COMPETITIVENESS IN THE COASTAL FERRY BOAT INDUSTRY: EVIDENCE FROM GREEK SMEs[a]

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ABSTRACT

The Greek maritime sector has dominated international markets for years. In recent years, however, relocation of ship building processes in other countries as well as intensification of competition has caused problems to the sector's performance. In this paper, we focus our interest on the exploration of the Greek coastal ferry boat industry case by employing Porter's competitive model of five forces. Our analysis indicates that Greek coastal ferry market is characterized by intense duality. The factors found to significantly affect this market's performance and sustainability are: the regulatory framework, the competitive rivalry and the threat of substitute services.

I. INTRODUCTION

Despite pressures due to global competition and the recent financial crises, Europe's maritime industry still plays a crucial role to the Member States' economic growth and European Union's (EU) strategic position. The infrastructure of the European maritime transport, especially, is of vital importance for the achievement of both internal market and social cohesion (ICAP, 2008). Since 2002, the European Commission has issued a number of directives that seek to coordinate, among others, the activity of the coastal ferry operators; this fact particularly acknowledges the significance of maritime transport for economic advance and employment growth. These directives address mainly safety issues of vessels and maritime transport in general. Further, special interest is given to the private and public nature of the ferry companies servicing remote islands' lines[1].

It is worthy to note that, during the past few decades the European ferry boat market has undergone through a period of considerable changes. New EU rules, fistly introduced in 1992 as part of the expansion of the European single market, lifted cabotage restrictions to allow Member States to compete in one another's waters. Greece was then granted a status of derogation until 2004 in order to renew its aged fleet and restructure its companies. As a response, ships from new fleets were divested in order to reduce debt liabilities and loans were re-negotiated in order to reduce expensive short-term commitments. By mid 1990s, the industry had returned to profitability and seemed set for a period of stability. By contrast, the recent years have been a period of deep upheaval, as existing firms jockeyed to take over one another and new investors entered the market buying up the established brands in the business.

The aim of this paper is to attempt to explain the major recent developments in the coastal ferry boat industry and to assess strengths and weaknesses in terms of competition and regulatory reform. In order to achieve this goal, analysis of the Greek coastal ferry boat sector is performed by employing Porter's competitive model of five forces (Porter, 1979, 1985). The issue of attractiveness of the coastal ferry boat industry is crucial for a sound government policy. The paper approaches the problem on a scientifically solid base with respect to EU directives concerning the full deregulation of the relevant market. Despite the importance of the subject, to the best of our knowledge, there is no study dealing with the competitive dimensions of the Greek coastal ferry boat industry. Previous studies (Lekakou and Tzannatos, 1996; Grammenos and Choi, 1999; Lekakou and Fafaliou, 2003; Lekakou and Fafaliou, 2004; Fafaliou et al, 2006; Lekakou and Vitsounis, 2008) have focused on various aspects of the shipping industry (i.e. regulatory changes, corporate social responsibility, market concentration, etc.) but have marginalized the competitiveness of the Greek coastal industry. The present paper aims to cover this gap by expanding research in this field and enhancing information of policy analysts and government officials.

The remainder of the paper is structured as follows: section 2 provides useful background information on the Greek coastal ferry boat industry by describing the main characteristics, issues, and trends concerning its

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structure and related legal developments. Section 3 considers the main theoretical aspects of Porter's five forces competitive model and applies them in the case of the Greek coastal ferry boat industry in order to provide better understanding of the mechanisms that especially affect competition in this market. In particular, this section details this market's players' strategic position, the threat of substitutes and new entrants, the barriers to entry, and the existing and potential competition. Following this application the paper offers a critical discussion on key competitive relations recorded in the coastal industry. Finally, Section 4 concludes by describing the main findings of our analysis regarding the intensity of competition in the Greek coastal ferry boat market, considers relevant policy implications, and highlights the limitations of this work.

II. GREEK COASTAL SHIPPING: BACKGROUND INFORMATION

There is no doubt that Greek coastal shipping industry has improved significantly during the last years, both in terms of fleet renewal and quality service. Over this period modern, comfortable, safe, fast and brand new ships have been launched into the Greek seas, thus contributing to a substantial reduction in journey time thus rendering Greek coastal shipping more competitive than that of other EU countries (e.g., Italy, France, and Spain) (ICAP, 2008). Further, many large shipping companies have been established in the market, which are well-organised and with a long experience in the area of transport; in many cases, these companies constitute powerful business Groups. Between 2004 and 2008, the Greek stock market has significantly contributed to the industry, as it has provided a source of fund raising for every major shipping company. Much of these funds were invested in fleet renewal. The partial market deregulation and the abolition of vessels' age-limit led to diversification of the existing market conditions, for the wider benefit of the industry (ICAP, 2008).

