

THE GREEK SHIPPING CLUSTER



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Executive Summary

Greece is a developed economy that experienced strong economic growth over the last decade. This can be mainly attributed to the easy access to credit and monetary stability that followed accession into the Eurozone. Because of its reliance on borrowing, Greece's strong growth rates were not sustainable and masked serious deficiencies in the country's competitiveness position. Symptoms of this include poor export performance, a lack of FDI and an absence of innovation as measured through patent generation. Crucially, the areas in which Greece suffers the most serious competitiveness problems are related to government involvement, including fiscal policy, public administration, and product and labor market regulation. The government's immediate policy priority should be to re-gain fiscal viability, followed by a coordinated effort to reduce government involvement in the economy.

The Greek shipping cluster is a uniquely successful bright spot in the Greek economy. Greek ship-owners operate the largest fleet in the world, and the industry has a history dating back hundreds of years. The core of the cluster is composed of more than 800 ship operators, tightly clustered around the port of Piraeus in Athens. The key contributing factors to the cluster's competitiveness are the high degree of firm rivalry fostered by the large number of small companies, a highly favorable tax regime, strong informal networks and institutions for collaboration, as well as the presence of specialized maritime educational institutions. The cluster's greatest weaknesses are the absence of local demand for its services, in contrast to competitors such as China and Japan, as well as weak linkages with related and supporting industries. Future policy should be directed towards increasing the value added of the cluster to the rest of the economy, building stronger linkages between the cluster and large export markets, and encouraging innovation that will allow the cluster to maintain its competitive advantage.

1. Greece – Country Analysis

At the time of writing, the Greek government is on the verge of default, requiring the largest IMF/EU financial support package in history. In an environment of deep crisis, putting Greece back on a sustainable growth track requires the identification of the country's major competitiveness problems. The issues constraining Greek competitiveness are identified in this section, accompanied by relevant policy recommendations. We believe the crisis constitutes a unique opportunity to make reforms related to competitiveness issues politically feasible.

1.1 Economic Structure and Performance of Greece

Greece is a developed economy of 11.3 million people, located on the Southeastern edge of the European Union (EU). At \$30,000, Greek GDP per capita is at 95% of the EU average,¹ and the 29th highest in the world (IMF 2009). Greece also has a high level of social development – it ranks 25th in the human development index of the UNDP (UNDP 2009). Services constitute a large portion of the economy (76%), followed by industry (15%) and agriculture (4%) (CIA 2010).

EU accession and the adoption of the euro have been the engines of Greek economic growth in the last two decades. Greece returned to democracy in 1974 and joined the EU in 1981. During the 1990s, Greece was transformed into an open economy benefiting from the European Common Market, and taking advantage of EU transfers (4% of annual GDP) and low labor costs (half of German unit labor costs with a similar productivity level) to achieve high growth rates (EIU 2009).

The adoption of the euro in 2002 brought increased macroeconomic stability to Greece. The average annual growth rate between 2001 and 2008 was 3.8%, more than twice the EU12

¹ PPP-adjusted, 2009 figure, EIU.

average (1.8%).² However, post-2002 growth was based on increasing public and private consumption and housing investment; rather than export growth. The adoption of the euro brought a dramatic fall in interest rates, fueling private borrowing. As a result, the level of private sector debt as a ratio of GDP quadrupled from 2000 to 2009 (from 25% to 100%) (IMF 2009). While the average investment rate was on par with the euro area, within this, the share of housing investment reached abnormally high levels.

Consumption-based growth resulted in a widening of the current account deficit, as imports increased but exports remained stagnant - both in terms of volume and value-added. The current account deficit reached 14.4% in 2008.³ In the same year, the ratio of exports to GDP was 6%, one of the lowest in the OECD (Exhibit 1), while high value-added products were virtually absent from the Greek export basket.

Exhibit 1: Greece has one of the lowest export ratios among OECD peers (2009)

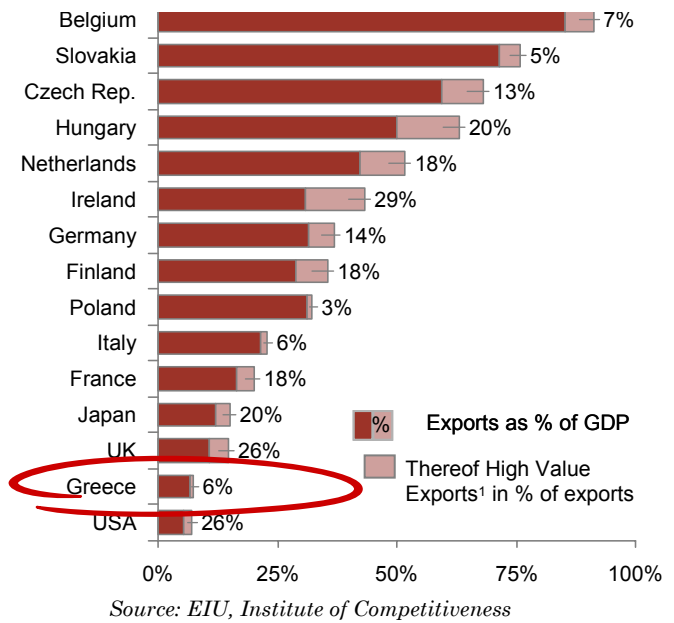
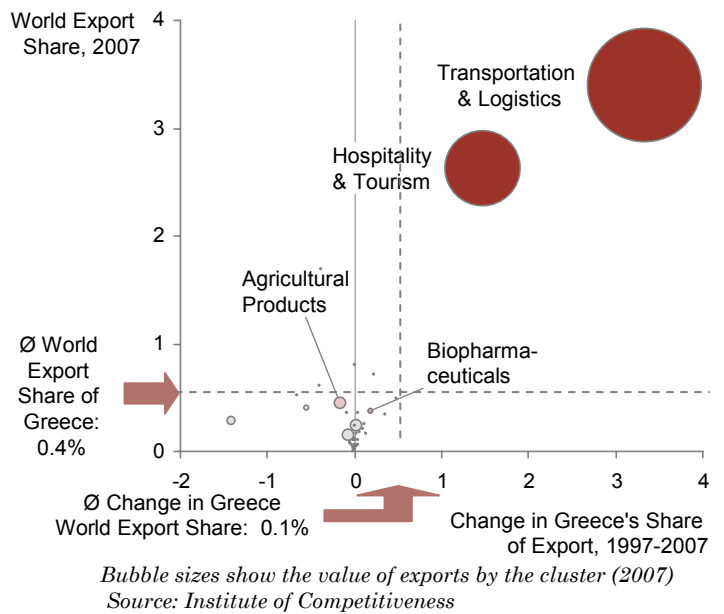


Exhibit 2: Transportation & logistics and Hospitality & tourism are star export clusters



² EIU. EU12 comprises of Germany, France, Belgium, the Netherlands, Luxembourg, Italy, Denmark, Ireland, United Kingdom, Greece, Portugal, and Spain

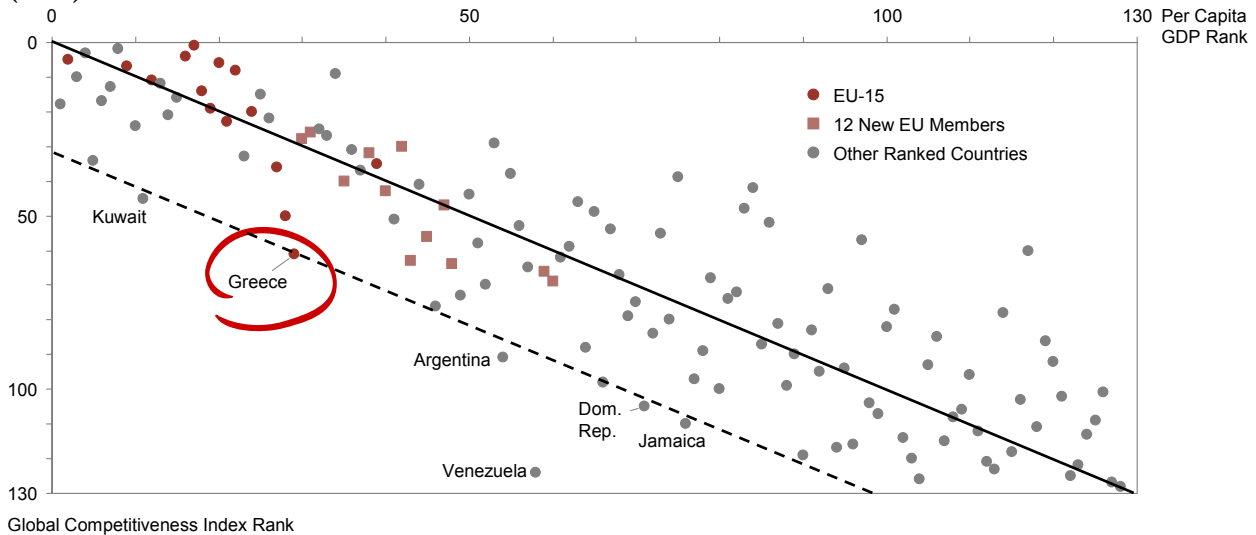
³ IMF, 2009

Greek exports concentrate around transportation/logistics (mainly shipping) and tourism. These two “star” clusters account for 40% of the value of total exports and have recently had the highest growth rate (Exhibit 2). Other clusters, mainly concentrated in agricultural products, oil & gas, metal mining and manufacturing, constitute a considerably smaller part of exports, and have been shrinking over the 1997-2007 period.

