chances, Threats and Challenges

A.S. Grzelakowski

Gdynia Maritime University, Gdynia, Poland

ABSTRACT: International transport is a subject to many regulatory measures worked out by governments, international organisations (e.g. IMO, ILO, EU), regional institutions and public entities. As a result, such regulatory mechanism, which is getting throughout international, strongly affects the real sphere of maritime transport as well as its productivity and efficiency. Maritime transport operators have to apply to many new standards and rules set by international public regulators aimed mainly at improving and enhancing safety and security at sea. It is sometimes very painful process in terms of costs and time but inevitable to survive in the highly competitive environment. The author analyses the nowadays existing regulatory mechanism in maritime transport and tries to evaluate it in terms of its impact on effectiveness of maritime transport processes.

1 INTERNATIONAL MARITIME TRANSPORT AND ITS GROWING ROLE IN THE GLOBAL ECONOMY

1.1 *The international seaborne trade and world maritime transport in the global supply chains*

Maritime transport remains the backbone of international trade and the global economy, supporting strongly the ongoing processes of globalization. It has strong position in global supply chains, determining to great extent their effectiveness and elasticity (see fig. 1). In 2007, the volume of international seaborne trade reached 8.02 billion tons. It means that over 80 per cent of world merchandise trade by volume is being carried by sea.³ The recent growth in trading commodities volume transported by sea – a 4.8 per cent increase year-on-year – was higher than recorded in the last decades. Indeed, during the past three decades, the annual average growth rate of world seaborne trade is estimated at 3.1 per cent.⁴ Still relatively strong demand for maritime transport services is fuelled by growth in the world economy and international merchandise trade being stimulated by dynamic increase in production and consumption in the main world centers (see fig. 1). In 2007, the world gross domestic product (GDP) grew at 3.8 per

cent while world merchandise exports expanded by 5.5 per cent over the previous year.⁵

In the recent years economic growth was driven primarily by emerging developing countries and transition economies. It has proceeded, despite rising energy prices with their potential implications for transport costs and trade and despite growing global risks and uncertainties. There were many other factors determining increase in economic activity worldwide. Among them factors such as soaring non-oil commodity prices, the global credit crunch, a depreciation of the US dollar, and an unfolding food crisis should be count. The world economy and trade have, so far, sustained all these negative tendencies with sufficient resilience.

As a result of growing world economy and consequently international seaborne trade, the world merchant fleet expanded by 7.2 per cent during 2007 to 1.12 billion deadweight tons (dwt) at the beginning of 2008. It means that the world tonnage grew 1.5 times faster than the world merchandise trade in volume terms carried by sea. In 2007 historically high demand for shipping capacity was reached. The shipping industry responded to growing needs of the global supply chains by ordering new tonnage. It applied predominantly to the dry bulk vessels. All types of vessel orders were at their highest level ever, reaching over 10,000 ships with a total tonnage of almost 500 million dwt, including 222 million

³ 2008. *Review of Maritime Transport 2008*. Report by the UNCTAD secretariat. UNCTAD/RMT/2008, New York and Geneva 2008, p. 14.

⁴ *Ibidem*, p. 17-18.

⁵ *Ibidem*, p. 21

dwt of dry bulk carriers.⁶ Such a huge influx of new tonnage into the world fleet over recent years has contributed to the decrease in the average age of the world fleet to 11.8 years. This tendency, despite the ongoing global financial and economic crisis will be continued in the next years.

It is to some extent a result of very high dynamic of growth in container shipping. The world container ship fleet reached in mid of 2008 approximately 13.5 million TEUs, of which 11.5 million TEUs were on fully cellular containerships. This fleet includes 54 containerships of 9,000 TEU and above, which are operated by five companies: CMA CGM, COSCON and CSCL, Maersk and MSC.⁷

together controlled 95.35 per cent of the world fleet. It is a slight increase over the previous year figure. All external factors unequivocally indicate that such tendency will gradually go ahead in the next years, partially as an effect of still growing international competition and already achieved position of the main shipping countries (economies of scale). Greece continues to maintain its predominant position, followed by Japan, Germany, China, and Norway; together, these five countries hold a market share of 54.2 per cent.