Despite all advancements, recently the Greek ferry sector has faced a number of problems, which undermine future opportunities and put the sector's viability at risk. According to the National Statistical Service of Greece, the Greek coastal ferry boat sector has reached maturity: the traffic figures in passengers, cars and trucks show signs of only marginal increase especially during the last few years. The average annual growth rate between 2005 and 2007 is around 3%, 4%, and 3% for passengers, cars, and trucks respectively (NSSG, 2008). Of special interest is the variability recorded in passengers' demand due to particular behavioural characteristics that this specific category of customers exhibits. In fact, it is reported that passengers' demand shows high levels of variability since it is more affected by national and international economic, social and political factors compared to cars and trucks. This factor combined with seasonality in the summer periods renders the task of capacity scheduling rather difficult for ferry operators. Hence, companies prefer to plan their investments and schedule their services based on the type of demand that exhibits the least variability possible (XRTC, 2009).

Legal and Regulatory Framework

Changes in the national institutional framework of the coastal ferry boat sector have resulted mainly from the implementation of EU Regulation 3577/92, aiming at the abolition of cabotage restrictions in all EU Member-States. Greece was the last EU Member to implement this Regulation (adopted despite preferences of Greek administrations) which eventually changed competition terms. Coastal passengers' shipping services in Greece opened up to EU flagged ships, which are allowed to compete without licensing in all major routes and with only minimal state intervention as regards annual engagements and price setting for economy fares (Lekakou et al., 2007).

Regulated Period

EU Regulation 3577/1992 provides for gradual lifting of cabotage and liberalisation of sea transport services to Member States for those European ship-owners whose vessels are registered in a Member State and bear its flag, provided, however, that they meet the conditions for carrying out cabotage within that state (OECD, 2001). This liberalisation, for its most part, was completed in other EU Member States on 1.1.1999, while its gradual implementation just started in Greece by means of application of Law 2932/2001, given that, in accordance to Paragraph 3, Article 6, Regulation 3577/92 on the grounds of economic and social cohesion, Greece was allowed to derogate from this Regulation until January 1st, 2004 with regard to regular passenger transport.

For a Greek passenger ship to participate in coastal shipping business before deregulation a "feasibility permit" was required, among other things. The permit was granted (as requested by the ship-owner or with modifications) or was rejected by decision of the Greek Minister of Merchant Marine (now Minister of Economy, Competitiveness and Marine), after consultation of the Coastal Transport Advisory Committee, in accordance with existing transport needs, as decided by the Ministry. Feasibility permits did not ensure exclusive use of certain sea line and had no fixed timeframe. They could be suspended temporarily or definitively by decision of the Minister of Merchant Marine after consultation with the Coastal Transport

Advisory Committee. In particular, the aforementioned authorities had the right to intervene if the conditions and obligations –which were defined in the specific permit and varied between cases– were not met, or if the ship-owners wanted to change the routes of their ship for any reason or, finally, if the ship was more than 35 years old (XRTC, 2009). In other words, not only the fares but also shipping routes and time slots were in control of the state (Lekakou, 2007). The government controlled both prices and quantities leaving grounds for the emergence of several distortions in the relevant market (i.e. lack of effective competition, monopolistic practices and possible abuse of dominant positions). Lastly, the Ministry of Merchant Marine had to spend much time and energy on "taming" the complex network of island transportation in order to satisfy the users' needs (islanders, tourists, travel agencies).

Deregulation Period

EU Regulation 3577/92 established the principle of freedom to provide services to maritime transport within Member States. Therefore, restrictions on the provision of maritime transport within Member States were abolished with the aim of establishing an internal market, which includes an area where goods, people, services and capital can move freely (see article 1). To avoid distortions of competition, the EU ship-owners who choose the freedom of cabotage must meet all conditions for carrying it out in the particular Member State in which their vessels are registered.

After deregulation, fares on the main routes are defined by the shipping companies. Apart from VAT, which is currently 23%, the price of tickets bears a number of significant taxes for third parties. In particular, additional charges include 6.5% tax for the security of passengers and vehicles fund (the Navy Pension Fund), 3% surcharge, port and municipal taxes, as well as porterage and boatmen charges.

