

**THE SHIPPING CRISIS OF THE 1970s:  
CAUSES, EFFECTS AND IMPLICATIONS FOR NORWEGIAN SHIPPING**

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## PREFACE

This thesis is dedicated to the memory of my mentor and former supervisor, Professor Helge W. Nordvik. An eminent maritime historian, Helge was the one who ignited my interest in maritime history, suggesting recent shipping history as the theme for a thesis. I valued Helge's advice, admired his vast knowledge and impressive enthusiasm and – most of all – really enjoyed working with him. I would like to think that he would appreciate this thesis the way it has turned out, and I hope it lives up to his slogan *"If it's worth doing, it's worth doing right."*

After Helge's death, the remaining members of my supervisory committee were presented with the task of guiding me. I am grateful that Victor Norman found the time to take over as supervisor – his excellent comments and suggestions, based on admirable knowledge of the shipping industry in general and Norwegian shipowners in particular, have been a great help. Moreover, Lewis Fischer and Tore Jørgen Hanisch have contributed to a larger extent than what can usually be expected from dissertation committee members. Their encouragement, helpfulness and scholarly comments have been valuable.

Several other people have contributed by reading and commenting upon some of the chapters, or simply by being available whenever I had questions. Anders Martin Fon, Morten Hammerborg, Edgar Hovland, Jan Tore Klovland, Hans Mjelva, Tore Nilsen, Anne Liv Scrase, Siri Pettersen Strandenes, Arnljot Strømme Svendsen, Atle Thowsen, Tor Wergeland, Søren Wiig and Gudbrand Øilo have all contributed in this respect. My colleagues at the Economic History Section of the Department of Economics, Ola H. Grytten, Agnethe Harbitz, Fritz Hodne, Harm Schröter and Espen Søylen, have also been a valuable source of encouragement and help, and I am grateful for fruitful discussions and comments.

I have also had the pleasure to discuss the topic with several persons – too numerous to mention – at the Second and Third International Congress of Maritime History. Moreover, several of my friends, including Heine Didriksen, Erik Frønsdal, Sverre Lehland, Bjørn Liabø, Eli Sørensen, Henrik Thune, Anders Unneland and Kjetil Visnes, have provided me with both a forum for frustrations and an emergency reserve of encouragement.

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Moreover, I would like to thank the library staff at the Norwegian School of Economics and Business Administration for their relentless search for material in Norwegian and foreign

libraries, the staff at the Bergen Maritime Museum for letting me use their database on the Norwegian fleet and the library staff at the National University of Singapore. I would also like to thank the staff at the Norwegian Shipowners' Association and the Ministry of Foreign Affairs for granting me access to their archives.

Finally, I am indebted to my parents and my brother, who from an early stage taught me the value of learning and have always supported me, and my wife Marit, who has encouraged my work and read and commented upon most of the chapters. She has involuntarily gathered a lot of knowledge about the Norwegian shipping sector.

In "The Science of Discworld", Terry Pratchett explains the accumulation of knowledge in universities by the fact that "*students arrive from school, confident that they know very nearly everything, and they leave years later certain that they know practically nothing. Where did the knowledge go in the meantime? Into the university, of course, where it is carefully dried and stored.*" With regard to this thesis, my feelings are much the same. When I started to work on the project, I had the impression that I had garnered a lot of knowledge on the shipping crisis of the 1970s and the plight of Norwegian shipowners. Today, I am left with more questions – or what academics prefer to refer to as "topics for further research" – than I had five years ago. Some of my knowledge has hopefully disappeared into this thesis...

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## CHAPTER ONE

# INTRODUCTION AND BIBLIOGRAPHY

This thesis offers an analysis of an extremely turbulent period in the international shipping sector, a sector with great importance for the Norwegian economy. In the 1970s and 1980s the international market for shipping services went through great changes, even for an industry usually characterised by large fluctuations. The shipping market had reached an all time high in the autumn of 1973, when some shipowners were earning spectacular amounts of money. This boom was replaced by gloom, as freight rates plunged, lay up-rates increased, vessel values fell and newbuildings flooded an already saturated market.

### 1.1. The Theme

As the title of the thesis indicates, two main topics are analysed. The first aim of the thesis is to increase our understanding of the international shipping crisis of the 1970s. The second aim is to analyse the behaviour and fate of Norwegian shipowners during this turbulent period in the international market for shipping services. Accordingly, the dissertation sets out to answer the following questions:

1. *What were the causes and effects of the crisis in the shipping sector in the 1970s?*
2. *How did the crisis affect the Norwegian shipping industry?*

The term “the international shipping crisis of the 1970s” is largely used to denote the period from the strong fall in tanker freight rates in late 1973 until the temporary freight rate increase in 1979. However, the development in the period prior to the freight market breakdown is analysed in detail, as the strategies followed and actions undertaken in this period had important ramifications for the subsequent development. Indeed, it is impossible to understand why the crisis evolved without taking the pre-crisis development of expectations, freight rates, demand growth and fleet expansion into account.

The boundary at the other side of the crisis will be treated flexibly. A lot of people, particularly shipping industry insiders, would claim that the international shipping market has been in a state of crisis ever since 1973. In the latter part of the 1970s, however, there was a short period of recovering freight rate levels. In the analysis of the crisis and its short-term effects, this rate increase denotes the end of the crisis. The development in the shipping market in the period after this rate increase proved to be as serious as, or in some cases even more severe than, the situation in the 1970s. However, the causes for this *second shipping crisis* partly differed from those of the first. Whereas the first crisis came about as a result of increases in supply and reduced demand growth, the second crisis was largely the result of falling absolute demand.

The shipping crisis was accompanied by fundamental shifts in the shipping market, both with regard to freight rates, lay up-figures and the international distribution of tonnage.

To fully be able to comprehend the relationship between the crisis and these shifts, the development in the 1980s must be taken into account as well. Accordingly, whereas the analysis of the causes and effects of the shipping crisis in Chapter Three and Chapter Four terminates with the freight rate increase in 1979, the development in the 1980s is included in the analysis of the structural transformation of the shipping industry and the Norwegian economy in Chapters Nine and Ten.

## **1.2. The Structure of the Thesis**

The thesis is influenced by a distinct division, apparent in the choice of methodology as well as in the use of sources. The presentation is an analysis of progressively smaller units. The analysis starts at the international “macro-level”, and moves through an analysis of the Norwegian shipping sector in general to the company “micro-level”, where the actions of some Norwegian tanker-owning companies are analysed. The shipping crisis is thus examined through three different lenses, each displaying a different magnifying capacity. The first part is the “casual glance”, where the international shipping crisis as a whole is analysed. The causes and effects of the crisis are explained, but no particular weight is placed on the fate or nationality of the individual agents in the international shipping market.

In the next part, I take a closer look at one specific group of agents, viz the Norwegian shipowners. The aim of this part of the thesis is to investigate whether, as has often been claimed, Norwegian shipowners were harder hit by the shipping crisis than their international competitors. Subsequently, the factors which can explain the disparate Norwegian experience are analysed.

In the third part of the thesis, some of the Norwegian shipping companies are investigated more closely, and a “magnifying glass” is utilised to evaluate the influence of the international shipping crisis on some of the leading Norwegian tanker-owning companies. The focus is therefore being narrowed as we go along, leading to consistently smaller units of analysis.

The analysis of the three interrelated parts – the shipping crisis, the Norwegian shipping sector and the four Norwegian shipping companies – paves the way for a more general discussion of the transformations of the international shipping industry, the Norwegian economy and the Norwegian shipping sector.

### **Part One – Chapters Two, Three and Four**

In the first part of the thesis, the causes and effects of the international shipping crisis are examined. The analysis is based upon the assumption that the extent of the shipping crisis can be explained by certain features of the international market for shipping services. Some of the important aspects of the international shipping sector are presented in Chapter Two. This presentation provides a backdrop for the analysis of the crisis, where specific features and mechanisms of the international shipping market are given particular weight. In the analysis of the causes of the crisis, I point out several factors, both on the demand- and supply-sides,

which can explain the length, breadth and depth of the shipping crisis. The analysis focuses on the actions, strategies and expectations of three groups of agents – shipowners, shipyards and financial institutions.

Chapter Four traces the development of the crisis from a tanker crisis to a more general shipping crisis. The presentation of the contagion of the crisis is followed by an investigation of the short-term effects, where, among other things, the development of freight rates and lay up-rates are discussed.

## Part Two – Chapters Five, Six and Seven

The analysis in the second part of the thesis is conducted at a national level, but must be seen in close relation to the analysis of the causes and effects of the international crisis in the first part. The aim is to find out whether Norwegian shipowners were harder hit by the crisis than their competitors and, if this proves to be the case, to explain this feature of the shipping crisis. The disparate experience of Norwegian shipowners is analysed by means of a comparison of the strategies of Norwegian and international shipping companies. Due to the heterogeneity of both Norwegian and international shipping, this examination requires a lot of generalisation. However, the comparison of the Norwegian shipowners and their foreign competitors reveals certain distinct differences.

The comparison of the different countries' fleets and the development in the period surrounding the crisis will focus on three *policy instruments*. Strategic decisions regarding *fleet structure*, *chartering strategy* and *contracting* are used to highlight the differences between Norwegian and foreign shipowners and explain the variations in the economic performance between Norwegian and international shipping companies.

The second part of the thesis ends with an analysis of the Norwegian authorities' initial response to the shipping crisis. Due to the importance of shipping in the Norwegian economy, the authorities actively intervened as a response to the predicament of the industry. The establishment and effects of *Norsk Garantiinstitutt for skip og borefartøyer AS* [The Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd.], which was the main channel for government intervention, are examined

## Part Three – Chapter Eight

The fact that part two examines the Norwegian shipping sector at an aggregate level cloaks the large differences between the various companies in the Norwegian shipping sector. The analysis in Chapter Eight is conducted at the company level. Four Norwegian shipping companies are presented in detail and used as cases illustrating the diverse effects of the shipping crisis on Norwegian shipowners. The fate of the selected companies varied, and the cases give an indication of the different strategies chosen by Norwegian shipowning companies.

Again, the period leading up to the crisis is of great importance for our understanding of the later development. The four cases show that for some companies the actions prior to the

freight market breakdown had dramatic and irreversible consequences. Other companies, following different strategies, were able to consolidate their position and improve their financial basis.

## Part Four – Chapters Nine and Ten

The final part of the thesis examines the shipping crisis in a longer perspective. Chapter Nine is an analysis of the structural transformation of the Norwegian shipping sector in the period from the early 1970s to the mid/late 1980s. For this purpose, I have compiled a database containing information on every Norwegian-registered ship of more than 5.000 gross register tons (grt) in the period from 1970 to 1987, as well as all companies owning such tonnage.

The analysis of the structural transformation of the Norwegian shipping sector focuses on the concentration and localisation of the industry, with regard to ports and companies. The differences between large and small companies, both in the expansive period until 1977 and during the subsequent contraction of the Norwegian fleet, are analysed. Moreover, the changes in the organisation of Norwegian shipping companies are briefly commented upon. Almost 1800 vessels were sold in the Norwegian second-hand market in the period 1970-1986, and the fate of these vessels has been analysed. The final part of the chapter is an attempt to estimate the changes in the composition and sophistication of the Norwegian fleet.

Chapter Ten deals with three long-term developing trends. First, the changes in the international maritime hegemony are presented. The shipping crisis coincided with a massive transformation of the international shipping industry, and some of the factors behind this development are discussed. Second, the transformation of the Norwegian economy, with emphasis on the influence of the offshore oil industry, is examined. The expansion of the offshore oil industry represented an attractive investment alternative for Norwegian shipowners. The analysis shows that the disinvestment in Norwegian shipping was the result of two trends – the reduced viability of the shipping sector and the opportunities presented by the offshore industry. Third, the changes in the Norwegian shipping sector are analysed. The shift from Norwegian-owned to Norwegian-managed tonnage is detailed, and the basis for this development is explained in terms of the changes in Norwegian shipping policy.

Although the thesis is a monograph, the structure implies that the various chapters to some extent may be read independently. Accordingly, someone interested in specific subjects such as eg the causes of the crisis or the establishment and effects of *Norsk Garantiinstitutt for skip og borefartøyer AS*, may proceed directly to the relevant chapters. It has been my intention to structure the thesis in a manner which clearly illustrates the various aspects of the crisis and its implications for Norwegian shipping. The overview of the shipping sector in Chapter Two is intended as an introduction to the mechanisms and economics of this sector, and may be skipped by those familiar with the industry.

### **1.2.1 Methodological aspects**

In many respects, this thesis can be regarded as a combination of maritime economic history

and shipping economics. A thesis on the shipping crisis of the 1970s could be approached from a variety of angles. The high number of issues worthy of investigation is partly a testament to the importance and linkages of the shipping sector. Indeed, this thesis could have been written eg from a juridical, political, development or social perspective. I have chosen an economic approach. Accordingly, the thesis focuses on the economic aspects of the crisis, including its impact on the shipping market *per se*, its impact on the Norwegian economy and its impact on the economic performance of individual shipowning companies. However, it has sometimes been necessary to relate the economic development to adjacent themes, such as eg economic policies in general and shipping policies in particular.

The thesis utilises a combination of deductive and inductive approaches, with emphasis on the former methodology. This is partly a result of differences in the topics analysed and partly a reflection of differences in the source material utilised. A deductive approach implies that the researcher clearly defines a question or a series of questions, which he then sets out to answer. An important feature of the deductive approach is the specific formulation of the premises and assumptions on which the analysis is based. The deductive approach is particularly protuberant in Chapters Three and Six.

An inductive approach implies that the analysis is of a more exploratory nature. This is reflected both in the presentation of the subject matter and in the use of and weight given to source material. Rather than seeking to answer an explicitly formulated question, a researcher utilising an inductive approach tries to gather knowledge based on the available sources. In this thesis, Chapters Seven and Nine have to a larger extent than the rest been influenced by an inductive methodology.

The barriers between deductive and inductive approaches to economic history have sometimes appeared insurmountable. This was particularly the case in connection with the development of the “new economic history” or “cliometric history” in the 1960s.<sup>1</sup> Whereas the “classical economic history” was based on a traditional approach to history, with an emphasis on qualitative evidence, the “new economic history” emphasised quantitative factors and the application of methods from “the dismal science”.

The separation between new and traditional economic history and between deductive and inductive approaches may be exaggerated. Historical research is generally founded upon a combination of the two approaches. An inductive approach is usually based upon certain assumptions, even when these are not explicitly formulated. Hence, although the inductive approach emphasises the knowledge garnered from the sources, the researcher must already have some idea about what he wants to find, which has led him to these sources in the first place.

The gaps between the approaches of new and traditional economic history can and

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<sup>1</sup> See Fogel, R. W. and Elton, G. R., *Which Road to the Past? Two Views of History*, Yale University Press, London, 1983. For an introduction to the development of the subject and its significance in Norway, see Basberg, Bjørn L. and Grytten, Ola H., “Økonometrisk historie – iakttagelser om fagfeltets utvikling i Norge” [Econometric history: Observations on the development of the discipline in Norway], *Historisk Tidsskrift* 4/1994, pp. 430-449.



should be bridged. This may be accomplished by the combination of the explicit formulation of problems from the former approach with the critical evaluation of sources which is characteristic of the latter approach. Specific formulation of the assumptions underlying the analysis makes it easier for the reader to assess the results presented. Moreover, by evaluating the reliability and the validity of the sources, the basis for the analysis – and consequently its quality – is improved.

The analysis of the causes and effects of the shipping crisis is based upon a deductive approach. The initial assumption is that specific historical events and certain aspects of the shipping market can explain the length, breadth and depth of the crisis. The crisis is explained by means of separate investigations of the demand and supply sides in the shipping market, and the analysis draws heavily upon the theories about the functioning and mechanisms of this market. As such, the explanation of the shipping crisis can be viewed as an explanation of a nomological form. It shows that the phenomenon – the shipping crisis – occurred as a result of certain antecedent and concurrent conditions. According to Hempel, “*any explanation that accounts for a historical phenomenon by reference to economic factors [...] are nomological in import, if not in explicit formulation.*”<sup>2</sup>

The analysis of the predicament of Norwegian shipowners is based upon the hypothesis that certain aspects of the business strategy – fleet structure, chartering policy and contracting – can explain the disparate Norwegian development. Again, the deductive approach is clear. The study shows that all three factors can contribute to an explanation, but that the relevance of the various strategic elements may be different from what is commonly claimed.

The strategic elements mentioned above are also utilised in connection with the exploration of the fate of the four Norwegian tanker owning companies. However, this chapter could to some extent be labelled “business history”, as it focuses on economic agents, rather than on aggregate variables. The aim of the chapter has been to analyse the strategic behaviour of the individual agents and the effects of this behaviour.

The last part of the thesis analyses the long-term transformation at the Norwegian and international level. In Chapter Nine, the development of the Norwegian fleet and Norwegian shipowning companies is analysed in a long-term perspective. The aim of the analysis is to find out in which manner the Norwegian shipping community changed following the crisis. A similar examination, focussing on the development of national fleets, is undertaken in Chapter Ten. Some of the reasons for the changes in the international maritime hegemony are investigated, and the basis for the Norwegian changes are analysed in more detail.

The thesis combines two distinct heritages at *Norges Handelshøyskole* [The Norwegian School of Economics and Business Administration]. On the one hand, a lot of the knowledge about the mechanisms of the shipping market and the adaptation of shipowners originates with various research projects undertaken under the auspices of

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<sup>2</sup> See Hempel, Carl G., “Explanations in Science and History”, in Dray, William H. (ed.), *Philosophical Analysis and History*, Harper & Row, New York, 1966, p. 110.

*Skipsfartsøkonomisk Institutt* [The Institute for Shipping Research], now a part of *Senter for Internasjonal Økonomi og Skipsfart* [The Centre for International Economics and Shipping]. On the other hand, the utilisation of economic theory on historical subject matters has a considerable tradition at the previous *Institutt for Økonomisk Historie* [The Department of Economic History], now a section of *Institutt for Samfunnsøkonomi* [The Department of Economics].

### 1.2.2. Sources

The different approaches utilised in the thesis are to some extent reflected in the use of sources. The presentation of sources is divided into two. First, an introduction to the main sources – with emphasis on statistical sources, contemporary sources and archival sources – is given. Then, Chapter 1.3. provides an introduction to the relevant secondary literature. Parts of this secondary literature – concerning the published histories of Norwegian shipowning companies – have been left out of the general bibliography. In order to avoid repetition, these contributions are included in connection with the presentation of Norwegian shipowning companies in Chapter Nine.

#### Statistical sources

One of the main sources, which is utilised throughout the thesis, is a large body of data showing important development traits in the shipping market, including fleet size, contracting, shipping demand and freight rate level. This information has largely been gathered from two references. One is the annual publications from Fearnley & Egers Chartering Co. Ltd., a Norwegian shipbroking company. Their *Review* contains a plethora of information on the Norwegian and international fleet, as well as the demand side in the various segments of the shipping market. *Review* gives a relatively short account of the current state of the shipping market, but I have mainly used the accompanying statistics.

The other main source of general information is the annual *Maritime Transport*-publications from the Organisation for Economic Cooperation and Development (OECD). These publications give a relatively thorough presentation of the state of the shipping market, but also contain a detailed statistical appendix. Whereas the information in *Review* is divided into a “Norwegian” and an “international” category, *Maritime Transport* details the development of all important national fleets.

The statistics from *Review* and *Maritime Transport* more or less permeate the thesis. Two other statistical sources have to a larger extent been utilised in specific chapters. One is a set of historical statistics originating with the British shipping analyst Clarkson Research Studies. Their data on the chartering behaviour of shipowners of various nations – which to my knowledge have never been published in an analytical setting – have been vital to the analysis of the chartering strategy of Norwegian and international shipowners.

The second statistical source is the registries of the Scandinavian fleets published by Det Norske Veritas. These have been used to compile a database comprising all Norwegian

vessels above 5.000 grt. The database details the development of the fleets of individual shipping companies and ports, as well as the structure of the Norwegian fleet, in the period 1970-1987. The Veritas-database is more closely introduced at the beginning of Chapter Nine.

### Contemporary sources

Certain elements of the analysis have been highlighted by means of contemporary sources. One reason for this is the focus on the actions of the agents in the shipping market. By means of contemporary sources it is to some extent possible to gain an understanding of the environment in which these agents operated and the basis upon which they made their decisions.

The most important contemporary sources can be divided into two groups. The first is interviews with and lectures by leading agents. Several shipowners publicly explained their policies and their views on the state of the shipping sector. The second group consists of contemporary analyses of the situation – both before and after the freight market breakdown. The analyses are a combination of industry analyses, eg undertaken by shipping analysts and shipbrokers, and more general analyses, published in newspapers and industry journals.

As a large part of the thesis focuses on the actions of the agents in the Norwegian sector, I have concentrated on Norwegian sources. The most important industry analyses utilised originate with the Norwegian shipbroking firms R.S. Platou, Joachim Grieg and Johan G. Olsen, in addition to the previously mentioned publications from Fearnley & Eger. The most important published source has been the shipping journal *Norwegian Shipping News*, which contains information on both the Norwegian and the international shipping environment. Moreover, I have surveyed all articles in the three leading Norwegian business periodicals, *Farmand*, *Kapital* and *Økonomisk Rapport*. Contemporary Norwegian newspapers, and the British publications *The Financial Times* and *The Economist* have also been used, the latter two in connection with international development traits.

### Archival sources

One of the problems in connection with research on relatively recent topics is the limited access to archival sources. Most Norwegian archives in the hands of the authorities are made public after a period of 60 years, and this severely limits the access to information on more recent topics. Moreover, it has not been customary for Norwegian businesses, including shipowning companies, to organise their archives and make them accessible for researchers.

In *Riksarkivet* [The Norwegian National Archives – the Norwegian version of the Public Record Office] there is little information of interest in connection with the period analysed here. The archives contain material from the shipping department of the Ministry of Trade and Shipping until 1965. However, the only available material of some relevance concerns the Norwegian flag policy in the period up to 1960. There are no relevant archives available for the period after 1965 in the Norwegian National Archives. I have therefore concentrated on two other archival sources.

The parts of the archives of the Norwegian Ministry of Trade and Shipping relating to the Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd. have been investigated. These have not been handed over to the Norwegian National Archives, and are still located at the Ministry of Foreign Affairs. The material consists of six boxes, containing 16 chronologically filed folders from May 1975 until the end of 1980. The archive contains correspondence, internal memorandums and the quarterly reports from the auditors of the Guarantee Institute. As the Ministry of Trade and Shipping were important in the establishment and operation of the Guarantee Institute, the material reflects the development both on the strategic level and in connection with specific engagements. This documentation has been particularly important for the analysis in Chapter Seven.

I have also had access to parts of the archives of *Norges Rederforbund* [The Norwegian Shipowners' Association], where two subjects have been investigated. The first is 14 folders about the shipping crisis, chronologically filed from January 1975 until February 1980. The material consists of correspondence, internal memorandums and analyses of the state of the shipping market and the problems of Norwegian shipping. The second part of the archive which I have used relates to the Norwegian shipping policy, but this material is limited. The material from the Norwegian Shipowners' Association has been important for the analysis in Chapters Six and Nine.

### **1.3. Bibliography**

In a 1991 evaluation of Norwegian historical research on postwar shipping, the maritime historians Arild Marøy Hansen and Atle Thowsen pointed out that “[t]he shipping crisis of the 1970s and 1980s has been paid little or no attention by historians.”<sup>3</sup> Neither on the international arena have the causes and effects of the depression of the 1970s been a major topic for maritime historians.

This lack of a historical interest does not imply that the problems of the shipping sector in the 1970s and 1980s have been victim of analytical neglect. A large body of literature was written about the difficulties at the time. Moreover, figures and statistics from the period have frequently been used as the basis for models analysing the structure and development of the shipping market. Additionally, books written about individual shipowning companies from a business history perspective have dealt with the manner in which various companies coped with the changed conditions. Thus, the problems of the shipping market have been treated in a variety of settings, though not with an analysis of the causes of the crisis and its effects on national shipowners as the main focus.

#### **1.3.1. The shipping crisis in economic models**

The market for shipping services has been a popular research arena for economists,

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<sup>3</sup> Hansen, Arild Marøy and Thowsen, Atle, “Sjøfartshistorie som etterkrigshistorisk forskningsfelt” [Postwar maritime history as topic for research], LOS-senter Working paper 91/6, Norwegian Research Center in Organization and Management, Bergen, 1991, p. 20.

particularly due to the idea of proximity between the bulk market and the theoretical model of perfect competition. As empirical models seeking to explain the mechanisms of the shipping market have to rely on historical data, the development of important indicators such as contracting and freight rate levels has been treated in an analytical setting. The drastically changed market conditions from 1973 onwards represented a watershed in the development of the shipping industry. The *post-OPEC era* is of particular interest as it represents the lapse of a century-long, generally uninterrupted period of tanker transport demand growth. Moreover, some of the fundamentals of the market, eg the distribution of vessels between the spot and the charter markets and the composition of the world fleet, shifted following the freight market breakdown. Shifts of this kind are important to those attempting to get an understanding of the underlying mechanisms of the market.

Economic and econometric models depicting the development and features of the shipping market have, in passing, tended to give relatively brief presentations of the causes and effects of the shipping crisis. The object of the historical presentation in the econometric models is generally to give a foundation upon which the analysis can be based. An example of a more detailed analysis can be found in Beenstock and Vergottis' "*Econometric Modelling of World Shipping*", where the long cycles in the shipping market from 1870 onwards are presented.<sup>4</sup> The analysis of the shipping crisis in such presentations tends to be relatively shallow, stating the obvious influences – oversupply and demand growth reduction – but not elaborating causes and consequences.

A large body of research on the shipping sector, with emphasis on Norwegian agents, has been conducted at The Institute for Shipping Research at the Norwegian School of Economics and Business Administration. Several of the publications have used data from the turbulent period in the mid 1970s as the basis for analysis, and the contributions by Petter Dragesund and Siri Pettersen Strandenes have increased the insight into the decision-making of shipowners on an aggregated level.<sup>5</sup> In addition to the literature which deals specifically with the crisis years, several articles written before the crisis erupted may increase our understanding of the subsequent experience of the shipping sector in general, and Norwegian shipowners in particular.

Some of these contributions have dealt directly with individual shipowners, including the studies of the shipowners' attitude towards risk by Peter Lorange and Victor Norman, undertaken before the crisis. Lorange and Norman found that the risk shipowners were willing to take depended upon their liquidity. Consequently, this may explain the relatively large risk

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<sup>4</sup> Beenstock, Michael and Vergottis, Andreas, *Econometric Modelling of World Shipping*, Chapman & Hall, London, 1993, pp. 1-69.

<sup>5</sup> Dragesund, Petter, *Kontraheringsatferd i tankmarkedet* [Contracting behaviour in the tanker market], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1990, Strandenes, Siri Pettersen, *Kontrahering og salg av norske tankskip 1963-76* [Contracting and sales of Norwegian tankers, 1963-76], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1979 and Strandenes, Siri Pettersen, *Trekk ved konjunkturutviklingen i tankfarten* [Aspects of the business cycle development in tanker shipping], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1977.

proneness among Norwegian shipowners during the freight market boom in 1973. The conclusion supports the idea that “*Norwegian owners in particular, and Scandinavian owners in general, are more risk prone both than other shipowners in the world and the oil companies themselves.*”<sup>6</sup>

An interesting follow-up study by Eckbo extends the analysis to include the period after the shipping crisis.<sup>7</sup> Eckbo concludes that the preferences had changed in the seven-year-period after Lorange and Norman conducted their study. He does not try to explain this transformation, but the shipowners participating in the study offered the opinion that age and the unfavourable economic environment may have affected their judgements.

In late August 1972, The Institute for Shipping Research organised a conference in Bergen. Several of the articles presented at the conference, though obviously not dealing with the shipping crisis as such, provide valuable insight into the mechanisms and structure of the shipping market.<sup>8</sup> Among the topics discussed were forecasting, the structure of the shipping market, uncertainty, risk and planning. The contributions highlight the challenges facing shipowners, particularly “*the decision-making problems within the bulk-shipping management area.*”<sup>9</sup> The experiences of the remaining part of the decade proved the effects of these problems in full.

An analysis published by The Institute for Shipping Research in the early 1980s, commissioned by the Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd., states that there are two crises in tanker shipping.<sup>10</sup> The first was caused by insufficient demand and a dramatic increase of tonnage. The second appeared as a result of the absolute decline of oil consumption and transport following the strong increase in the oil price in 1979/80. However, the aim of the report is to analyse the future market for large tankers, and the explanations of the two crises are not presented in detail.

Bennet, Huxham and Dando use a “hypergame-approach” to study the interaction between various *players*.<sup>11</sup> Their aim is to explain the crisis in the shipping sector, where “[t]he October 1973 oil crisis turned what might have been a conventional trough in the shipping cycle (though this is debatable) into a depression of much more serious

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<sup>6</sup> Lorange, Peter and Norman, Victor D., “Risk preference in Scandinavian Shipping”, *Applied Economics*, 1973, Volume 5, pp. 49-59 and Lorange, Peter and Norman, Victor D., “How attitudes towards risk influence investment decisions”, *European Business*, No. 33, 1972, pp. 71-84.

<sup>7</sup> Eckbo, Bjørn Espen, *Risikopreferansen blant noen skandinaviske tankredere før og etter krisen i tankmarkedet* [Risk preference among some Scandinavian tanker owners before and after the tanker market crisis], Institute for Shipping Research, Norwegian School of Economics and Business Administration, 1977.

<sup>8</sup> Lorange, Peter, and Norman, Victor (eds.), *Shipping Management*, Institute for Shipping Research, AS John Grieg, Bergen, 1973. Several of the contributions have been referred to where it is appropriate in the main part of the thesis.

<sup>9</sup> *Ibid.*, p. 15.

<sup>10</sup> Norman, Victor D. and Wergeland, Tor, *Stortankmarkedet frem til 1985 – En analyse av markedet for tankskip over 200.000 dwt* [The market for large tankers until 1985 – An analysis of the market for tankers larger than 200.000 dwt], Center for Applied Research Report 5/1981, Norwegian School of Economics and Business Administration, Bergen, 1981.

<sup>11</sup> Bennett, P. G., Huxham, C. S. and Dando, M. R., “Shipping in Crisis: a Trial Run for ‘Live’ Application of the Hypergame Approach”, *Omega*, No. 6, 1981, vol. 9, pp. 579-594.

*proportions.*"<sup>12</sup> They emphasise the importance of the overcapacity in the shipbuilding industry and the governments' reluctance to reduce subsidies as factors preventing a return to normal conditions.

The hypergame-approach illustrates one of the dilemmas facing shipowners, viz that it would be rational for individual shipowners to reduce the size of their fleet, provided other shipowners did the same. This implies that coordinated action would be necessary to reach a preferred outcome, but means that an owner reducing tonnage unilaterally may get the worst of both worlds. Despite some limitations, eg a relatively shallow understanding of some of the mechanisms of the shipping sector, the analysis provides valuable insight, particularly into the importance of the alliance between the shipbuilding industry and national governments for the continuing subsidisation of vessels entering a saturated market.<sup>13</sup>

The analysis of the turbulent period of the 1970s in economic and econometric models is helpful to gain an understanding of the underlying factors explaining the development. Moreover, these models indicate in which areas explanations of the crisis should be sought. By combining the insights from these models with the actual experiences from the period, our understanding of the causes and consequences of the shipping crisis may be enhanced.

### **1.3.2. The shipping crisis and company histories**

Several Norwegian shipowners and shipowning companies have had their histories written, and the more recent contributions have presented the shipowning companies' adaptation to the changed state of the shipping market from the early 1970s onwards. However, the quality of these accounts varies, and their formats range from the glossy, advertising-folder type, via the biographical or autobiographical account, to books written from a business history angle.<sup>14</sup> Despite the variable scientific quality of these contributions, they are useful tools to understanding the strategies, actions and ideas of individual shipowners, and most of them provide detailed information about the development of the fleets of the various Norwegian shipowning companies.

#### **Business history accounts**

Books written from a business history perspective are a valuable source of information about shipowners and the basis of their strategic decisions. The book by Hanisch and Ramskjær on Sigval Bergesen "*represents a breakthrough for the idea of writing the history of a Norwegian shipowning company in accordance with the scientific demands posed by a*

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<sup>12</sup> *Ibid.*, p. 580.

<sup>13</sup> When using the term "shallow understanding", I refer to the lack of distinction between competitive markets, eg the bulk market, and less competitive segments, such as the liner sector. The authors claim that "*shipowners have traditionally been able to help themselves by forming cartels*", but this is not correct for the bulk sector, on which most of the study is based.

<sup>14</sup> For examples of the various types, see Misje, Magne, *Solstads Rederi A/S 1964-1989*, Solstads Rederi, Skudeneshavn, 1989, Reksten, Hilmar, *Opplevelser* [Experiences], H. Aschehoug & Co., Oslo, 1979 and Hanisch, Tore Jørgen and Ramskjær, Liv Jorunn, *Firmaet Sigval Bergesen, Stavanger: under vekslende vilkår 1887-1987* [The company Sigval Bergesen, Stavanger, 1887-1987], Dreyer bok, Stavanger, 1987, respectively.

*serious business history.*"<sup>15</sup> Subsequent contributions in the same vein, for instance Gunnar Nerheim and Bjørn Utne's account of the Stavanger-based company Smedvig and Gunnar Nerheim and Kristin Øye Gjerde's book about the Uglan-panies, have followed this trend.<sup>16</sup>

The history of the Uglan-panies is of particular interest, as it analyses the company's foray into the offshore industry, a strategy followed by several Norwegian shipowning companies in the middle of the 1970s.<sup>17</sup> As the authors point out, "[the company] belonged to the relatively small group of shipowning companies which had managed a transformation in time, before the crisis was a fact."<sup>18</sup> However, judging from the evidence given in the book, this was as much a result of good luck, as of a conscious avoidance of the most severely hit market segments. The shipowner's sketch of a 1980-fleet including four large tankers and six tankers in the 100-130.000 dwt range was never effectuated due to the breakdown of the tanker market.<sup>19</sup> Uglands Rederi managed to cope with the operating losses from the bulk carriers and tankers due to profitable investments in other segments. In the period 1976-1979, profits from the car carrier fleet and the offshore investments secured a positive bottom-line.<sup>20</sup>

The business history of Norway's largest shipowning company in the 1970s, Sig. Bergesen d.y., remains unwritten. However, the company's roots can be traced to the Stavanger-based company Firmaet Sigval Bergesen, founded in the late 1880s and divided between the founder's two sons in the mid 1930s. The detailed history of Firmaet Sigval Bergesen illustrates the challenges facing shipowners in the turbulent period around the crisis. In the early 1970s, the company's three remaining motor tankers, all from the 1950s, were sold, and in 1974 the fleet consisted of two turbine tankers and four gas carriers. The company also held three newbuilding contracts. According to Hanisch and Ramskjær, the contracting was motivated by a perceived need for renewal of the fleet after a period of consolidation.<sup>21</sup> They argue, convincingly, that the current situation in the shipping sector should have led to more caution, but that the company, like so many other agents, perceived the crisis as temporary.

Interestingly, the authors pose the question why the company, unlike so many of its

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<sup>15</sup> Hansen & Thowsen, *op.cit.*, 1991, p. 13.

<sup>16</sup> Nerheim, Gunnar and Utne, Bjørn S., *Under samme stjerne – Rederiet Peder Smedvig 1915-1990* [Under the star – The shipowning company Peder Smedvig 1915-1990], Peder Smedvig A/S, Stavanger, 1990 and Nerheim, Gunnar and Øye, Kristin Gjerde, *Uglanrederiene – verdensvirksomhet med lokale røtter* [The Uglan shipowning companies – international business with local roots], Andreas K.L. Uglan & Johan Jørgen Uglan, Grimstad, 1996. The former book will not be discussed in the bibliography, but has been an important source for the analysis of Smedvig in Chapter Eight.

<sup>17</sup> Nerheim & Øye, *op.cit.*, 1996, pp. 191-227.

<sup>18</sup> *Ibid.*, p. 233.

<sup>19</sup> These thoughts on the future fleet were presented in an internal memorandum in early 1973. Luckily, all the large vessels had yet to be contracted by the time the tanker market broke down, facilitating a quick reversal of the strategy; see Nerheim & Øye, *op.cit.*, 1996, p. 217.

<sup>20</sup> For an illustrative presentation of the operating profits in the period, see Nerheim, & Øye, *op.cit.*, 1996, p. 228.

<sup>21</sup> Hanisch & Ramskjær, *op.cit.*, 1987, p. 146.



competitors, did not leap into the offshore oil sector. Their answer is that Sigval Bergesen chose to focus on their existing competence, continue the cooperation with other gas carrier operators and at the same time perceived overcapacity to be as threatening in the offshore sector as in the shipping sector. The newbuilding contracts led to an escalation of the company's debts and increasing financial worries. In 1977 the company's directors realised that it was no longer possible to manage their obligations "*by means of accumulated reserves and increased borrowing.*"<sup>22</sup> Negotiations with the creditors in practice led to a controlled winding-up of the company. In the middle of the decade the company had owned two turbine tankers, four gas tankers and three newbuilding contracts. In 1979 the company's sole vessel was transferred to the Liberian flag.

### Biographical and autobiographical accounts

Despite their analytical and scientific limitations, eg their total neglect of the use of notes and the emphasis on anecdotal "evidence", biographical accounts may provide detailed information about the strategic decisions of Norwegian shipowners.<sup>23</sup> Notwithstanding the fact that "*the actual history*" may be obscured by the selective memories of the subjects or the advantage of seeing things with hindsight, biographies may still be an important source of information. They reveal relevant features of the environment in which their subjects worked and made their decisions, and the personality of the shipowner – and decision-maker – tends to shine through.

The autobiography of Hilmar Reksten is of great interest, particularly when it is viewed in contrast to other authors' accounts of several of the same events.<sup>24</sup> Hilmar Reksten's autobiography emerges as a rebuttal from a shipowner subject to massive criticism for alleged tax evasion, as well as for his business policy. The differences in recollection, presentation and apportioning of blame between this and other books dealing with the same topic illustrate the challenges present when dealing with subjective memoirs. Nevertheless, Reksten's autobiography is a valuable tool to understanding his strategies and judgements. The controversy continued even after Reksten's death, and Thune and Haaland present greatly contrasting views on the performance of the liquidators of Reksten's estate.<sup>25</sup> The topic will be dealt with in more detail in Chapter Eight.

In his autobiography, the shipowner Bendt Rasmussen, presents his initial reaction to

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<sup>22</sup> Annual report 1977, quoted in Hanisch & Ramskjær, *op.cit.*, 1987, p. 152.

<sup>23</sup> Mosvold, Torrey, *Mitt liv* [My life], published by the author, Kristiansand, 1982 is a very good example of the fact that this is not always the case – only a very small part of the book deals with shipping at all.

<sup>24</sup> Reksten, Hilmar, *op.cit.*, 1979. Several of the most controversial topics are also presented in Borgen, Erling, *Hilmar Rekstens eventyr* [The adventures of Hilmar Reksten], J.W. Cappelens Forlag AS, 1981, Reksten, Audun, *Slik var det* [The way it was], Gyldendal Norsk Forlag AS, Oslo, 1983 and Onarheim, Onar, *Min tørn* [My bout], Gyldendal Norsk Forlag, 1984.

<sup>25</sup> Haaland, Arild, *Reksten-eventyret – en økonomisk tragikomedie i syv akter og en epilog* [The Reksten Fairytale – an economic tragicomedy in seven acts and an epilogue], Vigmostad & Bjørke, Bergen, 1996 and Thune, Jens Kristian, *Jakten – på sporet av Hilmar Reksten* [The Hunt – in Hilmar Reksten's Trail], H. Aschehoug & Co., 1991.

the oil price increase; “*Out of the tanker sector.*”<sup>26</sup> The company’s three tankers had been disposed of by May 1975. As in many other Norwegian shipping companies, the offshore oil sector provided the new investment alternative, and the company concentrated on their engagements in the drilling vessel and supply ship markets. The most interesting part of the book, however, deals with the company’s development in the 1980s, and shows how the control of the company gradually came in the hands of outside investors. Bendt Rasmussen, who had been managing director and main shareholder in the middle of the 1980s, became working vice-chairman of the board, without a share portfolio. This transfer of power, from family ownership to institutional investors, characterised several Norwegian shipping companies in the wake of the shipping crisis.

The Norwegian-born, US citizen Erling Dekke Næss is often presented as one of the few shipowners who predicted the oncoming crisis and acted accordingly. In his autobiography, he describes how, based on the development of the cycles in the shipping market and uneasiness about the large amount of tonnage on order, “*I started negotiations to sell the fleet lock, stock and barrel.*”<sup>27</sup> In July 1973 the company Zapata Norne Inc. received more than \$200 million for its vessels; the buyers, who got the bad end of the bargain, were Hilmar Reksten and the British shipping company P&O.<sup>28</sup> However, Erling Dekke Næss’ position in the company Zapata Norne Inc. in 1973 was that of “honorary chairman of the board”. After selling most of his own fleet at a relatively low price in the late 1960s, he was no longer the major shareowner.

However, Dekke Næss continued to perpetuate the myth of his great sale, and in a presentation entitled “61 years in the shipping business”, he claims that “[w]hen in 1973 I decided to sell my fleet which had grown from one ship to around 50, I did so as an Economist and, particularly, as a keen student of business cycles. There had been a boom for a number of years, but my study of business cycles told me that it would not last.”<sup>29</sup> Although the details of the ownership are arguable, the sense of timing and the business cycle foundation for the decision are interesting. Another Norwegian shipowner, and keen student of business cycles, also predicted the changing conditions; “*there is probably no one but Fred. Olsen who can compliment himself on avoiding the shipping crisis of the century.*”<sup>30</sup>

Fred. Olsen sold his tanker fleet, most of which ran on long-term charters, to foreign

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<sup>26</sup> Rasmussen, Bendt, *Gjennom bølger på sjø og land* [Through waves at sea and on shore], Vigmostad & Bjørke, Bergen, 1996, p. 209.

<sup>27</sup> Næss, Erling Dekke, *Shipping - mitt liv*, Hjemmet/ Fagpresseforlaget, Oslo, 1981, p. 285.

<sup>28</sup> As is usual when dealing with Hilmar Reksten, the sale is cloaked in controversy. Reksten claims that he only acted as an agent for the buyers of the fleet, and did not invest personally. This is refuted by Erling Borgen in Borgen, *op.cit.*, 1981, pp. 63-76, who calls it “*The shipping deal of the century*” and in Reksten, *op.cit.*, 1983, pp. 119-125 where the transaction is labelled “*The shipping purchase of the century*”. Incidentally, the author of the former book was the “editor” of the second.

<sup>29</sup> Næss, Erling Dekke, “61 Years in the Shipping Business”, in Strandenes, Siri Pettersen, Svendsen, Arnljot Strømme and Wergeland, Tor (eds.), *Shipping Strategies and Bulk Shipping in the 1990s*, Center for International Business, Bergen, 1989, p. 1.

<sup>30</sup> Hauge, Odd Harald, *Fred. Olsen – uautorisert biografi* [Fred. Olsen – unauthorised biography], Gyldendal Norsk Forlag AS, Oslo, 1993, p. 108.

investors in 1972, but neither he did manage to dispose of the fleet when the market was at its peak. Nevertheless, he succeeded in selling his fleet of eight tankers before the market broke down. Despite his acknowledgement that “*the world has never seen over-contracting to such an extent*”, the sale was partly prompted by the unprofitable long-term charters on which his vessels were operating. Fred. Olsen admits that “*it was very much fortune.*”<sup>31</sup>

The complexity of this issue is evident when the question of shipbuilding is introduced. Being the majority owner of the Aker-group, Fred. Olsen authorised the building of large vessels on Reksten’s and other Norwegian shipowners’ account. After Fred. Olsen himself had decided to withdraw from the tanker sector due to the potential oversupply of tonnage, he continued to let other shipowners order large vessels. The question of Hilmar Reksten, Fred. Olsen and the contracts at the Aker-Stord yard will be presented in more detail in Chapters Seven and Eight.

Several of the biographies on Norwegian shipowners have a typically investigative approach, particularly those dealing with the question of foreign funds, representing an obvious contrast to the authorised biographies. Additionally, some give an impression of being legal pleas, where controversies are being contested in public.<sup>32</sup> Nevertheless, despite their subjective approach, these publications may contain useful information. For instance, though on no account a major theme in the book, the differing chartering strategies of Bergesen and Reksten are splendidly illustrated in Erling Borgen’s biography of Sigval Bergesen d.y.<sup>33</sup>

#### Other company-focussed presentations of the crisis

In addition to the publications focussing on the biographical history of shipowners, several books have dealt with the historical development of individual shipowning companies. A common feature is that these books tend to be commissioned and published by the company in question. This has two important implications. On the one hand, it implies that several of the most interesting objects of research, ie the major business failures, have not been in the position to “purchase” a historical account of their experience. This is a crude example of how, to use a cliché, history was written by the winners. On the other hand, it implies that the quality and focus of the work *may* have been coloured by the authors’ relationship and obligations to their paymasters. This may have led to the negligence of controversial topics and too much emphasis on the virtues of the companies, their owners and their personnel.<sup>34</sup>

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<sup>31</sup> *Ibid.*, p. 108

<sup>32</sup> See for instance the opposing views in Borgen, Erling, *Huset Bergesen* [The House of Bergesen], Cappelen, Oslo, 1984 and Jacobsen, Alf R., *Dynastiet Bergesen* [The Bergesen Dynasty], Atheneum Forlag, Oslo, 1984. In his introduction to the latter publication the author states that his aim was to present “*the heretical version of the history of the Bergesen dynasty*” as opposed to “*the official version*” represented by the former publication. See also Jacobsen, Alf R., *Eventyret Anders Jahre* [The Tale of Anders Jahre], Oktober, Oslo, 1982.

<sup>33</sup> See for instance the correspondence between Reksten and Bergesen in Borgen, *op.cit.*, 1984, pp. 141-142, more closely described in Chapter Eight.

<sup>34</sup> There are several recent examples of commissioned company histories which have remained unpublished due to the dissatisfaction of the company with either the contents or the quality of the material.

The majority of the shipowning company histories guide us through the crisis years with a narrow focus on the company in question. Despite the fact that this provides valuable information about the companies *per se*, the authors generally fail to put the companies in an analytical or comparative context which might have thrown light upon the alternatives available. Rather than giving an extended outline of these contributions here, I have chosen to present these publications in connection with the analysis of the effects of the crisis on Norwegian shipowning companies in Chapter Nine.

### Other companies in the maritime sector

The plethora of relatively small shipowners in the Norwegian maritime industry facilitated the existence of a series of companies, such as brokers, financial advisors and technical consultants, performing tasks which larger shipowning companies tended to internalise. Consequently, it is necessary to extend the focus from the shipowning companies when evaluating the effects of the shipping crisis for the Norwegian maritime industry. The books about companies involved in auxiliary activities such as shipbroking, classification and insurance generally have several of the same limitations as the bulk of the company histories. Their focus is narrow, the analytical framework is limited or totally absent, and facts and figures have had to give way to anecdotes.<sup>35</sup>

However, some contributions stand out, in particular the history of the classification society Det Norske Veritas. Håkon With Andersen and John Peter Collett have presented the company's fate in the 1970s in an impressive manner, demonstrating the close relationship between the economic performance of Norwegian shipping and the main Norwegian classification society.<sup>36</sup> The book also illustrates the transformation of the Norwegian maritime industry from shipping to shipping *and* offshore engagements. Det Norske Veritas played an important role in the development of the exploration facilities in the North Sea and, as Norwegian offshore interests expanded, in other locations as well. The history of Det Norske Veritas, a company originally based on the provision of services to the shipping industry, illustrates the shift of the Norwegian economy from high dependence on freight revenues to oil exports as the main earner, and the business opportunities presented by this transformation.

The history of the Norwegian shipbroking company R.S. Platou shows the various tasks undertaken by these companies and their importance in a maritime environment. R.S. Platou was engaged in the sale and purchase of newbuildings and second-hand vessels, chartering of tankers, car carriers and bulk carriers and also entered the offshore sector. Traditionally, little attention has been paid to the role played by brokers, but the history of

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<sup>35</sup> The most striking example of this kind of "business history" may be Pettersen, Lauritz, Engelsen, Rolf and Grieg, Per, *The sound of Grieg*, Joachim Grieg & Co., Bergen, 1984. This kind of publications serves a purpose, usually as a keepsake for employees and customers, but not with regard to increasing the understanding of the shipping crisis and the factors which shaped the shipping environment.

<sup>36</sup> Andersen, Håkon With and Collett, John Peter, *Anchor and Balance, Det norske Veritas 1864-1989*, J.W. Cappelens Forlag, Oslo, 1989.

R.S. Platou illustrates the important functions these companies undertake.<sup>37</sup>

In his account of the financing institution Redernes Skibskreditforening, Kaare Petersen gives a detailed account of the changes in international economic relations in the period around the oil price increase.<sup>38</sup> His comparatively short comments on the shipping crisis focus on the relationship between the oil price increase and the declining profitability of shipping. Unfortunately, his detailed analysis of the international business cycle development has left little room for an analysis of the effects of the crisis. Nevertheless, the relatively short chapters on “Shipping financing in Norway after 1975” and “The Guarantee Institute for Ships and Drilling Vessels Ltd.” provide a brief introduction to some of the important aspects, particularly the development of the Norwegian shipbuilding industry.<sup>39</sup>

### **1.3.3. The shipping crisis in public documents**

The negative effects of the shipping crisis on the Norwegian economy prompted public action. A popular strategy was to appoint a committee of inquiry, and a series of public committees have analysed the shipping and shipbuilding industries with a revision of public policies in mind. A common feature of these reports has been a short commentary on the causes and effects of the shipping crisis.<sup>40</sup>

Despite their thematic focus on the Norwegian shipping sector and its problems, the public reports tend to discuss policy challenges rather than analyse the situation creating the difficulties in the first place. Consequently, little attention is given to the causes of the crisis, but the effects, and possible remedies, are outlined.

Several public reports deal with the new situation for Norwegian shipping in the wake of the crisis, where suggestions are presented as to how Norwegian shipowners and authorities should respond to the transformed fundamentals in the international shipping sector. In particular, the question about the acceptance of registering Norwegian-owned vessels under Flags of Convenience gained importance following the reduction of Norwegian tonnage from 1978 onwards. The first public report to address this issue was Stortingsmelding nr. 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the situation of seamen and shipping’s position in the society], where it was rather categorically stated that Norwegian-owned vessels should fly the Norwegian flag.

Despite the outspoken political attitude towards the use of Flags of Convenience, the actual implementation of the policy was, at best, ambiguous. A former bureaucrat, Gisle Stray

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<sup>37</sup> Baalsrud, Terje and Gram, Hans Thomas, *R.S. Platou A.S. 1936-1986 – Fifty Years of Shipbroking*, published by the company, Høvik, 1995.

<sup>38</sup> Petersen, Kaare, *Skipsfinansiering i medgang og motgang – Redernes Skibskreditforening, 1929-1979* [Ship financing in good and bad times – Redernes Skibskreditforening, 1929-1979], Redernes Skibskreditforening, Kristiansand, 1979, pp. 173-202.

<sup>39</sup> *Ibid.*, pp. 203-223.

<sup>40</sup> See for instance Stortingsmelding nr. 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the situation of seamen and shipping’s position in the society], Norges Offentlige Utredninger (1978:13) *Skipsfartsnæringen* [The shipping sector], Stortingsmelding nr. 52 (1980-81), *Om skipsfartsnæringen* [On the shipping industry] and Stortingsmelding nr. 53 (1984-85), *Om skipsfartsnæringen* [On the shipping industry].

Breistein, with experience from the Ministry of Trade and Shipping, has dealt with the question of Norwegian shipping and exchange controls, and concludes that there were several instances where the authorities turned a blind eye to the foreign interests and investments of Norwegian shipowners.<sup>41</sup> This topic, and the relevant public documents, will be discussed in more detail in Chapters Nine and Ten.

Due to the importance of Norwegian shipowners for the order books of the domestic shipbuilding industry – their share of the total deliveries from Norwegian yards fluctuated between 65 and 80 per cent in the early 1970s – the difficulties of the shipping sector have received several comments in the public analyses of the predicament of the shipbuilding industry. However, these presentations tend to be relatively short, and other analyses of the shipbuilding industry have succeeded in integrating the significance of the shipping sector development in a more convincing manner.

In 1975, the OECD devoted a special 25 page chapter of their annual shipping publication, *Maritime Transport*, to the tanker crisis. The section, entitled “*Oil transportation by sea in a new context*” gives a relatively short assessment of the causes of the oversupply of tanker tonnage, and tries to analyse the prospective seaborne transport of oil in the period up until 1985. Some options available to shipowners and governments are sketched, and the situation in the shipping market is described as a “*catastrophe*”. The report emphasises the fact that both the oil companies and international organisations, including the OECD itself, had previously made forecasts which have been far off the mark. However, they claim that they do not go as far as “*certain commentators and shipowners in denigrating forecasts.*” Hilmar Reksten is used as an example of such an attitude.<sup>42</sup>

#### **1.3.4. The shipping crisis in other publications**

The causes and effects of the shipping crisis have been the main theme for a limited number of publications. This thesis is the continuation of the work I began in 1995, which resulted in a report published by *Stiftelsen for samfunns- og næringslivsforskning* [The Foundation for Research in Economics and Business Administration].<sup>43</sup> An article introducing some of the findings of this report was presented at The Fifth International Congress of Maritime History and later published in the *International Journal of Maritime History*.<sup>44</sup> Moreover, an article based upon Chapter Seven of this dissertation is forthcoming in the same publication.

The shipping crisis, and its relation to the shipbuilding industry, has also been the

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<sup>41</sup> Breistein, Gisle Stray, *Valutaregulering og skipsfart* [Currency control and shipping], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1984.

<sup>42</sup> OECD, *Maritime Transport 1975*, Organisation for Economic Co-Operation and Development, Paris, 1976, pp. 93-118, quotes from p. 117 and p. 111.

<sup>43</sup> Tenold, Stig, *Skipsfartskrisen og norske redere – en økonomisk-historisk studie 1973-1980* [The shipping crisis and Norwegian shipowners – an economic-historical study 1973-1980], SNF-Report No. 60/95, The Foundation for Research in Economics and Business Administration, Bergen, 1995.

<sup>44</sup> Tenold, Stig and Nordvik, Helge W, “Coping With the International Shipping Crisis of the 1970s: A Study of Management Responses in Norwegian Oil Tanker Companies”, *International Journal of Maritime History*, Volume 8, No. 2 (December 1996), pp. 33-69.

subject of another fairly extensive analysis. However, the author states in his introduction that “[t]he analysis has partly a political purpose and partly a theory-developing aspiration. [...] The diminishing importance [of the working classes caused by the shipping- and shipbuilding-crises] may lead to a setback for the establishment of conditions for a socialist development.”<sup>45</sup> Although steeped in sloganeering and policy recommendations of a revolutionary nature, the publication provides a fairly extensive, but disorganised, analysis of the relationship between the shipping crisis and the shipbuilding industry.

Another account of the shipping crisis – about “*the dream of the golden 1970s and why the dream was not fulfilled*” – was given by Professor Arnljot Strømme Svendsen in *The Norwegian Yearbook of Maritime History 1978*.<sup>46</sup> Through an introduction to the demand and supply conditions in shipping, as well as shipping market cycles and economic cycles in general, he presents the development of freight rates, tonnage prices, lay up-rates and demolition in the 1970s. Arnljot Strømme Svendsen also presented a lecture entitled “*The Shipping Crisis*” at a seminar in *Oslo Rederiforening* [Oslo Shipowners’ Association]. However, this manuscript deals with the image problems of Norwegian shipping in relation to the public opinion, so the title may seem somewhat misleading from our focus.<sup>47</sup>

Twenty years after the shipping crisis was presented in *The Norwegian Yearbook of Maritime History* for the first time, another article dealing with the topic was included in this publication.<sup>48</sup> The shipping economist Victor Norman gives a detailed account of the causes and course of “*the strongest and most long-lasting period of recession in international shipping in this century*.”<sup>49</sup> The article focuses on the structural causes of the crisis, including the oil price increase and the high level of contracting.

K. Dabrowski, of the United Nations Conference on Trade and Development (UNCTAD), published a short analysis of the shipping crisis in 1981.<sup>50</sup> He emphasises, like in this thesis, that “*the breakdown in the world shipping market is attributed to the factors both on the demand and supply side*.”<sup>51</sup> However, most of his explanation focuses on the supply side, where he stresses the importance of the capital market and the ties between Japanese shipbuilding and the Flag of Convenience fleets.

Publications from shipbrokers and shipping research companies are a valuable source

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<sup>45</sup> Røpke, Inge, *Den internationale krise i skibsfart og værftsindustri i 1970’erne* [The international crisis in shipping and the shipbuilding industry in the 1970s], unpublished thesis, University of Copenhagen, 1981, p. I.

<sup>46</sup> Svendsen, Arnljot Strømme, “Skipsfartskonjunktorene i 1970-årene” [Shipping cycles in the 1970s], *Sjøfartshistorisk Årbok 1978* [Norwegian Yearbook of Maritime History 1978], Bergen Maritime Museum, Bergen, 1979, pp. 205-242.

<sup>47</sup> Svendsen, Arnljot Strømme, “Skipsfartskrisen” [The Shipping Crisis], unpublished manuscript, Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1976.

<sup>48</sup> Norman, Victor D., “Skipsfartskrisen etter 1973 – forløp og årsaker” [The shipping crisis after 1973 – course and causes], *Sjøfartshistorisk Årbok 1998* [Norwegian Yearbook of Maritime History 1998], Bergen Maritime Museum, Bergen, 1999, pp. 161-184.

<sup>49</sup> *Ibid.*, p. 183.

<sup>50</sup> Dabrowski, K., “Comments on the mechanisms of the world shipping market”, *Maritime Policy and Management*, Volume 8, No. 2, 1981, pp. 85-98.

<sup>51</sup> *Ibid.*, p. 85.

of information, particularly with regard to the figures underlying the development of freight rates, transport demand and fleets. Some of these publications, for instance the monthly and annual reports from Platou, Fearnley & Eger, Grieg and Clarkson, emphasise statistics, thus providing a useful basis for analysis. Furthermore, the research division of the British shipping consultants H.P. Drewry have published a series of reports dealing with specific aspects of the shipping market. The themes of these publications range from “*World shipping under flags of convenience*” to “*The role of independent tanker owners*”, and the reports give a thorough introduction to several aspects of the shipping market, substantiated by relevant statistics.<sup>52</sup> One of their reports, entitled “*The tanker crisis: causes, effects and prospects to 1985*” is a short analysis for industry insiders, with emphasis on the anticipated development of the sector.<sup>53</sup>

The Norwegian shipping analyst Birger Nossun, formerly director of research for Fearnley & Eger, has given a detailed account of the development of the dry bulk fleet and the evolution of dry bulk cargoes in the period 1960-1990. However, the emphasis of the book is on data, rather than analysis. Even though Nossun gives a detailed account of the development of the dry bulk fleet and trades, the mechanisms and policy choices which may throw light upon the basis for the development are generally neglected.<sup>54</sup>

A similar volume, emphasising data rather than analysis, has been collected by three of the main analysts at the British shipbroking and research institution Clarkson. Subtitled “*Key statistics from the Clarkson oil tanker register and research publications over the last 30 years*”, the volume contains a plethora of information about most aspects of the tanker market.<sup>55</sup> Although the amount of information gathered in the publication is impressive, the usefulness is sometimes hampered by the lack of consistent, long time-series.

The shift in the international maritime hegemony following the shipping crisis has been elegantly explained by Helen A. Thanopoulou.<sup>56</sup> Her hypothesis is that nations at a less advanced state of development entered the shipping market, offering a service that had become standardised. This prompted the transfer of the capital of the Traditional Maritime Nations to Flags of Convenience and Emerging Maritime Nations, withdrawal from shipowning and the shift of capital to the more specialised segments of the shipping market. The hypothesis seems well-suited to explain some of the most important long-term structural shifts in Norwegian shipping.

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<sup>52</sup> The most relevant reports are Drewry, *The Role of Independent Tankers Owners*, H.P. Drewry Shipping Consultants Ltd., 1976, Drewry, *The Tanker Fleets of the International Oil Companies*, H.P. Drewry Shipping Consultants Ltd., 1979 and Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., London, 1975.

<sup>53</sup> Drewry, *The Tanker Crisis: Causes, Effects and Prospects to 1985*, H.P. Drewry Shipping Consultants Ltd., London, 1976.

<sup>54</sup> Nossun, Birger, *The Evolution of Dry Bulk Shipping*, published by the author, Oslo, 1996.

<sup>55</sup> Jenkins, Gilbert, Stopford, Martin and Tyler, Cliff, *The Clarkson Oil Tanker Databook*, Clarkson Research Studies, London, 1993.

<sup>56</sup> Thanopoulou, Helen A, “The growth of fleets registered in the newly-emerging maritime countries and maritime crises”, *Maritime Policy and Management*, Volume 22, No. 1, pp. 51-62.



The idea that the shipping market can be characterised by long-term cycles, has been presented by Sletmo.<sup>57</sup> He identifies the massive change in the composition of the world fleet in the 1970s and the beginning of the 1980s. His analysis goes further than only looking at the increase in the share of the world fleet registered under Flags of Convenience, and he shows that the share of the fleet controlled by the OECD-countries fell dramatically, from almost 83 per cent in mid 1970 to less than 67 per cent in 1986. However, he does not directly relate the flagging-out to the shipping crisis, but rather sees it as a shipping sector version of the establishment of overseas subsidiaries by multinational companies.

The changes in the shipping industry have also been touched upon in Bernhard J. Abrahamsson's articles in *Ocean Yearbook*.<sup>58</sup> He claims that the depression in the shipping industry was the result of cyclical developments which were exacerbated by long-term structural changes. Abrahamsson explains the changed structure of the shipping market following the crisis by the increased fragmentation due to OPEC's attempts at loosening the major oil companies' control over transportation.

### **1.3.5. The shipping crisis and national fleets**

The claim that the Norwegian shipowners were particularly hard hit by the shipping crisis is repeated in "*Norsk sjøfart*" [Norwegian Shipping], a large, popularised book on Norwegian shipping.<sup>59</sup> The presentation is to some extent hampered by its focus on aggregate figures and trends – only a handful of Norwegian shipowners are mentioned in the 40 page description of Norwegian shipping in the last decades of the 20<sup>th</sup> Century. The book is an accessible presentation of some features of the Norwegian shipping industry, and as such it functions well. However, it is on no account an analysis of the fate of Norwegian shipping in this turbulent period.

Other national fleets have been analysed more properly. A relatively thorough account of the success story of some of the Norwegian shipowners' most important competitors, viz Greek shipowners, is given by Gelina Harlaftis in "*A history of Greek-owned shipping*."<sup>60</sup> However, her presentation of the causes and effects of the crisis is limited, and she does not give a detailed account of the Greek shipowners' response to the shipping crisis.

Another book in the same series, Yrjö Kaukiainen's "*A history of Finnish shipping*", has a relatively short chapter on "*The great shipping crisis*".<sup>61</sup> Kaukiainen's analysis focuses

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<sup>57</sup> See Sletmo, Gunnar K., "Shipping's fourth wave: ship management and Vernon's trade cycles", *Maritime Policy and Management*, Volume 16, No. 4, 1989, pp. 293-303. The idea of long cycles is expanded in Sletmo, Gunnar K. and Holste, Susanne., "Shipping and the competitive advantage of nations: The role of international ship registers", *Maritime Policy and Management*, Volume 20, No. 3, 1993, pp. 243-255.