Due to the still ongoing flagging out practices in the world scale, the controlled by nationals of the ship-owning countries tonnage is, however, spread in second and many open and international registers run by foreign countries, so called *flag of convenience*. Due to that, 32 per cent of the Greek controlled fleet use the national flag, versus 68 per cent using foreign flags. The Japanese-controlled fleet is 93 per cent foreign flagged. The German-controlled fleet uses a foreign flag for 85 per cent of its tonnage. More than half of the German controlled fleet is comprised of containerships (50.7 million dwt). As regards the Norwegian-controlled fleet with 46.9 million dwt, which still maintaining its fifth-place ranking. 69.7 per cent of this tonnage, is registered under a foreign flag, and the remaining 30.3 per cent mostly under the Norwegian International Ship Register (NIS). The Chinese-controlled fleet is 40 per cent registered in China, versus 60 per cent that uses a foreign flag.

The 35 economies with the largest fleets registered under their flag account for 1,033 million dwt, corresponding to 92.42 per cent of the world fleet. The top 5 registries together account for 49.3 per cent, and the top 10 registries account for 69.5 per cent of the world's dwt. It means that the level of concentration of worldwide flagged out tonnage and reregistered in the countries running open, international ships registers is almost similar to the group of main ship-owning (controlling) countries.

The 10 largest open and international registries that cater almost exclusively to foreign-controlled ships are Panama, Liberia, the Bahamas, the Marshall Islands, Malta, Cyprus, the Isle of Man, Antigua and Barbuda, Bermuda, and Saint Vincent and the Grenadines. Although they are in principle open to vessels from practically any country, most of them in fact specialize in some countries of ownership, or in certain vessel types.⁸ Among the top 35

⁸ E.g. more than half the tonnage registered in Antigua and Barbuda is on containerships, mostly from German owners. The registries that cater mostly for dry bulk carriers are Bermuda, Cyprus, Malta, Panama and Saint Vincent and the Grenadines; Panama alone accounts for 33.3 per cent of the world dry bulk tonnage, mostly from Japanese owners. Oil tankers account for the largest tonnage in the registries of the Bahamas,

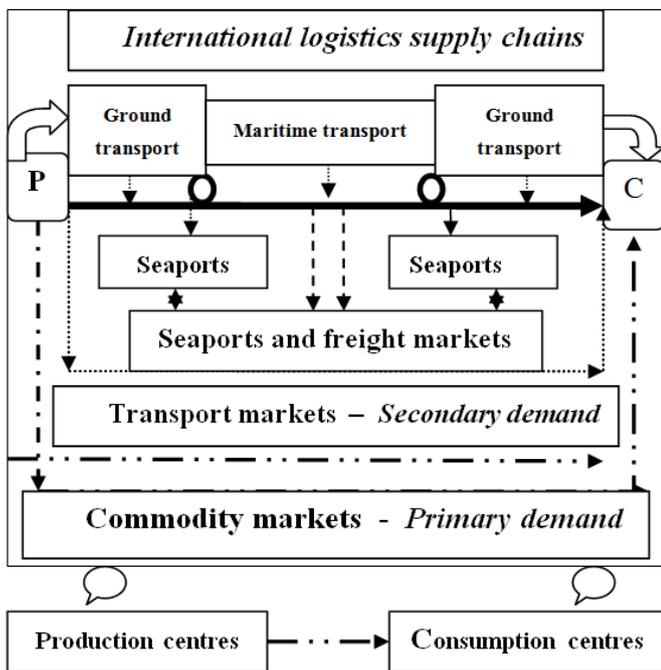


Figure 1. International maritime transport in the global logistics supply chains

1.2 The main tendencies and occurrences in the development of maritime transport in the global scale

Characteristic feature of the contemporary maritime transport, as far as vessels' ownership is concerned, is very high concentration of the world tonnage in a relatively small group of countries. As of January 2008, nationals of the top 35 ship owning countries

⁶ The tonnage of dry bulk ships on order at the end of 2007 was 12 times higher than it was in June 2002; since mid-2007, dry bulk orders outstrip those for any other vessel type. See: *Review of Maritime Transport 2008t*. Op. cit., p. 45,

⁷ Twelve of them have a capacity of more than 10,000 TEU; these include eight 12,508 TEU ships owned and operated by Maersk, and four vessels of 10,000 to 10,062 TEU, owned and operated by COSCON. Comp. *Review of Maritime Transport*. Op. cit., p. 45,

registries, 15 cater almost exclusively for nationals of their own country. They are e.g. Greece, China, the Republic of Korea, India, Germany, Japan, Italy and the United States. A low participation of foreign-controlled tonnage may be due to two reasons. First, the country's laws may not allow for the use of its national flag if there is no adequate "genuine link" between flag and ownership. Second, although the country's registry might in theory be open to foreigners, its tax or employment regime or other regulations may make the registry unattractive to foreign ship owners. Finally, among the top 35 flags of registration, there are three "second" or "international" registries, i.e. registries that allow for the use of the national flag, albeit under conditions that are different from those applicable for the first national registry. They include notably the Norwegian International Ship Register (NIS), the Danish International Register of Shipping (DIS), and the French International Register (RIF). While the DIS is almost only used by Danish-controlled ships, both the NIS and the RIF also cater to some foreign-controlled tonnage.