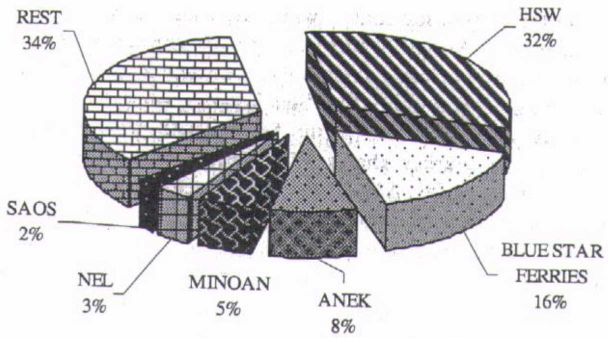
Industry Structure

Based on a review of relevant academic literature, references to the Greek ferry boat industry press, and electronic sources, the sector appears to be highly concentrated (XRTC, 2009; ICAP, 2008; Lekakou, 2007; Lekakou and Fafaliou, 2004; OECD, 2001). Lekakou (2007) argues that the Greek coastal shipping market has all characteristics of a regulated oligopoly (i.e. large number of individual users, asymmetric information, high institutional and economic barriers to entry, limited mobility of coastal companies and indivisibilities). Further, she claims that high level of concentration and state interventionism lead to certain distortions that impede effective competition thus creating serious threats for the companies as well as significant barriers to entry. Similar findings can be traced in the study of Lekakou and Vitsounis (2007). In particular, in the latter study it is also advocated that Greek coastal industry is characterised by a significant level of market concentration and entry barriers. Moreover, in an earlier work, Lekakou and Fafaliou (2004) identify that the existence of highly concentrated market and the users' dissatisfaction derived from the way liberalisation was implemented are two main features of the Greek coastal ferry boat industry. Finally, Grammenos and Choi (1999) conclude that the high level of concentration in the coastal market, along with other relevant factors, such as state protectionism, is responsible for the downturn in the competitiveness of the Greek shipping industry during the last years. In 2007 there were more than 65 fleet carriers, the vast majority of which were small and medium sized enterprises (SMEs). Among them, however, four Groups of companies with significant fleets dominated the industry (Attica Group which controls Blue Star Ferris and Superfast ferries, Minoan Lines, Hellenic Seaways-HSW and ANEK). At present these Groups, having established their presence in the market and having ensured their reputation and clientele, in fact enjoy great competitive advantages over smaller companies in the industry (ICAP, 2008). In the next section we provide details on the workings of these large companies in the context of domestic and overseas routes.

Domestic routes

At a company level, HSW holds a significant market share in domestic passenger traffic with all passengers carried in 2006 representing 32%, while other companies (Blue Star Ferries, ANEK, Minoan Lines, and NEL) hold the remaining 68% of the whole transportation activity (Figure 1). Of these companies, Blue Star Ferries (hereinafter also "BSF") prevails over all others, as it holds a market share reaching 16% of all passengers carried in 2006. Third is ANEK, whose share equals 8%. Finally, Minoan Lines, NEL and SAOS companies appear to have low shares, all of which account for 10% of total passenger traffic (ICAP, 2008).

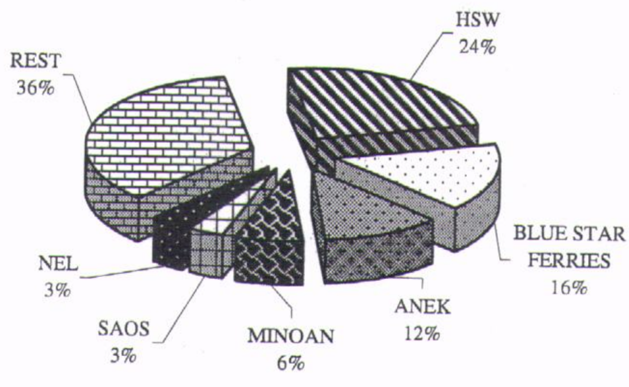
Figure 1: Market shares of passenger traffic in domestic routes (2006)



Source: ICAP (2008).

The situation does not vary significantly when ranking the companies by market share in the vehicle transport activity: HSW ranks first (24%). BSF follows with 16% of the total market, and then comes ANEK (12%). Finally, Minoan Lines, NEL, and SAOS companies add to 12%, while the remaining companies hold the residual 36% of the market (Figure 2).