<sup>58</sup> Abrahamsson, Bernhard J., "International Shipping: Developments, Prospects and Policy Issues", *Ocean Yearbook* 8, University of Chicago Press, 1987, pp. 158-175 and Abrahamsson, Bernhard J., "Merchant Shipping in Transition", *Ocean Yearbook* 4, University of Chicago Press, 1983, pp. 121-139.

<sup>59</sup> Nilsson, Jan Evert, "Norsk sjøfart mot år 2000" [Norwegian Shipping towards the 21<sup>st</sup> Century], in Berggren, Brit, et. al., *Norsk Sjøfart* [Norwegian Shipping], Dreyer, Oslo, 1989, pp. 314-356.

<sup>60</sup> Harlaftis, Gelina, *A history of Greek-owned shipping: the making of an international tramp fleet, 1830 to the present day*, Routledge, London, 1996.

<sup>61</sup> Kaukiainen, Yrjö, *A history of Finnish shipping*, Routledge, London, 1993, pp. 177-181.

on the effects of the crisis, and he claims that “*the event which has popularly been called ‘the great shipping crisis’ was by no means as unexpected as the Wall Street crash of 1929.*”<sup>62</sup> Interestingly, he compares the Finnish and the Norwegian experiences when explaining the relatively low level of flagging-out of Finnish vessels.

The only other major fleet which was hit by the shipping crisis to the same extent as the Norwegian, was that of the United Kingdom. In his analysis of the problems of the British shipping sector, Ronald Hope explains the slump by over-optimistic forecasting, the mismatch between transport capacity and demand and the effects of government subsidies to shipbuilding and the optimism of the banking fraternity.<sup>63</sup>

Several historians have dealt with the 1970s in more long-term analyses of national fleets. John Theotokas has given an interesting account of the organisational and managerial patterns of Greek-owned shipping enterprises. He claims that the basic characteristics of Greek shipping companies resulted in a competitive advantage which was beneficial in the postwar environment. The Greek case is contrasted with the negative experience of Norwegian shipowners, whose share of world shipping dwindled in the period following the shipping crisis.<sup>64</sup>

Shin Goto’s account of globalisation and the development of the Japanese fleet gives valuable insights into the effects of government manning and subsidy policies. Surprisingly, Goto attributes the difficulties of Japanese shipowning companies from the mid 1970s to the rising cost of labour, the appreciation of the yen and the relatively low growth of the Japanese economy. The oversupply of international tonnage and depressed freight rate levels are not emphasised in the analysis.<sup>65</sup>

Yukio Yamashita presents a brief analysis of the Japanese shipping industry’s response to the crisis.<sup>66</sup> He claims that Japanese shipping companies initially responded by developing more efficient vessels needing smaller crews, changing their relationship to maritime labour and increasing the use of container ships. Later, the use of foreign registered ships, manned by low-cost foreign labour, increased.

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<sup>62</sup> *Ibid.*, p. 177.

<sup>63</sup> Hope, Ronald, *A New History of British Shipping*, John Murray, London, 1990, p. 444.

<sup>64</sup> Theotokas, John, “Organizational and Managerial Patterns of Greek-Owned Shipping Enterprises and the Internationalization Process from the Interwar Period to 1990”, in Starkey, David J. and Harlaftis, Gelina (eds.), *Global Markets: The Internationalization of the Sea Transport Industries since 1850*, Research in Maritime History No. 14, St. John’s, 1998, p. 317. See also Fon, Anders Martin, “Norsk og gresk skipsfartsnæring 1945-1995 – en sammenligning” [Norwegian and Greek shipping 1945-1995 – a comparison], *Sjøfartshistorisk Årbok 1995* [Norwegian Yearbook of Maritime History 1995], Bergen Maritime Museum, Bergen, 1996, pp. 49-75 for a comparison of two of the major shipping nations in the postwar period.

<sup>65</sup> To some extent, this might be justified by the importance of Japanese imports and exports for Japanese shipping. Nevertheless, the neglect of the shifting fundamentals in the shipping sector seems strange from an international point of view. See Goto, Shin, “Globalization and International Competitiveness: The Experience of the Japanese Shipping Industry since the 1960s”, in Starkey & Harlaftis, *op.cit.*, 1998, p. 367.

<sup>66</sup> Yamashita, Yukio, “Responding to the Global Market in Boom and Recession: Japanese Shipping and Shipbuilding Industries, 1945-1980”, in Ville, Simon P. and Williams, David M. (eds.), *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History*, Research in Maritime History No. 6, St. John’s, 1994, pp. 167-184.

Two elements of Frank Broeze's article on the containerisation and the globalisation of liner shipping warrant an inclusion here.<sup>67</sup> First, his description of "over-tonnage" is dated to the late 1970s, a confirmation that the container market prospered for a long time after the bulk market had broken down. Second, the list of the world's 15 largest container companies is noteworthy due to the absence of any Norwegian participants. This shows how Norwegian shipowners, who had played an important role in international shipping for more than 100 years, were unable – or unwilling – to compete in a relatively new and expanding branch of shipping.

Arne Franck-Nielsen's report "Redere – tank - olje" [Shipowners – tankers – oil], which was published as part of *Maktutredningen* [The Study of the Distribution of Power in Norway] is a relatively short, analytical account of the shipping crisis. This report, written while the crisis was unfolding, gives an indication of the reluctance to blame shipowners for their own misfortune; "We have presented the daring claim that the shipowning companies themselves must admit part of the blame for the considerable imbalance in the market."<sup>68</sup> As the analysis in this thesis will show, historical evidence refutes the "boldness" of this assertion. Shipowners' extrapolation of historical growth rates, and their consequent over-contracting, is crucial to an explanation of the length, depth and breadth of the shipping crisis.

Another paper published as part of *Maktutredningen*, dealing with the structural features of the shipping sector, provides a very good presentation of the Norwegian shipping sector in the mid 1970s.<sup>69</sup> Some of the topics investigated, eg the effect of depreciation rules, the degree of concentration and the organisational- and owner-structure in Norwegian shipping, are of importance to an analysis of the effects of the crisis for the Norwegian shipping sector.

Dag Bakka jr.'s book "Byen ved de syv hav" [The City by the Seven Seas] is not about a national fleet *per se*, but rather about the development of the shipping industry in the Norwegian city of Bergen.<sup>70</sup> Despite being a book with a distinctly local foundation, it includes one of the most comprehensive analyses of the effects of the international shipping crisis for a maritime environment. The far-reaching consequences of the crisis for the maritime cluster in a relatively small Norwegian city is a testimony to the international character of the international shipping industry and its Norwegian participants.

The strong element of Bakka's analysis is the ability to distinguish between the companies for which the shipping crisis spelt disaster, and the companies that survived the crisis through enterprise, novel technological solutions and emphasis on growing market

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<sup>67</sup> Broeze, Frank, "Containerization and the Globalization of Liner Shipping", in Starkey & Harlaftis, *op.cit.*, 1998, pp. 385-423.

<sup>68</sup> Franck-Nielsen, Arne, *Redere – tank – olje*, [Shipowners – tankers – oil], Working paper No. 37, The Study of the Distribution of Power in Norway, Bergen, 1975.

<sup>69</sup> Franck-Nielsen, Arne, *Skipsfartsnæringen – strukturelle trekk og arbeidsbetingelser* [The shipping industry – structural features and operating conditions], Working paper No. 29, The Study of the Distribution of Power in Norway, Bergen, 1975.

<sup>70</sup> Bakka, Dag jr., *Byen ved de syv hav*, [The City by the Seven Seas], Seagull Publishing, Bergen, 1998, particularly pp. 135-196, but also the short presentation of the companies from page 217 onwards.

segments.

### 1.3.6. *The shipping crisis and other sources*

An account of the shipping crisis and its short-term causes and implications was published by *Norsk Utenrikspolitisk Institutt* [Norwegian Institute of International Affairs] as a special edition of their periodical *Internasjonal Politikk* [International Politics]. The seven contributions, from members of government, the shipping industry and academia, all place the historical development in a political context.<sup>71</sup>

In his book on ship finance, Peter Stokes has analysed the development of shipping financing during the boom preceding the shipping crisis, and shown how the optimism characteristic among shipowners had its counterpart in the banking sector.<sup>72</sup> He claims that “[among bankers] all sense of restraint evaporated in the early 1970s.”<sup>73</sup> The same idea is put forward by Peter S. Douglas, who notes that “the concept of standard credit terms for creditworthy buyers of ships degenerated, in the boom atmosphere at the time, into the idea of standard credit terms for almost anyone who wanted to buy ships.”<sup>74</sup>

There is ample evidence that the attitudes among the providers of financing, both private and public, were of a kind which amplified, rather than hampered, the contracting of over-optimistic shipowners. Douglas even goes so far as to claim that “the principal cause [of the tonnage surplus], is the ship-financing policy that prevailed in the early 1970s among the majority of participants in the shipping industry in all the five categories I have mentioned – shipowners, private and government; shipbuilders and their governments; and shipping financiers.”<sup>75</sup>

Peter Stokes’ book gives an indication of the extent to which the “favourable” financing conditions contributed to the over-contracting and the freight market breakdown. John P. Cashman, of Lloyd’s Register of Shipping, gives a more balanced view, summarising the main reasons for the problems in the early 1970s as over-optimistic forecasting, mismatching of capacity to traffic volumes, subsidies for shipbuilding and excessive optimism on the part of bankers. The result of these factors was that “[t]he bubble burst with a vengeance.”<sup>76</sup> A similar apportioning of blame was presented by Martin Stopford, who put

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<sup>71</sup> *Internasjonal Politikk* [International Politics], No. 1B, Norwegian Institute of International Affairs, Oslo, 1979. The contributions come from Mr. Hallvard Bakke, Minister of Trade and Industry, Leif Asbjørn Nygaard, probably the most influential shipping bureaucrat, Professor Victor D. Norman, Researcher Olav Fagelund Knutsen, Leif Terje Løddesøl, President and Chief Executive Officer of the major Norwegian shipping company Wilh. Wilhelmsen, Kjell Storvik of *Norges Rederforbund* [The Norwegian Shipowners’ Association] and Henrik Aasarød, chairman of *Norsk Sjømannsforbund* [The Norwegian Seamen’s Association].

<sup>72</sup> Stokes, Peter, *Ship Finance – Credit Expansion and the Boom-Bust Cycle*, Lloyd’s of London Press Ltd., London, 1992, pp. 23-48.

<sup>73</sup> *Ibid.*, p. 24

<sup>74</sup> Douglas, Peter S., “Financial Policies for the Shipping Industry”, in Rydén, Inger and von Schirach-Szmigiel, Christopher (eds.), *Shipping and Ships for the 1990s*, Proceedings of the International Conference “Supply and Demand of Water Transport”, Stockholm School of Economics, Stockholm, 1979, p. 169.

<sup>75</sup> *Ibid.*, p. 168.

<sup>76</sup> Cashman, John P., “A worldwide view of shipping and shipbuilding”, *Maritime Policy and Management*, Volume 12, No. 2, 1985, pp. 113-134.

it simple; “the banks lent too much, the shipbuilders built far more shipyards than long term demand forecasts justified and shippers issued timecharters which underpinned a false sense of optimism.”<sup>77</sup>

The importance of soft financing is also emphasised in Mike Ratcliffe’s history of tanker shipping. His explanation of the crisis, in the chapter entitled “*Energyquake – The Big Slump*”, focuses on the politics of the oil market and inexperienced bankers’ willingness to pander to the follies of the shipowners.<sup>78</sup> Like Peter Stokes and most other international commentators, Ratcliffe uses the fate of Norwegian shipowners to illustrate the disastrous effects of the freight market breakdown, claiming that “Norwegians [...] were hit the hardest of all”, as they were overconfident and were “caught with their trousers down.”<sup>79</sup>

### **1.3.6. Summary - bibliography**

Despite the fact that the shipping crisis has received a lot of attention, there has been no broad, coherent and thorough analysis of the shipping crisis, its causes and its effects for shipowners and the maritime community in general. This might be a reflection of the shipping industry’s need to “look forward”, or it might be the result of a reluctance to admit that something might be learnt from past mistakes.

This short bibliography illustrates two facets of the shipping world. On the one hand, the large amount of publications relating to the shipping crisis is evidence of the importance of this sector for the world economy. A large share of the publications above emphasises the relationship between the shipping sector and other segments, eg international trade, shipbuilding or the financial community. On the other hand, the piecemeal nature of these publications, and the lack of integrated analyses of causes and consequences, can be seen as a testament to the shipping industry’s aversion against a more holistic approach.

The subsequent analysis will show that uncritical reliance on past and current development trends may spell disaster. However, an understanding of the factors which created the shipping crisis of the 1970s may provide important insights which might aid the decision making of shipping companies, governments and shipbuilders.

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<sup>77</sup> Stopford, Martin, “Challenges and Pitfalls of Maritime Forecasting in a Corporate Environment”, in Stranden, Svendsen & Wergeland, *op.cit.*, 1989, p. 42.

<sup>78</sup> Ratcliffe, Mike, *Liquid Gold Ships. A History of the Tanker 1859-1984*, Lloyd’s of London Press Ltd., London, 1985, pp. 152-167.

<sup>79</sup> *Ibid.*, p. 158. Short analyses may also be found in Peters, Hans J., “The Maritime Transport Crisis”, *World Bank Discussion Papers 220*, World Bank, Washington, 1993, pp. 6-10 and Beth, Ludwig, Hader, Arnulf and Kappel, Robert., *25 Years of World Shipping*, Fairplay Publications, London, 1984, pp. 35-37.

## CHAPTER TWO

# THE SHIPPING SECTOR

The following chapter is an overview of the international market for shipping services. Initially, a basic introduction to the main types of ships and agents operating in this market is given. Particular importance is placed on the presentation of the agents and mechanisms in the tanker market. Subsequently, the postwar development in the shipping market is briefly presented. The aim of this chapter is to construct a basis upon which the analyses of the causes and effects of the shipping crisis, and the fate of Norwegian shipowners, can be performed.

### 2.1. The International Market for Shipping Services

The purpose of the international market for shipping services is to facilitate the transport of finished goods, intermediate goods and raw materials from one geographical location to another. In most contexts it may be misleading to talk about *one* international shipping market. In reality we are faced with several closely related market segments, differentiated according to factors such as types of ships utilised, amount, value and types of goods transported, geographical localisation and the structure of competition. While it is important to recognise the economic and commercial differences between the various market segments, it must be acknowledged that the treatment of the shipping sector as one integrated market is the more correct approach in some situations.

There are several links between the various market segments in the international market for shipping services. Some shipowners, wishing to avoid putting all their eggs in one basket, operate in more than one market segment, and may thus function as connecting links between the different segments. Moreover, shipowners operating in only one section of the market will influence companies in other parts of the shipping sector, as they will compete for the same kind of labour, as well as the building capacity of the shipyards. Another important form of interaction exists in connection with the competition for investment capital, both from sources specialising in shipping financing and from ordinary investors.

A considerable share of the companies operating in the shipping market have some, or their principal, interests outside the shipping sector, eg within manufacturing, the oil industry or the transport sector in general. These agents play a particularly important role in the shipping market because vertical integration enables them to control the market to a larger extent than those of their competitors whose sole engagements are in the shipping sector. The integration of oil companies into tanker shipping is one example of agents who are able to secure engagement for their ships and transport of their goods through vertical integration. Another kind of vertical integration altering the nature of competition in the shipping industry comes from companies offering integrated transport solutions, involving land as well as sea transport.

In an analysis of the international shipping crisis, the most critical short-term link between the various market segments is that some ships can operate in more than one market

segment. The existence of these vessels gives direct or indirect competition for freights between ships operating in different segments of the shipping sector. In the longer run, the competition for capital and shipbuilding capacity constitutes an important link between the various parts of the shipping market.

### The historical division of the shipping market

Traditionally, the international market for shipping services has been divided into two main categories, liner shipping and tramp shipping, depending on the kind of transport service which is being supplied and demanded. Liner shipping designates regular transport services between specified ports on a shipping route where schedule and price are more or less fixed.<sup>1</sup> The liner ships generally transport goods with a high value relative to their weight or volume. Goods with a lower value/weight- or value/volume-ratio have usually been referred to as tramp goods. If value, rather than volume, is the basis for comparison, liner shipping transports a larger share of world trade than tramp shipping.<sup>2</sup>

### Liner shipping

Regularity and reliability have usually been regarded as the main advantages offered by the liner companies. The introduction of steamships by the end of the last century had given the predictability necessary to offer regular services. At the same time, the new cost functions of the liner companies, a result of the large amount of fixed capital required to acquire this new technology, encouraged the suppliers of liner services to cooperate in liner conferences. These conferences are agreements between shipowners and managing companies where the participants decide freight rates, capacity allocation and sailing schedules.<sup>3</sup> The aim of the liner conferences is to secure a higher and more stable freight rate level than that which would occur if free competition was allowed to regulate the market. The British shipping economist Richard Goss defends the conference system, claiming that liner conferences act as coordinators rather than as regulators of competition, and that both the suppliers and demanders benefit from the stability of rates and regularity of departures and arrivals offered by the liner conferences.<sup>4</sup> In the mid 1970s Norwegian shipowners participated in more than 100 of the 370 existing international liner conferences.<sup>5</sup>

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<sup>1</sup> See for instance Kendall, Lane C., *The Business of Shipping*, Cornell Maritime Press, Centreville, Maryland, 1986, pp. 5-11 for a basic introduction to the main differences between liner shipping and tramp shipping.

<sup>2</sup> Wergeland, Tor, *Et konkurransedyktig Norge - Norsk skipsfarts konkurransevne* [A competitive Norway – the competitiveness of Norwegian shipping], SNF-report No. 50/1992, The Foundation for Research in Economics and Business Administration, Bergen, 1992, p. 54.

<sup>3</sup> A management company is responsible for the daily operation of the ship, but does not, as a rule, own the ship themselves. See Chapter Ten for an elaboration.

<sup>4</sup> Goss, Richard, *Studies in Maritime Economics*, Cambridge University Press, Cambridge, 1968, pp. 16-17.

<sup>5</sup> Stortingsmelding 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the conditions for seamen and the role of shipping in the society], p. 93.

The demands regarding investments, risk spreading, and, in a maritime perspective, large, land-based organisations, have resulted in the development of large liner companies. As a result of this, the structure of the supply side in the liner market is in many cases oligopolistic. It has been claimed that the cautionary expansion in the liner sector in the postwar period has led to a situation where tramp ships have had to complement the liner sector's services in periods where the demand for liner services has been high.<sup>6</sup> This, and the fact that a lot of shipowning companies have chosen to operate ships in both market segments, have been the most important linkages between the tramp and liner sectors.

Liner shipping has traditionally not been the most important mode of employment for Norwegian ships. In 1914 only eight percent of the Norwegian fleet was engaged in liner shipping. In the interwar period there was a marked increase in the liner ships' share of the Norwegian fleet; it has been estimated that between 25 and 30 per cent of the Norwegian fleet was engaged in liner trade in the peak year 1929. Despite the increased importance of liners, tramp ships constituted the most important part of the Norwegian fleet towards the end of the interwar period.<sup>7</sup> The structure of the liner companies, with relatively large, land-based organisations playing an important role in the day-to-day operation of the company, made it difficult for the smaller Norwegian shipowners to engage in the liner trade.

The share of the Norwegian fleet engaged in liner trade was reduced after the Second World War, and there was heavy expansion in the tanker and dry bulk sectors which had come to dominate tramp shipping. As a result of this, the liner ships constituted only 15 per cent of the Norwegian fleet at the start of the 1960s. The Norwegian engagement in the liner sector continued to dwindle in the 1970s, absolutely as well as relatively. In 1967 approximately 300 ships, representing 1,4 million gross register tons (grt) and approximately eight per cent of the Norwegian fleet, were engaged in the liner trade. Eight years later, the corresponding figures were 173 ships, one million grt and four per cent of the Norwegian tonnage.<sup>8</sup> One of the reasons for the reduction of the Norwegian interests in the liner sector was the growth of protectionist mechanisms making it difficult for cross traders to participate in some markets. At the same time the development of standardised pallets and containers, a result of the on-going technological improvement, further increased the capital intensity in the liner sector and the demands on liner organisations. The low Norwegian involvement in the liner sector will be further analysed in Chapter Six.

Despite the fact that the Norwegian involvement in the liner sector was small, tonnage-wise, these ships accounted for approximately a quarter of the total freight earnings of the shipping sector in the 1970s.<sup>9</sup> However, as the Norwegian shipowners' liner tonnage only

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<sup>6</sup> Metaxas, Basil N., *The Economics of Tramp Shipping*, The Athlone Press of the University of London, London, 1971, p. 111.

<sup>7</sup> For an outline of the structure of the Norwegian fleet in the interwar period, see Thowsen, Atle, "Krise og krisetiltak i norsk tankskipsfart 1929-1936" [Crisis and crisis measures in Norwegian tanker shipping 1929-1936], *Sjøfartshistorisk Årbok 1978* [Norwegian Yearbook of Maritime History 1978], Bergen, 1979, p. 132.

<sup>8</sup> Figures from Stortingsmelding 23 (1975-75), *op.cit.*, Table 6-1, p. 89.

<sup>9</sup> The figures representing the liner ships' share of freight earnings in this period are misleading in a somewhat longer perspective. See Chapter Five for an elaboration.



constituted between two and five per cent of total tonnage in the period around the international shipping crisis, this sector will not play an important part in the analysis of the Norwegian shipowners and the international shipping crisis.<sup>10</sup> The small amount of tonnage employed in this segment is not the only reason for this; the shipping crisis did not affect the liner market to the same extent as the tanker and dry bulk markets, particularly in the first period after the freight market broke down.

The main reason that several liner companies survived the crisis relatively unscathed was their possibility to cooperate through conferences, and by means of these they were able to avoid the enormous fall in freight rates suffered in the more competitive parts of the shipping sector.<sup>11</sup> The higher volatility of prices in a competitive market, as opposed to a regulated market with oligopolistic competition and cooperation, is explained and analysed in most basic textbooks on economics. The liner sector may be regarded as the least risky part of the shipping industry, as it is well-known for having stable freight rates in the long run. In 1976, after one of the worst years for the Norwegian fleet ever, Charles Racine Bergesen, chairman of *Norges Rederforbund* [The Norwegian Shipowners' Association], claimed that the results in the previous year's international liner trade had been "*fairly satisfactory*".<sup>12</sup> Due to the atypical development of the liner trade, the development in this sector will only be expanded upon when it is of relevance to the analysis of the development in the tanker and dry bulk sectors, or in connection with the analysis of shipping companies operating in the liner sector.

### Tramp shipping

Historically, the tramp sector has been regarded as the liner sector's counterpart. As a rule, tramp shipping involves a one-off shipment of a product between two destinations, usually transporting commodities which can be shipped in bulk. In general, tramp voyages are not expected to be repeated; each trip is planned individually, depending on the goods to be transported and the route to be followed. However, for some products, for instance oil and coal, it is not unusual that the supplier and the demander of the transport service enter into contracts about repeated shipments. Such contracts exist because of the volatile and unpredictable nature of the market for single voyages, and this type of employment can on no account be regarded as liner shipping. The various kinds of contracts which are used in the international market for shipping services will be discussed later, and the rationale which shippers and shipowning companies have for entering into contracts of the various kinds will also be analysed.

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<sup>10</sup> See for instance *Norwegian Shipping News*, No. 20, 1977, p. 40.

<sup>11</sup> Severe problems first appeared in the liner sector at the beginning of the 1980s. The conditions had then become so unfavourable as to encourage rate-cutting and the violation of conference-agreements. Moreover, there was a marked increase in protectionist measures, which was more manifest in the liner segment than in other parts of the shipping sector.

<sup>12</sup> Quotation from *Norwegian Shipping News*, No. 20, 1976, p. 37, which gives a summary of Bergesen's speech to the annual meeting of the Norwegian Shipowners' Association.

## 2.2. The Bulk Sector

The division of the international shipping market into a liner and a tramp sector has traditionally been sufficient to give an accurate presentation of the shipping sector. As a result of the technological and maritime development which had taken place until the beginning of the 1970s, however, other categorisations may be more fruitful for an analysis of the international shipping crisis.

In this thesis, the division proffered by Alan W. Cafruny in his book "*Ruling the Waves*" will be utilised. He divides the international market for shipping services into a *liner sector* and a *bulk sector* according to the goods transported in the various market segments.<sup>13</sup> Cafruny has retained the term *the liner sector*, but defines this as the part of the shipping sector in which finished goods and other products which are individually packed are transported. Historically, this part of the shipping industry would handle goods wrapped in various forms of packaging; bales, boxes, barrels, cartons and crates. From the beginning of the 1960s, however, an increasing share of the goods shipped in this manner would be transported in containers, and the definition has, by and large, come to designate *container shipping*.<sup>14</sup>

The other main part of the shipping market is the bulk sector, which primarily transports raw materials. The term *bulk cargoes* is usually used to characterise all homogenous commodities which are transported in large quantities. It has, however, in some connections been used to characterise all cargoes which are transported in the hold of the ship.<sup>15</sup> In the discussion of the causes and effects of the international shipping crisis, I will stick to the relatively narrow definition of bulk cargoes, and only the most important bulk goods will be examined. Particular importance will be placed on the development in the liquid bulk market.

### 2.2.1. The dry bulk sector – supply side

The expression *bulk cargo* can be defined as "*cargo which is loaded into a ship's hold without being boxed, bagged or hand-stowed or is transported in large tankers.*"<sup>16</sup> Basically,

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<sup>13</sup> Cafruny, Alan W., *Ruling The Waves. The Political Economy of International Shipping*, University of California Press, Berkeley, 1987, pp. 6-7. The differences between this definition and the old tramp/liner-classification are small, but the categories offered by Cafruny are nevertheless more suitable for a presentation of the international market for shipping services in the 1970s.

<sup>14</sup> For an introduction to the containerisation of the shipping sector and the implications this has had for shipping companies, see Pearson, Roy, *Container-line Performance and Service Quality*, Marine Transport Centre, University of Liverpool, 1979.

<sup>15</sup> This last definition is far too wide, as it would define goods such as fruit, cars and refrigerated products as bulk cargoes; see for instance Stonebridge, Dennis, "Demand for Dry Bulk Shipping in the Mid-1990's", in Rydén, Inger and von Schirach-Szmigiel, Christopher (eds.), *Shipping and Ships for the 1990's*, Proceedings of the International Conference "Supply and Demand of Water Transport", 18-19 June 1979, Handelshögskolan i Stockholm, Stockholm, 1980, p. 86.

<sup>16</sup> Definition taken from *McGraw-Hill Multimedia Encyclopedia of Science and Technology*. Layton defines a bulk cargo as "*a cargo such as grain, coal, iron ore, etc. that is loaded in bulk and not in packages or containers*" in Layton, C. W. T., *Dictionary of Nautical Words and Terms*, Brown, Son & Ferguson Ltd., Glasgow, 1982, p. 59.

this definition is valid for dry as well as liquid products, but the large range of goods covered by this definition makes it worthwhile to use the more precise terms *liquid bulk* and *dry bulk* cargoes. Liquid bulk cargoes are mainly transported in purpose-built tankers, and will thus be more closely analysed in the presentation of the market for tankers and tanker services. Dry bulk cargoes are mainly shipped in dry bulk ships, which are usually called *bulk carriers*.

In the latter part of the 1970s, the transport of five commodities constituted more than 75 per cent of the international dry bulk shipments. These goods; iron ore, coal, grain, phosphates and bauxite/ aluminium, are all of utmost importance to the functioning of the industrialised economies. In addition to these commodities, the dry bulk sector transports wood-products, minerals, fertilisers, steel products etc.<sup>17</sup>

The market for dry bulk shipping has only to a small extent been the object of historical research, but it has often been studied in connection with the development of models attempting to explain and understand the functioning of the market.<sup>18</sup> For presentation purposes, it is fruitful to divide the supply side of the market for dry bulk shipping into three segments, *bulk*, *ore* and *combination* carriers, according to the flexibility of the ships when it comes to carrying different cargoes.<sup>19</sup>

*Bulk carriers* make up the most important group, both when it comes to the number of vessels and the total amount of tonnage. This group is further divided into three classes, according to the size of the ships; *Handy size* (10-50.000 dwt), *Panamax size* (50-80.000 dwt) and *Cape size* (more than 80.000 dwt). *Cape size* ships are too wide to enter the Panama-canal, and are mostly used to transport iron ore and coal.<sup>20</sup> Despite the fact that *bulk carriers* of all sizes are often lumped together as one type of ships, it may be fruitful to regard them as participants in different markets. The reason for this is that there might be a low level of freight rates for ships larger than Panamax size, while, at the same time, there is considerable demand for smaller bulk carriers.<sup>21</sup>

Originally, the basis for the development of bulk carriers, as opposed to more general-purpose 'tweendeckers and shelterdeckers, often called *break bulk cargo* ships, was the increasing demand for iron ore and, consequently, purpose-built ore carriers. Except for the size and shape of the holds, there are no major differences between bulk carriers and ore

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<sup>17</sup> For an introduction to the minor dry bulk commodities, see Nersesian, Roy, *Ships and Shipping - A Comprehensive Guide*, PennWell Books, Tulsa, Oklahoma, 1981, p. 48.

<sup>18</sup> Fon, Anders Martin, *Norsk engasjement i internasjonal tørrbulkfart 1960-1990* [Norwegian involvement in international dry bulk shipping, 1960-1990], Working paper No. 106/93, The Foundation for Research in Economics and Business Administration, Bergen, 1993, p. 3.

<sup>19</sup> This classification is by no means definite or universal as ore carriers at times carry other bulk goods and other bulk carriers to some extent can carry ores.

<sup>20</sup> Osmundsvaag, Arne, *Dry Bulk Shipping*, SNF-report No. 55/1992, The Foundation for Research in Economics and Business Administration, Bergen, 1992, pp. 2-3. This division into the various classes is, however, not always consistent; Stopford, Martin, *Maritime Economics*, Unwin Hyman, London, 1988, p. 76 puts the division between Handy size and Panamax size at 40.000 dwt, and *Review 1974* calls bulk carriers of more than 70.000 dwt *Cape size*. One reason for the inconsistent definitions is that the capacity of the Panama-canal, with regard to the size of the ships able to use it, has been increased.

<sup>21</sup> For an example of this kind of market situations, see Fearnley & Egers Chartering Co. Ltd., *Review 1975*, p. 8. As a rule, the freight rates in the various sub-markets are correlated to a large extent.

carriers. The economic success of the specialised ore carriers encouraged shipowners to try the bulk concept in the transport of other commodities as well. The economic rationale behind the development of larger, purpose-built ships can be found in the increasing demand for commodities suitable for bulk shipping in the period after the Second World War.<sup>22</sup> Another important factor was the increased shipping distances which were a result of the growth in the use of sources situated far away from the main consumption centres.

*Ore carriers* are purpose-built to transport high-density goods, ie goods which are relatively heavy, rather than relatively voluminous. Originally, the competitive advantage of the ore carriers was that they could transport larger volumes than general-purpose vessels, without exceeding maximum possible draft limits. This was particularly advantageous in the rather shallow British harbours, and the British Iron and Steel Corporation (Ore) was important in this respect. This centralised purchasing organisation extolled the advantages of purpose-built ore carriers at an early stage, and the technology and economics of specialised vessels were subject to much research.

The problem with ore carriers was that even though they were particularly suited to products such as iron ore, their excellence in this field came at the expense of their flexibility in carrying other commodities. Generally, as a means of securing stability, the compartments of ore carriers are narrower than those of other bulk carriers.<sup>23</sup> As the advantages of the bulk shipping concept proved to be applicable to more and more commodities, the specialised ore carriers were replaced by more general bulk carriers, often strengthened for the carrying of ores. From the middle of the 1960s the number of newbuilt ore carriers started to dwindle. All-round bulk carriers had taken over some of the demand from the purpose-built ore carriers, and a new class of ships, combination carriers, which had their breakthrough in the 1965-73 period, increased the competition for the ore cargoes further.

*Combination carriers* are flexible, and can offer their services in the liquid bulk as well as the dry bulk market. These ships originated from the wish to create an economically efficient type of ships by combining the features of the bulk carriers and the tankers. Most of the early combination carriers were *Ore/Oil*-vessels, specially constructed for the transport of ore and oil in separated cargo compartments.<sup>24</sup> *Ore/Oil* carriers typically shift from the dry bulk to the liquid bulk market, and *vice versa*, when there are sufficiently large differences in

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<sup>22</sup> This is one of the main hypotheses in Fon, Anders Martin, *En stormakt i tørrbulk. En økonomisk-historisk analyse av norsk tørrbulkfart 1950-1973* [A Major Dry Bulk Nation: An Economic Historical Analysis of Norwegian Dry Bulk Shipping 1950-1973], dissertation for the degree dr. oecon., Norwegian School of Economics and Business Administration, Bergen, 1995; see particularly Chapter 4, pp. 110-135, where the demand side development is analysed. For a presentation of the arguments concerning the development of the bulk carriers from ore carriers, see Kendall, *op.cit.*, 1986, p. 21.

<sup>23</sup> The shape of the hull gives ore carriers much the same shape as tankers, and in the middle of the 1950s the British started to convert tankers into ore carriers.

<sup>24</sup> The first *Ore/Oil*-ships were built in the middle of the 1920s, and delivered to Bethlehem Steel; see Næss, Erling Dekke, *Shipping - mitt liv*, Hjemmet/ Fagpresseforlaget, Oslo, 1981, p. 181. The first vessels of the postwar generation of combination carriers were built in Sweden around the end of the Second World War; see Osmundsvaag, *op.cit.*, 1992, p. 96.

the rate levels, as a result of the supply and demand conditions in the two markets.<sup>25</sup>

The Norwegian shipping community was among the first to recognise the potential of the combination carriers, and these investments proved to be very profitable, particularly in connection with the Suez-crisis in 1967.<sup>26</sup> As a result of the success of the early investments, Norwegian shipowners had a higher share of the world's combination carriers than their share of the world fleet indicated. In the beginning of 1973, Norway had approximately 17 per cent of the world's combination carrier fleet, whereas the corresponding figure for the total fleet was 10 per cent.<sup>27</sup>

### **2.2.2. The dry bulk sector – demand side**

Large international companies are the most important agents on the demand side in the dry bulk market. In 1976 the world's ten leading steel companies, mainly Japanese and American corporations, accounted for more than half of the world trade in iron ore.<sup>28</sup> The concentration was even heavier in the international grain trade, where six countries were responsible for 92 per cent of the world's exports and where five companies had a dominant position. According to Cafruny, concentration of this kind, either on the supply side or the demand side, can be found for all of the five most important dry bulk goods. As a result of this, the bulk sector is influenced by the fact that the agents operate in an environment which, on the transport demand side, is dominated by vertically integrated international companies.<sup>29</sup>

Despite the fact that the demand side is dominated by a small number of companies, the bulk market has usually been regarded as a competitive market, particularly in connection with the construction of market models. This assumption implies, among other things, that all agents, both on the demand side and the supply side, see themselves as price takers, who by definition are not important enough to dominate the market to such an extent as to influence prices.

In shipping market models, it is customary to regard *the bulk sector* as consisting of four markets, all of which are competitive. The four markets are the spot market and period market for bulk transport as well as the markets for newbuilt and second-hand ships. As an increase in the supply of ships influences the supply of shipping capacity, a model depicting the determination of freight rates must take into account the linkages between the two freight

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<sup>25</sup> Combination carriers may also reduce the time spent in ballast by combining various transport assignments.

<sup>26</sup> It was particularly the customers of the Norwegian shipbroking firm Fearnley & Eger who were among the first to invest heavily in combination carriers; see Fischer, Lewis R. and Nordvik, Helge W., "Economic Theory, Information and Management", in Ville, Simon P. and Williams, David M. (eds.), *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History*, Research in Maritime History No. 6, St. John's, 1994, p. 23.

<sup>27</sup> Calculations from Fearnley & Egers Chartering Co. Ltd., *Review 1975*, Table 3, p. 15 and Table 20, p. 24. Fon, *op.cit.*, 1993, Appendix 4, p. 33 claims that the Norwegian shares in July 1974 were 15,5 per cent and 19,3 per cent for Norwegian-registered and Norwegian-owned ships respectively.

<sup>28</sup> Cafruny, *op.cit.*, 1987, p. 258. The figures for steel production do not take China and the USSR into account.

<sup>29</sup> See Casson, Mark, "Vertical Integration and Intra-firm Trade" in Casson, Mark (ed.), *Multinationals and World Trade – Vertical Integration and the Diffusion of Labour in World Industries*, Allen & Unwin, London, 1986, pp. 104-137 for an introduction to the strategic basis for the integration.

markets and the two markets for ships. The existence of a second-hand market for ships gives shipping investments a flexibility which only to a more limited extent is present for other investment decisions, but which plays an important role for the functioning of a competitive market. The second-hand market is the result of an important feature of the international shipping market, viz that the means of production are not bound by geographical restrictions.

### **2.2.3. The mechanisms in the markets for bulk shipping and bulk ships**

The following presentation of the market structure will be applicable to the liquid bulk as well as the dry bulk market. Some of the special features of the tanker market will, however, be more thoroughly presented in connection with the analysis of the tanker sector. Initially, the focus is on features which are applicable to the bulk market in general, and which separate this market from eg the liner sector. As this thesis focuses on shipowners, the analysis commences with an examination of the supply side, followed by a short presentation of the demand side. Finally, the functioning of the market as a whole is discussed.

#### **The market structure**

The market for bulk shipping can be seen as part of the tertiary sector, where the service which is bought and sold is the transport of commodities. The suppliers of this service are shipowners and other agents who have transport capacity available, while the demand side consists of producers or consumers who want to buy or sell goods in markets distant from their place of origin. The product sold in the shipping market is therefore the transfer of commodities from producer to consumer.

It is customary to extend the market for shipping services, and see the situation of the suppliers, particularly capacity-wise, as closely related to the conditions in the market for ships. In this market, shipowners and other agents interested in purchasing ships make up the demand side. The agents on the supply side in the market for shipping services consequently constitute the demand side in the market for ships. The supply side in the market for ships consists of shipyards and shipowners who have tonnage which they are willing to sell, given the right price.

As well as the aforementioned division into dry and liquid bulk shipping, several smaller market segments can be identified within the market for bulk shipping services. These are usually separated according to vessel size, equipment and the type of commodities which is transported. This implies that there are periods in which the ships in some market segments are performing satisfactorily, while conditions are grim in other parts of the market. As a rule of thumb, however, it is correct to say that the aggregate demand for bulk transport capacity is closely related to the industrial activity in the world economy. Consequently, the conditions in most of the bulk market segments will change at approximately the same time and in the same direction.

#### **The supply side**

The potential supply of transport services varies strongly, depending on the perspective

chosen for the analysis. In the *short term*, a transport capacity increase will be limited by constraints connected to the amount and utilisation of the existing tonnage. In the *medium term*, the main constraint on the supply side will be the world's shipbuilding capacity, while in the *long term*, even this constraint can be considered flexible.

#### *Supply increases – short term*

As a response to a given demand increase, a short-term capacity increase is possible through two mechanisms; increased tonnage or increased capacity utilisation. A tonnage increase implies that the amount of tonnage available for shipping purposes increases, either through the introduction of new tonnage or through the employment of tonnage previously not engaged. Increased capacity utilisation does not require fleet growth as such, but rather an increase in the employment of existing vessels.

In the short run it is to a limited extent possible to increase the amount of newbuildings entering the market by speeding up the building of vessels already under construction in the shipyards. This implies that previously ordered vessels are made available earlier than scheduled. If the building of vessels is forced in this manner, it is usually the shipowner who is expected to bear the costs associated with the higher activity.<sup>30</sup>

Another way to increase the actual amount of tonnage employed, as a response to a demand increase, is to introduce vessels which have previously not been offered in the freight market, due to lay-up or other factors. An important source of tonnage supply comes from ships which have previously been engaged in other market segments. A demand increase in one of the market segments may make employment in this segment more profitable than alternative markets. Combination carriers will be the ships most suited for this kind of market switching, but several other types of vessels can also offer their services in a number of market segments. It is the relative freight rates between various market segments, not absolute rate levels, which encourage shipowners to change the employment of their ships from one market to another.<sup>31</sup> Accordingly, a decrease in freight rates in one market segment may lead to an increase in the amount of vessels in another market segment, despite the fact that the demand in the latter segment remains unchanged.

The alternative to an increase in the actual amount of tonnage employed in a market segment is an increase in the utilisation of the existing vessels. This type of capacity increase is what Dobler calls an increase of the *utilisation coefficient* of the existing fleet.<sup>32</sup> Such a

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<sup>30</sup> This means that the shipowner has to compare the additional costs in connection with the speeding up of the building to the extra revenue obtained as a result of the early delivery of the ship.

<sup>31</sup> There may, however, be costs in connection with the change of operation from one market to another. These costs must be weighed against the expected increase in revenue stemming from a change of operation.

<sup>32</sup> Dobler, Jean-Pierre, "The Use of Long-Term Forecasting in Maritime Economics", in Lorange, Peter, and Norman, Victor (eds.), *Shipping Management*, Institute for Shipping Research, AS John Grieg, Bergen, 1973, p. 63. An alternative division between "*tonnage increase*" and "*increased capacity utilisation*" can be found in Bennett, P. G., Huxham, C. S. and Dando, M. R., "Shipping in Crisis: a Trial Run for 'Live' Application of the Hypergame Approach", *Omega*, No. 6, 1981, vol. 9, p. 584, where a distinction is made between "*real tonnage*" and "*effective tonnage*".

capacity increase will be attainable through speeding up of loading and unloading or through a reduction of the time the vessels spend “off-hire” or in ballast.<sup>33</sup> It is also possible to increase the amount of commodities transported by increasing the speed of the ships. To achieve efficiency in the use of fuel, optimal speed is only in particular circumstances equal to maximum speed. The advantage of *slow steaming* is, of course, relatively greater when the price of fuel is high, for instance in connection with the oil crisis of the 1970s.<sup>34</sup> The capacity utilisation coefficient can also be increased by fully loading vessels which previously accepted partial cargoes.<sup>35</sup>

The limited possibilities to increase the aggregate transport capacity in the short run result in a very inelastic supply of tonnage in periods where demand is heavy and the existing tonnage is almost fully utilised. This implies that the tonnage supply can not be increased much, despite large increases in the freight rate level. Moreover, some of the capacity increasing mechanisms described above are quite costly to implement, and their effect will be limited. The end result is that a short-term supply increase above a certain level will be nearly impossible, and this gives a completely inelastic tonnage supply when demand reaches a certain level. When there is a surplus of tonnage available, transport capacity increases are relatively easy to introduce, and the effects of a demand increase on the freight rate level are small.

One characteristic feature of the tonnage supply will therefore be that it is very elastic when the freight rate level is low, but inelastic in periods with high rates. This feature was apparent in the period around the international shipping crisis. Despite the extremely high freight rate level, it was impossible to get the short-term capacity increase necessary to reduce the freight rate level in the tanker sector. Later in the 1970s the amount of surplus tonnage was so large that demand increases were hardly reflected in higher rates.

When there is a large amount of shipping capacity available, the tonnage supply in the bulk market will generally be the tonnage which at a given rate gets marginal costs, less lay up-costs, covered.<sup>36</sup> Marginal costs refer to operating costs and voyage costs. Capital costs will incur regardless of whether the vessel is trading or laid up. Thus, the shipowner will be willing to offer the vessel at the rate which covers the voyage costs and the increase in operating costs resulting from a shift from lay-up to active trading.<sup>37</sup> Some factors, such as

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<sup>33</sup> The term “off-hire” refers to the vessel’s idle time, eg time spent in harbours or docks for repairs. For information on the importance of “off-hire” for large tankers, see the summary of Fearnley and Eger’s “off-hire” survey in *Norwegian Shipping News*, No. 17D, 1972.

<sup>34</sup> Beenstock, Michael and Vergottis, Andreas, “An Econometric Model of the World Tanker Market”, *Journal of Transport Economics and Policy*, 1989, vol. 23, Issue 3, p. 264 takes this into account, and the authors have made a model which calculates optimal speed under different conditions.

<sup>35</sup> The shipowners’ willingness to accept partial cargoes depends on the alternative cost of having unused cargo space, which again depends on the freight rate level.

<sup>36</sup> For an elementary presentation of the supply side, see Stopford, *op.cit.*, 1988, Appendix I, p. 353. Here, the supply of sea transport is defined as a function of the size of the world fleet and the ships’ productivity, where the latter is represented by annual ton-miles per dead weight ton.

<sup>37</sup> When vessels are laid up, some of the operating costs will be reduced, eg through crew reductions and lower insurance premiums.



maintaining the company's good reputation, the advantage of having ships in the markets when rates rise or other long-term considerations may modify this postulation.

#### *Supply increases – medium term*

In the medium term, the world's shipbuilding capacity plays an important role in connection with the supply of transport services. The reason for this is that the bulk fleet's transport capacity may be increased by the introduction of new tonnage.

The shipyards' order books are influenced by a variety of factors, but the spot market freight rates, and their influence on the expectation of future shipping demand, have proven to be particularly important in determining the activity in the building berths. Several studies have demonstrated the close relationship between the freight rate level and the shipowners' contracting.<sup>38</sup>

The shipyards' order books are also influenced by the cost of acquiring new vessels, which again is determined by the relationship between the supply of ships and the demand for newbuildings. When there is a heavy demand for vessels, eg in a situation where expectations of the future freight level are high, the price of newbuildings increases and the shipyards take the opportunity to fill up their order books. The combination of a high price level and long delivery time will then contribute to a slowing down of contracting. The delivery time for newbuildings may vary from less than a year in periods where there is little demand for new vessels to more than five years in periods where there is a lot of activity in the shipyards.

#### *Supply increases – long term*

If a sufficiently long perspective is chosen, the world's shipbuilding capacity, in connection with the number of shipyards as well as their technology, is a variable factor.<sup>39</sup> The world's shipbuilding capacity is to some extent determined by the owners' expectations about the future demand and supply of various types of newbuildings. It is, however, also influenced to a large degree by the various shipbuilding nations' policies regarding the preservation of labour-intensive industries.

The growth of world shipbuilding capacity in the 1960s and the major role played by several new entrants in the 1970s and 1980s illustrate that the capacity of the shipbuilding industry can be increased relatively easily. However, the massive demand for shipping tonnage resulted in an increase in the amount of tonnage on order. This indicates that there was some degree of sluggishness in the matching of shipbuilding capacity to the demand for ships. Ironically, the European development of the 1970s and 1980s has shown that a

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<sup>38</sup> For early analyses of the mechanisms of the shipping sector, see Einarsen, Johan, *Reinvestment cycles and their manifestation in the Norwegian shipping industry*, Institute of Economics, University of Oslo, Oslo, 1938, Koopmans, Tjalling C., *Tanker Freight Rates and Tankship Building; an analysis of cyclical fluctuations*, P.S. King & son Ltd., London, 1939 or Zannetos, Zenon S., *The Theory of Oil Tankship Rates*, The MIT Press, Cambridge, Massachusetts, 1966.

<sup>39</sup> For an introduction to the technological development in Japanese yards, see Goto, Shin, "Competitive advantage in the Japanese shipbuilding industry: the case of IHI" in Yuzawa, Takeshi (ed.), *Japanese business success – The evolution of a strategy*, Routledge, London, 1994, pp. 119-133.

reduction of the shipbuilding capacity may be just as difficult to implement.

#### *The supply side - summary*

The price of the ships and the shipowners' expectations about the future rate levels play an important role in the shipowners' profitability analyses and investment decisions. The competitive and capital-intensive nature of the shipping industry makes investments, and the calculations forming the basis for these investments, particularly important in determining the success of various shipowners. The investment decisions, regarding the types of ships the shipowners choose to contract, are influenced by the shipowners' sentiments about the future development of the various market segments. The supply side development in the market segments is closely connected to the age and size composition of the existing fleet. On the demand side, the development is influenced by changes in the trade volume of various goods, as well as shifts in the international trade pattern. In addition to this, the technological development, regarding shipping as well as shipbuilding, is of major importance. In the medium term, the shipbuilding industry has great flexibility in their supply of various types of ships. This flexibility makes it possible for shipowners, sometimes even after the original contract has been signed, to choose ship types aimed at certain market segments as a response to the development of the various market segments.

#### The demand side

It has been customary to regard the demand for bulk transport as relatively inelastic with regard to freight rates. The main reason for this is that transport costs in most cases only constitute a small part of the total price, and is therefore relatively insignificant to the consumer.<sup>40</sup> Another cause for this is that the alternatives to seaborne transport are limited for most of the important bulk goods, and alternative sources may be just as scarce as alternative means of transport. It is possible to detect some competition in the market for long-distance shipping. One example is the possibility to transport oil in pipes, another is the choice of shipping ports. Ports can be chosen as to minimise land- or sea-transport, and relative transport costs at land and at sea form the basis for this decision. Eriksen has shown that the notion of inelastic demand in the bulk shipping market should be modified. He has found that the demand for tanker shipping services to a large extent is inelastic, while there is some degree of elasticity with regard to freight rates in the demand for iron ore and coal transport.<sup>41</sup>

The demand side in the bulk shipping market consists of exporters as well as importers. The pattern of demand varies between the different market segments, and this makes it fruitful to present these independently. However, a prominent feature of the bulk market is that the demand for transport services is closely related to the general level of

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<sup>40</sup> This is not applicable to all goods; see for instance the discussion in Norman, Victor D., *The Economics of Bulk Shipping*, Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1979c, p. 9.

<sup>41</sup> Eriksen, Ib Erik, "The Demand for Bulk Ship Services", in Hope, Einar (ed.), *Studies in Shipping Economics, in honour of Professor Arnljot Strømme Svendsen*, Bedriftsøkonomenes Forlag A/S, Oslo, 1981, p. 55.

activity in the world economy, and the industrial production in Western Europe, Japan and North America in particular. Of the six most important bulk commodities, grain is the only one whose demand to some extent is determined independently of the world's level of industrial production. The seaborne grain trade is mainly determined by the weather in the various regions, but it is to some extent also influenced by the international political climate. This was particularly important from the 1960s onwards, when the USSR emerged as an important importer of grain.

Oil is undoubtedly the most important bulk commodity, and the demand pattern for oil tanker shipping will be more closely analysed in the presentation of the market for tankers and tanker shipping services. The most important dry bulk goods are iron ore and coal, both crucial components in the production of steel. In 1972, the iron ore shipments accounted for 20 per cent of seaborne dry bulk shipping, measured in tons, while coal, mostly for the steel industry, accounted for almost 10 per cent.<sup>42</sup>

Variations in steel industry production are often seen as a direct explanation of the changes in the international demand for iron ore and coal transport. The variations in the level of steel industry production are a result of cyclical changes in the level of investments in various countries. These cycles, frequently lasting between seven and eleven years, are usually called Juglar-cycles. A standard explanation of these cycles is that investors in prosperous times invest too much, while their investments are too low during recessions.<sup>43</sup>

Due to the considerable economies of scale in the transport of iron ore and coal, large ships are generally used for this purpose. Steel production is a continuous process, where the costs associated with temporary cessation of production are large. As a result of this, a secure and consistent supply of iron ore and coal is of utmost importance to the world's steel producers. The wish to secure the supply of inputs has led to a substantial degree of vertical integration within the steel industry, and most of the iron ore- and coal-shipments are consequently organised through long-term contracts between the steel producer and the supplier of the shipping service.<sup>44</sup>

The large amount of ore and coal resources, and steel production, in the United States makes the country relatively insignificant for the world trade in these commodities. Japan and Western Europe are the most important iron ore and coal importers. Japan undoubtedly has particular significance; in the middle of the 1970s the country accounted for as much as 43 per cent of the world's iron ore import, measured in tons, and 55 per cent measured in ton-miles.

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<sup>42</sup> Figures from Maritime Transport Research and Shipbuilder's and Repairer's National Association's analysis of the dry bulk market, quoted in *Norwegian Shipping News*, No. 18, 1976, pp. 24-25. These figures are by and large supported by *Review 1972*, Table 1, p. 8.

<sup>43</sup> Tylecote, Andrew, *The Long Wave in the World Economy - the current crisis in historical perspective*, Routledge, London, 1991, p. 8.

<sup>44</sup> For an introduction to the rationale behind vertical integration, see Caves, Richard, *American Industry: Structure, Conduct, Performance*, Foundation of Modern Economics Series, Prentice Hall Inc., Englewood Cliffs, New Jersey, 1964, pp. 42-49. In some countries, the authorities have advocated and sponsored the formation of large, integrated steel producers, see for instance Hannah, Leslie, *The Rise of the Corporate Economy*, Methuen, London, 1983, p. 151.

The corresponding figures for Europe were 46 and 38 per cent respectively. The importance of Japan as a major demander of dry bulk shipping services is even more apparent when it comes to international coal trade. In the middle of the 1970s, more than half of the amount of coal transported by sea was imported by Japanese corporations. To get a correct picture of the demand for shipping capacity, we have to take into account transport distance as well as transport volume, and this gives a further increase in the Japanese importance. As much as 72 per cent of the world's seaborne coal, measured in ton-miles, went to Japan. Because of the continent's proximity to the sources, the European importance is reduced when ton-miles is used as the basis for comparison. Europe accounted for 46 per cent of the imports, measured in tons, but only 24 per cent measured in ton-miles.<sup>45</sup>

The international grain trade is not as influenced by business cycles as the iron ore and coal shipments, but, nevertheless, has larger fluctuations.<sup>46</sup> The demand for grain transport capacity is to a great extent determined by the crops in various regions, as well as by international political relations. Due to the political influence on the international grain trade, a substantial part of the seaborne grain is reserved for ships belonging to the import- and export-nations. In connection with the USSR's large import of grain from the United States in 1972, two thirds of the shipments were reserved for Soviet and American ships.<sup>47</sup> Because the industrial activity in the world economy is of little importance for the level of grain shipments, the demand for grain transport capacity does not necessarily follow the general trend in the dry bulk market. Such atypical behaviour was apparent in 1975, when the demand for grain transport increased in a market generally characterised by recession.

Of the five most important dry bulk goods, bauxite/ aluminium and phosphates are the least significant. The demand for these commodities is strongly correlated with the world's industrial activity, and the transport demand they generate is therefore connected to that of iron ore and coal. As in the market for the other important dry bulk goods, there is a large degree of concentration in the international bauxite/ aluminium and phosphate markets. Semi-public companies in Jamaica, Australia and Guinea account for two thirds of the world's bauxite exports, while four vertically integrated American corporations own 44 per cent of the world's alumina-capacity. In the latter part of the 1970s, the United States imported more than half of the world's bauxite- and alumina-export.<sup>48</sup> This implies that long, trans-Atlantic shipments of bauxite are taking place, despite the fact that every stage in the production process, from bauxite to alumina and from alumina to aluminium, halves the weight of the

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<sup>45</sup> The figures quoted above are taken from Nersesian, *op.cit.*, 1981, Table 4.5, p. 57.

<sup>46</sup> According to calculations in Fon, Anders Martin, "Two Markets or One? - An Historical Study of Price Behaviour in the Tanker and Dry Bulk Shipping Markets, 1955-1973", *International Journal of Maritime History*, Vol. VII, No. 2 (December 1995), p. 120, the iron ore and coal rates correlate better than grain with the fluctuations in an aggregate dry bulk-index. The correlation of iron ore can, to some extent, be explained by the fact that this commodity weighs rather heavily in the same index.

<sup>47</sup> Seland, Johan, *Norsk skipsfart år for år 1946-1976*, edited by Arnljot Strømme Svendsen, Fagbokforlaget, Bergen, 1994, p. 207.

<sup>48</sup> Nersesian, *op.cit.*, 1981, p. 57.

commodity which needs transporting.<sup>49</sup> The heavy concentration in this market is one reason that most of the transport is organised through long-term agreements, and in many cases there is a long history of cooperation between the shipper and the shipowner.

On the demand side, where large, vertically integrated corporations tend to dominate, the heavy concentration has led to a situation where a large share of the bulk shipping services is performed by vessels owned by the companies themselves, or by the fleets of independent shipowners who cooperate closely with the large corporations. In the case of commodities which have to be transported in purpose-built vessels between otherwise little used ports, the large corporations typically choose to integrate the transport service in their production process.<sup>50</sup>

An analysis conducted by the United Nations Conference on Trade and Development claimed that less than ten per cent of the world's bulk tonnage was available in the open market.<sup>51</sup> Even though the above figure undoubtedly can be regarded as exaggerated – all vessels on charters were regarded as closely connected to the charterers – there is little doubt about the fact that the international market for bulk shipping services is influenced by the high concentration on the demand side. Chida and Davies have shown how Japanese corporations use long-term contracts to secure that the transport function is artificially integrated in the company's production process.<sup>52</sup> Large international companies are not the only agents known to use their negotiating strength; another potential obstacle to the free market mechanism is the discrimination performed in connection with the shipping policies of some importing and exporting nations.

### Freight rate determination

The freight rate is the price paid for the carriage of an item or a given volume of merchandise. As previously mentioned, the development of the bulk market is often regarded as a result of the supply- and demand-development in four closely related markets; the spot market, the charter market and the markets for new and second-hand ships. The relationship between the rate determination in the spot and period markets will be expanded upon in connection with the analysis of the tanker sector.<sup>53</sup>

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<sup>49</sup> Wells, Louis T. Jr., "Minerals: Eroding Oligopolies" in Yoffie, David B. (ed.), *Beyond Free Trade – Firms, Governments and Global Competition*, Harvard Business School Press, Boston, Massachusetts, 1993, pp. 335-337.

<sup>50</sup> Barry, David, Casson, Mark and Horner, Dennis, "The Shipping Industry", in Casson, *op.cit.*, 1986, p. 345.

<sup>51</sup> UNCTAD, *Merchant Fleet Development: Guidelines for Developing Countries*, report from UNCTAD's secretariat, TD/B/C.14/186, United Nations, Geneva, 1979, p. 11, quoted in Cafruny, *op.cit.*, 1987, pp. 259-262. The criteria which are laid down by UNCTAD to characterise "free market availability" are extremely strict. Consequently, organisations such as OECD, have voiced their scepticism regarding these results.

<sup>52</sup> Chida, Tomohei and Davies, Peter N., *The Japanese shipping and shipbuilding industries: a history of their modern growth*, Athlone Press, London, 1990, pp. 177-180.

<sup>53</sup> A large number of models have been developed to estimate the rate determination in the international market for bulk shipping. Eriksen, Ib Erik and Norman, Victor D., *Ecotank - modell for analyse av tankmarkedenes virkemåte* [Ecotank – Econometric Model for Tanker Companies], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1976, and Norman, Victor D. and Wergeland, Tor, *Nortank - A Simulation of the Freight Market for Large Tankers*, Center for Applied Research Report 4/1981,

In the long run, several adjustment mechanisms lead towards an equilibrium in the market for bulk shipping by improving the balance between supply and demand. The long-term market equilibrium, where actual transport capacity equals the, at any time, optimal capacity, is re-established by changes in the freight rate level, the price of vessels and the capital structure in the market.

One of the most important adjustment mechanisms is that the market reacts to surplus capacity by a reduction in freight rates, in turn reducing the shipowners' profit and the value of their vessels. The reason for this is that when the actual transport capacity exceeds the transport demand, the competition in the freight market will make the suppliers of transport services offer their ships at lower rates in order to secure employment for their vessels. The decrease in freight rates will reduce the profit of shipowners, and simultaneously lead to a fall in the value of the company's ships. This reduction in the value of the shipowning company's assets is a result of decreasing prices for second-hand vessels due to a fall in expected revenue per ship and, consequently, shipping profits.

The reduction in ship values will make it profitable to demolish the least economical ships, leading to a reduction in supply, that is, a reduction in the number of ships.<sup>54</sup> The mechanisms underlying this demolition process might be seen as a micro-version of what Schumpeter calls "creative destruction". In this connection, the least economical ships, not the least efficient businesses, end up as casualties of the crisis.<sup>55</sup> Moreover, the decreasing ship values lead to a reduction in capital costs for agents purchasing vessels, thus making it economically justifiable to use these vessels in a less intensive manner. Consequently, there may be a reduction in the productivity of each vessel, ie a decrease in the utilisation coefficient. The combination of these mechanisms – the reduction in the number of ships and the reduced productivity per ship – can contribute to increased balance between supply and demand in the market for bulk shipping services.<sup>56</sup>

The fact that the international market for shipping services incorporates several of the factors characterising a free market is insufficient to secure an optimal fleet structure in the long run. The market for bulk shipping, in its dry bulk as well as liquid bulk variety, is characterised by long periods where the actual fleet deviates from the economically optimal capacity. The period which is the focus of this thesis is a very good example of a tremendous imbalance in this respect. One result of the deviations between actual and optimal transport capacity is a considerable waste of resources. In periods with overcapacity, the laid-up tonnage is left idle, and this is an obvious type of inefficiency. In periods where transport demand exceeds tonnage supply, there are costs associated with the fact that the fleet is

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Norwegian School of Economics and Business Administration, Bergen, 1981b are examples of models which describe important aspects of the market.

<sup>54</sup> For an introduction to how organised demolition may be beneficial, see Andreassen, Jan A. Berg, "Some aspects of a scrap-and-build scheme", *Norwegian Shipping News*, No. 21, 1978, pp. 14-16.

<sup>55</sup> See Schumpeter, J. A., *The Dynamics of Competition and Monopoly*, in Hunter, Alfred (ed.), *Monopoly and Competition*, Penguin, Harmondsworth, 1969, pp. 40-42.

<sup>56</sup> This presentation is extremely simplified, and leaves out several of the mechanisms influencing the dynamics of such a model. It is, however, valid and useful as a structural framework.

operating at higher than optimal speed, as well as adverse effects on world trade and the international division of labour.<sup>57</sup>

It has been claimed that even though overcapacity in the international market for shipping services can be regarded as ineffective resource-utilisation in an international perspective, some countries may benefit from the fact that freight rates are kept at a relatively low level. The large Japanese need for raw material imports makes the country extremely sensitive to high transport costs. Due to this, Japan may benefit from a situation where the supply of shipping transport capacity exceeds demand, and transport costs are kept at a relatively low level.<sup>58</sup>

Shipping, and the dry bulk and tanker markets in particular, is characterised by large fluctuations in the short-term spot market rates.<sup>59</sup> This has historically been one of the most significant features of these markets, and some of the earliest applied econometric models were attempts at estimating rate movements in the international market for shipping services.<sup>60</sup> The freight rates are often regarded as unpredictable, as it has been impossible to find a clear and unambiguous pattern in their movements. These strong fluctuations, which are often called the *cycles* in the market for shipping and ships, exist as a result of more general *business cycles*; fluctuations in the level of activity in the world economy in general. The fluctuations created by these business cycles are amplified by imbalances in demand and supply, caused by erroneous expectations on the demand and supply sides in the shipping market.<sup>61</sup> The fluctuations in the level of activity in the world economy can have a variety of causes, for instance multiplication effects of investment and inventory increases or random shocks.

Stopford has analysed the dry bulk market and found that the fluctuations in the level of activity in the world economy is a powerful influence on the freight rate level and ship prices.<sup>62</sup> The indirect effect, the influence of economic activity on ship prices, is in accordance with the strong correlation between the freight rate level and ship prices found by several researchers. The shipping market's response to international business cycles is to a large extent the same as those predicted in a model of a perfectly competitive market. Norman has, however, pointed out that the actual market development deviates from that of a "textbook"-

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<sup>57</sup> Norman, Victor D., "Shipping Problems - has the market mechanism failed?", *Norwegian Shipping News*, No. 7, 1976, pp. 25-27; edited summary of a lecture held in *Polyteknisk Forening*.

