

Working Paper  
EUCE Research 2005-2006



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Regulation of Maritime Industry:  
Global Effects and Strategic Choices*

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# CHANGING EUROPEAN UNION REGULATION OF MARITIME INDUSTRY: GLOBAL EFFECTS AND STRATEGIC CHOICES

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## *Abstract*

*The existence and growth of the European Union has concentrated the influence of its member states. This influence is manifested in part through EU regulations. Regulations have been shown to have a profound impact on business strategy particularly when the regulation is specific to the industry (Oster 1990). The maritime industry is a global EU-dominated industry. Globalization has changed trade patterns and caused growth in demand for maritime services. Therefore, EU regulation of this industry can influence how businesses provide this necessary global service. This article explores how EU regulations, and the harmonization of regulations across EU members, impacts strategic decision making in the maritime industry, including which strategies are adopted and why*

## INTRODUCTION

Globalization has caused a tremendous increase in the demand for waterborne shipping services. The maritime industry provides two types of basic shipping: global, cross-trading shipping and inland waterway shipping. Global cross traders primarily deal with shipping bulk, commodity, and containerized cargo across oceans. Inland waterway shippers provide barge services within the canals and rivers of a country or region. The EU has attempted to harmonize regulations across member states on each type of shipping. This paper, however, focuses on how global cross-traders are impacted by EU regulation harmonization and how the changes in the regulations affect the strategies that these firms adopt.

We focus on the maritime industry because the impact of EU regulation of this particular industry is global in that EU firms do and have dominated the

global industry presently and throughout history. Any response to regulation by these firms can have a profound impact on how, when and what is shipped around the world. This industry has several current and proposed EU harmonized regulations. They include safety, flagging, anti-trust and security regulations (International Federation of Shipmasters' Association 2005). In addition to these operational regulations, harmonization of tax and bank regulations has impacted the way the maritime industry does business. Further, in addition to EU regulation compliance by this industry, the maritime industry is subject to international rules and regulations from the International Maritime Organization (IMO) and non-governmental organizations (NGOs) such as classification societies.

Therefore, we ask four research questions: Is the focus of regulation harmonization on global cross trader shipping an issue merely internal to the EU or a response

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to external global forces such as the strengthening of other trade agreements (NAFTA, ASEAN) and more global competition? As such, do the strategies adopted by global cross trader firms represent an EU internal or external focus? What is the influence of proposed regulation harmonization on firm strategy? How does the failure of the EU constitution affect this industry's regulation harmonization?

Upon exploration of these questions we find that managers adopt various strategies which are based on three theoretical groundings: Axelrod's (1980) cooperation paradigm, Porter's (1990) Competitive Advantage of Nations, and transaction cost economics (Williamson 1975, 1985). The three case studies explored here reveal that: (1) managers are proactive in parliamentary action, (2) are cooperative with other shipping firms which allow the firms to negotiate with governments from a united position of strength, and (3) are adopting structures which create strong interdependencies among the firms.

We initially hypothesized that EU harmonization would diminish a particular country's location advantage and help promote regional diffusion of the industry. We, in fact, found that more intense global competition has fostered cooperation among firms within the EU, that these firms proactively push regulation changes rather than react, and that the concentration of firms has, in fact, increased due to these cooperative strategies. Thus, this industry may provide a model of how industry can nurture the direction of industry-specific regulation harmonization through good government-industry relationships.

#### EUROPEAN UNION AND HARMONIZATION

The EU is an intergovernmental union of independent nation states that promotes economic integration of its members. One way to promote integration is to harmonize regulation of industries across the members. Regulations subject to harmonization include purely economic regulations and regulations that also impact political processes. "Harmonization is the process by which the varying laws of different sovereign entities are changed to more closely reflect a common set of legal principles agreed to by those sovereign entities. It should not be confused, however, with international lawmaking, as it does not lead to a uniform set of agreed rules, but rather merely 'directs

a change of rules, standards or processes in order to avoid conflicts and bring about equivalence'" (Blakely 2000). Some examples of EU industry regulation harmonization include ISO 9000 operation processes (Keith and Mileski 1996), trademark protection (Blakely 2000), and safety, banking and tax regulations (Dun and Bradstreet 2006).

#### MARITIME INDUSTRY IN EUROPE

The shipping industry is well established and has a rich history in Europe. From the ancient Romans to the Vikings, the Hanseatic League, Dutch trading companies and the British Empire, Europe has played a central role in the economics and politics of international waterborne commerce. Today, the EU remains an important force in international shipping (Mileski and McMullen 2006).

The EU enjoys current world dominance in the industry. Currently, ninety percent of all external trade with Europe and 40 percent of all internal trade is transported by sea. Although not all members of the EU have large maritime industries, all countries experience direct and indirect impact from waterborne transportation. The indirect impact has considerable inter-country effects on other land-based industries as well (Mileski and McMullen 2006).