1.2 Elements of Greek Competitiveness

The Greek economy suffers from serious competitiveness problems. It ranks 61st out of 128 countries in the Global Competitiveness Index. However, the picture is even bleaker when Greece’s income levels are considered. In Exhibit 3, GCI rankings are plotted against income level rankings. Given its income level, Greece stands out as the least competitive economy in the EU, and has similar level of income-adjusted competitiveness with Argentina, the Dominican Republic and Kuwait.

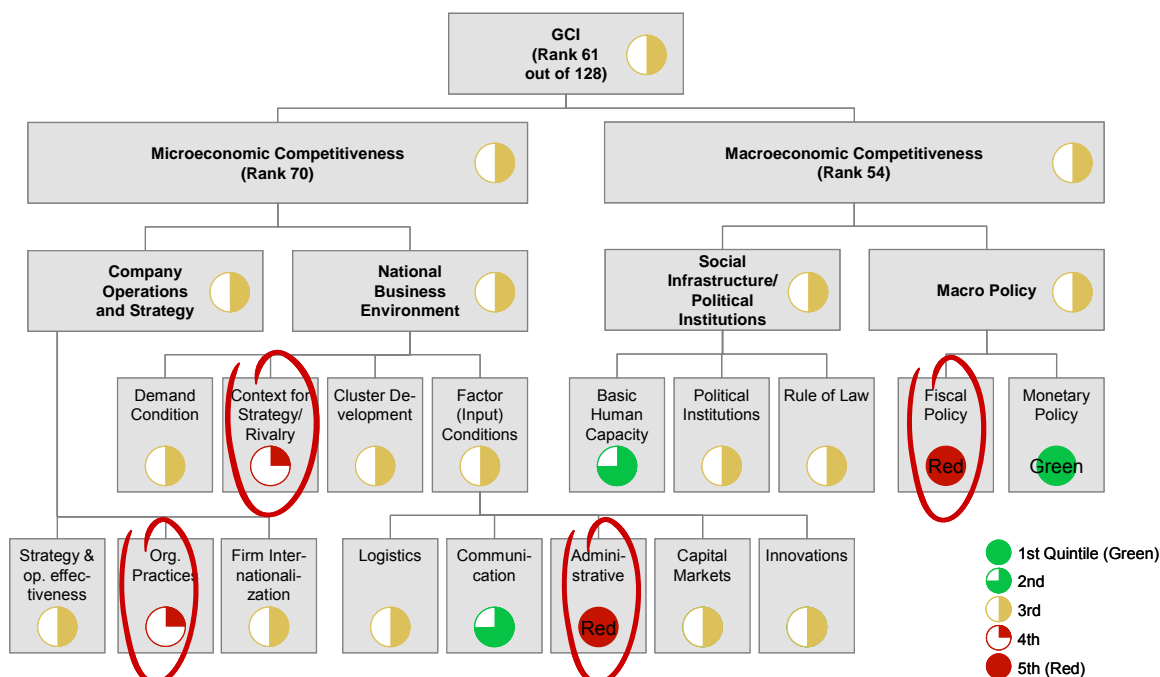
Exhibit 3: Greece has the lowest competitiveness ranking in the EU when income level is controlled (2009)



Source: Global Competitiveness Index. 128 countries ranked.

One of the most striking features of our analysis of Greek competitiveness is that it suffers in areas where government involvement is highest. Fiscal policy and administrative infrastructure stand out as the least competitive areas (Exhibit 4), which are directly related to government intervention.

Exhibit 4: Greece has competitiveness problems in areas of high government involvement



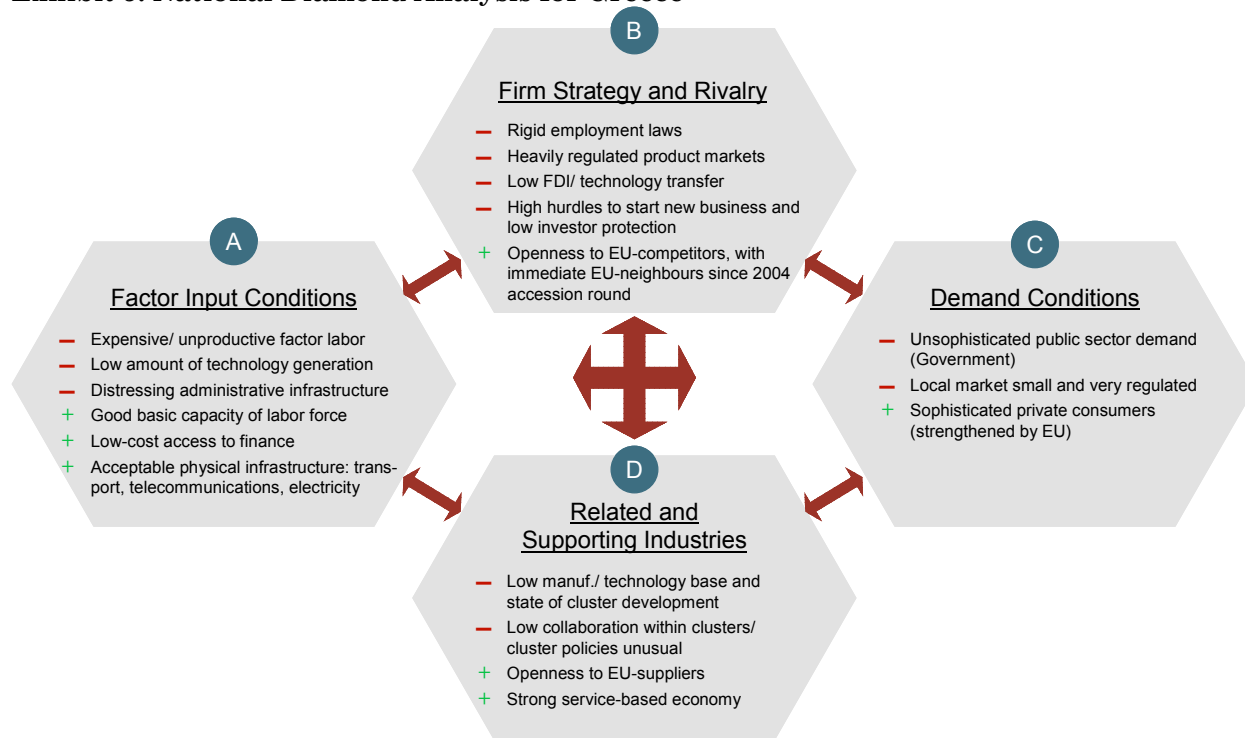
Source: Institute for Strategy and Competitiveness

Weakness in the context for firm strategy and rivalry also includes elements of government involvement in the form of rigid employment rules, weak investor protection, and unfavorable FDI rules. Strikingly, the only area where Greece is ranked in the top quintile relative to others is monetary policy, which is fully delegated to the European Central Bank.

1.3 National Diamond Analysis

The national diamond analysis for Greece reinforces the bleak picture presented by the GCI rankings: Greece has favorable conditions in a limited number of areas, and the high performance in these elements is generally due to EU membership, and not to domestic factors or conditions. Exhibit 5 summarizes our analysis.