<sup>58</sup> Poeth, Guy, "Encoding the Probabilistic Character of the Freight Market in Decision-making Models", in Lorange & Norman, *op.cit.*, 1973, p. 132. The benefits from the low level of freight rates must be weighed against the reduction in income for the Japanese fleet as a result of the low freight rate level. As Japan was the most important shipbuilding nation, another important factor which must be taken into account is the negative effects on newbuilding prices.

<sup>59</sup> For a short introduction to the implications of these fluctuations on shipowning companies, see Goss, Richard O., "A Comment on Risk Preference and Shipping Decisions", in Lorange & Norman, *op.cit.*, 1973, p. 182.

<sup>60</sup> See for instance Koopmans, *op.cit.*, 1939.

<sup>61</sup> Bøe, Øystein and Hope, Einar, "Investment Behaviour in Norwegian Bulk Shipping", in Hope, *op.cit.*, 1981, p. 44.

<sup>62</sup> Stopford, *op.cit.*, 1988, pp. 84-85. Among other things, he claims that it is possible to detect a one year lag between the movements, probably as a result of the inventory effect.

market on two accounts.<sup>63</sup> The first divergence is a result of the fact that the markets for ships – newbuildings as well as second-hand ships – react relatively slowly to changes in transport demand. In addition to this, and more importantly, there are imperfections with regard to long-term capacity adjustments.

### 2.3. The Markets for Tanker Transport and Tankers

This subchapter is first and foremost a more thorough introduction to the markets for tanker transport and tankers, with particular emphasis on the features which separate these markets from the previously presented segments of the bulk sector. The main reason for the thorough presentation of the tanker market is the hypothesis that some of the particular features of the markets for tanker transport and tankers play an important role in explaining the extraordinary development of these markets in connection with the international shipping crisis. The structure of the international tanker market is of particular relevance in this explanation.

As previously mentioned, the bulk sector covers the transport of dry as well as liquid goods, and it is primarily the liquid goods which are shipped in tankers. Tankers may also be used for transport or storage of some dry bulk goods, principally grain and cement, but this is usually an exception rather than a rule, and not of particular importance for the functioning of the markets for tanker shipping and tankers. There are, however, several connecting links between the markets for tanker and dry bulk shipping, and in this connection it is in particular the existence of combination carriers which may make an isolated analysis of the tanker sector misleading.

The goods transported in the liquid bulk market are usually divided into three groups, and these accounted for approximately half of the world's seaborne trade, measured in tons, at the start of the 1970s. The decidedly biggest part of this market segment is the transport of oil and oil products, and it is this part of the liquid bulk market which I refer to when I use the term *the tanker market* at later stages in the thesis. In the middle of the 1970s, the transport of crude oil was approximately ten times as large as the transport of oil products, measured in ton-miles. In addition to crude oil and oil products, the tanker market covers the transport of liquefied gases and chemicals in purpose-built tankers.

Gas tankers are built for the transport of condensed gases in tanks. In 1974 these ships made up 0,8 per cent of the world fleet, and in extent of one per cent of Norwegian tonnage.<sup>64</sup> Chemical tankers accounted for 1,6 per cent of the Norwegian fleet in 1975, and these participate, like gas tankers, in a very specialised segment of the liquid bulk sector.<sup>65</sup> Gas and chemical tankers operate outside what is generally regarded as *the tanker market*, and there are several differences between these and the more conventional oil tankers. The advanced

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<sup>63</sup> Norman, *op.cit.*, 1979c, p. 26.

<sup>64</sup> These percentages denote the share of gross tonnage and originate with Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 38. The relatively high cost per dead weight ton of gas and chemical tankers implies that the investments in these vessels are higher than the grt- or dwt-share of the fleet indicates. See Chapter Nine for an elaboration.

<sup>65</sup> Calculations from Fearnley & Egers Chartering Co., *Review 1974*, Table 19 and 20, p. 21.



technology utilised in the construction of gas and chemical tankers makes them more expensive than similarly-sized oil tankers, and the operating costs per dwt are higher than for larger tankers. As gas and chemical carriers operate in a very limited segment, seen in relation to the total market for oil and oil product transport, they will by and large be omitted from the presentation of the markets for tankers and tanker services. If it is not particularly pointed out, the term *tankers* therefore refers to oil tankers.<sup>66</sup>

The demand for tankers and tanker services can be derived from the demand for crude oil and oil products. Accordingly, there is a very close relationship between the world's oil import and the international demand for tanker shipping. Originally, the market for oil was an oligopolistic market where five American and two European corporations maintained a dominant position. Until the start of the 1960s, these *Seven Sisters* controlled production, distribution and sale in all the important oil-producing countries in the non-Communist world.<sup>67</sup> As a result of this, tanker owners and oil-producing countries found themselves in a situation where they to some extent depended on the large oil corporations.<sup>68</sup>

In 1960, five of the most important oil producing countries founded OPEC, the Organisation of Petroleum Exporting Countries, with a view to creating a cartel which could succeed in reducing the power of the international oil corporations.<sup>69</sup> OPEC's membership and importance in the market for oil gradually increased. However, the large oil companies continued to be an important influence in the markets for oil transport and oil tankers. This was primarily a result of the fact that the oil companies operated on both the demand and the supply side in the market for tanker shipping.

### **2.3.1. The supply side**

The supply side in the market for tanker transport will to a large extent function in the same manner as in the market for bulk transport in general. Just like in the rest of the bulk market, the scope of analysis is important in determining the shape of the supply curve. In the short term, the existing tonnage constitutes an upper end limit for the supply of tanker capacity; in the medium term, the only supply restriction is the capacity of the shipyards. A characteristic feature of tanker transport supply is that the supply curve is shaped in a manner which

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<sup>66</sup> The markets for gas, chemicals and oil tankers are, however, related in a lot of the areas presented at the start of Chapter 2.1. For an introduction to the markets for gas and chemicals transport, see for instance Svendsen, Ann Elisabeth, *Gass-skipsfart* [Gas shipping], SNF-report No. 54/1992, The Foundation for Research in Economics and Business Administration, Bergen, 1992 and Østensjø, Pernille, *Chemicals shipping*, SNF-report No. 53/1992, The Foundation for Research in Economics and Business Administration, Bergen, 1992.

<sup>67</sup> The *Seven Sisters* were the American companies Chevron, Exxon, Gulf, Mobil and Texaco and their two European siblings British Petroleum and Shell.

<sup>68</sup> Bennett, P. G. and Giesen, M. O., "Aristotle's Fallacy: A Hypergame in the Oil Shipping Business....", *Omega*, Volume 7, No. 4, 1979, p. 310.

<sup>69</sup> The founding members of OPEC were Iran, Iraq, Kuwait, Saudi Arabia and Venezuela. The five founding members were joined by Qatar in 1961, Indonesia and Socialist Peoples Libyan Arab Jamahiriya in 1962, United Arab Emirates in 1967, Algeria in 1969 and Nigeria in 1971. Ecuador and Gabon have also been members of the organisation. For a short introduction to the effects on shipping of the creation of national oil corporations, see Taher, A. H., "The future role of the national oil companies in the world petroleum industry", *Norwegian Shipping News*, No. 1, 1978, pp. 15-16.

indicates that the supply elasticity, with regard to freight rates, is small when the transport capacity is fully utilised, but very large in periods where there is excess transport capacity. The shape of the tanker market's supply curve is very important in explaining the large fluctuations in the spot market rates.

In economic models, the short-term supply of tanker tonnage is usually presented as a function of freight rates, the price of inputs and the production possibilities, which first and foremost denote the technological level.<sup>70</sup> These models of tanker shipping supply are based on the postulation that the international market for tanker transport is a competitive market, where the agents are unable to influence the rate determination through utilisation of market power.

A lot of the early studies of the international market for tanker services regarded it as *one* market, where perfect substitutability existed between the vessels of different sizes.<sup>71</sup> Strandenes has later shown that complementarity, rather than substitutability, is the best way to describe the relationship between the very large and the very small tankers.<sup>72</sup> This effect has become more important with the increase in vessel size which has made loading and unloading impractical or impossible in many harbours. In some situations, it is possible to substitute tankers with other vessels in different classes, but only tankers in the "neighbouring" classes will represent a full-fledged alternative means of transport. Due to this lack of substitutability, it is correct to claim that, even within the tanker sector, several market segments exist, and these do not necessarily develop in the same manner. One of the particular features of the development of tanker freight rates in connection with the international shipping crisis was the increasing differences in freight rate levels between various classes of ships.

One of the common assumptions in economic models is that the supply side of the international market for tanker services is atomistic, and thereby embodies the same characteristics as the supply side in a competitive market model. Some of the features of the supply of tanker services indicate that this assumption is not obvious. Historically, the oil companies have integrated the transport service in their own production function. By the turn of the century, the oil corporations owned more than 90 per cent of the world's tanker tonnage. Gradually, the transport was separated from the oil companies' other areas of activity, making it possible for independent shipowners to perform a larger share of the world's oil transportation. The oil companies retained parts of their fleets, however, and in the

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<sup>70</sup> See for instance Myklebust, Ivar Hansson and Rasmussen, Per-Hermod, *Rusty Buckets and Bitter Lemons?*, unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1992, pp. 27-28 for a presentation of the supply side in a simple model of the tanker market. For a more advanced model, see Norman & Wergeland, *op.cit.*, 1981b, pp. 22-25.

<sup>71</sup> In Glen, D., Owen, M. and van der Meer, R., "Spot and Time Charter Rates for Tankers 1970-77", *Journal of Transport Economics and Policy*, No. 1, 1981, p. 49 it is claimed that the little attention paid to the lack of substitutability between ships of different classes resulted in erroneous conclusions in a classic study; Zannetos, *op.cit.*, 1966.

<sup>72</sup> Strandenes, Siri Pettersen, "Demand Substitution Between Tankers of Different Sizes", in Hope, *op.cit.*, 1981, p. 72.

1960s and 1970s roughly one third of the world's tanker tonnage was owned by the oil companies.

The tanker sector is therefore a rather good example of a market where large international companies were vertically integrated into the market for shipping services. In 1974, the seven largest oil companies owned approximately 50 million dwt of tanker capacity, equalling approximately 25 per cent of the world fleet. The biggest tanker operator was Exxon, which accounted for approximately 28 per cent of the tonnage owned by the *Seven Sisters*.<sup>73</sup> The oil companies' share of the world fleet increased in the wake of the international shipping crisis; in 1972 they owned 33 per cent of the tanker transport capacity, whereas the corresponding figure for 1978 was 40 per cent. However, the fact that approximately two thirds of the fleet was controlled by independent owners indicates that there is a high degree of competition in the market for tanker shipping.

Most of the tonnage which the oil companies did not own, was owned by independent shipowners. They sold their services in the tanker market, either as short-, medium- or long-term contracts or in the spot market, where shipping capacity was sold on a single voyage basis. It has been common to regard approximately 60 per cent of the independent tanker fleet as tied to the oil companies through contracts of various length, whereas the rest of the independent tonnage was offered in the spot market. However, the amount of the independent tonnage operating in the spot market varies with the freight rate level. Tormod Rafgård, managing director of Intertanko, claimed at the end of the 1970s that while only ten per cent of all oil shipments were transported in the spot market, at very high rates, in 1973, as much as 25 per cent of the tanker tonnage was engaged in this market, at very low rates, in 1978.<sup>74</sup> The freight rate level in the spot market is extremely flexible; in the autumn of 1973, the spot market rates fell so much that the gross income of a trip from The Persian Gulf to Western-Europe was reduced by \$8 million within a three-week-period.<sup>75</sup>

The oil companies initially cover their transport requirements by means of their own ships. There has always been large differences between the various companies with regard to the size of the "in house"-fleets. Some companies owned as much as 80 per cent of their tonnage requirements in the 1970s, but in aggregate about a third of the fleet was owned by the oil companies in 1972.

Capacity requirements which exceed the company's own and chartered tonnage has to be bought in the spot market. If the supply elasticity with regard to freight rate levels had been constant, the rate variations for the ships in the spot market would correspond to the variations for ships in other markets. However, as a result of the reduced elasticity in periods with large

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<sup>73</sup> These calculations are based on Fearnley & Egers Chartering Co. Ltd., *Review 1975*, Table 3, p. 15 and Ratcliffe, Mike, *Liquid Gold Ships. A History of the Tanker 1859-1984*, Lloyd's of London Press Ltd., London, 1985, pp. 127-128.

<sup>74</sup> Rafgård, Tormod, "Oil transportation in tankers - getting cheaper and cheaper", *Norwegian Shipping News*, No. 21, 1979, p. 29. This development will be analysed in detail at a later point.

<sup>75</sup> Porter, Michael, "The Oil Tanker Shipping Industry", in Porter, Michael (ed.), *Cases in Competitive Strategy*, Free Press, New York, 1983, p. 55.

demand, the spot market tonnage, also called “the marginal tonnage”, is exposed to the largest variations in the freight rate level. On the inelastic part of the supply curve, small changes in tanker transport demand will lead to large changes in the freight rate level. In contrast to this, there will be small or no changes in the freight rate level if the demand increases on the rate-elastic part of the supply curve.

An analysis of the spot market supply- and demand-conditions shows that the rate determination to a large extent depends on the initial freight rate level. If the initial rate level is relatively low, a considerable demand increase will not lead to any large changes in the freight rate level. The reason for this is that the elasticity of the tanker supply is extremely high when there is a large unutilised tonnage capacity. In periods with a high freight rate level, a small increase in the demand for tanker transport services will lead to large changes in the spot market rates. Consequently, a characteristic feature of the spot market rate determination is that freight rate fluctuations are large in periods where most of the fleet is employed, but small in periods where there is a large tonnage surplus available.

Figure 2.1. Supply and demand for shipping services

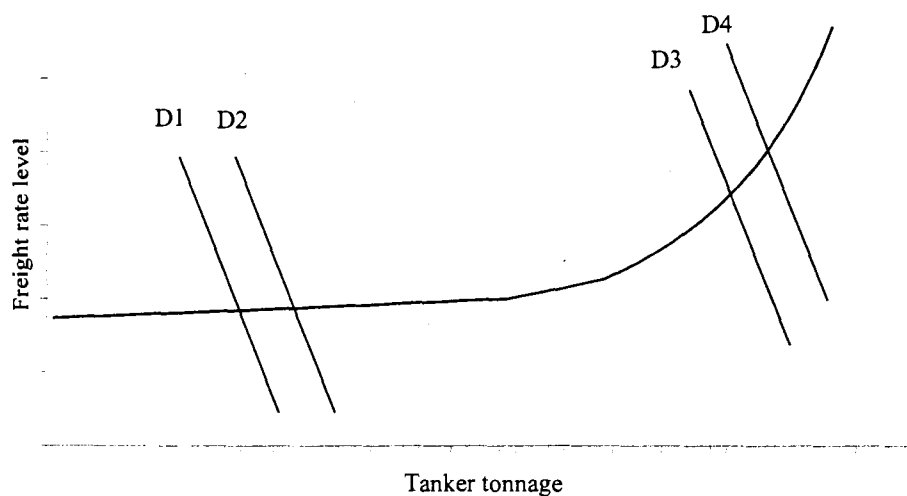


Figure 2.1 illustrates the manner in which the determination of freight rates varies with the state of the shipping market. In periods with high demand, the price shippers are willing to pay to obtain transport capacity may be considerable. The reason for this is that at these times, the rates are determined by the value that the buyers of transport services put on additional transport capacity. The value of the goods transported is relatively high compared with the cost of transportation. This implies that there are considerable costs for shippers if they are unable to transport their goods to the market in which the goods are to be sold. The demand-determined value of additional transport capacity may thus be significantly higher than the cost of providing this capacity, leading to a great profit-potential for shipowners with available tonnage. The mechanism is particularly manifest in the tanker sector, as the proportion of the freight rate relative to the value of the cargo transported is considerably smaller than for any other bulk commodities.

As expected, rates tend to be low in periods of overcapacity. A demand increase will

attract laid up tonnage, accepting the prevailing rate level, and rates will not increase in the manner seen when there is no unused capacity. The price is determined on the supply side, and the price of additional capacity is determined by the shipowner's costs of providing this capacity, rather than the value of the transport capacity for the shipper.

Despite the fact that the structure in the market is of a kind which makes it possible for the agents to reduce competition through cooperation, it is the conduct of the agents which indicates whether the market functions in accordance with the principles of perfect competition. There are several indications that this is the case in the spot market for tanker transport. A similar distinction between market structure and market conduct has played an important role when questions of abuse of market power have been taken to the American judiciary.

One indication is the fact that what we can call the secondary markets, the markets for freight contracts, newbuildings and second-hand ships, are developed. It is necessary for these markets to function if the primary market, ie the spot market for tanker transport, is to be considered a perfectly competitive market. Shipping is one of a handful of industries where it is sometimes possible to sell the means of production after five to ten years of use for a price in the same range as historic costs. This is of course a reflection of the fluctuations of the prices in the markets for new and second-hand ships. In addition to this, the shipping sector only has limited economies of scale at the company level. The economies of scale are as a rule connected to the size of the ship, and as a result of the division of the shipping market into segments composed of relatively similar ships, economies of scale have little effect on the marginal cost curves of the various suppliers.

The strong fluctuations in the spot market indicate that the price determination process is extremely flexible. To have a flexible price determination mechanism, information must be easily available and personal preferences can not influence the decisions of suppliers and buyers to any considerable extent. The way the international market for tanker services is organised, it is easy for suppliers and demanders to find the "correct" price, seen in relation to aggregate supply and demand. This price will then only to a negligible extent be influenced by factors such as personal relations, structural factors or other forms of regulation.<sup>76</sup> The efficiency of the market is to a large extent a result of the work done by shipbrokers, spreading information and linking agents on the supply and demand sides. As a result of the work of the shipbrokers, the agents have information about elements such as marginal costs and marginal demand. This is necessary for a competitive market price determination to take place.

Despite the near perfect competition in the international market for tanker services, it is possible to detect some aspects which do not fulfil the conditions usually associated with a

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<sup>76</sup> There is little doubt about the fact that personal relations are extremely important in the shipping business. The main effects of the personal relations are however of a kind which do not generally interfere with the price determination process. The relationship between someone who supplies and someone who demands a shipping service may influence the ranking of approximately identical offers, but has little relevance outside this situation.

perfectly competitive market. The large oil companies may reduce the competition on the supply side as they own or control a considerable share of the world tanker fleet, but this possibility is generally not taken advantage of. The ability to use monopsonistic measures to reduce competition is regulated by the American Antitrust-measures, and this influences the behaviour of the large American oil companies. Moreover, it is doubtful whether it is feasible for the oil companies to make long-term profits from monopsonistic behaviour, even if it was legal, and, consequently, they are not necessarily in favour of a depressed freight rate level.<sup>77</sup> The first reason for this is that it will be difficult to behave in a monopsonistic manner indefinitely unless there are certain barriers to entry or exit, and there are no such barriers in the oil tanker shipping market. According to Bailey and Baumol, “...neither large size nor fewness of firms necessarily means that markets need function unsatisfactorily. Impediments to entry and exit, not concentration or scale of operations, may be the primary source of interference with the workings of the invisible hand.”<sup>78</sup> In addition to this, manipulation of freight rates by means of market behaviour would necessitate large investments in additional storage capacity. The costs of a monopsonistic behaviour may therefore easily exceed the gains resulting from this behaviour. Consequently, there are strong indications that the supply side in the international market for tanker services is very much like the ideal in the theory of perfect competition.

### **2.3.2. The demand side**

Oil is of utmost importance to the industrial activity and infrastructure of the modern world, and the replacement of oil with alternative sources of energy is in most cases a difficult and time-consuming process. As a result of this, it is customary to regard the demand for oil as very inelastic in the short run, and the seaborne volume of oil will therefore only to a small extent be influenced by changes in the price of the commodity or the transport service. Because there are few alternatives to maritime transport in connection with the international sale of oil, the demand for oil transport will only change marginally as a result of changes in the freight rate level.

The demand for oil tanker transport can, in a very simplified manner, be seen as a function of the demand for oil and the distance between the most important production- and consumption-centres.<sup>79</sup> In such a setting it is relatively easy to identify the factors that will give an increase in the tanker transport demand. The most straightforward link is between an increase in the demand for oil, for instance as a result of increased demand for energy or a shift between various sources of energy in favour of oil, and an increase in tanker transport

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<sup>77</sup> Zannetos, Zenon S., “Market and Cost Structure in Shipping”, in Lorange & Norman, *op.cit.*, 1973, p. 38.

<sup>78</sup> Bailey, Elizabeth E. and Baumol, William J., “Deregulation and the Theory of Contestable Markets”, *Yale Journal on Regulation*, Volume 1, 1984, p. 111.

<sup>79</sup> In this connection, the fact that oil demand to some extent is seasonal and the fact that transport demand has tended to have two annual peaks is not taken into account. One peak is late in the autumn in connection with the demand for fuel oil and the other is in the winter months in the northern hemisphere, when the weather reduces the speed of the tankers. These seasonal variations are of little consequence to the analysis presented here, and will therefore be neglected in the rest of the analysis.

demand. Alternatively, there will be a shift in tanker tonnage demand if there is a change in the relative importance of the major production centres. If the oil producing areas with increased importance are situated further away from the consumption centres, there will be an increase in tanker transport demand.<sup>80</sup> The same effect will of course be the result of an increase in the importance of consumption centres relatively far away from the main sources.

In addition to this, oil tanker transport demand will increase, or decrease, as a result of changes in the shipping routes which can be used by the tankers. One example of this is the closure of the Suez-canal which contributed massively to the 25 per cent increase of average oil shipping distances between 1966 and 1968. Finally, a reduction of the transport of oil in pipelines will give an increase in the demand for tanker transport.<sup>81</sup>

In the long run, there will be far greater flexibility in the demand for oil and, consequently, in the demand for oil tanker transport. The technological development is responsible for much of this flexibility. The demand for oil increased enormously in the period after the Second World War, both as a result of its increased importance relative to other sources of energy and as a result of a massive increase in the consumption of energy per capita. In addition to this, there was a strong increase in the use of oil for other purposes than energy, first and foremost in connection with the production of petrochemical products such as plastics and synthetic fibres.<sup>82</sup>

The demand for seaborne oil transport grew faster than the oil consumption in the postwar years, among other things as a result of a considerable increase in shipping distances. In 1948, the United States were forced, for the first time, to import oil to cover their own consumption, and approximately 20 per cent of American oil imports were delivered from the Middle East.<sup>83</sup> This was one of several examples of the increase in distance between the source and the consumer. In addition to this effect, there was the effect of the increases in average shipping distances resulting from the closures of the Suez-canal. In the decade after 1962, the seaborne trade in crude oil, measured in tons, increased by 220 per cent. If the changes in distances are taken into account as well, the crude oil transport growth exceeds 350 per cent.<sup>84</sup> Another reason for the increase in tanker transport demand was the movement of the oil refining process from the producing to the consuming country. As a result of this development, the tankers had to transport crude oil, which is relatively voluminous compared with oil products.

In a longer perspective the world economy's dependence on oil is more flexible.

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<sup>80</sup> Of course, this also implies that a relative increase in the production centres near to where the oil is consumed, for instance in the North Sea, Alaska and China, will give a reduction in the importance of the Middle East, and consequently reduced transport demand.

<sup>81</sup> An example of this can be found in 1970, when a shovel destroyed Tapline, a pipeline annually transporting 25 million tons of oil from Arabia to the Mediterranean. At the time, this was used as an explanation of the tanker transport demand increase, see Fearnley & Egers Chartering Co. Ltd., *Review 1970*, p. 16.

<sup>82</sup> For an introduction to the importance of the oil crises on the production of petrochemical goods, see "The impact of the oil crises", *Chemicalweek*, August 2, 1989, pp. 64-72.

<sup>83</sup> Harlaftis, Gelina, *Greek shipowners & Greece 1945-1975*, The Athlone Press, London, 1993, p. 41.

<sup>84</sup> Calculations from Fearnley & Egers Chartering Co. Ltd., *Review 1972*, Oslo, 1973, Table 1 and 2, p. 8.

Consequently, the demand for oil can be reduced if the price, relative to alternative sources of energy, increases as a result of an increase in the price of oil itself or in the price of oil shipments. Again, the technological development plays a prominent part in the determination of demand. On the one hand, the technological development makes it possible, or economically justifiable, to utilise alternative sources of energy or factors of production. On the other hand, it will be possible to find production methods which reduce the oil consumption, for instance by means of energy-saving measures which will be more profitable to implement given a higher price of oil.

It is not only the demand for oil which will be more flexible in a long-term perspective; there will also be greater elasticity in the demand for oil tanker transport. A strong increase in the price of oil tanker transport will make it relatively more profitable to construct and utilise alternative means of transportation, for instance pipelines. A freight rate increase can also make it more advantageous to develop oil fields which previously were unprofitable to exploit, but which are situated near the most important consumption centres. These oil fields will become profitable to utilise as a result of the relative price increase of oil from more distant sources. As a result of this, the demand for tanker transport can be seen as considerably more flexible in the long term than in the short term.

### Rate determination in the tanker market

Generally speaking, the market for tanker services will be regulated by the same mechanisms which create an equilibrium in the market for dry bulk shipping. As previously mentioned, the rates are a result of the demand- and supply-side development in the period market, the spot market and the markets for new and second-hand tonnage. Thus, the shape of the demand- and the supply-curves in the spot market plays an important role in a presentation of the rate determination process in the tanker market.

The rate determination in the market for tanker transport has important linkages to the markets for newbuildings and second-hand vessels.<sup>85</sup> The spot market is influenced by these markets through their importance for the size of the tanker fleet, which determines the long-term supply of tanker services. Moreover, the spot market affects these markets because the demand for tankers is determined by the shipowners' expectations about the future freight rates. Price differences between newbuildings and used tonnage will come about as a result of differences in expected profits from new and second-hand vessels. Second-hand vessels can be offered in the spot or period markets immediately, whereas newbuildings will not be available until after a building period which in some instances may last as long as five years. Differences in technological standards and financing possibilities are additional reasons for price differences between newbuildings and second-hand tankers.

There are some differences between the tanker market and the dry bulk market

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<sup>85</sup> Hawdon, D., "Tanker freight rates in the short and long run", *Applied Economics*, 1978, vol. 10, pp. 203-217 sees the spot market rate as determined by a series of relations between the market for tanker services and the market for tankers.



regarding the construction of newbuildings. Because most yards in general can produce both tankers and bulk carriers, the supply of tanker newbuildings will be negatively correlated to the price of bulk carriers. If the price of bulk carriers increases relative to the price of tankers, the yards are more likely to build bulk carriers. This will happen if, for instance, the rate level or expectations about the future freight rate level increase more in the dry bulk market than in the tanker market. The demand for newbuildings is determined by several factors, but it has been suggested that it can be seen as a result of the spot market rates, the size of the shipyards' order books and the size of the fleet at the moment a contract is entered into.<sup>86</sup>

The differences between the two major suppliers of transport capacity, oil companies and independent shipowners, are particularly significant in connection with the supply of second-hand ships. The oil companies have, in contrast to independent shipowners, a responsibility to cover internal transport requirements. Accordingly, it is difficult for them to dispose of tonnage in periods with a high freight rate level and high second-hand ship prices, without being exposed to a large risks in connection with the transport of the company's oil. Independent shipowners consequently have a higher degree of freedom in their sale and purchase decisions.

#### The relationship between rate determination in the spot- and period-markets

The period market acts as a distributor of risk, securing the existence of a market through which both suppliers and demanders of shipping services can reduce their uncertainty. Oil companies wishing to contract tankers for more than a single journey manage to reduce the risk regarding their future transport needs and freight costs. Nevertheless, they might find themselves in a situation where the transport costs they have to pay are higher than those which would have been applicable if the transport assignments had been bought in the spot market. Independent shipowners offering their ships in the period market achieve increased certainty about their future freight revenues. Even in the shipowners' case, there is a possibility that losses, in the case of foregone profits, may appear as a result of the commitment of their vessels to charter contracts, particularly in periods where there is a large increase of the spot market freight rate level.<sup>87</sup> It has been a common feature of the shipping

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<sup>86</sup> Devanney, J.W., "A Model of the Tanker Market and a Related Dynamic Program", in Lorange & Norman, *op.cit.*, 1973, p. 106. Expectations about future demand and supply conditions will of course be an important factor in determining the demand for newbuildings. In Devanney's model this is accounted for by the influence these factors have on spot market rates. According to Eriksen & Norman, *op.cit.*, 1976, p. 85, the relationship between the spot market and vessels prices probably is indirect. Their estimates show that period rates give the best indication of the development of vessel values .

<sup>87</sup> For an example of a model calculating the discounted expected profit from having a ship in the spot market, see Glen, Owen & van der Meer, *op.cit.*, 1981, Appendix 1, p. 58. Theoretically, a charter contract does not necessarily exclude the possibility to earn money in the spot market. A shipowner can buy or lease a ship by means of the income from the charter contract and relet this vessel in the spot market. For an introduction to why this largely remains a hypothetical possibility, see Gjørum, Per Ivar, *Om fleksibilitet, strategi og simultanvurdering av beslutninger i sjøtransport* [On flexibility, strategy and simultaneous decisions in shipping], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1975, pp. 29-32.

industry that independent shipowners have used their long-term charter contracts as “collateral” in connection with the financing of newbuildings.<sup>88</sup>

As a considerable part of the world’s oil transport is undertaken by the oil company itself, one part of the tanker market is characterised by the situation that the shipper is also supplying the shipping service. In other cases, the shipper has to buy the shipping service from outsiders, either in the spot market or as long-term contracts. There is a large degree of flexibility in the design of charter contracts, but a certain degree of standardisation of charter contracts has evolved for various commodities on certain trade routes. There are generally four types of contracts which are used in the charter market. The various contracts vary by the extent to which the various parties are responsible for the costs associated with the transport service.

*Timecharter* agreements were introduced as early as during the Crimean War. These contracts imply that the shipper pays freight much in the same way as a tenant pays rent, and the freight, the so-called t/c-rate, is expressed on a weekly, monthly or annual basis, per dead weight ton.<sup>89</sup> Timecharter contracts can be further divided into *timecharter-trip*, which is a timecharter-like agreement covering a given journey or *period-timecharters*, where an agreement is entered into for a limited period of time. The shipowner pays the fixed costs, while the shipper is responsible for the voyage costs, ie the costs associated with each particular trip. Thus, the shipowner is responsible for the costs of capital, crew, insurance, maintenance and overhauling. This implies that the shipper has to pay bunkers costs, port- and canal-duties and costs in connection with loading and unloading. In some cases, the journey may have to be covered by extra insurance premiums, and this is also the shippers responsibility. A timecharter agreement can have a duration of anything from three months to twenty years.

*Voyage charters* can be entered into for single or consecutive journeys. Single trip voyage charters are not regarded as a part of the period market. In connection with consecutive voyage agreements the shipowner is responsible for most of the costs in connection with the trip. He receives payment for the transport of cargo between two or more ports, and must usually pay all voyage and operating costs.<sup>90</sup> The party chartering the ship pays an agreed price per ton of goods which is transported.

*Bareboat-charters* are similar to timecharters, but the shipper is responsible for all

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<sup>88</sup> Norwegian shipowners have often used charter contracts as a means of financing investments, the most prominent example probably being the sale of Anglo Saxon Petroleum Limited’s tanker fleet in the period 1927-1930; see for instance Nørgård, Leif, *Tankfartens etablerings- og introduksjonsperiode i norsk skipsfart 1912-1913 og 1927-1930* [The period of tanker shipping introduction in Norwegian shipping 1912-1913 and 1927-1930], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1961, p. 46.

<sup>89</sup> Norges Rederforbund, *Momenter til belysning av norsk og internasjonal skipsfart* [Aspects illuminating Norwegian and international shipping] Oslo, 1979, p. 37.

<sup>90</sup> The distribution of the payment of costs in connection with loading and unloading may vary from contract to contract. For a more thorough introduction to this kind of charters, see Gram, Per, “Intertankvoy”, *Nordisk Skibsrederforening Medlemsblad*, No. 490, 1971, pp. 4260-4265 and Gram, Per, “Intertankvoy 76”, *Nordisk Skibsrederforening Medlemsblad*, No. 501, 1976, pp. 4455-4461.

costs; the shipowner only pays interest and instalments if the vessel was financed by incurring debt. The ship is operated by the charterer as though he owned it. The shipowner thus acts more or less as a financier, whose risk is connected to the development of interest rates and the value of the vessel in a future sale. A bareboat-charter can be compared to a rental agreement for an empty ship, and the payment is expressed in dead weight tons for the duration of the agreement. This kind of charters is the basis for the Japanese *Shikumisen*, where an owner with relatively low crew costs using a Flag of Convenience forms a company which then hires out the ship and its crew to a Japanese company. *Shikumisen*-agreements with Japanese yards, banks and oil companies were one of the main reasons that Hong Kong shipowners could acquire a considerable part of the world's tanker tonnage in the 1960s and 1970s. In some of these transactions, the *shikumisen*-agreement was the only collateral necessary to secure Japanese financing and delivery of newbuildings. A bareboat charter is also known as a *demise charter*.

*Contracts of Affreightment* are the last of the common types of contracts used in the charter market. According to these agreements, the shipowner accepts responsibility for the transport of a certain amount of a product between two or more ports for a given period of time. In the case of a Contract of Affreightment, the shipowner is free to decide which vessels he chooses to use to satisfy the transport requirements.

Some of the contracts in the charter market include escalation clauses which secure the parties full or limited compensation for extra costs in connection with inflation, thereby contributing to a more even distribution of risk between shipowner and shipper.

## **2.4. A Short Assessment of the Postwar Development**

The description of the mechanisms in the international market for shipping services is to a large extent based on observations of the historical development. The models and theories are usually formulated by means of assumptions about the processes in the market and the behaviour of various agents given certain conditions or circumstances. Consequently, they attempt to explain and predict the development of the market in different situations. It is important to keep this generalising and simplifying feature in mind when using models and theories.

The assessment of the historical development in this subchapter consists of three parts. First, I give a short presentation of the postwar development in the market for shipping services. Then, I see this in relation to the development of the international economy in general, and international trade in particular, in the 1970s. Some of the factors which led to the crisis in the international shipping market in the 1970s can be identified in these areas. Finally, the development of the shipping sector in the 1970s is briefly introduced.

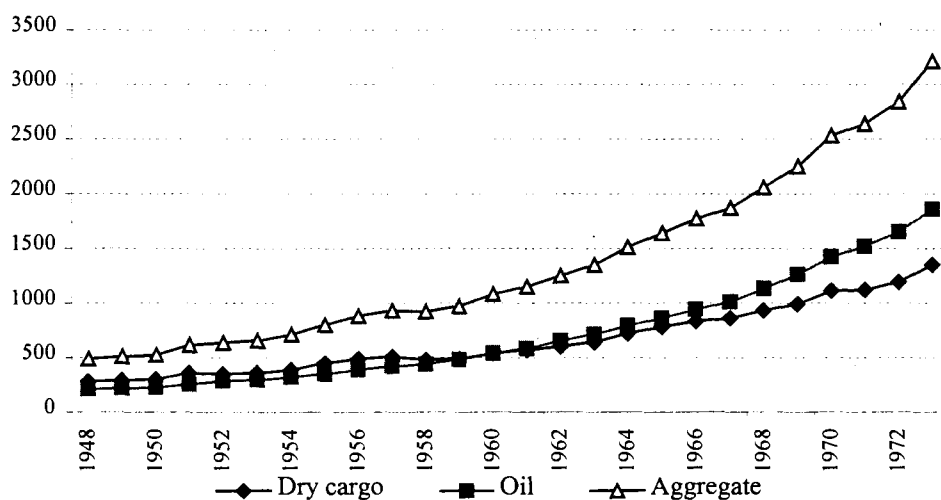
### **2.4.1. The postwar development in the international shipping market**

The international demand for transport services is closely related to the level of world trade, and the first quarter of a century after the end of the Second World War was a period largely

characterised by strong growth in international trade. It is in this connection important to keep in mind that it is the volume rather than the value of world trade which determines the demand for transport. Accordingly, it is possible to have a reduced volume of traded goods, but an increase in the value of world trade, for instance if the ratio of relatively expensive goods to relatively bulky goods increases. Furthermore, a decrease in the volume of seaborne trade may come about if the increase in the demand for alternative means of transport such as lorries, planes and pipelines is larger than the increase in international trade.

The growth of Gross Domestic Product was considerable in most Western nations in the initial postwar decades, but a characteristic feature of the international economic development is that world trade grew even faster than production. While world production trebled from 1953 to 1973, international trade grew by 350 per cent, measured in volume.<sup>91</sup> This growth was particularly high when seen in relation to the development in the interwar period. The volume of goods transported by sea increased by from 490 million tons to more than 3.200 million tons, ie more than 550 per cent, from 1948 to 1973. The increasing volumes were augmented by an increase in average shipping distance.

Figure 2.2. Development of world seaborne trade, million tons, 1948-73<sup>92</sup>



In the first postwar decades there was only one year, 1958, when world trade contracted.<sup>93</sup> The shipping sector was responsible for the transport of a considerable share of the international raw material and merchandise exports. A commonly cited figure for the shipping sector's

<sup>91</sup> van der Wee, Herman, *Prosperity and Upheaval. The World Economy 1945-1980*, Pelican Books Ltd., Harmondsworth, 1986, p. 260. The volume of manufactures exports increased by more than 500 per cent.

<sup>92</sup> The figures come from OEEC/OECD Maritime Transport, and are quoted in eg Harlaftis, Gelina, *A history of Greek-owned shipping: the making of an international tramp fleet, 1830 to the present day*, Routledge, London, 1996, p. 250, Fon, *op.cit.*, 1995, p. 112 and Metaxas, *op.cit.*, 1971. OEEC/OECD claims that the figures come from the United Nations, but uses figures from Fearnley & Eger for later years. One problem is the inconsistency between Review/OECD figures in the years where both sources present figures. OECD figures tend to overestimate and Fearnley & Eger tends to underestimate oil transport in the early 1960s. The trend is nevertheless clear, although the point when oil transports exceeds other cargoes is shifted from 1960 to 1968 when Fearnley & Eger's rather than OECD's figures are used.

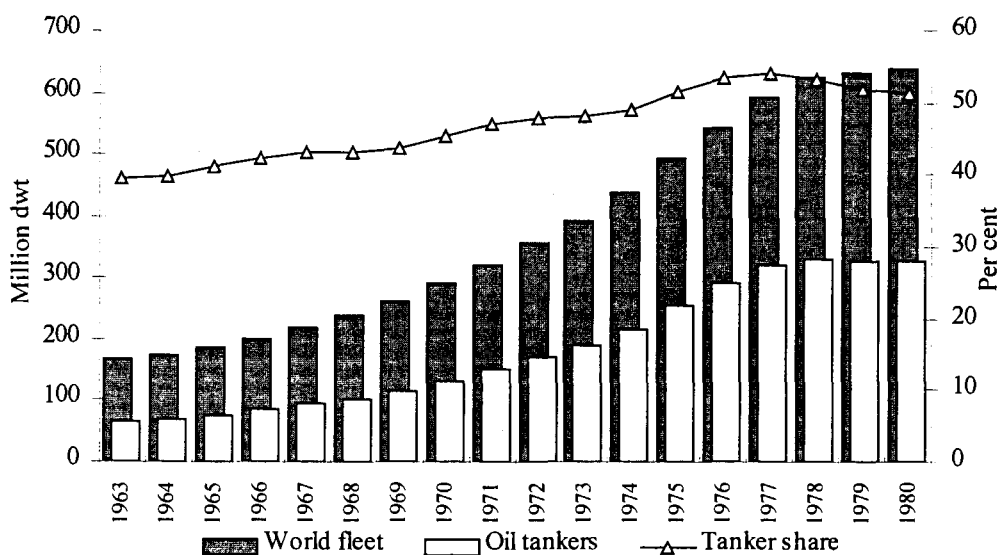
<sup>93</sup> Kenwood, A.G. and Lougheed, A.L., *The Growth of the International Economy, 1820-1990*, 3rd edition, Routledge, London, 1992, p. 286.

share of total transport demand is two thirds, but a figure of this type is relatively useless. The share of international trade transported by ships varies depending on manner of reporting. If value is used as basis, the shipping sector's share of total transport demand will be relatively low. The same will be the case if only volumes, and not distances, are taken into account. For our purpose, however, it will be sufficient to acknowledge that world trade grew fast in the postwar period, and that this resulted in a large increase in the demand for seaborne transport.

In the postwar period there has been a strong underlying growth trend in international trade, and thus also in the demand for shipping services. Despite this general trend, there have been large differences in the rate of growth between different periods and miscellaneous goods.

The most important feature of the development of bulk transport was the enormous increase of liquid bulk shipping. In the beginning of the 1960s the transport volume of liquid bulk goods for the first time exceeded that of dry bulk goods. This contributed to, and was a result of, the most important structural change on the supply side, viz the massive growth of the world tanker fleet.

Figure 2.3. The world fleet, the oil tanker fleet and the tanker share, 1963-80<sup>94</sup>



The supply of tonnage increased tremendously in the period after the Second World War, and the annual growth of the tanker fleet was approximately 13 per cent.<sup>95</sup> One of the reasons for this was the strong increase in the world's shipbuilding capacity, and the amount of tonnage launched increased from 2,1 million gross register tons in 1946 to more than 35 million in the

<sup>94</sup> The source for this chart is figures from Table 3 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Combination carriers have not been registered as tankers. In the charts depicting Norwegian and international tonnage development, combination carriers are registered as bulk carriers; a division of these between the categories *tankers* and *bulk carriers* would have shown an even stronger growth of the tanker fleet. This type of distribution of the combination carriers has been done in Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 72, but I have chosen to treat the combination carriers as bulk carriers, in order to give as conservative an estimate of the tanker sector as possible.

<sup>95</sup> Beenstock, Michael and Vergottis, Andreas, *Econometric Modelling of World Shipping*, Chapman & Hall, London, 1993, p. 26.

middle of the 1970s. This was four times as much as the amount of tonnage which had been launched in 1960.<sup>96</sup> Parallel with this growth of shipbuilding capacity, there was a strong shift in the geographical localisation of the world shipbuilding industry. In 1974, the order books of the British yards were three times the level from 1946. Japanese yards, on the other hand, had order books which were 27 times as large as those from 1946, and Japan delivered approximately half of all newbuildings in the 1970s.<sup>97</sup> However, the fact that the world order book increased from every year to the next after 1963 implies that the shipbuilding industry, despite the tremendous capacity increase, was unable to cope with the strong pressure from the demand side.

It has been claimed that a *latent demand surplus* existed in the shipping industry as a result of the fact that transport demand increased stronger than expected in most of the postwar period.<sup>98</sup> Even though the market conditions varied between different periods of time and different market segments, there were periods which deserve to be characterised as booms for the shipping sector as a whole. In the period from 1945 to 1970, there were three instances where the development in world trade led to a particularly high freight rate level in the international market for shipping services.

As international economic relations were restored in the first period after the Second World War, there was an immense increase in the demand for shipping services. However, the limited capacity of the shipbuilding industry made a corresponding tonnage supply increase difficult. The first boom appeared in the summer of 1950, when the rate level increased, partly as a result of the outbreak of the Korean War. The stockpiling in Western countries led to a short-term demand increase, and the boom period lasted approximately 16 months. Due to the restrictions imposed on their contracting, Norwegian shipowners were unable to fully take advantage of the beneficial conditions in the freight market. Moreover, the favourable newbuilding contracts which the Norwegian shipowners were prohibited from honouring due to the contracting ban were taken over by exile-Greek shipowners, facilitating their tanker-expansion.<sup>99</sup>

The second boom appeared in the middle of the 1950s, and once again international political developments influenced the conditions in the shipping market. The strong growth of

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<sup>96</sup> Slaven, Anthony, "Marketing Opportunities and Marketing Practices; The Eclipse of British Shipbuilding, 1957-1976", in Fischer, Lewis R. (ed.), *From wheel house to counting house; Essays in maritime business history in honour of professor Peter Neville Davies*, Research in Maritime History No. 2, St. John's, 1992, pp. 125-127.

<sup>97</sup> For a very informative survey of market shares in the world shipbuilding industry from 1965 to 1990, see de Voogd, Cees, *Public Intervention and the Decline of Shipbuilding in the Netherlands*, paper presented to the North Sea History Conference, Stavanger, Norway, August 1995, Table 1, p. 4.

<sup>98</sup> Norman, Victor D., "Har det vært for lett å drive internasjonal skipsfart i Norge?" [Has Shipping been too easy an Enterprise in Norway?], *Internasjonal Politikk*, No. 1B, Norsk Utenrikspolitisk Institutt, Oslo, 1979, pp. 176-177.

<sup>99</sup> Thowsen, Atle, "Skipsfart og planøkonomi. Kontraherings- og lisensieringspolitikken overfor norsk skipsfart i den første etterkrigstiden (1945-1953)" [Shipping and the mixed economy: The contracting- and licensing-policies with regard to Norwegian shipping in the initial post-war period (1945-53)], *Sjøfartshistorisk Årbok 1985* [Norwegian Yearbook of Maritime History 1985], Bergen Maritime Museum, Bergen, 1986, p. 23. The "contracting prohibition" was abolished by the turn of the year 1950/51.

world trade had led to an increase in freight rates, and this was amplified by the demand increase in connection with the closure of the Suez Canal in November 1956. As a result of the Suez crisis, crude oil transports were redirected around the Cape of Good Hope, the southern tip of Africa. Consequently, there was a strong increase in the demand for tanker transport capacity, particularly for large tankers. After approximately 18 months, this period of prosperity finished. There were several causes for this; a four per cent decrease in OECD industrial production which reduced transport demand, the re-opening of the Suez Canal in April 1957 which reduced average shipping distances and an increase in the supply of tonnage.<sup>100</sup> As a result of the adverse conditions in the market for shipping services, the lay up-rate in the dry bulk market subsequently reached a new postwar high.

The last boom in the period 1945-1970 was the five month long period of high freight rates in connection with the Six Day War between Egypt and Israel in 1967. Again, the Suez Canal was closed, and the spot market tanker rates in the period June-October were four times higher than they had been six months previously.<sup>101</sup> As a result of the closure of the Suez Canal, the shipping distance between the Persian Gulf and Europe increases by 80 per cent, and in the period 1966 to 1968, the average distance of international crude oil shipments increased by 25 per cent.<sup>102</sup> Simultaneously, bulk carrier rates increased as well, largely as a result of the fact that combination carriers previously offered in the dry bulk market entered the booming tanker market, thereby reducing the supply of tonnage in the dry bulk market.

If one takes a cursory glance at the statistics, it may seem as though no major changes took place in the geographical distribution of international trade in the first decades after the Second World War. The industrialised countries, which had been extremely important for the growth in international trade in the 1950s, continued to play the leading role in the 1960s' world trade as well. However, in spite of the fact that the industrialised countries' share of international trade appeared more or less "constant" at approximately two-thirds of world trade, changes in the relative importance of the various industrialised countries had a major impact on the demand for shipping services.<sup>103</sup> The emergence of Japan as a major exporter of manufactures was of great importance for the shipping industry, as the country's lack of raw materials made large imports necessary. However, the most dramatic change in the international trade pattern in the postwar period was the incredible increase in the significance of oil exporting countries.

The increasing dependence on oil as the main source of energy in the postwar period had paved the way for this change in the trade pattern. Due to the geographical concentration of oil reserves it was necessary for most industrial nations to import a considerable part of

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<sup>100</sup> The increased supply of tonnage was a result of the regular growth of the fleet, as well as increased utilisation of the American tonnage reserves; see Seland, *op.cit.*, 1994, pp. 76-77.

<sup>101</sup> *Ibid.*, p. 169.

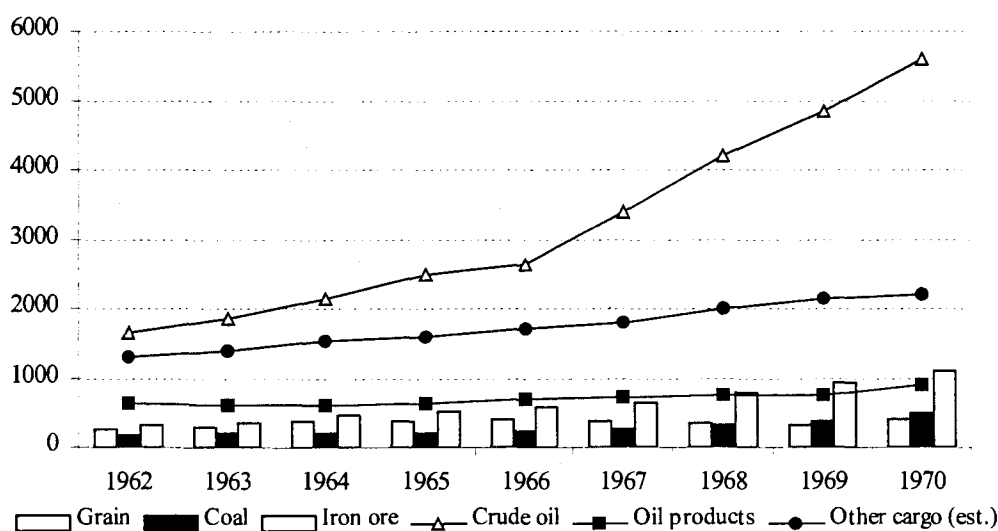
<sup>102</sup> Calculations based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1972*, Table 1 and 2, p. 8.

<sup>103</sup> GATT, *International Trade 1979/1980*, General Agreement on Tariffs and Trade, Geneva, 1980, p. 5. The category "industrialised areas" is used to denote the industrialised Western nations and Japan, and, consequently, conceals the effect of Japan's increasingly important position as a major participant in the international economy.

their energy requirements, and by far the largest part of the oil imports was transported by sea. Consequently, the most important change in the demand in the international market for shipping services was the aforementioned growth of tanker transport relative to dry bulk shipments.

During the 1960s, the demand for tanker tonnage grew faster than the demand for bulk carriers, and, for the first time, tanker shipping became more important than the other kinds of shipping, measured in tons as well as in ton-miles. In 1970, the transport of oil and oil products accounted for more than half of the world seaborne trade, measured in tons, whereas this share of shipping transport demand was reached early in the 1960s, when ton-miles is the basis for the comparison. In 1968, one year after the second postwar closure of the Suez Canal, tankers performed approximately 60 per cent of all seaborne transport.<sup>104</sup> The difference between the tankers' share of seaborne trade measured as tons and as ton-miles is a result of the relatively longer average distance of oil transports.

Figure 2.4. World seaborne trade, billion ton-miles, 1962-70<sup>105</sup>



As a result of the increase in international trade, transport demand in the international market for shipping services grew considerably in the period after 1945. At the same time, there was an increase in the tonnage supply, both as a result of the technological development and as a result of the increase in the world's shipbuilding capacity. The technological development was evident in connection with the large increase in the average size of vessels, the increasing importance of purpose-built, specialised vessels and the improvements in maritime infrastructure, particularly facilities for loading and unloading in terminals as well as on the ships.

Despite the continuous demand increase, the shipping sector continued to fall victim to

<sup>104</sup> All calculations based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1972*, Table 1 and 2, p. 8. The aforementioned distinction between OECD and Fearnley & Eger's figures implies that the shift occurred earlier if OECD data are utilised.

<sup>105</sup> The source of this chart is figures from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Billion refers to one thousand million, and is thus used in the American rather than the British sense.



relatively violent business cycles. By analysing the business cycles in the shipping market in the postwar period, Professor Strømme Svendsen has found that 34 of the 120 months in the 1950s can be characterised as booms, whereas the next decade witnessed only five boom months.<sup>106</sup>

#### **2.4.2. The development of the world economy in the 1970s**

Stable international conditions, regarding the exchange of goods between nations as well as in international monetary relations, contributed to the massive growth of the international economy in the first decades after the Second World War. By the end of the 1960s, however, it was evident that the existing international monetary regime, characterised by fixed exchange rates and full convertibility, no longer reflected the actual balance of power in the world economy.<sup>107</sup>

Differences in the economic development of the Western countries in the years after 1945 had given rise to major disequilibria in the international economy. In the beginning of the 1970s the conditions for international settlement were radically changed as the existing monetary regime, the gold-dollar standard, collapsed. The 1970s were characterised by lower growth rates for industrial production and international trade, compared with the previous postwar period. Unemployment and inflation rates, however, increased severely, and so did the uncertainty regarding the stability of and conditions in the international economy.

A liberal regime for trade and stable monetary relations were important for the growth of international trade in the period before 1970. Indirectly, these aspects were important to shipowners, by facilitating an increase in the demand for seaborne transport. The fixed exchange rates had a direct impact on shipowners as well. They created a stable, consistent and predictable framework in which it was relatively easy to calculate costs and revenues, perform profitability judgements and enter into contracts with foreign business relations. As a result of the international aspect of shipping, shipowners usually have income and expenses in different currencies, and exchange rate adjustments will therefore influence profitability calculations in connection with newbuilding contracts and charter agreements.

The stable exchange rates in the 1960s' growth period was secured by means of the gold-dollar standard, an international monetary system where there were no competitive devaluations and exchange rates could be considered fixed.<sup>108</sup> At the same time, it became

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<sup>106</sup> Svendsen, Arnliot Strømme, "Skipsfartskonjunktorene i 1970-årene" [Shipping cycles in the 1970s], *Sjøfartshistorisk Årbok 1978* [Norwegian Yearbook of Maritime History 1978], Bergen Maritime Museum, Bergen, 1979, p. 209.

<sup>107</sup> Some scholars claim that there, at any given time, will have to be *one* nation which must be able to maintain a leading role in the world economy and other international relations. According to these theories, the problems which surfaced at the end of the 1960s were a result of the fact that the United States had lost their position as hegemonic power and no nations were in a position to take over the international leadership; see for instance Keohane, Robert O., *After Hegemony – Cooperation and Discord in the World Political Economy*, Princeton University Press, Princeton, New Jersey, 1984.

<sup>108</sup> There was room for some adjustment of the parities. However, these events, such as the devaluation of the British pound in 1967, were the result of pressures from speculation and systemic weaknesses, rather than motivated by purely national considerations.

evident that the system of fixed exchange rates, which was important for the growth of world trade after the introduction of non-resident convertibility in 1958, could not be adapted to the increasing fluctuations and complexity of a steadily growing international economy. In the early autumn of 1971, the disequilibrium in the international monetary system became so large as to force the American authorities to suspend the gold convertibility of the dollar and introduce a ten per cent import tax. This marked the end of the system of fixed exchange rates, a system which fell victim to lack of confidence and the increasing imbalances in the international economy.

Despite the demise of the gold-dollar standard, new parities were introduced. There were no genuinely fundamental changes in international monetary relations in connection with the Smithsonian Agreement, an attempt at introducing monetary stability signed four months after the gold convertibility of the dollar had been suspended.<sup>109</sup> A year after the signing of the Smithsonian Agreement, it was once again time for significant changes in international monetary relations. The British pound left the framework of the agreement in the middle of 1972, and the American dollar was further devalued early in 1973. It has been estimated that the changes in the exchange rate parities from the autumn of 1967 until February 1973 reduced the secure Norwegian freight income, ie the revenue from charter agreements, by NoK 5.700 million. Approximately one third of this amount can be seen as "returned" to Norwegian shipowners as a result of expenses denoted in British pounds or American dollars.<sup>110</sup>

The reduced value of the dollar led to a strong decrease in the income of the oil-producing countries, due to the fact that the price of oil, like international freight rates, was quoted in American dollars. Coupled with a strong increase in the price of foodstuffs and manufactures, of which the oil-producing countries were net importers, the dollar devaluation led to a massive worsening of the terms of trade for most oil-producing countries. Deteriorating terms of trade and political considerations were the main reasons for the oil price increase in October 1973. Given the importance of oil in the world economy, the increase in the price of oil and oil products had devastating effects and resulted in a reduction of energy-intensive industrial production. The oil crisis triggered a general recession, which exacerbated the negative development of business cycles from 1973 onwards.<sup>111</sup>

The strong increase in international trade which had taken place in the 1950s and 1960s was reduced in the period after the 1973 oil crisis. Another result of the oil price

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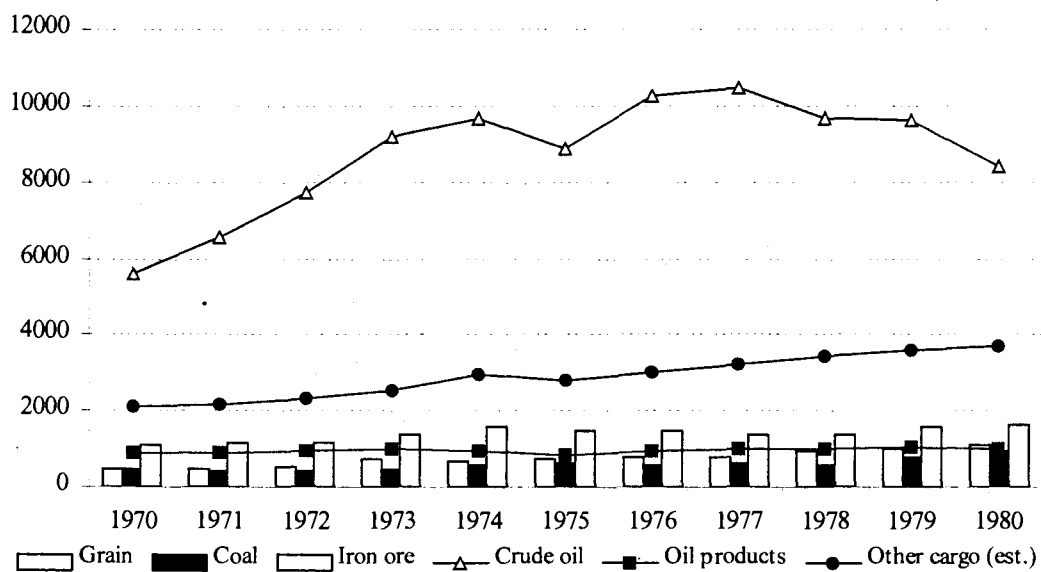
<sup>109</sup> As a result of the Agreement, the dollar was devalued by ten per cent relative to gold and the other exchange rates were given a wider margin for fluctuation around their parities. Kenwood & Lougheed, *op.cit.*, 1992, pp. 268-269 have called these changes "*temporary and marginal*". However, the new parities implied a seven per cent reduction of the value of the dollar relative to Norwegian kroner. According to Stortingsmelding nr. 23 (1975-76), *op.cit.*, pp. 101-102, Norwegian shipowners had their income reduced by NoK 1.500 million as a result of the devaluation of the dollar.

<sup>110</sup> *Ibid.*, pp. 101-102.

<sup>111</sup> Solomon, Robert, *The International Monetary System, 1945-1976, An Insider's View*, Harper & Row, New York, 1977, pp. 292-295. The average annual growth of Gross Domestic Product in the Western industrial countries was reduced from 4,6 per cent in the period 1965-73 to 2,9 per cent in the period 1973-80.

increase was a change in the composition of world trade. Due to the change in relative prices, there was a sharp increase in the share of oil in the international exchange of goods. Again it is important to emphasise the difference between trade measured by value and volume respectively. The oil price hike resulted in an increase of oil's share of international trade, measured by value. More important in this connection, however, is the fact that the growth of oil demand, and the growth of oil transport demand, was drastically weakened. The geographical pattern of international trade was also to some extent transformed as a result of the oil price increase.<sup>112</sup>

Figure 2.5. World seaborne trade, billion ton-miles, 1970-80<sup>113</sup>



The growth of international trade was reduced relative to the situation in the 1960s, when the increasing demand for oil and oil products had played a prominent part. During the 1970s, oil and oil products had a stable, or even diminishing, share of the international exchange of goods.<sup>114</sup>

The two most important events in the international economy in the 1970s were the breakdown of the gold-dollar standard and the massive increase of the price of oil and oil products. The most important development trait, however, was the recession, illustrated by the considerable reduction of the economic growth in the Western economies and the growth of international trade. In 1975 a decrease in world trade was recorded, for the first time since 1958.

<sup>112</sup> GATT, *op.cit.*, 1980, p. 5. The oil-exporting countries' share of world exports, measured by value, increased from 7,5 per cent in 1973 to 13 per cent in 1975 and 1977. The export revenue of the OPEC-countries increased strongly as well, from \$14,5 billion in 1972 to \$110 billion in 1974; see Todaro, Michael P., *Economic Development in the Third World*, Second Edition, Longman, New York, 1981, p. 491.

<sup>113</sup> The source of this chart is figures from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

<sup>114</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1981*, Table 1 and 2, p. 16.

### **2.4.3. An introduction to the development of the shipping market in the 1970s**

The fundamental shift in international economic and monetary relations had large implications for the shipping industry. On the one hand, the reduced growth of international trade removed the basis for the continuing high growth of shipping transport demand. On the other hand, the breakdown of international monetary stability increased uncertainty and had both direct and indirect consequences for shipowners. The history of shipowners and international shipping in the 1970s is dominated by the effects of the transformation of the international economy and the extent to which shipowners were able to cope with the structural changes.

There were two characteristic features in the international market for shipping services in the 1970s, viz the strong demand growth reduction and the massive tonnage supply increase. However, the development was by no means homogenous, because large market fluctuations were witnessed in this decade as well, and there were differences in the development of the various market segments. This subchapter aims at giving a basic introduction to the conditions in the international market for shipping services in the 1970s.<sup>115</sup> The most appropriate manner in which to present the development is by dividing the decade into two separate parts, and analyse the conditions before and after the strong increase in the price of oil and oil products, often called OPEC I, independently. In the first part of the decade there were periods where the freight rate level was relatively high, but after the autumn of 1973, the conditions in the most important parts of the international market for shipping services can be described as depressed.

#### **The market conditions before OPEC I**

The remarkably strong growth in shipping demand which was experienced in the 1960s, continued in the first part of the 1970s as well, despite the changes in international monetary relations. 1969 had not been a particularly good year for the shipping industry. Tonnage supply had grown faster than transport demand and freight rates were decreasing. However, some unforeseen events caused a freight rate increase from June 1970 onwards; the development in Libya and Saudi-Arabia resulted in a reduction of oil shipments from the Mediterranean countries.<sup>116</sup> Thus, the European countries increasingly had to rely on the Persian Gulf for the delivery of oil, and these transports had to go around the Cape due to the fact that the Suez canal was closed. In addition to this, the continuing growth of the Japanese steel industry had a positive effect on the dry bulk demand. However, a reduction in the growth of international trade and a consistently large supply of new tonnage led to a breakdown of freight rates after approximately a year of high rates.

In the summer of 1972, freight rates started to rise again, but despite an increase in the

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<sup>115</sup> As the analysis of the conditions in the international market for shipping services in the 1970s is one of the main topics of the thesis, such an "introduction" may seem superfluous. I have, however, chosen to include this subchapter in order to give a short and less detailed assessment of the development before the major analysis.