Of the world movement of the merchant fleet in 2004, forty-seven percent of the total calls are in Europe. Twenty nine percent of the calls are in Northern Europe. Of that total, approximately two-thirds of that movement is concentrated in the Nordic Countries which include Denmark (Mileski and McMullen 2006). This concentration is also evidenced by the presence of institutions such as the World Maritime University in Sweden and the

#### EUROPEAN REGULATION HARMONIZATION AND THE MARITIME INDUSTRY

Harmonization of regulations in the EU is impacting the maritime industry's business decisions. Certain maritime regulations have already been harmonized. For example, the EU's transport directorate requires ships to be compliant with the International Safety Management Code. Ships are subject to inspection and those without certification may be banned from EU ports. Further, in 2002, the EU nations agreed to a ban on the use of

single-hulled tankers carrying heavy fuel. A total ban on single-hulled vessels over fifteen years old will be phased in by 2010. The integration of these safety rules provides economic efficiency to shippers and shipbuilders (Dun and Bradstreet 2006).

In addition to current harmonized regulations, there are proposals to further harmonize regulations. One proposal includes the EU flagging of ships. This proposal omits national flags on ships in favor of the blue/stars EU flag with a smaller national flag in the upper right hand corner and streamlines European shipping regulations that are dependent on the ship's flag of registry. Flagging has been viewed by some as a matter of national pride as well as economic control. The failure of the EU constitution, which potentially impacts all regulation harmonization, has currently postponed EU flagging proposals (International Federation of Shipmasters' Association 2005).

There is a trend in the European maritime industry, however, to flag ships off-shore. Off-shore flagging means that a country flags a ship in another country, and the ship is then subject to different, generally more liberal, regulation of crew. As a result, the country can take advantage of low cost crews, yet provide high skilled officers from their own country (Mileski and McMullen 2006). EU regulation proposals have not yet fully addressed this trend.

An additional flagging issue relates to the proposed EU Coast Guard. The European countries' coast guards are dissimilar to the United States (US) Coast Guard in that they provide primarily search and rescue services and traffic control. The US Coast Guard, as a military service, provides all of those services and security which, in Europe, is provided by each country's respective navy (International Federation of Shipmasters' Association 2005). Harmonization of the regulations for an EU Coast Guard would provide for efficiencies due to the harmonization of administration.

Further, EU Regulation 4056-86 regulates the maritime industry's cooperative ventures in order to prevent price fixing, etc. Certain maritime ventures such as asset pools are exempt from EU anti-trust regulation. Currently, there is a proposal to eliminate this exemption. This would result in a serious commercial detriment to the industry. More general harmonization of tax and bank regulations has also

impacted the maritime industry (Dun and Bradstreet 2006). These regulations may also be detrimental to the economic benefits of the industry, so implementation of harmonization has met with the political reality of national identity and seafaring history, such as Denmark's resistance to changing its favorable taxation of shipping firms (Hansen interview 2006).

#### **EU HARMONIZATION AND INTERNATIONAL MARITIME REGULATION**

The current International Maritime Organization was originally established by the United Nations in 1948. The purposes of the organization are 'to provide machinery for cooperation among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation; and to prevent and control marine pollution from ships.' It is this organization that is empowered to deal with administrative and legal matters related to international shipping (International Maritime Organization 2006).

There are 166 members of the IMO including all EU members. The EU has, as of 1974, an agreement of cooperation with the IMO (International Maritime Organization 2006). As such, EU harmonization of shipping regulations must be in line with this agreement and the conventions of the IMO. Interaction with the IMO has been through the EU, and additionally by individual member states (Danish Shipowners' Association 2005). Denmark, a current member of the EU, has been a member of the IMO since 1959.

#### **METHODOLOGY AND DESIGN OF THE STUDY**

This research study is conducted as an exploratory case study. The intention is to develop new theory and propositions that can be tested empirically in future studies. We look at the three paradigms/theories to explain the adoption of certain strategies by the firms. Case studies are the preferred research method when "how" and "why" questions are being posed, when the investigator has little control over events, and when the focus of the research is on a contemporary

phenomenon with some real-life context (Yin 1989). This study asks “why” strategies are adopted. We have little control over the behavior of the managers and firms studied. Furthermore, the event of EU harmonization is a current real-life event.

The study’s questions are developed from the rationale that compliance with EU regulation determines strategic direction for a firm (Keith and Mileski 1996) including the location of investment (Mileski 2003) and which firms compete (Fiegenbaum and Thomas 1990). Therefore, we anticipate that the imposition of EU harmonization regulations will change where and which firms compete and will impact the strategies adopted by the firms. Prior research predicts that an industry concentrated in a location due to the regulation benefits of the location would diffuse if the benefits were changed (Loree and Guisinger 1995). The beauty of case study analysis is that it questions prior research, its assumptions and its explanations of causes. In interpreting the findings, we look for common strategic patterns across the cases and link these patterns back to the prior theory or try to develop new theory.

We traveled to the corporate headquarters of each firm in the case study to observe and interview top managers. The three firms studied are located in Copenhagen, Denmark. These three firms are chosen because of their location within the northern EU and because of their size. A. P. Moller-Maersk is the largest company in Denmark (AP Moller-Maersk 2005) and the largest liner shipping company in the world with more than 500 container vessels (Journal of Commerce 2005). A/S Dampskibsselskabet Torm is one of the largest tanker and dry bulk shipping companies in the EU with \$1,520,260,000 in assets and \$587,000,000 in 2005 revenue (A/S Dampskilbsselskabet Torm 2005c). Clipper Group is a leading international shipping consortium, privately owned with approximately 250 vessels controlled in 2006 (Clipper-Group A/S 2006b).