Exhibit 5: National Diamond Analysis for Greece



A. Factor Input Conditions

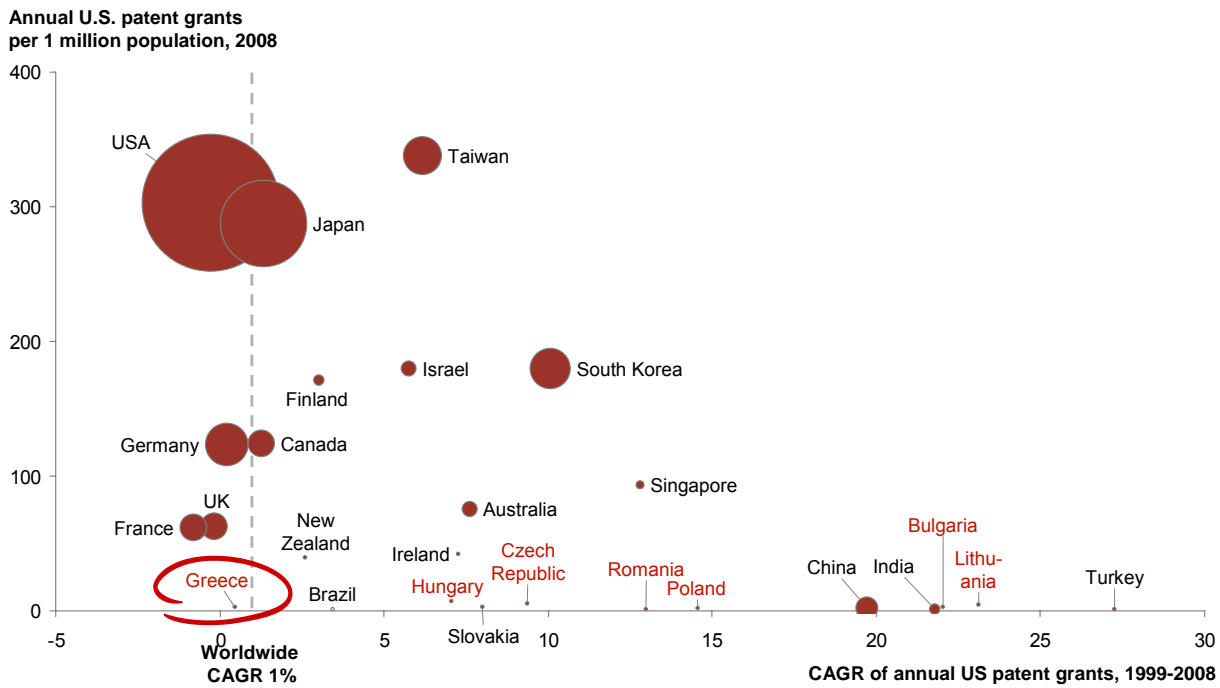
Greece has high labor costs for its level of productivity. During the last two decades, Greek labor costs increased sharply and converged to Western European levels; while convergence in labor productivity was limited. Today, Greece has the same average labor cost with the euro area, while labor productivity is 12% lower (OECD 2009; EIU 2009). With labor costs increasing at a higher rate than productivity, Greece has to transform the structure of its exports into higher value added activities to stay competitive.

However, Greece lacks in two factor conditions that are essential for transforming exports into higher value added activities: educational outcomes are poor, and the amount of technology generation is extremely low. Educational outcomes are low despite Greece's exceptionally high enrollment rates, which are at 79% compared to 59% for the EU. Educational quality scores are less than half of the OECD average (3.1 to 6.8) (Oliveira-Martins et al 2007). This suggests the existence of a mismatch between the skills supplied by Greek universities and those demanded by

the market. Despite this mismatch, it also suggests that the basic capacities of the labor force are strong, making skills transformation potentially feasible.

Problems with the Greek university system also affect the level of technology generation. Measured in terms of patent generation, Greece's position is worse than that of new EU entrants (Exhibit 6), and the level of R&D spending (as a ratio of GDP) is only one third of EU average.

Exhibit 6: Greek performance in patent generation is low



Source: US Patent and Trademark Office, World Bank

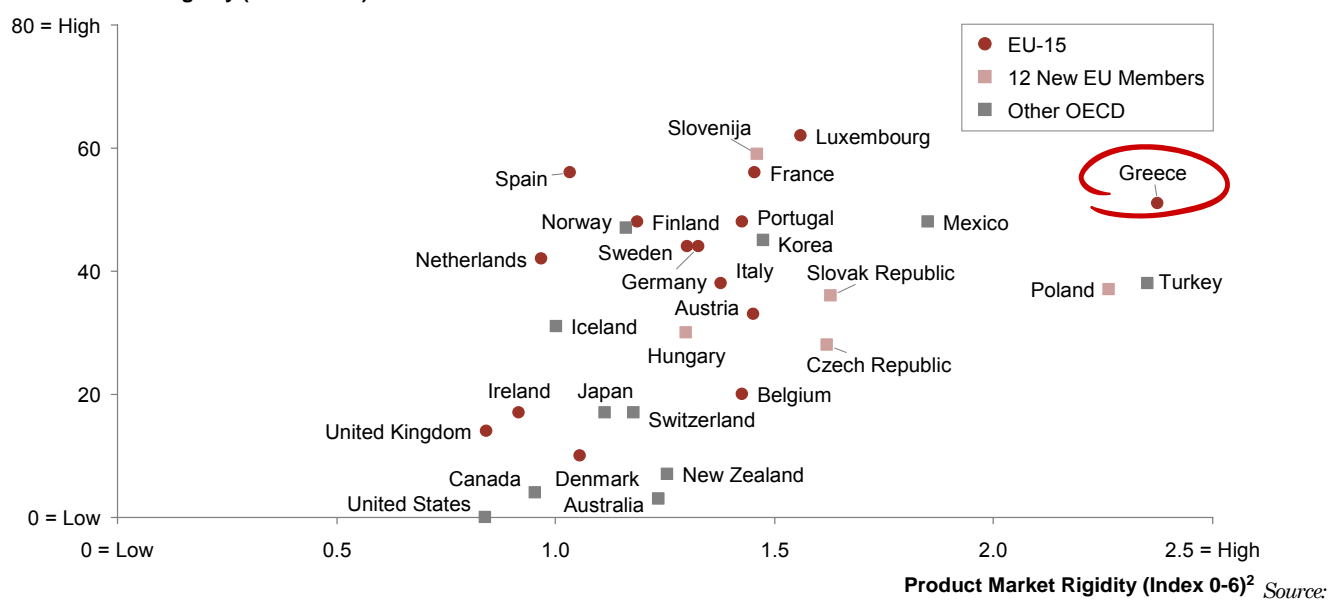
Despite these weaknesses, Greece has certain competitive advantages in terms of access to finance and its level of physical infrastructure. Greek financial markets are fully integrated to those of the Eurozone, making (until recently) access to credit for Greek firms easy and cheap, as evidenced by the private credit boom in the 2000s (Section 1.2). Greece also provides its firms with reasonable levels of infrastructure in transportation, electricity, and particularly in telecommunications.

B. Firm Strategy & Rivalry

Greek competitiveness suffers from rigidities in product and labor markets. Greek product markets are heavily regulated and entry barriers are high. Greece ranks first in the EU in terms of the rigidity of product markets. Employment laws are also inflexible: in the Doing Business employing workers index, Greece has one of the lowest ranking among EU peers (Exhibit 7). In the overall Doing Business report rankings, Greece has a weak position, ranking 103rd among 183 economies. The worst rankings are in protecting investors (157th), employing workers (147th), and starting a business (140th).

Exhibit 7: Greek product and labor markets are rigid

Labour Market Rigidity (Index 0-100)¹



World Bank Doing Business Report 2010 for Labor Market Rigidity, OECD 2008 indicators for product market rigidity

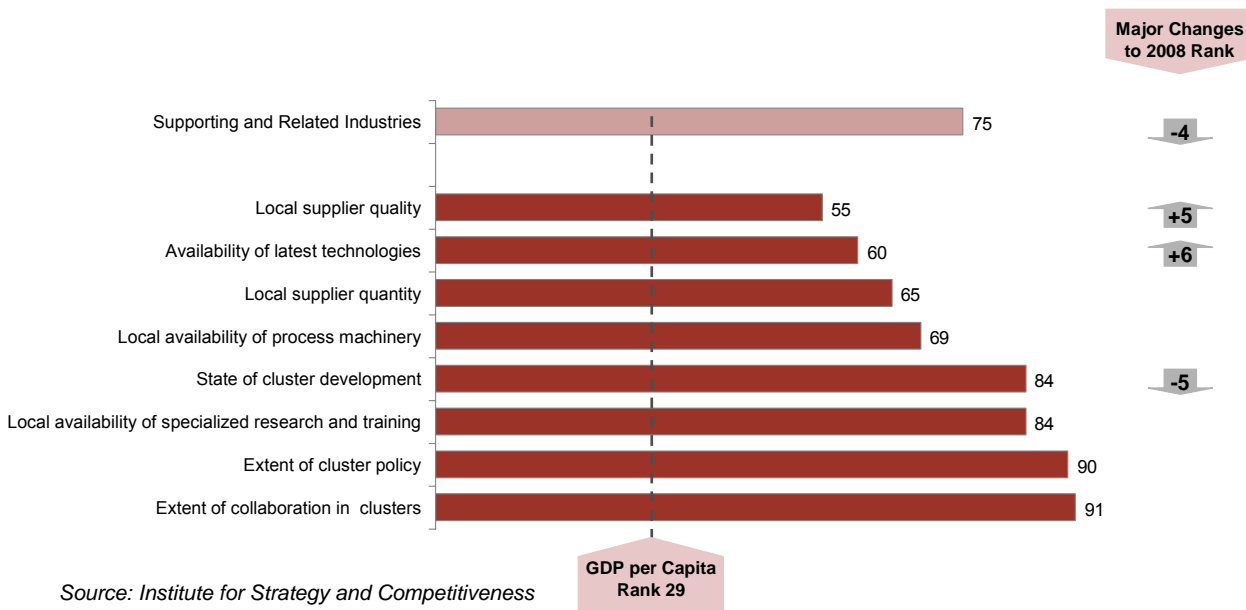
Partly because of these unfavorable conditions, foreign direct investment (FDI) inflows into Greece have been very low. The stock of inward FDI fluctuated around 10% of GDP since 2000, compared to more than 30% in the EU12, and around 20% for the new EU member states. Greek firms increased their investments outside of Greece, making Greek net FDI flows negative in the recent years. While outward investment by Greek firms strengthens Greece's economic

connections with the region and increases its importance as a regional hub, low levels of inward FDI reduce the potential to develop skills, upgrade clusters and innovate within Greece.