<sup>116</sup> The pipeline Tapline was damaged, and the oil supply from Sidon was reduced. The end result of this was an increase in transport distance as well as in seaborne transport. Moreover, the newly established Libyan dictatorship introduced restrictions on the delivery of oil to European countries.

growth of international trade, a large amount of tonnage, particularly bulk carriers, was still left in lay-up. In the dry bulk market, the rate increase can be seen as a result of the strike of Japanese seamen, as well as the increase in Soviet import of grain. The real boom, however, took place at the beginning of 1973, when the conditions were particularly good for tankers operating in the spot market. This development was closely tied to expectations about growth in the American import of oil. During 1973, the freight rates in the tanker segment continued to increase, and in the period from May to September the rates shot up from Worldscale (W) 100 to W 475.<sup>117</sup> The Yom Kippur War in October 1973, between Egypt and Syria on one side and Israel on the other, had dramatic consequences for this development. Even though the war was over within a month, it led to important changes in the international power structure and in the international economy. In the market for large tankers, the voyage rates fell from more than W 450 in October to W 55 in November.<sup>118</sup> The rates for bulk carriers maintained the level from the period before the Yom Kippur war, but after approximately six months these ships also experienced the effects of the radically changed conditions in the shipping market.

### The market development after OPEC I

A short while after the Yom Kippur War, the status of oil had changed. It was no longer just the most important commodity in the international market place – it had become an important means in a political game as well. The member-countries of OAPEC, The Organisation of Arab Petroleum Exporting Countries, which were responsible for 60 per cent of the oil delivered to Western Europe, Japan and the developing countries, decided to reduce their oil production by 25 per cent.<sup>119</sup> The five month long quasi-ban on oil exports to “Israel-friendly” countries such as The United States and The Netherlands indicates that the actions of the OAPEC-countries were politically as well as economically motivated.<sup>120</sup>

The growth in the world’s consumption of oil, and the geographical concentration of oil production, had given the members of OPEC a market power which they, before the Yom Kippur War, had failed to exploit. The war functioned as a catalyst, leading to the use of

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<sup>117</sup> Worldscale represents the daily revenue for a standard tanker, independent of the voyage the ship performs. In principle, a tanker operator will therefore be indifferent between two offers of Worldscale 100. However, there may be special circumstances which cause the shipowner to prefer one of the offers. For a basic introduction to the principles surrounding the use of Worldscale, see Nersesian, *op.cit.*, 1981, pp. 21-22. A rate of Worldscale 475 indicates 475 per cent of the published rates.

<sup>118</sup> Svendsen, *op.cit.*, p. 228. Strømme Svendsen gives no further indications as to which ships and routes he refers to, but most probably it is the distance The Persian Gulf (PG)-Europe. In Fearnley & Egers Chartering Co. Ltd., *Review 1973*, Table 13, p. 13, the rate development for a 100.000 dwt. tanker on the distance PG-United Kingdom/Continent peaks at W 342 in September, from which it decreases to W 134 in November and further to W 77 one month later. These figures are based on weekly averages.

<sup>119</sup> OAPEC had been formed by Kuwait, Libya and Saudi Arabia in 1968, and was expanded two years later to include Algeria, Abu Dhabi, Bahrain, Dubai and Qatar. The OAPEC-countries, the Arabian members of the Organisation of Petroleum Exporting Countries, were responsible for approximately 60 per cent of the OPEC production. A reduction of OAPEC-extraction by a quarter therefore resulted in a 15 per cent reduction in the supply of OPEC-oil.

<sup>120</sup> Sheik Ahmed Zaki Yamani, the Saudi oil minister, later acknowledged that “*the embargo was more symbolic than anything else.*” See Adelman, M.A., *The Genie out of the Bottle – World Oil since 1970*, The MIT Press, Cambridge, Massachusetts, 1995, p. 113.

cartel-pricing in the international market for oil. As a result of this, the price of crude oil increased by almost 300 per cent, leading to a massive reduction in the growth of the demand for and traded volume of oil. In 1975 the demand for tanker transport fell by eight per cent. To make matters worse, there was simultaneously a 15 per cent increase of the tanker tonnage.

The growth of the tanker fleet was one of the most serious problems in the international market for shipping services. Despite the terribly low freight level and high lay-ups, the world fleet continued to grow as a result of the backlog of ordered, but not delivered, newbuildings. The good liquidity of shipowners following the high income in parts of the period 1967-1973 is one of the reasons that the number of newbuilding contracts entered into reached record-breaking levels. If the history of tanker demand growth was indiscriminately used as the basis for investment decisions, there were no particular reasons for the shipowners to expect their new vessels to be left idle.

Before the analysis of the causes of the crisis, some of the most significant development traits will be briefly illustrated. The first feature which shows the dramatic transformation of the shipping sector after OPEC I is the development of the demand for crude oil tanker transport.

Figure 2.6. Demand for crude oil transport, billion ton-miles, 1962-85<sup>121</sup>

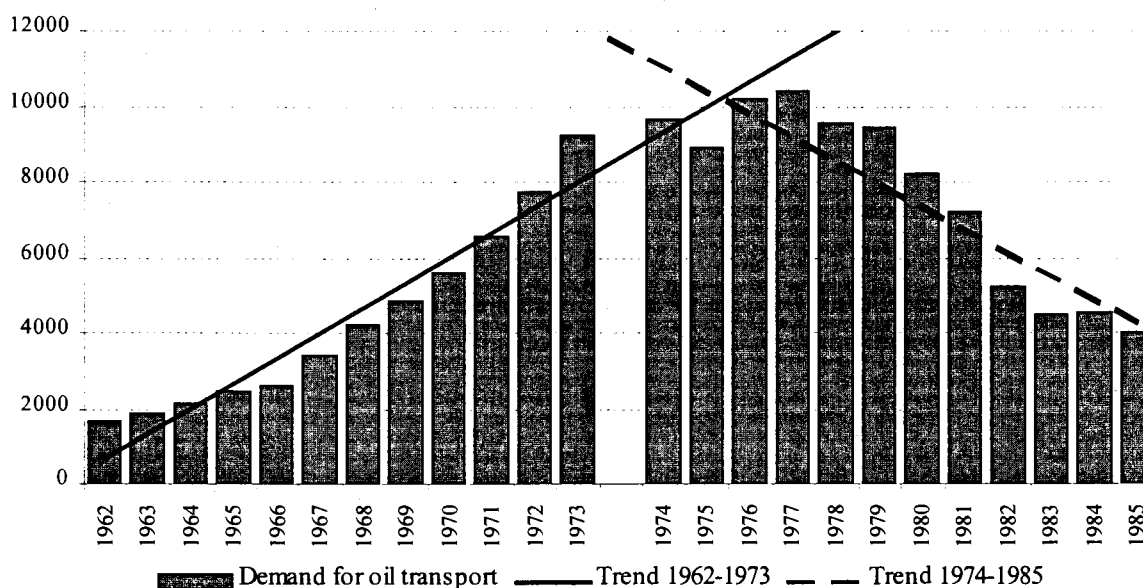


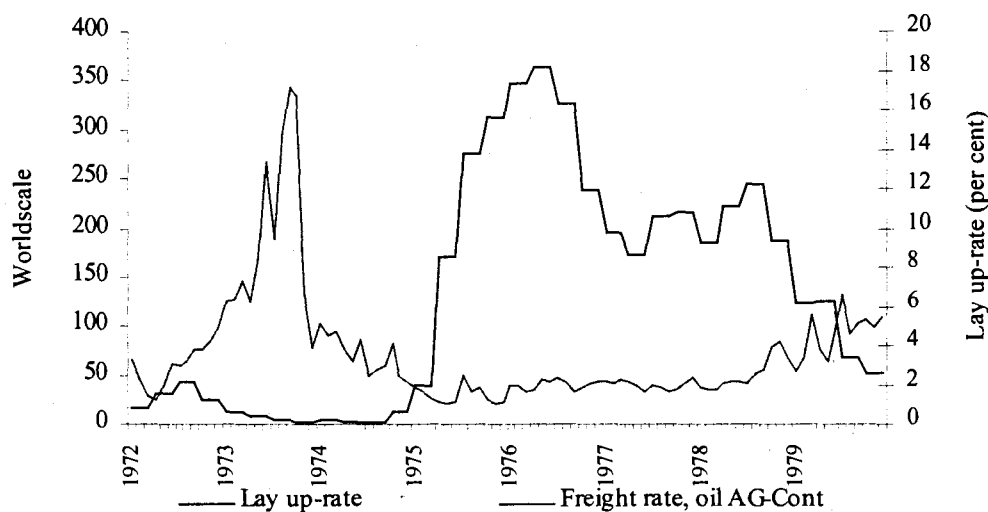
Figure 2.6 shows the substantial change in the development of the demand for seaborne transport of oil following the oil price increases in the early and late 1970s. Up until 1973, the tanker market had experienced 100 years of more or less uninterrupted increase in demand. In addition to the reduction of seaborne oil transport as a result of the oil price increase, the exploitation of sources close to the main consumption centres and the reduction of average shipping distances led to stagnating demand in a market with a growing tonnage supply. In the period from 1973 to 1979, the annual growth of the fleet was seven per cent, whereas the

<sup>121</sup> Based on Figures from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

annual demand increase was 0,5 per cent.<sup>122</sup> In 1979, there was a temporary resurgence of freight rates. Following the second major oil price increase, the demand for tanker transport contracted considerably in the beginning of the 1980s. The causes and effects of the crisis in the tanker market in the period 1973 to 1979 will be elaborated in detail in the next chapters.

The other feature which can be used to illustrate the changes in the tanker sector after OPEC I is the development of freight rates and lay up-figures. The tanker freight rates peaked in the autumn of 1973, when the amount of tanker tonnage laid up was negligible. After the sudden dramatic decrease in the freight rate level, tanker lay-ups increased considerably.

Figure 2.7. Tanker freight rates and lay up-figures, 1972-79<sup>123</sup>



The development traits presented above will be analysed in more detail later in the thesis, but have been included here to illustrate the considerable changes in the tanker sector from 1974 onwards. Chapter Three analyses the causes of the development, whereas Chapter Four presents the contagion and short-term effects of the shipping crisis.

## 2. 5. Summary – The Shipping Sector

The theories about the mechanisms of the international market for shipping services presented in this chapter are an important aid in describing and understanding this market.<sup>124</sup> The motivation for the inclusion of these theories is the fact that they form a good basis for the analysis of the international shipping crisis. In the next chapters I show how the mechanisms which have played a prominent part in the economic models have contributed to the massive crisis experienced in the international shipping market. These mechanisms are important in explaining the breadth, depth and width of the crisis, and some of the features presented in this chapter will also be used to explain the deviating behaviour and fate of Norwegian shipowners.

<sup>122</sup> Beenstock & Vergottis, *op.cit.*, 1993, p. 62.

<sup>123</sup> Based on the freight rate for crude oil on the distance Arabian Gulf-The Continent as shown in Figure 4.4 and the lay up-rate for tankers as shown in Figure 4.7.

<sup>124</sup> For a discussion of pros and cons in connection with the use of market models, see Wergeland, Tor, "Shipping Companies and Market Research", in Hope, *op.cit.*, 1981, pp. 39-42.

The presentation in this chapter reveals a series of important linkages. One is the connection between the shipping sector and international trade and economy, ie the fact that shipping transport demand is closely correlated to the activity and structures in the international economy. Although the roots of the shipping crisis can be found in the shipping sector itself, the international economic development was important for the contagion and amplification of the shipping crisis. In particular, unexpected changes in the growth and trade pattern of some of the most important bulk goods contributed to the shipping depression.

The linkages between the freight markets and the markets for new and second-hand vessels are also of importance for an understanding of the functioning of the shipping sector and the basis for the shipping crisis. The freight markets are crucial to the shipowners' contracting of new vessels and also largely determine second-hand vessel values. Another significant linkage exists between the shipbuilding industry and the shipping sector. To fully comprehend the importance of this association, it must be viewed in relation to financial institutions and domestic policies.

Even though there are several segments in the shipping market, these are interrelated in both the short and the long term. The relative development of the various market segments is important in an analysis of the crisis and in an understanding of the effects of the crisis on shipowners operating in these segments.

The three linkages presented above – between shipping and the international economy, between the freight market and the market for vessels, and between the various shipping market segments – will be essential to the subsequent explanation of the shipping crisis.



## CHAPTER THREE

# THE CAUSES OF THE TANKER CRISIS

The purpose of the previous presentation of the international market for shipping services and the historical development of this market was to create a basis upon which the causes and effects of the international shipping crisis of the 1970s can be analysed. I suggest that certain features of the international market for shipping services can explain the seriousness of the shipping crisis; its breadth, depth and length.

The *breadth* of the crisis refers to the number of agents affected. The *depth* of the crisis is a measure of the seriousness of the conditions. The *length* of the crisis denotes the time aspect before a recovery. The historical development is given explanatory power, as specific historical events and development traits played an important role in determining the actions of the agents. The analysis of the causes and effects of the crisis is based on the following set of assumptions:

*The magnitude of the shipping crisis in the 1970s was the result of specific historical events and the effects of certain mechanisms in the international market for shipping services. Historical events triggered a reaction by the agents in the shipping market, and their behaviour, amplified by external factors and certain characteristics of the shipping market, can explain the breadth, depth and length of the crisis.*

The exploration of the causes of the shipping crisis has a dual structure, where the demand and supply sides are dealt with separately. The structural development of a market is determined at the point of intersection of the demand and supply curves, and is thus influenced by changes in both demand and supply. In the analysis of the supply and demand sides, I show how the historical development influenced the expectations and actions of the economic agents. The historical circumstances can be seen as necessary conditions for the shipping crisis; these were the impulses which triggered the responses in the market, ultimately leading to a severe depression.

Because the focus of this thesis is shipowners and the shipping market, it commences with an analysis of the supply side. The growth of the world fleet was one of the main causes of the severe mismatch between supply and demand in the international market for shipping services. Particular importance is placed on the connection between the historical development of supply and demand and the strategic behaviour of the agents.

Subsequently, the development of demand is analysed. The reduction in the growth of world trade in general – and oil transport in particular – resulted in an increasing imbalance between the size of the world fleet and the demand for transport services. Thus, the development on the demand side is another important factor in explaining the magnitude of the international shipping crisis.

Before the analysis of the shipping crisis, it might be fruitful to discuss what constitutes a *crisis*. A traditional definition of a depression, or slump, is a situation

characterised by under-utilisation of the factors of production and a falling level of demand. In the shipping industry, under-utilisation of resources is a common and recurring phenomenon, but prior to 1973 only one of the postwar slumps occurred amidst falling demand.

The three pre-1970 booms were presented in Chapter 2.4.1, and in aggregate these lasted approximately 39 months. This implies that there were more than six lean months for every fat month. These lean months were characterised by market balance or a surplus of tonnage. Indeed, in the late 1950s the dry bulk fleet's lay up-rate was between seven and eight per cent. This figure is twice as high as the lay up-rate in the dry bulk market in connection with the shipping crisis of the 1970s.<sup>1</sup> Oversupply of tonnage is a typical example of under-utilisation of resources.

Despite the temporary periods of overcapacity in the shipping market, any talk of a crisis in the postwar shipping market before 1973 is misleading. On the one hand, the periods of overcapacity were too short to have any fundamental effect on the long-term profitability and structure of the shipping industry. Even the shipowners who were hardest hit by the overcapacity, and had a considerable share of their fleets laid up, generally managed to weather the storm until the recovery. On the other hand, the demand for shipping services was on a strictly upward-sloping trend. There was room for a considerable expansion and modernisation of the world fleet, particularly with regard to tanker tonnage, and shipowners were able to make substantial profits.

In the 1970s and early 1980s, however, the use of the term *crisis* can be justified. First, the depression – characterised by miserable rates, absolute reduction of transport demand and considerable overcapacity – lasted long enough to severely affect the financial position of most shipowners. The recoveries simply took more than a decade to materialise.<sup>2</sup> Second, the depression was accompanied by fundamental changes in the shipping sector. Several traditional shipowners and shipowning nations saw their fleets dwindle. The shift was accompanied by bankruptcies, flagging-out, increased government involvement and the collapse of the shipbuilding industry, particularly in Western Europe. The dire conditions were also felt in auxiliary industries, including ship financing, insurance, shipbroking and classification.

There is a large degree of consensus about the fact that an analysis of the international shipping crisis should focus on the market for tanker services. This was the part of the shipping market in which the freight rate breakdown was first evident, and it was also the market segment in which the effects of the crisis were the most prominent.

The analysis begins with an exposition of the supply side in the market for tanker services. Particular importance is placed on the factors which can explain the extraordinary high level of investment, ie the large amount of newbuildings contracted. Two aspects of the

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<sup>1</sup> Beenstock, Michael and Vergottis, Andreas, *Econometric Modelling of World Shipping*, Chapman & Hall, London, 1993, Figure 1.32, p. 36.

<sup>2</sup> There was a short recovery in the latter part of the 1970s. However, OPEC, through the second oil price increase, often called *OPEC II*, again influenced the freight rate development in a negative manner.

market for newbuildings are given special attention. The first is the relationship between the shipowners' expectations of future demand conditions and their contracting of newbuildings; the fact that expectations tend to be formed on the basis of current market conditions, rather than an evaluation of future demand and supply conditions. This was an important reason for the over-ordering which took place in the period before the international shipping crisis. The other feature which is elaborated is tax policies and the use of subsidies. These elements can also contribute to an understanding of the high contracting level; due to the subsidisation of newbuildings and the preferential treatment of vessel investments, new contracts were entered into even after it should have been evident that there was going to be overcapacity on the supply side.

In the analysis of the demand side, the reduced growth of tanker transport demand is emphasised. This reduction was largely a result of the decline in the growth of the international trade of oil and oil products. Another element which is analysed is the effect of the concentration of the agents on the demand side, and particularly the fact that the oil companies play an important part on both the demand and the supply side in the market for tanker services.

### **3.1. The Supply Side**

Stopford has summarised the causes of the international shipping crisis of the 1970s in the following manner: "*Looking back to 1973, the influence [of these institutions] is clear – the banks lent too much, the shipbuilders built far more shipyards than long-term demand forecasts justified and shippers issued timecharters which underpinned the false sense of optimism.*"<sup>3</sup> Accordingly, a prominent question in any analysis of the international shipping crisis will be: "*What were the reasons for the strong growth of the supply side?*"

The following analysis of the supply of shipping tonnage focuses on three groups of agents; shipyards, shipowners and financial institutions. These agents play crucial roles; shipyards produce the tonnage, shipowners order the tonnage and the financial institutions facilitate the investments in new tonnage. The analysis of the supply side follows this outline. Initially, the growth of the shipbuilding industry is presented. This is followed by an analysis of shipowners, who make up the demand side for the shipbuilding industry, and their contracting. Finally, the ship financing institutions and their role for the massive contracting of shipowners are analysed.

#### **3.1.1. The foundation for growth – the shipbuilding industry**

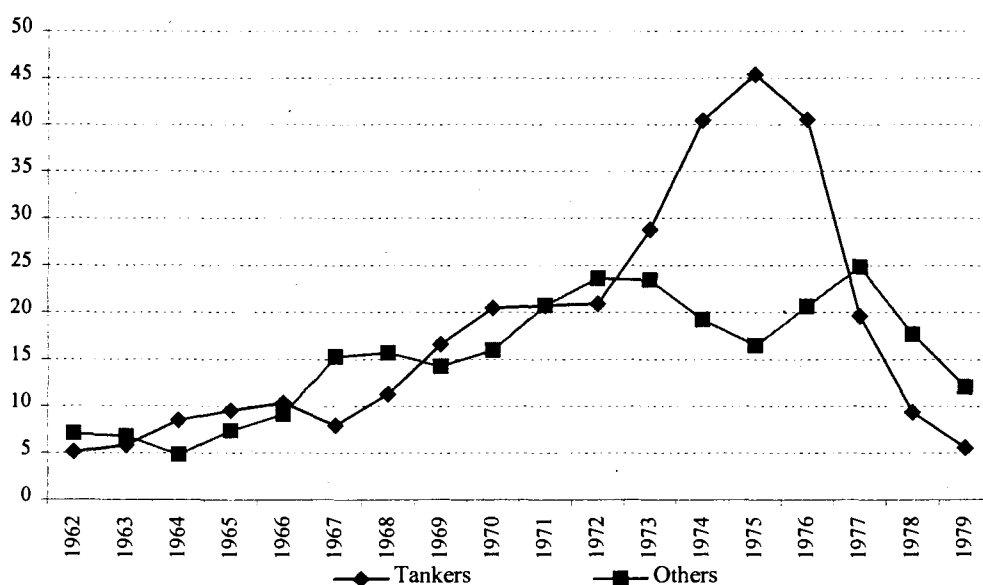
The strong growth of the world fleet is closely connected to the massive increase in the

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<sup>3</sup> Stopford, Martin, "Challenges and Pitfalls of Maritime Forecasting in a Corporate Environment", in Strandenes, Siri Pettersen, Svendsen, Arnljot Strømme and Wergeland, Tor (eds.), *Shipping Strategies and Bulk Shipping in the 1990s*, Proceedings from the International Shipping Seminar, Bergen, 6-8 August, 1989, p. 42. Presented in the manner above, this quote seems to omit the actions of the most important group of agents, viz the shipowners. Stopford's topic of discussion, however, is the factors which made shipowners contract newbuildings.

world's shipbuilding capacity in the period after the Second World War. In the period from 1945 to 1975 there was an extremely strong growth in the actual and potential supply of newbuildings. Despite the capacity increase in the shipbuilding industry, the large demand for tonnage caused the world's order books to increase from 18 million gross register tons (grt) in 1960 to more than 133 million grt in 1974.<sup>4</sup> The amount of new tonnage launched increased from almost 17 million dead weight tons (dwt) in 1965 to a record 61,8 million dwt in 1975. The object of this subchapter is to relate the strong growth of the world fleet to the conditions in the shipbuilding industry, by attempting to answer the question: "How did shipyards and governments in important shipbuilding countries contribute to the strong growth of shipping supply?"

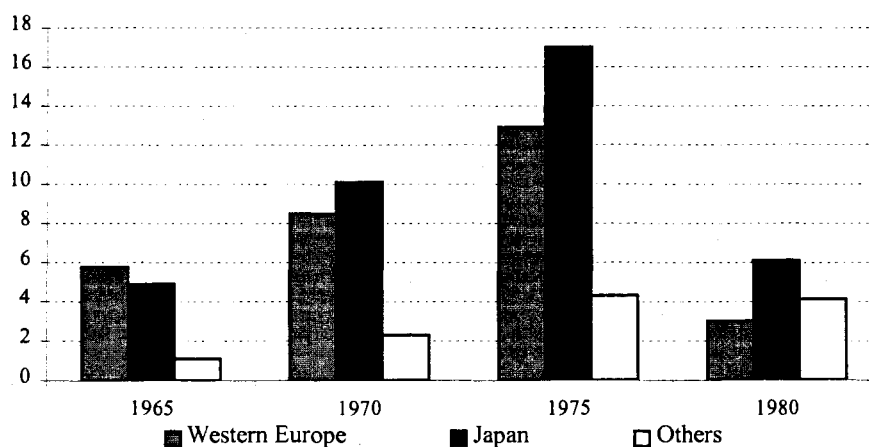
Figure 3.1. Deliveries of newbuildings, million dwt, 1962-79<sup>5</sup>



The increased production capacity of the shipbuilding industry in the postwar period was the result of an increase in efficiency as well as capacity increases in several countries. The increased efficiency was largely connected to improvements in technical methods and better organisation of production. One of the most important features in this respect was the increase in the maximum size of ships, which represented an opportunity for expansion of shipyards and technological change in the shipbuilding industry.

<sup>4</sup> Slaven, Anthony, "Management Policy and the Eclipse of British Shipbuilding", *European Shipbuilding – One Hundred Years of Change*, Proceedings of the Third Shipbuilding History Conference at the National Maritime Museum, Greenwich, 13-15 April 1983, p. 82.

<sup>5</sup> Based on figures from Table 4 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

Figure 3.2. Production in world shipbuilding, million grt, various years, 1965-80<sup>6</sup>

Parallel with the capacity increase, there had been a shift in the geographical localisation of the world's shipbuilding industry. Japan had increased her market share from 20 per cent in 1960 to approximately 50 per cent eight years later, mainly at the expense of Great Britain and other European countries. The Japanese expansion was to a large extent a result of the country's policy of industrial integration, where crucial sectors such as shipbuilding and vehicle production were nurtured due to their employment potential, their large backward linkages to eg steel production and the availability of a large international market. However, the market shares gained by the Japanese shipbuilding industry was to some extent "paid for" by subsidisation and generous financing terms.

The shipbuilding industry's role as a key labour-intensive industry is reflected in the central position of the industry in domestic industrial, employment and regional policies. Shipbuilding was responsible for a large share of industrial employment in many countries, eg Norway and Sweden.<sup>7</sup> Moreover, the shipbuilding industry was a key employer in certain regions and cities. In Sweden in the mid-1970s, the shipyards were the major employer in some relatively small towns, such as Landskrona and Uddevalla, where shipyard employment accounted for 39 and 52 per cent of industrial employment. However, shipbuilding was important in larger cities as well, accounting for 25 per cent of industrial employment in Gothenburg and 19 per cent in Malmö.<sup>8</sup>

The strong international competition in the shipbuilding industry led to extensive use of subsidisation and cheap financing in order to attract newbuilding contracts. In several countries the authorities were responsible for the cheap financing by means of such mechanisms as export credits, direct subsidies and investment support. The end result of the

<sup>6</sup> Figures from Lloyd's Register of Shipping, reprinted in de Voogd, Cees, *Public Intervention and the Decline of Shipbuilding in the Netherlands*, paper presented to the North Sea History Conference, Stavanger, Norway, August 1995, p. 4.

<sup>7</sup> Nordvik, Helge W., "The Norwegian Shipbuilding Industry – the Transition from Wood to Steel 1880-1980", in *European Shipbuilding – One Hundred Years of Change*, Proceedings of the Third Shipbuilding History Conference at the National Maritime Museum, Greenwich, 13-15 April 1983, p. 201.

<sup>8</sup> Figures from Berggren, Lars, *The Effects of the Shipyard Crisis in Malmö, Southern Sweden*, paper presented to the North Sea History Conference, Stavanger, Norway, August 1995.

high level of national subsidisation was a vicious circle in which the various shipbuilding nations constantly increased their support to the industry in order to strengthen their competitive position in the international market.<sup>9</sup> The influence of this vicious circle can be illustrated by a statement from the period, which ironically was used to justify national support to the Swedish shipbuilding industry. According to an OECD-report, “[t]he profitability problems of the Swedish shipbuilding industry are to a great extent due to the State subsidies given in other countries.”<sup>10</sup>

The variety of measures and mechanisms through which the shipbuilding industry was subsidised makes it nigh on impossible to quantify the effects of the subsidisation. In 1969 OECD formulated an *Understanding on Export Credits* in an attempt to secure a higher degree of real competition in the shipbuilding industry and neutralise the effects of the various support measures which had been introduced. According to the OECD-Understanding, the participating countries were obliged to comply with some maximum limits for direct or indirect support; the financing could not be better than six per cent interest rate, eight years’ down-payment and 20 per cent cash payment.<sup>11</sup> At the time, the OECD-countries delivered more than 90 per cent of the newbuilt tonnage.

The support which was given to the shipbuilding industry in all the major shipbuilding nations contributed to the over-ordering, and consequently to an exacerbation of the international shipping crisis. The favourable conditions, first and foremost through the provision of cheap financing, led to a shift in demand from second-hand tonnage to newbuildings.

The subsidised financing contributed to an increase in the contracting activity by reducing the demands on the ships’ revenue. Because the purpose of cheap financing was to create a competitive advantage for the country’s shipbuilding industry, it was directly tied to the contracting of newbuildings in the country providing this subsidy. Due to this intervention in the market for ships, shipping capital was not allocated to the investments which would have given the highest socio-economic profit. Instead, shipbuilding subsidies functioned as an incentive to invest in a market where there already might have been signs of overcapacity.

As a result of the large extent of subsidies available, shipowners wishing to acquire new tonnage did not face the correct price, resulting in a tonnage growth which exceeded the level necessary to maintain long-term balance in the shipping sector. The shipyards do not

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<sup>9</sup> For a short introduction to the use of subsidies in shipbuilding and shipping in the unregulated period in the first decades after the Second World War, see Sturmeijer, S. G., *British Shipping and World Competition*, The Athlone Press, London, 1962, pp. 188-209. A very instructive introduction to the mechanisms influencing the shipbuilding industry in the period after Sturmeijer’s focus is de Voogd, *op.cit.*, 1995, where the emphasis is on the Dutch shipbuilding industry.

<sup>10</sup> OECD, *The Industrial Policies of 14 Member Countries*, Organisation for Economic Cooperation and Development, Paris, 1971, p. 318. Subsidisation is rational for the Swedish authorities, if regarded separately. However, this behaviour is collectively irrational. The sum of the measures is an increase in the supply, which reduces profitability and which, when the agents are acting rationally individually, forms the basis for further support.

<sup>11</sup> Stortingsproposisjon nr. 101 (1976-77), *Om tiltak på skipsbyggingssektoren* [On measures for the shipbuilding sector], pp. 19-20. The minimum interest rate was raised to 7,5 per cent in 1971.

determine their capacity on the basis of the amount of tonnage which the shipping sector can absorb; rather, they build the amount of tonnage which they can make shipowners and oil companies contract. Subsidies play an important role in this connection, and the size of the subsidies is negatively correlated to the prospective market conditions, as it becomes more important to use subsidies to secure newbuilding contracts in periods where the shipbuilding business is slack. The shipyards will therefore give shipowners incentive to order more tonnage in periods where the market prospects dictate a reduction of newbuilding volumes.

The position of the shipbuilding industry in an analysis of the shipping crisis depends on the period examined. Prior to 1973, the shipbuilding industry partly created its own demand by the provision of relatively favourable financing. However, the effect of subsidies in the period immediately before the crisis should not be overemphasised. In boom periods the authorities have relatively little incentive to subsidise shipowners, as the favourable conditions in the shipping market should be enough to secure newbuilding orders. Nevertheless, due to the generous financing terms which had evolved during the scramble for shipbuilding market shares in the 1960s, there was a certain degree of subsidisation even at times when the market was good. The terms laid down in the OECD-Understanding represented a "minimum assistance" that shipowners could expect to receive. The OECD-Understanding succeeded in avoiding cut-throat subsidy competition. Prior to the arrangement, it had been possible to get 8-10 year credit at 5,5 per cent. Nevertheless, even the OECD-terms represented an interest rate-subsidy which led to a distortion inflating contracting.

Though the aid to the shipbuilding industry influenced the high contracting level in the period before 1973, the effects of the subsidisation were even more dramatic after the freight market breakdown. The reluctance on the part of governments to reduce shipbuilding capacity must be understood in terms of the industry's social significance. Initially, the market for shipping services was affected through the shipyards' reluctance to accept cancellations of newbuilding orders. Moreover, their demand that tanker contracts were converted to other types of tonnage contributed to the contagion of the shipping crisis from the tanker sector. These effects are further analysed in Chapter Four.

A shipowner who is interested in investing in new tonnage will, all things equal, choose a newbuilding instead of second-hand tonnage if the terms of financing are more favourable for the newbuilt ship. This will be particularly relevant in periods with a low freight rate level. Then, empty building berths imply that the new vessels may be delivered relatively fast, as opposed to after half a decade during booms, thus reducing the difference between the time of operation for the newbuilding and the second-hand vessel. Furthermore, short order books tend to encourage governments to secure orders by using subsidies. The short delivery time after the backlog of orders from the tanker boom had been delivered reduced the difference between new and second-hand tonnage, and generous financing terms made newbuildings particularly attractive.

In the longer term, the growth of shipping supply was exacerbated as shipbuilders finishing newbuildings competed for new engagements. In 1979, John B. Yolland claimed

that “[i]t is an established fact that the world shipbuilding overcapacity is causing governments of all countries with shipyards to ignore many agreements in order to attract employment and alleviate social and economic problems.”<sup>12</sup> Additionally, some non-OECD countries, notably South Korea, Taiwan and Brazil, which were not bound by the agreements, were expanding their shipbuilding industries, adding to the competition and the shipyard overcapacity.

In most shipbuilding nations, the authorities took great interest in maintaining shipbuilding capacity even after the tonnage surplus and the demand reduction had led to a breakdown in the market for tanker services. According to Johnman, “*Europe’s response to the international shipbuilding crisis was to subsidise on the expectation of an improving market and to reduce the capacity on the assumption that it would not.*”<sup>13</sup> However, at least in the 1970s, the former strategy was more prominent than the latter. In Sweden, the shipbuilding industry received SeK 12 billion in state-support in the period 1977-79, in addition to subsidies reducing the price of steel.<sup>14</sup> This can be compared with the SeK 2 billion which had been given in subsidies to all sectors of Swedish industry in the seven previous years.<sup>15</sup> Moreover, the Swedish Guarantee Fund were willing to lend as much as 75 per cent of the value of vessels built for stock, ie vessels for which no order had been received.<sup>16</sup> The building “on speculation” illustrates the lengths to which shipyards and governments were willing to go in order to avoid a drastic and sudden reduction of production and employment.

### **3.1.2. Shipowners and contracting**

The criteria which shipowners use in an investment situation can form part of an explanation of the massive growth of the world fleet in the period surrounding the international shipping crisis. The purpose of this subchapter is to answer the questions “*To which extent did the actions of shipowners contribute to the oversupply?*” and “*Which factors can explain their actions?*” The analysis is based on the following elements:

- The myopic analysis of shipowners when entering into newbuilding contracts, ie the fact that they put inordinate emphasis on the historical and current freight rate levels.
- The long growth period preceding the crisis, in which rapid fleet expansion had generally

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<sup>12</sup> Yolland, John B., “Ship finance and Euro-markets”, *Maritime Policy and Management*, Volume 6, No. 3, 1979, p. 175.

<sup>13</sup> Johnman, Lewis, *Public Intervention and the ‘Hollowing Out’ of British Shipbuilding: The Swan Hunter Closure*, paper presented to the North Sea History Conference, Stavanger, Norway, August 1995, p. 1. The focus of this paper is the crisis which appeared in the shipbuilding industry when the newbuildings ordered in the beginning of the 1970s had been cancelled or delivered, but several of the situations presented in the paper are parallel to those in the period before the breakdown of the markets for shipping and ships.

<sup>14</sup> The enormous transfer of money was motivated by the fact that the Swedish shipyards were extremely important for the industrial employment in a number of Swedish cities. See Stråth, Bo, “Industrial Restructuring in the Swedish Shipbuilding Industry”, *Labour and Society*, Vol. 14, No. 2, 1989, p. 106.

<sup>15</sup> Kuuse, Jan, “The Relations between Swedish Shipbuilding Industry and other Industries 1900-1980,” in Kuuse, Jan and Slaven, Anthony, *Development Problems in Historical Perspective*, Scottish and Scandinavian Shipbuilding Seminar, Glasgow, 1980, p. 233.

<sup>16</sup> See the article “The many aspects of the shipbuilding crisis”, *Norwegian Shipping News*, No 17D, 1976, pp. 6-15.



been a very profitable strategy.

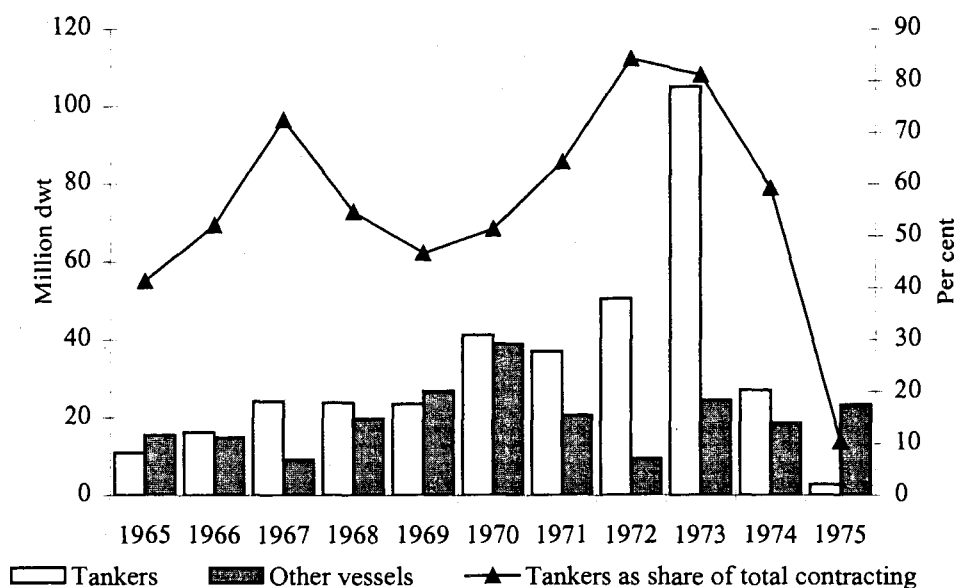
- The lag between contracting and delivery of vessels, which is particularly long in boom periods with full building berths. The lag implies that the shipping market may change drastically between the time of contracting and the time of delivery.

In addition to this, some of the factors which influenced the contracting of independent shipowners are analysed in connection with financing and the contracting of Norwegian shipowners, viz:

- The increasing competition in the ship financing industry which lowered bank margins and eased credit terms.
- The abundance of capital in the Eurodollar market, which was related to the American economic policy, and which contributed to high liquidity and low real interest rates.
- The effects of the low real interest rates, which made contracting seem more attractive due to the low alternative return on shipowners' capital and the low cost of debt capital.
- The effects of the tax system, which made contracting a preferable alternative to paying tax in years with high profits.

The period 1970-73 was characterised by extremely high contracting activity in the tanker market. Figure 3.3 clearly shows the enormous increase in the level of contracting from 1965 until the peak in 1973. The amount of tanker tonnage contracted in 1973 was twice as high as the previous year, in itself an all time high. The tanker tonnage contracted, as share of total contracts, increased from almost 47 per cent in 1969 to more than 84 per cent in 1972.

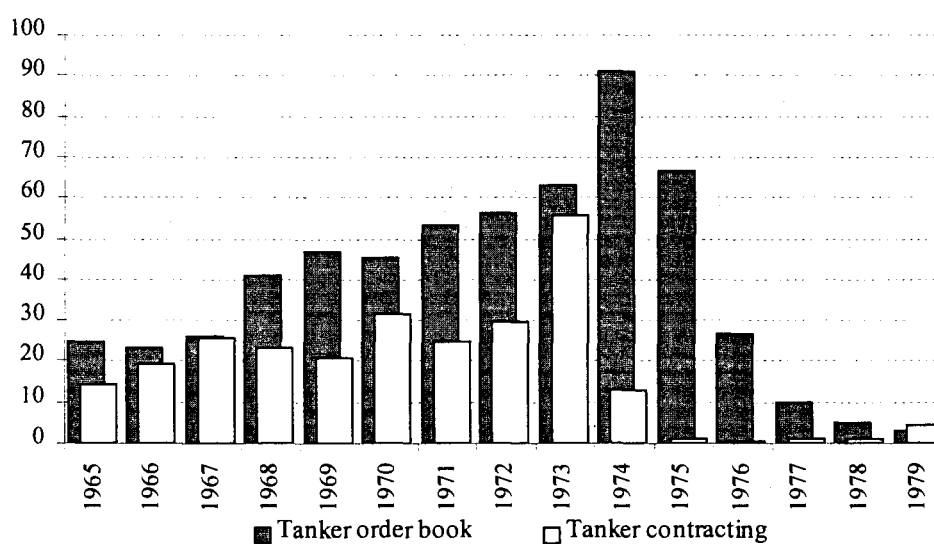
Figure 3.3. World contracting and tanker share, million dwt, 1965-75<sup>17</sup>



<sup>17</sup> This chart is based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1976*, Table 10, p. 18. Combination carriers have been included in the category "other vessels". If these had been registered as tankers, the tanker share of contracting would have peaked at 87,5 per cent in 1972, and amounted to approximately 84 per cent of all contracting the following year.

The strong increase in the amount of tonnage contracted illustrates the extraordinary development in the early 1970s. However, the expansive strategy becomes even more conspicuous when we compare the figures for contracting with the size of the existing fleet, and when the order book is compared with the existing fleet. As Figure 3.4 shows, the tanker tonnage on order amounted to less than 50 per cent of the existing fleet at the beginning of 1970. This was high compared with the situation in the mid-1960s, but low compared with the more than 90 per cent recorded at the beginning of 1974. One reason for the increasing size of the order book was the growing average size of vessels on order. In 1965 the tankers on order were on average 123 per cent larger than the average vessel in the current fleet. This figure had increased to 165 per cent by 1974. Moreover, tanker contracting as share of the current fleet, which had been less than 15 per cent in 1965, peaked at more than 55 per cent in 1973.

Figure 3.4. Tanker contracting and order book, per cent of the tanker fleet, 1965-79<sup>18</sup>



One of the main causes of the large amount of newbuilding contracts was the increase in the demand for tanker transport capacity and the high rates obtained in the tanker market, particularly in 1970 and 1973. The fact that the amount of tonnage contracted persisted at a relatively high level in 1974, when freight rates were on their way to rock bottom, may seem to undermine the high correlation between the freight rate level and contracting activity. However, a considerable part of the contracting undertaken in 1974 was by Middle East oil companies wishing to supplement their increasing control of oil production with increased control of oil transport. This contracting was therefore motivated by political and structural factors, rather than economic considerations.<sup>19</sup> It is also possible that some of the contracts reported in 1974 were in fact negotiated and signed before the freight market breakdown.

<sup>18</sup> This chart is based on figures from Tables 9 and 10 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. The figures for contracting refer to contracting undertaken during the year, whereas the figures for the order book refer to the situation on 1 January.

<sup>19</sup> For an introduction to the growth of the fleet of the oil exporting countries, see the editorial "The Middle East Fleet - a threat or an opportunity" in *Norwegian Shipping News*, No. 8B, 1975 and the presentation in Chapter 10.2.

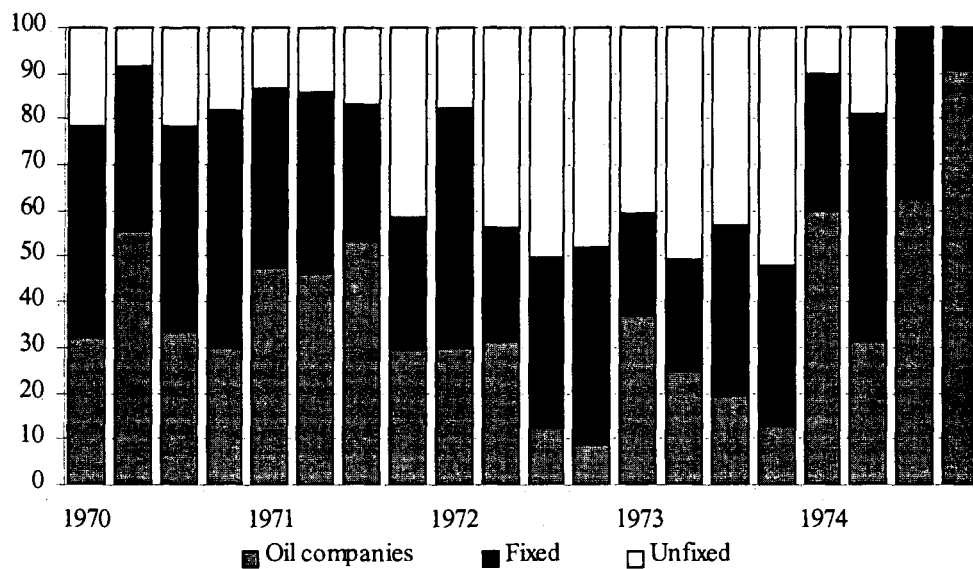
Figure 3.5. Distribution of newbuildings, per cent, quarterly figures 1970-74<sup>20</sup>

Figure 3.5 illustrates the importance of the various agents with regard to their share of newbuilding orders for tankers above 100.000 dwt. The representation shows the activity of the various groups – oil companies, independent shipowners with employment secured and independent shipowners ordering tonnage which had not been fixed on charters. Figure 3.5 does not take into account the variations in contracting between different periods. Moreover, the figures refer to the number of orders, and do not reflect the amount of tonnage ordered by the various groups.

In 1970 and 1971 the oil companies accounted for approximately 40 per cent of the newbuilding orders. This was slightly higher than their share of the world fleet, but considerably above their share of the contracting in the subsequent years. The oil companies' large contracting at the start of the decade may be connected to a fear of lack of capacity in connection with the anticipated high demand for transportation. Their share of newbuilding contracts in 1972 and 1973 was considerably smaller, and the fall was particularly large when the independent shipowners' tanker contracting ballooned in the latter part of 1972. The number of new oil company contracts for tankers above 100.000 dwt was more than halved from the first to the fourth quarter of 1973, whereas the number of newbuilding contracts signed by independent shipowners increased by almost three quarters over the same period.

Another conspicuous feature is the high share of unfixed newbuilding orders signed in the period from the second quarter of 1972 until the tanker market broke down in the last quarter of 1973. Moreover, this was the period with the highest contracting activity, a fact which is taken into account in the subsequent analysis.

<sup>20</sup> The figure is based on quarterly data on the number of newbuilding contracts of more than 100.000 dwt from a Norwegian shipbroker and *Fairplay*, as presented in Dragesund, Petter, *Kontraheringsatferd i tankmarkedet* [Contracting behaviour in the tanker market], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1990, p. 49. The annotation of the year on the x-axis refers to the first quarter.

Figure 3.6. Annual growth of tanker fleet and the rest of the fleet, million dwt, 1963-80<sup>21</sup>

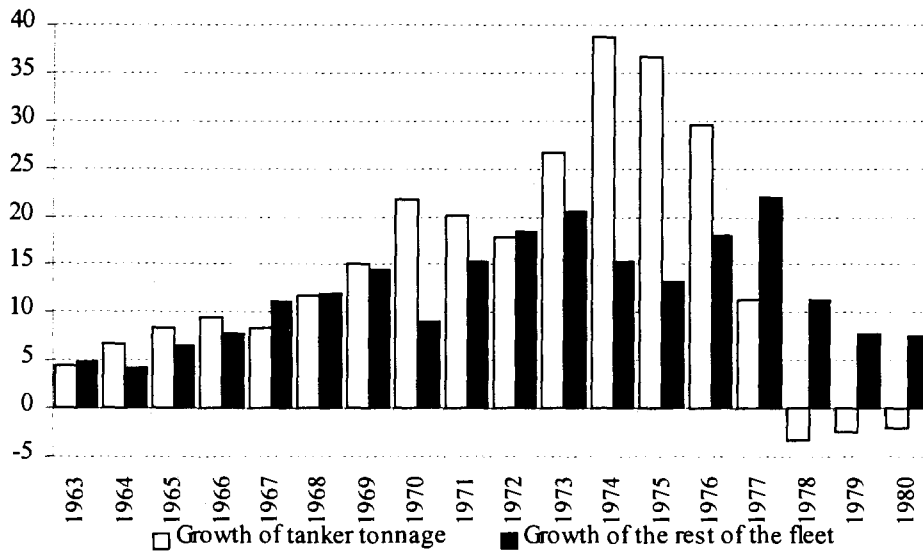


Figure 3.6 illustrates the considerable growth of the world fleet from the beginning of the 1960s until the end of the 1970s. The demand for new tonnage, which is the basis for the growth of the supply side in the market for shipping services, is closely related to the shipowners' assessment of the profitability of investing in additional transport capacity. The result of an evaluation of profitability, for instance in connection with the question of whether to sign a newbuilding contract or not, depends on the investor's expectations regarding the future costs and revenues associated with the project and his evaluation of the risk involved. Andreas Vergottis uses an asset pricing-approach when describing the demand for new tonnage.<sup>22</sup>

In Vergottis' framework, the price shipowners are willing to pay for a new vessel equals the discounted stream of expected profits in connection with the newbuilding, plus a price subsidy, the value of cheap finance and the value of tax advantages. I will briefly discuss each of the elements which determine what shipowners are willing to pay for vessels, and which therefore influence the demand for newbuildings.

The *discounted stream of expected profits* is a measure of the future earnings related to the investment. The magnitude of this part of the equation is determined by the shipowner's expectations about the future demand and supply conditions in the shipping market, ie expectations about prospective rate- and cost-levels. The assessment of potential income, represented by the freight rates, and costs, encompassing eg costs of operation and interest on borrowed capital, is associated with a considerable degree of uncertainty. Specifically, the uncertainty of expected profits is particularly high in volatile markets with large fluctuations, such as the shipping market, and in periods with economic, financial and political instability,

<sup>21</sup> The chart is based on figures from Table 3, Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Due to the fluctuating level of scrapping there is a deviation between fleet growth and new tonnage delivered, as presented in Figure 3.1.

<sup>22</sup> Vergottis, Andreas Rokos, "The City University Econometric Model of the Shipping Markets", in Strandenes, Svendsen & Wergeland, *op.cit.*, 1989, pp. 24-38.

such as the early 1970s.

One of the cashflows included in the discounted expected profit stems from the sale of the ship, either for scrapping or to new owners. This element may constitute a considerable part of the income. A vessel's discounted expected profit is thus influenced by the shipowner's expectations regarding the future supply and demand conditions in the market for ships. Moreover, due to the high correlation of second-hand prices and freight rates, the discounted value of the sale of the vessel is closely related to the general conditions in the freight market at the time when the vessel is disposed of.

A *price subsidy* will reduce the shipowners' cost of investment, as part of the price of the ship is paid by other agents than the shipowner himself. As the value of the subsidy grows, the revenue needed for the shipowner's investment to be profitable is reduced.<sup>23</sup> Due to the subsidisation of the shipbuilding industry, shipowners are not facing the real costs in association with an increase in transport capacity, as they are not paying the "correct", ie unsubsidised, price for newbuildings.

The *value of cheap finance* may or may not be part of the subsidisation, and has two important connotations. First, shipowners tend to evaluate fewer alternative areas of investment than general industrial corporations. Second, cheap financing provided by shipyards and related to the contracting of new ships often functions as a kind of indirect subsidy.

It has been claimed that shipping investments appear to be more sensitive with regard to interest rates than other investments, an assertion which can be explained by the fact that the shipowners' main alternatives to shipping investments are short-term investments in the finance market. Non-shipping long-term investments are avoided as their relatively low liquidity reduces the financial freedom of action of the company. This perceived lack of investment alternatives implies that deficiencies in the finance market may result in uneconomical investments in ships.<sup>24</sup> If shipowners get misleading signals regarding the alternative value of their capital from the finance market, the level of shipping investments may be elevated.<sup>25</sup> On the other hand, if the interest rates on borrowed capital are artificially low, shipowners may be encouraged to increase their borrowing, as the revenue necessary to service the debt is relatively low.

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<sup>23</sup> The fact that the demands regarding the ship's revenue decrease implies that the shipowner, given his expectations about the freight rate development, is willing to "pay more" for the ship. The accumulated payment will be the shipowner's payment plus the subsidy, but the shipowner will only take his own investment into account when evaluating the profitability of the investment. As long as the subsidies are directly tied to the contracting of newbuildings, the existence of subsidies leads to an increase in the amount of tonnage ordered.

<sup>24</sup> This point is emphasised in Norman, Victor D., "Shipping Problems - has the market mechanism failed?", *Norwegian Shipping News*, No. 7, 1976, p. 27.

<sup>25</sup> A good discussion of the use of the concept *alternative value* in shipping can be found in Gjørum, Per Ivar, *Om fleksibilitet, strategi og simultanvurdering av beslutninger i sjøtransport* [On flexibility, strategy and simultaneous decisions in shipping], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1975, pp. 5-6 and 29-32.

Cheap financing may be part of a price subsidy, for instance with regard to loans provided by the shipyards on preferential terms. This will be the case when the loans offered, tied to the contracting of new vessels, have better terms than those the shipowner would be given in the financial market. The result of this kind of subsidisation will again be a reduction in the revenue necessary for a shipowner to go through with the investment, and a fleet which is larger than it would have been if the shipowners had faced the actual costs of building the vessel.

The effect of *tax advantages* is another factor which can influence the expected profit from a shipping investment. In some countries, the tax system may be arranged in a manner which means that part of the risk or costs associated with the investment is borne by the authorities. If this is the case, the profit- and risk-evaluation of the shipping company will be altered, and it is possible that shipping companies will undertake investments which would not have been carried out without the influence of the tax system. It is evident that the combination of low real interest rates and large depreciation allowances led to extremely low, or even negative, real aftertax interest rates in the first part of the 1970s. The result was a situation which promoted contracting and fleet expansion.

#### Contracting – the influence from the rate level

Several research projects have shown that period rates are strongly correlated to the spot market rate. Consequently, rather than reflecting the long-term trends in the market, they reflect short-term fluctuations in supply and demand.<sup>26</sup> This has important implications for the development of the fleet, and can explain why the amount of tonnage ordered reached record-breaking proportions in 1973.

Returning to the asset-price approach, an important determinant of the expected stream of profits is the freight rate level. If period rates are used when making investment decisions, ie if shipowners choose to contract due to a high rate level in the period market, the long-term investment decisions will indirectly have been influenced by temporary demand fluctuations in the spot market.

This mechanism is simple: The shipowners' decision to contract ships is determined by their own assessment of the future demand and supply of transport services, an assessment which to a large degree is influenced by the current level of freight rates in the period market. The rates that a shipowner may obtain by fixing the newbuilding on eg a five year timecharter, may be viewed as an "objective" indication of the freight rate level in the five year period. By ordering a new vessel, and by chartering it on the available terms, the shipowner may fix the expected revenues for a given period. The uncertainty regarding the discounted stream of expected profits is then basically reduced to uncertainty about the shipping – and second-hand

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<sup>26</sup> See for instance Eriksen, Ib Erik and Norman, Victor D., *Ecotank - modell for analyse av tankmarkedenes virkemåte* [Ecotank – Econometric Model for Tanker Companies], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1976 or Strandenes, Siri Pettersen, *Kontrahering og salg av norske tankskip 1963-76* [Contracting and sales of Norwegian tankers, 1963-76], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1979.

ship – markets at the time when the charter terminates and uncertainty about the movements of exchange and interest rates.<sup>27</sup>

The fluctuations in the charter market freight rate level are to a large degree correlated with fluctuations in spot market rates, and the current state of the shipping market is therefore important for the shipowners' contracting decision. This is the element which was referred to by Stopford as "*timecharters which underpinned the false sense of optimism.*"<sup>28</sup> Norman has found that variations in the spot rate in the period 1962-71 can "explain" 84 per cent of the variations in contracting activity.<sup>29</sup> The highest correlation is between the fluctuations in the contracting level and the freight rate level of medium-term charter contracts. However, due to the close relationship between period rates and spot market rates, the influence of spot rates on contracting activity is considerable.

Due to the fact that the contracting of newbuildings is influenced by current freight rates rather than by independent evaluations of the future market situation, periods with a high freight rate level result in considerable over-ordering of ships.<sup>30</sup> This mechanism was evident in the period immediately before the freight market breakdown.

One type of newbuilding contracts which is of particular interest in an analysis of the contracting activity in the period around the international shipping crisis is speculative contracts, ie contracts by independent shipowners who have not secured the employment of their newbuilding through long-term charters. Dragesund has analysed the contracting of tankers of more than 100.000 dwt in the period 1970-74, and has found that the element of speculative contracting was considerably more evident in 1972 and 1973 than at other times in this period.<sup>31</sup> He claims that the main causes of the over-ordering were the investment-horizon of the independent shipowners, erroneous expectations and general insecurity about the demand side development.<sup>32</sup>

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<sup>27</sup> For some types of charters there is the added uncertainty about the development of costs.

<sup>28</sup> Stopford, *op.cit.*, 1989, p. 42.

<sup>29</sup> Norman, Victor D., *Internasjonal Sjøtransport* [International sea transport], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1973 – the results are referred to in Norman, Victor D., *The Economics of Bulk Shipping*, Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1979c, p. 18. In Norman, Victor D., "Har det vært for lett å drive internasjonal skipsfart i Norge?" [Has Shipping been too easy an Enterprise in Norway?], *Internasjonal Politikk*, No. 1B, Norsk Utenrikspolitisk Institutt, Oslo, 1979, p. 182, it is claimed that current revenue can explain 70 per cent of the fluctuations in the contracting volume of Norwegian tanker owners in the period 1963-76, and less than this for foreign shipowners.

<sup>30</sup> Over-ordering implies a level of contracting which is so large as to cause future imbalances between supply and demand.

<sup>31</sup> One particular type of speculative contracting was the ordering of ships motivated by an expected increase in newbuilding prices, ie the agents sign the contracts with the intent to sell them on to other shipowners, with a profit, later in the "building boom". Unless these contracts are based on expectations about an increase in the long-term freight rate level as well, they tend to influence the market for ships in a destabilising manner.

<sup>32</sup> The short-term investment-horizon can explain the contracts entered into to reap the benefits of rising newbuilding prices. The increased insecurity about the demand side was a result of the uncertainty regarding the development of oil prices and international monetary relations.

Another way to explain the importance of the current freight rate level may be by the concept of *adaptive expectations*. When the *adaptive expectations*-hypothesis is applied to the development of the shipping market, it posits that shipowners put inordinate emphasis on the current and historical rate levels and development. The result is that the level of contracting becomes relatively high in periods with increasing or high tanker transport demand and freight rate levels. Such a situation may occur despite the fact that the conditions which lead to the high freight rate level may be temporary. One example of this is the unexpected demand increase in connection with the 1967 Suez crisis. For shipowners, one of the most important results of the closure of the Suez Canal, was that it became increasingly profitable to build Very Large Crude Carriers and Ultra Large Crude Carriers. These vessels could only be operated profitably when the oil shipments were relatively long-range.<sup>33</sup>

Figure 3.7. Existing tanker fleet and tanker order book, million dwt, 1963-80<sup>34</sup>

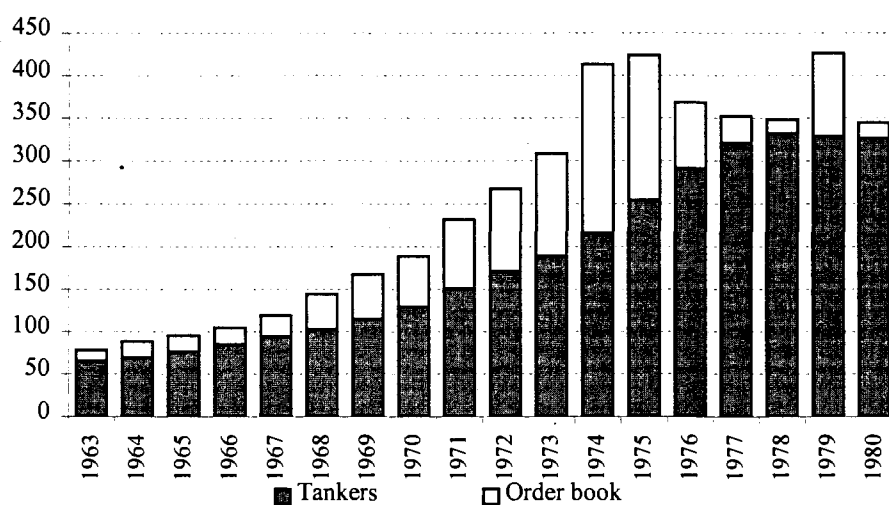


Figure 3.7 illustrates both the growth of the fleet of existing and contracted vessels and the growth of the tanker order book after the good years 1967, 1970 and 1973.<sup>35</sup> Due to the good markets in these years, the amount of tanker tonnage on order increased by 69, 36 and 65 per cent respectively. The basis for this contracting activity was the large fluctuations in the spot market rate which come about as a result of a short-term shortages of transport capacity.

In a “chain of consequence”, historical events, for instance the Yom Kippur War, will lead to a high rate level in the spot market and the charter market. These historical events then initially trigger a freight rate and contracting boom. Due to the high rates in the period market, contracting activity increases, despite the fact that the prognoses about the future demand and

<sup>33</sup> The customers of the Norwegian shipbrokers Fearnley & Eger were among those who invested in VLCCs and ULCCs at an early stage; see Fischer, Lewis R. and Nordvik, Helge W., “Economic Theory, Information and Management”, in Ville, Simon P. and Williams, David M. (eds.), *Management, Finance and Industrial Relations in Maritime Industries: Essays in International Maritime and Business History*, Research in Maritime History No. 6, St. John’s, 1994, p. 23.

<sup>34</sup> Based on Tables 3 and 9 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Reductions in the aggregate size of the tanker fleet and order book are due to scrapping and cancellations.

<sup>35</sup> Due to the fact that the figures represent the order book at the beginning of the year, the effect on the order book of these freight market peaks materialised in 1968, 1971 and 1974.



supply conditions in the tanker market may be unchanged. A long-term disequilibrium between supply and demand may occur due to the fact that the high demand and the high freight rate level are unsustainable in the long run. One cause for this may be that the situation which initially gave a high freight rate level has been changed. This occurred in connection with the closure of the Suez Canal in 1956. When the canal reopened in April 1957, there had been a considerable capacity increase in the world fleet as a result of newbuildings and the utilisation of the American reserve fleet. The reopening of the Suez Canal led to a reduction of average distances. Consequently, the demand increase on which the capacity increase was based was no longer evident. The subsequent imbalance in the shipping market was then a result of shifts in both the demand and the supply curves.

An independent shipowner may have limited resources for detailed monitoring of the shipping market, and may therefore rely on external sources when evaluating future demand and supply conditions. Oil companies and larger shipowning companies base their projections of future market conditions on more sophisticated analyses. One manner in which smaller shipowners may obtain the results of these analyses is through the freight level in the period market. A high freight level in the period market implies that the major shippers and shipping companies see a future capacity shortage as likely, and low rates in the period market may reflect a perceived long-term overcapacity.

An independent shipowner may therefore see a high freight rate level in the period market as a signal to order more shipping capacity. If this contracting is secured future employment by means of a long-term charter, it will be rational from the shipowner's point of view, as the charter secures the long-term revenue of the shipowner. There is a small element of risk regarding the financial strength of the charterer, ie whether he or she is in the financial position to fulfil the agreement. In general, however, the risk associated with an over-supply of tonnage is borne by the company buying the transport capacity, ie the charterer.

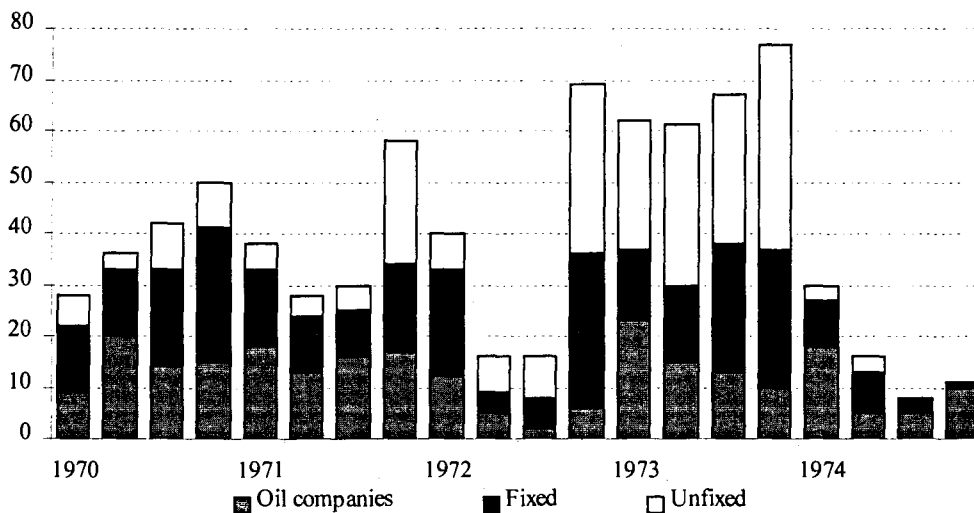
When the high level of freight rates leads to contracting which is not secured through long-term contracts, the situation is somewhat different, particularly with regard to the risk the shipowner incurs. Such contracting was one of the main causes of the problems of the Norwegian shipping industry.<sup>36</sup>

Figure 3.8 shows the number of contracts for tankers above 100.000 dwt signed by the various agents. The figures show that the oil companies bore the risk with regard to 80 per cent of the contracts signed in 1970, 1971 and the first half of 1972, either by contracting vessels themselves or through charters which implied that the oil companies were responsible for the employment of the vessels. Accordingly, less than 20 per cent of the tonnage contracted during this period was unfixed. However, for the vessels contracted in the second half of 1972 and in 1973, almost 50 per cent had not been secured employment. As a result of this, the risk in connection with overcapacity was increasingly borne by the independent shipowners themselves.