Figure 2: Market shares of motor vehicle traffic in domestic routes (2006)



Source: ICAP (2008).

The degree of concentration in the domestic routes is high, as the four largest companies (CR-4) are estimated to have gathered some 60% of the corresponding total market for 2006. In 2007, compared with 2006, the degree of concentration showed a slight increase. In that year the four largest companies operating in this industry jointly hold 60.4% of the total market size (ICAP, 2008).

Overseas routes

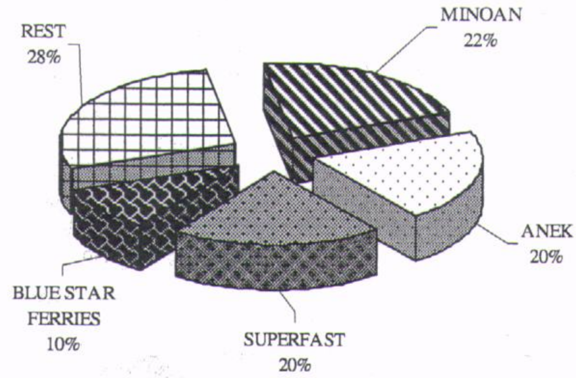
In recent years, the Greek coastal shipping business has been very active in the North Sea, mainly through the Superfast Ferries company, which until recently was operating in the Scotland – Belgium route. It should be noted that Greek coastal shipping operators are also involved in many other lines through company ship chartering in overseas routes. In particular, companies like Minoan Lines, HSW and GA Ferries have yielded significant benefits chartering their vessels in other –mainly European– lines (see XRTC, 2009). An important element in operating revenues for 2006 was provided by occasional ship chartering abroad due to political and military events in the Middle East (see, for example, the case of ANEK). According to a relevant study by

XRTC, for 2006, in the main geographical areas of operation of listed ferry companies (Attica Group, Blue Star, ANEK, Minoan Lines, and NEL), 56.6% of their turnover comes from the Adriatic Sea, 36.5% from Greece and only 6.8% from Northern Europe (XRTC, 2007). Comparison of the participation ratio of Greece against the Adriatic in the turnover of listed companies shows that over time this is divided into 58% and 42% in favour of the Adriatic. It is noteworthy that most revenues for these companies come from Adriatic routes, which have been fully liberalised and not from domestic routes, which are under partial liberalisation.

With regard to Adriatic routes, Attica Group (through its subsidiary, Superfast Ferries), Minoan Lines, ANEK, and HSW –to some degree– operate. In particular, Attica Group operates in the Adriatic routes with five vessels (four of Superfast Ferries and one of Blue Star Ferries), while Minoan company participates in these lines with three vessels. Finally, ANEK operates in the Adriatic with two vessels.

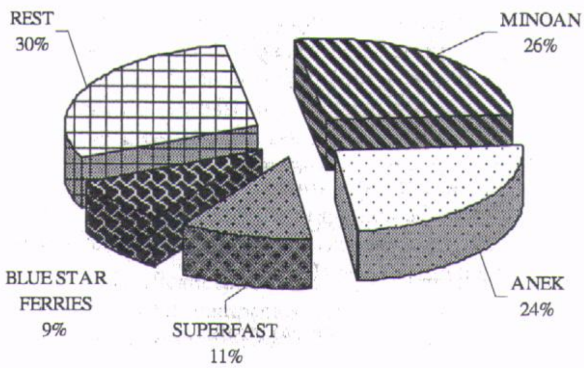
Figures 3 and 4 illustrate the market shares of some of the major companies with activities in the Adriatic. Based on the turnover for 2006, ANEK and Minoan Group companies share 45.5% of this specific market (€ 625,1 million), while in respect to passengers' and vehicles' number carried Minoan is in first place with market shares 22.1% and 26.4%, respectively, for 2006 (see ICAP, 2008). With regard to market share per turnover for 2007, ANEK Group is ranked first with 24% share of total market, i.e. € 610 million (ICAP, 2008).

Figure 3: Total market shares in Adriatic per company – passengers (2006)



Source: ICAP (2008).

Figure 4: Total market shares in Adriatic per company – vehicles (2006)



Source: ICAP (2008).