C. Demand Conditions

While the local market is small and highly regulated, Greek firms have the advantage of being part of the EU market, one of the largest and most sophisticated in the world. This “duality” in demand is also present in the domestic market: while Greek private consumers have a similarly sophisticated demand with that of EU consumers, demand by the Greek public sector is unsophisticated, ranking 88th among 128 economies in two relevant GCI rankings: government procurement of advanced technology products and government success in ICT promotion.

Exhibit 8: Greek GCI rankings related & supporting industry conditions are weak



D. Related and Supporting Industries

While Greek firms have the advantage of access to the EU supplier base as well as a strong Greek service sector; the level of cluster development is low. Greece does not have a coherent cluster policy, or strong institutions for collaboration. As Exhibit 8 illustrates, in terms of GCI rankings, Greek performance is relatively high in areas where access to EU suppliers

matters (supplier quality & quantity), but low in issues related to clusters. The low level of FDI (Section 1.3.B) further hinders the deepening and broadening of clusters.

1.4 Policy Recommendations

Greece needs a new value proposition, backed by a strong national economic strategy, to recover a high growth rate. From the late 1980s to the 1990s, Greece's proposition was that it was "the new, low-cost, good-location economy within the EU". After 2002, the proposition has been "a sophisticated consumption economy in the safe eurozone". The recent crisis has demonstrated that this growth proposition is not sustainable, uncovering the structural problems outlined in earlier paragraphs.

Greece's new economic strategy should involve two steps. First, necessary measures to attain fiscal sustainability and hence macroeconomic stability need to be implemented immediately, as recently agreed upon with the IMF and EU. Second, a coordinated competitiveness strategy needs to be designed to overcome the problems outlined earlier. Only with a coordinated strategy across different public departments can Greece pave the way to recovery. The Greek government needs to create the space for the private sector to form new dynamic export clusters, in addition to further deepening and upgrading the existing clusters. Exhibit 9 shows our policy proposals and how they map into attaining macro-stability and micro-competitiveness.⁴

⁴ Although they directly flow from our competitiveness analysis above, many of these suggestions are not new; and have been articulated by numerous policy reports for years, not to mention the IMF conditionality recently offered.

Exhibit 9: Policy Proposals and their relations with elements of macro-stability and micro-competitiveness

Area	Policy Proposal	Macro stability	Micro-competitiveness			
			A	B	C	D
Public administration	Cut entities and staffing, limit political appointment cycles	√				
	Accelerate privatization of public enterprises	√	√			
	Strengthen monitoring against corruption and increase severity of punishments	√				
	Strengthen tax administration to avoid tax evasion	√				
	Reform the pension system to reduce incentives for early retirement	√				
Labor Markets	Promote decentralized bargaining and a social contract focused on strong wage moderation.		√	√		
	Reduce rigidities in hiring and firing laws, expand legal room for part-time work		√	√		
Product markets	Deregulate product markets, cut red tape on starting business			√	√	√
	Ease regulations on professional services					√
	Strengthen antitrust enforcement			√		√
Education	Make a constitutional change to allow for private universities and user fees in higher education		√			
	Regain the control over the university bureaucracy, increase university R&D towards technology transfer and business –university collaboration			√		
	Further align the secondary education curriculum with market needs, increase technical / vocational training		√			
Foreign policy	Increase the ongoing reconciliation with Turkey, and hence cut military expenditures	√				
	Resolve the name conflict with FYROM			√		√

A: Factor input conditions, B: Firm strategy / rivalry, C: Demand conditions, D: Related / supporting industries

With the implementation of these policies, we believe Greece can take advantage of its location and reinvent itself as a regional hub for Southeast Europe. No longer isolated from the rest of the EU, Greece should take advantage of its proximity to the new accession states. Southeast Europe is a fast growing region of around 55 million people (excluding Turkey). Bulgaria and Romania joined the EU in 2007, and seven countries in the region are in the accession "pipeline". The Greek economy is the largest in the region, with a size of 80% of the rest of the Southeast European economies combined. Greece also has cultural and religious ties with the region; Thessaloniki, the second largest city in Greece, has been historically considered as "the capital of the Balkans." The Greek banking sector has been one of the first to take advantage of Greece's location, having already expanded into the region with large acquisitions. With an appropriate policy set, Greece can become a regional hub for international FDI directed towards the region, by allowing Greek firms to partner with foreign firms in investing into the region. This can create opportunities to further broaden and upgrade Greek and regional clusters, particularly those in services (i.e. banking, tourism, health, education).

Overall, our analysis shows that the Greek private sector has the potential to generate growth. The binding constraint to competitiveness in Greece is the government, which needs to reduce its presence in all areas of economic life and allow the private sector to flourish in its absence.

2. Shipping – Cluster Analysis

2.1 Overview of shipping

Throughout this paper we will refer to the shipping cluster as the group of entities – firms, and institutions – that are linked to the industry that provides transportation services of goods over the sea. Shipping is a major component of international trade as 90% of goods are transported over the sea. The merchant shipping industry generates approximately US\$380 billion in annual income, representing 5% of the global economy (Shipping Corporations 2010). The four major segments of the shipping industry are bulk carriers, tankers, container ships and specialized cargo ships.

In this industry, defining ownership is a delicate task. Most analysts consider a shipping company “Greek” if the company is owned by Greek interests. This is irrespective of the location of the company’s headquarters and independent of the flag under which the firm’s ships are registered. For the purposes of this analysis, we are placing emphasis on location, rather than ownership. We therefore define the Greek shipping cluster as the collection of shipping firms and related industries whose headquarters are based in Greece. This includes the vast majority of Greek-owned shipping companies, as most have relocated to Piraeus over the last three decades, as discussed below.

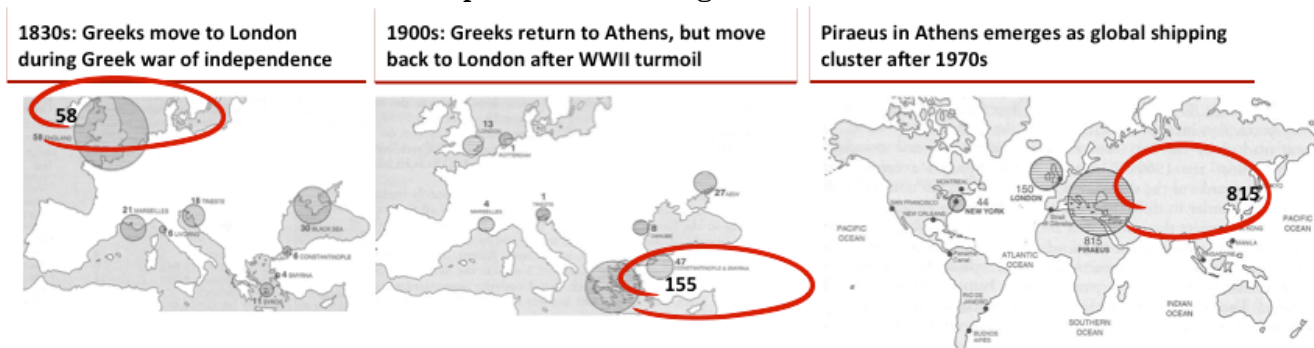
2.2 History of Greek Shipping

Greece has a long history in shipping dating back to the ancient times and influenced by the country’s geography. The country has approximately the same length of coastline as the United States (excluding Alaska), and thanks to the mountainous nature of the landmass, 85% of Greek population live within the 30 miles of the sea. Ever since the 1st century B.C., close connections among ship-owners enabled the creation of the world’s first shipping associations and

Greek traders dominated Mediterranean trade over the period. Greek shipping declined in importance during the late Roman period, but regained significance during the last few centuries of Ottoman rule, when Greek traders dominated the grain trade between southeastern Europe and the West. The emergence of powerful ship-owning families located on the Aegean islands proved an important source of financial strength for the early Modern Greek state, which in turn provided strong support to the shipping industry.

Greek shipping has been defined by two characteristics over the last three centuries: first, its strong reliance on family ties and ethnicity as a means of sharing expertise, obtaining access to market information, financing and insurance; and second, the ability and willingness of Greek ship-owners to change their location depending on the domestic and international economic and political environment. By the middle of the 20th century, most Greek shipping firms had moved to London in response to the Second World War as well as due to unfavorable domestic policies. This trend was subsequently reversed, with most firms relocating to Piraeus, Athens' main port beginning in the 1970s (Exhibit 10).