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<sup>36</sup> The relationship between contracting and charter rates which forms the basis for this argument is elaborated in Norman, *op.cit.*, 1979c, pp. 17-19.

Figure 3.8. Number of newbuilding contracts, quarterly figures, 1970-74<sup>37</sup>



The shift in the composition of newbuilding orders is evident from Figure 3.8. The amount of unfixed newbuilding orders signed increased from less than ten in the first three quarters of 1972, to an average of more than 30 in the following five quarters. Accordingly, the independent tonnage contracted in 1972 and 1973 was to a lesser extent than in previous periods based on secure long-term employment. A large share of the risk in connection with overcapacity had been transferred from the oil companies to the shipowners themselves.

Another notable feature is that the boom in independent contracting took place from the fourth quarter of 1972 onwards – the spot market rates had been increasing steadily since April, and had been trebled in the period April to September. As a result of the close correlation between the freight rate level and the level of contracting, the effects of the freight rate increase on the contracting of independent shipowners did not take long to materialise.

Indeed, the contracting in late 1972 is typical of the herd behaviour often observed in the shipping market. The Norwegian shipbroking firm R.S. Platou remarked in their 1972 annual review that “[i]n October, the contracting market exploded into activity. [...] In trying too understand the activity that took place in October and November, [...] we believe it is necessary to appreciate that the general pessimistic outlook for the future [...] had been turned to cautious optimism.[...]The constant flow of reports on the American energy crisis indicated the need for a future vast increase of foreign oil supply.”<sup>38</sup>

The close relationship between the freight rate and contracting levels, with periodic over-ordering as its consequence, is undoubtedly an important factor in an explanation of the considerable tonnage increase in the beginning and middle of the 1970s. The over-ordering contributed to an increase in the breadth, length and depth of the shipping crisis.

The breadth of the shipping crisis, ie the number of agents who was affected, can be directly attributed to the large supply of new vessels entering the market. Shipowners who had

<sup>37</sup> The figure is based on quarterly figures of the number of newbuilding contracts for vessels above 100.000 dwt from a Norwegian shipbroker and *Fairplay* as presented in Dragesund, *op.cit.*, 1990, p. 49. The annotation of the year, eg “1970”, refers to the first quarter.

<sup>38</sup> R.S. Platou, *The Platou Report 1972*, Oslo, 1973, pp. 17-18.

ordered large tankers without securing employment in advance or were operating their existing fleet in the spot market were particularly hard hit. The fact that their vessels had to be laid up or offered in the market at low rates, pushed down the rate level even for shipowners who had refrained from contracting during the boom. The existence of a pool of inactive tonnage implies that an increase in the demand for transport will attract laid-up vessels, rather than contribute to a rate increase.

As the oil companies changed their chartering strategy, turning to an increase in spot chartering and the use of relatively short-term contracts after 1974, even the shipowners who had secured their ships' employment through medium- or short-term charters were hit by the crisis. The average duration of the charters entered into prior to the freight market breakdown was approximately 30 months, reflecting the fact that the majority of the charters had a duration of between two and three years.<sup>39</sup> As these charters expired relatively shortly after the freight market breakdown, it became increasingly difficult to enter into profitable new contracts of this kind. Independent shipowners were forced to lay up their vessels, accept the dismal rates in the spot market or enter into charter contracts at a level only slightly higher than operating costs, with little room for the remuneration of capital costs.

The length of the shipping crisis was also influenced by the high contracting level. Traditionally, the lifetime of a ship has been estimated at approximately 20 years. This implies that a large share of the ships which were contracted during the booms at the start of the 1970s, offered their services in the international market for shipping services throughout most of the 1980s and the 1990s.<sup>40</sup> Most of the international tanker tonnage was between 13 and 19 years' old in 1992, reflecting the high amount of contracting in the beginning of the 1970s and the large deliveries from the middle of that decade.

The over-ordering also influenced the depth of the shipping crisis, particularly in connection with the amount of tonnage entering lay-up. It is unlikely that the rate level would have reached a higher level with a smaller degree of surplus tonnage. In theory the marginal freight rate will be attained regardless of whether the tonnage surplus is ten or two hundred ships.<sup>41</sup> New tonnage was introduced to a market where there was no hope of securing profitable employment, and it was not uncommon for newbuildings to go straight from the shipyards into lay-up. The share of the world fleet laid up was so high as to have a profound effect on most agents in the tanker market. Even the oil companies, who had the privilege of securing cargoes for their own fleets, had to lay up some of their own and chartered vessels.

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<sup>39</sup> See Table 3.5 and Figure 3.22, as well as the accompanying footnotes.

<sup>40</sup> The long-term influence of the contracting boom is evident from surveys of the age-composition of the tanker fleet; see for instance Lensberg, Terje and Rasmussen, Heine, *A Stochastic Intertemporal Model of the Tanker Market*, SNF-report 25/92, The Foundation for Research in Economics and Business Administration, Bergen, 1992, p. 9, for a survey of the situation in 1990.

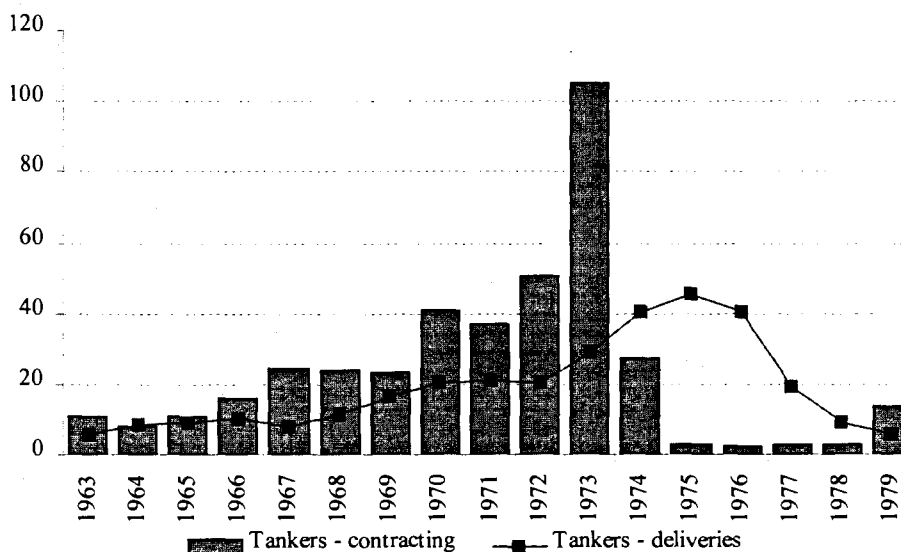
<sup>41</sup> However, it may be argued that the capacity potential of the inactive fleet is of importance; if ten vessels are laid up the demand increase necessary for an upward movement in freight rates is far smaller than if two hundred vessels are laid up. The high level of contracting is nevertheless of importance for the depth of the crisis, as the demand growth gave a rate level which was so low that even the most effective vessels had to enter lay-up.

This was a result of the fact that they had overestimated their future transport needs, particularly in connection with their large newbuilding orders in 1970 and 1971.

The growing imbalance between tanker demand and supply is crucial to an understanding of the international shipping crisis of the 1970s. The contracting boom in the beginning of the 1970s is important to explain the strong growth of the supply side, and the effects of the periodically high freight rate level can explain much of the basis for the contracting boom. However, one significant question remains: *“Why did the tanker fleet continue to grow even after the demand surplus had become evident?”* This puzzle can be explained by the lag between contracting and delivery, and the fact that cancellations were costly. It could be expected that shipowners, who adapt relatively swiftly to increases in the freight rate level by increasing their contracting, would choose to cancel the contracts when the freight rates plunged. However, a considerable period of time passed before the owners of transport capacity and newbuilding contracts were fully able to fathom the extent of the crisis.

The lag between contracting and delivery varies with the size of the order book and consequently with the state of the shipping market. In periods with high freight rates and contracting volumes, it might take as long as five to six years from vessels are contracted until they are delivered. Some of the large tankers ordered shortly before the freight market broke down in the end of 1973 were thus scheduled to be delivered as late as 1978-1979.<sup>42</sup> The effect of such lags for the supply of new tonnage is evident from Figure 3.9.

Figure 3.9. Contracting and delivery of tankers, million dwt, 1963-79<sup>43</sup>



The amount of tanker tonnage delivered reached record-breaking levels in both 1974 and 1975 – when market conditions suggested that both short- and long-term capacity reductions would be necessary. The fleet continued to grow despite the bleak prospects. More than 40 million dwt were delivered in 1976, even though a report from a group of British shipping consultants more than a year previously had stated that *“there will be continuing over-supply of VLCC-*

<sup>42</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1973*, Oslo, 1974, p. 5.

<sup>43</sup> Based on figures from Table 4 and Table 10 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

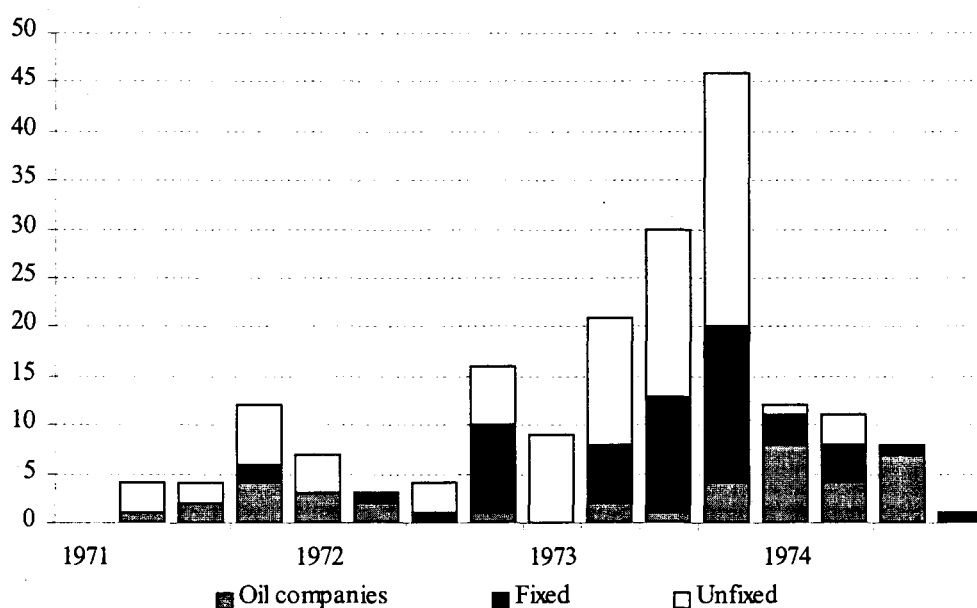
tonnage throughout the remainder of the 1970s.”<sup>44</sup> In 1976 OECD estimated that balance could be restored from 1983 onwards.<sup>45</sup> Some newbuilding contracts were cancelled, but the amount of cancellations was far too small to bring about a balance between tonnage supply and demand.

Table 3.1. Estimates of Cancellations, 1974-76<sup>46</sup>

	Tankers cancelled	Other tonnage cancelled	Conversion
1974	7-9 million		
1975	26 million dwt		9-12,5 million dwt
1976	9,5-13 million dwt	1,2 million dwt	

In 1977, the Norwegian brokers Fearnley & Eger concluded that “the yard industry has [...] faced a total cancellation volume of 64 million dwt, of which 15 million dwt were registered as conversions.”<sup>47</sup> The exact volume of cancellations is difficult to estimate due to the existence of newbuilding options which may or may not have been declared, the treatment of conversions and the existence of newbuilding orders which were not “genuine”. The figures usually cited are in the region of 60 million dwt.<sup>48</sup>

Figure 3.10. Cancellations of newbuildings by time of contracting, 1971-74<sup>49</sup>



<sup>44</sup> Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., 1975, p. 50.

<sup>45</sup> OECD, *Maritime Transport 1975*, Paris, 1976, p. 93.

<sup>46</sup> Based on estimates from various issues of OECD, *Maritime Transport* and Fearnley & Egers Chartering Co. Ltd., *Review*.

<sup>47</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1976*, Oslo, 1977, p. 5.

<sup>48</sup> See for instance Beth, Ludwig, Hader, Arnulf and Kappel, Robert, *25 Years of World Shipping*, Fairplay Publications, London, 1984, p. 36 or OECD, *Maritime Transport 1976*, p. 80.

<sup>49</sup> The figure is based on quarterly data on the number of newbuilding contracts of more than 100.000 dwt and corresponding cancellations from a Norwegian shipbroker and *Fairplay* as presented in Dragesund, *op.cit.*, 1990, p. 60. On the x-axis, the annotation of the year, eg “1971”, refers to the first quarter. The figure includes newbuilding contracts which were later cancelled, with no information about when the cancellation took place.

Unfixed vessels contracted by independent shipowners constituted slightly more than a third of all contracts in the period 1971-1974, but approximately 50 per cent of the vessels which were later cancelled. However, the development of the shipping market later in the decade and in the 1980s clearly showed that these cancellations were insufficient to restore the balance in the tanker sector. There are three main reasons that the amount of cancellations remained relatively low despite the changed conditions in the tanker sector.

First, it is obvious that it took considerable time before the agents in the shipping sector had realised the extent of the crisis and the drastic change of freight market conditions. The transformation was both sudden and dramatic, representing a fundamental break with the development of the previous decades. Only after a while did the agents in the shipping market adapt as though they were faced with a permanent shock, rather than a transitory glitch.<sup>50</sup> In 1976, the OECD remarked that “[e]ven after the impact of the oil crisis there was a considerable time-lag before it was realised that a long-term depression on the tanker market would probably take place, and only recently have shipowners, oil companies, shipbuilders, bankers, and under force of circumstances, governments also started to look seriously at solutions to adjust the situation.”<sup>51</sup> It is thus evident that even though the expectations regarding the future tanker market development were changed, the break was so fundamental and the projections were associated with such a large degree of uncertainty that the agents were unwilling to reduce the capacity in order to comply with a “worst case scenario”.

Second, cancellations did not appear as a viable alternative for some groups of agents with large newbuilding orders on their hands. Shipowners who had secured employment for their newbuildings through long-term charters were reluctant to pay cancellation fees. They were – at least for a temporary period – secured income from the agreed charters. If they expected the market to improve in the long term, the cancellation of tonnage implied that they would have to forego future profit opportunities. Similarly, it would usually be unprofitable for the oil companies to pay cancellation fees if they later had to buy the necessary transport capacity in the open market.<sup>52</sup>

Third, the cancellation of newbuilding contracts imposed severe penalties on the shipowners in question. Shipowners looking for outright cancellation, would usually have to pay a penalty of at least 10-20 per cent of the contract price, but sometimes as much as 50 per cent.<sup>53</sup> Some vessels, in the later stages of the production process, were impossible to cancel. As shipyards realised that new orders would be increasingly hard to secure, cancellations became even more difficult to arrange. Conversion of tonnage was an alternative to cancellation, but implied a penalty as well. Although the fees paid were smaller for conversions than for cancellations, the contagion of the crisis and the subsequent deterioration of the conditions outside the tanker sector made conversions a less attractive alternative.

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<sup>50</sup> This is further discussed in connection with the effects of the oil price increase.

<sup>51</sup> OECD, *Maritime Transport 1975*, Paris, 1976, p. 100.

<sup>52</sup> As Figure 3.10 shows, some oil companies, for instance those which had seriously overestimated their transport requirements, found it profitable to cancel newbuilding contracts.

<sup>53</sup> In some instances the contract was cancelled by mutual agreement, if this was in the interest of both parties.

The sometimes exorbitant level of cancellation fees can be illustrated by the case of one Norwegian shipowning company. The company had ordered four 150.000 dwt tankers, at an average price of \$32,5 million, for delivery in the period 1976-1977. When the company approached the yard, with the intention of cancelling one or more of the contracts "*the demand from the yard was approximately 2/3 of the building price.*"<sup>54</sup>

### **3.1.3. The funding – the importance of the ship financing institutions**

Two of the factors which can explain the large supply of new tonnage, viz the availability of shipbuilding capacity and the shipowners' desire to invest, have already been analysed. A third condition for the increasing supply of transport capacity was the access to financing. The possibility of acquiring subsidised financing from the shipbuilding countries was discussed in connection with the influence of the shipbuilding industry. Even though the interest rates were at least as good as those available in the unsubsidised markets, the requirement to complete repayment over an eight year period could represent such a drain on resources and cash flows that government financing had to be combined with long-term debts in the financial market. Moreover, the fact that the government financing of some countries, notably Japan and Germany, was increasingly linked to the domestic currency, added an element of exchange rate risk to the yard credits.

As it was the authorities of the major shipbuilding nations and institutions with little experience in shipping financing which funded a large share of the shipping investments, the demands for collateral and equity may have been lower than they would have been in the private sector. The banks which had a long experience of the shipping industry, and consequently a competitive advantage in the evaluation of shipping projects, were initially seen as conservative relative to the state-supported institutions and the banks which entered the shipping sector with large amounts of capital after 1967. The specialised shipping banks often regarded long timecharters as crucial for the investment's long-term profitability and security, and they were accused of forcing shipowners to enter into unprofitable timecharters. However, as competition intensified, even the established shipping financing institutions lost some of their traditional prudence.

The basis for the growing importance of financial institutions in the shipping market was the increased size, and hence higher price, of vessels. Due to the increase in the capital-intensity and -requirements of the shipping sector, the financing of vessel acquisitions from the company's internal resources became increasingly difficult. Furthermore, relatively low real interest rates and the fact that increasing debt capital reduces the amount of the shipowners' own resources which is put at risk, made borrowing a favourable alternative to equity financing.

Stokes claims that "*the volume of finance available has not been a constraint. [...] If anything, the reverse was the case, and shipowners' inherent lack of self-discipline has been*

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<sup>54</sup> Letter from a Norwegian shipowner, dated 24 November 1975, The Archives of the Norwegian Shipowners' Association, folder marked 6 B K 75 – Krisen 1975 IV, 011075-301175.

*dangerously encouraged by the profusion of funds proffered by the banks and credit agencies.*"<sup>55</sup> One reason for this high supply of capital was the influx of new agents into ship financing in the 1960s, and particularly after the Suez crisis boom in 1967. The strong growth of international trade and the volume of seaborne transport in the first postwar decades had created a need for fleet expansion, with a corresponding demand for the financing of shipping investments. Additionally, the profits made by the banks and financial institutions that facilitated these investments were sufficient to attract the interest of institutions without specialist shipping financing departments. The result was an increase in the shipping portfolios of traditional shipping finance institutions such as Hambros Bank, Chemical Bank and Chase Manhattan, as well as the entry of new agents with little experience in the shipping sector.

The increased competition in ship financing led to a reduction of the margins the financial institutions could achieve. In addition, financial institutions also competed on terms, ie they secured business by offering more attractive conditions than their competitors. One result of this was that the traditional conservative terms were abandoned; it became increasingly easy to finance a larger share of the newbuilding with loan capital. Peter Stokes calls the period 1967-73 "*The ship lending boom*" and claims that the market "*had lost all sense of restraint*" as "*some deals were transacted in which the borrower actually received finance for more than the cost of the vessel.*"<sup>56</sup> The extent of such transactions should not be overstated, but it is beyond doubt that the shipping financing industry was very liquid, and the conditions offered to shipowners became increasingly generous.

Two other aspects of the development in the 1960s are important to understand the state and development of the shipping financing industry. First, there was a shift in the geographical distribution of the industry, with London becoming increasingly important at the expense of New York. Second, the economic and foreign policies the United States were important for the creation of a booming market for dollar financing outside of the United States. In 1963 the American authorities introduced the Interest Equalization Tax on foreign borrowing, which raised the costs of foreign bonds sold in the US market. The result was the fast growth of a Eurodollar market, where American banks were among the most eager participants. The liquidity of this market was secured by the expansionist policies of the American government, particularly after 1969, which made an ample supply of dollar available. The dollars printed by the Johnson and Nixon Administrations greatly increased world liquidity.

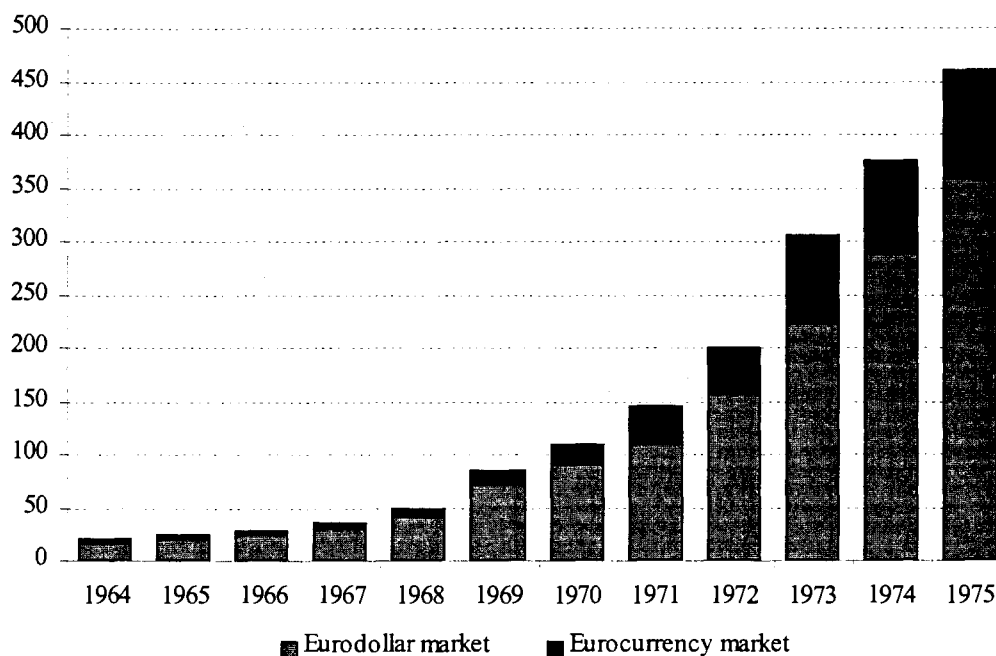
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<sup>55</sup> Stokes, Peter, *Ship Finance – Credit Expansion and the Boom-Bust Cycle*, Lloyd's of London Press Ltd., London, 1992, p. 115.

<sup>56</sup> *Ibid.*, p. 24.



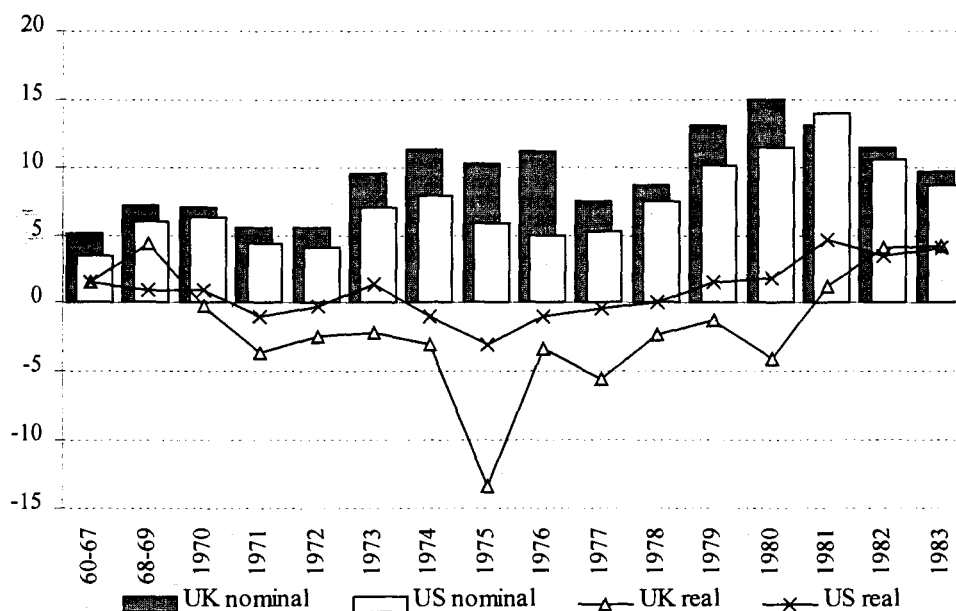
Figure 3.11. The growth of the Eurodollar market, billion dollar, 1964-75<sup>57</sup>



The access to easy financing for shipowners was the result of a variety of factors. At the international level, the American Balance of Payments deficit contributed to the abundance of capital in the Eurodollar market. The massive dollar outflow resulted in a contagion of inflationary tendencies from the United States, as the European countries had to accept the dollars which flooded the international financial markets in the late 1960s and early 1970s in order to maintain the fixed exchange rates of the Bretton Woods system. Moreover, government subsidies to shipbuilding and the entry of new and relatively inexperienced agents into the ship financing market also increased the capital available for shipowners. Competition within shipping financing reduced bank margins, and led to lower interest rates and more generous conditions for borrowers. These development traits benefited shipowners who were looking to outside sources for the financing of fleet renewal or expansion. The abundance of capital was accompanied by increasing rates of inflation which made real interest rates relatively low, and investments particularly attractive.

<sup>57</sup> Figures from Morgan Guaranty Trust Company, reprinted in Spero, Joan Edelman, *The Politics of International Economic Relations*, St. Martin's Press Inc., London, 1990, p. 42. The growth of the Eurodollar market after 1975 was enormous, mainly due to the influx of *Petrodollars*. By 1980, the market had more than trebled relative to 1975, and in 1985 the Eurocurrency market amounted to almost \$3.000 billion, of which American dollars accounted for three quarters.

Figure 3.12. Nominal and real short-term interest rates, 1960-83<sup>58</sup>



The development of real interest rates can contribute to an explanation of the large investments in the shipping sector in 1972 and 1973. The shipping market development is closely correlated to the general business cycle development, implying that high freight rates often occur in periods with high inflation. In such periods, high inflation leads to low real interest rates, as nominal interest rates adjust relatively slowly to the increasing rate of inflation. The real interest rate reflects the assessment of current values relative to future values and affects the saving and investment decisions of shipowners. High inflation reduces the attractiveness of placing the capital in the short-term money market, where nominal interest rates have not been sufficiently increased to take into account the higher inflation. Moreover, low real interest rates increase the attractiveness of investments in the shipping sector where expected yields are relatively higher.

For shipowners with surplus capital, a short-term investment in the money market is the most common alternative to shipping investments. Long-term investments are seldom regarded as an alternative, as they tie up the resources of the company in the longer run, reducing the company's freedom of action. Low real interest rates make it less profitable for shipowners to invest their resources in the short-term money market, and increase the value of investing in new transport capacity correspondingly.

The state of the international capital markets and the ship financing industry in the beginning of the 1970s is important in an explanation of the high contracting volume and thus the magnitude of the shipping crisis. The high volume of shipping capital available was

<sup>58</sup> The figure is based on data from OECD, *OECD Economic Outlook - Historical Statistics 1960-1983*, Organisation for Economic Cooperation and Development, Paris, 1985, Tables 10.7 and 10.8, p. 101. They refer to monthly averages based on American Certificates of Deposit and British 3-month interbank loans after 1975 and 3-month Treasury Bills prior to 1975. To find real rates, the nominal rates have been divided by the ratio of the GDP implicit price index for the current year to the previous year. The figures for 1960-67 and 1968-69 are annual averages.

partly a reflection of the abundance of capital in international capital markets, but also a result of the good returns from shipping investments in the period prior to the crisis. In this respect, the financial institutions fell victim to the same forces as the shipowners to whom the loans were granted; they put inordinate emphasis on the strong historical development of the shipping sector and failed to anticipate the changes in market conditions.

Just like the high freight rate level can be said to have removed some of the sobriety of shipping investors, the increased competition and capital abundance eliminated some of the traditional prudence of the shipping financiers. The expectance of continuing transport growth and booming markets led banks and other financial institutions to abandon traditional requirements such as long-term charters for the vessels financed. This development was gradual, but increased from the late 1960s onwards. Initially, established shipowners with relatively safe portfolios were granted mortgages for more speculative investments. Later, gearing was increased in all kinds of companies, and the conservative collateral requirements were wavered. Douglas claims that the cause of the problems was that *“the concept of standard credit terms for creditworthy buyers of ships degenerated, in the boom atmosphere of the time, into the idea of standard credit terms for almost anyone who wanted to buy ships.”*<sup>59</sup> According to one industry insider *“[W]e tended to make up the rules as we went along. [...] [F]ew lending officers actually had any experience of problem loans in shipping.”*<sup>60</sup>

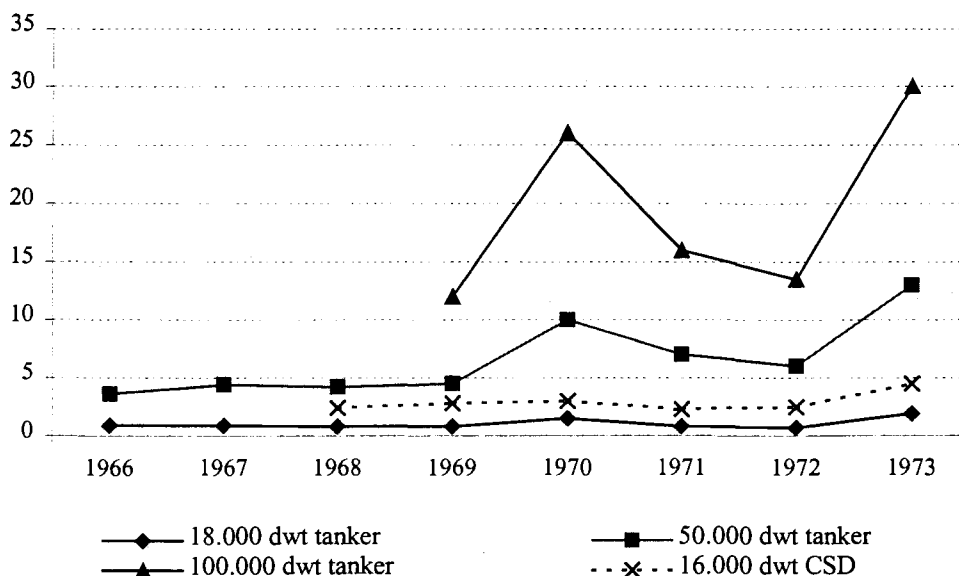
The development of ship prices is important to understand the softening of financing conditions. In the late 1960s and early 1970s, ships were seen as “floating real estate”, based on the fact that inflation and favourable market conditions usually enabled shipowners to sell their assets for more than the original price, sometimes after a considerable period of profitable operation. Figure 3.13 shows the development of second-hand vessel prices in the late 1960s and early 1970s, and can illustrate the basis for the optimism in the financing sector with regard to loans to the shipping sector. Why should banks hesitate to finance investments which retained their value after several years, sometimes even after the effects of inflation had been accounted for? An 80.000 dwt tanker built in 1966/67 could be sold for more than the original price in every year 1969-1973 – it could be purchased in 1968, and sold with almost 150 per cent profit two years later.<sup>61</sup>

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<sup>59</sup> Douglas, Peter S., “Financial Policies for the Shipping Industry”, in Rydén, Inger and von Schirach-Szmigiel, Christopher (eds.), *Shipping and Ships for the 1990s*, Proceedings of the International Conference “Supply and Demand of Water Transport”, Stockholm School of Economics, Stockholm, 1979, p. 169.

<sup>60</sup> Quoted in Stokes, *op.cit.*, 1992, p. 25.

<sup>61</sup> Based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1972*, p. 16. Refer to the publication for more information on the types of vessels and the estimate of values.

Figure 3.13. Second-hand prices, tankers and dry cargo, million dollar, 1966-73<sup>62</sup>

Shipping was a favourable sector for Eurodollar-mortgages, due to its high capital requirements and a well-functioning market for second-hand vessels which made investments relatively liquid compared with other sectors. Nevertheless, due to the high level of tanker prices, loans were often undertaken through syndicates, as the capital required was too large even for the major banks. The syndication implied that a number of banks, sometimes as many as 20, participated in a financing scheme organised by a lead bank, which usually was one of the traditional shipping banks. On the one hand, the syndication reduced the risk exposure of the participants. On the other hand, it increased the possibilities for inexperienced financial institutions to gain a share of the supposedly lucrative ship financing business.

The amount of money lent to the shipping sector increased heavily in the latter part of the 1960s and the first part of the 1970s. The concern about the state of the shipping industry had resulted in the establishment of the *International Maritime Industries Forum* in 1976, and they established a study group in order to quantify the debts of the shipping sector. Their estimates from the middle of 1976 reveal mortgage debts in the region of \$25 billion on the existing world fleet of tankers, combination carriers, medium and large bulk vessels and oil rigs. In addition to this, debts amounting to more than \$12 billion could be attributed to vessels and rigs on order.

More than half the debt could be attributed to the largest group of tankers, vessels of more than 200,000 dwt. Otto Norland, a London-based Norwegian banker and the chairman of the study group undertaking the survey, estimated that \$4,3 billion of the tanker loans were related to tankers without fixed employment. It was estimated that this figure could increase to \$10 billion by 1980, if all payments of principal were deferred, due to delivery of new unfixed vessels and the termination of existing charters.<sup>63</sup>

<sup>62</sup> Based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1973*, pp. 16-17.

<sup>63</sup> Figures from IMIF quoted in Stokes, *op.cit.*, 1992, p. 55.

Table 3.2. Mortgage debts in Shipping, million dollar, July 1976<sup>64</sup>

Year of delivery	Tankers 200+	Tankers 80-200	Tankers <80	Comb. carriers	Bulk 60+	Grand total
1969	120	12	4	5	3	144
1970	309	40	50	54	28	481
1971	530	63	74	172	113	952
1972	1.050	108	120	484	217	1.979
1973	1.802	212	338	642	333	3.327
1974	2.725	712	370	440	335	4.582
1975	4.122	1.681	829	424	561	7.617
1976 Q1&2	2.113	956	562	274	420	4.325
<i>Total</i>	<i>12.771</i>	<i>3.784</i>	<i>2.347</i>	<i>2.495</i>	<i>2.010</i>	<i>23.407</i>
On order	4.381	1.593	1.864	869	2.550	11.257

The booming Eurodollar-market and the financing sector's positive expectations regarding the shipping market development facilitated the shipowners' eagerness to expand their fleets. Similar to the case of the shipowners, this was not irrational, given the historical development of the shipping sector, the development of ship prices and the prevailing market prospects. However, again the demand side development played havoc with expectations, and it became obvious that the eagerness of financial institutions to gain shares of the ship financing market had led to a laxity which became costly once the market shifted from strong growth to stagnation.

### The Effects of the Tax System

The preceding analysis has presented some of the aspects which facilitated the large investments in the period before the freight market breakdown. One additional element which should be taken into account is the effects of the tax system in the major shipping nations. The direct links between the tax policy and the high investments by shipowning companies are more thoroughly examined in the chapter about Norwegian shipowners, as the Norwegian system encompassed many of the factors which led to the over-ordering. However, the importance of the tax systems for the high contracting on an international level warrants a short introduction here.

In several of the most important shipping nations the design of the tax system made large investments an attractive proposition for shipowners with high revenues, thus contributing to the close relationship between the rate level and contracting. The combination of low real interest rates and advantageous tax deductions often resulted in a negative post-tax real interest rate on shipping investments. The end result was that contracting may have been undertaken for tax reasons; shipowners found it favourable to order tonnage which would not have been contracted in the absence of the influence from the tax system.

The authorities may, through their of taxation of income, investments or capital,

<sup>64</sup> Based on figures from the International Maritime Industries Forum, quoted in Stokes, *op.cit.*, 1992, p. 54. The figures are estimates, and may deviate from actual debt by ten per cent for individual figures and five per cent for aggregate figures.

contribute to a change in the strategic behaviour of shipowners. This will be the case if the design of the tax system influences the actions of the person or company taxed, inducing them to adapt their business decisions to the tax system. In the case of investments, the situation is analogue to the influence of the authorities in the shipbuilding sector, where subsidies and soft financing reduced the revenue necessary for ship investments to be profitable.

If the tax system reduces the actual price that shipowners have to pay to acquire tonnage, the volume of tonnage contracted will increase. The most blatant example of this kind of influence is the direct investment grants of 20 to 25 per cent which were available to British shipowners.<sup>65</sup> In an international perspective, the tax treatment of depreciation was a particularly important source of distortion. Some of the costs of new investments could be offset by tax reductions due to liberal depreciation rules, making it profitable to have high investments in years with high revenues. In the United Kingdom the investment grants were combined with “free depreciation”, which enabled British shipowners to write off the cost of a new ship in the first year of operation if sufficient profits were made.<sup>66</sup>

The effect of the tax system on contracting can be illustrated by the hypothetical situation of a newly-established shipowning company. For a typical shipping investment, the development of costs and revenues follows an S-shaped curve. Depreciation and high interest payments lead to negative results in the initial period, which generally encompasses the first years of the investment. Later, net revenues from the operation of the vessel become positive, and the company becomes liable for the payment of taxes. This liability may, however, be reduced or eliminated by new investments which lead to interest payments and depreciation which can be deducted from the revenue of the initial investment.

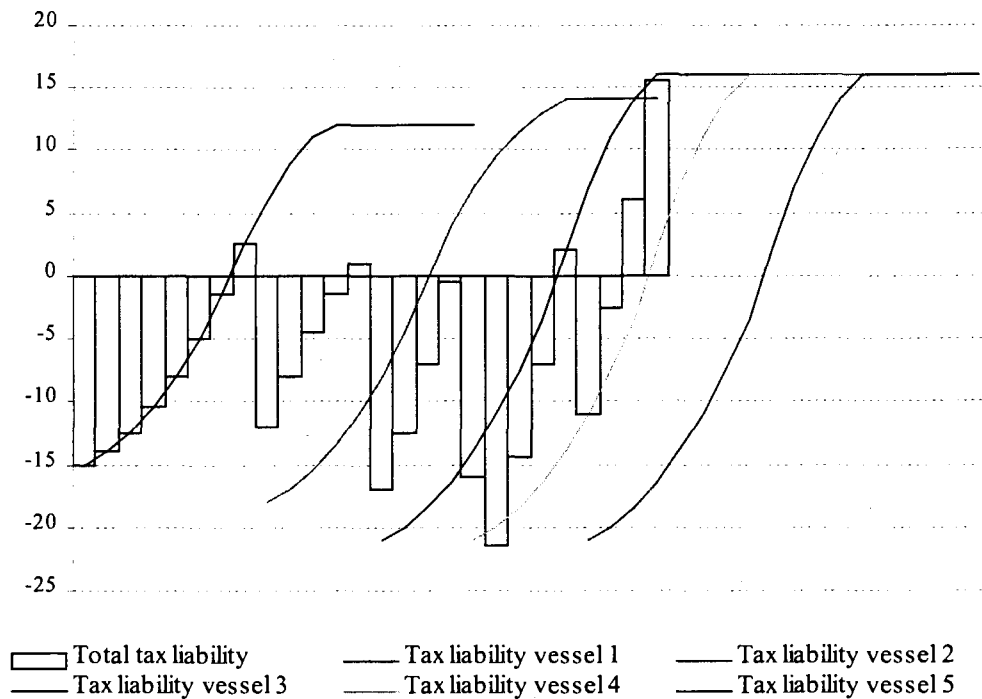
Figure 3.14 illustrates the possibilities to reduce total tax liabilities by continuous investment in new tonnage. Only when the company refrains from investing in new tonnage, do the taxes at the company level become positive. The columns in Figure 3.14 show how the total tax liability of a shipping company is negative for some time after the company has invested in a new vessel, but turns positive when the income from this vessel exceeds the depreciation and other deductions. By undertaking investments in new vessels, the company's total tax liability may be reduced, due to the depreciation with regard to the new investments. If the vessels are operated at a considerable profit, it is necessary to expand the fleet at an increasingly fast rate.

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<sup>65</sup> Goss, Richard O., “Rochdale remembered”, *Maritime Policy and Management*, Volume 25, No. 3, 1998, pp. 220-221.

<sup>66</sup> Hope, Ronald, *A New History of British Shipping*, John Murray, London, 1990, p. 462. According to Goss, *op.cit.*, 1998, p. 220, the Chamber of Shipping, in connection with the 1970 Committee of Inquiry into British Shipping, sought to enlarge the depreciation allowance to include the proportion already covered by the investment grant.

Figure 3.14. Shipping operation and the tax effect of reinvestment<sup>67</sup>



One important element, which is only partly captured in Figure 3.14, is the fact that tonnage acquisitions tended to become more expensive, concomitant with the increase in ship size and vessel specialisation. This amplified the positive effect of investments on taxes. Moreover, Figure 3.14 does not take into account the fact that the revenue, and thus tax liability, of the existing fleet varies with the fluctuations of the shipping market. Accordingly, the desire to reduce the taxable income of the existing fleet through investment in new tonnage is particularly high when the freight market is good.

The fact that tax-induced contracting is particularly attractive in periods with high revenues makes the distorting effects of the tax system on contracting particularly harmful. As discussed in connection with the contracting of shipowners, over-contracting principally takes place in the periods where high rates spur shipowners to expand their fleets. The influence from the tax system could of course be the sole reason for this, if all contracting was motivated by the desire to reduce the taxation of the high income in boom periods. A more likely explanation, however, is that contracting is based on high expectations regarding future freight rate developments, and that the high contracting in boom periods is exacerbated by the effects of the tax system.

### 3.1.4. The supply side – summary

The massive increase of tanker transport capacity is one of the keys to an understanding of the international shipping crisis. Several elements contributed to the high contracting prior to the

<sup>67</sup> Figure 3.14 is a purely illustrative chart, based on a hypothetical investment pattern. The total tax liability in the latter part of the period has been deleted to improve the visual presentation of the argument, but will be considerable unless new investments are made. The figure does not take into account the effect of revenues from the sale of vessels.

freight market breakdown. The shipbuilding industry had increased its capacity considerably and was able to supply a large amount of new tonnage, albeit with a lag between contracting and delivery. Shipowners were willing to contract vessels. An expansive strategy had proved profitable in the growth period in the first postwar decades, and it was hard to envisage a sudden change in the development. The financial community fought for market shares in the shipping financing market, and due to developments in the international economy a large amount of capital was available for investment purposes. The combination of sufficient shipbuilding capacity, shipowners' eagerness to contract increasingly large vessels and an ample supply of financing are important factors in an explanation of the contracting boom. The amount of tonnage contracted and the size of the order book reached unprecedented levels. This development was spurred by the high level of period and spot market rates, particularly from the middle of 1972 onwards, which resulted in a favourable view of future tanker transport demand. The actual demand development, however, did not live up to expectations, and represented a clear break with the historical demand development.

## **3.2. The Tanker Transport Demand Side**

The full extent of the deep crisis in the market for tanker transport services can not be explained solely by supply side developments. The following analysis shows how the development of the demand side influenced the crisis in the tanker market. In this connection, two factors are given particular attention; the effects of the oil price increase and the concentration of the agents on the demand side in the market for tanker transport.

### **3.2.1. The oil price increase**

In 1973, the Norwegian government's long-term programme stated that a strong increase in the demand for oil and oil products was to be expected, unless there were any major disruptions in the price or supply conditions.<sup>68</sup> The OPEC oil price increases on 16 October 1973 and 1 January 1974, and the OAPEC-countries' subsequent economically and politically motivated supply reduction, constituted such a disruption.

The *oil price shock* which OPEC I constituted revealed the short-term inelasticity of oil price demand. This can be explained by the important position of oil in the energy consumption of the industrialised countries, the high costs of available substitutes and the fact that an adaptation to other sources of energy is time-consuming. Moreover, there were no alternatives to oil for slightly below 50 per cent of the oil consumption.<sup>69</sup> The OPEC-cartel's oil price increase contributed to a radical transformation of the market's stability, as well as uncertainty and scepticism about the future development of the oil price and the oil supply.<sup>70</sup>

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<sup>68</sup> Stortingsmelding nr. 71 (1972-73), *Langtidsprogrammet 1974-77* [Long-term programme, 1974-77], p. 18.

<sup>69</sup> Andersen, Bård Solheim and Haugerud, Ottar, *Oljeprisens innvirkning på tankmarkedet* [The influence of the oil price on the tanker market], unpublished thesis, The Norwegian School of Management BI, 1992, p. 37.

<sup>70</sup> Bergman, Lars, Måler, Karl-Göran, Nordström, Thomas and Ysander, Bengt-Christer, *Energy and Economic Adjustment*, The Industrial Institute for Economic and Social Research, Stockholm, 1983 shows the far-reaching consequences of this insecurity for an industrialised, energy-importing country such as Sweden.

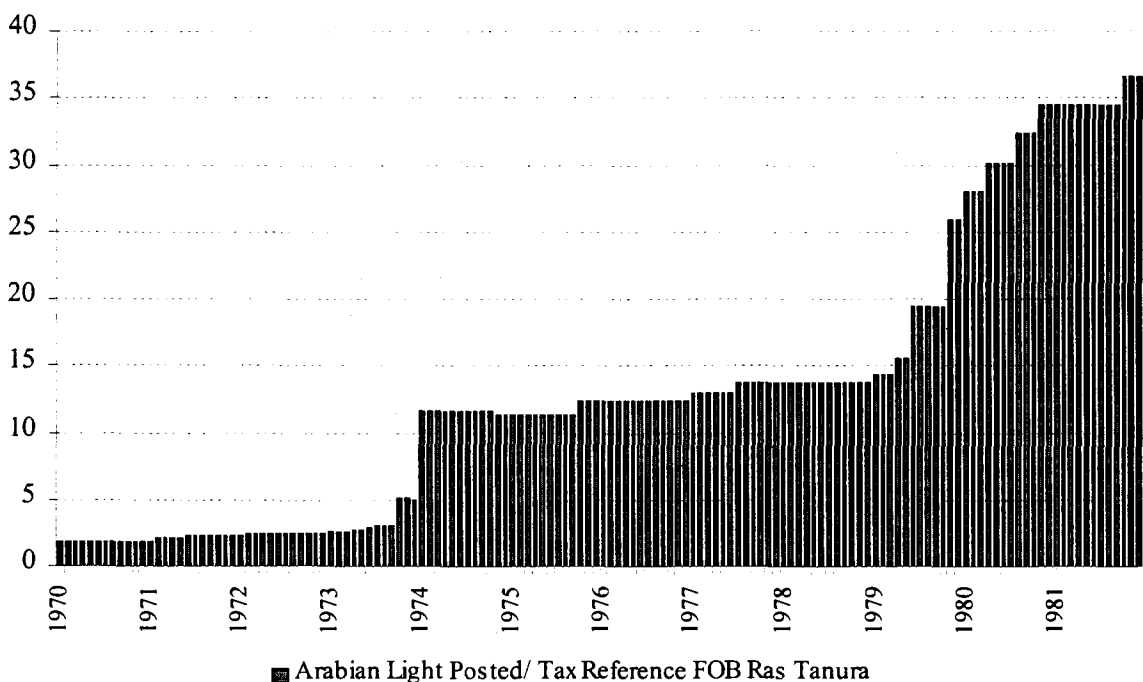


The shipping sector was particularly hard hit by the price increase. In addition to a very strong reduction of the growth of the demand for tanker transport, the cost of providing transport services increased.

In *Review 1973* the consequences of the oil price increase for the shipping industry were evaluated, and four aspects were given particular importance:<sup>71</sup>

- Initially, the demand for tankers decreases when the oil supply is reduced.
- Increased inflation is an inevitable result of the oil price increase.
- The lack of oil may cause a difficult bunkers situation.
- Increased demand for relatively cheap sources of energy, such as gas and coal, will lead to an increase in the demand for tonnage in the markets where these products are transported.

Figure 3.15. Monthly oil prices, dollar, 1970-81<sup>72</sup>



In most of the postwar period, the real price of oil had fallen, as oil price increases were unable to keep up with general inflation. From the beginning of the 1970s, a series of oil price increases were introduced in an attempt to alleviate the fall in the real price of oil. On 16 October 1973 OPEC announced an increase in posted oil prices by two thirds. This was supplemented by a further increase, from approximately \$5 to more than \$11 per barrel, adopted in late December 1973 and effective from 1 January 1974.

<sup>71</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1973*, pp. 3-4.

<sup>72</sup> The data in Figure 3.15 are taken from OPEC, *OPEC 1989 Statistical Bulletin*, The Secretariat – Organization of the Petroleum Exporting Countries, Vienna, 1989, pp. 126-127. The figures denoting the year refer to January. The chart refers to the posted prices for oil, which may deviate from the spot market selling price. In early 1979, spot prices had increased as much as \$8 above the posted price, and this was one of the reasons for the increases in the posted price later that year; see Spero, *op.cit.*, 1990, p. 275.

Table 3.3. Major oil price changes<sup>73</sup>

Date	Price before increase	Price after increase	Change – per cent
15 February 1971	\$1,800	\$2,180	21,11
16 October 1973	\$3,011	\$5,119	66,96
1 January 1974	\$5,036	\$11,651	131,35
1 October 1975	\$11,251	\$12,376	10,00
1 June 1979	\$15,461	\$19,355	25,19
1 November 1979	\$19,355	\$25,806	33,33
1980 – several changes	\$27,957	\$34,409	23,08

The oil price increases of 1973 and 1974 led to a fundamental structural change in the market for energy, as oil was transformed from a relatively cheap and abundant factor of production to a costly commodity. However, the magnitude of the structural change was not evident in the short term. According to Blanchard and Fischer, “[i]t was frequently argued that the oil price shock was transitory, likely to last about six months; in fact, it was simply not clear at the time whether the shock was permanent or transitory. Uncertainty about the permanence of the shock must have slowed real adjustment to it, for instance, the adaptation of the capital stock to the higher price of energy.”<sup>74</sup> The shipping sector is evidence of the difficulties assessing the extent of change and embarking on a proper course of action.

The unexpected oil price increase caused sudden problems, but the high degree of uncertainty about the long-term effects for the shipping sector is also important to an understanding of the magnitude of the problems later in the decade. Thus, the severity of the shipping crisis was not just a result of an unanticipated reduction of demand growth, but also a result of the failure to adapt to the changed conditions after the freight market had broken down.

There are three main reasons for the incapability of adapting to the new situation. First, due to the magnitude of the shock it was extremely difficult to assess the short- and long-term consequences. The shift which the oil price increase represented was more dramatic than any previous peacetime shocks. Second, the more drastic measures which could have been introduced to mitigate the situation, eg mass cancellations of newbuilding contracts, were shunted due to the long-prevailing notion that the shock was temporary, rather than permanent. Third, the rigidities in the market for ships, particularly in connection with the lag between contracting and delivery, made adaptation of the capital stock to the new conditions difficult.

An analysis of the effects of the oil price increase for the shipping sector will have to take into account both the influence on tanker transport demand and the effect on the costs of shipowners. On the one hand, the oil price increase led to stagnating demand for tanker transport capacity. This affected shipowners unevenly, but all shipowners operating in the spot market were instantaneously faced with drastically reduced rates. The number of shipowners

<sup>73</sup> Figures from OPEC, *op.cit.*, 1989, pp. 126-127.

<sup>74</sup> Blanchard, Oliver Jean and Fischer, Stanley, *Lectures on Macroeconomics*, The MIT Press, Cambridge, Massachusetts, 1989, p. 525.

who had to offer their vessels at the lower rates increased as old charters expired and profitable employment became difficult to come by. On the other hand, the oil price hike increased the cost of bunkers. This affected all shipowners, as the provision of transport services became more expensive following the increased price of one of the most important factors of production. However, the extent to which shipowners were affected by the bunkers price increase varied with their technology and the types of charters on which they were operating.

### **3.2.2. The reduced growth of tanker transport demand**

In the early 1970s oil consumption was expected to increase by 6,5 per cent annually.<sup>75</sup> However, the net effect of the OPEC-induced oil price increases was a reduction in consumption in the industrialised countries and lower than expected growth in other regions. In the period from 1973 to 1982, the oil consumption of the OECD-countries fell from 37,4 million barrels a day to 32,2 million barrels a day, and their share of world oil consumption dropped from approximately 70 to 57 per cent.<sup>76</sup>

The United States provide a good example of the large discrepancies between actual and anticipated oil consumption. In a testimony to the US Senate Foreign Relations Committee in late May 1973, William E. Simon, the deputy secretary of the Treasury, estimated that domestic demand for oil in 1980 would be about 25 million barrels a day. Moreover, the United States would have to increase the share of imported oil in their consumption from 33 per cent in 1973 to 50 per cent in 1980.<sup>77</sup>

The actual consumption of oil in the United States in 1980 amounted to 16,5 million barrels a day. The share of imported oil in total consumption had increased to more than 40 per cent, but was stabilised at the 1973-level of approximately a third of consumption in the early 1980s. Thus, the US average daily import of oil in 1980 was not 12,5 million barrels a day, as expected by Simon, but rather 6,7 million. By 1983 the figure had fallen to less than five million.<sup>78</sup>

Figure 3.16 shows the annual development of oil consumption and oil exports, and these figures are only partially related to the demand for oil transport capacity. Nevertheless, the large discrepancies between the anticipated development and the actual development is striking. The anticipated development of demand outstripped the actual development of demand for both oil consumption and oil exports.

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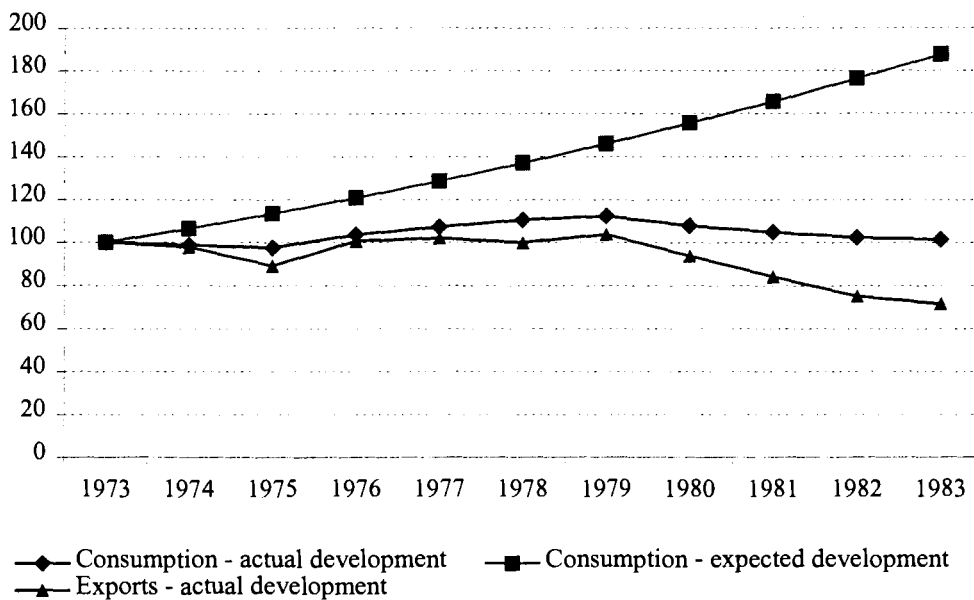
<sup>75</sup> Figure taken from Zannetos, Zenon S., "Market and Cost Structure in Shipping", in Gordon, Richard L., Jacoby, Henry D. and Zimmerman, Martin B. (eds.), *Energy: Markets and Regulation – Essays in Honor of M.A. Adelman*, The MIT Press, Cambridge, Massachusetts, 1987, pp. 244-245.

<sup>76</sup> Farrell, Trevor M.A., "The world oil market 1973-1983, and the future of oil prices", *OPEC Review*, No. 4, Volume 9, 1985, p. 391.

<sup>77</sup> Ahrari, Mohammed E., *OPEC – The Falling Giant*, The University Press of Kentucky, Lexington, 1986, p. 37.

<sup>78</sup> Calculations based on figures from British Petroleum, *BP Statistical Review of World Energy 1984*, British Petroleum, London, 1984, pp. 7-8 and 16.

Figure 3.16. Development of oil consumption and exports, 1973-83 (1973=100)<sup>79</sup>



The growth of seaborne oil transport was drastically reduced during the 1970s, particularly compared with the growth in the period before the oil price increase. At the same time the balance in the market for tanker services deteriorated, exacerbated by the enormous contracting which took place at the start of the decade.

Figure 3.17 Annual growth of seaborne oil transport, per cent, 1963-80<sup>80</sup>

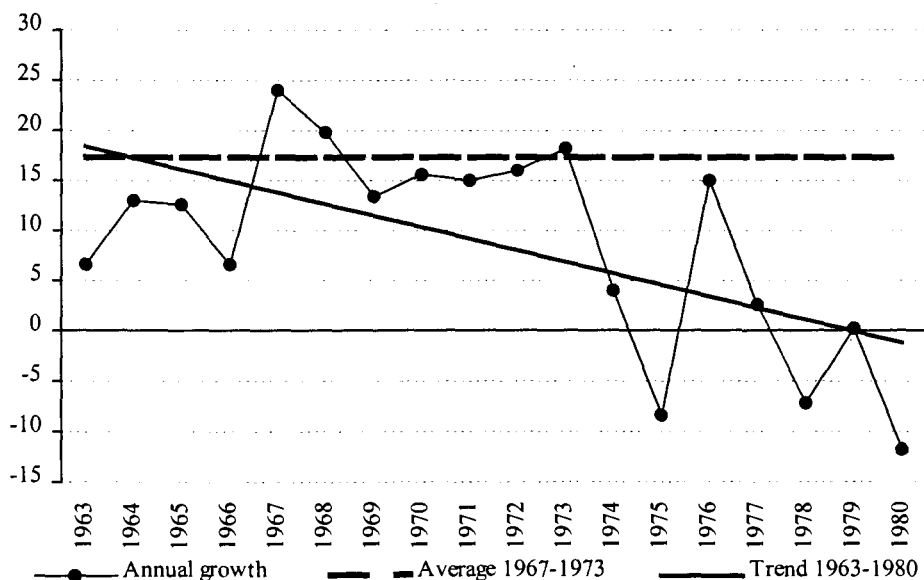


Figure 3.17 illustrates the development of the demand for tanker transport capacity in the 1960s and 1970s. The strong break from the previous trend is evident when the actual

<sup>79</sup> Based on figures from British Petroleum, *BP Statistical Review of World Energy 1984*, British Petroleum, London, 1984, pp. 8 and 16 and the expected 6,5 per cent increase in consumption as presented by Zannetos, *op.cit.*, 1987, pp. 244-245.

<sup>80</sup> This chart is based on calculations of ton-mile figures from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review*, 1972 and 1981, and refers to the transport of crude oil and oil products. The linear trend represents the least squares fit. See also the drastic shift presented in Figure 2.6.

development of transport demand after 1973 is compared with the average growth in the period 1967-1973. The drastic change in the demand development would have been even more conspicuous if the demand for the transport of oil products had been left out. In the period 1967-1973 the average annual increase in the demand for crude oil transports was 19,7 per cent, compared with an average reduction of almost 1 per cent in the period 1974-1980. Even though the fall in growth rates is substantial, some degree of reduction should have been anticipated, as one of the reasons for the growth in the period from 1967 to 1973 was the closure of the Suez Canal and the subsequent increase in average shipping distances.

There was no significant decline in the seaborne transport of oil and oil products in the first year after the oil price increase. Measured in ton-miles, the seaborne transport in 1974 was higher than in 1973, in itself an all time high. There was a small reduction in the seaborne transport of oil and oil products measured in tons, from 1640 million tons in 1973 to 1625 million tons in 1974, but this decrease was more than offset by an increase in average shipping distances. Despite the fact that demand continued to grow, the increase in the transport of crude oil and oil products was considerably smaller than the historical growth and the expected increase.

In 1975, there was an absolute reduction in the seaborne transport of crude oil and oil products, in a period where the agents – at least before the oil price increase – had expected a considerable increase in the demand for tanker transport. It was the first time since the Second World War that such a decline occurred, so expectations about demand founded on recent historical experience would under no circumstances predict such a development. Thus, it was in the market for tanker transport that the influence of the oil price increase on the shipping sector first emerged. Due to the Middle East-countries' oil embargo, the expected demand growth was replaced by a reduction in the need for tanker transport, instantaneously resulting in depressed freight rates and soon leading to high lay up-rates as well.

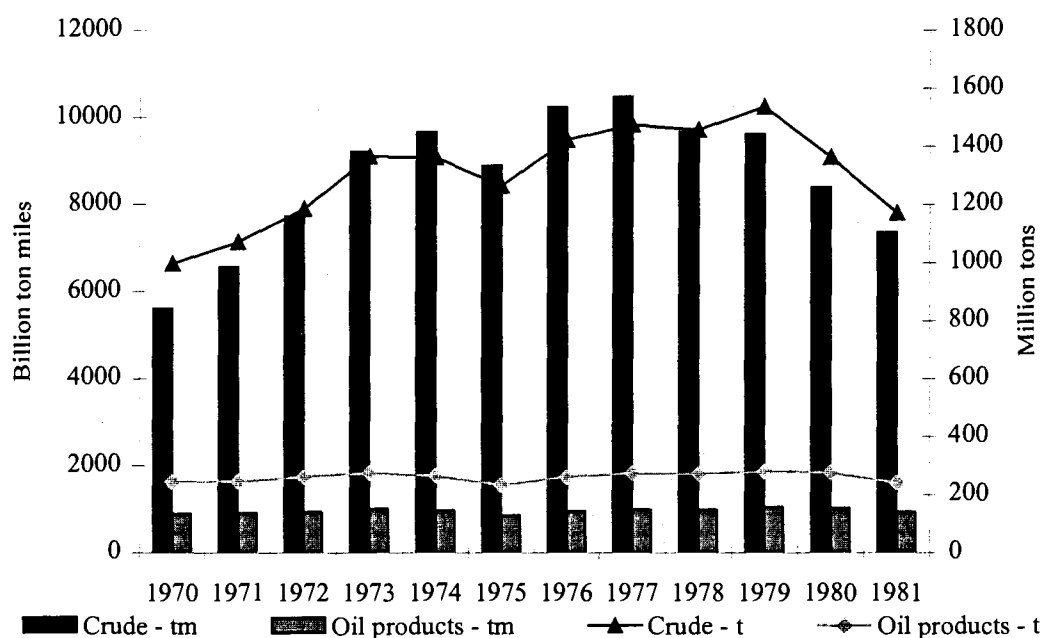
The demand for oil is relatively inelastic in the short run, but in the longer run it is possible to increase the use of those sources of energy whose price has declined relative to the price of oil. A long-term effect of OPEC's cartel pricing policy was therefore a relative reduction in the consumption of oil due to the use of alternative sources of energy in Europe and the United States. In addition to this, there was a relative reduction in the consumption of Middle East oil due to an increase in the exploration and exploitation of oil wells situated relatively close to the major consumption centres. Some of these were oil wells which were economical to exploit only after the increase in the price of oil.<sup>81</sup> The annual growth of oil production in Western Europe was 24,1 per cent in the period from 1973 to 1982.<sup>82</sup>

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<sup>81</sup> The close relationship between the oil price increase and the exploitation of Norwegian oil resources is presented in Stortingsmelding nr. 25 (1973-74), *Petroleumsvirksomhetens plass i det norske samfunn* [The role of the petroleum business in the Norwegian society], p. 6.