Firms’ strategies were directly observed and managers were systematically interviewed. Each firm’s management was interviewed for approximately two hours on various questions developed from the theories.<sup>1</sup> Company documents regarding strategies adopted were provided by the firms and website information was also examined as part of the case

study. Follow-up questions and confirmation of draft findings were handled via mail and email.

Information gathered on the three cases was reviewed for accuracy by Jan Fritz Hansen, Executive Director of the Danish Shipowners’ Association, and his staff in a separate two-hour interview at the Association’s Copenhagen office. Follow-up questions were handled via email. Further, we presented our findings in a half-day seminar to the faculty at the World Maritime University in Malmo, Sweden, less than 20 miles from Copenhagen. The faculty confirmed the findings with their personal observation of strategies employed by the firms interviewed.<sup>2</sup> Validity and reliability of the methodology and design was also tested.<sup>3</sup>

## RESULTS OF THE INTERVIEWS

### *A/S Dampskibsselskabet Torm (aka Torm)*

Torm operates bulk and tank vessels as well as building ships for their customers and their own use. Their customers include oil, petrochemical, grain, and mining companies (A/S Dampskilbsselskabet Torm 2005c). They manage over 75 ships in a “pool” strategy and 90 ships in total (A/S Dampskilbsselskabet Torm 2006). A “pool” is a consortium of ship assets managed by the pool manager for commercial and logistics flexibility. The asset owners are not involved in the day-to-day operations of the pool and join the pool because their interests are primarily financial and, generally, they have limited operational experience (A/S Dampskilbsselskabet Torm 2005b).

When we interviewed Mr. Nyborg, chief financial officer of Torm, he indicated that Torm, as a shipowner and manager of ships, distinguishes issues in EU regulations between shippers’ and shipowners’ interests. He sees the EU flagging issue as primarily a tax issue. Flagging determines the locality of taxation. However, ships can easily be moved to different jurisdictions to avoid unfavorable regulation. Regulations on the ownership of the ship are not as important as regulations on its management.

Further, Nyborg sees the failure of the EU constitution as not important to the commercial aspects of the maritime industry. He notes that the acceptance or failure of the EU constitution is more

of a political harmonization issue rather than an economic one and the EU's political harmonization currently focuses on a common foreign policy. Further, the failure of the constitution may have to do with the reluctance of members, like France, to allow influence to shift to newer members of the EU.

With regard to the EU Coast Guard, Torm does not see the unification of the national coast guards as a threat to their international maritime operations or to the advantages of their location in Denmark. Torm notes that Denmark's maritime tradition is important in attracting personnel (A/S Dampskibsselskabet Torm 2005c). The company still feels that Danish national advantage in other areas such as banking is important.

Denmark's government develops policy in keeping with the IMO rules, Nyborg notes; however, it is not clear that the EU is following IMO rules. Since Torm's focus is global, it is the IMO rules that dominate its business. Construction and design of ships are dictated by the IMO rules. However, Nyborg feels the structure of the Danish maritime industry and Danish history in seafaring helps Denmark develop policy which is consistent with his company's needs. Torm participates in the Danish Shipowners' Association; however, it is very aware that power is moving to the EU and now looks to the EU Shipowners' Association as well for guidance on policy and regulation issues. Further, Nyborg feels that Denmark will drive any changes in the EU regulations because the Danish maritime industry is best organized to do so. Greece, a larger player in the industry, has a fragmented maritime industry structure.

Nyborg notes that the industry is becoming "virtually consolidated." The pooling concept/strategy has consolidated shipowners' interests, reducing the volatility in revenues. The pools include many EU interests but also include interests from Japan, Russia, and India. In fact, any anti-trust tests of competition in the future should be done on a world basis rather than on an individual country basis. Danish companies, such as Torm, now ask: "In what form can we operate a pool?" not whether consolidation is appropriate.

Since Torm is in a niche sector of liner shipping, their strength is in the management of the pool. Torm offers its pool partners a turnkey service, embracing

everything from construction supervision to vessel purchase and sale (A/S Dampskibsselskabet Torm 2005c). EU regulation 4056-86, which gives a block exemption from anti-trust legislation to liner shipping using the pool strategy, is considered the key EU regulation for Torm's business. This EU regulation codified Danish national practice and, as it currently stands, appears to recognize the fact of world-wide competition. Any change in this regulation, as the current EU proposal to eliminate this exemption, may put the pool strategy in jeopardy.

Nyborg sees the EU becoming more integrated. Economic integration will occur because it makes sense to do so in a world of globalization. He notes that the World Trade Organization encourages free trade, and he anticipates the EU to also continue to move in that direction. His industry generates a great deal of foreign exchange for Denmark and that helps the Danish and EU trade balance.

In conclusion, we reviewed the documents provided by Torm, including the 2005 annual report, and we noted that, in addition to reducing risk through pool participation, Torm is increasing its hedge trading. Hedge trading is another form of financial risk reduction. This may be in anticipation of regulation changes that affect the pooling strategy, thus increasing Torm's financial risks.

