

Business Administration and Business Economics

**Competition on the Global Shipbuilding
Market under the Global Crisis Impact**

Romeo Ionescu¹

Abstract: The paper deals with the analysis of the shipbuilding activity under the new conditions of the global crisis. The method of research is the comparative analysis used on two levels: global and European. The research is important and actual because Romania became one of the most important players in the European shipbuilding industry. Even if the analysis is focused on the economic performance, it describes the social impact of the crisis by using the evolution of the employees' number, the output trend in connection with wages and total revenues, etc. The main conclusion of the paper is that Europe losted its main position on the world shipbuilding market and presents a comparative disadvantage related to its Asian competitors. The whole analysis is supported by pertinent statistical tables and diagrams and uses the latest official statistic databasis.

Keywords: worldwide shipbuilding market; shipyards' facilities; order book; new orders; delivered orders.

JEL Classification: L60; L61; L64; L69.

1. Introduction

Still 2008, the ESDC stated perception that “the European shipbuilding is a powerful and dynamic industry” started to collapse. The dramatic decrease of the demand for the container ships followed by the global downturn of the demand hit the demand for the ship building industry vessels in all countries. Despite the implemented rationalization and consolidation strategies, the European shipyards have severe difficulties in terms of their business plan and use their equipment to undercapacity. (Mills, 2010)

A lot of sites (mainly small and medium) had to apply for insolvency. This is largely the result of the global financial crisis and its effects on trade and industry. Meanwhile, the naval procurements serve as a stabilizing factor. The individual

¹ Professor, PhD, Danubius University of Galati, Faculty of Economic Sciences, Romania, Address: 3 Galati Blvd, Galati, Romania, tel: +40372 361 102, fax: +40372 361 290, Corresponding author: romeo.v.ionescu@univ-danubius.ro.

country studies allow presenting the main drivers of the European landscape in the shipping industry.

There is a fierce competition between the European companies to export more ships (DNCS / TKMS, DCNS / Navantia, etc). The export and the inputs diversification represent the main elements of the shipbuilding industry development, because the national budgets are lower as a result of the crisis.

Most major shipbuilding projects are already under contract for the next five years. As a result, just a few projects will be implemented before 2015, as a new aircraft carrier in France, in 2012. On the other hand, the marine systems are interested in increasing the technological complexity. The naval military missions are changing, as well. They need more interoperability, technological warfare, multipurpose vessels, which means more effort on the information, detection, and communications. This is why the number of active vessels decreased.

Nowadays, the governments increase buying more “comprehensive packages” (armed ships and for maintenance, crew training, simulator, including the export financing and compensatory measures). The civilian shipbuilding industry is suffering greatly from the crisis. This is directly related to the shipyards short-term actions and the raw materials industry supply in several countries.

All these above trends are connected to the global crisis impact. As a result, the economic decline was felt across the world and soon affected all areas of activity. In exchange the European Union states, where there are former socialist states, by comparison we can say that they were most affected (Turtureanu, 2011).

2. Researches in this Topic Area

There are a lot of important researches connected to the shipbuilding industry. One of them describes the evolution of this industry in the USA before and after the Cold War. Since 1985, Japan and Europe have supplied the dwindling number of commercial ships built for U.S. owners. Finally, after 1990, with the end of the Cold War, U.S. shipbuilders lost significant military work, as well as a large part of their work force. From any perspective, then, the U.S. shipbuilding industry confronts enormous challenges (Committee on National Needs in Maritime Technology, 1996).

Another research area was focused on this industry dynamics. With an extensive data coverage spanning from the year 2000 till July, 2008 and outlook on the industry up to the year 2010, the book is a piece of delight not only for the shipbuilding companies looking out for action in the global shipbuilding arena but also as a guide to financial institutions/banks, investment agencies, regulators and policy framers, research and academic institutions and other national and

international agencies. The countries covered by this analysis are: South Korea, China, Japan, Europe, Vietnam and India (The Shipbuilding Industry, 2009).

An interesting forecast of the shipbuilding industry was published in China in 2009. By analysing past and future aspects of the market, it highlights the potential growth areas, and evaluates emerging trends in the industry. The forecast also studies the Chinese shipbuilding industry in relation with the global industry and gives an idea about China's proportion in the global shipbuilding industry. The book also covers the industry forecast and analysis, which is based on various macro and microeconomic factors, sector and industry specific databases, and statistical and analytical model. This model takes into account the past and current trends in an economy, and more specifically in an industry, to bring out an objective market analysis (China Shipbuilding Industry Forecast, 2009).