<sup>82</sup> Figures from Ait-Laoussine, Nordine and Parra, Fransisco R., "The development of oil supplies during the energy crises of the 1970s and some questions for the future", *OPEC Review*, Volume 9, 1985, p. 33.

Figure 3.18. Seaborne transport of oil and oil products, 1970-81<sup>83</sup>



There were two major reasons for the reduction in the seaborne transport of oil and oil products in the latter part of the 1970s. First, there was a reduction of oil consumption in the OECD-countries as energy-saving measures were introduced. The effect of these energy-saving measures on oil consumption was exacerbated by an increase in the utilisation of alternative sources of energy. In 1973 oil had constituted more than 53 per cent of the primary energy consumed in Western Europe, North America and Japan. By 1982 the figure had fallen to 45 per cent, with coal, hydro-power and in particular nuclear energy gaining importance.<sup>84</sup>

Second, there was a considerable increase in the utilisation of oil wells in countries situated relatively close to the major consumption centres. OPEC's share of world oil production declined from more than 54 per cent in 1973 to approximately a third in 1982.

Table 3.4. Countries registering significant increases in oil production, 1973-83<sup>85</sup>

	1973 production	1983 production	Increase – per cent
Mexico	28.200	149.000	428,4
Brazil	8.284	16.500	99,2
Egypt	8.367	38.000	354,2
Norway	1.575	30.000	1.804,8
Denmark	135	2.400	1.677,8
United Kingdom	89	114.500	128.551,7
India	7.199	24.000	233,4
Malaysia	4.293	18.050	320,5
China	50.000	105.000	110,0
USSR	427.250	618.000	44,6

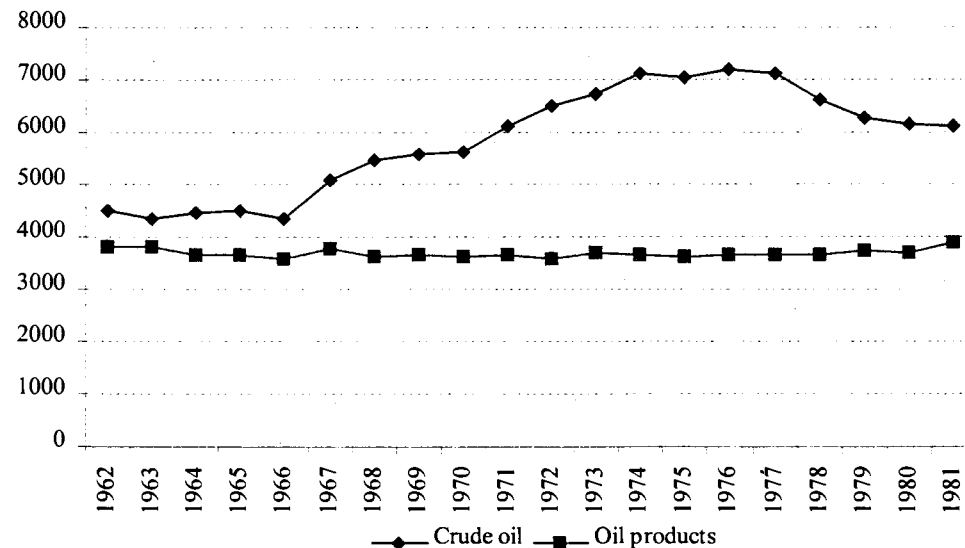
<sup>83</sup> Based on figures from Tables 1 and 2 in Fearnley & Egers Chartering Co. Ltd., *Review 1981*. The bars refer to ton-miles, shown on the left axis. The lines show the development in metric tons, and refer to the right axis.

<sup>84</sup> Farrell, *op.cit.*, 1985, p. 394.

<sup>85</sup> The figures refer to thousand metric tons, and are taken from Farrell, *op.cit.*, 1985, p. 398.

The shift of oil production from the OPEC-area to non-OPEC oil producers exacerbated the effects of the falling oil consumption growth on transport demand, as it led to a reduction of average shipping distances. From 1977 onwards the average shipping distance of oil was reduced as several non-OPEC countries increased their exploration and exploitation. A larger share of the world's need for oil and oil products was thus covered by sources which were relatively close to where the oil and the oil products were consumed.

Figure 3.19. Average shipping distance of crude oil and oil products, miles, 1962-81<sup>86</sup>



The closure of the Suez Canal in 1967 can explain much of the increase in the average shipping distance of oil in the late 1960s. The reopening of the Suez Canal in June 1975 did not, however, lead to the expected reduction in average distances, and this effect was particularly evident for large tankers. The main reason for this was that the depressed freight rates for large tankers made use of the canal less advantageous.

It was expected that the reopening of the Suez Canal would lead to a five per cent reduction in dry bulk demand and a maximum ten per cent reduction in tanker demand. The actual reduction of demand corresponded to approximately one per cent for dry bulk vessels, whereas the reduction of oil shipping demand was negligible.<sup>87</sup> According to *Review 1975*, only one VLCC went through the canal in 1975. The reopening of the Suez Canal demonstrates the structural change in the market for shipping services. Before the canal was closed, approximately three quarters of the cargo carried through the canal was transported by tankers. In 1975, liquid cargoes only accounted for approximately 15 per cent of the tonnage transported through the canal. The reason for this was that tanker owners regarded it as unprofitable to pay the canal fees in order to shorten the ballast voyage to the Gulf by ten days, when the market was characterised by overcapacity and difficulties finding profitable employment.

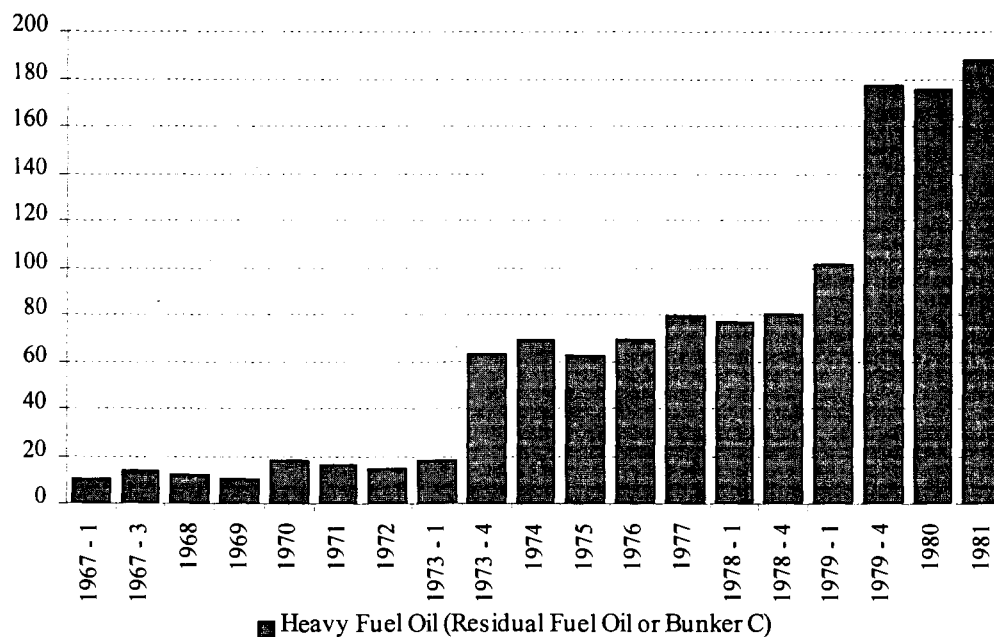
<sup>86</sup> The chart is calculated on the basis of figures from Tables 1 and 2 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

<sup>87</sup> OECD, *Maritime Transport 1975*, Paris, 1976, p. 25.

### 3.2.3. Bunkers

The most important effect of the oil price increase for the agents in the market for shipping services was the reduced growth, and later absolute reduction, of tanker transport demand. However, the oil price increase also influenced the costs of providing transport services, due to a major increase in the price of bunkers.

Figure 3.20. The development of bunkers prices, \$ per ton, 1967-81<sup>88</sup>



Bunkers are available in a variety of quantities and qualities at various locations, and may therefore be influenced by local supply and demand conditions. Figure 3.20 thus only gives an indication of bunkers prices, and conceals large monthly variations. On a monthly average basis, the price of “Bunker C” free-on-board Rotterdam increased from less than \$20 per ton in October 1973 to more than \$120 per ton in December the same year. Thereafter, bunkers prices levelled out and were stabilised at around \$70 per ton in 1974.<sup>89</sup>

The optimal speed of vessels is not constant, but varying with the freight rate level and the price of fuel. The price of bunkers is one of the factors determining the shape of the supply-curve in the market for shipping services.<sup>90</sup> In a market with a low freight rate level and high bunkers prices, the shipowners choose to let their ships run at a pace well below their maximum speed. Thus, high bunkers prices, relative to freight rates, led to increased use of *slow steaming* in an attempt to improve economic results. Moreover, in connection with the international shipping crisis, some vessels involuntarily had to operate at slow speed due to

<sup>88</sup> Based on the prices in the bulk market centred on North West Europe, often termed the Rotterdam or ARA (Amsterdam-Rotterdam-Antwerp)-market, presented in Jenkins, Gilbert, Stopford, Martin and Tyler, Cliff, *The Clarkson Oil Tanker Databook*, Clarkson Research Studies, London, 1993, p. 269.

<sup>89</sup> Data from Drewry, *op.cit.*, 1975, p. 17.

<sup>90</sup> A presentation of the differences in optimal speed between a situation with high prices of bunkers and a situation with low prices can be found in Hagen, Kåre Petter and Strandenes, Siri Pettersen, *Shipping Risk and Tax Policy*, SNF-Report 23/92, The Foundation for Research in Economics and Business Administration, Bergen, 1992, p. 16.



the limited availability of bunkers.<sup>91</sup>

The development of bunkers are important in determining the cost of providing transport services. A group of British shipping consultants have tracked a fleet of 50 VLCCs in 1973 and 1974. Their data exemplify the changes in the employment pattern of VLCCs after the oil price increase. From 1973 to 1974, the annual average speed fell by eight per cent. From an average speed of 14,3 knots in 1973, the decline occurred progressively, stabilising at around 12,5 knots in the latter part of 1974. This represented a reduction of approximately 12,5 per cent.

Figure 3.21. Speed and bunkers costs, quarterly figures, 1973-74<sup>92</sup>

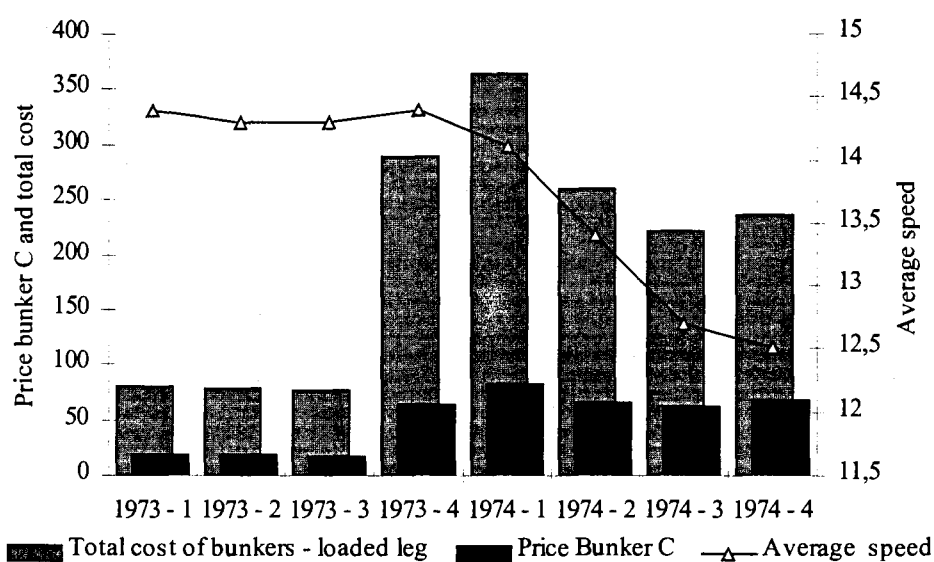


Figure 3.21 illustrates the enormous increase in the price of bunkers and its effect on the bunkers costs for a given transport service, in this case the route from the Persian Gulf to Western Europe. Moreover, the decreasing difference between the development of bunker prices and total bunker costs – which becomes evident from the second quarter of 1974 – illustrates the savings from slow steaming.

The quadrupling of the price of bunkers greatly increased the cost of providing transport services. However, changes in the price of fuel had different consequences for the various agents. Vessels which were using much fuel were adversely affected by the changes in fuel prices relative to ships which could be run in an economically efficient way despite the increase in the price of bunkers.

Diesel engines were more expensive to maintain and install than steam turbine engines, but could use fuel more efficiently. Accordingly, the cost of operation of steam propulsion plants increased considerably more than the cost of operating diesel engines when

<sup>91</sup> In the spring of 1974, there was a bunkers crisis, when some ships failed to obtain bunkers for weeks. For an introduction to the kind of problems which the lack of bunkers could cause for the shipowners, see the article about the oil situation in *Nordisk Skibsrederforenings Medlemsblad*, No. 497, 1974, pp. 4387-4389.

<sup>92</sup> Based on data for the route Persian Gulf – Western Europe as found in Drewry, *op.cit.*, 1975, p. 16. The bars refer to the left axis, and show the price of bunkers in dollar and the total bunkers cost on the loaded leg in 1000 dollar. The line refers to the average speed, represented on the right axis.

the oil price increased. Another result of the oil price increase was that the use of means of transport which function independent of bunkers, eg pipelines, became relatively more profitable. The effects of the increased price of bunkers on the utilisation of the fleet will be analysed in more detail in connection with the effects of the crisis.

### 3.2.4. Consequences of the concentration on the demand side

The fact that the oil companies both supply and demand transport capacity makes them difficult to place in an analysis of the causes of the tanker crisis, particularly due to the fact that there is no clear pattern as to how companies solve the transport function. The following analysis examines two ways in which the oil companies affected the conditions in the tanker market. First, the question of chartering is analysed. By changing their chartering strategy, the oil companies contributed to the spreading of the crisis. Second, the effect of the oil companies' policies on the size of the fleet is analysed.

As previously shown, the close relationship between the freight rate level and contracting, resulting in periodic over-ordering, is important to explain the tonnage surplus. The freight rates are also of influential when it comes to the timing of charter contracts, ie when time charter contracts are entered into.<sup>93</sup> In periods where the freight rate level is high, shipowners are interested in tying large parts of their fleet to medium- or long-term contracts. Correspondingly, oil companies are willing to commit themselves to charters in order to reduce the negative effects of an anticipated future tonnage shortage. This mechanism can explain the high level of activity in the chartering market in the latter part of 1970 and in 1973.<sup>94</sup>

Table 3.5. - Number of dirty fixtures by length of charter, 1970-77<sup>95</sup>

Year	0-12	12-24	24-36	36-48	48-60	60+	Sum
1970	61	93	206	6	3	21	390
1971	57	8	45	1	25	10	146
1972	42	10	31	5	13	57	158
1973	85	66	170	11	66	9	407
1974	85	14	36	1	9	2	147
1975	49	6	3	0	10	1	69
1976	138	21	10	1	25	7	202
1977	94	10	17	2	9	7	139

The large variations in the number of charter agreements signed are evident from Table 3.5. The high level of chartering in periods with high freight rates affects the level of contracting through two separate mechanisms. First, the existence of charter contracts is of direct importance for the contracting activity, as these contracts are often used as collateral in

<sup>93</sup> Taylor, A. J., "Chartering Strategies for Shipping Companies", *Omega*, No. 1, 1982, p. 29.

<sup>94</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1970*, pp. 17-18.

<sup>95</sup> The figures come from H. Houlder & Partners, referred to in Glen, D., Owen, M. and van der Meer, R., "Spot and Time Charter Rates for Tankers 1970-77", *Journal of Transport Economics and Policy*, No. 1, 1981, p. 47 as well as Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. I have calculated the total number of charters signed, referred to in the column "Sum".

connection with the financing of newbuildings. It is thus easier to acquire financing in periods where the freight rate level is high, and correspondingly difficult to arrange financing in periods where the long-term freight rates are at a low level. However, the generally soft conditions in the shipping financing industry in the period before the crisis reduced the importance of this mechanism.

Second, the level of contracting is influenced by shipowners who act as though the period rate reflects future demand and supply conditions. As a result of the strong correlation between the spot- and period rates, contracting will be determined by temporary fluctuations rather than attain the level necessary to create a balance between long-term demand and supply of tanker services.

Figure 3.22. Chartering and freight rates, 1970-77<sup>96</sup>

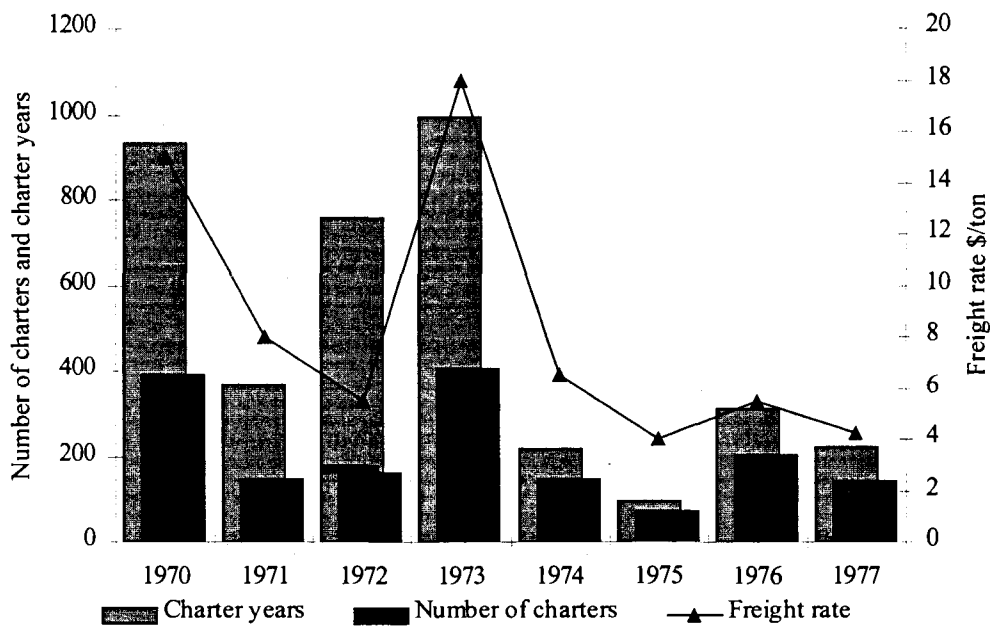


Figure 3.22 shows the close relationship between the freight rate level and the chartering of the oil companies. The figure also illustrates the spectacular change in the chartering strategy of the oil companies following the oil price increase. In 1973 charter contracts amounting to more than 990 “charter years” were signed. This can be compared with a total of 847 “charter years” in the four year period 1974-1977. Moreover, the average length of charter contracts was drastically reduced, from more than 29 months in 1973 to 16,7 months in 1975 and 19,2 months in 1977. In the latter year, more than 80 per cent of the charters had a duration of less than one year. In 1973, however, charters of such short duration made up less than a quarter of

<sup>96</sup> The freight rate, based on spot rates from the Middle East to North West Europe or the US East Coast in dollar per ton, is represented on the right axis and originates with Jenkins, Stopford & Tyler, *op.cit.*, 1993, p. 250. The number of charters is taken from Table 3.5, and the “years”-bars represent the number of charters of various length, multiplied by the average duration of the group. Thus, in 1970, the 206 charters of 24-36 month duration give a total of  $[(30 \cdot 206) / 12]$  515 years. Charters in the “60+”-bracket have been assigned a duration of 120 months. The large number of charters signed in 1972 was due to the Sanko-deals, which will be presented later. If these more than 50 contracts of ten years’ duration are deducted, the fit between freight rates and “years” in 1972 improves considerably. The “non-Sanko” level is indicated by the black line in the 1972 bar.

all charters.

The fact that the oil companies both demand and supply transport capacity did not initially change the conditions in the market for tanker transport. They did not discriminate against the independent shipowners in connection with the delivery of fuel.<sup>97</sup> The oil companies nevertheless contributed to a transformation of the market conditions by reserving cargoes for their own ships and those to which they were tied through charter contracts, in a period where the demand for tanker transport was limited.

Initially, the effects of the freight market breakdown were different for the various shipowners. The shipping companies which had tied their tonnage to long-term charter contracts in the period with high freight rates in the beginning of the 1970s, or in connection with the boom just before the oil crisis, had to some extent secured their revenues in the first period after the freight market breakdown.<sup>98</sup> The profitability of the ships tied to long-term charter contracts varied according to when the contract was entered into and which kind of contract the two parties had chosen. A voyage charter, where the shipowner is responsible for the payment of bunkers, was due to the oil price increase far less profitable than a bareboat-charter or a period timecharter where the charterer had to cover the bunkers costs.<sup>99</sup>

After the breakdown of the freight market, it became increasingly common that oil companies, when old charters expired, chose not to enter into new long-term charters. Rather, they covered a consistently larger share of their tonnage requirements in the spot market. The share of the oil transport contracts which were closed in the spot market thus rose from 10 per cent in 1973 to 25 per cent in 1978.<sup>100</sup>

In addition to this, the amount of charter contracts was reduced as a result of an increase in the oil company owned tonnage. The share of the tanker fleet which was owned by the oil companies increased from 33 per cent in 1972 to approximately 40 per cent in 1977. Of the international tanker fleet, 21 per cent was owned by *The Seven Sisters*.<sup>101</sup> Due to the increased spot market chartering and the growth of the oil-company owned fleets, the share of vessels operating on charter contracts fell from approximately 55 per cent before the oil price

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<sup>97</sup> The Norwegian shipping correspondent Johan Seland writes in Seland, Johan, *Norsk skipsfart år for år 1946-1976*, edited by Arnljot Strømme Svendsen, Fagbokforlaget, Bergen, 1994, p. 224 that "luckily, the oil companies managed to allocate bunkers in a fair manner."

<sup>98</sup> The most profitable charter contracts in the first part of the 1970s were medium-length, and entered into in the spring of 1970. The highest rates were found in the short-term charters, most of which expired in 1972. Ships which had been tied to very long charters in the middle or end of the 1960s were not particularly profitable due to the exchange rate development.

<sup>99</sup> In Gram, Per, "Kansellering av certepartier" [Cancellation of charter parties], *Norwegian Shipping News*, No. 12/13, 1975, p. 9 it is claimed that one shipowner was willing to pay an oil company to get a contract from The Persian Gulf to Europe. The rationale behind this was that the oil company under this contract was liable to pay the bunkers cost, and the shipowner wanted to get the ship to Europe where it would be laid up.

<sup>100</sup> Rafgård, Tormod, "Oil transportation in tankers - getting cheaper and cheaper", *Norwegian Shipping News*, No. 21, 1979, p. 29. The figures are largely supported by other sources, although the 1973 figure is relatively small. See the analysis in Chapter Six for a more detailed assessment.

<sup>101</sup> Based on figures from Drewry, *The Tanker Fleets of the International Oil Companies*, H.P. Drewry Shipping Consultants Ltd., 1979, p. 74. The figures vary between different sources; compare for instance the figures from Drewry, *op.cit.*, 1979, p. 72 with those presented in Ratcliffe, Mike, *Liquid Gold Ships. A History of the Tanker 1859-1984*, Lloyd's of London Press Ltd., London, 1985, p. 161.

increase to 35 per cent in 1978.

One factor which can explain the reduced activity in the charter market was the fact that some of the oil companies had to lay up their own as well as previously chartered ships. It is evident that the oil companies after 1974 were hesitant about entering into contracts with a duration of more than a year.<sup>102</sup> Another reason that both shipowners and oil companies were more cautious about signing long-term contracts may have been the increased uncertainty in connection with exchange rates and cost development.<sup>103</sup> In the white paper Stortingsmelding nr. 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the conditions for seamen and shipping's position in the society] it is claimed that the extensive use of short-term charters in the Norwegian fleet was a result of changes in the policy of charterers, the Norwegian cost development and the exchange rate turmoil.<sup>104</sup>

According to Abrahamsson, the changes in the use of long-term contracts was a result of structural changes in the international market for oil. He also claims that it was primarily the oil companies who were reluctant to enter into new contracts as the old charters expired.<sup>105</sup> In addition to this, an increasing share of the transport capacity was bought by small and state-controlled oil companies.<sup>106</sup> Parallel with the increased fragmentation of the demand side, the most important oil-producing countries reduced the average length of their exploitation contracts with the oil companies, and the activity in the spot market for oil increased at the expense of long-term exploitation contracts. The share of internationally traded oil based on long-term contracts fell from 90 per cent in 1973 to 42 per cent in 1979.<sup>107</sup>

The reduced utilisation of long-term contracts and the increasingly important position of smaller oil companies may also explain the decline in the use of charter agreements in connection with oil shipments. It could be expected that the charter market activity increased when small companies on the transport demand side, owning little tanker tonnage themselves, needed to secure their delivery of oil. This appears not to be the case. Whereas the seven majors on average covered approximately seven per cent of their tonnage requirements in the spot market in 1978, the leading non-majors on average covered 24,5 per cent of their requirements in the spot market.<sup>108</sup> However, this difference in chartering strategy was not

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<sup>102</sup> Glen, Owen & van der Meer, *op.cit.*, 1981. In Fearnley & Egers Chartering Co. Ltd., *Review 1975*, p. 12, it is claimed that only two of the large American oil companies had undertaken period chartering of any significance in 1975.

<sup>103</sup> The Norwegian shipowner Jørgen Jahre claims in *Norwegian Shipping News*, No. 2A, 1976, p. 25 that the basis for the long-term charter contracts disappeared before the oil crisis as charterers were reluctant to accept escalation clauses in connection with costs and exchange rates.

<sup>104</sup> Stortingsmelding nr. 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the conditions for seamen and shipping's position in the society], pp. 57-58.

<sup>105</sup> Abrahamsson, Bernhard J., "International Shipping: Developments, Prospects and Policy Issues", *Ocean Yearbook 8*, University of Chicago Press, 1987, p. 172.

<sup>106</sup> Abrahamsson, Bernhard J., "Merchant Shipping in Transition", *Ocean Yearbook 4*, University of Chicago Press, 1983, p. 176.

<sup>107</sup> Bjerkholt, Olav, Offerdal, Erik and Strøm, Steinar (eds.), *Olje og gass i norsk økonomi* [Oil and gas in the Norwegian economy], Universitetsforlaget AS, Oslo, 1985, p. 56.

<sup>108</sup> Calculations are unweighted averages based on the percentage breakdown of the oil companies' owned, period and spot tonnage in Drewry, *op.cit.*, 1979, p. 73.

necessarily a result of the structural changes in the oil market. A plausible explanation may be that the relatively small oil companies did not perceive lack of tonnage as likely in a market characterised by considerable tonnage surplus for the foreseeable future, and that they accordingly chose to buy relatively cheap transport capacity in the spot market.

The behaviour of the oil companies, characterised by a strong reduction of the activity in the charter market, was one factor which contributed to the spreading of the international shipping crisis to agents which initially had escaped from the freight market breakdown relatively unharmed. After the oil price increase, shipowners whose strategy was based on securing employment for their vessels in the period market, were unable to renew their existing contracts or sign new contracts when the current contracts terminated. They were therefore forced to lay up vessels or accept the abysmal rates in the spot market. The high degree of concentration on the demand side, where a small number of companies buy a large share of the transport capacity, made it easy for the oil companies to keep an eye on the chartering policies of their competitors.

As a result of the massive tonnage surplus, the need for oil companies to insure their business against tonnage shortages by entering into long-term charters was reduced. This can explain why an increasing share of the transport service was undertaken at extremely low rates in the spot market. The fact that a relatively small number of oil companies demand most of the tonnage supplied by the independent shipowners may therefore be important in an explanation of the spreading of the crisis in the market for tanker shipping. The Norwegian shipowner Erling Dekke Næss had previously claimed that the oil companies chose to enter into charter contracts one by one, thereby forcing the rates to a lower level.<sup>109</sup> However, he does not refer to any evidence which can substantiate this argument, and there is no support for it in any of the literature which has been written about the use of charter contracts.

The change in the chartering strategy of the oil companies thus contributed to the spreading of the crisis. Moreover, the chartering policies may have resulted in a lengthening of the shipping crisis as well. This would be the case if the oil companies through their actions in the period before the oil price increase, consciously or unconsciously gave the independent shipowners an economic motivation to undertake large investments. There is little doubt about the fact that the high level of rates in late 1972 and 1973 stimulated independent shipowners to invest in newbuildings. However, it is an impossible task to prove that this was some sort of planned manoeuvre, intended to lead to a tonnage surplus. On the other hand, the increase in the size of the tanker fleets of the oil companies during the 1970s shows that the companies did not hesitate to take advantage of the low second-hand prices. This more than compensated for the relatively low contracting activity in 1972 and 1973, when the oil companies' share of newbuilding was smaller than their share of the world tanker fleet.

Another manner through which the oil companies contributed to the tanker market imbalance was by neglecting to cancel newbuilding orders on a large scale when the

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<sup>109</sup> Næss, Erling Dekke, *Tankfartens problemer og utsikter* [The problems and prospects of tanker shipping], Kristofer Lehmkuhl Lecture, Norwegian School of Economics and Business Administration, 1965, p. 13.

overcapacity became evident. Some oil companies, which had drastically overestimated their future transport requirements, chose to cancel newbuilding orders. However, as the OCED remarked, “it is hard to see oil companies being sufficiently altruistic as to pay cancellation fees for the privilege of chartering tonnage to fill the requirement.”<sup>110</sup>

Of the newbuilding contracts signed by the oil companies in the period 1971-74, one out of five was cancelled.<sup>111</sup> Furthermore, a quarter of the contracts for which employment was secured was cancelled. The bulk of the cancellations were undertaken by the independent shipowners with unfixed tonnage. They were responsible for 35 per cent of the newbuilding orders, and almost half of the cancellations.

If we look at the most intense period of the contracting boom, in 1973 and the last quarter of 1972, the costs of the speculative contracting become evident. By this time, the oil companies had drastically reduced their share of contracting, and only 12 per cent of their newbuilding orders had to be cancelled. Of the contracts for which charters had been secured, almost 39 per cent had to be cancelled. Shipowners could cancel tonnage without faulting on their obligations to the charterer if the charter party was cancelled through a mutual understanding, or if they had other vessels to which the charter could be transferred. Of the 158 vessels which had been contracted before employment was secured, 45 per cent had to be cancelled. The fact that the shipyards demanded massive cancellation fees is one of the explanations that the amount of tonnage cancelled was not higher.

The inordinate emphasis that shipowners placed on the current freight level and the subsidised newbuilding prices was undoubtedly important in explaining the high contracting activity. The oil companies *could* have co-ordinated their activity in the charter market in the period before the oil crisis, thereby abusing this mechanism by increasing the independent shipowners’ expected profit from newbuilding contracts. However, the most plausible reason for the large amount of contracting in the period before the freight market breakdown was the expectations about continuing transport growth prevalent among both oil companies and shipowners.

### 3.3. Summary

The tanker crisis was triggered by the oil price increases of October 1973 and January 1974 and the subsequent cartel policy of the OPEC. The magnitude of the crisis can to a large extent be explained by the actions of the agents in the tanker market in the period around the freight market breakdown and the strong, unexpected reduction in the growth of tanker transport demand. In particular, the relationship between shipyards, shipowners and bankers, and the expectations of these agents in the period leading up to the crisis, are important for an understanding of the subsequent development.

Two aspects of the strategic behaviour of the shipyards, shipowners and bankers were

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<sup>110</sup> OECD, *Maritime Transport 1975*, Paris, 1976, p. 106.

<sup>111</sup> The following figures are based on the number of contracts, and are derived from calculations based on Figure 3.8 and Figure 3.10.

particularly important. First – in the period prior to the freight market breakdown – their strategies reflected the anticipation of sustained strong growth in the demand for tanker transport. Due to the oil price increase, the growth failed to materialise. Second – in the period after the freight market breakdown – the inertia can be explained by the fact that the agents largely acted as though the problems were transitory.

The effect of the strategic decisions – both prior to and after the oil price increase – was that the volume of tanker tonnage grew considerably despite stagnating demand. Indeed, the shipping crisis was the result of considerable discrepancies between expected and actual development, and reflected the fact that a transition to the changed fundamentals of the tanker market was difficult to implement.

The behaviour of and relationships among the agents can be explained by some specific features of the markets for ships and long-term charters. In this connection, the support given to the shipbuilding industry, the access to easy financing and the indirect use of spot rates as a basis for investment decisions are of particular importance. Moreover, the effects of tax-policies and the concentration among the agents on the demand side may have aggravated the situation.



## CHAPTER FOUR

# THE CONTAGION AND SHORT-TERM EFFECTS OF THE CRISIS

This chapter deals with the contagion of the crisis from the tanker sector to other segments of the shipping market, as well as the short-term effects of the crisis. Initially, the supply-side transmission of the crisis from the tanker sector is analysed, with emphasis on the effects of changes in the employment of combination carriers and the conversion of newbuilding contracts. The effects of the demand side development in the bulk sector are also taken into account. Second, the short-term effects of the crisis are analysed, and the development of freight rates, vessel values and capacity utilisation is emphasised. In term with the topic of this part of the thesis, the analysis of the effects of the crisis primarily focuses on the period from the freight market breakdown until the temporary resurgence of freight rates in 1979. Moreover, some of the more long-term effects of the crisis are mentioned, but will be analysed in more detail in Chapter Ten.

It may to some extent be difficult to differentiate between the causes and consequences of the crisis. For instance, the freight rate fall was an effect of the imbalance in the tanker sector, ie the high tanker transport capacity relative to demand. However, the freight rate fall was a cause of the problems encountered by most shipowners. In this respect, the term the “*crisis*” in this subchapter is used to denote the disparity between the supply of tanker transport capacity and the demand for tanker services. Accordingly, the term the “*effects*” of the crisis represents the development traits appearing as a result of this imbalance. Moreover, some auxiliary aspects, such as the recession in the industrialised countries, are important. This recession aggravated the imbalance between supply and demand in the tanker sector, and implies that several parts of the shipping industry would have been negatively affected, even without the influence from the tanker market.

### 4.1. The Contagion of the Crisis

In the first period after the oil price increase, the large imbalance between shipping supply and demand was dubbed “*the tanker crisis*”. However, two mechanisms on the supply side, viz the inflow of combination carriers and the conversion of newbuilding contracts, can explain the spreading of the crisis to the dry bulk sector. At the same time, it is likely that a recession would have taken place in the dry bulk sector even without the impact from the tanker market. The main reason for this is the reduction of the world’s industrial production. The situation is analogous to the one in the tanker market – the outcome of a recession would have been particularly strong as the agents expected a continuing growth of demand.

In the market for dry bulk transport, the immediate effect of the oil price hike was a strong increase in the price of bunkers. Again, this particularly affected the shipowners who were operating relatively fuel-inefficient vessels, eg older ships or large ships with turbine engines. However, due to the differences in the size distribution of ships, turbine-driven vessels were less important in the dry bulk sector than in the tanker sector.

The long-term influence on the demand for dry bulk transport was a more important effect of the oil price increase. After a while, the increased price of oil contributed to an amplification of the downward business cycles which were already evident in the world economy. Due to the strong correlation between the demand for dry bulk transport and the world's industrial activity, the recession had negative consequences for the bulk transport demand.

#### 4.1.1. The recession

The effect of the oil price increase on inflation and the trade balance of oil importing countries was one of the main causes of the international economic recession of the 1970s. It is, however, possible to find some signs of disequilibrium in the world economy in the period prior to the oil price increase, an indication of which was the development in international monetary relations. The world economy was hit by heavy inflation, primarily in connection with an increase in the price of raw materials and wages. In addition to this, the stability and predictability of international trade relations were reduced as a result of the fact that some of the major currencies had experienced a loss of confidence.

Due to the disequilibrium in the international economy, a reduction of the high economic growth experienced in the first postwar decades could be expected. The Organisation for Economic Cooperation and Development (OECD) even suggested that "1974 was likely to be a recession year even without the oil crisis."<sup>1</sup> However, the oil price increase reinforced both the inflationary tendencies and the recession in the industrialised countries. Moreover, as governments sought to counter the inflationary effect of the oil price increase, contractionary forces became even more prominent. As inflation control became the primary policy goal, the contractionary impact of the oil price increase and the upcoming recession was magnified. Table 4.1 shows the reduction of economic growth and the increased inflation.

Table 4.1. OECD – Development of main indicators, annual averages, per cent<sup>2</sup>

	1965-1973	1973-1979	1979-1985
Real output growth	4,9	2,8	2,1
Inflation	5,1	9	7,7
Employment growth	1,1	1,1	0,6

The Organisation of Petroleum Exporting Countries' manipulation of the oil price aggravated a negative trend in the international economy. The oil price increase led to considerable changes in the international terms of trade. The oil-exporting countries experienced a dramatic increase in their foreign earnings, whereas the countries which were net importers of oil developed increasingly large trade deficits. The result of the oil price increase was an

<sup>1</sup> OECD, *Towards Full Employment and Price Stability*, Organisation for Economic Cooperation and Development, Paris, 1977, p. 70.

<sup>2</sup> Figures are OECD-averages from OECD, *Structural Adjustment and Economic Performance*, Organisation for Economic Cooperation and Development, Paris, 1987, p. 54.

international transfer of monetary reserves, and the oil producing countries spent some of their new-found wealth on consumption, particularly consumption of industrial goods from Germany, the United States and Japan. Moreover, a considerable share of the petrodollars was returned to the industrialised countries through deposits in the Eurodollar market.

A stable world economy would have reacted to the oil price increase in a different manner than the international economy in the early 1970s did. The development of business cycles revealed that the most important industrial nations were heading towards a recession. The oil price increase amplified the effects of this recession, as it in practice constituted a considerable tax on the consumption of oil products in the industrialised world.<sup>3</sup> Moreover, national economic policies were tightened to control the inflationary forces stimulated by the boom of the early 1970s and the subsequent increase in the price of one of the most important factors of production.

In January 1974, the finance ministers of the leading industrialised countries agreed to avoid policies that would exacerbate the problems posed by the oil price increase. However, as the shipping analysts H.P. Drewry emphasised six months later; *“since that meeting, Italy has resorted to import restrictions, the UK has had a deflationary budget, the US has pushed up interests to record heights, Denmark has imposed large purchase tax increases to stem imports, Japan has launched a vigorous export campaign [...] and the new French government is preparing an austerity programme (ie deflation) matched by a drive to accelerate exports.”*<sup>4</sup> The responses thus aggravated, rather than alleviated, the difficult situation resulting from the oil price increase, as the various nations responded in assumed self-interest.

The demand side basis for the predicament of shipowners varied. For shipowners operating in the tanker market, the direct consequences of the cartel behaviour of the oil producers were more important than the effects of the general recession. Those operating in the market for dry bulk transport, however, were more affected by the reduction in economic activity in the wake of the oil price increase, although the higher price of bunkers increased the cost of providing transport services.

#### **4.1.2. The supply side**

After the oil price increase there were large changes in the supply of tonnage in the dry bulk sector, in the short as well as in the long run. Initially, the cause of the supply side growth was the introduction of combination carriers previously employed in the tanker market. The reemployment was a direct effect of the tanker market breakdown. In the longer run, there was a large increase in the supply of dry bulk tonnage as a result of the conversion of tanker

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<sup>3</sup> van der Wee, Herman, *Prosperity and Upheaval. The World Economy 1945-1980*, Pelican Books Ltd., Harmondsworth, 1986, p. 494. According to van der Wee, *“[t]he raising of oil prices had important consequences for the world economy and the working of the international monetary system. [...] It was inevitable that total demand in the industrialised countries would fall, and this largely explains the seriousness of the world recession of 1974-1976.”*

<sup>4</sup> Drewry, *Shipping Statistics and Economics*, No. 44, June 1974, p. 5.

newbuilding contracts into bulk carrier contracts. As the crisis unfolded, shipbuilders even managed to secure contracts for the construction of new dry bulk tonnage, despite the portentous dry bulk tonnage surplus.

### The impact of the combination carriers

The severe problems in the tanker market have often been used to explain the negative development in the dry bulk sector in the period after the oil price increase.<sup>5</sup> As a rule, combination carriers switch between the tanker and dry bulk markets when there are considerable changes in the supply and demand conditions in the two markets. In the period immediately before the international shipping crisis, 80 per cent of the total combination carrier tonnage was employed in the tanker market due to the strong demand for oil transport capacity. As a result of the freight market breakdown, the tanker market's share of the combination carrier employment had been reduced to 58 per cent by 1974 and further to 51 per cent by 1975. One result of this declining share was that the proportion of the combination carrier fleet offered in the dry bulk market increased. Whereas dry cargo had only constituted approximately 15 per cent of the volume of goods transported by the combination carrier fleet in 1972, the share had increased to approximately half of the goods by 1975.

Two features can explain the fact that as much as half of the combination carrier fleet was still engaged in the depressed tanker market in 1975. First, the crisis had by this time made a considerable impact on the dry bulk market as well. Second, approximately 28 per cent of the total combination carrier fleet were committed to oil on period charters.<sup>6</sup> In addition to this, the ships which were hardest hit by the adverse conditions in the tanker market were larger than many of the combination carriers offered in this market. However, the effects of the influx of combination carriers from the tanker market on the balance in the dry bulk market was considerable.

In 1972 combination carriers amounting to approximately three million dead weight tons (dwt) were employed in the dry bulk sector. Three years later the amount of tonnage had increased almost sevenfold, to more than twenty million dwt.<sup>7</sup> As a result of the growing imbalance between tanker supply and demand, the share of the combination carrier fleet operating in the dry bulk market continued to increase throughout the decade. In 1981 more than three quarters of the volume transported by combination carriers consisted of dry bulk goods.

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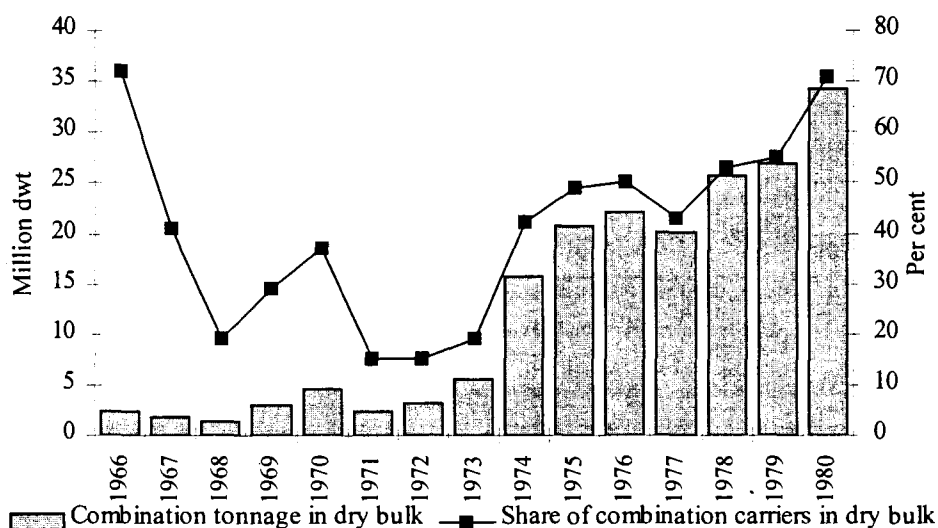
<sup>5</sup> For examples of the use of this causality, refer to Stortingsmelding nr. 52 (1980-81), *Om skipsfartsnæringen* [On the shipping industry], p. 16 or Beenstock, Michael and Vergottis, Andreas, *Econometric Modelling of World Shipping*, Chapman & Hall, London, 1993, p. 37.

<sup>6</sup> OECD, *Maritime Transport*, Paris, 1975, paragraph 126. This figure was expected to fall to less than ten per cent by the end of 1978.

<sup>7</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1976*, Table 3, p. 15 and Table 15, p. 21. See Figure 4.1 for information on how the tonnage has been measured. According to the article "Markedet for kombinerte skip" [The market for combination carriers] in *Kapital*, No. 11, 1973, p. 22, Ore/Oil-ships accounted for slightly more than half of the combined carrier fleet. 75 per cent of the fleet comprised ships larger than 80.000 dwt, and almost 60 per cent of the fleet was accounted for by ships of more than 100.000 dwt.

As a result of the reemployment of vessels and the net growth in the combination carrier fleet until 1979, the amount of tonnage in the dry bulk market increased considerably. In the early 1980s almost 35 million dwt of combination carrier tonnage was employed in the dry bulk market. At the same time, the bulk carrier fleet amounted to some 142 million dwt, so the combination carriers operating in the dry bulk segment actually contributed to an increase in the supply of approximately 25 per cent.

Figure 4.1. Employment of combination carriers, 1966-80<sup>8</sup>



The changes in the employment of the combination carrier fleet led to a strong increase in the supply of dry bulk tonnage in the period after the breakdown in the tanker market. The combination carriers offered in the dry bulk market made up less than five per cent of the total transport capacity in this market in 1972, compared with more than 17 per cent in 1975.

The combination carriers which switched from the tanker to the dry bulk market did not do this immediately after the freight market breakdown. The companies offering dry bulk transportation therefore generally received reasonable profits in the first half of 1974, primarily as a result of a continuing increase in the international trade of important dry bulk commodities. However, by the summer of 1974, the dry bulk sector had started to feel the effects of the oil price increase as well. The combination carriers leaving the tanker market put a downward pressure on bulk market freight rates. Initially, rates fell to a particularly low level for large dry bulk vessels and combination carriers, and by the end of 1974 dry bulk rates had plunged to a level where it was no longer profitable for the largest combination carriers to switch from the tanker to the dry bulk market.<sup>9</sup>

Due to the fact that combination carriers can offer their services in the dry bulk as well

<sup>8</sup> The chart is based on figures from Table 3 and Table 15 in Fearnley & Egers Chartering Co. Ltd., *Review*, 1972 and 1981. The amount of combination tonnage operating in the dry bulk market, measured in dead weight tons and represented on the left axis, has been found by multiplying the share of the combination carriers' activity in the dry bulk market by the size of the combination carrier fleet. The figure for 1978 may be exaggerated, due to the inclusion of inactive tonnage. The right axis refers to the share of combination carriers operating in the dry bulk market, as per cent of the total combination carrier fleet.

<sup>9</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1974*, p. 33.

as the tanker sector, what was initially a tanker crisis spread to other segments of the international market for shipping services. When the tanker sector overcapacity had led to a depressed freight rate level, it became profitable to switch employment to the dry bulk market. The combination carriers entering the dry bulk market created a situation of overcapacity even here. The existence of combination carriers is thus important to explain the spreading of the crisis from the tanker market to other sectors of the shipping market. The shift in the employment of combination carriers from the tanker to the dry bulk market contributed to an increase in the breadth of the international shipping crisis by affecting even those shipowners who had refrained from investing in the tanker sector.

### The conversion of newbuilding contracts

Within the shipbuilding industry there were two mechanisms which contributed to the spreading of the crisis from the tanker market to the dry bulk sector. Initially there was a large amount of conversions. Tanker newbuilding contracts were converted to bulk or combination carrier contracts when the tanker freight market broke down.<sup>10</sup> In addition to this, the tanker market overcapacity led to a situation where the shipyards, when the tankers under construction had been finished, had to concentrate on attracting orders for vessels intended for other segments of the shipping industry.

As a result of the last contracting boom before the freight market breakdown in the autumn of 1973, the order books of the world's shipyards were more extensive than ever before. The world tanker order book on 1 January 1974 amounted to 193 dwt, almost ten times as much as the corresponding figure only eight years earlier. The world order books for combination and dry bulk carriers were 10 and 23 million dwt respectively. By the end of 1974, several shipowners had realised that there would be a persistent oversupply of tanker tonnage, and consequently wanted to avoid the delivery of vessels to a market in which there were large possibilities that the ships had to be laid up immediately after delivery.

One way through which the shipowners could avoid the delivery of superfluous tanker tonnage was by cancelling their existing orders, and in several instances it was in the interest of both the shipowner and the shipyard to cancel the newbuilding orders. Several shipyards had not foreseen the enormous increase in building costs when accepting newbuilding contracts, and were therefore willing to cancel contracts which would be as unprofitable to themselves as to the contracting shipowner. In some instances, shipowners were willing to bail their way out of unprofitable contracts which they had entered into. The losses, usually the cancellation fee stipulated in the original contract, could be necessary to secure the economic freedom and the financial position of the company.<sup>11</sup>

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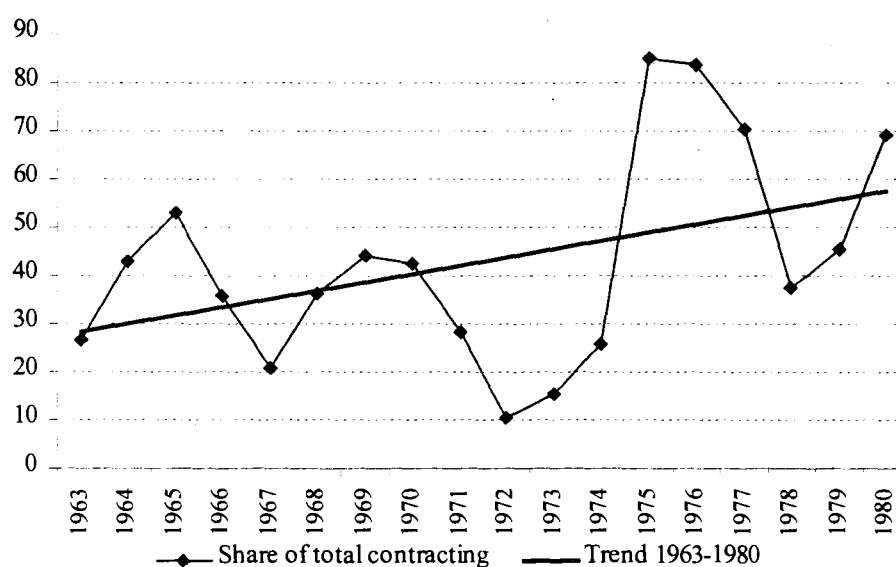
<sup>10</sup> In the article "Konverteringenens år" [The year of conversions], *Norwegian Shipping News*, No. 10, 1975, p. 44, which is a survey of the contracting activity in 1974, it is claimed that most of the converted tanker contracts were substituted by OBO or bulk carrier orders, particularly for Panamax-size vessels.

<sup>11</sup> Nordvik, Helge W., "Norwegian Maritime Historical Research during the past Twenty Years: A Critical Survey", *Sjøfartshistorisk Årbok 1990* [Norwegian Yearbook of Maritime History 1990], Bergen Maritime Museum, Bergen, 1991, p. 253.

An alternative to the cancellation of tanker contracts was the conversion of newbuilding orders. In 1975, tanker contracts comprising approximately 10 million dwt were converted to combination or bulk carriers. The dry bulk ships which were built as a result of the conversions were delivered after 1976 in a dry bulk market which then experienced a tonnage surplus as well. There is little doubt about the fact that the conversion of tanker contracts contributed to the spreading of the shipping crisis to the dry bulk sector and a lengthening of the crisis in this market segment.

As previously mentioned, the size of the subsidies in the shipbuilding industry are negatively correlated with the market prospects – when the activity in the shipyards is slack, the authorities are more willing to use subsidies to secure assignments. When the tankers contracted during the order boom had been cancelled or delivered, and shipbuilding capacity was no longer in short supply, shipyards had to look to other segments to secure business. Given the conditions prevalent in the tanker market, it was as good as impossible to build tankers at prices which were acceptable for the shipyards and profitable for the investors. The subsidies and the shipyard capacity were consequently allocated to the relatively well-functioning parts of the shipping market. As it was no longer profitable to build tankers, and because the shipyards were in a position where they could use subsidies as bait, the available construction capacity was used to build combination and bulk carriers.<sup>12</sup>

Figure 4.2. Dry bulk and combination tonnage – per cent of total contracting, 1963-80<sup>13</sup>



The long-term result of the conversion of tanker contracts and the increased construction of combination carriers and dry bulk tonnage was that the supply side in the market for dry bulk services continued to grow, despite the restrained market conditions. However, this was not

<sup>12</sup> See for instance Mottershead, Peter, "Shipbuilding: adjustment led intervention or intervention led adjustment", in Shepherd, Geoffrey, Auchen, Francois and Saunders, Christopher (eds.), *Europe's industries: Public and private strategies for change*, Francis Pinter, London, 1983 for a survey of the activity in the world's shipbuilding industry from 1966 until the end of the 1970s. In addition to dry bulk vessels, ships intended for other market segments represented alternative employment for shipbuilders.

<sup>13</sup> The chart is based on figures from Table 10 in Fearnley & Egers Chartering Co. Ltd., *Review*, 1972 and 1980.

the only reason for the deterioration of the dry bulk market conditions. Again, the demand side aggravated the already negative development.

#### 4.1.3. The demand side

In *Review 1975*, four factors are highlighted to explain the development in the dry bulk market in 1975.<sup>14</sup> The first factor, which is pointed out in other sources as well, is the negative impact of the tanker market development. In addition to this, the reduction of steel production, the conditions in international grain trading and the congestion of vessels outside important ports are used to explain the market conditions.<sup>15</sup>

It was primarily the inflow of the surplus combination carriers from the tanker market which led to a reduction of freight rates in the dry bulk market in 1975. Later, the effect of conversions and newbuilt tonnage assumed importance. However, the demand side development is also important in an explanation of the extent of the crisis in the dry bulk market.

The demand for bulk transport capacity is closely related to the world's industrial activity, and the industrialised countries had entered a recession by the middle of the 1970s. Despite the fact that industrial production and world trade increased in the 1970s, the growth was weaker than in the previous decades and far lower than what had been expected. At the same time, the international monetary system was radically changed and the industrialised countries had to combat the combined evils of inflationary pressure and high unemployment. The focus on inflation-reducing measures in domestic economic policies, exemplified by deflationary monetary policies and relatively tight fiscal policies, aggravated the recessionary forces.

Table 4.2. Annual growth of total production, average for decades, 1950-80<sup>16</sup>

	1950-59	1960-69	1970-79
Japan	9,5	10,5	4,9
West Germany	7,8	4,8	2,8
Great Britain	2,7	2,8	1,8
The United States	3,2	4,3	3,0

Strandenes has analysed the demand for bulk transport services in the period 1965-1975, and has found that the fluctuations of actual and potential GNP in the OECD-region can explain a large portion of the variations in the demand for seaborne transport. The difference between

<sup>14</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1975*, p. 8.

<sup>15</sup> In 1975, the development of grain transports exercised a positive influence on the demand for dry bulk transport capacity. This illustrates that one of the most important dry bulk goods developed independently of the world's industrial activity.

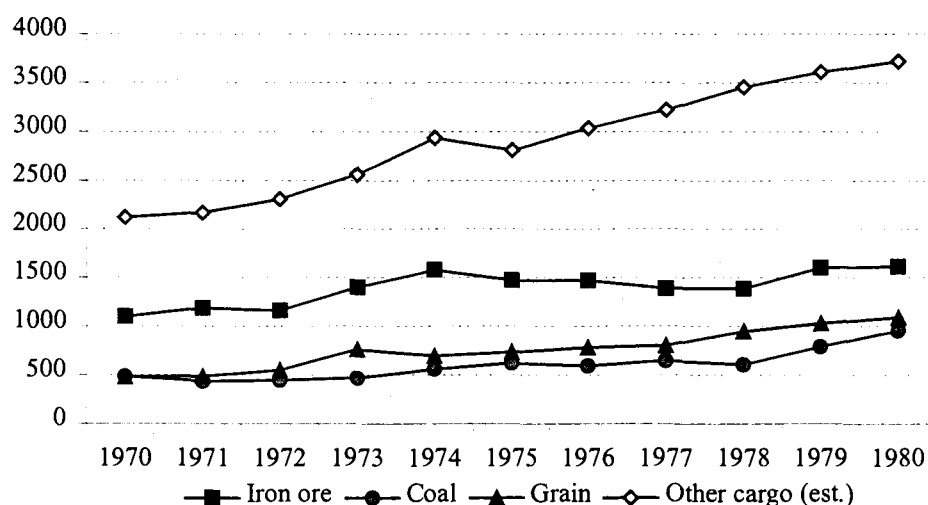
<sup>16</sup> Japan, a country which due to its geographical position and large need for imported raw materials is of particular importance for the demand for shipping services, was the country which experienced the largest relative decrease in production growth. The source of this table is van der Wee, Herman, *op.cit.*, 1986, p. 50. When averages denoting the growth in the various decades are used, the high economic growth in the beginning of the 1970s partly cloaks the differences between economic growth in the 1960s and the 1970s.



actual and potential GNP can be seen as a measure of unused capacity.<sup>17</sup> The reduced transport demand growth may therefore be explained by variations in the production of the industrialised countries, and the business cycle development in some key sectors in particular.

In Japan, the recession appeared at the turn of the year 1973/74, and in the United States it was evident a few months later.<sup>18</sup> In the latter part of 1974, there was a reduction in industrial activity in Europe as well. Despite the recession in the world economy and the reduction of steel production, demand in the dry bulk transport market increased in 1974.<sup>19</sup> However, in 1975, a year after the recession had first come into view, the conditions were so serious as to lead to a demand decrease in the dry bulk sector. Of the industries which were particularly hard hit by the economic slump, the steel industry was of most importance to the dry bulk sector. It has been estimated that the steelworks only utilised 60-70 per cent of total capacity in 1975, and this resulted in a large reduction in the steel sector's demand for iron ore and coal, the two most important dry bulk commodities. However, whereas the seaborne transport of iron ore fell by almost seven per cent from 1974 to 1975, the seaborne transport of coal grew by more than eleven per cent due to the increased use of coal for energy purposes outside the steel sector.

Figure 4.3. World seaborne trade of non-liquid goods, billion ton-miles, 1970-80<sup>20</sup>



The dry bulk market decreased in 1975 for the first time since the end of the 1950s, as the increase in the transport of grain and coal was insufficient to neutralise the negative influence

<sup>17</sup> Strandenes, Siri Pettersen, *Trekk ved konjunkturutviklingen i tankfarten* [Aspects of the business cycle development in tanker shipping], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1977. A similar study of the dry bulk sector is referred to in Norman, Victor D., *The Economics of Bulk Shipping*, Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1979c, p. 6. Potential GNP is used as an indicator of the long-term demand for transport services. Actual GNP, which deviates from the long-term trend as a result of, among other things, fluctuations in the level of industrial activity, appears to be twice as important as potential GNP in explaining transport demand.

<sup>18</sup> Seland, Johan, *Norsk skipsfart år for år 1946-1976*, edited by Arnljot Strømme Svendsen, Fagbokforlaget, Bergen, 1994, p. 235.

<sup>19</sup> Partly as a result of the fact that steelworks are unable to adapt immediately to the changed prices of energy and transport, there was a growth in the transport of iron ore and coal in 1974.

<sup>20</sup> This chart is based on figures from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review 1980*.

from the reduction in industrial activity.<sup>21</sup> The seaborne transport of iron ore fell every year from 1975 to 1978, and in 1978 it was approximately 12 per cent lower than the 1974-level, measured by ton-miles. Again, the reduction in volume was partly neutralised by the increased average distance of shipments, as the volume reduction was approximately 15 per cent. The demand for coal transport was unstable, but on average 20 per cent above the level of the pre-crisis years. The main reason for the growth of coal shipments was the increased use of coal for energy purposes as a result of the oil price increase.

Due to the increase in the price of oil, the industrialised countries tried to reduce their need for energy or cover it by means of other sources than petroleum. Oil's share of primary energy consumption in Western Europe, North America and Japan was reduced from 53,4 per cent to 45,4 per cent in the period 1973-1982, whereas the share of nuclear power increased from 1,2 per cent to 5,3 per cent over the same period. The share of coal increased from 18,3 per cent to 21,4 per cent. Energy saving measures were important as well, and the total amount of energy consumed, which had increased heavily throughout the postwar period, was in 1982 lower than it had been nine years earlier.<sup>22</sup>

The development on both the demand and supply side is therefore important in explaining the breakdown of the dry bulk market. Initially, the influence came from combination carriers which had previously been employed in the tanker market. In time, the inflow of new tonnage and the industrial recession contributed to the creation of a full-scale crisis in the dry bulk market as well.

## 4.2. The Short-term Effects of the Crisis

The analysis of the causes of the shipping crisis in the Chapter Three showed that the crisis can not be explained in a mono-causal manner – it is impossible to explain the crisis in the international shipping market solely by looking at the demand or supply side development.

In 1974 the international tanker fleet grew by 18 per cent. The average annual growth of tanker transport demand had been 17,4 per cent in the period 1966-1973. Based on the historical development of tanker transport demand, the tonnage growth in 1974 would therefore seem to maintain the equilibrium in the market for tanker transport. However, one of the reasons for the strong increase in tanker transport demand in the aforementioned period was the increased average distance of oil shipments brought about by the closure of the Suez Canal. Consequently, there was little reason to believe that the demand growth in the period 1966-1973 should indicate a long-term trend. During the 1970s and the first half of the 1980s the imbalance in the shipping market increased considerably.

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<sup>21</sup> Some of the increased demand for grain transportation was satisfied by means of tankers. According to calculations based on figures from Fearnley & Egers Chartering Co. Ltd., *Review 1977*, Table 6, p. 16 and Table 1, p. 14, approximately five per cent of the grain shipments were undertaken by tankers.

<sup>22</sup> Figures from British Petroleum, *BP Statistical Review of World Energy 1984*, British Petroleum, London, 1984, pp. 27-28. The figures from 1982 include the effect of *OPEC II*, which prompted the introduction of further energy-saving measures. In the period from 1973 to 1979 the total consumption of primary energy in Western Europe, North America and Japan increased by approximately ten per cent.

The effects of the changed conditions in the tanker market were enormous. The transformation initially became evident through the development of tanker freight rates. Moreover, due to the large amount of contracting in the beginning of the 1970s, and the lag between contracting and delivery, the fleet continued to grow despite the oversupply. The disequilibrium between supply and demand had disastrous consequences, not only for the value of vessels, but also for the capacity utilisation in the tanker and dry bulk markets.

#### **4.2.1. The freight rate development**

The strong fluctuations in the spot market freight rates indicate that the price-making process in this market is extremely flexible, and the development of freight rates in the aftermath of the oil price increase is a very good example of this flexibility. As early as one month after the Arabian countries had announced their reduction of the oil supply, the rates on some of the spot market voyages had fallen by an astonishing 88 per cent.<sup>23</sup>

The spot tanker rates declined first and most severely. In time, the strong expansion of the world tanker fleet and the reduced growth of oil shipments fundamentally changed the conditions in the tanker market. The freight rates in the spot market remained at a low level until the moderate resurgence in the summer of 1979. This temporary freight rate increase was a result of the tonnage shortage which came about as a result of the high price of bunkers, which facilitated slow steaming and other types of inefficiency in the tanker fleet.<sup>24</sup> It mainly affected tankers smaller than 100.000 dwt.

The short-lived increase in the freight rate level was followed by a recession which was as serious as the one experienced in the 1970s. In the beginning of the 1980s, the tanker market was in a worse state than ever before. The basis for the continuing depression in the tanker market, which might be called “the second shipping crisis”, will be elucidated in Chapter Ten.