The above indicated tendencies noticed 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 world fleet operational productivity and its effectiveness. As maritime transport constitutes very important link in global supply chains, servicing the primary markets (see fig. 1), such trends and tendencies have to influence significantly efficiency and elasticity of logistics supply chains and the international seaborne trade. To examine the scope and intensity of their impact on secondary and primary markets use by global supply chains, indices of operational productivity for the world fleet need to be analyzed.

The main indexes of this kind are defined in tons and ton-miles per deadweight ton (dwt).⁹ They show the still changing relations between the growth in the supply of tonnage and the growth in 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 total seaborne trade (it befell e.g. in 2007) 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 (see tab. 1); in

other words, the average ship was fully loaded 7.7 times during that year. During the same year, the ton-miles performed per deadweight reached 31.6; thus, the average dwt of cargo carrying capacity transported one ton of cargo over a distance of 31,600 nautical miles in 2007, i.e. 87 miles per day.

Table 1. Operational productivity of the total world fleet in the period 1970 – 2007 (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
2006	8.0	32.8
2007	7.7	31.6

Source: Calculations on Lloyd's Register-Fairplay, Fernleys *Review and Review of Maritime Transport 2008*, p. 61.

The indices of operational productivity of the world fleet presented in tab. 1 indicate that it varies significantly on the yearly basis. It is a result of freight markets dynamic which reflects the perpetual changing in supply and demand for shipping services (fig. 1) and indirectly is connected with the level of overcapacity generated by shipping operators accomplishing a strategy of flexible and efficient demand fulfillment on the highly competitive freight markets. The level of world tonnage overcapacity (tonnage oversupply) presents tab. 2.

Table 2. Tonnage oversupply in the world shipping in selected years (percentages).

Year	1990	2000	2004	2005	2006	2007
	9,7	2,3	0,7	0,7	1,0	1,1

Source: Elaborated on data presented by *Lloyd's Register – Fairplay* and *Lloyd's Shipping Economics* as well *Review of Maritime Transport 2008*. p. 65

Explaining the changing operational productivity in the world tonnage, it is worthy to note too, that ship operators usually in response to high oil prices, are interested in reduction the service speeds of their vessels, thus saving fuel. Such a strategy was typical for shipping operators, e.g. especially in liner shipping in 2007. However, with lower service speeds, more vessels are required on a given route, which on one hand helps to reduce overcapacity, while at the same time leading to a reduced operational productivity. Capacity constraints and congestion at ports also have a negative impact on the fleet's productivity, as ship capacity is tied up while queuing. All these factors stemming from primary and secondary markets (fig. 1) – their dynamic and forms of existing connections have influenced the level of operational productivity of the world merchant fleet.

the Isle of Man, Liberia and the Marshall Islands. Comp. *Review of Maritime Transport 2008*. Op. cit., p. 62,

⁹ Grzelakowski A. S., *Transport morski w gospodarce światowej*. "Przegląd Komunikacyjny" 2008 No. 12, p. 6-7

Eventually, as regards world maritime transport development and global tendencies viewed in that sector of the world economy, it is necessary to emphasise that it generates costs to shippers, i.e. exporters and importers of goods carried by sea, hence determining to some extent the final commodities' prices in overseas consumption centers. Total transport costs implicating costs of carriage goods on sea routes, contribute significantly to shaping the volume, structure and patterns of trade as well countries' comparative advantages and trade competitiveness (see fig. 1).¹⁰

The share of global freight payments in import value has reached on the average 5.7 per cent in the world scale in the recent five years.¹¹ It was higher than it the previous years due to the fact that the rate of increase in the world total value of imports (*c.i.f.*) was more than two times lower over the foregoing years than the growth rate of total freight paid for transport services. Developing countries and economies in transition have recorded the highest freight costs. Freight costs expressed as a percentage of the value of imports for both country groups, have reached almost 8.0 per cent, while developed countries have the lowest freight costs, which are estimated at ca. 5.1 per cent of the value of imports in last two years. It is a result of still existing significant diversification in the commodity structure of external trade between well and less developed countries.