A different approach of the shipbuilding industry is connected to India. The report elucidates facts about the global shipbuilding industry, supplemented by latest statistical data and comprehensive analysis. The report comprising five sections provides an in-depth view of the global shipbuilding industry and market trends, the ship repair industry and the major Indian players operating in the industry (Bharat Book Bureau, 2010).

The global competition in the shipbuilding industry, which is continuously intensifying due to the entry of the developing countries into the shipbuilding market, leads to decreasing margins and enormous cost pressure in this industry. Many shipyards have already gone bankrupt through the inability to keep to their original budget that the offer was based on. In the naval sector it is not unusual to double the originally estimated costs when building the vessel (Fischer & Holbach, 2011).

3. The Impact of the Global Crisis on the Shipbuilding Industry

The European shipyards have still a relevant worldwide market share. These shipyards produce about 20% of the global turnover of the worldwide shipyards. Their outputs cover warships, commercial vessels, mega yachts, niche products and offshore products. The worldwide shipbuilding market is dominated by mass production of commercial vessels.

During the last two decades, was a rapidly growing market for cruise ships and other types of specialized ships. The demand for warships was relatively small, as well. In the past decade, the number of high technology marine products included only 75 units, mainly frigates, corvettes and OPVs, excepting the "closed markets" of China, Russia and USA during 1999-2009 (European Commission, 2010).

Between 2004 and 2008, the world fleet increased annually by more than 8%. Nowadays, the shipbuilding industry faces to a lower naval trade and a higher trade vessels supply. As a result, the shipyards' facilities are underutilised. This led to a dramatic decline in orders for commercial vessels, cancellations, delays of ships already in the process of construction and prices' decline.

But the shipyards with more pre-ordering are less or not at all affected (BAE Systems in UK, DCNS in France and HDW-TKMS in Germany). UK shipping industry was less affected, because it was focused almost entirely on military vessels for a long time.

As a result, we can conclude that the impact of global crisis on the ship building activities is directly proportional with the sites' involving in civil vessels. The employees from the warshipbuilding industry vary from a Member State to another (see Figure 1).

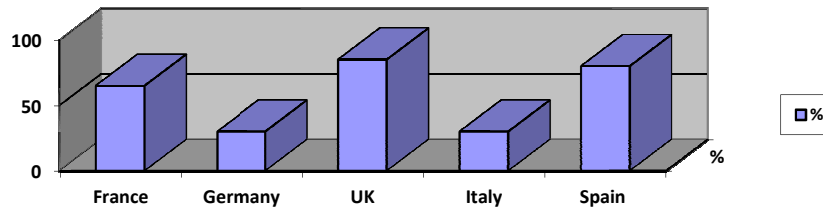


Figure 1. Employees from the warshipbuilding industry as % from whole shipbuilding industry employment

Source: personal contribution using ENTR/06/054 databasis

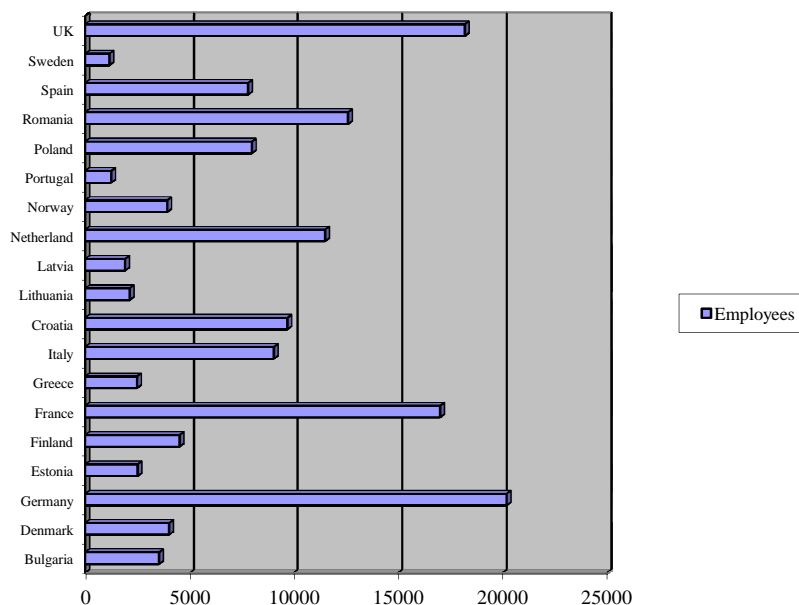


Figure 2. Employees in the European shipbuilding industry in 2010

Source: personal contribution using ENTR/06/054 databasis

The European shipbuilding experienced dramatic job losses in the recent decades. The situation stabilized in most countries during 2002-2008. Nowadays, the global crisis supports the layoffs decrease of 10-15% still 2015. In 2010, more than 141,000 employees worked in the European shipbuilding industry (see Figure 2).

