

A FIRST APPROACH TO EU'S SEABORNE TRANSPORT VISION

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Abstract: Mankind has stepped into the globalization era, the objective phenomenon, that allows the connection of needs and resources at the world level. During this process, an essential role is played by the transport, that must be efficient with a more accentuated protection of the environment. The studies regarding the future of the field shows that the maritime and river traffic of goods and passengers will take over an important part of the land and air transports. Consequently, at the European level, there have been made strategies on medium and long term as regards the evolution of the field. Using the latest data, this paper proposes a first critical analysis, the EU's vision on the evolution of its seaborne transport.

Keywords: EU, seaborne transport, port development strategy

1. Introduction

The main objective of the trading and implicitly of the seaborne transport is to ensure the normal circuit of goods at the national and international safety level, respectively in time, with the economical efficiency and according with the conventions and the contractual clauses in force. Among the transport ways, the water way is the cheapest, that, according with the world statistics is representing 90% of the world trading volume, and the total goods amount, that represents the objective of the maritime global goods trade represents 65% of the total exchange value. The current global economy development conditions, characterized by cooperation and interdependency, imposes to the seaborne transport two essential economical features, respectively, the efficiency and the lucrativeness. The modern seaborne trade is a vast and complex economical activity through the annual volume of the transported goods as well as the material value of these, to which it is added the huge investment in the high technology represented by the ships as means of transport, respectively by the modern ports as transshipment hubs. The ports are essential for the

European business in the transport sector as well as for the competitiveness of Europe, having a huge potential of the working places creating and investments attracting. In the last years, the European port activity was intensified, trend that seems to be maintained on long term. An EU concise analysis shows that, through EU's ports are passing 37% of the intra-EU goods, and 74% of the extra-EU goods, as well as almost 400 million passengers. Approximately over 70,000 kilometers of the EU coasts are operated in over 1,200 maritime commercial ports.

In the EU, the industrial port has a significant economical impact as regards the employment in the industry itself (direct impact), in the distribution chain (indirect impacts), and in the economy as a whole (induced impact). For most of the maritime activities, the ports are in the center of the economic activity, including shipyards, maritime equipment, cranes and producing equipment for terminals, lifesaving companies, offshore companies, dredging companies, naval bases, etc. All these are promoting the port activity as an important part of the

GDP. In the 22 maritime states, all maritime industry (naval operations and services, land transport, logistic activities, goods services) is estimated to produce directly 1.5 million working places and indirectly up to 3 million. In the logistic chain, the port costs could represent a significant part of the total costs. Goods handling, port taxes and port nautical services can represent between 40% and 60% of the total logistic costs for the companies that use the seaborne transport for goods transport on short distances.

2. Material and methods

In the European Union, the maritime traffic analysis has been done over a long period of time (2006-2015/2016) to be able to outline the influence of the financial crisis in the maritime domain and the subsequent trends of returning to the European trade. Under the methodological aspect, for comparison, they had been chosen the data before the crisis (2007), the data during the crisis (2009 and 2011) and the data after the crisis (2014 and 2015). We considered the statistical data registered at the EU level and of the main European countries with the most intense port activity. At the general level, we ascertained a generally intense activity but unevenly territorial distributed and the global spreading of the transit has been influenced by the macro-economic evolutions. As regards the economical-financial aspect, we must emphasize that a direct correlation between the transportation volume and the values in the trading balance cannot be done. A significant example is Germany, who constantly obtains a trading balance excess because of the export of high added goods value. Therefore, it requires an analysis of the structural trends. At the country level, the economic environment influences were similarly, that is why there have been not changes in the ranking of the economic performance. For the maritime transport analysis, it was used an economical-statistical indicator which is commonly known as The roadmap of the goods or “ton/mile”, and it serves as a synthesis of the transported volume and distance made. In this case, the economic indicator ton/mile expresses the ratio between a transported ton and one mile distance.