While bulk trade, including tanker and dry cargo dominates world seaborne trade, containerized trade, as a fast growing market segment, is at the heart of globalized production and trade. Containerized goods are mostly manufactured goods, which tend to have higher value per volume ratios than bulk cargoes - like oil and other commodities - and travel longer distances, as they are sourced more globally.¹² Given their higher value, on average, transport costs on valorem basis matter less for high value goods than low value raw materials. Therefore, if higher transport cost were to lead to regionalization, lower value manufactured goods (clothing, textile)

¹⁰ Ports and International Transport Costs .*UNCTAD Transport Newsletter* No. 31, March 2006 and Recent Trends in Liner Shipping Freight Rates.*Transport Newsletter* No. 24, June 2004, Hummels D., Transportation Costs and International Trade in the Second Era of Globalization, *Journal of Economic Perspectives*. Volume 21, Number 3, 2007, p. 131-154;

¹¹ See: *Review of Maritime Transport 2007*. UNCTAD. New York and Geneva 2007, p. 11.

¹² In 2006, the share of manufactured goods exported globally amounted to over 70 per cent of the value of world exports (\$8.2 trillion out of a total of \$11.5 trillion). Comp. World Trade Organization (WTO), Statistics Database, Merchandise Trade by Commodity, 2006 (www.wto.org).

would likely be much more affected than higher value goods or goods, the production of which involves significant capital or start up costs.¹³

Higher transport costs are of more relevance for bulk cargo. To minimize the incidence of transport costs on low-value/high-volume goods, importers of bulk cargo are more likely to source from nearby providers. For example, oil requirements in the Americas are more likely to be sourced from locations such as South America or Mexico or, in Asia, from neighbouring Asian oil exporting countries.¹⁴

Future developments in transport costs, production and trade patterns will depend, *inter alia*, on: a/ the rise in oil prices and other relevant factors including the potential for substitution of oil by more affordable alternative sources of energy; b/ the share of transport costs in the overall production costs; c/ whether shifting production closer to the market is cost efficient, i.e. whether transport cost savings outweigh the potential rise in production costs (wage differentials, cost of energy used in production, environmental regulation) and, importantly, d/ the type of goods traded/ transported (e.g. bulk or manufactured), their value, weight, handling requirements.¹⁵

2 REGULATORY MECHANISM OF THE INTERNATIONAL MARITIME TRANSPORT

2.1 *The main forms, mechanisms and instruments of maritime transport regulation in the global scale*

The above indicated tendencies and occurrences typical for this link of international maritime supply chains stem from many factors influencing this sector of the world economy. Among them the most important one is a regulatory system of the maritime transport, that in short, mid and long term plays a steering role of its real sphere. In illustrative form its structure and character presents fig. 2.

The regulatory sphere (system) of maritime transport consists of two subsystems, i.e. public, central subsystem and autonomous, market subsystem (fig. 2). The first one, basing on public regulatory mechanism, comprises in fact maritime transport policy, being regarded as domestic (national) and international regulatory instrument of the real sphere in maritime transport sector. The role of internation-

¹³ Korinek J., Clarifying Trade Costs in Maritime Transport, Working Party of the Trade Committee, OECD, 25 April 2008

¹⁴ See Rohter, L, Shipping Costs Start to Crimp Globalization, *International Herald Tribune*, 2 August 2008:

¹⁵ UNCTAD/TC/WP(2008)10, Limão N. and Venables A J., Infrastructure, Geographical Disadvantage, Transport Costs and Trade, *Journal of Economic Literature*,

al maritime transport policy formed by international organizations (IMO, ILO, WTO, ISO) as well as many regional and sub-regional organizations, institutions, associations, entities etc., such as EU, ES-CA, EASA, EMSA, etc.) has been absolutely dominant in the public regulatory mechanism in recent years. It is due to the fact, that maritime transport is one of the most internationally oriented transport modes. It operates in the global scale and generates global challenges and threats (maritime accidents, oil spillage, waste disposal at sea, etc.) which can be solved only by international organizations launching binding international standards and norm with respect to widely perceived safety at sea and security issues.