In 2010, the total employees' number which worked in the European shipbuilding industries decreased. The main cause for this evolution was the decrease of the order book of the main European shipbuilding countries (Thorsten & Smets & Tholen, 2009).

South Korea is the world leader in shipbuilding. Its order book increased from 9.6 billion CGT in 1998, to 64.4 billion CGT in 2008. The Korean order book for tankers covered 46% from the world demand, the ships for gas transport LNG 59% and the ships for gas transport LPG 77% (see Figure 3).

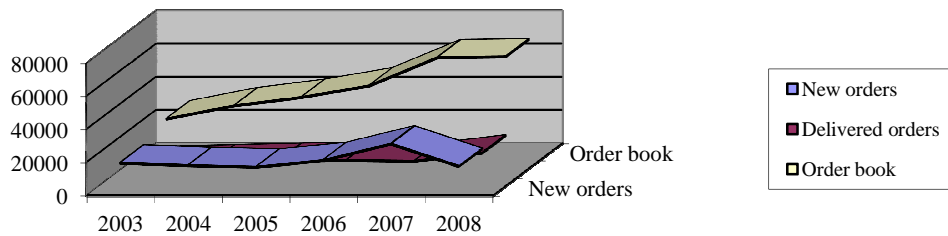


Figure 3. Korean shipyards activity during 2003-2008

Source: personal contribution using ENTR/06/054 databasis

Hyundai Heavy Industries (HHI) is the world leader in terms of its order book, which covers 10% of the world order book. The company has a broad portfolio of products: tanks, bulk carriers and container ships. Its main site is located in Ulsan. With nine HI docks and four Mipo docks, this is the largest area in the world with the largest shipbuilding capacity. The company has other sites in Samho and Gunsan and owns a supply chain. Other components come mainly from Hyundai Heavy Material Service, a Hyundai affiliate production site. The company has a yard (Vinashin) in Vietnam for repairs and a special business unit for the offshore market.

Daewoo Shipbuilding & Marine Engineering (DSME) is the second largest shipbuilder in the world, with almost 6% of the total world order book. The biggest Daewoo yard, DSME shipyard, is located in Okpo and is focused mainly on producing transport ships. DSME covers a third of the world production in this segment. Daewoo Company is the world leader of the tank and container ships production. Since 2006, DSME opened branches in Europe (eg., DEAWOO Mangalia Heavy Industries - DMHI). DMHI offers a great variety of products and after sales service (First marine international limited, 2009). During 2012-2015, DSME will open a repair shipyard in Asia.

Samsung Heavy Industries (SHI) has the third largest world order book and the third site in the world rankings (DWT). The largest Samsung site is in Geoje, South Korea. The company mainly produces crude oil tankers, container ships and offshore vessels. Samsung has not abroad shipyards.

STX Shipbuilding is the fourth ship builder group in the world. STX Shipbuilding is part of the great conglomerate STX Corporation and has two sites in South Korea (Jinhae and Dalian) focused on oil ships and container ships production.

The Chinese shipbuilding order book increased from 1.9 billion CGT in 1998, to 62 billion CGT in 2008, almost the same as the Korean one. This increase was mainly due to the strong government support in terms of liberal regulations and huge investment. As a result, the Chinese shipping industry ranks the second place in the world shipbuilding production (China Shipbuilding Economy Research Centre, 2010).

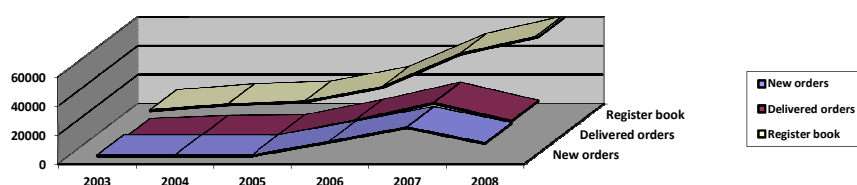


Figure 4. Chinese shipyards activity during 2003-2008

Source: personal contribution using ENTR/06/054 databasis

China became the world leader in cargo containers segment. This market is strongly oriented to the export. The reduced labour costs and the preferential tax treatment for the exported vessels made China a real competitive force on the international market. Nowadays, about 87% of its total register of orders is intended for the export markets. The Chinese shipyards are divided into two public clusters which domine the market: China Shipbuilding Industry Corporation (CSIC) and China State Shipbuilding Corporation (CSSC). Dalian Shipbuilding Industries (7th world rank) is part of the CSIC, but Jiangnan (8th world rank) and Jaingsu (10th world rank) belong to SCCS.