The value of this indicator has an indirect but important relevance on the seaborne transport routes. The ton/mile indicator ($Pa \cdot m$) represents the volume of the carried goods and it is determined by the goods weights and the distance on which they are transported and it can be determined with the following (Eq.1):

$$Pa \cdot m = G_1 \cdot d_1 + G_2 \cdot d_2 + G_3 \cdot d_3 + \dots + G_n \cdot d_n = \sum_{i=1}^n G_i \cdot d_i \quad (1)$$

where: G_i represents the quantity of the cargo expressed in tons (t); d_i – the distance made by the ships with a transport to the destination port, expressed in nautical miles (nM)

2. Results and discussion

The first comparative analysis of the evolution of the global economy and the EU's 10-years 2006-2016, before and after the global crisis is presented below in the Table 1 and Fig. 1:

Table 1. World and EU economic growth, 2006-2016 period (the annual percentage change)

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 (forecast)
World	3,9	4,0	1,5	-2,2	4,1	2,8	2,3	2,2	2,5	2,5	2,3
European Union	3,1	3,0	0,3	-4,3	2,1	1,7	-0,3	0,3	1,4	2,0	1,8

Source: Official data from the Review of the Maritime Transport, UNCTAD 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016

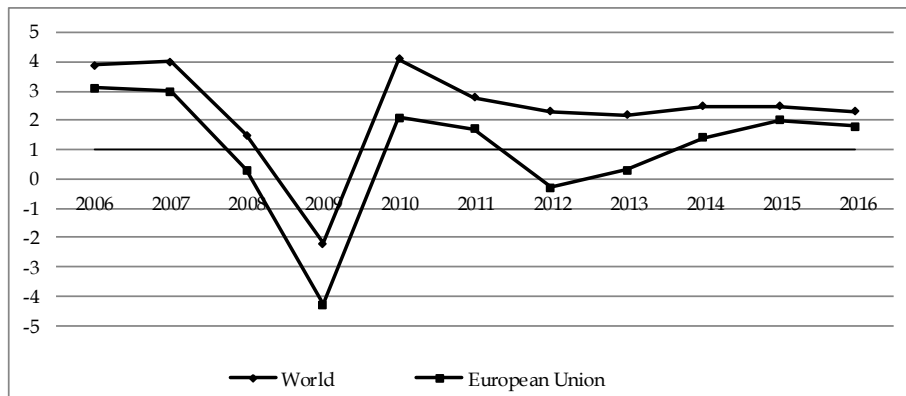


Fig. 1. Evolution of the world and EU economic growth, 2006-2016 period

At the EU 28th level, in 2009, it was recorded a drastic decrease of the goods transportation volume, i.e. by 7.4 %, compared with the basic period (2006-2007), after this, the ascending trend being resumed once with the diminution of the world financial crisis. In 2011, comparing with 2009, the registered increase was 8.7 %, and in the last two years considered, it reached 9.3%, respectively, 10.8%. In the analysed period, it was observed that, even if the recovery speed in the post-crisis had been big, the maritime trading volume had not reached the level of 2007, representing only 96.8% of it, respectively. In the last years, the annual increase rates are relatively low, i.e. under 2%.

The second comparative analysis of the economic growth as regards the merchandise trade volume from the global economy and the EU's for 10-year, 2006-2016, respectively, before and after the global crisis is presented below in the Table 2 and Fig. 2:

Table 2. Growth in the merchandise trade volume for the world and EU in 2006–2015 period (the annual percentage change)

Year	Export									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
World	8,5	5,8	2,4	-13,1	13,9	5,9	2,3	2,2	2,3	1,4
European Union	7,5	3,2	2,4	-14,3	11,6	5,5	-0,1	1,4	1,7	3,2
Year	Import									
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
World	8,0	6,6	2,5	-13,4	13,8	5,4	2,1	2,1	2,4	1,6
European Union	7,0	4,8	0,8	-14,2	9,4	2,8	-2,5	-1,2	3,3	3,6