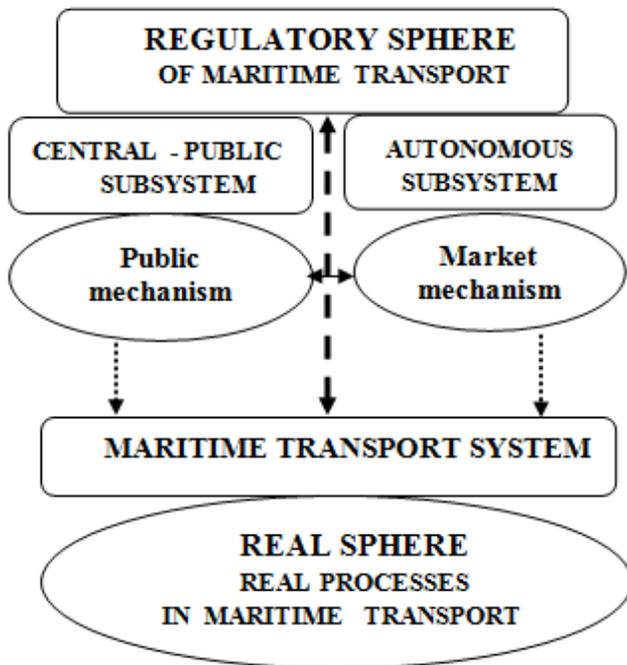


Figure 2. The regulatory mechanism of the international maritime transport

The regulatory sphere (system) of maritime transport consists of two subsystems, i.e. public, central subsystem and autonomous, market subsystem (fig. 2). The first one, basing on public regulatory mechanism, comprises in fact maritime transport policy, being regarded as domestic (national) and international regulatory instrument of the real sphere in maritime transport sector. The role of international maritime transport policy formed by international organizations (IMO, ILO, WTO, ISO) as well as many regional and sub-regional organizations, institutions, associations, entities etc., such as EU, ES-CA, EASA, EMSA, etc.) has been absolutely dominant in the public regulatory mechanism in recent years. It is due to the fact, that maritime transport is one of the most internationally oriented transport modes. It operates in the global scale and generates global challenges and threats (maritime accidents,

oil spillage, waste disposal at sea, etc.) which can be solved only by international organizations launching binding international standards and norm with respect to widely perceived safety at sea and security issues.

Beside international maritime policy, the real sphere in this transport sector, being a domain of thousands shipping operators, acting in global scale on the one hand but on the other being nationals of many shipping countries with their own economic interests in maritime transport development, has to be regulated by domestic public body (governments) in line with its national objectives. However, these objectives need to respect international maritime standards applying to technical, social, economic and environmental standards in shipping industry. Hence, nowadays the real magnitude of national transport policy is peripheral and in practice limited to those areas of regulatory mechanism which are actually outside international interests (taxation, registration fees, etc.).

Irrespective of public regulation, the real sphere of maritime transport is a subject of autonomous regulatory mechanism, i.e. mainly market mechanism (fig. 2). It is key driving force for supply and demand side, influencing short and long term behavior of shipowners and shippers in terms of operational and strategic decision making. Market mechanism is regarded as a dominant resources allocation instrument in maritime transport, which in fact determines demand distribution and its allotments to particular shipping operators and in the end defines their competitive position (competitive advantage), economic effectiveness and finally their financial yields.

Due to the significant demand fluctuations resulting from primary markets, the freight shipping market mechanism is very dynamic, influencing considerable demand and supply price elasticity. It is generally relatively low (lower in liner shipping sector than in irregular – tramp shipping), being in fact partially determined by the price elasticity of demand for commodities transported by sea. Primary markets – their dynamic on the supply and demand side – being serviced by maritime transport - to great extent assign demand fluctuation on secondary freight markets and in that way determine their dynamic. It applies to other markets as well, that usually have great impact on freight markets and can significantly indirectly influence the strategies of shipping operators in the global scale, changing their costs and incomes as well as their competitive advantages.

2.2 Freight markets as an autonomous regulatory mechanism in the international maritime transport

As it was earlier mentioned, market mechanism regulates the real processes in the maritime transport sector in short- mid- and a long run, influencing subsequently the behavior of shipowners and their decision making processes (market choices). Its impact on the real sphere in the global maritime transport was especially pronounced in recent two years, in that period, when bunker prices exploded, changing the previous cost structure dramatically to shipowners' disadvantage. These market changes and the forms of ship operators' reactions against such global market events, are presented below.

Fuel costs determine indirectly trade costs, as direct transport costs in the form of freight rates constitute, as earlier indicated, a fraction of the entire trade transaction costs. Maritime freight rates themselves are determined by many other factors, such as trade imbalances, economies of scale, levels of competition, port infrastructure, type and value of the goods traded etc. When ship bunkering prices in Rotterdam were 83 per cent higher in June 2008 than in June 2007, and the bunkering bills of major shipping lines were on average 67 per cent higher in the first quarter of 2008 than in the first quarter of 2007, fuel costs grew significantly, being estimated to account for more than half of the overall operating costs of a shipping company at that time.¹⁶ According to Germanischer Lloyd, by November 2007, fuel accounted for 63 per cent of the operating costs of an 8,000-twenty-foot-equivalent-unit (TEU) container ship. It should be noted, however, that, because of the abundance of fuel oil in the world's major bunkering ports, ship bunker prices luckily did not hit the record levels of crude oil prices.