#### *A.P. Moller-Maersk (aka Maersk)*

A.P. Moller-Maersk is one of the leading liner shipping companies in the world. It is a publicly traded company and has a fleet with more than 500 container vessels. It employs over 35,000 people worldwide. It also employs a pooling strategy, and is primarily a shipowner.

When we interviewed Knud Pontoppidan, Executive Vice President of the company, he indicated that he had close personal contact with the EU shipping regulators in Brussels. Pontoppidan provided some background on EU regulation of the maritime industry. He stated that when the EU began regulating transportation, the maritime industry was not originally included. In 1986, regulation 4056-86 and subsequently, rules of access, coastal trade (1992) and antidumping were harmonized.

Pontoppidan stated the EU indicated that it was supportive of the IMO. The EU understands that the maritime industry is a global industry with international conventions. Harmonization or regulation change in general, of shipping is currently primarily driven by member nations. However, he felt that it is the job of the Danish Shipowners' Association, with Maersk's urging, to educate the EU administrators as to IMO requirements and how they impact EU shipping. Further, Pontoppidan saw the maritime nations of the EU, such as Denmark, as keeping the EU regulators on track. He felt that Denmark has influence with Brussels due to Danish transparency in maritime regulation and the size of maritime business activities. Pontoppidan felt that the EU will expand its understanding of the maritime industry and enact better rules for it.

Most importantly, the administrators are favorable to improving EU shipping competitiveness globally. According to Pontoppidan, it is globalization that has led to the tremendous growth of EU shipping. Maersk's strategic focus is one of a generalist, diversifying into multimodal operations. He sees more pooling in the future and an overall improvement in EU shipping due to global competition. Maersk is the industry leader in Denmark and, as such, Pontoppidan feels that Maersk, through the Danish Shipowners' Association, can drive the direction of harmonization such that it is consistent with Maersk's strategies. Pooling strategy makes EU shipping more efficient and, therefore, more globally competitive. He feels that the EU regulators understand the need to keep EU shipping competitive. He does comment that the US Jones Act (a cabotage law restricting non-US flagged ships from port to port movement within the US) reduces global competition and global efficiency in the industry.

For some of the specific issues on which we asked him to comment, such as flagging, failure of the EU constitution and the EU Coast Guard, he saw these issues as "Brussels issues" rather than ones which would affect the daily operations of Maersk. The operations of the EU Coast Guard with regard to commercial shipping will apparently be handled by the EU administrators with whom he feels Maersk has good relationships. He noted that all EU regulation with regard to shipping is "moving the right way." He did not see any EU regulation,

current or proposed, as interfering with the growth or commercial (as opposed to safety or security) operation of the maritime industry.

Further, Pontoppidan says he is seeing more consolidation in the industry and more pooling of assets. This concentration, he says, is for efficiency and becomes more important as Maersk's business expands to multimodal transportation, changing from a port-to-port business to one which is door-to-door. He feels that the existence of complementary assets such as the seafaring culture of the people and the Danish education system, which understands Maersk's business, is favorable for Danish companies to manage the pools. Further, Denmark's favorable tax structure for shipping should prevent diffusion of the industry to other EU states.

Pontoppidan sees working with the EU as a fact of life. He also sees that the Danish shipowners are driving the agenda of harmonization in shipping regulations. So far, the other nation states are in agreement with the course of EU regulation. Because of the size of the shipping companies in Denmark, he feels Danish shipping will benefit in the future from EU harmonization.

We reviewed the company's posted and published literature and there is a statement in the annual report for 2005 that indicates concern about a change in EU regulation with regard to shipping. The annual report states that Maersk is concerned about an EU proposal which would abolish the special rules with regard to pools. The proposal contains a two-year transition period. The report also mentions favorably the Danish government's initiative with the purpose of making Denmark Europe's leading seafaring nation.

#### *Clipper Group A/S (aka Clipper Group)*

Clipper Group has both a corporate headquarter presence and operational control in Denmark. The bulk of its business is liner and chemical/bulk shipping. Additionally, it has shipbuilding operations in China and Vietnam. It is privately-held and controls approximately 250 vessels through pools. Their activities of shipowning, time charter operations and ship management are accomplished through these collaborative structures with other shipowning groups.

When we interviewed Mr. Per Gullestrup, managing director, and Ms. Jannie Hestehave, human resource director, of Clipper Group, they indicated that the EU has a *laissez faire* attitude toward shipping. They view their presence in the EU as a competitive advantage, unlike US companies which suffer in their global competitiveness from the Jones Act. Safety, training and environmental regulations have dominated and will continue to dominate EU shipping regulation harmonization. Harmonization of shipping regulations, they feel to this point, has been driven by the maritime member states. Denmark and Greece have the most to gain or lose with any commercial regulation. Denmark has a conservative, national government with regard to shipping regulation. Clipper-Group participates in the Danish Shipowners' Association and defers to them in terms of driving shipping policy and regulation issues.