Exhibit 10: The location of Greek ship owners has changed over time



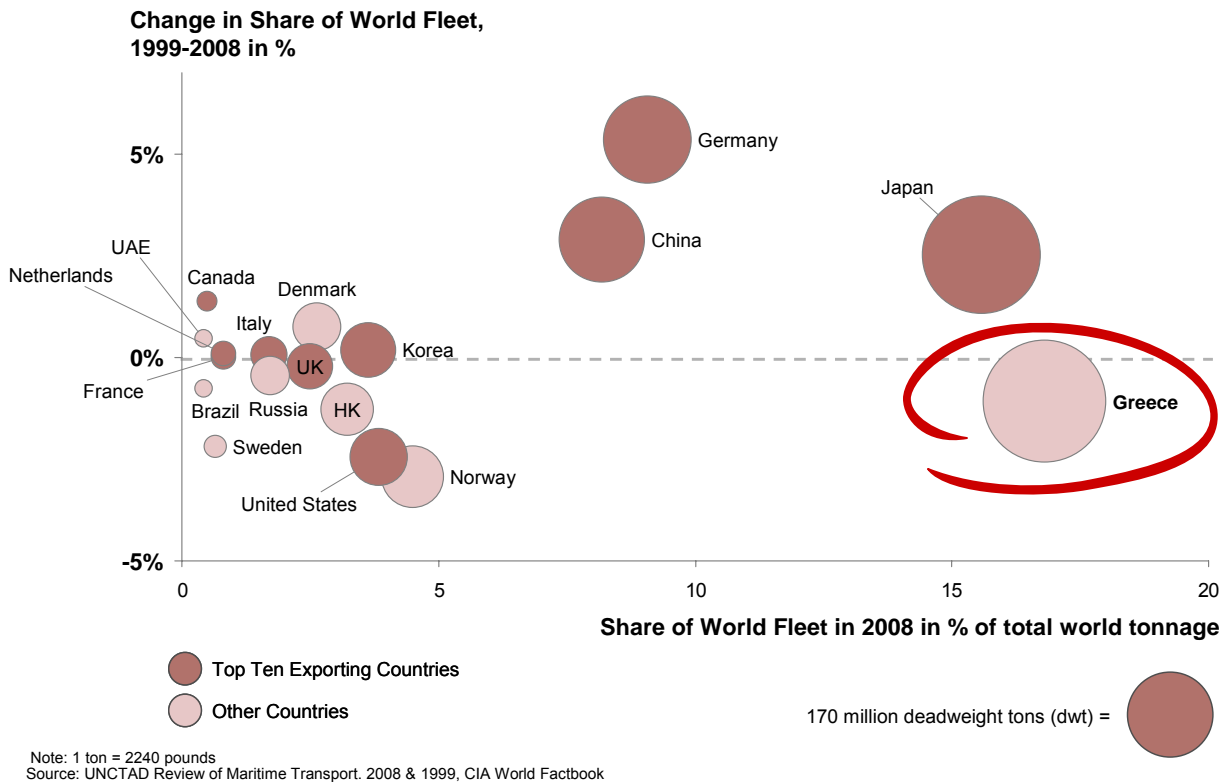
Source: Harlaftis, 1996.

2.3 Relative Positioning in the Global Market

Greek-owned firms have the largest share of the world fleet with 17% of worldwide deadweight tonnage in 2008 and slightly more than 3000 ships (Exhibit 11). Most Greek-owned shipping firms are now located in Greece, and in 2008 shipping accounted for a net income of 11

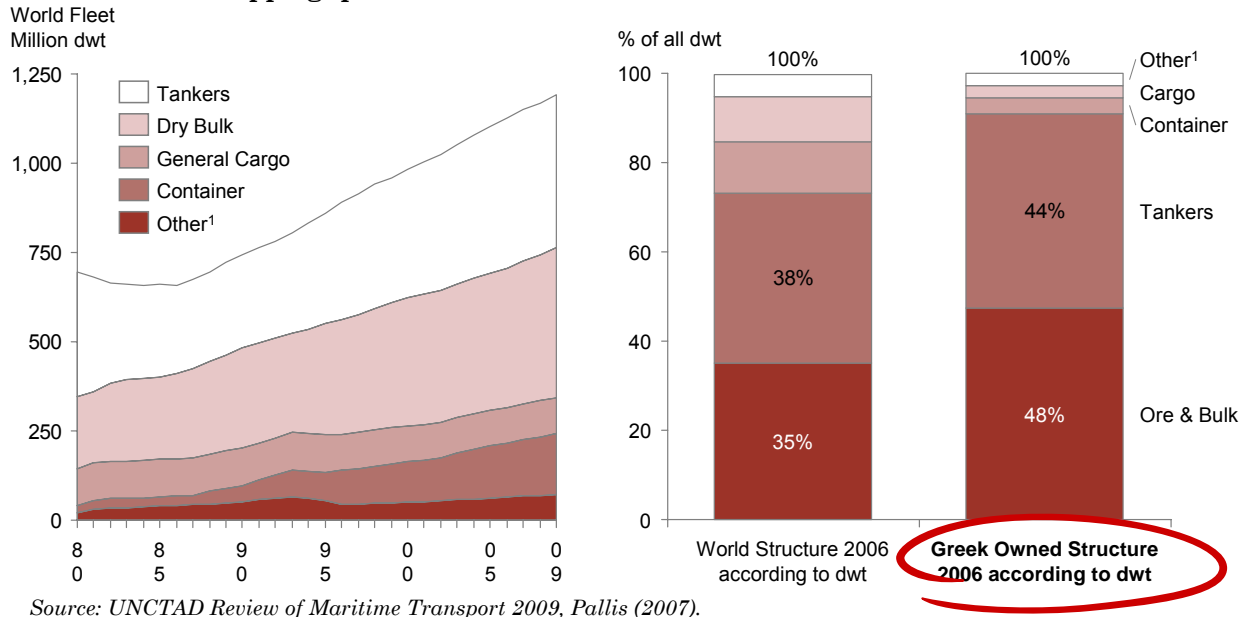
billion euros in the Greek economy, covering around a quarter of the country's trade deficit. Shipping is Greece's largest export and is equivalent to 65% of total exported services. Japan, Germany and China are the largest competitors. It is worth noting that these countries are the world's three largest exporters, therefore generating substantial domestic demand for shipping services. This is in contrast to Greece, whose contribution to world trade is minimal.

Exhibit 11: Relative positioning of the Greek shipping cluster



Part of the success of Greek shipping over the last three decades can be attributed to its specialization in the bulk carrier and tanker markets. These sectors have grown faster than the overall freight market, currently accounting for over 70% of total deadweight worldwide (Exhibit 12). Despite its leading position in the world, Greek shipping has recently underperformed its competitors in terms of market size. Germany, Japan, and China have captured a larger share of the market over the last decade, while Greece's position has slightly declined.

Exhibit 12: Greek shipping specializes in bulk and tanker vessels



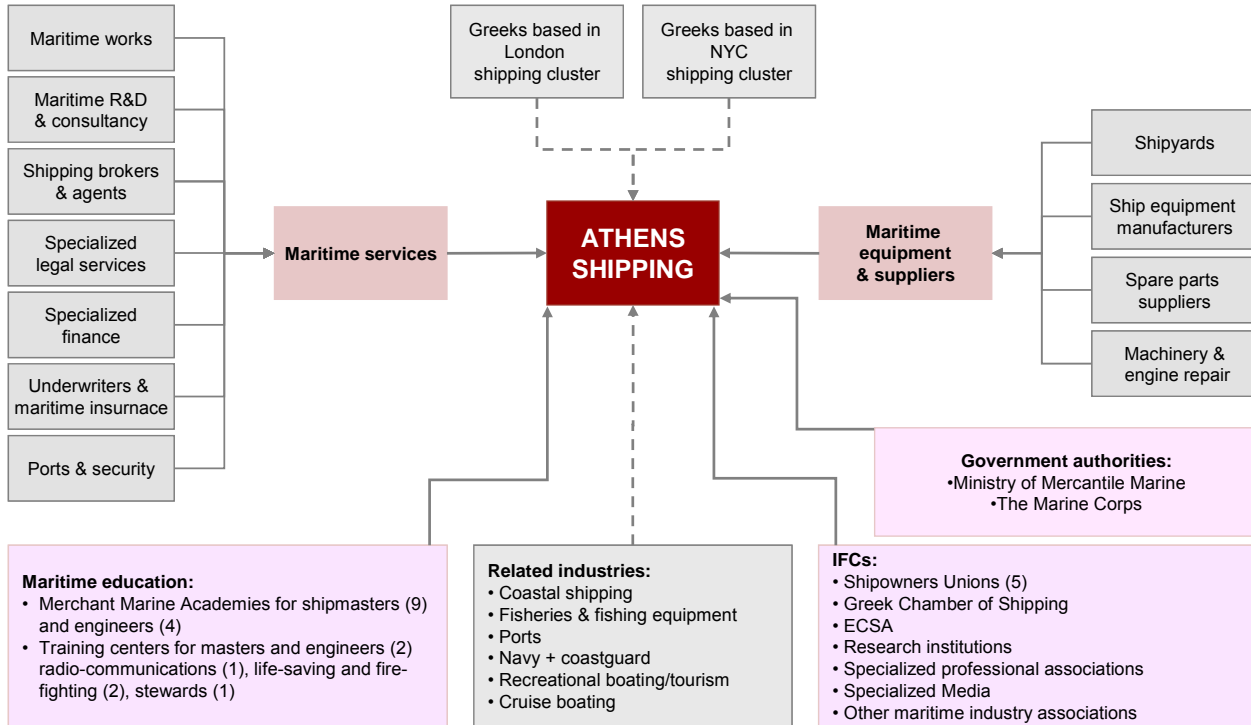
2.4 Mapping the Greek Shipping Cluster⁵

Cluster core - 800-900 firms: The Greek shipping cluster core consists of owners and operators of mostly bulk carriers and oil tankers. Of the more than 800 companies in the core of the cluster, the four biggest players have a market share of only 19% (Exhibit 14). The market is therefore highly competitive, with a multitude of small, family-owned firms. Two thirds of the fleet is operated from the greater area of Piraeus, the largest port in Greece situated within the Athens urban area.