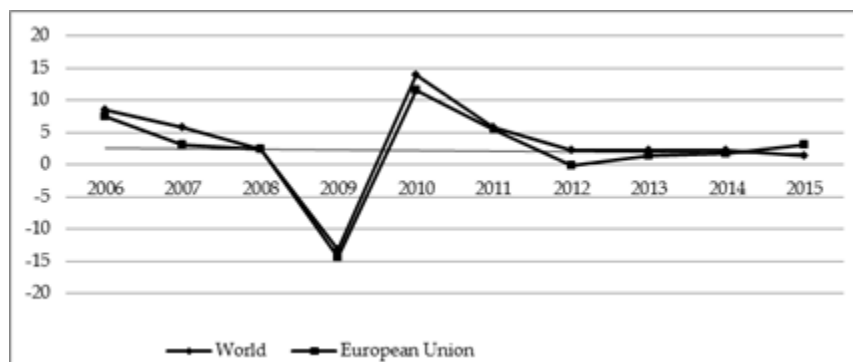


Fig. 2. Evolution of the world and EU export and import of the goods, 2006-2015

At EU 28th level, in 2009, it was recorded a drastic decrease of the export of the goods volume, i.e. by 21.8 %, compared with the basic period (2006-2007), after this, the ascending trend being resumed in 2010-2011 once with the diminution of the world financial crisis, but afterwards, 2011, the trend was decreasing in 2012-2014, and an ascending trend was registered in 2015. The import of the goods in EU has a similar evolution to that of the exports, exception making the amount of the imports growth in the years 2014 - 2015 (respectively 3,3% and 3,6%, different from 1.7% and 3.2%), in conclusion, the imports had been higher then the exports.

The third comparative analysis of the evolution of the world and EU seaborne containers, between 2006-2015, in billions of tons-miles, using the 1st equation, is shown in the Table 3 and Fig. 3 below:

Table 3. Growth of the world and EU seaborne containers, between 2006-2015, (billions of ton/mile)

Seaborne trade/Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
International seaborne trade-containers (Millions of tons loaded)	1076	1193	1249	1127	1280	1393	1464	1544	1640	1687
World seaborne trade-containers (Estimated billions of tons/miles)	5757	6422	6734	6030	6883	7469	7673	8076	8237	8428
EU seaborne trade-containers (Millions of tons loaded)	618,5	681,7	683,6	609,3	664,5	718,9	742,8	749,4	795,6	800,1
% World	57,5%	57,1%	54,7%	54,0%	51,9%	51,6%	50,7%	48,5%	48,5%	47,4%
EU seaborne trade-containers (Estimated billions of tons/miles)	5,33	5,38	5,39	5,35	5,37	5,36	5,24	5,23	5,02	4,99
	3296	3667	3684	3259	3568	3853	3892	3919	3993	3992

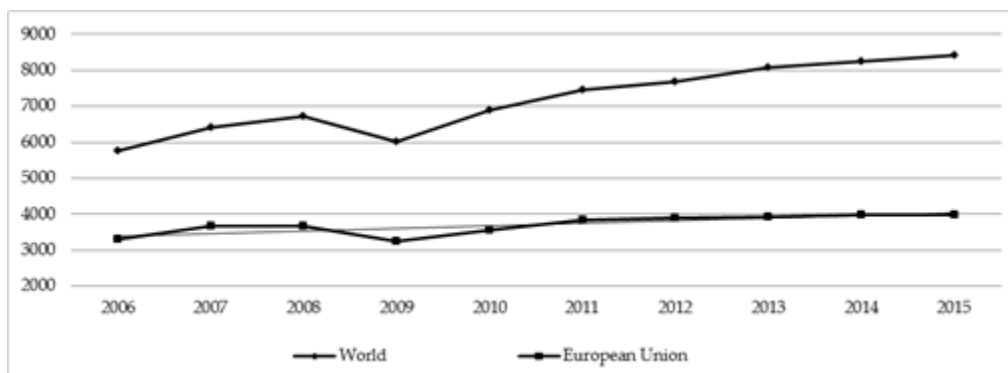


Fig. 3. Evolution of the world and EU seaborne containers, between 2006-2015, in billions of tons/miles

Source: Official data from the Review of the Maritime Transport 2016, and the Indicator of billions of ton/mile was calculated by the authors

Data resulted from the calculations and they are showing the same decrease as regards the container traffic in 2009, but with a lower value of only 10%, followed by a strong upward growth, i.e. globally higher than at the EU level. In 2015, the world seaborne container trade was higher compared with the basic period (1,687 millions of tons loaded towards 1,076 millions of tons loaded in 2006) and at the EU level, but with a smaller difference (800,1 millions of tons loaded compared to 618,5 millions of tons loaded in 2006).