The Japanese shipping industry was present in the global shipbuilding industry since 1970. The Japanese order book grew during 2000-2007, even that the competition grew higher. As a result, Japan's market share decreased, from 26% in 2000, to 17% in 2007.

The largest Japanese shipyards are Oshima (12th world rank), Tsuneishi (14th world rank) and Imabari (25th world rank). For years, Oshima Shipbuilding was the largest shipbuilder in Japan. Its main activity is the production of Handymax and Panamax bulk carriers.

Tsuneishi is one of the oldest Japanese shipyards. This company established local branches in Cebu, in 1994 and Zhoushan Island, in 2003. Tsuneishi has three shipyards and achieved the 7th world rank.

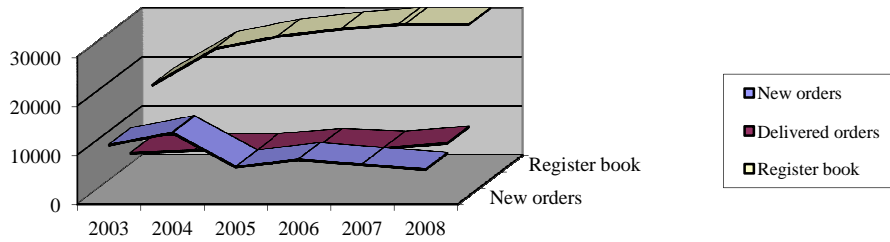


Figure 5. Japanese shipyards activity during 2003-2008

Source: Personal contribution using ENTR/06/054 databasis

Imabari Shipbuilding Company is the third largest in Japan, focusing mainly on bulk carriers and container ships production. With a total of eight shipyards, Imabari group achieved the 6th world rank according to its total order book.

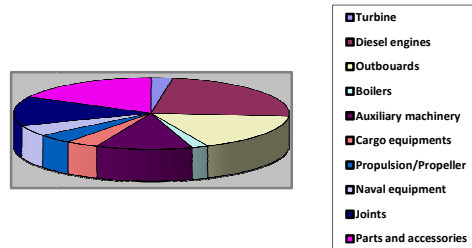


Figure 6. Japanese industry's naval equipment output

Source: personal contribution using ENTR/06/054 databasis

Even if the impact of the devastating earthquake and tsunami of 11 March 2011 will be felt by the shipping industry and its ancillary services, Japan is able to recover in the short term. After seeing the Japanese managerial skills on various occasions, all specialists are sure that the country could overcome tough challenges facing the disaster (Daily Collection of Maritime Press Clippings, 2010).

4. Conclusions

At the beginning of the 20th century, the shipbuilding was dominated by Europe, which covered about 80% of the world market. In the '50s, this position was gradually taken over by Japan, as a result of the Japanese economy rapid growth and a very well coordinated transport strategy. In the early '70s, Japan and Europe dominated the world market with a combined share of shipbuilding of about 90%. During the same period, South Korea entered on the market, using lower wages and choosing the shipbuilding as strategic industry. South Korea carefully planned an industrial strategy that led to a global market share of 25% in the mid '90s and the occupation of the first place in the field in 2005.

Although China had important shipyards since 1940, it became a dominant player only in the last decade. The country's economic boom, with the opportunity to choose its action strategies for the development of heavy industry activities, led to a strong increase in the world market share.

The role of the maritime equipment manufacturers became more important over time. Initially, most activities were carried out even in the shipbuilding yards. As a result of the R&D, the role of the marine equipment industry grew dramatically. Nowadays, the share of the activities carried out by yards is only 50%-70%, highlighting the strong links between the shipyards, the specialised in naval activities companies and the equipment suppliers.