Maritime services - over 1200 firms: There is a large concentration of technical offices or individual brand firms specializing in technical consultancy, ship design and surveying in Piraeus. In total, there are at least 168 marine consulting firms active in the greater area of Piraeus, mostly addressing the demand created by shipping companies located in the area. Maritime service firms include ship brokers and agents (290 firms), specialized legal services (big firms and individual lawyers, counting over 100 lawyers in the core area of Piraeus), specialized

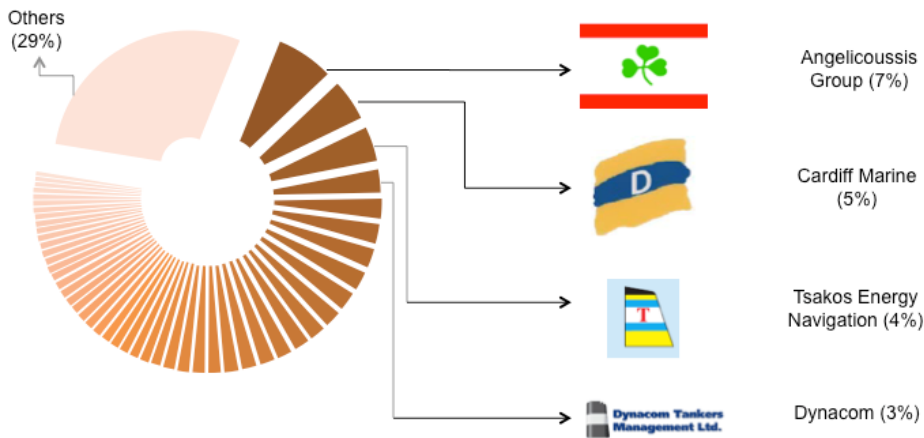
⁵ Sources: Lorange (2009), British Embassy Athens (2009), Zagkas, V. and D. Lyridis (2009), PRC (2008), Pallis (2007).

Exhibit 13: Cluster map



Sources: Team analysis.

Exhibit 14: Greek shipping core cluster is characterized by fragmentation



Sources: British Embassy Athens.

finance (over 210 banks and firms specializing in financial services for the maritime sector in Piraeus, including local banks and firms as well as international institutions, most prominently Royal Bank of Scotland and HSBC), underwriters and maritime insurance firms, as well as port security operators.

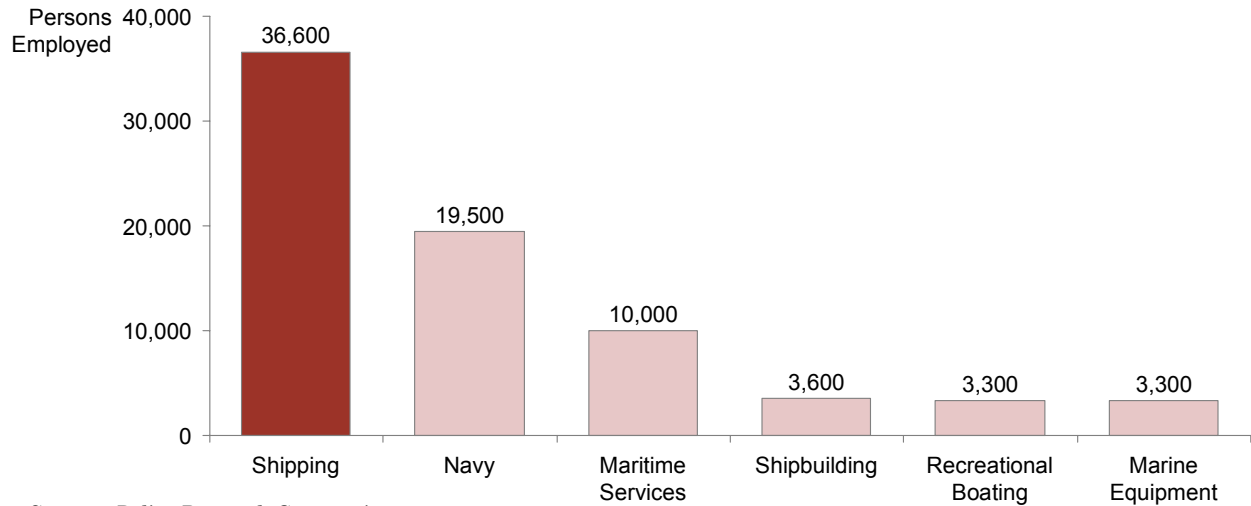
Maritime equipment and suppliers – under 600 firms: This group of companies includes ship equipment manufacturers and spare parts suppliers (400 firms) as well as machinery and engine repair firms (160). A number of firms produce spare parts locally, though most act as agents of international manufacturers, coordinating the delivery of spare parts in international ports. This cluster also includes companies directly engaged in ship repairs and other engineering activities. These activities are international in scope as missions of engineering and shipping specialists are sent to designated ports worldwide. This part of the cluster generates a lower level of employment than the core (Exhibit 15).

Cluster Offshoots – London and New York: A large number of shipping firms operate subsidiaries in London and/or New York, including the cluster's four largest shipping companies identified in Exhibit 14. These offices mainly perform financial activities, taking advantage of the strength of the financial cluster in these two cities. Among others, activities include hedging (e.g. through the Baltic Exchange in London), treasury activities, insurance, and investor relations for those companies that are publicly listed on either the London or New York stock exchange. A few companies maintain their headquarters in these cities, though most are now in Greece. Of the more than 25 publicly listed companies abroad, only four maintain their head offices in London or New York, with the rest being based in Piraeus (Hellenic Shipbrokers Association 2010).

Related industries: We have identified five major related industries:

- Fisheries and fishing equipment – Greece has the largest fishing fleet in the EU; this local industry uses small scale boats but is an important supplier of labor to the shipping industry;

Exhibit 15: Breakdown of employment in the Greek shipping cluster and related & supporting industries



Sources: Policy Research Corporation, 2008.

- Coastal shipping – Greece has 16,000 kilometers of coast and 3,000 islands and islets. The large number of Greek islands creates a special need for sufficient and quality sea transport services;
- Ports and port authorities – Piraeus (run by COSCO), Thessaloniki and 10 other ports attract about 210 companies directly related to the activities of the Ports. However, the value of imports and exports is small since Greece has a relatively low tradable sector;
- Navy and coastguard – the Navy is the second largest employer in the Greek maritime sector (Exhibit 15) with strong ties to the shipping industry, as many retired Marine Corps are taken on by shipping companies;
- Shipbuilding and ship repair – Greece has 4 shipyards, but their main activities are concentrated on Navy projects. The shipyards are in structural decline due to decreasing cost competitiveness.

Related industries in the Greek shipping cluster have very weak linkages to the core. Their main contribution is specialized labor for the rest of the cluster.

IFCs: Despite the high degree of fragmentation in the cluster core, firms collaborate extensively through institutes for collaboration (IFCs) supported by specialized media outlets. Ship owners and operators are organized in five unions. The main goals of these unions are the attraction of new seamen, training and certification and representation in policy meetings. The unions confer Greek ship owners a strong presence in the European Community Shipowners Association (ECSA), a powerful Euro-federation of national associations. Other IFCs include research institutions – mainly funded by the government and established in a number of universities – information providers, and specialized professional associations, such as the Hellenic Association of Maritime Economists, the Skolarikos Maritime Bureau and the Nautical Development, Support and Cooperation Company. In addition, the Greek shipping industry hosts some of the world's leading domestic and international maritime industry fairs, such as the biannual Poseidonia fair held in Piraeus. However, there is no formal organization representing the sea-related sector as a whole.

Government authorities: National shipping policies are coordinated by the Ministry of Mercantile Marine,⁶ which liaises with the private sector through the semi-public Greek Chamber of Shipping. All five unions of ship owners, in addition to smaller players such as tugboat, salvage vessel, and professional leisure vessel associations, participate in the 32-member strong board of directors of the Chamber of Shipping.

Maritime education: Greece has 9 merchant marine academies for shipmasters and 4 for engineers. There are 2 training centers for masters and engineers, 1 for radio-communications, 2 for life-saving and fire-fighting and 1 for stewards. All are funded by the government, though are in close cooperation with IFCs to develop curricula and improve the quality of training.

⁶ In recent months, this has been folded in to the Ministry of the Economy, but the new organizational structure is still not clear.