The fourth comparative analysis of the evolution of the world and EU 28, and EUs top 10 main countries in the seaborne transport field, between 2006-2015, is presented in Fig. 4 and 5:

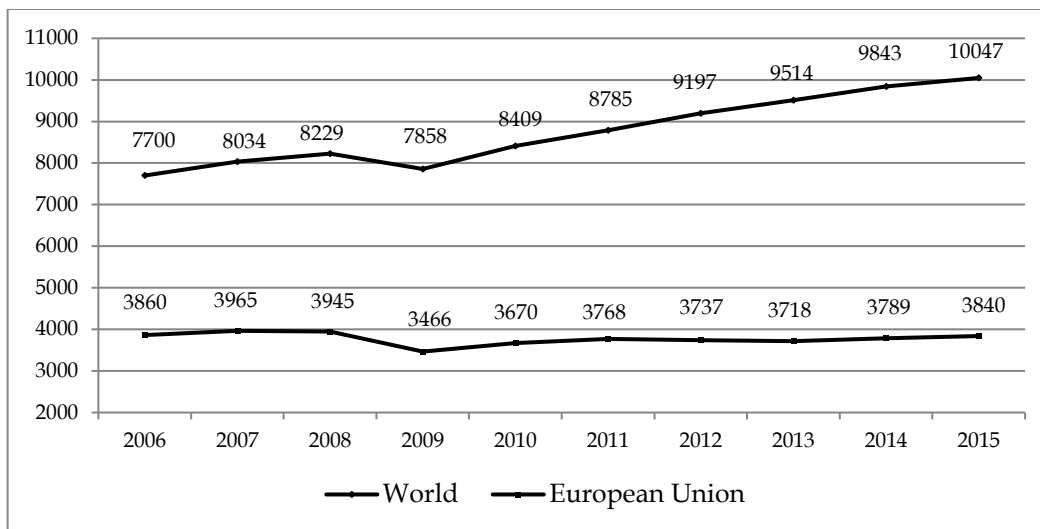


Fig. 4. Evolution of the world and EU 28 seaborne trade

Source: processing by the authors after Eurostat, EU seaborne statistics, accessed in 03.03.2017

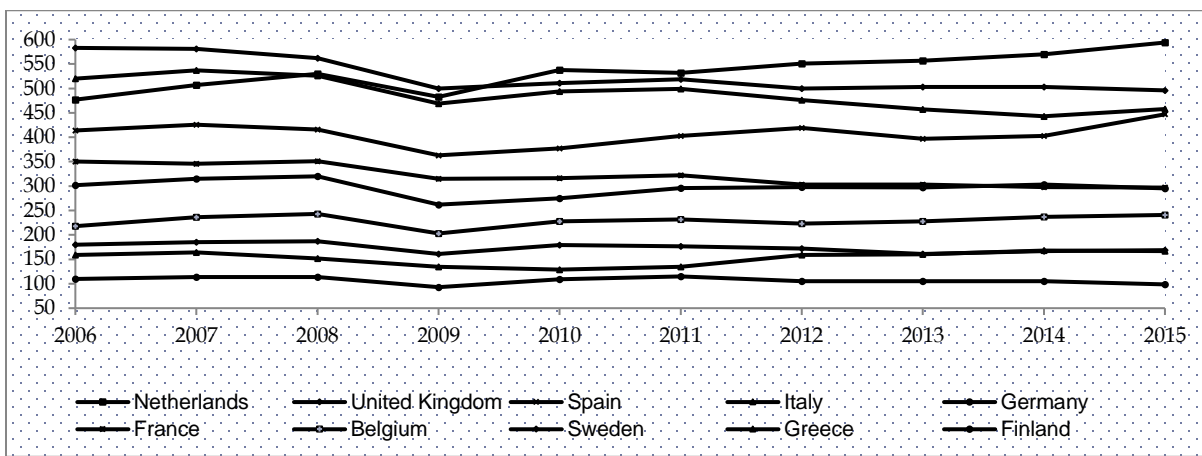


Fig.5. Evolution of the world and EU 10 seaborne trade

Source: processing by the authors after Eurostat, EU seaborne statistics, accessed in 03.03.2017

The situation for the EU's main countries involved in the seaborne trade is as following:

- Netherlands has been on the first place during the whole period and is one of the few countries in the EU 28 that, from 2011 it had surpassed the trading volume before the crisis (+17.15%). The increase rates in the last two years have been of 2.3% and 4.2%, respectively the biggest one from the ranking;
- in the last year of analysis, United Kingdom has registered a 15% lower volume compared to the basic year. Noteworthy that, during the crisis (2009) it had realized the largest volume of goods from EU 28. In the post-crisis period, starting with 2012, the naval goods volume has been descending, but in a lower percent;
- Spain is part of the group that had surpassed the trading volume before the crisis (+4.92%). In 2009, after a collapse of 12.6%, it followed a volatile recovery, in the last two years being registered the annual increases of 7.6%, respectively 4.5%.
- in 2008, Germany had achieved the highest volume of the seaborne trade (320 million tons), a minimum value in 2009 (263 million tons), then a slight increase in the 2010-

2014 period, and a decrease in 2015 (296 million of tons), however without reaching the maximum value of 2008;

- France, after a top value of 351 million tons reached in 2008 in the seaborne trade, in 2009, it had recorded a decrease up to 315 million tons, and, after a slight increase in 2010 and 2011, it had recorded a continuous decrease to a minimum value in 2015, i.e. of 298 million tons, meaning less than the minimum recorded in 2009, the maximum crisis year.

In the eastern Europe, the country with the highest port activity is Poland, that surpassed by 2% the goods volume before the crisis. Romania has a modest activity, the seaborne transport volume not exceeding more than 1.3% of the EU 28 volume. Outside EU 28, the most intense port activity is registered in Turkey, respectively with a volume of 411 million of tons, similarly to EU 28 top countries as regards the seaborne transport.

Making a comparison, in 2015, the cargo traffic in the Black Sea ports was about 230 million tons, disposed as follows: Romania - 44 million tons; Bulgaria - 31 million tons; Turkey - 17 million tons; Georgia - 11 million tons; Russian Federation - 66 million tons; Ukraine - 60 million tons. The number of the ships that annually convey in transit the Bosphorus Strait is over 26.663. The port traffic capacity in the Black Sea is over 390 million tons: Romania - 123 million tons, Ukraine - 80 million tons, Russian Federation - 76 million tons, Bulgaria - 62 million tons, Turkey - 24 million tons and Georgia - 16 million tons.

The fifth analysis: the structure of the goods in UE 28

Referring to the goods structure in the same period, they were registered several reduced percent variations (Fig. 6). This fact has economical and technical explanations. Firstly, the products demand has not significantly modified, aspect indifferent of the economic environment registered at a certain time. The shipbuilding industry is characterized by inflexibility and long fabrication cycles, that would not have allowed the rapid adjustment of the ships for other freight categories. In addition, in the transportation domain, there is not any other alternative more efficient for large volumes of goods.

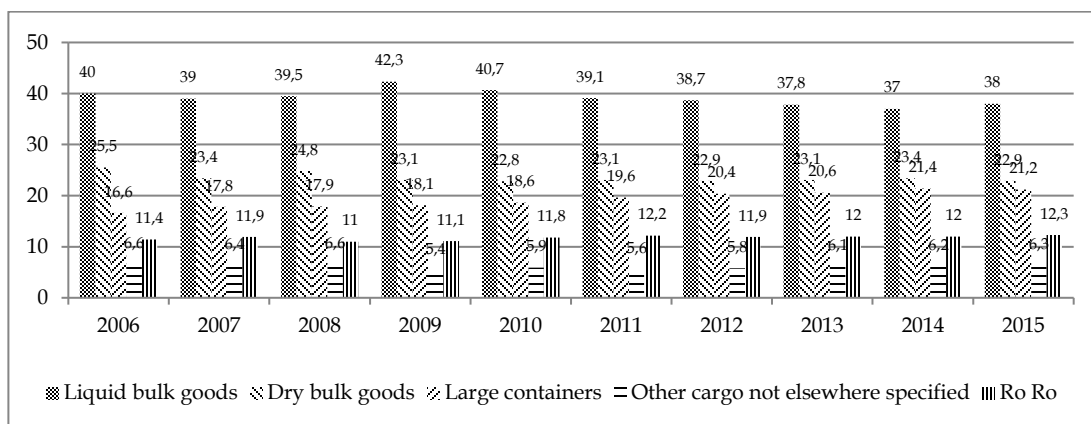


Fig. 6. Evolution of the structure of the different goods categories

Source: Processing by the authors after the Eurostat seaborne statistics, accessed in 03.03.2017

The seaborne of the liquid bulk goods has represented the most important category of this period. After an accentuated increase in 2009, it manifests a slightly decreasing trend, with 1% return in the last year. The highest increase, i.e. without gaps during the crisis period, was for the seaborne of the containers and the ascending trend seems to be on the long term.