Finally, the degree of concentration in the Adriatic line is higher than that in the Greek coastal shipping, as the four largest companies are estimated to have gathered 71.2% of the corresponding total market for 2006, while in 2007 the degree of concentration had no significant change compared with the previous year (ICAP, 2008).

III. IMPLEMENTATION OF PORTER'S MODEL IN THE GREEK COASTAL SHIPPING INDUSTRY

In this section, we employ Porter's five forces theoretical model in order to analyze competition in the Greek coastal shipping market from each of the five forces' standpoint. Porter's five forces model is a framework for industry analysis and a roadmap for policy intervention (1979, 1985). It uses concepts developed in industrial economics to derive the five forces which determine competitive intensity and therefore attractiveness and profitability of a market / industry. The model investigates five key areas to analyze and determine competitiveness of an industry structure, namely the *threat of entry*, the *power of buyers*, the *power of suppliers*, the *threat of substitutes*, and the *competitive rivalry*. Although there are certain limitations to it, we consider that Porter's five forces model constitutes a very useful analytical basis both for policy makers and regulators who wish to be better informed without the fear of overlooking latent sources of competition in a given market / industry.

Threat of New Entrants

Following deregulation of the EU maritime industry (i.e. lifting of cabotage) any EU based company was allowed to launch ships in the Greek seas as well. Given this, several Greek shipping companies precipitated their investment plans and proceeded to mergers and acquisitions in order to successfully compete with any foreign company which would decide to operate in the Greek seas. Nevertheless, according to several studies (ICAP, 2008; XRTC, 2009) there is still room for synergies between companies in the industry to the extent that mainly small or middle size companies will attract the interest of large business Groups. In particular, during 2008 fleet redeployment strategies have been applied by the smaller Greek ferry companies, like Nel Lines, which has managed, successfully so far, to deploy in Red Sea itineraries through its local affiliate (NEL-Egypt). This specific strategy provides a great paradigm of extensive regional synergies, which could be followed by the rest of the listed or private Greek ferry companies (XRTC, 2009). The globalised political, social and economic conditions exert a wide array of pressure factors to the companies, intensifying the competitive levels and re-arranging the market field every next year.

Barriers to Entry

Greek coastal shipping market operates under rather oligopolistic conditions. It is worthy to note that significant institutional and financial barriers to enter this specific market are recorded (i.e. cost of investment, annual operating liabilities, demands for an extensive network, deposits, etc.). Further, the structural features of island transport seem to lead to incomplete competitive markets (oligopolistic or monopolistic ones) and not to fulfil the necessary prerequisites for competition. The problems are intensified by the fact that there is high seasonal demand and need for diversification of supply in relation to passenger and freight transport (XRTC, 2009; ICAP, 2008).

Cabotage lifting in November 2002 did not contribute to the desired degree in attracting foreign companies in the field of coastal shipping. This is due, on the one hand, to the strong position of Greek companies in domestic shipping lines; while on the other, to the legal framework established by Law 2932/2001, which did not combine cabotage lifting with market reform by removing all competitive barriers for foreign companies. In particular, major obstacles are the companies' obligation for a ten-month service in the deregulated lines and for crew composition (only Greeks) according to the Greek legislation, given that staff costs in the coastal vessels rises up to 25% of the vessel's turnover. Further, special accommodation requirements within the vessel, the imposition of book price fixing in some food products and the establishment of substantial rebates to various types of visitors increase costs and may limit the possibility of competitive entry of foreign ferry companies to the domestic market[2]. In this context, according to Lever (2008) and Bowman (2008) companies operating in the Greek coastal ferry boat industry are not able to consider new business models and meet the dynamics of markets.

Capital requirements

The Greek coastal industry is capital intensive. However, although demand of coastal services grows fast in Greece, reflecting a seasonal pattern (e.g., in the summer period), under the current liberalization regime cost for new entrants in the market is high. Moreover, the relatively high start up capital required for a new company to enter the market constitutes a serious barrier to entry (ICAP, 2008).