2.5 Cluster competitiveness

2.5.1 Financial performance

Measured in terms of gross tonnage, Greek shipping is the largest in the world. However, China, Germany and Japan have been gaining market share over the last decade. Turning to financial performance, little public data is available as most Greek shipping companies are privately held. Financial analysis of publicly listed companies indicates that Greek shipping companies have outperformed their peers during the current financial crisis in terms of average return on equity, dividend yield, and net profit margin (Exhibit 16).

Exhibit 16: Financials of US-listed shipping companies, 2009

	Greek-owned	Non Greek-owned
Number of Firms	20	30
Avg. Market Cap (\$mio)	408.6	752.9
Avg. Return on Equity (%)	29.4	-1.7
Avg. Div. Yield (%)	3.4	3.8
Avg. Net Profit Margin (%)	2.6	-2.4

Sources: Capital IQ and Yahoo Finance.

2.5.2 The role of the Greek government

From a historical perspective, the government's most significant impact on the shipping sector has been the favorable tax and regulatory regime put in place over the 1960s and 1970s. The Greek constitution includes a guaranteed right of capital mobility for shipping companies, which has reduced the level of uncertainty associated with shipping investments and encouraged Greek ship-owners to return home as well as repatriate capital over the last three decades. The current tax regime includes the following provisions:

- An easier to enforce tonnage tax in lieu of tax on profits for ships on Greek register;
- No capital gains tax on ship re-sales and no tax levies on accumulated capital in any form, which encourages active involvement in the second-hand market;

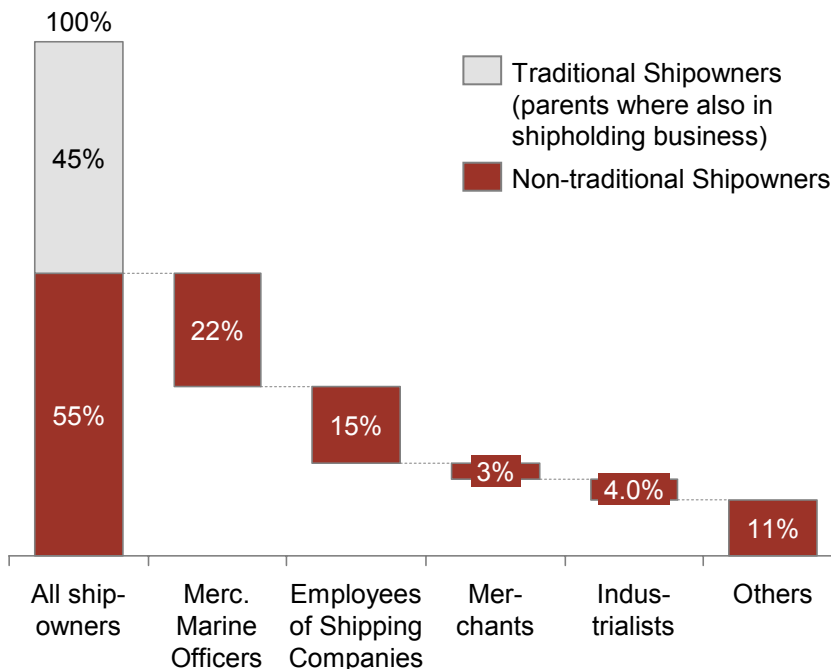
- Foreign shipping businesses are exempt from income tax as well as other controls applying to limited liability companies, encouraging the development of the cluster in Piraeus.

Overall, the Greek government has adopted a hands-off regulatory approach with flexible operating, manning and foreign flag rules. This is in contrast to the government’s approach in coastal shipping, which remains highly regulated.

2.5.3 Positive cluster spillovers

Although the Greek shipping cluster has traditionally relied strongly on family and ethnic-based networks, today the majority of ship owners come from non-traditional backgrounds, thanks to strong employment and knowledge spillovers within the cluster. The cluster cross-fertilizes and nurtures managerial expertise across different firms, with employees from many areas of the shipping cluster subsequently becoming ship managers themselves (Exhibit 17).

Exhibit 17: Origins of Greek shipping families, 1945-2000



Sources: Theotokas & Harlaftis, 2004.

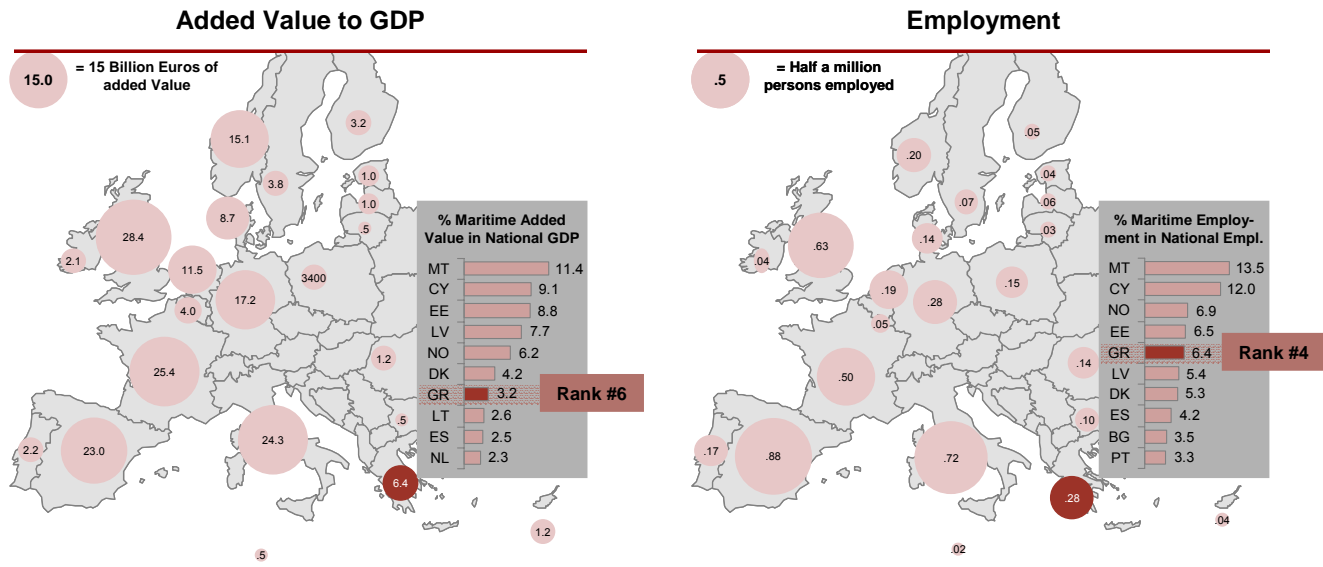
2.5.4 Value added to the Greek economy

Overall, the Greek shipping cluster has only a moderate impact on the Greek economy. On the one hand, it employs over 100,000 Greeks and is an important source of foreign currency inflows and of reliable borrowers for the country's banks (FT Video 2010). Big shipping firms have also been buying various forms of Greek debt, both corporate and sovereign. On the other hand, the contribution to tax revenues is relatively small due to the favorable tax treatment that the cluster enjoys. Given the nature of the Greek shipping business, it is subject to shifts in international commodity markets and trade and does not depend on the strength of the Greek economy. In the words of Nikolaos Tsakos of Tsakos Energy Navigation, one of the largest transporters of crude in the world, "[The Greek ship owners] are the truck drivers of the world, so we are not really making anything out of the Greek economy. The only oil you can move from Greece is olive oil." (FT Video 2010)

2.5.5 Comparison across the region of EU & Norway

Within the European Union, the Greek maritime cluster (which includes shipping as well as all related and supporting industries) ranks 6th in terms of the value added that it generates in the national economy, and 5th in terms of providing employment, despite the fact that Greece controls the largest fleet in the world. Moreover, Greece only manages to produce 3% of the total value added in the region, whereas countries such as the UK, Italy, Germany and Norway produce substantially more (Exhibit 18).

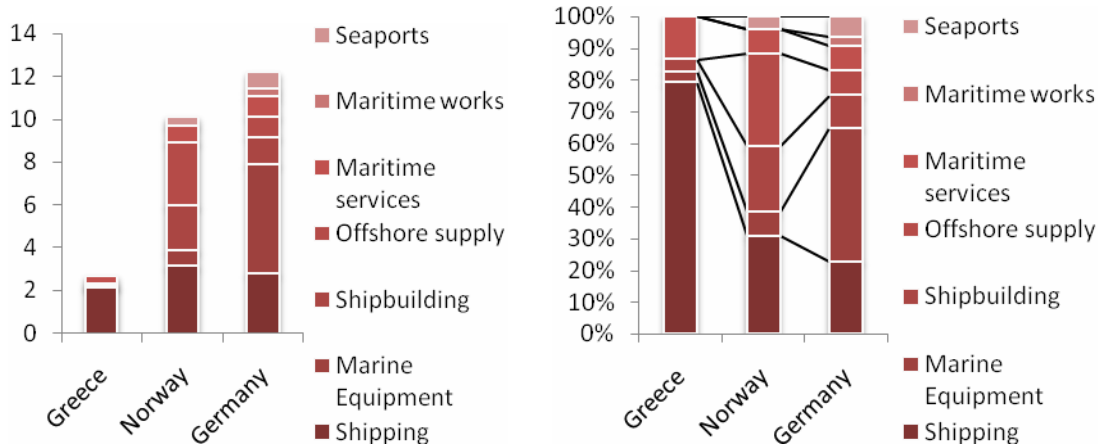
Exhibit 18: Value added to GDP and employment in the EU and Norway



Sources: Policy Research Corporation, 2008.