At such conjuncture shippers were trying to ensure that containers are fully loaded, and they are using more cross-docking and intermodal rail.¹⁷ These strategies are not only offsetting high energy costs, but are also used to obtain more efficiency and long-term sustainability from their distribution networks. As a result, no mechanism is in place to deflect the full effect of rising prices from maritime transport end users.

¹⁶ Benamara H., Valentine V., Fugeza M., Fuel prices, transport costs and the geography of trade. *UNCTAD Transport Newsletter*. Trade Logistics Branch. No. 39, Second Quarter 2008, p. 5-6.

¹⁷ See: Weak dollar helps push bunker prices back to record levels. *Lloyd's Ship Manager*, May 2008 and DiBenedetto B. Fuel burn: Rising energy costs are spurring companies to reevaluate supply chains. *The Journal of Commerce Online*. 18 June 2008.

The maritime industry can, however, take action to avoid spiraling freight rates. The industry has already reacted to rising oil prices by reducing sailing speeds and by reorganizing services. It is estimated that a 10 per cent reduction in speed can lead to a 25 per cent reduction in fuel consumption.¹⁸ According to Hapag-Lloyd, although a lower speed implied "longer voyages, extra operating costs, charter costs, interest costs and other monetary losses, slowing down still paid off handsomely".

Additionally, the shipping industry has been investing in more fuel-efficient technologies (hull design, propulsion, engines) and alternative energy sources. More recently, wind energy is attracting attention with giant kites being tested on some freighters (e.g. MV Beluga SkySails). By using the SkySails system, a ship's fuel costs can be reduced by 10 per cent to an annual average of 35 per cent, depending on wind conditions. Under optimal wind conditions, fuel consumption can temporarily be reduced by up to 50 per cent.¹⁹ While the shipping industry may in some cases be able to absorb raising costs without passing them on to shippers, in general, cost-recovery measures in the form of bunker adjustment factor (BAF) charges are introduced.

Moreover, new opportunities to realize savings in transport costs may emerge in the context of global warming. The effect of rising oil prices and transport costs may be offset by savings that could be derived from full-year operation of the Northern Sea Route and the opening of the Northwest Passage.

The shortcuts offered by the new shipping lanes would cut transport costs and therefore benefit globalization and create further competition with existing routes such as the Panama and Suez canals. The Northwest Passage would offer a new route between Europe and Asia that is 9,000 km shorter than the Panama Canal route and 17,000 km shorter than the Cape Horn route. Taking into account canal fees, fuel costs, and other relevant factors that determine freight rates, the new trade lanes could cut the cost of a single voyage by a large container ship by as much as 20 per cent, from approximately US\$17.5 million to US\$14 million and would save the shipping industry billions of dollars a year.²⁰ The savings would be even greater for very large vessels that are unable to fit through the Panama and Suez canals

¹⁸ Kirschbaum E. Harnessing kite power to a ship. *International Herald Tribune*. 20 January 2008.

¹⁹ Additional information on SkySails systems and MV Beluga SkySails can be found at <http://www.skysails.info/index.php?L=1>.

²⁰ Benamara H., Valentine V., Fugeza M., Fuel prices, transport costs and the geography of trade. *Op.cit.*, p. 8

and so currently sail around the Cape of Good Hope and Cape Horn.²¹

All above presented shipowners' strategies and forms of conducts and behaviors undertaken in response to market pressure, aimed at better supply-side applying to the new demand-side constellation, clearly reflect the real regulatory power of freight markets and their impact on maritime transport sector. Hence, in spite of growing globalization and internationalization of shipping industry, market mechanism appears to be still dominant regulatory power in maritime transport sector.

2.3 *International maritime transport policy and its regulatory role of global shipping industry*

International maritime transport policy, created directly or indirectly by international organizations (i.e. IMO, ILO, HELCOM, EMSA) and international (regional) groupings of countries (EU, NAFTA, BSSC, etc.), constitutes in contemporary world 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 latter, however, due to commonly known weaknesses, is in fact unable to solve many nowadays emerging serious threats caused by shipping activity in global scale and problems affecting maritime transport (safety and security, social and environmental problems and many others). Consequently, it has to be supplemented by additional, public regulatory regime worked out by strong and influential international bodies.