Since 2006, the seaborne trade of dry bulk goods recorded a continuous decrease, lower by 11% in 2015. From 2006 to 2015, the seaborne containers transport had steadily increased by over 15%. Also, in the same period, the seaborne of Ro-Ro - mobile self-propeller transporting units had increased by 15 %.

The sixth analysis - EU's cruise industry evolution

Unlike the goods transportation, that has had an accentuated decrease during the crisis, after which, it restarted the increasing, the passengers traffic at the EU level had known a constant decrease during the entire analyzed period (Fig. 7).

The causes of the decrease are multiple: the purchasing power of the population during the financial crisis, that had been not recovered to the previous level even after the crisis; the induced psychosis of the crisis still persists, the concern is focused on saving, but not spending money; the uncompetitive practiced prices, in comparison to those in the rest of the world; the achievement of new international routes, more attractive as prices, services and places to visit.

Considering all the above facts and the mentioned period, the decrease was over 11% and in the last two years it was of 0.8%, respectively 0.3%.

The passengers traffic evolution for the EU 10 countries is as following (Fig. 8): Italy is the indisputable leader in the field, even though it had registered a decrease period of 18.6%. Other top countries, like Germany, United Kingdom, France, had similar evolutions but with smaller decreases. The only important place of destination that had registered increases was Spain, i.e. by over 2%. The highest development is represented by the market from Estonia, respectively with an increasing of 63,46%, thus, it had become the most attractive country in the Eastern Europe. Other important increases were registered in Finland, by 14.6% and Malta by 27%, but without significantly influence for the EU balance. Regarding Romania, the contribution is insignificantly at EU level. The events in the Black Sea basin, the Ukraine instability, the terrorist attacks in Turkey will produce a descending trend for the next period.