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<sup>23</sup> Svendsen, Arnljot Strømme, “Skipsfartskonjunktorene i 1970-årene” [Shipping cycles in the 1970s], *Sjøfartshistorisk Årbok 1978* [Norwegian Yearbook of Maritime History 1978], Bergen Maritime Museum, Bergen, 1979, p. 228; calculations from the aforementioned example of rates at Worldscale (W) 475 and W 55. The variations in Figure 4.4 are not as violent, as this chart is based on monthly registrations of weekly averages. The example cited in Strømme Svendsen’s article is based on the extreme observations, and the difference will therefore be larger than for weekly or monthly averages. Petersen, Kaare, *Skipsfinansiering i medgang og motgang – Redernes Skibskreditforening, 1929-1979* [Ship financing in good and bad times – Redernes Skibskreditforening, 1929-1979], Redernes Skibskreditforening, Kristiansand, 1979. p. 190 claims that the spot market rates fell from W 450 to W 100 from 24 to 26 October 1973.

<sup>24</sup> Beenstock & Vergottis, *op.cit.*, 1993, p. 62.

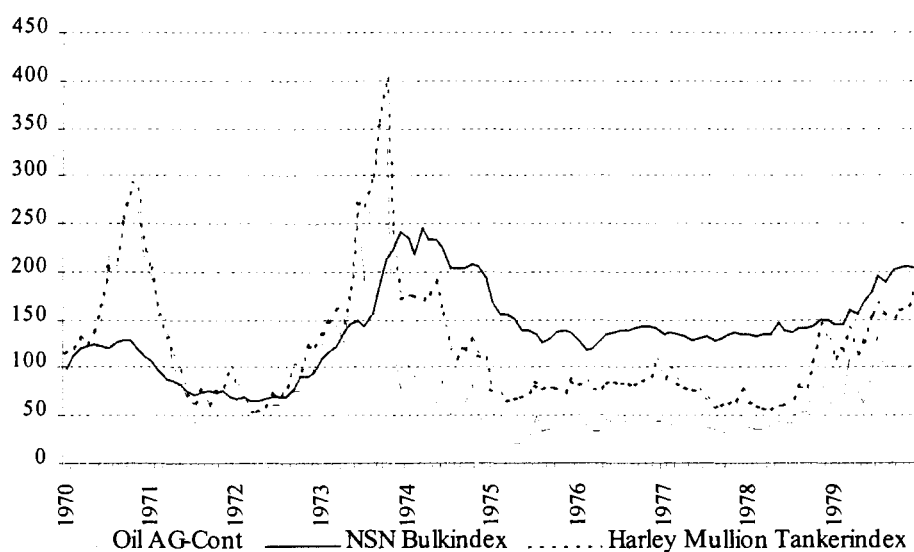
Figure 4.4. Monthly freight rates in the spot market, Worldscale, 1970-79<sup>25</sup>

Figure 4.4 shows the development of spot market freight rates in the 1970s. The rate level in this period is not necessarily a good indication of the profit of the ships, and is therefore not perfectly correlated with the economic performance of the shipowning companies. The main cause for the changing relationship between freight rates and profitability was the massive increase in the cost of bunkers, which implied that Worldscale on various occasions was insufficiently adjusted to take into account the changed cost situation. Before the oil price increase, W 100 constituted ten dollar per ton of cargo on trips from the Persian Gulf to Europe. The increase in bunker prices was particularly important in 1974. W 100 constituted 14,5 dollar per ton of cargo on the aforementioned journey in 1975 – an increase of 45 per cent.<sup>26</sup> In the period after 1974, fuel costs have accounted for the larger part of the operating costs of tankers and bulk carriers, so there is no doubt about the fact that changes in bunker costs are important for the fluctuations in the profitability of ships.<sup>27</sup>

An important aspect of the freight rate development was the increased differences between rates for ships of various sizes. The freight rates for the largest vessels, VLCCs and ULCCs, had fallen to particularly low levels. One of the reasons for the increased variation of rates was differences in the supply and demand development between the various size classes of ships. The supply side growth of the larger ships had been markedly stronger than for other classes. In addition to this, the smaller vessels are far more flexible than the largest tankers with regard to the variety of liquid goods which they can transport. As a rule, supertankers were purpose-made for the transportation of crude oil across long distances, and were of

<sup>25</sup> The source for this chart is figures from various international indices, quoted in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

<sup>26</sup> Worldscale rate levels in different years will thus not be comparable because there exists a lag in the cost situation in years where there are large changes in the cost of bunkers. It is also necessary to take into account the exchange rate fluctuations, which were more violent in the 1970s than previously in the postwar period.

<sup>27</sup> Beenstock, Michael and Vergottis, Andreas "An econometric model of the world market for dry cargo freight and shipping", *Applied Economics*, No. 21, 1989b, p. 52.

limited use outside this market.<sup>28</sup>

The freight rate fall in the dry bulk market was neither as pronounced nor as rapid as it had been in the tanker sector. It was not until the latter part of 1974 that the crisis really made a serious impact on the dry bulk rates. Again, there were large differences between the various classes of ships. In 1974 the rate level was satisfactory for vessels smaller than the Panamax-class, whereas the rate development for ships larger than 70.000 dwt was more similar to the development in the tanker sector. The low rate level spread to larger parts of the dry bulk segment, and in 1975 only vessels of 30-40.000 dwt and less achieved satisfactory rates.

In the dry bulk market, the rates remained at a low level until the temporary freight rate increase in 1979. The demand for bulk transport then grew faster than the fleet, leading to a reduction of the surplus bulk carrier capacity. In addition to this, the market conditions were influenced by port congestion, labour conflicts and the effects of slow steaming.

The demand side influence was favourable as well. As a result of the second major oil price increase, precipitated by the Iranian Revolution and often called *OPEC II*, the agents in the dry bulk market expected an increase in the seaborne trade of coal. Due to the expected improvement in demand conditions, and the aforementioned positive supply side influences, period rates were more than doubled during the year.<sup>29</sup>

As a result of the low rate level, a large share of the shipping companies encountered severe economic difficulties. In the spot market for tanker transport, the rate level in the period 1974-1978 was so low as to make it impossible to cover operating and capital costs. At the same time, shipping companies increasingly had to base their business strategy on the spot market development as the oil companies were less willing to commit themselves to long-term charters. This reduced the shipowners' opportunities for risk spreading.

#### **4.2.2 Changes in the value of vessels**

Parallel to the close relationship between the freight rate level and contracting, there is a high degree of correlation between the freight rate level and the price of ships.<sup>30</sup> The freight market breakdown in the autumn of 1973 initially resulted in a halt in the sale of used tankers, with *Review* commenting that "...the buyers [in the second-hand tanker market] were equally cool as they were hot at the same time last year." During 1973 the second-hand value of tankers increased strongly. The value of a 100.000 dwt vessel, built in 1967/68 was estimated at \$ 13,5 million at the start of the year, whereas the value in October was \$ 30 million.<sup>31</sup>

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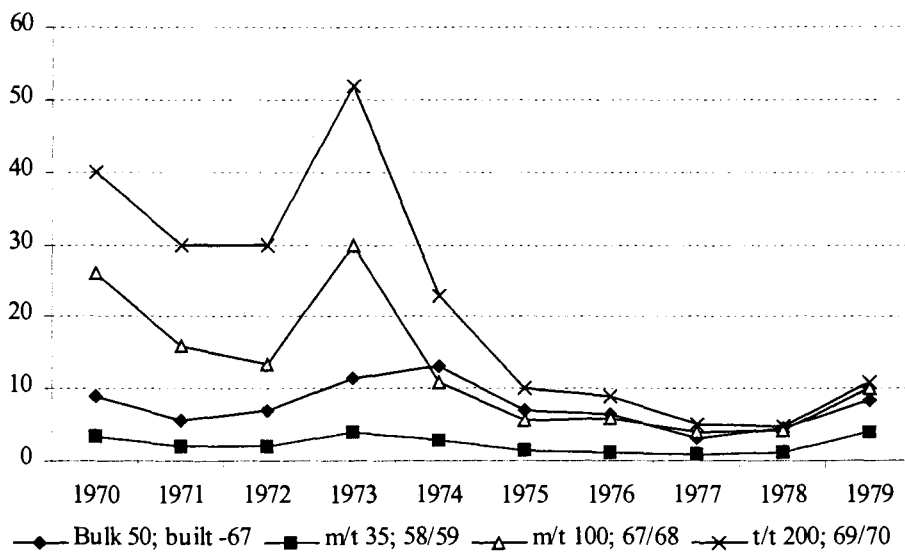
<sup>28</sup> See Glen, David, "The emergence of differentiation in the oil tanker market, 1970-1978", *Maritime Policy and Management*, Volume 17, No. 4, 1990, pp. 289-312.

<sup>29</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1979*, Table 14, p. 23.

<sup>30</sup> Most models depicting the international market for shipping services contain assessments of the relationship between shipping and shipbuilding. One example of a survey where this relationship is the main focus of the model is Charemza, W. and Gronicki, M., "An Econometric Model of World Shipping and Shipbuilding", *Maritime Policy and Management*, No. 8, 1981, pp. 21-30.

<sup>31</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1973*, Table 17, p. 16. The ship prices listed in *Review* are meant to be representative of the value of a given type of vessels, and they are calculated on the basis of current transactions in the second-hand market.

Figure 4.5. Second-hand vessels, average values, million dollar, 1970-79<sup>32</sup>



The effects of the strong increase in the value of tankers which had taken place in 1973 had been neutralised a year later, and the activity in the market for second-hand tankers was minimal in 1974, compared with the large amount of tonnage changing hands in 1973. The considerable change in the development of vessel prices between the late 1960s/ early 1970s and the period after the freight market breakdown is evident when Figure 4.5 is compared with Figure 3.13. Parallel with the decline in values, there was a change in the relative price of turbine and motor tankers, as turbine-driven vessels experienced a far greater reduction in their value than motor tankers.<sup>33</sup> A turbine-driven VLCC, which in 1972 had been valued as more than twice as expensive as a 100.000 dwt motor tanker, was given the same value as the far smaller ship a few years later.

According to Tolofari, there *“is no doubt that the type of engine will play an important role in deciding what rate a shipowner would accept and a charterer pay, in view of the enormous fuel consumption differential between turbine and diesel tankers.”*<sup>34</sup> Shipowners operating turbine tankers were adversely affected by the oil price increase. They lost competitiveness as they were unable to compete with the more economical diesel ships in what was essentially a transport buyer’s market. Another reason for the relative decline in the value of turbine tankers was that this technology had primarily been used on the largest vessels, and these were the ones which were faced with the most adverse demand and supply conditions. The importance of propulsion is further analysed in Chapter Six.

<sup>32</sup> The prices are market value estimates at valid exchange rates for a charterfree vessels in good condition and with fairly prompt delivery on a cash basis, taken from Table 18 and Table 19 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. The legends indicate the type of ship, ie bulk, motor tanker or turbine tanker, followed by vessels size in 1000 dead weight tons and year of construction.

<sup>33</sup> In Fearnley & Egers Chartering Co. Ltd., *Review* there is no comparison of the price development for motor- and turbine tankers in the same size class, due to the fact that most of the turbine driven vessels were large tankers.

<sup>34</sup> Tolofari, S. R., “Open registry costs and freight rates”, *International Journal of Transport Economics*, No. 1, 1987, p. 90.

The depressed freight rates made their presence felt in the market for newbuildings as well, and the price of new VLCCs and ULCCs fell by approximately 20 per cent during 1974.<sup>35</sup> It is thus obvious that the violent fluctuations apparent in the second-hand market did not occur to the same extent in the market for newbuildings. This is a result of the fact that newbuilding prices are relatively rigid, whereas there is an extremely large degree of flexibility in the second-hand market.<sup>36</sup>

When the international market for shipping services is the victim of a large exogenous shock, such as the one resulting from the oil price increase, second-hand prices adapt to the new circumstances relatively fast, whereas it takes time before the price of newbuildings is adjusted to the new conditions.<sup>37</sup> Moreover, material and labour costs represent a floor through which newbuilding costs, at least in theory, should not fall. However, the shipbuilding industry does not necessarily conform to common economic principles such as this; due to the increased subsidisation of the shipbuilding industry, new vessels were sold at prices which did not reflect the actual cost of building them.

The fall in the value of ships did not appear at the same time in all markets. Again, the response in the dry bulk market was slower and less violent than the tanker market experience. In 1974 the price of some dry bulk carriers continued to increase, partly as a result of the small amount of modern tonnage available following the tanker contracting boom in the preceding years. As the world's shipbuilding capacity is limited, the extremely large amount of tanker tonnage built in the beginning of the 1970s resulted in a correspondingly low newbuilding activity in the dry bulk sector. The strong growth in the costs of building ships, particularly related to the rising material and labour costs, contributed to the increase in the price of second-hand dry bulk tonnage in 1974. Contrary to the situation in the tanker market, the expectations about future demand were not so bleak as to warrant a reduction in vessel values.

The reduction in the value of the world fleet did not have a uniform effect on the shipping companies. A reduction of the value of a company's vessels implies a deterioration of the equity of the company. Thus, the assets of the companies which had largely invested in the biggest, turbine-driven tankers developed in a particularly negative manner. Moreover, as the largest, turbine-driven vessels generally were both relatively new and relatively expensive, only a small share of the loan principal had been repaid. As a result of the large loans usually necessary to finance these vessels, the financial costs in connection with these investments were particularly high. This situation was aggravated by the existence of "minimum value"-clauses, an element which will be elaborated in more detail in connection with the analysis of the situation of Norwegian shipowners.

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<sup>35</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1974*, p. 38.

<sup>36</sup> Beenstock, Michael, *A Theory of Ship Prices*, Working Paper No. 68, The City University Business School, London, 1984, p. 9.

<sup>37</sup> According to Beenstock & Vergottis, *op.cit.*, 1993, p. 62, "Overnight, VLCCs values fell by \$ 20 million." A very interesting graphic representation of the influence of freight rates on second-hand values of tankers is given in Tolofari, S. R., Button, K. J. and Pitfield, D. E., "The Cost Structure of the Tanker Sector", *International Journal of Transport Economics*, No. 1, 1987, p. 76.

### 4.2.3. Tonnage surplus increase and capacity utilisation

As a result of the surplus capacity in the international shipping market, a large share of the world fleet had to be laid up, find alternative forms of employment or run at speeds far slower than their pre-crisis pace. The large lay-ups were perhaps the most conspicuous feature of the international shipping crisis, particularly in Norway, where a considerable amount of large tankers was laid up in the fjords. Accordingly, the effects of the crisis became glaringly visible for other than industry insiders. Several attempts were made to find employment, other than transport, for the ships, and in some countries vessels were used for storage purposes.<sup>38</sup> In addition to this, the effective transport capacity was strongly reduced as a result of the fact that it was no longer economical to operate the vessels at full speed.

Fearnley & Eger's Chartering Co. have estimated the tonnage overcapacity in the international market for shipping services for the years between 1974 and 1978. They used 1973 as a base year, where there was an assumed equilibrium between tonnage supply and transport demand.<sup>39</sup> With this as a starting point, they estimated the tonnage surplus during the crisis and calculated how the excess tonnage was utilised.<sup>40</sup>

Table 4.3. The tonnage balance at the end of the year, million dwt, 1973-79<sup>41</sup>

	World Fleet	Tonnage Surplus	Slow Steaming	Laid up	Waiting and Storage
1973	439,9	1		1	
1974	493,9	15	11,5	3,5	
1975	543,7	105,7	40	48,7	17
1976	591,3	78,3	36	36,3	6
1977	624,6	99	52	41	6
1978	632,7	96,9	44	28,9	21
1979	637,9	52,8	30	9,8	13

The figures in Table 4.3 show that a considerable part of the tonnage surplus was absorbed through other mechanisms than lay-ups. It is interesting to note that in most of the years during the crisis, slow steaming, the effects of which are sometimes neglected in the discussion of the crisis, was more important than lay-ups in reducing the tonnage surplus.

#### Slow steaming

Two related factors, the overcapacity and the effect of the oil price increase on fuel prices, can account for the slow steaming of large tankers following the breakdown of the freight market.

<sup>38</sup> One imaginative suggestion was the use of tankers as a source of electricity; see the article "Use of tankers as auxiliary electricity suppliers can absorb excess tonnage" in *Norwegian Shipping News*, No. 19, 1978, pp. 8-10, where it is claimed that the tonnage laid up in Norwegian fjords at the start of 1978 could cover 13 per cent of the Norwegian demand for electricity.

<sup>39</sup> Despite the fact that tonnage comprising 1 million dead weight tons was laid up or waiting for cargoes at the end of the year, it is correct to regard 1973 as a year with *reasonable* balance between demand and supply.

<sup>40</sup> The calculations in Table 4.3 and Figure 4.6 are estimates based on the assessments of the tonnage balance in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. These assessments were not always internally consistent, but the estimates can nevertheless indicate the manners through which the tonnage surplus was expressed.

<sup>41</sup> Figures from Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Fleet size refers to 1 January the following year.



On the one hand, shipowning companies chose to let their ships sail at speeds which were lower than what had previously been usual as a result of the reduced availability of cargoes and bunkers. This is usually called “capacity slow steaming”, and is typically undertaken by an independent owner who has little hope of securing new employment when the current assignment terminates. Charterers, eg oil companies, will also opt for capacity slow steaming when the bunkers cost savings of the in-house and chartered fleets are higher than the cost of obtaining additional transport capacity in the spot market. Even though the low freight rate level implied that the cost of buying additional transport capacity was low, the high price of bunkers made a reduction of the speed of both company-owned and chartered tonnage profitable.

On the other hand, as the price of bunkers increased, it became increasingly rational, from an economic point of view, to operate the vessels at reduced speed; this is usually called “economical slow steaming”. Economical slow steaming is undertaken when the fuel cost savings are higher than the profits foregone with regard to additional transport assignments. Due to the increased price of bunkers, the optimal operating speed of the vessels became 3-4 knots lower than what had previously been the optimal tempo. The reason for this is that the use of bunkers increases disproportionately with an increase in speed. Optimal speed is therefore negatively correlated to the price of bunkers. When freight rates decrease, it becomes increasingly profitable to reduce the speed of the ship. During the shipping crisis, speeds of less than ten knots were recorded – see the analysis in Chapter 3.2.3 for an introduction to the changes in bunkers prices and speed in the initial period after the freight rate plunge.

Table 4.4. Fuel consumption of a 270.000 dwt oil tanker<sup>42</sup>

Speed (knots)	Fuel consumption (tons)		Avg. fuel cost (million \$)	Annual transport (million tons)	Fuel costs per ton transported
	Per 24 hours at sea	Annual			
11	80	26 000	2,3	1	2,3
14	125	41 000	3,7	1,3	2,8
16	170	56 000	5,5	1,5	3,7

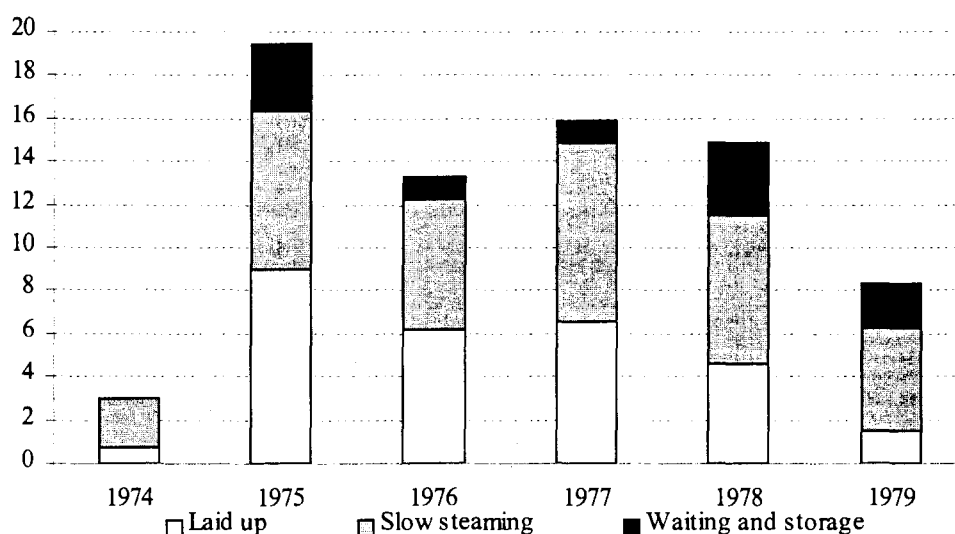
As a result of the increase in the price of bunkers and the difficulties securing employment, there was a permanent reduction in the *utilisation coefficient* of the vessels. The annual transportation undertaken by each vessel was reduced. Aggregated, this implies that there was a reduction in the *effective tonnage*, ie the amount of cargo which the world fleet was able to transport decreased.<sup>43</sup> The *effective tonnage* is reduced when ships sail at lower speeds, are used for storage rather than transport purposes or when segregated ballast-tanks are used.<sup>44</sup>

<sup>42</sup> Figures taken from Du Jonchay, Yvan, *The Handbook of World Transport*, The MacMillan Press Ltd., London, 1978, p. 11.

<sup>43</sup> However, this was more than offset by the increase in *real tonnage* in the first years after the freight market breakdown.

<sup>44</sup> Confer the analysis of the supply side in Chapter 2, and the definition of the terms *real* and *effective* tonnage in Bennett, P. G., Huxham, C. S. and Dando, M. R., “Shipping in Crisis: a Trial Run for ‘Live’ Application of the Hypergame Approach”, *Omega*, No. 6, 1981, vol. 9, p. 584.

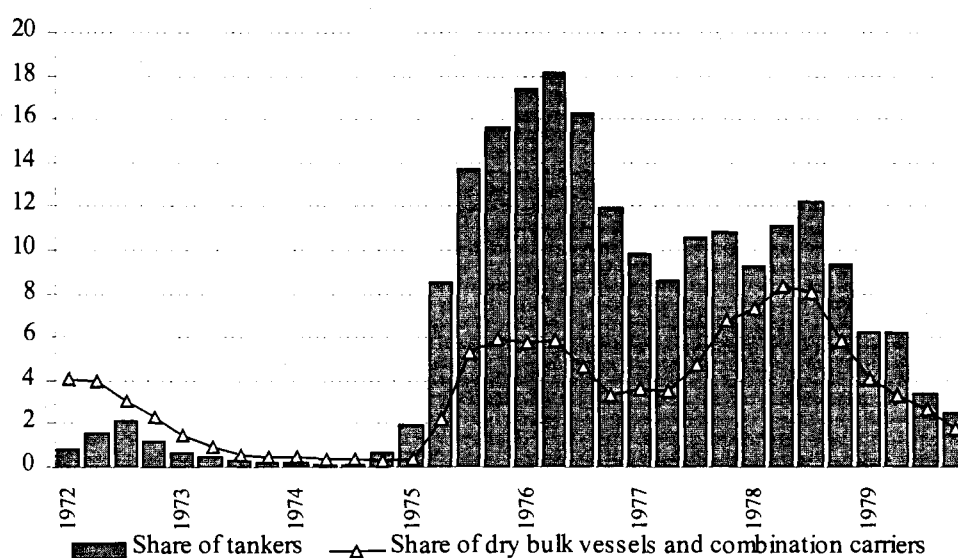
Figure 4.6. Estimated tonnage surplus as share of the total fleet, per cent, 1974-79<sup>45</sup>



### Lay-ups

Following the severe imbalance between the supply of and demand for transport capacity, a larger share of the international fleet encountered difficulties securing employment. During the slump in the beginning of the 1970s, the dry bulk vessels were most affected by the adverse conditions, and approximately four per cent of the dry bulk fleet had to be laid up. In connection with the more serious crisis later in the decade, the tanker sector was far more severely hit than the dry bulk sector. This was result of the enormous gap between the size of the tanker fleet and the demand for oil transport.

Figure 4.7. Percentage of the world fleet laid up, quarterly figures, 1972-79<sup>46</sup>



<sup>45</sup> Based on figures from Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. Corresponding figures of the surplus of the tanker fleet would be considerably higher.

<sup>46</sup> Figure 4.7 is based on dwt-figures from Table 3 and Table 7 in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.

Figure 4.7 shows the strong increase in the lay up-rate. The figure is based on estimates of the world fleet and the tonnage laid up measured in dwt, and only takes into account tankers, bulk carriers and combination carriers above 10.000 dwt. Consequently, the lay up-rate may differ from surveys based on gross register tons or lay-ups as share of the total fleet, including liner ships and passenger vessels.

The advantage of laying up ships is the subsequent reduction of operating costs. However, financial costs are accrued despite the fact that the vessel is laid up, and there are also costs which are specifically connected to the preparation of ships for lay-up. Expenses for laying up a VLCC may amount to as much as \$ 75.000 a month, in addition to a one-off cost of preparation and site acquisition in the region of \$ 700.000.<sup>47</sup> Chapter Five includes a comparison of international lay up-rates.

### The use of ships for storage purposes

An alternative to the laying up of ships was the use of vessels for storage purposes, sometimes as part of a transport assignment. The low alternative value of the tonnage in a market affected by overcapacity – in many cases the only option was to lay up the vessel – resulted in a situation where it became economical to use the world fleet for other purposes than merely transportation.

In some instances, the oil companies offered the shipowners to let their ships “wait” outside the land-based terminals before delivering the cargo. This implied that the oil companies utilised the tankers in a strategic manner, speculating in oil price changes and supplementing the storage capacity of the refineries by means of tankers. In 1978, five million dwt of tanker capacity was used for storage purposes outside the coast of Japan.<sup>48</sup>

Another reason that tankers were positioned outside the coastline was the reloading of oil from large tankers, drafting to deep to go into ports, to smaller tankers which were able to distribute the oil to the terminals ashore. Following the growing use of large tankers, the level of port constraints increased in the period 1973-79, indicating that a higher share of the tanker tonnage was unable to use the most important ports or terminals if they were fully loaded.<sup>49</sup>

It was particularly deliveries from the Middle East to The United States which were organised in this manner, as there existed no port-facilities which could cater for the largest vessels. In 1975 three Canadian, but no US ports, were capable of taking fully loaded or part loaded VLCCs.<sup>50</sup> The largest American ports, Richmond and Ferndale, could only accommodate ships smaller than 150.000 dwt, in a period where most of the long-range American oil imports were transported on VLCCs and ULCCs. Ships were also left idle when they were waiting for employment. These vessels would not be considered laid up, and at

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<sup>47</sup> Cost data from the International Maritime Industry Forum, quoted in OECD, *Maritime Transport 1975*, Paris, 1976, paragraph 221.

<sup>48</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1978*, p. 38.

<sup>49</sup> Glen, *op.cit.*, 1990, pp. 297-298.

<sup>50</sup> Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., London, 1975, p. 34.

times, as many as fifty tankers were waiting for cargoes outside the Kharg Island. Sarcastically, this area was nicknamed *Reksten Bay*, due to the large amount of ships which this Norwegian shipowner had waiting here.

### Scrapping

Despite the large temporary imbalances in the shipping market, there are some mechanisms which contribute towards an improvement of the tonnage balance. One important such mechanism is scrapping. When the freight rate level and the second-hand prices fall, an increase in the demolition of ineffective tonnage usually follows. From the second half of the 1970s, the adverse conditions in the shipping sector contributed to an increase in the number of vessels leaving the world fleet. Even though the breaking prices were fairly stable throughout the latter part of the decade, the fall in second-hand values made scrapping relatively profitable.

Figure 4.8. Scrapping – vessel type and average tanker size, 1000 grt, 1972-80<sup>51</sup>

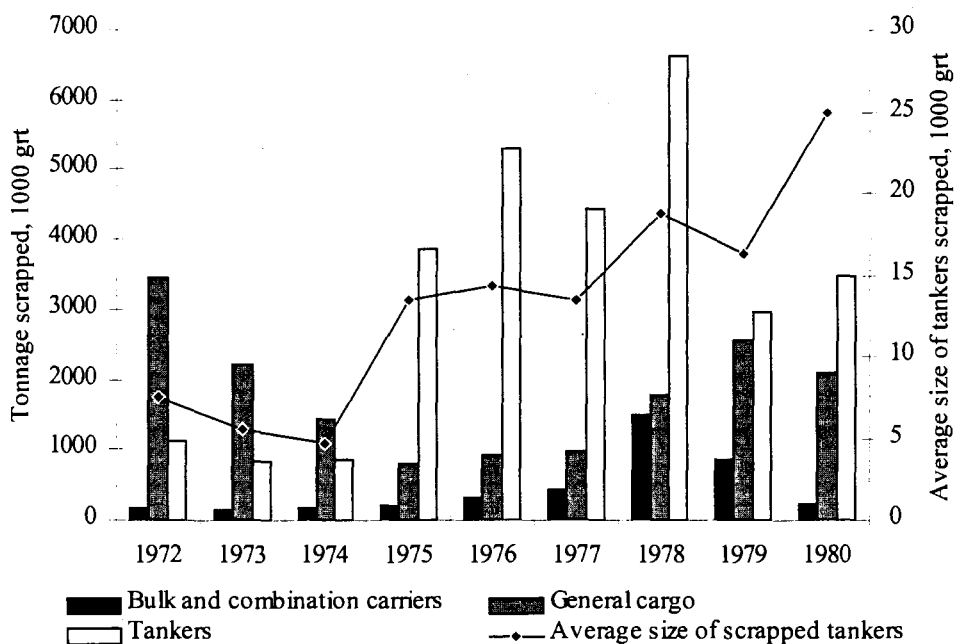


Figure 4.8 shows the strong increase in the scrapping of tanker tonnage as the shipping crisis unfolded. One important aspect was the increase in the average size of tankers scrapped, which grew from approximately 7.500 grt in 1972 to 24.000 grt in 1980. In 1977 the largest vessel broken up was 170.000 dwt, whereas in 1978 several VLCCs in good trading condition were sold for breaking.<sup>52</sup> However, the average size of tankers scrapped in Figure 4.8 is

<sup>51</sup> The chart is based on figures for tonnage broken up from the table of "Tonnage broken up and lost" in OECD, *Maritime Transport*, various issues. As previously mentioned, the tanker share of total scrapping would have been more prominent, and general cargo less so, if dead weight tons had been used as the basis for comparison. The figures correspond with similar data from Fearnley & Egers Chartering Co. Ltd., *Review* – 6,6 million grt of tanker tonnage and 1,8 million grt of general cargo tonnage was broken up in 1978. This corresponds to 13,5 million dwt and 2,6 million dwt respectively.

<sup>52</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1978*, p. 42.

relatively low due to the inclusion of gas and chemical tankers in the figures.

### 4.3. More Permanent Effects of the Crisis

The international shipping crisis led to drastic changes in the freight rate level, the value of vessels and the capacity utilisation. When the imbalance between supply and demand was temporarily reduced near the end of the 1970s, the freight market, the markets for second-hand ships and newbuildings and the lay up-rates responded quickly. There was an almost immediate increase in freight rates, ship values, contracting and capacity utilisation.

In the period from March to December 1979, the tanker lay up-rates were reduced by approximately two thirds. The spot market index for VLCCs and ULCCs rose from Worldscale 22 in February to a peak at W 71 five months later, and the value of the largest class of tankers was almost doubled from 1978 to 1979.<sup>53</sup> Moreover, the volume of tanker tonnage contracted increased from three million dwt in 1978 to more than 14 million dwt the following year.

Despite the shipping sector's apparently swift reaction to this temporary "end" of the crisis, more permanent marks had been made on the international market for shipping services. The structure of the shipping market had to some extent become transformed following the crisis, and some of the agents in the international market for shipping services changed their strategies radically in the period after the freight market breakdown.

It is difficult to say to which extent the shipping crisis exacerbated, curtailed or altered development trends in the international market for shipping services in the 1970s and 1980s. Some features, such as the process of internationalisation, had been going on for decades, but the speed, if not the direction, of these development traits might have been changed. The structural evolution in the period after the oil price increase will thus be analysed in relation to the pre-crisis experience.

On the demand side, there is little doubt about the fact that it was the years preceding the crisis which can be characterised as extraordinary, displaying demand growth which was high in a historical perspective. On the supply side, the strategy of the agents during the contracting boom resulted in an oversupply which to some extent haunted the shipping and ship markets well into the 1990s.

#### The changes in the structure of the tanker market

As previously shown, there was a conspicuous lack of oil company contracting in the 1973 boom. However, when the value of the vessels had dwindled as a result of the freight market breakdown, some oil companies took advantage of the situation, increasing the size of their fleets considerably. The share of the international tanker fleet owned by the oil companies

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<sup>53</sup> Lay up-figures from Fearnley & Egers Chartering Co. Ltd., *Review 1979*, Table 7, p. 19; freight rate figures from Fearnley & Egers Chartering Co. Ltd., *Review 1979*, Table 13, p. 22 and ship values based on the value estimation of a 350.000 dwt turbine tanker, estimated at 16 million dollars in 1977, 22 million in 1978 and 40 million dollars in 1979; see Fearnley & Egers Chartering Co. Ltd., *Review 1981*, Table 19, p. 25.

consequently increased from 33 to 40 per cent in the period from 1972 to 1977. One feature of this trend was that OPEC, and particularly the OAPEC-countries, used this situation to establish their own tanker fleets, thereby reducing the market power of the international oil companies.<sup>54</sup>

In addition to increasing their fleets through the acquisition of low-price tanker tonnage, the oil companies have influenced the structure in the tanker market through changes in their use of charter agreements. Finding themselves in a market where tonnage shortages were an unlikely event, the oil companies greatly reduced both the amount of charter contracts which they entered into and the average length of these assignments.

The reduction in the use of charter contracts does not necessarily indicate a structural change; the amount of contracts signed in the charter market usually varies in accordance with the freight rate level. A high freight rate level may lead to fear of future tonnage shortages, inducing charterers to entering into timecharters. However, after the oil price increase, the use of charter agreements was reduced in an unprecedented manner. Moreover, the companies' reluctance to sign long-term charters appears to be the result of a long-term strategy, rather than short-term adjustments. The fact that the amount of tonnage given long charter contracts during the boom at the end of the 1970s was considerably lower than the levels previously experienced in similar situations can be seen as an indication of this.

### The process of internationalisation

As a result of the crisis, several of the agents in the international market for shipping services, large as well as small, disappeared due to economic difficulties. The fleets of the *Flag of Convenience*-countries increased faster than the fleets of Traditional Maritime Nations, indicating a greater separation of ownership from country of registration. Moreover, some new entrants acquired an important position in the world shipping industry. According to Thanopoulou, the international shipping crisis in the 1970s created favourable conditions for the rise of the lower cost fleets of developing countries.<sup>55</sup> This development will be elaborated in Chapter Ten.

The shipping crisis also instigated changes in other sectors, particularly the shipbuilding industry. The authorities in several of the most important shipbuilding nations increased their engagement in the shipbuilding industry as the demand for newbuildings fell. In the shipping industry there was a corresponding increase in government involvement, particularly in connection with the growing use of cargo reservation.<sup>56</sup>

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<sup>54</sup> This decision has been the result of political, as well as economic, considerations, and can be seen as a gradual liberation of larger shares of the oil production value chain from the hands of the Western oil companies. See Chapter Ten for an introduction to the fleets of some of the oil-producing countries.

<sup>55</sup> Thanopoulou, Helen, "The growth of fleets registered in the newly emerging maritime countries and maritime crises", *Maritime Policy and Management*, Volume 2, No. 1, 1995, pp. 51-62.

<sup>56</sup> See *Norwegian Shipping News*, No. 21, 1977, p. 14.

### Increased cooperation of tanker owners

One result of the shipping crisis was that several of the most important independent tanker owners tried to cooperate in an attempt at reducing supply, thereby hoping to increase freight rate levels. This was not a new situation for tanker owners, as there had been a similar response to the freight market breakdown in the interwar period.<sup>57</sup> Intertanko, The International Association of Independent Tanker Owners, had been formed in Oslo in the autumn of 1970. In 1972, the members of the organisation included shipowning companies which controlled 90 million dwt of tanker tonnage, approximately two thirds of the world's independent tanker fleet.<sup>58</sup>

Initially, the purpose of Intertanko was to function as a pressure group, aimed at improving the conditions for independent tanker owners. This was to be achieved through an improvement and standardisation of contracts and through lobbying in questions about pollution and security.<sup>59</sup> When the crisis struck the tanker market, the organisation was turned into a forum where tanker owning companies could discuss a variety of responses to limit the damages brought about by the crisis.

At a meeting in Tokyo in 1975, representatives from Intertanko suggested that shipowners should increase scrapping and that tankers should be used for storage purposes to curtail the negative effects of the crisis. Moreover, Intertanko was to function in a coordinating manner, working towards tanker owners in an attempt at creating a lay up-scheme. It was suggested that *“whilst it has been Intertanko's declared policy not to develop lay up-schemes, it was nevertheless recognised that owners in certain categories might jointly consider ad hoc solutions in this context and that Intertanko should assist in bringing these members together.”*<sup>60</sup>

One year later, an Intertanko Working Committee suggested that overcapacity should be reduced through cancellation of contracts, increased scrapping, the introduction of segregated ballast tanks, slow steaming and the use of ships for storage purposes. The Working Committee, where Intertanko's Norwegian Chairman Jørgen Jahre participated, suggested that cooperation regarding lay-ups and minimum freight rates should be introduced.<sup>61</sup> In practice, however, no coordinated plans of the type introduced in the interwar period came into effect.

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<sup>57</sup> Confer the presentation of international tanker cooperation and the Schierwater-plan in Thowsen, Atle, “Krise og krisetiltak i norsk tankskipsfart 1929-1936” [Crisis and crisis measures in Norwegian tanker shipping 1929-1936], *Sjøfartshistorisk Årbok 1978* [Norwegian Maritime Yearbook 1978], Bergen Maritime Museum, Bergen, 1979, pp. 125-204.

<sup>58</sup> *Norwegian Shipping News*, No. 17D, 1972, p. 48. The fleet controlled by the Intertanko members had been increased to 110 million dead weight tons, accounting for almost 80 per cent of the independent fleet, in 1973; see *Norwegian Shipping News*, No. 3, 1973, p. 66.

<sup>59</sup> For an introduction to the structure of Intertanko and the original purposes of the organisation, see Jonassen, Karl-Otto, *INTERTANKO og skipsfartskrisen* [Intertanko and the shipping crisis], unpublished thesis, Agder College, Kristiansand, 1976, pp. 8-15.

<sup>60</sup> *Norwegian Shipping News*, No. 11, 1975, p. 28.

<sup>61</sup> *Norwegian Shipping News*, No. 1, 1976.

#### **4.4. Summary**

Initially, the most important effect of the oil price increase was the drastic reduction of tanker freight rates, particularly with regard to spot market fixtures. As the crisis escalated, other market segments were affected by the dire market conditions, and there was an increase in the difference between rates for ships of different types and size classes. Through the influx of combination carriers and the conversion of newbuildings, the tanker crisis evolved into a more general shipping crisis. The difficulties were aggravated by the recession in the industrialised countries.

Following the strong freight rate reduction, vessel values plunged. Again there were differences between the various types of vessels. As the agents adapted to the changed fundamentals of the shipping market, the overcapacity of tonnage manifested itself through slow steaming, high lay-ups and the utilisation of vessels for storage purposes.



## CHAPTER FIVE

# NORWEGIAN SHIPPING

The presentations of the international market for shipping services and the causes and effects of the international shipping crisis constitute the basis of the analysis of Norwegian shipowners in Chapter Five and Chapter Six. Initially, the importance of shipping in the Norwegian economy is outlined. Then, the effects of the crisis on Norwegian shipping are analysed. Central to this discussion is the question whether Norwegian shipowners were harder hit by the shipping crisis than their foreign colleagues, and, if this proves to be the case, how this can be explained.<sup>1</sup> The Norwegian shipowners' strategy is analysed in Chapter Six.

International shipping is by definition a very mobile industry. The primary means of production are vessels which transgress national borders, and the owners do not have to conform to the same restrictions on geographical localisation as agents in most other markets.<sup>2</sup> The shipping sector has gradually become detached from national markets in connection with the provision of capital and labour, and consequently acquired an increasing share of the factors of production in the international market. Nevertheless, a large proportion of the transport capacity is owned by agents in a handful of important shipping nations. Norwegian shipowners have played an important role in the international market for shipping services since the middle of the 19<sup>th</sup> century.

The importance of Norway as a major maritime nation is not only reflected in the size of the Norwegian fleet. Support functions such as shipbroking, shipping insurance, shipping research and classification are areas where Norwegian companies are among the world market leaders. Moreover, there has been a relatively strong relationship between Norwegian shipowners and the domestic shipbuilding and ship equipment industries. Despite the fact that shipowners purchase their vessels in the international market, the Norwegian shipping industry has functioned as a catalyst for and been an important purchaser from the Norwegian shipbuilding industry. As a result of the considerable maritime environment in Norway, other parts of the maritime business community were negatively influenced when the shipping crisis hit the Norwegian shipowners.

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<sup>1</sup> I will by and large use the term *shipowners* when referring to Norwegian shipowning companies. The main reason for this is that most of the Norwegian shipowning companies were managed by an owner who took most of the important decisions regarding the daily operation of the company, as well as the long-term strategic decisions. This can be contrasted with foreign shipowning companies, where important decisions regarding contracting and chartering to a larger extent were discussed and decided by the companies' board of directors. However, in some instances, eg among shipowners of Greek origin, the organisation of the shipping companies was very much like in Norway.

<sup>2</sup> The implications of this feature of the shipping market are discussed in Tenold, Stig, "Norwegian Shipowning Companies and Foreign Direct Investment", SNF Working Paper No. 23/00, The Foundation for Research in Economics and Business Administration, Bergen, 2000.

## 5.1. Shipping in the Norwegian Economy

In 1976 Norway, with approximately 0,1 per cent of the world's population, was the world's fourth greatest maritime nation. At the same time, the Norwegian tonnage accounted for 7,5 per cent of the world fleet.<sup>3</sup> Keilhau has claimed that the large amount of Norwegian agents in the international shipping market was the result of geographical circumstances. In a book commissioned by *Norges Rederforbund*, he claimed that "[t]he environment made the Norwegians a seafaring people." An even more retrospective explanation has been offered by Du Jonchay, who claimed that "[t]he unequal development of certain maritime nations can be traced in history dating back to the Vikings of Norway and to the Greeks of the fifth century BC."<sup>4</sup> In addition to the historical influence, the lack of more profitable investment alternatives, favourable taxation of shipping investments and the consistently large supply of labour with maritime training have been offered as explanations of the relatively large Norwegian fleet.

The importance of Norwegian shipping in an international context was reflected in the importance of shipping in the Norwegian economy. In 1974 the Norwegian shipping sector accounted for nine per cent of Norwegian capital and four per cent of employment. These figures are based on domestic/coastal as well as foreign-going shipping. The foreign-going fleet is more capital-intensive than the coastal fleet and uses foreign seamen to a larger extent, so the difference between capital and employment will be even more marked if only the Norwegian merchant marine is considered.<sup>5</sup> The Norwegian fleet operating in international waters accounted for 2,6 per cent of Norwegian employment.

The shipping sector has always been of considerable importance to the Norwegian economy.<sup>6</sup> However, during the last 200 years, Norwegian shipping has changed from being mainly a means of transporting Norwegian imports and exports, to becoming a service sector in which most of the demand originates abroad. Due to the fact that Norwegian shipping services have largely been traded in the international market, the development of this sector has been of great importance to the Norwegian Balance of Trade and Balance of Payments. In addition to the economic importance of Norwegian shipping, the sector has played an

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<sup>3</sup> Stortingsproposisjon nr. 46 (1978-79), *Om støttetiltak for skipsfartsnæringen* [On support measures for the shipping industry], Table 5, p. 5. This was a considerable decrease from the peak year 1968, when as much as 12 per cent of the world fleet was owned by Norwegians; see Fearnley & Egers Chartering Co. Ltd., *Review 1968*, p. 11.

<sup>4</sup> Keilhau, Wilhelm, *Skipsfartens betydning for Norge* [The shipping sector's importance for Norway], *Norges Rederforbund*, Oslo, 1948, p. 7 and Du Jonchay, Yvan, *The Handbook of World Transport*, Macmillan Press, London, 1978, p. 56.

<sup>5</sup> Stortingsmelding nr. 23 (1975-76), *Om sjøfolkene forhold og skipsfartens plass i samfunnet* [On the conditions of seamen and the role of shipping in society], Table 1-3, p. 15.

<sup>6</sup> In Hodne, Fritz, *Norges økonomiske historie 1815-1970* [The economic history of Norway, 1815-1970], Cappelen, 1981, p. 132, shipping in the period 1815-1914 is presented as "the third large export sector". The two other important export sectors were the fish and timber trades. Shipping has played a crucial role in the Norwegian economy in the postwar period as well. In Aukrust, Odd, *Norges økonomi etter krigen* [The Norwegian economy after the war], *Samfunnsøkonomiske Studier* [Studies in Economics], Central Bureau of Statistics, Oslo, 1965, p. 190 it is claimed that "[t]here may be reason to emphasise the great extent to which the [foreign trade] figures in the postwar period have been influenced by the development in the shipping sector."

important part in connection with the development of the Norwegian society, socially as well as culturally.

In his analysis of the history of Norwegian shipping, Hanisch states that *gross freight earnings* – the remuneration from the sale of transport services – accounted for somewhere between 35 and 50 per cent of the total Norwegian exports in most of the years in the period 1870-1970.<sup>7</sup> To put this another way; the Norwegian shipping sectors' foreign revenues facilitated between 35 and 50 per cent of Norwegian imports in this period, and largely neutralised the deficit with regards to merchandise trade. Naturally, a considerable part of the income was spent by the shipowners themselves, for instance in connection with the purchase of ships from foreign yards, or as costs accrued abroad.

Figure 5.1. Gross freight earnings by Norwegian vessels, million kroner, 1960-80<sup>8</sup>

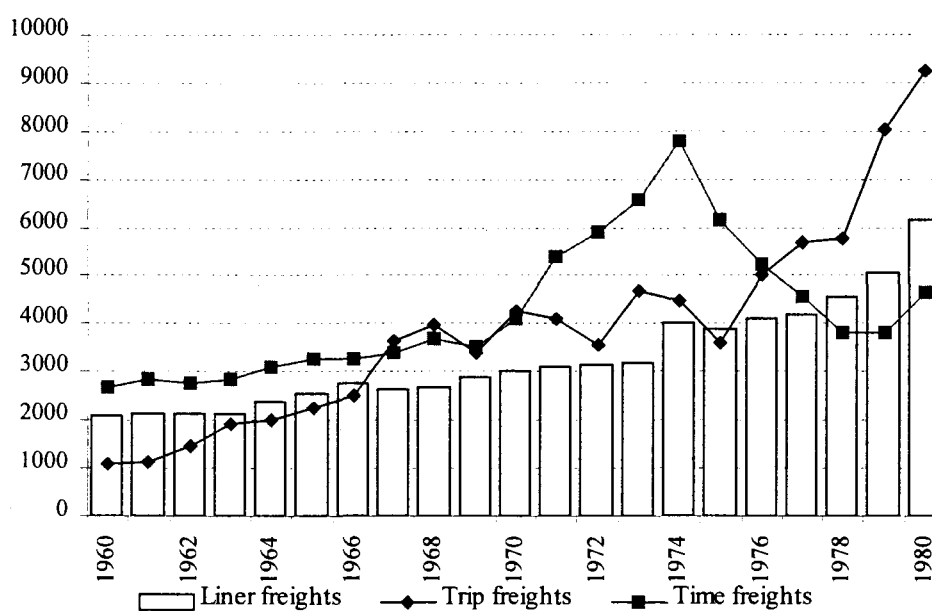


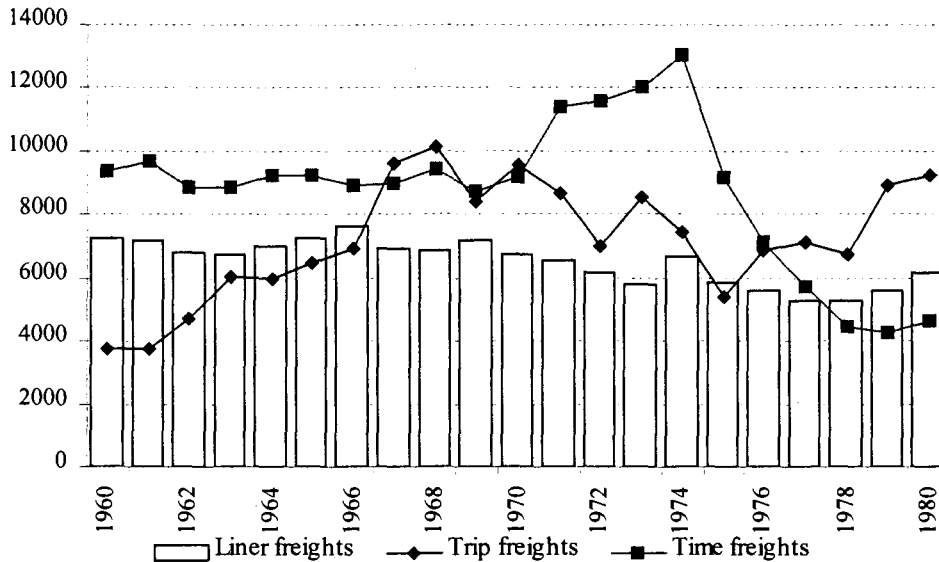
Figure 5.1 shows the importance of the various markets in which Norwegian shipowners operated. However, it may give a somewhat distorted picture of the development of the revenues from Norwegian shipping. A more convenient approach when evaluating the long-

<sup>7</sup> Bergh, Trond, Hanisch, Tore Jørgen, Lange, Even and Pharo, Helge, *Norge fra U-land til I-land. Vekst og utviklingslinjer 1830-1980* [Growth and development: the Norwegian experience 1830-1980], Gyldendal Norsk Forlag, Oslo, 1983, p. 136. In most of these years, the share of gross freight earnings in total exports exceeded 40 per cent. As this figure denotes gross freight earnings, here as well as in official statistics, it is easy to ignore the fact that a considerable share of these earnings were returned to foreign sources.

<sup>8</sup> Figure 5.1 is based on Table 20.18 in Statistisk Sentralbyrå, *Historisk Statistikk 1994* [Historical Statistics 1994], Central Bureau of Statistics, Oslo, 1994. This is a survey of gross freight earnings by Norwegian vessels in ocean transport, and these figures deviate from the gross freight earnings presented in *Utenriksregnskap - Driftsregnskap overfor utlandet* [Balance of Payments - The current account], Table 22.8. The figures in Table 20.18 are based on replies from shipowners on gross freight earnings from ships of 500 gross register tons and more, employed in international trade. The figures presented in the *Driftsregnskap* are estimated figures whose purpose is to give an indication of the relative importance of the various parts of the Norwegian economy. These are consistently higher than the figures in Table 20.18. The difference between the two sets of data increases in time. The differences are a result of the fact that Table 22.8 takes into account revenues from Norwegian-managed and -owned ships registered in foreign registries. In the rest of the thesis, I will use the figures which, in each separate case, emphasise the points made and situations described.

term trend is to depict the gross freight earnings in real terms. The importance of the different market segments remains similar to in Figure 5.1, but the apparent growth in Figure 5.1 is neutralised when inflation is taken into account. Moreover, the data on which Figure 5.2 is based illustrate the dramatic reduction of the income from timecharters parallel with the shipping crisis and the changes in the structure of the shipping industry.

Figure 5.2. Gross freight earnings, million 1980-kroner, 1960-80<sup>9</sup>



Strømme Svendsen has estimated the “trade balance” of the shipping sector, that is, the relationship of shipping exports to imports, and shows how the contribution of the shipping sector to the Norwegian economy has become considerably reduced after 1974.<sup>10</sup> This development is also evident in estimates of the shipping sector’s contribution to Gross Domestic Product, which was reduced from 8,6 per cent in 1973 to 3,8 per cent in 1977.<sup>11</sup> The shipping sector’s contribution to the Net Domestic Product was even smaller as a result of the relatively large depreciation of the capital equipment utilised in the shipping sector.<sup>12</sup> The sector’s contribution to the Net Domestic Product dwindled from 5,9 per cent in 1973 to 1,1 per cent four years later.

The increasing export surplus after 1977 was to a large degree a result of stable income from the sales of second-hand vessels coupled with a reduction of ship imports. In 1978 the export of second-hand vessels was higher than Norwegian ship purchases abroad. This implies that the trade in vessels contributed positively to the Norwegian shipping sector’s surplus, and that a smaller share of this surplus was due to shipping *services*. However, this trend varied in

<sup>9</sup> The source of the figures is the same as Figure 5.1, but the gross freight earnings have been deflated by the Norwegian consumer price index, with 1980 as the base year.

<sup>10</sup> Svendsen, Arnljot Strømme, “Skipsfartskonjunktorene i 1970-årene” [Shipping cycles in the 1970s], *Sjøfartshistorisk Årbok 1978* [Norwegian Yearbook of Maritime History 1978], Bergen Maritime Museum, Bergen, 1979, p. 240. Similar calculations are presented in Kloster, Knut Ulstein, “Eventyret om norsk skipsfart” [The tale of Norwegian shipping], *Kapital*, No. 5, 1974, pp. 28-29.

<sup>11</sup> Statistisk Sentralbyrå, *op.cit.*, 1994, Table 22.12, pp. 549-550.

<sup>12</sup> The sector had less than ten per cent of the Norwegian capital, but accounted for 25 per cent of the consumption of fixed capital.

the late 1970s.

Table 5.1. The shipping sector's export surplus, million kroner, 1970-81<sup>13</sup>

	1970	1971	1972	1973	1974	1975
Gross receipts	12.490	13.990	14.175	16.705	19.220	16.720
Expenditure abroad	4.700	5.695	5.540	6.450	7.935	7.970
Ship imports	2.978	3.771	3.478	5.884	4.959	6.586
Sales of ships (second-hand)	1.369	802	2.242	3.798	4.072	2.946
Surplus	6.181	5.326	7.399	8.169	10.398	5.110
Surplus (1980-kroner)	13.833	11.223	14.451	14.934	17.393	7.634

	1976	1977	1978	1979	1980	1981
Gross receipts	17.325	17.470	18.205	22.255	26.980	30.934
Expenditure abroad	8.895	9.495	9.960	12.769	16.265	18.894
Ship imports	8.103	7.639	3.352	3.443	1.434	4.541
Sales of ships (second-hand)	2.579	3.440	3.536	3.417	2.425	3.406
Surplus	2.906	3.776	8.429	9.460	11.705	10.905
Surplus (1980-kroner)	3.979	4.740	9.803	10.494	11.705	9.590

The shipping sector has undoubtedly been of great importance to the development of the Norwegian economy. Until the late 1970s it was generally the most important sector in connection with foreign exchange earnings and the Balance of Trade.<sup>14</sup> In the postwar period, the shipping sector has been competitive compared with other Norwegian sectors regarding the allocation of labour and capital. As a result of this, the return on the capital invested in this sector has been higher than it would have been if the capital had been invested in other Norwegian sectors.<sup>15</sup> In addition to this, the income of Norwegian employees in the shipping sector has also been at a higher level than in the sectors where this labour could alternatively have been employed.

When the importance of the shipping sector in the Norwegian economy is discussed, the importance to the Norwegian Balance of Trade and foreign exchange earnings has traditionally emphasised. The shipping sector lost its position as the most important export sector to the oil industry in the late 1970s.<sup>16</sup> The size of the shipping sector, and its influence on the Norwegian economy, was an important factor in the development of Norway's external economic relations.

The liner sector has accounted for the most stable share of the Norwegian shipping revenue. Despite the fact that the share of the Norwegian fleet engaged in the liner trade dwindled in the 1970s, this market segment's share of gross freight earnings accounted for

<sup>13</sup> Figures taken from Statistisk Sentralbyrå, *op.cit.*, 1994, Tables 22.8, 18.2 and 18.3. Financial costs are not included.

<sup>14</sup> Hodne, Fritz and Grytten, Ola Honningdal, *Norsk økonomi 1900-1990* [The Norwegian economy 1900-1990], Tano, Oslo, 1992, p. 143.

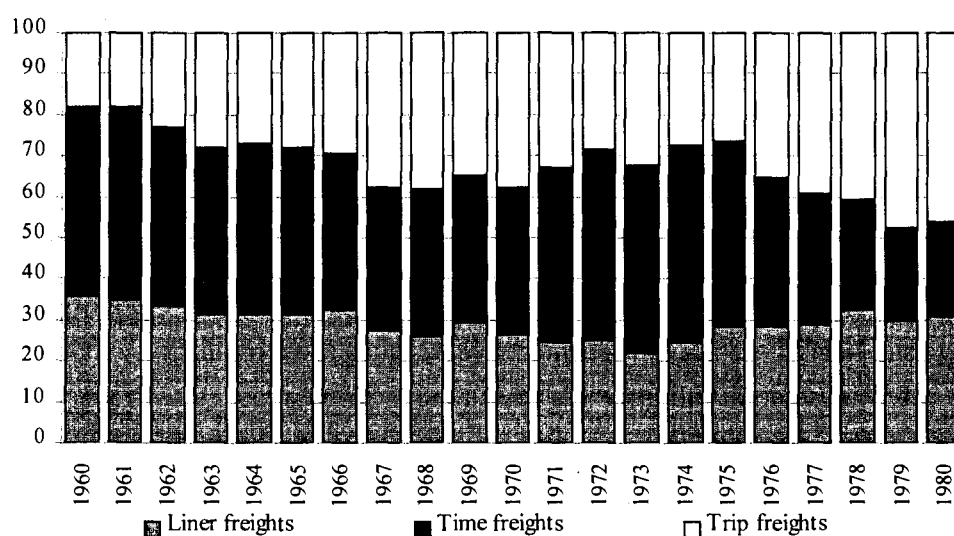
<sup>15</sup> For a discussion of the return on capital invested in Norwegian sea transport, see Eriksen, Ib Erik and Norman, Victor D., "Skipsfarten i norsk samfunnsøkonomi" [Shipping in the Norwegian economy], *Statsøkonomisk Tidsskrift*, No. 3, H. Aschehoug & Co., Oslo, 1973, pp. 133-137.

<sup>16</sup> Confer Statistisk Sentralbyrå, *op.cit.*, 1994, Table 22.8, pp. 544-545 and the analysis in Chapter Ten.

more than 20 per cent of the aggregate Norwegian earnings every year this decade.<sup>17</sup>

It may seem surprising that the liner vessels' share of gross freight earnings has been systematically higher than 20 per cent in a period where the sector's share of the Norwegian tonnage has been as low as five per cent. This does not necessarily indicate that the liner trade was the most profitable segment of Norwegian shipping in the period 1960-1980. The relatively large share of gross freight earnings accounted for by the liner companies is partly offset by the fact that these ships operate in the high-cost segment of the international shipping market. Consequently, the relative importance of the liner sector is reduced if costs are embodied in an analysis of freight earnings. This will be the most fruitful approach in a discussion of profitability.

Figure 5.3. The different markets' share of gross freight earnings, 1960-80<sup>18</sup>



A closer look at the development of gross freight earnings also reveals the reduced importance of the charter market in the period after the oil price increase. The difficulties which shipowners encountered when attempting to secure long-term charters for vessels led to a 50 per cent reduction of gross charter market earnings between 1974 and 1979. In addition to this, there was a further deterioration of profits as a result of the unfavourable development of bunkers and crew costs. According to figures from the current account, Norwegian shipping's expenditures abroad were almost doubled between 1973 and 1979, whereas the increase in gross freight earnings in this period was approximately 33 per cent.<sup>19</sup>

The freight earnings from the bulk sector have fluctuated much more than those of the liner trade, partly a result of the fact that the bulk segment is characterised by a large degree of competition. The rates in the liner trades, on the other hand, have been maintained at an artificially high level as a result of conference cooperation. The large fluctuations in the bulk

<sup>17</sup> *Ibid.*, Table 20.18, p. 489.

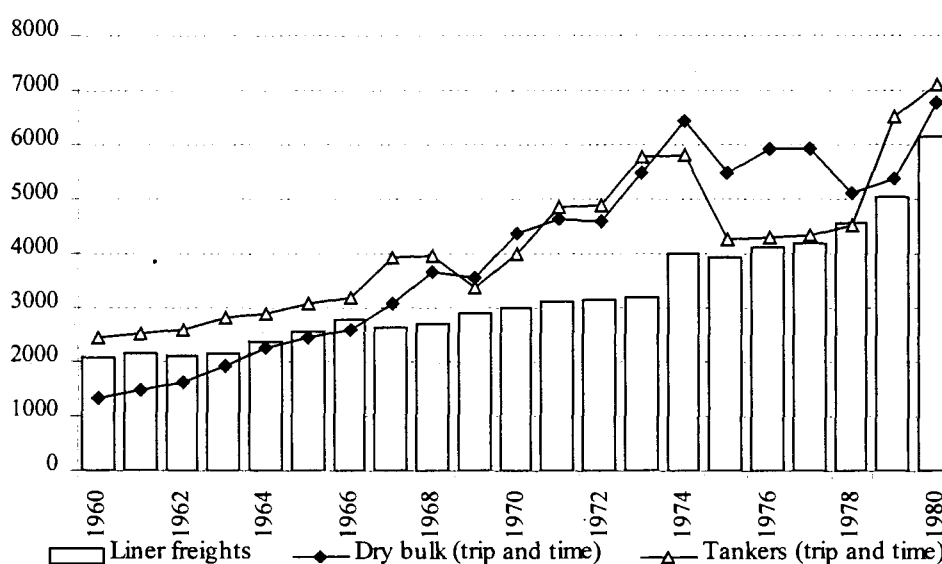
<sup>18</sup> The chart is based on figures from Statistisk Sentralbyrå, *op.cit.*, 1994, Table 20.18, p. 489.

<sup>19</sup> *Ibid.*, Table 22.8, p. 545. In an analysis of the reduced importance of the charter market, it is important to take into account the fact that the effects of an abrupt stop in chartering activity only will manifest themselves gradually, as it takes some time before previously signed charters expire.

sector revenue are by no means surprising, considering the violent changes in freight rates in this part of the shipping market

In the 1970s, the fluctuations in gross freight earnings from the tanker sector were particularly large, as the shipping crisis manifested itself through lower freight rates and reduced employment. In spite of the fact that the Norwegian tanker fleet, measured in dead weight tons, increased by 46 per cent from 1973 to 1977, the gross freight earnings from this part of the Norwegian merchant marine were reduced by 25 per cent. In aggregate, however, the tanker sector was responsible for the largest share of Norwegian gross freight earnings in the period 1960-1980.

Figure 5.4. Gross freight earnings by vessel type, million kroner, 1960-80<sup>20</sup>

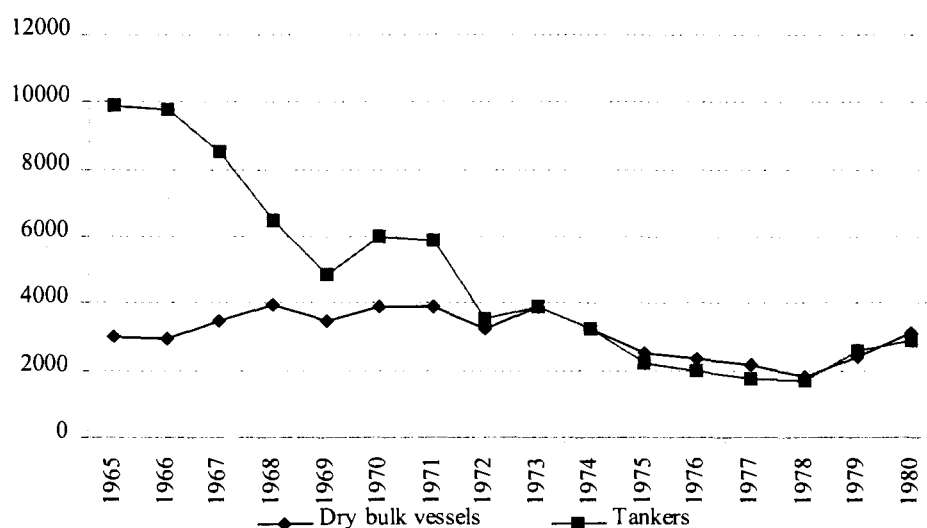


Gross freight earnings denote income, and can therefore not be used to depict profits, unless costs are also taken into account. Fon has estimated the economic return from the Norwegian shipowners' activity in the tanker and dry bulk markets in the years from 1960 to 1990. The estimates are based on an assumption that operating costs per unit of tonnage are identical for the tanker and dry bulk segments.<sup>21</sup> In addition to this, the figures have been adjusted to take into account economies of scale and the declining costs of building ships.