To that group belongs 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 is concerned with maritime safety; the second with the prevention of marine pollution; and the third with liability and compensation, especially in relation to damage caused by pollution.²² Outside these major groupings are a number of other conventions dealing with facilitation, tonnage measurement, unlawful acts against shipping and salvage, etc. Tak-

²¹ Begerson S. G., Arctic Meltdown – The Economic and Security Implications of Global Warming. *Foreign Affairs*. March/April 2008.

²² The full compilation of all IMO conventions and protocols amending the conventions along with their status indicating the date of entry into force, number of contracting states as well a tonnage percentage covered by each of those lawful instruments is listed on IMO website : www.imo.org/Dynamic/Search/Index.asp

ing into account the number of the IMO regulatory instruments existing in form of conventions and protocols amending the first ones, as well as 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 a real global shipping policy constituting the backbone of the world maritime transport regulatory mechanism.

In addition to IMO, in formation the widely understood economic, social, technical and environmental order in the world shipping industry participates ILO, too. It 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 has adopted a new consolidated Convention (C 186) that provides a comprehensive labor charter for the world's 1.2 million or even more seafarers, addressing the evolving realities and needs of a sector that handles 90 per cent of the world's trade.²³

The new ILO's Maritime Labor Convention, 2006 clearly sets out a seafarers' "bill of rights". Its provisions will help to meet the demand for quality shipping, which is crucial to the global economy. The convention will apply to all ships engaged in commercial activities with the exception of fishing vessels. The new Convention consolidates and updates 68 existing ILO maritime conventions and recommendations adopted since 1920, among them convention 147 of 1976 *Merchant Shipping (Minimum Standards) Convention*, convention C165 (1987), C178 and C180 of 1996, simultaneously enforcing revision of 37 other ILO's conventions.²⁴

The new convention is designed to encourage compliance by operators and owners of ships and strengthen enforcement of standards at all levels, including provisions for onboard and onshore complaint procedures for seafarers regarding the shipowners' and shipmasters' supervision of conditions on their ships, the flag States' jurisdiction and control over their ships.

The Convention sets minimum requirements for seafarers to work on a ship and contains provisions on conditions of employment, hours of work and rest, accommodation, recreational facilities, food and catering, health protection, medical care, welfare and social security protection.

Under the new convention, ships that are larger than 500 GT and engaged in international voyages

²³ www.namma.org/resources/iloNewCharter2006.htm

²⁴ Countries that do not ratify the new Convention will remain bound by the previous Conventions that they have ratified, although those instruments will be closed to further ratification.

or voyages between foreign ports will be required to carry a "Maritime Labor Certificate" and a "Declaration of Maritime Labor Compliance". The Declaration sets out shipowners' plans for ensuring that applicable national laws, regulations or other measures required to implement the Convention are complied with on an ongoing basis. Shipmasters will then be responsible for carrying out the ship-owners' stated plans and keeping proper records to provide evidence of compliance with the convention. The flag State will review the shipowners' plans and verify and certify that they are in place and being implemented. This will put pressure on shipowners that disregard the law, but will remove pressure from those that comply.

Discussing international maritime transport policy, it should be noticed that EU is strongly committed in setting-up such regulatory mechanism and not only within the Community. The European Commission's transport policy aims at the harmonious performance of the European maritime transport system as a whole. It has performed at once two strategic goals. Over the years, the Commission has built a quite comprehensive regulatory framework encouraging the efficiency of ports and maritime transport services, *inter alia* reinforcing market position of EU fleet flying member states' flags and strengthening competitive advantages for EU shipowners in benefit of all other economic sectors and of the final consumers on one hand and safety as well as security in shipping activities on the other. The Commission supports actively the efforts of the EU member states to promote a 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 the maritime accidents. The packages Erika I, Erika II or the newest third package of maritime safety measures should yield gradual but significant improvement of maritime safety²⁵. 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

²⁵ 2006. *Maritime Transport Policy*. European Commission.

qualifications of seafarers. Finally, the EC works for the protection of citizens as users of maritime transport services, ensuring safe and secure conditions, looking after their passengers rights and examining the adequacy of the public service maritime transport connections proposed by 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 of the internalization of external costs its generates in the global scale. Admittedly, it participate in total sum of external costs at relatively low level, but some cost categories relating to air pollution (SO_x, NO_x, etc.) and ships' accidents (mainly oil spills) regarding as typical maritime externalities amount to quite significant sums in global scale. Due to that, in close cooperation with IMO, EC intends within the EU's sustainable maritime transport policy to include this sector into its regulatory framework concerning internalization of external costs.²⁶ In case of accomplishing that objective, it would be the deeper every known form of public intervention into the real sphere of international maritime transport.