With regard to the proposed harmonization of the flagging regulations and the formation of the EU Coast Guard, they see each proposal as having very little impact on the commercial operations of their business. The current proposed EU flagging regulation change is a tax issue. Currently, Clipper Group flags ships in Nassau, Bahamas where they have an office and where there is a low tax rate. As such, EU flagging is not a major issue for them. With regard to the EU Coast Guard proposal, again, the management of Clipper Group continues to contend that EU regulation has been focused on safety, training and the environment. The establishment of an EU Coast Guard will, they perceive, focus on these issues as well.

“Clipper Ships” in history indicates innovative vessels and niche markets which is the company’s strategic focus. They are currently responding to a market shift from the US to the Arabian Gulf and China. However, rather than a global focus, their strategic response to globalization indicates a regional focus: the US, Europe and the Far East (Clipper Group A/S 2006a). The uncertainty in the marketplace that globalization causes is the prime driver of company’s pooling strategy. Shipping asset usage can be very volatile. The use of pools allows them to respond to their customers more effectively and reduces volatility in their revenue streams.

Further, Clipper Group believes being located in Denmark is a strength due to the country’s history with shipping, the Danish financial institutions’ knowledge of their business, and the willingness of Danish banks to finance shipping projects. Further, Denmark provides skilled labor to the industry. Due to this Danish presence supporting the shipping industry’s businesses and institutions, they view the industry as becoming more concentrated in Denmark. For example, German fleet owners are joining with them to be part of the pool through which they control vessels. Clipper Group’s focus is on control of assets, with an entrepreneurial approach indicative of this company’s private ownership. They feel that equity financing is a very expensive type of financing because of loss of control and do not plan to diffuse ownership of Clipper-Group.

#### *Danish Shipowners’ Association*

The Danish Shipowners’ Association is a trade organization representing Danish shipowners in dealing with governments and maritime authorities, both nationally and internationally. Additionally, it is an employer organization which negotiates with seaman’s unions and handles all other employment matter of safety and training (Danish Shipowners’ Association 2005). It is an important organization in global shipping because Danish-controlled vessels transport around 10 per cent of the world’s trade (Danish Shipowners’ Association 2005). We interviewed the Executive Director of trade and shipping policy for the Danish Shipowners’ Association, Mr. Jan Fritz Hansen and his staff member, Jacob K. Clasen. They confirmed much of what was said by the shipping executives.

They note that Danish shipowners generally take a pro-EU position. However, going forward, there will have to be clarification within the EU of the differences between inland waterway and international (global cross trader) shippers. For example, direct EU subsidy to inland waterway projects continues, and the Association feels this represents central economic planning, and is indicative of an inward focus by the EU regulators. The EU tends to be internally focused in general, and Denmark’s international shipping industry is global. As such, they believe that such harmonization can be dangerous for the Danish shipowners. The EU is

looking at the internal EU transportation problems of the region. This may result in interventionist policies which may hurt the international shippers.

Hansen and Clasen believe, however, that the EU commission is growing in competence and knowledge about the shipping industry. They note that the IMO, which has more impact on the industry than the current EU regulations, is driven by industrial states such as Denmark. As with the IMO, they see legal, safety and security concerns as the main focus of EU shipping regulations. In point of fact, a safety agency is the advisory and governing body for the proposed EU Coast Guard. More important to the industry than regulations on flagging or an EU Coast Guard, is the push for tax alleviation. But they do emphasize the need for independence from the EU due to the broader international agreements which affect the industry.

Hansen and Clasen agree that Denmark's special competencies have allowed for new ownership and operating structures such as the pools. They also note that pooling is a Northern European specialty, and the pooling strategy is a reaction to the growth and concentration of the oil industry to provide better access and efficiency. As such, they feel that the industry will continue to concentrate in Denmark. In fact, Denmark's governmental historical actions to make it a seafaring nation through education, training and recruitment programs have also encouraged concentration of the industry. Further, Denmark has complementary maritime businesses that encourage further investment in Danish shipping, such as marine insurance, brokerage, banking, technology, and research. However, they do comment that the benefits of globalization have also helped the complementary maritime business environment. Danish banks, which have traditionally financed most Danish shipping projects, are now in competition with globally based banks for shipping projects.

#### THEORY, EXPLANATION BUILDING AND LITERATURE

The purpose of case study analysis is to find common streams and behaviors. Generally, case studies are used to develop propositions which can be later tested empirically. In this paper the intention, as stated in the methodology and design section, is to develop new theory and propositions by analyzing the

common streams and behaviors. We have developed three propositions from the information gathered in the case studies which suggests an explanation of strategy adaptation of three theories. The first theory explanation is Axelrod's (1980) theory of cooperative behavior and conditions for that behavior. The second explanation for strategy adaptation comes from the originally cited theory of Porter's (1990) work. The third explanation for strategy adaptation is an application of Williamson's (1975, 1985) transaction cost economics theory.

Axelrod (1980) suggests that cooperative strategy is necessary when two groups/firms face ongoing interaction and each party receives mutual gains from cooperation. Further, he notes that the situation allows for the possibility that one party will exploit the other and that neither will cooperate. Obtaining collective stability for the two groups/firms motivates the adoption of the cooperative strategies.