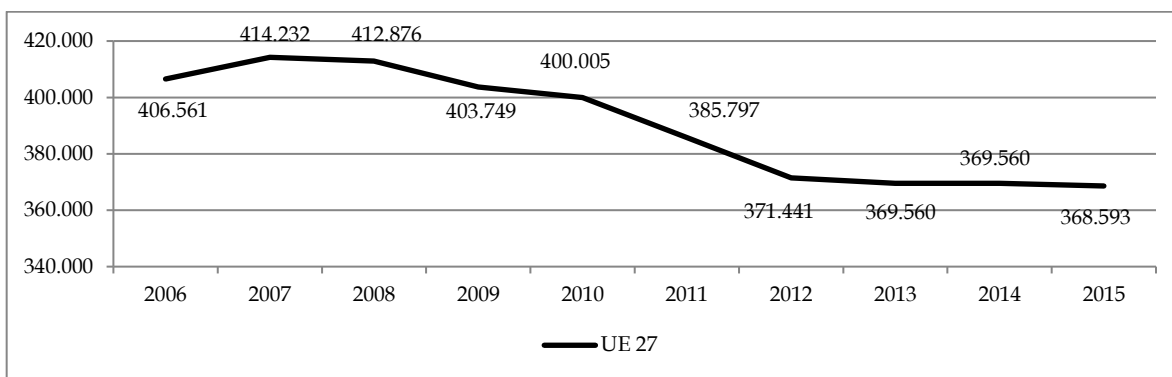


Fig 7. EU 10 - Evolution of the passengers traffic

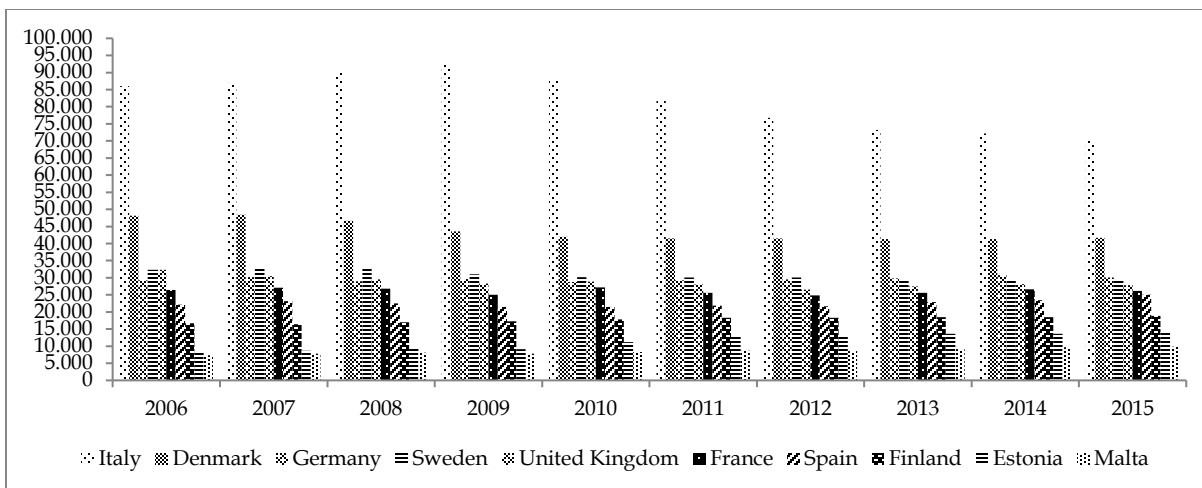


Fig. 8. Evolution of UE 10 passengers traffic

Source: Processing after Eurostat, the seaborne statistics, by the authors, accessed in 03.03.2017

The seventh analysis – In 2014, the EU 28 Merchant Fleet had 14,440 vessels, representing 30.33% of the total world fleet having 47,601 vessels, with a displacement of 555 million dwt, representing 30% of the world fleet displacement having 1.677 billion dwt (Fig. 9).

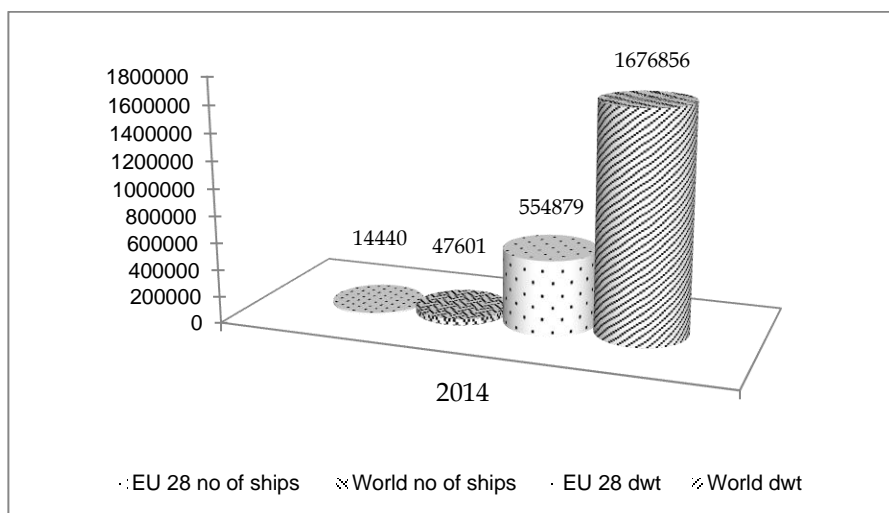


Fig 9. EU 28 Merchant Fleet in 2014

Source: Processing after Eurostat, the seaborne statistics, by the authors, accessed in 05.03.2017

The analysis of the evolution of the EU 10 commercial fleet for 2014-2016 period shows the following: an increase in the number of the vessels, respectively from 13,146 pcs. in 2014 to 13,404 in 2016, representing 27.3% of the worldwide total number of the ships as well as an increase in the displacement during 2015-2016, i.e. by 5%, representing 33.0% of the worldwide total displacement (Fig.10).