It has to be mentioned that there are significant differences among carriers and their cost structures (i.e. size, types and age of vessels, administrative and managerial capabilities, etc). Serious differences in cost patterns still exist among incumbents and newcomers due to capital expenses, networking cost, high-administration cost and the long period for preparation. For example bunkers cost varies significantly between conventional ships (38% of the operation cost) and passenger-vehicle high-speed mono-hulls (52% of the operation cost)[3]. According to building cost, it is stated that the value of a newly built classic/conventional medium sized ship is estimated at approximately 100 million Euros. Until recently most Greek coastal ferry boat companies were purchasing rather aged ships, which cost a lot less compared to the new and high speed vessels. Some companies, in an endeavour to respond to the demand for modern ships, have already started moving towards upgrading their fleets, while during the last three years major companies operating in the industry (Blue Star, HSW) have begun ordering the construction of new ships. However, the decrease in profitability of the listed coastal ferry boat companies and the general deterioration of the financial figures of all companies in the sector, which resulted from the recent financial crisis, have led to a decrease in investments in new ships. Company investments over the past few years –with the exception of the above two companies- have focused mainly on sales services, marketing and the improvement of the services provided on board.

Legal restrictions

Existing legislation is considered to be one of the main obstacles that hinder competition in the Greek coastal ferry boat industry[4]. In particular, even after the gradual harmonization of national legislation with EU Regulation 3577/92, the Greek coastal shipping market does not operate under the principle of free market whatsoever, but is rather characterised by strict control by the state, which takes decisions on behalf of each shipping company. State control is enforced by means of the following: a) crew number and composition, b) mode of operation of the shipping companies, c) time of annual ship inspection, d) crew specialties, e) ship's internal organisation, f) price fixing. On this basis, it is often claimed that no substantial liberalisation of the coastal shipping has been reached, both in terms of Law 2932/2001 and the subsequent Ministerial Decisions issued for reasons of compliance of national legislation with European Regulations. Only partial deregulation has been achieved, and only in terms of price fixing during the summer period, since a maximum price (price ceiling) has been established by the Ministry of Merchant Marine during the winter period.

Interlocking directorates

The term "interlocking directorates" (or directorships) refers to the situation in which a member of the Board of Directors of one corporation also serves as a member of the Board of Directors of another corporation. A broader and more useful definition is the situation in which: a person that is either a) a member of the Board of Directors of a company, or b) a top executive of that company or c) a close relative (e.g., wife or father) of a member of the Board of Directors or of a top executive of that company serves as a member of the Board of Directors of another corporation. Interlocking directorships have long been used by corporations to maintain and expand their power. For example, they can be used to form a tacit or explicit collusion. They can also be used to gain influence or control over major suppliers or customers. Moreover, interlocking directorships can be an effective tool in influencing the political system[5]. The coastal shipping industry in Greece is a typical example of such relations. In particular, in two of the largest shipping companies in Greece (ANEK and HSW) the same person participates in the Board of Directors in both companies, as chief executive officer and chairman, respectively. Overlapping participation in several Boards of Directors of the ferry boat companies constitutes a significant entry barrier by impeding potential competition, while it may also lead to collaborative schemes of cartel type[6].

Threat of Substitute Products

Mainly air transport services function as a substitute for short sea shipping. In particular, the network of airline companies (i.e. Olympic Air and Aegean Airlines) serves island destinations, which possess ailine facilities (airports). With regard to inbound tourism in Greece, more than half of foreign tourists who visit the country annually reach their destination through private charter flights. The increasing competition in the deregulated Greek air transport industry has resulted in two main players (Olympic Air, Aegean Airlines) offering fares that are very competitive against those of the vessels, especially considering journey duration. The strategies of the ferry boat companies should probably begin to adjust to the flexibility of the air transports industry (XRTC, 2009). Further, apart from the intense competition that the coastal ferry boat industry faces by the air transport sector, it is highlighted that also road transport can be considered –to some extent– as a substitute for ferry boat services, especially where road network quality is appropriate. As far as the Adriatic routes are concerned (Patra-Ancona, Igoumenitsa-Venice, etc) Greek carriers face significant competitive pressure by the road network (i.e. Egnatia road) that connects Italy with Greece through its northern borders (via Bulgaria, Albania, FYROM).

Bargaining Power of Suppliers

Fuel trading companies, food and beverage manufacturing / trading companies, as well as ships' crews are suppliers of ferry boat companies. Ultra-low sulphur diesel supply, which is now compulsory for all passenger ships with scheduled services (from 1.10.2007), is a monopoly, as only one company supplies the market with this type of fuel (Hellenic Petroleum). The monopolistic nature of bunkering in tandem with the limited imports of oil products due to certain distortions of the oil industry (i.e. legislative barriers to entry, limited storage capacity, compulsory stockholding obligations, lack of spatial planning) diminish the bargaining power of ferry companies. This situation is further intensified by constant price hikes in ultra-low sulphur diesel oil during the last two years (2008-2009). As for their canteen bars, especially in recent years, ships usually "outsource" the service (i.e. assign these specific business to a third party), which results to the expansion of well-known fast food restaurant chains and to the restriction of ship markets. In general, large and well-organised catering companies have considerable bargaining power to impose their terms of cooperation with shipping companies. As regards trade unionism of the crews, it is considered balanced with employers' unions (ICAP, 2008).