Collective stability is threatened when the level of external stability of each group/firm decreases. The level of external stability of a firm is defined as the level of new activity in the environment of the organization. New activity can be defined as the amount of new competitors, new regulations, new changes, etc. The level of new activity an organization can absorb from the environment is determined by the amount of slack the organization has to absorb the insults (Mileski, Mehrt and Brittan 1994). Slack is created by the ability to manage interdependencies and to free up resources to protect against environmental activity (Pfeffer 1976). Thus, cooperation strategies free up resource and help obtain collective stability in environments where there is an increase in new activity.

EU harmonization is occurring at the same time there is an increase in competition in the European maritime industry from the Far East. As such, individually, the firms have less slack to absorb further environmental new activity such as new regulations. For European maritime firms, this increased Asian competition makes EU-EU firm competition more intense, particularly with regard to oil industry customers. Note the Clipper Group's comment that they are moving the business in the direction of their customers in the Arabian Gulf and China.

As the Far East's maritime influence increases, EU firms fear they may begin to trade market share rather than gain a portion of a growing pie. Therefore, firms take action to increase market share in the age of globalization. They also take action to drive EU regulation in their direction. Note Clipper Group's comment on the effects of globalization: We are responding to a market shift from the US to the Arabian Gulf and China. And, also their comment on EU harmonization: Clipper-Group participates in the Danish Shipowners' Association and defers to them in terms of driving shipping policy and regulation issues. Further, note Torm's comments on the effects of globalization: Economic integration will occur because it makes sense to do so in a world of globalization. Also, Maersk's comments with regard to the effects of harmonization on company strategy: Pooling strategy makes EU shipping more efficient and, therefore, more globally competitive. Pontoppidan feels that it is the job of the Danish Shipowners' Association, with Maersk's urging, to educate the EU administrators as to IMO requirements and how they impact EU shipping. Therefore, we can conclude that EU firms see cooperation in dealing with harmonization, and Far East competition, as mutually beneficial.

As described above, pooling strategy is where the available assets from various owners come under common management for optimal utilization by the designated manager. All assets in the pool are optimized regardless of ownership. Pooling combines the management of assets to increase efficiency, manage risk and enhance returns (Pension and Investment 2005). Virtual pooling combines the management of assets while retaining direct ownership across legal and geographic institutions (Slattery 2004). Pooling strategies are currently used in many industries including insurance, financial management (Pension and Investment 2005), agriculture (Fleming 1991), biopharmaceutical (Lim et al 2005) and merchant shipping (A/S Dampskilbsselskabet Torm 2005b; Clipper Group A/S 2006a). Asset pooling strategy is a form of cooperation strategy (Mileski et al. 2006).

Therefore, EU maritime firms, which are experiencing increased competition from outside the EU and the threat of increasing regulation on their industry within the EU, have engaged in cooperation which increases their interdependencies with each other and frees up resources. They cooperate by

participating in pools to handle competition and participate in the Danish Shipowners' Association efforts to drive EU regulation. From this analysis of the three cases, we see the common stated causes of cooperative strategic behavior and develop our first proposition:

**Proposition 1:** Cooperation strategies emerge with the threat of new regulations coupled with an increase in competition.

In Porter's 1990 book, *The Competitive Advantage of Nations*, he identifies national determinants that foster global competitive advantage for particular industries. Further, he identifies government regulation as one of the potential conditions which promote or impede global competitiveness. The determinants, either individually or as a system, create the context in a nation in which firms compete and which pressure firms to innovate.

The determinants include factor conditions which are the nation's position on factors of production (such as skilled labor or infrastructure); demand conditions (which are the nature of home demand for the industry's product or service); related supporting industries (which is the presence of supplier industries and related industries that are internationally competitive); and firm strategy, structure and rivalry (which are the conditions in the nation that govern how companies are created, organized and managed, and the nature of the domestic rivalry) (p. 71). Note the Clipper Group's comments on the effects of globalization: They believe being located in Denmark is a strength due to the country's history with shipping, the Danish financial institutions' knowledge of their business, and the willingness of Danish banks to finance projects. Torm notes that Denmark's maritime tradition is important in attracting personnel (A/S Dampskilbsselskabet Torm 2005c). Further, it still feels that Danish national advantage in other areas is important. Maersk's annual 2005 report mentions favorably the Danish government's initiative with the purpose of making Denmark Europe's leading seafaring nation.

EU harmonization of the maritime industry is being driven by Danish multinational firms. Further, we see that the Danish Shipowners' Association is highly involved in educating the regulators on the

industry and its needs. Further, Denmark's shipping industry is one of the country's largest industries (Danish Shipowners' Association 2005) and contributes about nine percent to Denmark's GDP (AP Moller-Maersk 2005). Training of the labor pool and the development of port infrastructure are positive factor conditions (AP Moller-Maersk 2005). Further, the demand conditions for shipping services are great. Trade in 2004 (the sum of imports and exports as a percentage of GDP) is approximately 81 percent of Denmark's gross national product (United Nations 2006). As noted by Torm, related industries, such as the banking industry, understand the financing of ship building better than other countries' banking industries. Additionally, the history of Denmark, as a cross trader, has brought the Danish shipping industry to its present position of global strength. Therefore, the Danish industrial environment is such that conditions foster global competitiveness.