3 CONCLUSIONS

Currently functioning maritime transport regulatory system with its typical dual mechanism interacting international shipping's real sphere, strongly affects both operational sphere and development of maritime transport in global scale. There are widely seen numerous global effects of its regulatory activity, such as:

- 1 creation of international order in this transport sector based on common, widely accepted international standards relating 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 a mode of transport, strongly supporting the development of seaborne trade,
- 3 enhancing intermodal competitiveness of maritime transport operators, especially against road haulage carriers by promoting short sea shipping, development of intermodal transport and new concepts of logistics supply chain management. Consequently, maritime transport will be stronger committed in accomplishment widely promoted strategy of sustainable development (EC concept of Greener Transport),
- 4 increase in maritime transport operational productivity which should bring about its higher effi-

²⁶ Greening Transport. COM(2008)433 final. Brussels. 8.7.2008

- ciency and effectiveness in term of time and costs of handling seaborne trade,
- 5 encouraging technical and technological progress in shipping industry as well as widely perceived innovation; among others in the area of the fleet operation and management (logistics concepts),
 - 6 reduction of vessels' life cycles in purely technical and economic terms, speeding up implementation of digressive methods of ships depreciation,
 - 7 growing purchasing costs of new tonnage as well as exploitation costs of the existing fleet (results of necessary technical conformity), which will undoubtedly strengthen the competitiveness in maritime transport and subsequently the pressure towards further capital concentration both vertical and horizontal in this transport sector.

The existing (dual) regulatory mechanism in shipping sector, consisting of two in their nature different subsystems, needs to be internally coherent and not self-contradictory. As a result of growing international public 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. Consequently, autonomous regulatory subsystem in maritime transport becomes more homogenous and coherent as well. The process of relatively extensive pervading public regulatory mechanism into autonomous one will have to last as long as freight markets being under the growing pressure of international maritime transport policy wholly accumulate and in the end incorporate main objectives of public regulation. It may abide very long, being determined to some extent by the development of commodity markets (primary ones).

REFERENCES

- Begerson S. G., 2008. Arctic Meltdown – The Economic and Security Implications of Global Warming. *Foreign Affairs*. March/April.
- Benamara H., Valentine V., Fugeza M., 2008. Fuel prices, transport costs and the geography of trade. *UNCTAD Transport Newsletter*. Trade Logistics Branch. No. 39, Second Quarter, DiBenedetto B. 2008. Fuel burn: Rising energy costs are spurring companies to reevaluate reevaluate supply chains. *The Journal of Commerce Online*. 18 June.
- Grzelakowski A. S., ” 2008. Transport morski w gospodarce światowej. ”*Przegląd Komunikacyjny*. No. 12
- Hummels D., Transportation Costs and International Trade in the Second Era of Globalization, *Journal of Economic Perspectives*. Volume 21, Number 3.
- Kirschbaum E. 2008. Harnessing kite power to a ship. *International Herald Tribune*. 20 January
- Korinek J., Clarifying Trade Costs in Maritime Transport., 2008. Working Party of the Trade Committee, OECD, 25 April.
- Limão N. and Venables A J., 2007. Infrastructure, Geographical Disadvantage, Transport Costs and Trade, *Journal of Economic Literature*.
- Merchandise Trade by Commodity. Statistics Database. 2006. World Trade Organization (WTO) (www.wto.org).
- Ports and International Transport Costs. 2006. *UNCTAD Transport Newsletter* No. 31, March.
- Recent Trends in Liner Shipping Freight Rates. 2004. *Transport Newsletter* No. 24, June.
- Review of Maritime Transport 2007*. 2007. New York and Geneva. UNCTAD. p. 11-6.
- Review of Maritime Transport 2008*. Report by the UNCTAD secretariat. New York and Geneva. UNCTAD.
- Rohter, L, 2008. Shipping Costs Start to Crimp Globalization. *International Herald Tribune*, 2 August UNCTAD/TC/WP(2008)10.
- Weak dollar helps push bunker prices back to record levels. 2008. *Lloyd's Ship Manager*, May. <http://www.skysails.info/index.php?L=1>. www.imo.org/Dynamic/Search/Index.asp www.namma.org/resources/iloNewCharter2006.htm