Bargaining Power of Customers

The users of ferry services are individuals, carriers and various travel agencies. According to other studies (see for example Lekakou, 2007), there is a large number of independent users (50 million passengers, transport enterprises and tourist offices) with variable season-intense demand that increases over time. It has to be mentioned that users seek transport for different reasons (e.g. professional, leisure, social, health, etc). Moreover, transport flows are not balanced in most coastal routes; in other words, flows from Piraeus to the islands exceed those in the reserve direction (Lekakou, 2007). The freight forwarding industry is largely dependent on shipping companies, as in the Greek islands there is no alternative to transport any kind of goods; nonetheless, the transport capacity of each company reflects its bargaining power. Lastly, as far as travel agencies are concerned, particularly in summer holidays and boxing days, they transfer their clientelle massively –through their passenger ships– and their bargaining power is limited in terms of the commission agreed with the cooperating agent (ICAP, 2008).

Competition Rivalry within the Industry

Mostly large and well-organised shipping companies, with long experience in transport, are currently active in this industry, which in many cases even constitute powerful alliances. The relatively small number of companies operating in the sector has rendered competition among them particularly intense, especially in the past few years. Limited competition among assignments in the Greek ferry boat market is confirmed in other studies as well (Lekakou, 2007; Lekakou and Fafaliou, 2004). In particular, Lekakou (2007) argues that the Greek coastal ferry boat industry is mainly characterised by limited firm rivalry and the larger shipping firms seem to operate along the lines of a classic oligopoly due to the capital outlay required. Competition among companies is focused on reducing journey time, quality of service, safety and frequency of schedules, while in some cases the appropriate synergies, acquisitions, partnerships, and mergers aim at gaining a larger market share (XRTC, 2009). In fact, last year (2009) very significant activity was observed in the shareholder structures of Greek ferry companies. In particular, the merger of Superfast Ferries with Blue Star under Attica Group, which belongs to Marfin Investment Group (MIG), the mutual exchange of shares between Minoan Lines (E. Grimaldi) and ANEK Lines (I. Vardinogiannis) and the sale of 33.35% of E. Grimaldi's stakes in HSW via Minoan Lines to ANEK Lines stand out as the most strategic moves. Generally, recent changes in shareholding structures confirmed that the market is reaching its maturity level and that new practices such as corporate governance are required. It remains to be seen whether the new players will stay in the market or whether they will continue with the selling and purchasing game. Still there is plenty of ground for more mergers and acquisitions mainly with smaller target players. Further, possible mergers between bigger companies could aim at getting involved in regional and European markets. However no delays in the deployment of operators' new strategic plans are allowed in this competitive context. It is worth mentioning that big consortiums with new fleets have already begun operating in the sector and covet their expansion in the Greek and Adriatic markets (XRTC, 2007).

IV. CONCLUSIONS AND POLICY RECOMMENDATIONS

One of the main concerns of this paper is to provide a comprehensive record of competition in the coastal ferry boat industry in order to assist policy makers and other stakeholders to better regulate the sector and promote effective competition. The case study analysis of Greek coastal ferry boat industry, through application of Porter's five forces model, indicates that although deregulation of the Greek ferry boat industry has been set as a priority in the administrative agenda since long, the level of effective competition in the market still lacks behind.

As our analysis shows, structural characteristics of the Greek coastal shipping industry are the outcome of economic and geographical constraints, which have largely determined this market's prospects and competition levels. The Greek coastal shipping sector incorporates elements which result to oligopoly profiles and to market conditions similar to those in other transport services (e.g. liner shipping, airlines, etc). Changes in the national institutional framework have resulted from the partial implementation of European Union Directive 3577/92, aiming at the abolition of cabotage restrictions in all EU member-states.