This low value added can be attributed to two reasons. First, industries relating to and supporting the shipping cluster are small in Greece. Second, the shipping cluster itself has a small value added relative to its size (Exhibit 19). Greece’s productivity, while being lower overall, is much more concentrated in shipping, whereas the value added in Norway and Germany is more dispersed in seaports, marine equipment and shipbuilding. At the same time, the contribution of the shipping cluster is lower in Greece. This likely reflects the absence of positive spillover effects between shipping and related clusters due to the small size and low level of sophistication of related industries in Greece. It may also be due to the specialization of Greek shipping in bulk markets, and the relative lower levels of innovation and value added activities in bulk compared to container or specialized cargo shipping.

Exhibit 19: Comparison of Value Added Composition in key sectors of the Cluster



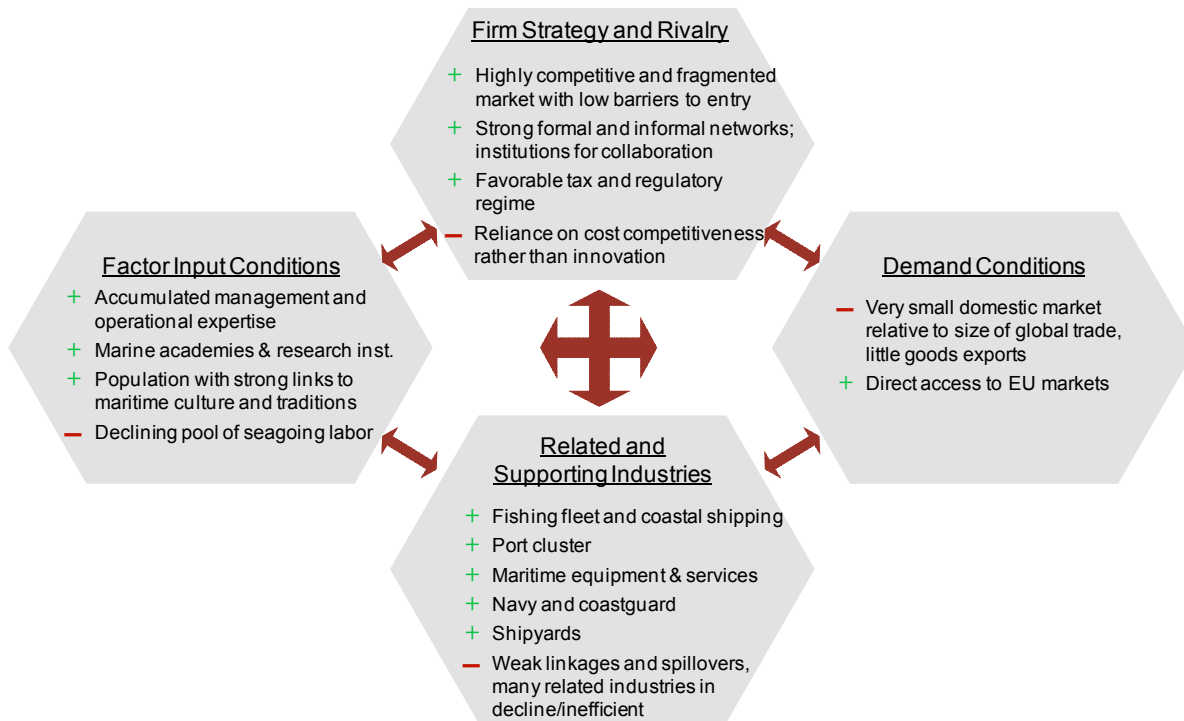
Sources: Policy Research Corporation, 2008.

2.6 Greek shipping diamond analysis

Overall, the cluster diamond shows a favorable environment for Greek shipping firms. The cluster draws its success mainly from historically favorable factor input conditions and strong firm strategy and rivalry. On the negative side, the growth of the cluster has not been accompanied by the development of strong related and supported industries. Local demand conditions have a minimal effect on the cluster since it draws its demand from international markets.

Factor conditions: The long history of the Greek shipping cluster and the population's strong links to maritime culture and traditions have facilitated the accumulation of a significant pool of management and operational expertise. Marine academies and technical education institutions provide a highly specialized pool of labor for the cluster. However, the cluster has experienced a net reduction in seagoing labor, though this decline has mainly been concentrated in low-skilled workers who have been attracted by higher-paying domestic jobs. The number of Greek seamen has decreased sixfold since 1970, from about 100,000 to a mere 16,000 today.

Exhibit 20: Greek shipping cluster diamond



Source: Team analysis.

strong firm rivalry in the cluster, improving competitiveness and boosting efficiency. This is reflected in the surprisingly positive performance of Greek shipping during the 2008 economic downturn. Company fragmentation has also increased the cluster’s flexibility as market conditions change, with the number of firms in the cluster fluctuating significantly over different stages of the global business cycle. Favorable government policies in regulation and the tax regime also play a significant role in enhancing the competitiveness of the cluster. This notwithstanding, the cluster’s low value added to the economy potentially indicates an absence of innovation-based activities by firms, with a stronger reliance on lowering costs to drive competitive advantage.

Related and supporting industries: Demand from the shipping cluster has created a relatively large network of related and supported industries in Greece, but these are

unsophisticated and uncompetitive internationally. As a result of the poor performance in these industries, the value added of the Greek maritime sector to the country's GDP is considerably lower than in countries where the shipping sector is a lot smaller.

Demand conditions: The Greek tradable sector is very small and there is little local demand to support the industry. Greek shipping has thrived thanks to the rapid growth in global trade, and especially due to the increased demand for commodities from emerging market countries. Competing clusters have however been able to leverage the significant demand for shipping services that originates from their tradable sectors. Empirical evidence points to a significant positive relationship between a country's fleet and its foreign trade, suggesting that Greece is at a substantial competitive disadvantage compared to the competing clusters (UNCTAD 2008).

3. Policy Recommendations

Based on the analysis above we have identified four key challenges and propose the following set of recommendations to overcome them.

Challenge #1: Increasing spillovers to the rest of the economy

Recommendations:

- In line with our country-based recommendations, attract foreign investment in more sophisticated areas of the broader marine cluster (seaports, maritime services) where Greece has currently a weaker presence. Piraeus and Thessaloniki ports should be marketed as regional transportation hubs between the growing Balkans region and the greater Middle East. The recent operational leasing of Piraeus port to the Chinese company COSCO and the privatization of the Skaramangas shipyard to Abu Dhabi Mar, a holding company in UAE, represent steps in the right direction.
- Deregulate coastal shipping by abolishing the cabotage rule⁷ and encourage further investment in the sector. Greece has the potential to develop as a hub for Mediterranean cruise liners in the tourist industry by leveraging its existing strengths.
- Encourage the creation of cluster-based organizations to complement existing industry-based associations. Give these organizations voice on the negotiating table and encourage them to identify policy recommendations relevant to the cluster.

Challenge #2: Sustainability of competitive advantage, which has so far relied on cost-leadership

Recommendation: Enhance competition in the Greek shipping cluster by fertilizing it with international best practices and expertise. The government should undertake new initiatives to attract international shipping firms to Piraeus, using the existing favorable tax treatment and the

⁷ This rule places restrictions on the operation of international passenger shipping companies in Greece

core cluster's high degree of development as selling points. Special emphasis can be given to attracting shipping companies beyond bulk and freight, including liners and specialized cargo vessels. The creation of a special shipping maritime center in Athens and a proactive investment seeking campaign organized jointly by the government and the IFCs can be undertaken.

Challenge #3: Declining pool of seagoing labor

Recommendation: The decline in local labor is partly due to the availability and ease in procurement of cheap labor crews from low-cost countries. To a large extent this may be unavoidable and lowering the cost of unskilled Greek labor is not feasible. The focus should be on ensuring a sufficient supply of highly skilled labor. The government should invest resources in establishing new educational institutions and programs with a focus on building managerial expertise to complement the current focus on technical skills. This should promote the sustainability of the cluster's competitive advantage by encouraging innovative business practices.

Challenge #4: Absence of local demand

Recommendation: Negotiate favorable tax treaty agreements between Greece and competing centers such as China and Japan to encourage the establishment of subsidiaries by Greek shipping companies in these countries. Encourage collaboration between Greek IFCs (and newly created cluster-based organizations) with their counterparts in competing centers to facilitate information exchange and establish closer links with other clusters. This can be undertaken, for instance, by inviting shipping cluster members to join official diplomatic visits to these countries. Greece can offer to provide operational expertise and know-how in return for greater access to these markets.

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5. Required disclosure

George Saravelos is a citizen of Greece.