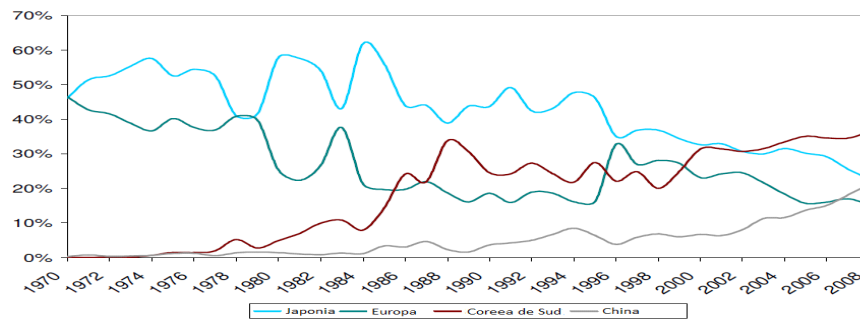


Figure 7. Market shares of world major shipbuilding

Source: personal contribution using ENTR/06/054 databasis

The shipbuilding industry is dominated by a few large sites, all located in Korea, the top four ranked in the world with a joint market share of about 25%. The first 18 are shipyards in Korea, Japan and China and has a joint share of 50%. The biggest European site ranked 38, according to the number of the produced ships.

The European companies are still prevalent in some specialised market segments such as cruise ships (99% of the market share), ships (43%) and luxury yachts (65%). Also, the warships represent a relevant segment in Europe. These segments

are characterized by highly specialized and high tech qualities, complex production processes, in combination with a limited number of sister ships to be built. The Europe's position can be characterized as a specialized niche player.

In Europe, four countries dominate the shipbuilding: Germany, Italy, Netherlands and Romania. The greatest four European shipyards are: Meyer Werft in Germany (container ships and special purpose ships), Daewoo Mangalia in Romania (container ships), STX Europe (cruise ships, offshore vessels and other ships) and Fincantieri in Italy (cruise ships and ferries). Although these sites are located in Europe, they are world overseas leaders' property. It can be seen a clear trend of globalization (Daniel, 2010).

The subsector sea equipment consists of many relatively small companies. The estimates vary from 5,000 to 9,000 worldwide suppliers. Many of them are also active in other fields, such as cars or aeronautic industry. The European companies provide 36% of the total output. The key areas of Europe are mechanical engineering, including production of engines (26% of the total), electrical engineering/electronics (18%) and steel production (15%). The European marine equipment suppliers depend not only by the European shipyards customers, reaching 46% of their sales for export.

On the other hand, several large companies have allocated licenses for the Asian producers to produce in locations near the shipyards in Asia.

References

- Bharat Book Bureau (2010). *Report on Shipbuilding Industry*. Maharashtra, India, November, <http://www.upvery.com/26660-report-on-shipbuilding-industry.html>
- China Shipbuilding Economy Research Centre, CSSC (2010). *Bulker Market Development & Tendency*, 25th -27th of August, Qingdao.
- Committee on National Needs in Maritime Technology, National Research Council (1996). *Shipbuilding Technology and Education*, National Academy Press, Washington D.C.
- Daniel, Q. M. (2010). *The world financial crisis of 2008-2010 – what happened, who is to blame and how to protect your money*. Harvard University.
- European Commission (2010). *Defining the Future of the European Shipbuilding and Repair Industry*, Brussels, COM (2003) 717 final.
- First marine international limited (2009). *Overview of the international commercial shipbuilding industry*, May.
- Fischer, J. O. & Holbach, G. (2011). *Cost Management in Shipbuilding - Planning, Analysing and Controlling Product Cost in the Maritime Industry*, GKP Publishing, Cologne.
- Mills, D. Q. (2010). *The world financial crisis of 2008-2010 – what happened, who is to blame and how to protect your money*. Harvard University.

Thorsten, L. & Smets, F.& Tholen J. (2009). *Study on behalf of Otto Brenner Foundation, Hans-Böckler-Foundation and Community of European Shipyards' Associations (CESA) Frankfurt/Main.*

Turtureanu A. (2011). *Aspects of Global Crisis. Acta Universitatis Danubius. Oeconomica*, Vol 7, No. 3/2011, pp. 128-137.

***(2009). *The Shipbuilding Industry 2009.Credit Analysis & Research Limited.* December, http://www.researchandmarkets.com/reports/679538/the_shipbuilding_industry_2009

***(2009). *China Shipbuilding Industry Forecast*, October. <http://www.bharatbook.com/detail.asp?id=116681&rt=China-Shipbuilding-Industry-Forecast.html>

***(2009). *Study on Competitiveness of the European Shipbuilding Industry.* Competitiveness Studies, ENTR/06/054, Rotterdam, 8th of October.

***(2010). *Daily Collection of Maritime Press Clippings*, Clipper #305-#338, Netherland.