As we have indicated, the Greek ferry boat industry is highly fragmented. The majority of ferry operators in Greece are small and medium sized enterprises that mainly serve the remote Greek islands (i.e. public service obligation). On the other hand, there are four players with significant market power dominating the industry through an integrated network of vessels that serve the entire Greek territory. The Greek coastal ferry boat market is strongly characterized by duality due to certain strategic and institutional factors. Based on the current structure of the Greek coastal ferry boat industry and the legal environment, our analysis has exemplified that the factors which form this market's performance are mainly (a) bargaining power of the dominant sellers and customers, (b) pressures from substitute products (e.g. airline industry and trucking sector), and (c) the regulatory framework. By contrast, less significant factors seem to threaten new entrants in the market since most such competitive forces are outweighed by the significant high barriers to entry, attributed mainly to legal constraints, and the high capital investments required for entering the market.

The industry's current profile is defined by a limited number of companies operating a large number of ships and aiming to modernize their managerial methods. In this context, Greek ferry boats have tried to comply with a new requirement of integrated coastal transport services; according to this concept the companies' mission is to nessecarily meet transport needs by implementing a fourfold system, i.e. "island – port – ship – support services", contrary to the single "ship-oriented" system of the past.

In order to alleviate any constraints that affect the openness of the market, it is suggested that the established firms should try to develop proper corporate and operational strategies. In order to be able to compete in the new environment companies have implemented various strategies; in particular, apart from fleet renewals they proceed to mergers and acquisitions in the sector (see for example acquisitions of C-Link by Nel Lines in 2006 and of Attica Group by MIG in 2007). Furthermore, the largest companies of the sector should expand in both geographical and fleet size terms covering both existing and potential needs and thus creating new demand. In their endeavour to address the need for higher service quality, greater capacity and schedules on time, Greek ferry boat companies should try to seize current opportunities (e.g. port infrastructure, product diversification, competitiveness's improvement, etc.) in order to cover their customers' needs. On the other hand, policy makers should reconsider their policy intervention in order to better match current needs of the sector.

Future perspectives are characterized by high degree of uncertainty given the market instability and the current financial crisis. The next five years will prove to be significantly challenging for all companies since every type of transport is expected to reduce in size to uncertain, so far, levels. This estimate along with the observed signs of maturity conditions in the market, especially in the Adriatic and Aegean Seas, lead the way towards extensive re-deployment strategies and fleet specific features.

Given the above contributions, our analysis suffers a number of constraints which may be addressed in future work. The most prominent one is that we did not expand our research beyond Porter's five forces competitive model to investigate better the role of technology progress on the structure of the coastal ferry boat industry. Such a consideration will capture better the competitive dynamism of the sector and lead our research to further outcomes.

ENDNOTES

1. In most North European countries, such as the Nederland and Denmark, the majority of transport lines that connect remote islands with mainland and vise versa are operated by private agents, in contrast with other countries wherein these lines are serviced by the public sector (see, for example, the case of Germany and UK).

2. Of the entire fleet, only one coastal vessel (Speed Runner 1) of the company "Aegean Speed Lines" –which has been serving the route Piraeus–Western Cyclades since late 2005 – bears a foreign flag.

3. For further information on cost structure see Lekakou (2007).

4. Given that Greek legislation is not harmonized with EU Regulation 3577/92, it is worth to mention that the European Commission has filed two complaints against Greece for violating the European law (in 2004 and 2005). In particular, the European Commission annotates that law 2932/2001 and subsequent legislation violate the EU Regulation on certain items as of: a) the capacity of unilateral intervention of the Ministry of Mercantile Marine in issues regarding routes and in the regularity and schedules of all lines, b) the implementation of the Mandatory Registry, c) the age limit of coastal ferries, d) the obligation for Greek speaking crews, and e) the safety rules and manning of coastal ferries.

5. For example, a monopoly can use it to persuade other companies, even those in very different industries, to join in lobbying efforts to prevent antitrust laws from being enforced or to assist the expansion of such monopoly to new product lines

6. For more details, see Decision 427/V/2009 issued by the Hellenic Competition Commission (HCC). The decision concerns control of a non-disclosed concentration in the sector of maritime transports between Sea Star [which controls Hellenic Sea Ways (HSW) and ANEK] (HCC, 2009). In particular, in 2007 the offshore Cypriot company "Sea Star Capital PLC" acquired 36.5% of HSW's shareholdings and 15.90% of ANEK's shareholdings. With this acquisition, Sea Star can influence competition in the specific market, provided that the said percentages do permit Sea Star to control either HSW or ANEK.

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