The Danish shipping industry is globally competitive because Denmark's national determinants favor this industry. The EU regulation of shipping is being driven by Denmark's globally competitive industry. Further, despite internal competition within the Danish shipping industry, we see a cooperation strategy in the Danish shipping industry for influencing the direction of EU harmonization. This strategy is manifested through active support and membership in the Danish Shipowners' Association. Heaver et al (2000) note that cooperative strategies in the shipping industry have shown that shipping companies have acquired more negotiating power vis-à-vis port authorities which are typically local governmental bodies. Therefore, we expect cooperation among Danish firms in driving legislation in the EU due to their global competitiveness. We develop our second proposition from the common cooperative strategic behavior in dealing with EU regulations stated in the three cases.

**Proposition 2:** When threatened by regulation by an intergovernmental union of independent nation states (such as the EU), a globally competitive industry, located in one nation, shifts from intense internal national competition to national cooperation.

The transaction cost economics theory expounded by Williamson (1975, 1985) states that internal organizational structure will be

substituted for market structure for transactions where the conditions of uncertainty, bounded rationality, opportunism and complexity exist in the organization's environment. Bounded rationality refers to a manager's inability to absorb and process all information available. Opportunism means that, coupled with the uncertainty in the environment and the bounded rationality of the individual manager, one party to a transaction could take advantage of the other party in the transaction. Finally, if the assets used in the transaction are highly complex or highly specific, opportunism can also increase. Therefore, if these four conditions exist for a transaction, then it is anticipated that organizational structure will replace the open market. The term used for the presence of these four conditions is market failure.

Current shipping transactions are not highly regulated in the EU, except through the IMO conventions and, as such, there are no standard rates per se. All transactions are generally negotiated by the two parties to the transaction. The shipper is not fully aware of all the information on availability of assets, etc. that the shipowner has, and the shipowner is not fully aware of all of the shipper's options. Further, ships are operated by a variety of nationalities of owners, crew, etc. and service shippers in every country, many of which have a variety of infrastructure, regulations, etc. Also, certain assets are specific to the industries they serve, such as specialized tankers. Finally, in this post-September 11, 2001 world, port and ship security has become less certain. Under all of these conditions, we would expect to see transactions to move from the open market to organizational structures due to market failure.

One of these organizational structures is the operational pool of assets. Again, the pool is a quasi-joint venture among all shipowners who place assets in the pool for more efficient financial and operational management. Note Clipper Group's comments on their website (2006a) about the marketplace for the shipping industry: Their industry is subject to constant change (uncertainty) and their joint venture structure insures qualified and reliable service on a worldwide basis and access to specialized expertise and knowledge (asset specificity and bounded rationality).

Certain asset owners may have limited experience in and knowledge about certain markets (bounded rationality). These owners look for risk

reduction (risk being potential opportunism) (A/S Dampskibsselskabet Torm 2006b). Finally, customers have uncertainty and limited knowledge on the workings of shipping service. Note Clipper Group's comments: The uncertainty in the marketplace that globalization causes is the prime driver of company's pooling strategy. Shipping asset usage can be very volatile. The use of pools allows them to respond to their customers more effectively and reduces the volatility in their revenue streams. Therefore, based on the presence of the four conditions of transaction cost theory, market failure exists and we would anticipate transactions to migrate to organizational structures.

We see a further condition in the case of Danish shipping in that there is no current prohibition on cooperation regarding pooling structures. In fact, they are specifically exempt under EU regulation 4056-86. The three companies' executives highlight this point. Note Clipper Group's comment: The EU is a *laissez faire* toward shipping. Torm makes the comment that EU regulation (4056-86) codified Danish national practice and, as it currently stands, appears to recognize the fact of world competition. Pontoppidan, in Maersk's interview, noted that all EU regulation with regard to shipping is "moving the right way." He did not see any EU regulation, current or proposed, as interfering with the growth or present commercial (as opposed to safety or security) operation of the maritime industry. Their 2005 annual report states that Maersk is concerned about an EU proposal which would abolish the special rules with regard to pools.

Therefore, in addition to the four conditions set forth by Williamson (1975, 1985) that lead to market failure and, thus, transactions move from the market to within organizations, a fifth condition, of no regulatory prohibition on cooperative organizational structures, leads not only to removing the transaction from the market into an organizational form, but the transaction migrates into a specific type of organizational form, which is in this case is the cooperative strategy or pool. Therefore, the third proposition is developed from the common conditions, stated by the managers in each case study, which led to their cooperative strategic behavior.

**Proposition 3:** Cooperation strategies emerge under conditions of a failed market and no regulatory prohibition on cooperation.

Alternative theories for cooperative strategies include institutional theory, which addresses the reasons for similar strategies across competitors as mimetic behavior, and contingency theory, which addresses strategic behavior as a result of efficiency. We do not address these theories here because the mimetic reason did not surface during our interviews and efficiency was only mentioned with regard to customer efficiency. We did not, however, interview any customers. Furthermore, two other theories, strategic group theory or theory of foreign direct investment, did not seem appropriate based upon the comments received. However, the case study analysis best determines which theory applies rather than testing a given theory. We found that the results are best explained by the reasons noted above.