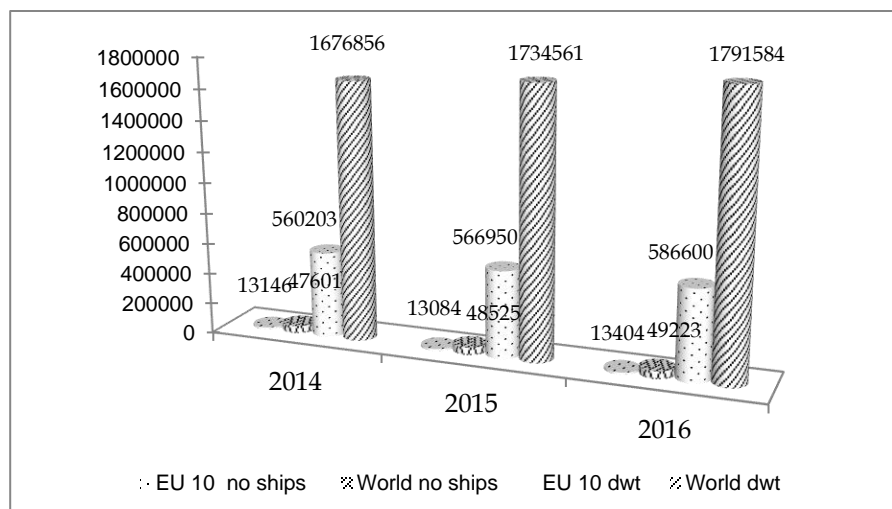


Fig. 10 EU10 Merchant Fleet, 2014-2016

Source: Processing after Eurostat, the seaborne statistics, Review of Maritime Transport 2014, 2015, 2016 by the authors, accessed in 07.03.2017

As regards the medium term of EUs seaborne transport strategy, we can affirm the followings: in EU 28, there are 22 maritime countries, thus, developing a common strategy is an imperative needed. Nowadays, the EU owns 33% of the world fleet and the tendency of increment is necessary to be in a fast pace. In the following period, there are significant adjustments to be made to face the challenges regarding the environment, efficiency, human resources and the world completion. The world economic environmental analysis, still affected by the financial crisis, shows the necessity of acting in the following directions:

- execution of a challenging European environment to increase the seaborne transport quality and the port operator activity in all EU ports;
- competitiveness development of the maritime clusters, with rapid effect over the economical increase and the workforce occupation, primarily in the eastern EU, with the experts help from the EU Western countries;
- elaboration of the competitive regulation on international levels regarding the taxes and for the public assistance in the field, using the international experience;
- specific actions to ensure unprejudiced conditions for the seaborne transport, for the access to the markets in conditions even competitive, i.e. by west-east cooperation;
- reviewing of the international regulations that are referring to the rights and the responsibility of the nations as flag states, port states or coastal states, using the experience of the European eastern ports that came more into contact with the maritime transport that is under the standard.

The security of the maritime transport has complex regulations at the European level, that are considered to be the most complete in the world. The safety measures coordination is in the competence of the European Maritime Security Agency. Broadly speaking, the agency wants to consolidate the international cooperation, the systematical application of the IMO guidelines regarding the treatment of the persons rescued at the sea, the observance of the international framework as regards the accountability and the reimbursement regulation and to monitor the special navigation conditions.

As regards the EUs seaports future evolution – 2030 EUs seaports, we can affirm that: the modernization and the development of the merchant fleet is tightly connected to the ports. In this purpose, at the European level, it has been adopted a legislation which indicates the ways and actions to be taken in order to respond to the major challenges of the current port activity. The main problem is that of its uniform application in all EU countries, that means significant investments, respectively higher, in order to be brought at the same level with the western ports, referring here to those from the southern and eastern EU.

4. Conclusions

The European strategy is focused on increasing the navigation importance in the context of intra-European and international transports. The strategic orientations, aiming the accomplishment of an sustainable transport, characterized by energy and economical efficiency, safety and environmentally friendly. In this direction, it is necessary to introduce the highest technological standards, and the ship crews must be prepared and trained at the highest level. In tandem with the increasing of the fleet qualitative standard, they are imposing the ports modernization and development measures, i.e. as important locations for the development of the external trading, the employment increasing and the wealth of each state. In order to reach these vital objectives, it is imposing a radical change of the mentality. It is estimated that, until 2030, they will be saved 10 billion Euro and the port expenses will be reduced with approximately 7%.

Putting in action these further objectives imposes the adopting of some firm measures, accomplished step by step on the whole economy, referring to an increased efficiency in many ports as possible, in tighter connections with the hinterland, a more rich investment framework, an active social dialog as well as the ensuring of the better work conditions.

Regarding the port activity in the past years, we observed a gradual recovery of the situation prior to the financial crisis, as well for the goods transport and the passengers transport. In perspective, the European port activity will exponentially develop and it will impose the adopting of some vast measures to cover the naval transport needs, with economic consequences, benefic for the entire European community. In this context, we hope that in Romania we will assist to a spectacular recovery of the maritime transport, but the condition is given by the recovery of the economical development.

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