#### IMPACT OF THE STUDY AND FUTURE RESEARCH IMPLICATIONS

This study shows how one EU industry has adjusted to harmonization of EU regulations. Regulations continue to have a profound impact on the business strategy adopted by firms. In the case of the EU maritime industry, the firms have developed cooperative strategies for addressing the new EU regulations. Further, the cooperation is "by nation" in the sense that all firms in the nation become part of a united front through which they discuss and negotiate new regulations. Cooperation strategies of firms within a nation also emerge due to increased global competition under failed market conditions, provided that regulations permit cooperation.

As such, EU regulations can have a profound impact on how EU businesses conduct themselves on the world market. Changes in regulations that would deny or hinder cooperation may hurt an EU industry's world competitiveness. Regulation of global industries which focuses on the inward market of Europe does not address the impact of globalization. The best strategy for continued world dominance of the EU maritime industry appears to be cooperation among EU firms and cooperation between the firms and regulators.

We note that case study analysis, in general, has been criticized for its inability to provide the basis of generalization. However, it better explains the reasons for behavior including the “how” and the “why,” and here it provides an understanding of the reasons for adopting cooperative strategies leading to integrating theories not before integrated. In future research, propositions developed here can now be tested empirically across the entire industry. In the case of the EU maritime industry, the concentration of firms and the governmental and private business infrastructure available to this industry provide an excellent venue to explore the propositions expounded. We find that the industry is becoming more concentrated with the adoption of a new strategy or organizational form, the pool. We anticipate that further research is needed to fully explore cooperative strategies that are emerging within industries in this age of globalization.

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#### NOTES

1. We met with Mr. Klaus Nyborg, chief financial officer of A/S Dampskibsselskabet Torm, Turborg Havnevej 18, DK-2900 Hellerup, Denmark, on May 3, 2006 at 10:00 am for approximately two hours. We met with Knud Pontoppidan, executive vice president of A.P. Moller-Maersk, 50 Esplanaden, DK-1098 Copenhagen, Denmark, on May 4, 2006 at 10:00 am for approximately one and one-half hours. We met with Per Gullestrup, managing director, and Jannie Hestehave, human resource director, of Clipper Group A/S Sundkrogsvej 21, DK 2100 Copenhagen, Denmark, on May 10, 2006 at 9:00 am for approximately two hours. We met with Jan Fritz Hansen, executive director, and his staff member, Jacob K. Clasen of the Danish Ship-owners Association at Amaliegade 33, DK-1256 Copenhagen, Denmark, on May 9, 2006 at 10:00 am for approximately two hours.

We asked these maritime executives seven sets of open questions and asked them to put their answers in the context of their industry and specifically their company: (1) Will the trend in off-shore flagging be affected by attempts to harmonize shipping regulations? How? If not at the present time, is this an issue in the wings, so to speak?; (2) What does the failure of the EU constitution mean in terms of harmonization? Does it represent a boundary between economic decisions and the willingness of different nations to surrender elements of national identity, given that many nations of the EU have a long seafaring history?; (3) We have read of a proposal to establish an EU Coast Guard. Does the success or failure of that proposal over time say anything about the ability of national maritime entities to come together on other issues?; (4) Does establishment of harmonized rules and regulations relate at all to the strengthening of NAFTA, ASEAN, CAFTA, MERCOSUR, China, etc? In other words, is harmonization an issue that is internal to the EU or is it more in response to external economic circumstances? Is it related to both and if that is the case, which is expected to dominate the future?; (5) Considering competitive/strategic groups within the maritime industry, what role are they playing in issues of European shipping? Are they reforming? Are the interests of the Nordic countries different from the interests of those in the Mediterranean for example? Is the Nordic countries' dominance diffusing? Is the investment in the industry "relocating" and if that is the case, "where

and why?"; (6) Is globalization hurting or helping EU shipping? Is the creation of off-shore registries diluting EU shipping "presence?"; (7) What is the influence of the present and proposed EU harmonization/regulation changes on individual company's strategic plans? (Consider in the sense of strong/weak, long/short-term, permanent/transient, etc.).

2. We met with faculty of the World Maritime University (WMU), on May 8, 2006 at 1:00 pm for four hours. The WMU was established by the United Nations' International Maritime Organization in 1983 as the global center for advanced education, training and research for specialist personnel from the international maritime community (World Maritime University 2006). It is located in Malmo, Sweden 20 miles north of Copenhagen. As such, the faculty is in close proximity to the very largest maritime companies and is very familiar with the specific companies studied. We presented the initial findings from the companies. We asked the faculty to confirm that the findings were consistent with their understanding and research of the industry. In general, the faculty concurred with the findings.
3. Four tests are relevant to judge the quality of the research design in a case study analysis: construct validity, internal validity, external validity, and reliability (Yin 1989). To satisfy construct validity we use multiple sources of evidence to verify the data collected such as interviews, company documents, external sources as the documents of the Danish Shipowners' Association, and the World Maritime University faculty. Internal validity is satisfied in pattern matching and explanation-building analysis. Using multiple cases helps external validity, and reliability is addressed by the data collection methods and protocols.

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