<sup>20</sup> The chart is based on figures from Statistisk Sentralbyrå, *op.cit.*, 1994, Table 22.8, p. 545.

<sup>21</sup> The estimates are based on the notion that ".....it is not unreasonable to assume [that] the operating costs per unit of tonnage for tankers and bulk carriers are largely similar for vessels employed in international waters." For a discussion of the problems related to the use of sources and scientific methods in connection with these estimates, see Fon, Anders Martin, *Norsk engasjement i internasjonal tørrbulkfart 1960-1990* [Norwegian involvement in international dry bulk shipping, 1960-1990], Working paper No. 106/93, The Foundation for Research in Economics and Business Administration, Bergen, 1993, pp. 43-69. For other estimates of the economic results of shipping, see for instance Gjermoe, Eilif, *Lønnsomheten i skipsfarten* [The profitability of shipping], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1968.

Figure 5.5. Corrected gross freight earnings per dwt, real terms, 1965-80<sup>22</sup>



The estimates show that the revenues from the tanker and dry bulk sectors by and large have followed the same pattern in the latter part of this period. The differences in the period before 1972 may be a result of the fact that it was possible for tanker owners to utilise the economies of scale at an earlier stage. This can be illustrated by the fact that more than 20 million dead weight tons' worth of tanker vessels larger than 80.000 dead weight tons were on order in December 1966. This accounted for 80 per cent of all tankers on the world order books. At the same time, 24 bulk carriers of more than 80.000 dead weight tons were on order, constituting little more than 2 million dead weight tons, or less than ten per cent of the dry bulk tonnage on order.<sup>23</sup> Another factor which may explain the large revenue from tanker operations in the 1960s, compared with the dry bulk sector, is that the estimates of the Norwegian tanker fleet are too conservative, implying that the gross freight earnings should have been divided on a larger amount of tonnage, thus reducing earnings per dead weight ton.<sup>24</sup>

## 5.2. Were Norwegian Shipowners Particularly Hard Hit?

The question above is central to the analysis of the international shipping crisis and Norwegian shipping. This question may be approached in several ways, but due to differences in international statistics, domestic regulations and institutions and the structural arrangement of the shipping industry, none of the approaches can be considered entirely satisfactory.

One approach to judging whether Norwegian shipowners were particularly hard hit by the shipping crisis would be to compare the revenues earned and profits generated by Norwegian shipowning companies with those of foreign companies. Such an analysis would enable us to judge how the economic performance of Norwegian shipping companies rates in an international perspective. It is, however, an extremely difficult task. Precise and

<sup>22</sup> Based on Fon, Anders Martin, *op.cit.* 1993, pp. 68-69. The figures are presented in 1990-kroner.

<sup>23</sup> Contracting figures are taken from Table 2 in Fearnley & Egers Chartering Co. Ltd., *Review 1966*, p. 7.

<sup>24</sup> The figures denoting the fleet size originate with Fearnley's, and, according to Fon, there is reason to believe that their estimates of the tanker fleet were too low in the beginning of the 1960s. If this is the case, the actual revenues per dead weight ton from the tanker sector in this period are exaggerated.



informative accounting details are difficult to come by and will seldom be comparable across national borders. The same applies to figures for bankruptcies and liquidations, as the institutional approach to companies in distress and the structure of the shipping industry varies from nation to nation.<sup>25</sup> An analysis of the entry and exit of shipowning firms is complicated by structural differences between countries. In some countries it has been common to establish a company for every ship owned, in other countries all tonnage is registered as owned by a single company, and in several instances shipping companies are divisions or subsidiaries of companies primarily operating in other sectors. An analysis of shipping revenues and structural development traits would consequently be fraught with uncertainties, and the results would largely be determined by the definitions and methods used.

The extent of the shipping industry difficulties may also be analysed at the aggregate national level, eg by a comparison of the fleet development in the period after the crisis erupted. Neither this approach will be perfect. First, it will be difficult to distinguish the elements caused by the crisis from long-term development traits which would have occurred even without the freight market breakdown. Second, developments outside the shipping sector will influence the increase or decline of the national fleets and will vary from country to country. One such factor would be the appearance of more profitable investment alternatives, making a reduction of the fleet a rational alternative, rather than a crisis-induced measure.<sup>26</sup> Changes in public policies may be another reason for development differences in the fleets of various countries.

Due to the absence of a suitable basis for international comparison it is difficult to find a sufficiently good principle on which to evaluate the fate of Norwegian shipowners in an international perspective. I have chosen two elements which can indicate the hardship of Norwegian shipowners. The first is the development of lay up-rates. By comparing lay up-rates, we may identify the extent to which the tonnage of shipowners in various countries was left idle and unable to earn revenues. The second element is the development of domestically-registered tonnage. Even though such an analysis is affected by the factors described in the previous paragraph, it is nevertheless a relatively good indicator of the changing international distribution of tonnage in the shipping industry.

### **5.2.1. A comparison of lay up-figures**

The Norwegian lay-ups during the shipping crisis were higher than for any other major fleet. This dubious record may be used as an indication of the differences in economic performance between Norwegian shipowners and their foreign rivals. Shipowners in all countries were faced with falling revenues as a result of the decreasing freight rates. Vessels which were laid up, however, were unable to earn revenues at all, unless they were laid up on the charterer's account. The result of the high lay up-rates was that Norwegian shipowners, to a larger extent

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<sup>25</sup> Due to the agreements utilised in the shipping industry, such as eg timecharters, a bankruptcy will be a relatively unfavourable alternative for the main creditors, and they have incentives to find other solutions.

<sup>26</sup> See the discussion in Chapter Ten.

than foreign shipowning companies, were affected by the loss of revenue caused by the lack of employment for their vessels.

Figure 5.6 Lay up-rate, as share of dead weight tonnage, per cent, 1974-79<sup>27</sup>

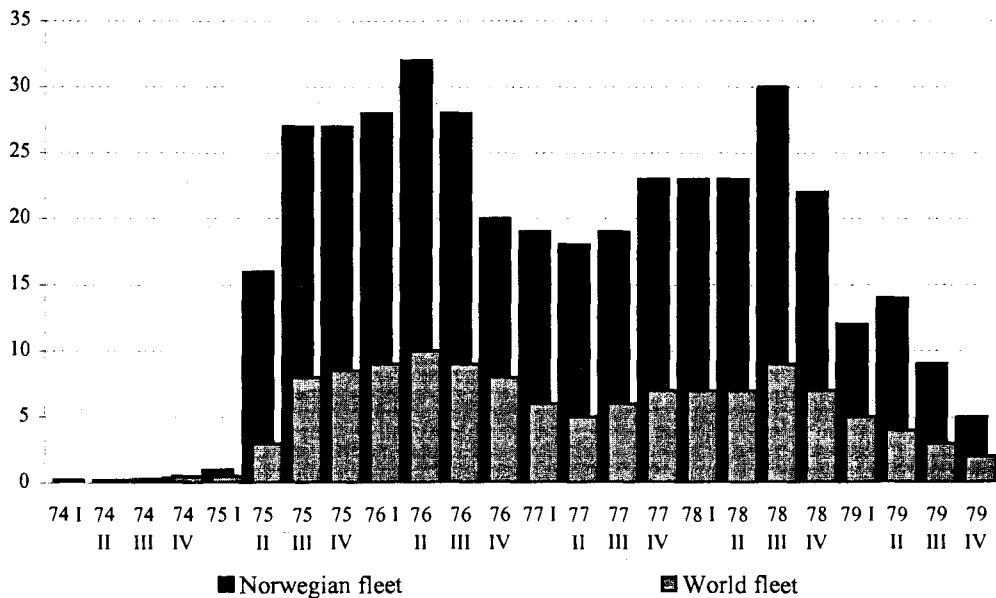


Figure 5.6 is based on the estimates from the General Council of British Shipping, the Norwegian Newspaper *Norges Handels og Sjøfartstidende* and Fearnley & Egers Chartering Co. Ltd.<sup>28</sup> The exact share of tonnage laid up is difficult to estimate, particularly in periods where the changes are large. In August 1975, the General Council of British Shipping had registered 29,6 million dwt of tanker and combination carrier tonnage laid up, whereas the British shipbroker John I. Jacobs estimated that the figure was approximately 44 million dwt.<sup>29</sup> Moreover, the lay up-rate increases if figures are converted from grt to dwt, as a result of the fact that the majority of the tonnage laid up was larger vessels. In this respect, a conversion of the figures from dwt or grt to compensated gross register tons (cgrt), a measure which take into account the sophistication of the tonnage, would reduce both the share of the fleet laid up and the difference between Norwegian and international lay up-rates.<sup>30</sup> Although the various figures deviate, the differences are generally fairly small, and there is no reason to doubt the conclusion that the Norwegian lay up-rate from 1975 onwards was considerably higher than the international lay up-rate.

<sup>27</sup> This chart refers to the beginning of each quarter and is based on figures from various sources – see the text.

<sup>28</sup> These sources generally correspond fairly well. In the quarters where the figures deviate, an estimate based on all three sources has been constructed.

<sup>29</sup> Norges Rederforbund, *Momenter til belysning av norsk og internasjonal skipsfart* [Aspects illuminating Norwegian and international shipping], Oslo, November 1975, p. 18.

<sup>30</sup> The effect of a conversion to cgrt for the composition of the Norwegian fleet is presented in Chapter Nine.

In late 1974 the TT Sir Charles Hambro and the TT Julian were the first mammoth tankers officially declared laid up.<sup>31</sup> As the crisis evolved, this affliction affected a substantial share of the Norwegian shipowning companies. Figure 5.6 illustrates the significant differences between Norwegian and international lay up-rates. The contrast is so large that the effects on the economic performance of shipping companies in Norway must have been far more severe than for foreign shipping companies. By the summer of 1975, a quarter of the laid-up tankers and combination carriers was flying the Norwegian flag. Figures from the British company E.A. Gibson Shipbrokers Ltd. indicate that whereas the lay up-rate of the international tanker and combination carrier fleet was ten per cent, the corresponding Norwegian figure was 25 per cent.<sup>32</sup>

Table 5.2 shows that by December 1975, 46 Norwegian shipowners owned tankers which had been laid up. The laid-up tanker tonnage amounted to more than ten million dwt, representing more than 40 per cent of the tanker fleet. Of the 82 laid-up oil tankers, only eight vessels, amounting to 1,3 million dwt, were laid up on the charterer's account. Moreover, only four of the companies with vessels laid up on the charterer's account had not been forced to lay up vessels on their own account as well.

The average size of the Norwegian tankers which had been laid up was approximately 130.000 dwt, reflecting the fact that 24 of the vessels were tankers of more than 200.000 dwt. The tankers were a combination of older vessels, such as the relatively small 16 year old tanker *Bente Brøvig* and modern mammoth tankers, such as the 311.400 dwt *Belfri*, delivered from Germany in March 1975 and instantly laid up in Norway.

Of the 73 companies with oil tanker tonnage in 1976, more than 60 per cent had been forced to lay up some or all of their vessels. This illustrates the breadth with which the shipping crisis affected the Norwegian shipping industry. The shipowners affected were a combination of small shipowners such as T.S. Bendixen AS, with all their tonnage laid up, large shipowners such as Hilmar Reksten, with large parts of their fleet laid up, and large shipowners such as Sig. Bergesen d.y. and Wilh. Wilhemsen, with small shares of their total fleets laid up. Most of the companies affected were traditional shipping companies which had played an important role in the postwar expansion of Norwegian shipping, rather than newly established companies.

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<sup>31</sup> Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., 1975, p. 53.

<sup>32</sup> Figures from Gibson quoted in *Norges Handels og Sjøfartstidende*, 1 July 1975. The figures refer to vessels which have been laid up on the owner's account.

Table 5.2. Norwegian tankers laid up, December 1975<sup>33</sup>

Vessel	Shipowner	Dwt	Date	Vessel	Shipowner	Dwt	Date
MT Acina*	CH Sørensen	130	05	TT Kong Haakon	H Reksten	219	10
TT Aurelian	H Reksten	219	02	MT Kristina	Grieg & Co	62	02
MT Balla B.	Brøvig	21	03	MT Lina C.*	Fekete & Co	20	06
TT Beaumaris	Biørnstad	219	06	MT Long Phoenix	Lange	51	02
TT Beurivage	Biørnstad	285	05	MT Molda	Mowinckel	144	10
MT Beauval	Biørnstad	88	07	TT Mosqueen	Mosvold	71	07
TT Belfri	Belships	311	03	TT Octavian	H Reksten	220	01
MT Bente B.	Brøvig	19	02	MT Orator	OB Sørensen	135	04
MT Berge Pr.*	Bergesen d.y.	280	04	MT Osco Spirit	Schrøder	33	03
MT Bergevik	Bergesen d.y.	100	03	MT Pepita	Foyen Bruun	20	02
MT Bjørkaas	Mørland	18	02	MT Perikum	Foyen Bruun	36	08
MT Britta	Mathiesen	138	01	MT Petunia	Foyen Bruun	26	06
MT Cerno	JP Jensen	103	06	MT Polartank*	Melsom	135	04
MT Cis Brøvig	Brøvig	106	06	TT Radny	Waage	286	11
MT Condo	Wangen	77	10	TT Raila	Waage	219	02
TT Corona	Wrangell	232	11	TT Ranja	Waage	219	02
MT Credo	Wangen	101	05	MT Ronaville	Saanum	36	05
MT Curro	JP Jensen	134	03	TT S Ugelstad	S Ugelstad	34	03
TT Dagchild	JP Pedersen	256	03	MT Sea Breeze	Bendixen	136	07
TT Elisabeth K.	Knutsen	216	01	TT Sir Charles H.	H Reksten	286	12
TT Fabian	H Reksten	286	01	TT Sir Winston C.	H Reksten	95	12
MT Fagerfjell*	Olsen & U.	126	12	MT Skaugum	Skaugen	77	05
TT Ferncourt*	F&E	245	08	TT Solfonn	Sig. Bergesen	132	10
MT Fernmanor	F&E	78	03	MT Solviken	Wallem/ Ste.	21	03
TT Fernmount*	F&E	216	04	MT Sunares	Hansen-Tangen	20	05
MT GC Brøvig	Brøvig	17	03	MT Sydhav	Lodding	139	04
MT Gimle	Evensen	59	03	TT Synia	Waage	226	09
MT Granheim	Bjørge	21	03	MT Tamarita	JM Ugland	75	05
MT Gunvor B.	Brøvig	19	03	MT Tank Rex	Herlofson	52	03
MT Gylfe	Evensen	20	01	MT Templar	W Wilhelmsen	83	12
MT HM Wrang.	Wrangell	87	11	MT Thorshov	Thor Dahl	103	08
TT Hadrian	H Reksten	220	10	MT Thorshøvdi	Thor Dahl	103	05
TT Harry B.	H Borthen	225	05	TT Torill Knudsen	Knutsen	285	06
MT Havbør	P Meyer	44	04	TT Troma	Mowinckel	86	02
TT Hitra	Mowinckel	38	08	TT Veni	Smedvig	227	05
TT Jagranda	Jahre	90	06	TT Vespasian	H Reksten	285	02
TT Jorek Trader	J Reksten	99	04	MT Vinga	Mowinckel	138	08
TT Julian	H Reksten	286	01	MT Wangli	Wangen	126	06
MT JJ Lorentzen	Stove Shipping	132	03	MT Wangskog	Wangen	126	10
MT Kollbris*	Bjørge	136	09	MT Wangstar	Wangen	97	07
MT Kollskegg	Bjørge	136	03	MT Wilstar	A Wilhelmsen	133	03

In addition to the vessels above, three gas tankers, 13 combination carriers, four bulk carriers and one passenger vessel had been mothballed by December 1975. The amount of tonnage laid up continued to increase after this point. When the Norwegian lay-ups reached their peak in the spring of 1976, 116 vessels, amounting to more than 14 million dwt and representing almost a third of Norwegian tonnage, had been laid up due to lack of employment.

An international comparison of lay up-rates justifies the assertion that Norwegian

<sup>33</sup> Based on figures from *Norges Handels og Sjøfartstidende*, 3 December 1975. Dwt refers to tonnage in 1000 dead weight tons according to list, whereas Date refers to the month in 1975 when the vessel was laid up, except for figures in italics, which refer to 1974. An asterisk indicates a vessel laid up on the charterer's account.

shipowners were harder hit by the shipping crisis than the shipowners of the other major shipping nations more or less throughout the crisis.<sup>34</sup> As share of the fleet, measured in dead weight tons, the Swedish lay-ups were at times even higher than the Norwegian. However, tonnage-wise, this amounted to only a third of the size of the Norwegian lay-ups, as the Norwegian fleet was much larger than the Swedish fleet. Liberia was the only nation with lay-ups, measured in dead weight tons, which were as large as Norway's, but the Liberian fleet was bigger, so the actual Liberian lay up-rate was smaller than its Norwegian counterpart.

Table 5.3. Fleet size and lay up-rates, based on grt, 1974-79<sup>35</sup>

Country	Fleet 1974	Fleet 1978	Lay- up 1974	Lay- up 1975	Lay- up 1976	Lay- up 1977	Lay- up 1978	Lay- up 1979	Average lay-up
Denmark	4.505	5.530	0,0	0,8	11,2	8,1	10,0	3,0	5,5
France	8.835	12.197	0,0	0,9	1,9	0,8	2,1	1,2	1,2
Germany	7.980	9.737	0,0	0,0	4,1	4,6	6,8	3,0	3,1
Greece	21.759	33.956	1,0	1,2	5,9	7,4	9,3	2,6	4,6
Italy	9.322	11.492	0,7	0,6	9,6	7,2	4,6	1,8	4,1
Japan	38.708	39.182	0,0	0,0	0,9	0,1	1,5	7,0	1,6
Netherlands	5.501	5.180	0,0	0,4	8,1	9,0	0,0	0,0	2,9
Norway	24.853	26.128	0,0	1,0	24,3	17,1	21,4	6,1	11,7
Spain	4.949	8.056	0,4	0,4	0,3	0,1	0,7	0,6	0,4
Sweden	6.227	6.508	0,0	1,6	27,3	8,3	25,3	6,3	11,5
United Kingdom	31.566	30.897	0,0	0,1	8,4	4,8	4,9	3,2	3,6
Liberia	55.322	80.191	0,3	0,5	10,6	7,3	7,6	2,3	4,7
Panama	11.003	20.749	0,7	0,0	3,8	1,4	1,9	0,8	1,4

Lay up-figures indicate the large problems encountered by Norwegian shipowners when attempting to secure profitable transport assignments. Table 5.3 shows that, with the exception of the Swedish figures, the average share of the fleet laid up by Norwegian shipowners was more than twice the lay up-share of the other important maritime nations. The reasons for the relatively high Norwegian lay up-figures will be analysed in detail later. However, it is important to note that domestic conditions affected the lay up-figures of some countries. The principal example is Japan, where the laying up of vessels was impeded by local manning regulations. The Japanese seafarer employment guarantees made lay-ups less beneficial compared with continued operation, as there would be small cost savings on personnel.<sup>36</sup> A comparison of the lay up-rates of the Norwegian fleet and the fleets of other nations shows

<sup>34</sup> In 1976, the most severely hit countries were the oil-producing nations. Iraq, Saudi Arabia and Libya had been forced to lay up 26, 39 and 74 per cent respectively of their tanker fleets. However, their fleets were rather small – in mid-1976 their combined tankers fleets amounted to less than ten per cent of the Norwegian fleet; see OECD, *Maritime Transport 1975*, p. 77 and OECD, *Maritime Transport 1976*, Table XIV, p. 123.

<sup>35</sup> The figures in the table are based on calculations from OECD, *Maritime Transport*, various issues. All countries which in 1975 had fleets of more than five million gross registered tons are included, except for the United States, due to the problems of calculation with regard to the reserve fleet, and India, Singapore and the USSR, for which lay up-data are not available. The fleet size at the beginning of each year is measured as the average of the fleets in the middle of the reported year and the middle of the previous year, and given in 1000 gross registered tons. The deviation of the Norwegian lay up-figures between this table and Figure 5.6 is due to the fact that the chart is based on dwt and the table on grt.

<sup>36</sup> OECD, *Maritime Transport 1975*, Organisation for Economic Cooperation and Development, Paris, 1976, p. 101.

that Norwegian shipowners were particularly affected by one aspect of the shipping crisis, viz high lay up-rates.

### 5.2.2. The development of national fleets

An analysis of the development of the national fleets is another manner through which the effects of the shipping crisis in various countries can be evaluated. We may expect a reduction of the fleets which were severely hit by the crisis, as unprofitable tonnage was sold abroad and the vessels of companies in economic distress were taken over by foreign creditors. Moreover, we may expect that shipowners which were less severely affected by the difficulties consolidated their position or increased their engagement. This would be reflected in a stable or growing share of world tonnage.

If 1980 is used as the basis for comparison, the absolute and relative reduction of the Norwegian fleet becomes apparent. However, an analysis ending in 1980 only illustrates the short-term effects of the crisis on the development of domestic fleets. To fully be able to analyse the long-term shift in the importance of national fleets we have to extend the scope of the analysis, taking into account the development into the 1980s as well. It is important to keep in mind that several factors, in addition to the effects of the crisis, can account for the expansion or contraction of the fleets of the most important maritime nations

Figure 5.7. Development of the most important fleets, per cent of world fleet, 1970-87<sup>37</sup>

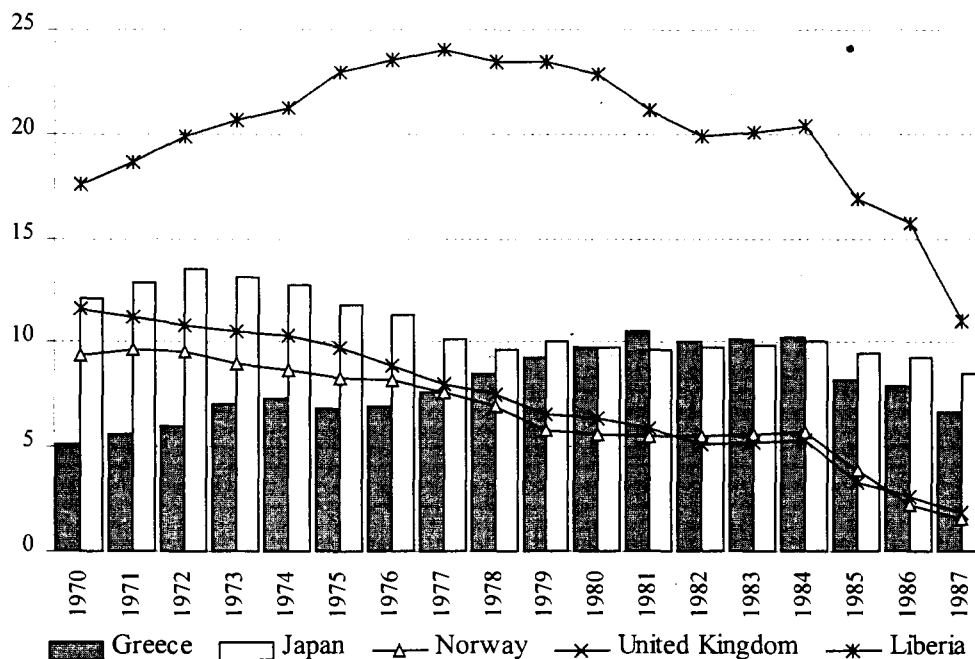


Figure 5.7 shows the development of the fleets of the five most important maritime nations in 1970, excluding the United States. It illustrates both the differences in the development of the various countries and the influence of specific circumstances. The strong reduction of the Norwegian and British fleets reflects the problems of the countries' shipping companies,

<sup>37</sup> The figure depicts the various countries' share of the world fleet. It is based on dwt-figures from the tables of the world fleet and the fleets of the OECD countries in OECD, *Maritime Transport*, the issues from 1970-1987.

which resulted in large sales of tonnage and reduced attractiveness of the domestic flag. The growth of the Greek fleet up until the beginning of the 1980s is partly a reflection of the transfer of Greek-owned vessels from foreign registries. From 1974 to 1981 the development of the Greek-owned fleet under Greek and other flags went in opposite directions.<sup>38</sup> Similarly, the reduced importance of the Liberian fleet, particularly from 1984 onwards, was a result of political uncertainty, and was more than made up for by the increase of other Flags of Convenience.

The development of the Norwegian and British fleets stands out when compared with the other main maritime nations. In 1970, the United Kingdom and Norway had the world's third and fourth largest fleets respectively. The Greeks caught up with the Norwegians in 1976, and passed the British in the following year. By 1981 Norway and the United Kingdom had been relegated to the fifth and sixth place due to the growth of the Panama fleet. In 1987 the United Kingdom ranked as the 14<sup>th</sup> largest maritime power, with Norway eighteenth. The British had been overtaken by the fleets of the United States and the USSR, emerging Asian nations such as China, The Philippines, Hong Kong and Singapore, the Flags of Convenience-countries Cyprus and Bahamas, and even Italy. Norway had been forced to bow to South Korea, Brazil and India as well. The changes in the hegemony of international shipping will be analysed in more detail in Chapter Ten.

Measured in tonnage, the flight from the Norwegian and British flags was higher than for any other domestic flags. Both fleets peaked in late 1976, and by the middle of 1987 the Norwegian and British fleets had been reduced by approximately 40 million dwt compared with the peak year.<sup>39</sup> Due to differences in the size of the fleets of various countries, absolute figures do not necessarily give a meaningful comparison of the development of the various fleets. However, the large reductions of the Norwegian and British fleets are distinct when relative figures are used as well.

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<sup>38</sup> See Harlaftis, Gelina, *A history of Greek-owned shipping: the making of an international tramp fleet, 1830 to the present day*, Routledge, London, 1996, p. 266.

<sup>39</sup> Fearnley & Eger use a more narrow definition of the size of the fleets, and the Norwegian fleet peaked in the beginning of 1977 when this definition is followed.

Table 5.4. The development of the largest OECD-fleets, 1973-87<sup>40</sup>

	1973 1000 dwt	1980 1000 dwt	1987 1000 dwt	Change 1973-1980	Change 1980-1987	Change 1973-1987
Denmark	6.512	8.703	6.961	33,6	-20,0	6,9
France	13.286	20.861	8.407	57,0	-59,7	-36,7
Germany	12.148	13.332	5.659	9,7	-57,6	-53,4
Greece	31.438	67.048	42.776	113,3	-36,2	36,1
Italy	13.185	17.951	12.178	36,2	-32,2	-7,6
Japan	58.585	67.321	54.669	14,9	-18,8	-6,7
The Netherlands	7.264	8.999	5.123	23,9	-43,1	-29,5
Norway	40.087	38.885	9.657	-3,0	-75,2	-75,9
Sweden	8.802	13.522	2.403	53,6	-82,2	-72,7
United Kingdom	47.155	43.814	11.677	-7,1	-73,3	-75,2

Table 5.4 illustrates the reduction of the OECD-fleets and the severity of the fleet contraction in Norway and the United Kingdom. One noteworthy aspect of the figures in Table 5.4 is that the Norwegian and British fleets were lower than the 1973-level as early as 1980. The fleets of the other main OECD maritime nations increased, and in several countries considerably so, in the period from 1973 to 1980. There might be two reasons for the disparate development in Norway and the United Kingdom. One explanation may be that shipowners in these countries were particularly hard hit by the freight market breakdown, and that liquidity problems and bankruptcies occurred earlier, expediting the sale of domestic tonnage to foreign shipowners. Alternatively, the phenomenon may be explained by the fact that the shipowners in Norway and the United Kingdom at an earlier stage than their competitors realised the severity of the shipping crisis and reacted by disposing of tonnage which would be unable to create profits flying the domestic flag.

A closer examination of the Norwegian sales indicates that with regard to the Norwegian shipping industry the former explanation is the more relevant.<sup>41</sup> In the British case, approximately two thirds of the tanker tonnage was owned by oil companies. This is partly reflected in the relatively low British lay up-rate. The reduction of the British fleet was enhanced by the transfer of oil company tonnage from the British flag to Flags of Convenience. Moreover, a considerable share of the fleet flying the Red Ensign in the early 1970s was owned by foreigners who wanted to benefit from the United Kingdom's liberal investment grants. When the conditions for these grants had been fulfilled after five years, the owners chose to transfer the vessels to foreign flags.<sup>42</sup>

In a long-term perspective, the relative reduction of the British, Norwegian and Swedish fleets stands out. In all three countries, the liberalisation of flag policies augmented the reduction of the domestically registered fleet, indicating that the decline in the nationally controlled fleet was lower than the figures in Table 5.4 imply. Both relative and absolute

<sup>40</sup> The table is based on the dead weight tonnage of the ten largest OECD fleets in 1970, representing all vessels greater than 100 grt. The figures have been taken from the tables of the world and OECD fleets in the appendix of OECD, *Maritime Transport*, various issues. The fleet of the United States has been excluded.

<sup>41</sup> See Chapter Nine for a more detailed analysis.

<sup>42</sup> Hope, Ronald, *A New History of British Shipping*, John Murray, London, 1990, p. 450.



figures show that the reduction of the domestic fleet was more severe in Norway than in most other maritime nations. This may indicate that the Norwegian shipping sector was adversely affected by the crisis.<sup>43</sup>

Low freight rates and difficulties securing employment led to economic difficulties for several Norwegian shipowners. In the first period after the oil price increase these companies survived due to the capital reserves which had been accumulated in the period with high freight rates prior to the market breakdown. As the crisis escalated, the shipowners were unable to service their debts and meet their daily expenses. In several instances the shipowners were forced, often by banks or other financial institutions, to sell their assets. According to a Norwegian publication, more than 40 Norwegian companies had chosen, or been forced, to dispose of all their tonnage by 1980.<sup>44</sup>

### Summary

Although sufficiently good yardsticks are hard to come by, the development of lay up-rates and fleet volumes gives support to the claim that Norwegian shipowners were harder hit by the shipping crisis than their international competitors. The financial problems encountered by the Norwegian shipping companies – and the amount of forced sales – make the supposition that the reduction of the Norwegian fleet was the result of a conscious and strategic withdrawal from the shipping sector relatively unlikely.

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<sup>43</sup> Confer the analysis in Chapter Ten for a presentation of alternative factors which may have contributed to the contraction of the Norwegian fleet.

<sup>44</sup> *Økonomisk Rapport*, No. 5, 1981, p. 11. Confer the analysis in Chapter Nine for a more detailed presentation.

## CHAPTER SIX

# THE STRATEGY OF NORWEGIAN SHIPOWNERS

The analysis in the previous chapter indicated that Norwegian shipowners were severely affected by the shipping crisis, and more so than their international competitors. The aim of this chapter is to analyse the possible reasons for the disparate Norwegian experience. The initial hypothesis is that the chartering policies of Norwegian shipowners, the Norwegian fleet structure and the heavy investments in the early 1970s can explain why the international shipping crisis made a particularly heavy impact on Norwegian shipowners.

Due to the diverse nature of Norwegian shipowners, there is bound to be a considerable amount of generalisation in this chapter. The use of aggregate figures as the basis for the analysis of Norwegian shipowners and the shipping crisis conceals the fact that some shipowners only to a small extent fell victim to the adverse conditions. However, as one industry insider posits, *“there is no shipowning company of any importance which has not been influenced, and in most cases negatively so, by the five year long crisis in shipping.”*<sup>1</sup>

Even though Norwegian shipowners traditionally had offered a relatively large share of their fleet in the spot market, there were shipowners who operated all their vessels on long-term charters. A similar example of deviating behaviour concerns shipowners who sold their ships and building contracts when “everyone else was buying”, that is, during the contracting boom in the period prior to the freight market breakdown.<sup>2</sup> The heterogeneity of Norwegian shipping thus makes it difficult to give a balanced presentation of the sector and the development during the 1970s. However, some distinct aspects separate the Norwegian experience from that of shipowners in other countries.

The strategy of the Norwegian shipowners – focus on large tankers and bulk carriers, spot market chartering and aggressive contracting – made them the winners in a market characterised by rapid demand increase, but made them correspondingly vulnerable when the demand side situation changed. It is thus possible to present a general outline of Norwegian shipowners and their experiences in the period surrounding the shipping crisis, illustrating the implications of the fundamental structural changes in the markets for shipping and energy.

### 6.1. Strategic Elements

The high Norwegian lay-ups and the strong reduction of the Norwegian fleet in the wake of the freight market breakdown indicate that Norwegian shipowners were severely affected by the crisis in the shipping sector. The analysis of the reasons for the grievous development is based on the hypothesis that the misfortune of the Norwegian shipowners can be explained by

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<sup>1</sup> Løddesøl, Leif Terje, “Hvorfor gjør noen rederier det godt og andre det dårlig?” [Why are some Shipping Companies successful, and some not?], *Internasjonal Politikk*, No. 1B, 1979, p. 167.

<sup>2</sup> Erling Dekke Næss was honorary chairman for a company which sold their vessels, totalling three million dead weight tons, in August 1973; see *Norwegian Shipping News*, No. 8B, 1975, p. 34. Fred. Olsen sold his tankers in 1972, but continued to build tankers for other shipowners at his Aker yards. See Chapter Eight for details on Sig. Bergesen d.y.

their business strategies in the period leading up to the crisis.

The term *business strategy* embodies a plethora of short- and long-term decisions made by the agents operating in a given market. In shipping, the decision to order a vessel is an obvious example of a strategic judgement. However, even though it is often made more unconsciously, the decision not to dispose of existing tonnage is another example of a judgement affecting the strategy of the company. The variety and amount of evaluations and decisions underlying and making up the strategy of the shipping company make it difficult to present a uniform and all-encompassing measure of shipping strategy.

The following analysis focuses on three particular elements of the shipping strategy of Norwegian shipowners. These aspects largely embody the most important strategic decisions in shipping companies, and can contribute to an explanation of the large impact of the crisis on the Norwegian shipping sector. The strategic elements which are analysed are fleet structure, chartering policy and contracting.

The aim of the analysis is twofold. The first object is to identify the factors which characterised the three elements presented above, ie find out what distinguished the Norwegian fleet structure, chartering policy and contracting. This analysis is undertaken by means of international comparison. The second object is to analyse the factors and forces which shaped the strategic decisions of Norwegian shipowners, ie identify the underlying factors which can account for the Norwegian fleet structure, chartering policy and contracting strategy.

*Fleet structure* is related to the composition of the fleet with reference to vessel type, age and size. The type of ships which the shipowner chooses to operate is one important aspect of the strategy of the shipping company. A shipowner looking for a stable revenue from a secure market will typically invest in vessels for the liner trade, whereas someone interested in high, short-term revenues will invest in large tankers intended for operation in the spot market. The vessel type is not the only aspect of the fleet which is indicative of the shipowner's strategy and attitude towards risk. Size is also of importance. A strategy involving investments in large vessels is generally more risky than the choice of a fleet consisting of several smaller vessels, or vessels of different sizes.

The second aspect which is chosen to represent the strategy of Norwegian shipowners is their *chartering policy*. In this connection the most important decision for shipowners is whether to tie their vessels to long-term charters or operate them in the spot market.<sup>3</sup> Shipowners who operate mainly in the spot market have commonly been regarded as more risk prone than those of their colleagues who choose to tie their ships to longer charters. In this respect the chartering policy may be seen as an expression of the shipowners' attitude towards risk. The situation is more complex, however, and it is necessary to take into account the

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<sup>3</sup> The length and type of charter contracts is of course of relevant as well. In connection with the oil price increase it was evident that some types of contracts were unprofitable to the shipowners despite the fact that they, at the time of signing, seemed advantageous. The reason for this was the unexpected development of exchange rates and bunkers prices.

shipowner's assessments of the future market development when evaluating chartering policies.

The shipowners' strategies are also expressed in connection with acquisition and disposal of tonnage. For the majority of Norwegian shipowners operating in the international market, acquisition of tonnage implied *contracting*, rather than purchase of second-hand vessels. The most important element in this context is the type and timing of newbuilding contracts, but the choice of shipyard and country of production is also a result of strategic decisions. The contracting activity is given particular relevance as it can be regarded as important for the structural development of the fleet, which again indicates the long-term strategy of the company. The structure of the fleet will be altered by both acquisitions and disposal of tonnage. Whereas the current composition of the fleet to some extent has been determined by past strategies, contracting and sales reveal which kind of vessels the shipowner intends to operate in the future. The assessment of prospective market conditions again plays a crucial role.

The first part of the analysis of the business strategy of Norwegian shipowners deals with the factors which can explain the high Norwegian lay-ups. Effects which were not necessarily reflected in high lay up-rates, but which may have affected the economic performance of Norwegian shipping companies, are discussed in a concluding analysis.

## 6.2. The Norwegian Fleet Structure

One reason for the high Norwegian lay-ups was that Norwegian shipowners had invested a disproportionate share of their resources in the types and size classes of vessels which were adversely affected by the shipping market imbalance. The largest imbalance between supply and demand was found in the tanker market and the malaise was initially referred to as "*the tanker crisis*". Norwegian shipowners owned a disproportionate share of the world's tanker tonnage. The effects of the freight market breakdown were least visible in the liner trade, and the share of liner vessels in the Norwegian fleet was smaller than the Norwegian share of the world fleet.

### *What characterised the Norwegian fleet?*

The following analysis emphasises four aspects of the Norwegian fleet – vessel types, average size, propulsion and average age. In the Norwegian fleet there was a disproportionate share of bulk vessels, and particularly tankers and combination carriers.<sup>4</sup> Compared with their share of the world fleet, the Norwegian shipowners owned a large share of the world's tankers, combination carriers and bulk carriers.

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<sup>4</sup> A disproportionate share implies that the Norwegian share of these vessels was larger than the Norwegian share of the total world fleet would indicate. Another way to present this is by saying that the Norwegian fleet "lacked" non-bulk ships.

Figure 6.1. Fleet composition, Norwegian and international fleets, based on dwt, 1965-80<sup>5</sup>

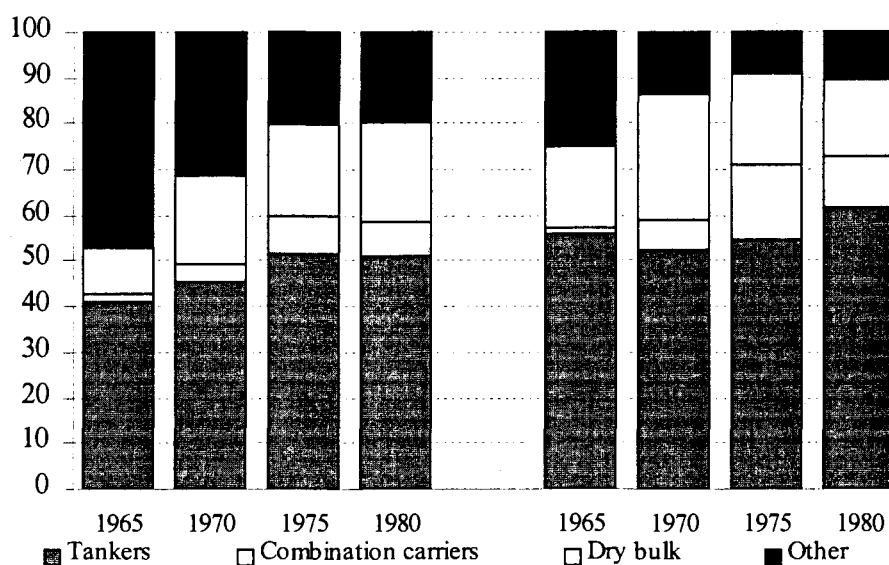


Figure 6.1 shows the distribution of the Norwegian and international fleets across vessel types. The high Norwegian investments in the bulk sector are evident, and the distinctive Norwegian fleet structure was apparent as early as the middle of the 1960s. However, the figures conceal large international variations.

Table 6.1. Fleet composition, seven largest fleets, 1976<sup>6</sup>

Flag	Oil tankers	Dry bulk/ combination	Sum bulk	Miscellaneous	Fleet 1976 (1000 grt)
Liberia	64	29	93	7	73.447
Japan	46	31	77	23	41.663
The United Kingdom	49	25	74	26	32.923
Norway	53	34	87	13	27.944
Greece	36	33	69	31	25.035
The USSR	20	4	24	76	20.668
Panama	38	21	59	41	15.631

Table 6.1 shows the considerable differences in the structural composition of the various national fleets. Liberia was the only major maritime nation which had a larger share of tankers, combination carriers and dry bulk vessels than Norway.

Another feature of the Norwegian fleet, which is partly a result of the focus on bulk vessels, is the proportion of large vessels. The Norwegian shipowners had invested heavily in the size classes of ships which operated in the hardest hit market segment, ie the market for large vessels. Mammoth tankers, combination carriers and bulk carriers made up a higher share of the Norwegian fleet than the international fleet – Figure 6.2 reveals the difference in the average size of the tankers and Table 6.2 shows the difference for the fleet.<sup>7</sup>

<sup>5</sup> The chart is based on figures from Tables 3 and 20 from various issues of Fearnley & Egers Chartering Co. Ltd., *Review*.

<sup>6</sup> The shares are based on grt-figures from Table XIV in OECD, *Maritime Transport 1976*, p. 124.

<sup>7</sup> If statistics including smaller vessels are used, the average size of the ships in the Norwegian fleet was more than twice as large as the average size of the vessels in the Rest of the World-fleet.

Figure 6.2. Average size of tankers, 1000 dwt, 1965-80<sup>8</sup>

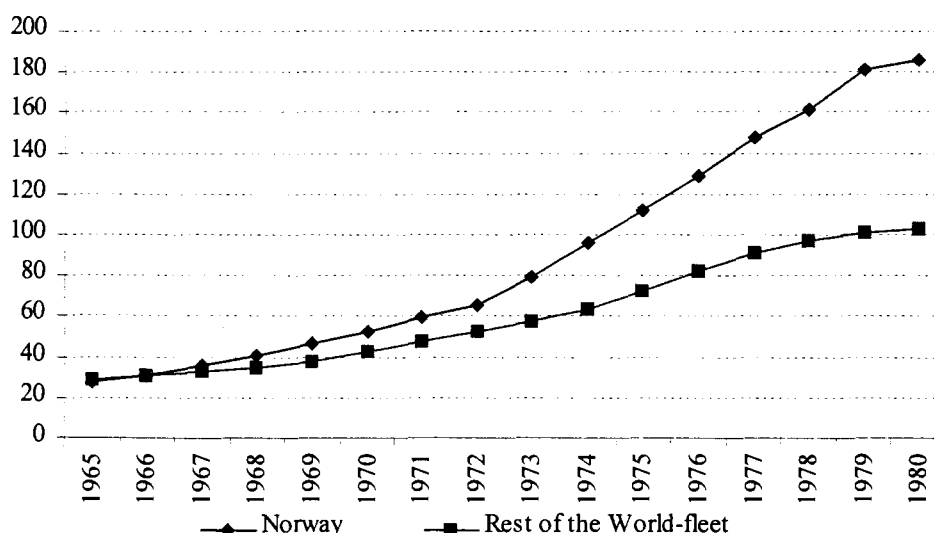


Figure 6.2 is based on tankers of more than 10.000 dwt and shows the large and increasing difference between the average size of Norwegian tankers and the average for the rest of the international tanker fleet. Whereas the average Norwegian tanker was 22 per cent larger than the average non-Norwegian tanker in 1970, the corresponding figures for 1973 and 1980 were 38 and more than 80 per cent respectively. Furthermore, the differences between the average size of the Norwegian and non-Norwegian tankers in Figure 6.2 are smaller than the average of the aggregate fleets, partly due to the larger share of tankers in the Norwegian merchant marine.

Table 6.2. Size distribution, Norwegian and world fleets, 1975 and 1979<sup>9</sup>

Size class - grt	Norwegian fleet		Norwegian fleet	
	World fleet 1975	1975	World Fleet 1979	1979
100-500	2	2	2	2
500-2.000	3	1	3	1
2.000-6.000	8	2	8	2
6.000-10.000	12	4	10	2
10.000-20.000	19	13	19	9
20.000-40.000	17	15	15	12
40.000-50.000	5	8	5	4
50.000-100.000	14	24	15	25
100.000 and over	20	31	23	43
Average size	10.210	22.550	11.020	24.710

Table 6.2 shows that the vessels above 50.000 grt made up approximately 55 per cent of the Norwegian fleet in 1975, compared with roughly a third for the world fleet. Four years later

<sup>8</sup> The chart is based on figures from Fearnley & Egers Chartering Co. Ltd., *Review*, 1972 and 1980, Table 3 and Table 20. The figures for the Rest of the World-fleet have been found by subtracting the Norwegian tonnage from the figures for the world fleet. If Norwegian tonnage was included, the figures for the world fleet would be higher after 1967, but not significantly so.

<sup>9</sup> Based on data from Lloyd's Register of Shipping, reprinted in Norges Rederforbund, *Momenter til belysning av norsk og internasjonal skipsfart* [Aspects illuminating Norwegian and international shipping], Norges Rederforbund, Oslo, 1976, p. 14 and 1979, p. 14.

more than two thirds of the Norwegian fleet consisted of vessels larger than 50.000 grt, compared with 38 per cent for the world fleet. The average size of the vessels in the Norwegian fleet was more than twice the average size of the vessels in the world fleet in both instances.

Investments in large ships are generally more risky than investments in smaller vessels, but the increased risk has usually been rewarded through higher profits for larger vessels. Two factors can account for the higher risk; the lack of alternative types of operation for larger vessels and different demand patterns for ships in different size classes or market segments. The risk of operating a vessel of 100.000 dead weight tons is higher than the risk of operating four 25.000 tonners. Lorange and Norman even claim that "...it is somewhat surprising that individual shipowners have chosen to invest heavily in supertankers."<sup>10</sup>

The type and size of the vessels clearly show the structural differences between the Norwegian fleet and the fleets of other countries. The third element which distinguished Norwegian fleet from the international fleet was propulsion. As a result of the increase in the price of bunkers, turbine-driven vessels became less competitive than vessels powered by diesel-motors.<sup>11</sup> Turbine tankers were unfavourably affected by the changes in relative costs in connection with the oil price increase as they were constructed for a market with a totally different set of relative prices of inputs than the one prevailing after 1973.<sup>12</sup>

A turbine-driven tanker of 50.000 dwt used approximately 85 tons of "Bunker C" daily, whereas a similarly sized motor tanker used about 55 tons of low-grade diesel fuel.<sup>13</sup> Before the oil price increase the costs of operation for the two types of propulsion were at approximately the same level. The implication of the nine dollar per barrel oil price increase from October 1973 to January 1974 was that the cost of operating turbine tankers increased relative to the cost of operating motor tankers. For the previously mentioned vessels there would be a daily difference of \$1.500, as a result of an increase in the price of bunkers of \$50 per ton and the additional 30 tons of bunkers needed to operate the turbine tanker. Some shipowning companies even chose to convert their ships from turbine to diesel engines.<sup>14</sup>

Vessels are generally laid up when the rate level is insufficient to cover operating expenses less lay-up-costs. The "reservation price" of vessels varies with their efficiency; relatively efficient ships will accept lower rate levels than relatively inefficient vessels. Consequently, turbine tankers, which were adversely affected by the increase in the price of

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<sup>10</sup> Lorange, Peter and Norman, Victor D., "Risk preference in Scandinavian Shipping", *Applied Economics*, 1973, Vol. 5, p. 49.

<sup>11</sup> According to Johan Seland of The Norwegian Shipowners' Association, the rate level in the middle of the 1970s would cover the bunkers costs for a motor tanker, but not a turbine tanker, on the distance Europe-The Persian Gulf; see *Kapital*, No. 3, 1975, p. 8.

<sup>12</sup> In 1972, the cost composition for a new 100.000 dead weight ton diesel vessel, ie a relatively fuel-efficient ship, was as follows: fuel ten per cent, other operating costs 35 per cent and financial costs 55 percent. Seven years later the composition of costs was 43, 19 and 38 per cent respectively; see Stortingsmelding nr. 52 (1980-81), *Om skipsfartsnæringen* [On the shipping industry], p. 3.

<sup>13</sup> The figures in the example are taken from Nersesian, Roy, *Ships and Shipping - A Comprehensive Guide*, PennWell Books, Tulsa, Oklahoma, 1981, p. 29.

<sup>14</sup> Stortingsmelding nr. 52 (1980-81), *op.cit.*, p. 26.

bunkers, were among the first ships to be laid up. The ships which had been among the most profitable in a situation with high and increasing demand thus turned out to be particularly ill-suited to the changes in the price of inputs following the oil price increase. After the second oil price increase in the late 1970s, the economic disadvantage of a turbine-driven vessel had increased to \$1,5 million annually.<sup>15</sup> However, this was to some extent offset by a further fall in average vessel speed. The average recorded speed of ULCCs was 9,5 knots in 1982, compared with 14 knots in 1973.<sup>16</sup>

In the first period after the freight market breakdown, the proportion of turbine-driven vessels in the Norwegian fleet was lower than the international average. Accordingly, Norwegian shipowners seemed to be in a better position with regard to fuel economics than their foreign competitors. However, the large number of mammoth, turbine-driven tankers ordered by Norwegian shipowners is not fully reflected in the 1975 fleet composition. The share of turbine vessels in the Norwegian fleet increased considerably, from 30,7 per cent in 1975 to 38,2 per cent three years later. Over the same period, the share of turbine-driven vessels in the world fleet fell from 35,5 per cent to 33,3 per cent.<sup>17</sup>

The last element distinguishing the Norwegian fleet from the world fleet was the average age of the vessels. The shipping market consists of both new, capital-intensive ships, and older, relatively labour-intensive vessels. The recently built ships typically have a small crew, and consequently marginal crew costs, whereas the older ships have low financial costs. The Norwegian share of the tonnage on order in the period 1950-1979 has been systematically higher than the Norwegian share of the world fleet.<sup>18</sup>

The average age of the Norwegian fleet was six and a half years in 1968, whereas the average age of the world fleet was eleven years.<sup>19</sup> In 1977, at a time when the average age of the Norwegian tanker tonnage was five years, the corresponding figure for the world tanker fleet was nine years. A year earlier, 83 per cent of the Norwegian fleet was less than ten years old, corresponding to 65 per cent for the world fleet and 44 and five per cent for the Greek and Cypriot fleets respectively.<sup>20</sup>

Some countries had tanker fleets with an age composition similar to the Norwegian fleet, and in 1974 Denmark, Sweden and Spain had a higher share of modern ships than Norway. However, the size of these fleets was considerably smaller than the Norwegian fleet; they were in 1974 all in the region of two million grt, compared to twelve million in Norway's

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<sup>15</sup> Nersesian, *op.cit.*, 1981, p. 29.

<sup>16</sup> Figures for 1982 from Drewry, *The Drewry Tanker Market Review*, H.P. Drewry Shipping Consultants Ltd., London, 1982, Table 12, p. 30 and for 1973 from Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., 1975, p. 16.

<sup>17</sup> Based on gross register ton-figures from Statistisk Sentralbyrå, *Sjøtransport 1983* [Maritime Statistics 1983], Central Bureau of Statistics, Oslo, 1984, pp. 45 and 102.

<sup>18</sup> Norges Rederforbund, *Momenter til belysning av norsk og internasjonal skipsfart* [Aspects illuminating Norwegian and international shipping], Norges Rederforbund, Oslo, 1979, p. 13. The only exception was the year 1968, when the Norwegian share of the world fleet was larger than the Norwegian share of contracts.

<sup>19</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1968*, p. 12.

<sup>20</sup> OECD, *Maritime Transport 1976*, p. 128.



case. The Japanese fleet was also more modern than the Norwegian fleet, but a considerable share of the Japanese tonnage was owned by companies with their main interests outside the shipping sector, and this is one reason for the surprisingly low Japanese lay up-rates.

The structure of the Norwegian fleet was distinct in an international perspective. Typewise, there was a disproportionate share of tankers and bulk carriers, and the Norwegian fleet consisted of considerably larger units than the international fleet. The Norwegian fleet was also relatively modern, and after 1976 there was a higher share of turbine-driven vessels in the Norwegian fleet than in the international fleet.

#### *What can explain the structure of the Norwegian fleet?*

Even though the demand side in the shipping market is international, and several of the most important factors of production are generally purchased in the international market, shipowners in different countries can not evaluate investments in ships and the operation of the vessels in the same manner. Although an international market for sea labour exists, domestic legislation has impeded the use of foreign seamen in the fleets of most traditional shipping countries. This implies that the domestic wage level affects the costs of operation. Moreover, whereas debt financing is largely acquired in the international market, equity generally comes from domestic sources. The alternative value of domestic capital is therefore important in determining the level of investments. These factors are of great relevance for the development of domestic fleets.

In a lecture in 1972, Professor Arnljot Strømme Svendsen presented three “*survival mechanisms*” for shipowners in “*high-variable cost countries*” such as Norway. The first strategy is risk-proneness, which Strømme Svendsen claims is necessary given the cost advantage of low-wage countries. The second strategy is “*the continual ordering of new, modern vessels with technological superiority and operating advantages.*” This strategy should be combined with advantageous contracting and sales in an *asset play*-like manner. The third survival mechanism is the development of new shipping markets, where the shipowner may enjoy a protected product market for a period of time.<sup>21</sup>

Although the use of the term *survival mechanism* may seem ironic when the decline of the Norwegian fleet is taken into consideration, all three strategies were evident in the Norwegian shipping sector. As the focus of this thesis is the crisis rather than the development of new and profitable market segments, the first two elements, which had clearly negative implications after the freight market breakdown, will be analysed here. However, it should be noted that several Norwegian companies succeeded in establishing an important position in profitable niches, in stark contrast to the general economic performance of Norwegian and international shipping companies. In the beginning of the 1980s, Norwegian shipowners owned the world’s largest fleet of cruise vessels and were also prominent in the markets for chemical tankers and supply vessels.

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<sup>21</sup> Svendsen Arnljot Strømme, “Prospective Market Trends in the Shipping Trade”, reprint from *Scandinavian Shipbuilding*, 1972, Pamphlet No. 30, Institute for Shipping Research, Bergen, 1973, p. 13.

The fact that the Norwegians owned a disproportionate share of the largest and most modern vessels in the world fleet may be explained by the relative price of capital and labour in Norway. Due to the relatively high wage level in Norway and the relative abundance of capital available for shipping investments, Norwegian shipowners found it difficult to compete in the operation of labour-intensive vessels, but had a comparative advantage in the operation of large, technologically advanced vessels. The Norwegian fleet structure may thus partly be seen as a result of cost differences and comparative advantage, rather than purely as an indication of a higher willingness to take risk among Norwegian shipowners.

By the beginning of the 1970s Norway had developed into a high cost country, indicating that the wage level, at prevailing exchange rates, was higher than in other industrialised countries. Moreover, the average wage level in the shipping sector was considerably higher than the average wage level in the manufacturing sector. As a result of the relatively high cost of Norwegian seamen, it would be difficult for Norwegian shipowners to compete successfully in the segments of the shipping sector where labour-intensive vessels were employed, as labour costs make up a relatively large share of total costs in these market segments.

Domestic regulations made the use of lower cost foreign labour difficult, so vessels which could only be operated profitably by means of low-cost labour could generally not be operated at a profit if the vessels were flying the Norwegian flag. Accordingly, the labour-intensive segment of the shipping sector was not an alternative for Norwegian shipowners, who had to choose between exiting the shipping sector or operating in the capital-intensive part of the shipping market. There were some examples of Norwegian shipping companies operating in the labour-intensive segment, particularly in the regional Asian trades. In these trades the manning requirements were waived, facilitating the operation of smaller and older vessels. Nevertheless, the share of the Norwegian shipping capacity utilised in these trades was negligible.

Whereas the high Norwegian wages made labour-intensive shipping unprofitable, the relatively low price of Norwegian capital made investments in the more capital-intensive segment of the shipping sector a worthy alternative. Norwegian investments in modern tonnage were facilitated by the relatively low alternative value of Norwegian capital. It is important to keep in mind that there was a considerably lower degree of international capital mobility in the 1960s and 1970s than today. Consequently, shipowners in different countries were not faced with identical investment opportunities – the alternatives to shipping investments would generally be confined to the home country and the opportunities presented there.

Comparisons of the return on capital are difficult and fraught with uncertainties. Analyses of the return on capital invested in the shipping industry are particularly difficult due to the fluctuations in the freight market, the heterogeneity of the industry and the problems encountered when estimating depreciation. However, the capital-intensive nature of the shipping industry makes the investment decision particularly relevant.

Investments in the Norwegian shipping industry were motivated by the fact that the return on these investments compared favourably with the return on alternative investments. Eriksen and Norman have analysed the return from labour and capital invested in the shipping industry during a “*typical business cycle*” in the period 1963-1972. Their conclusion is that the shipping industry, at least marginally, had given a return which was at least as high as alternative investments.<sup>22</sup> A similar analysis, presented in a Norwegian White Paper, compares the gross return on the capital invested in the shipping industry with the return on investments in some of the most important capital-intensive manufacturing enterprises.<sup>23</sup> The comparison indicates that in five out of six years in the period 1968-1973, return from the shipping industry was higher, though not dramatically so. However, this comparison of gross return is to some extent misleading due to the higher depreciation in the shipping industry.

The fact that shipping investments rated favourably compared with other Norwegian investments can explain why a considerable share of Norwegian resources was pooled into this sector. Moreover, low alternative return on the capital, represented by the return on the domestic investments alternatives, can explain both why Norwegian shipowners concentrated on the capital-intensive segment of the shipping industry and why the Norwegian shipping sector was large in an international perspective.

International comparisons of the return on capital are subject to many of the same uncertainties as domestic comparisons between sectors. However, the differences between the various countries in the most comprehensive study of the return on capital in the 1970s are so large that statistical differences are unlikely to account for the total discrepancies. The study was funded by the OECD, and reveals large variations in the return on capital in an international perspective.

Table 6.3. Return on manufacturing investments, per cent, 1970-79

	Norway	Canada	The US	France	Germany	The UK
1970	10	14	20	22	21	10
1971	8	14	21	21	18	10
1972	10	16	24	21	16	10
1973	11	18	24	20	16	10
1974	13	19	17	23	16	6
1975	11	14	18	12	14	5
1976	9	13	22	11	16	5
1977	6	12	24	13	17	7
1978	5	13	23	13	17	7
1979	11	17	20	...	...	5
Average 1970-1973	9,75	15,5	22,25	21	17,75	10
Average 1970-1979	9,4	15	21,3	17,33	16,78	7,5

<sup>22</sup> Eriksen, Ib Erik and Norman, Victor D., “Skipsfarten i norsk samfunnsøkonomi” [Shipping in the Norwegian economy], *Statsøkonomisk Tidsskrift*, No. 3, Volume 87, H. Aschehoug & Co., Oslo, 1973, p. 141.

<sup>23</sup> Stortingsmelding nr. 23 (1975-76), *Om sjøfolkene forhold og skipsfartens plass i samfunnet* [On the conditions for seamen and shipping’s role in the society], p. 63.

As Table 6.3 shows, the return on manufacturing investments was considerably lower in Norway than in other OECD-countries, except for the United Kingdom.<sup>24</sup> Accordingly, investments in shipping were relatively favourable for Norwegian investors, as the alternative return on the capital would be low.

The high wage level and low alternative value of capital are important in explaining why Norwegian shipowners had invested in modern, large bulk vessels. As shown during the presentation of the structure of the Norwegian fleet, the high investments in bulk vessels resulted in an internationally low share of liner tonnage. This might seem strange, given that the liner segment is another relatively capital-intensive part of the shipping industry.

Two factors can account for the relatively low Norwegian engagement in the liner sector. First, Norwegian shipowning companies have traditionally been small, utilising the fact that the economies of scale in most segments of the shipping industry are related to the size of the ship, rather than the size of the company. The economies of scale in the liner sector are to a larger degree connected to the size of the company and the magnitude and frequency of services offered. Moreover, these aspects became more important in connection with the onset of containerisation, which accelerated from the late 1960s. Second, the links to the foreign trade of the home country are stronger for the liner than for the bulk sector. Of the ten largest liner companies in the beginning of the 1980s, the Danish Maersk Line was the only company without a strong home market base. The low share of liner tonnage thus to some extent reflects the relatively low Norwegian share of international trade and the protectionist measures which made it increasingly difficult for cross-traders to operate in the liner sector. An analysis undertaken by the Norwegian Shipowners' Association showed that the introduction of the UNCTAD Liner Code of Conduct would reduce the volume of Norwegian liner transport by more than 50 per cent.<sup>25</sup>

Although a relatively large share of the Norwegian fleet consisted of large, capital-intensive vessels, and crew costs thus constituted a relatively small share of total Norwegian costs, it has been claimed that the relatively high Norwegian manning costs might have contributed to the high Norwegian lay up-rates. In the boom period in the late 1960s and early 1970s Norwegian shipowners were able to earn substantial profits even though their operating costs were relatively high in an international perspective. The freight market breakdown resulted in a stronger focus on costs, and high manning costs may have made Norwegian shipowners unable to compete at the prevailing low freight rate-level.

Thanopoulou claims that the high Norwegian lay up-rates may "*seem as a self-explanatory situation due to the [...] high Norwegian costs in the 1970s.*"<sup>26</sup> Two elements

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<sup>24</sup> The figures in Table 6.3 have been taken from Norges Offentlige Utredninger (1983:7), *Skipsfartens konkurranseevne* [The competitiveness of shipping], p. 66. They refer to the study OECD, *Profits and Rates of Return*, Organisation for Economic Cooperation and Development, Paris, 1979. However, Norway was not included in this study, which only presents figure for the period until 1976. It is thus likely that the figures presented here are estimates made by the Ministry of Trade and Industry.

<sup>25</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 31.

<sup>26</sup> Thanopoulou, Helen A, "What price the flag? The terms of competitiveness in shipping", *Marine Policy*, Volume 22, No. 4-5, 1995, pp. 361-362.

make this assertion relatively unlikely. First, as Thanopoulou herself points out later in the article, there is no correlation between the manning costs and lay up-rates of other countries. Second, the majority of the Norwegian lay-ups consisted of mammoth tankers. For these vessels, manning costs are relatively unimportant or maybe even negligible. If the relatively labour-intensive Norwegian tonnage had been laid up, high Norwegian manning costs may have provided an explanation. For the vessels actually laid up, however, manning costs were more or less insignificant, and the explanations of the high Norwegian lay-ups must be sought elsewhere.

The analysis above, emphasising Norwegian factor prices, is the “positive” explanation of the reasons for the Norwegian emphasis on large, modern bulk vessels. By focusing on the high domestic wages and the inferiority of the Norwegian investment alternatives, shipowners are partly “acquitted” of their own misfortune. An alternative explanation may be that although Norwegian shipowners were unable to invest in the most labour-intensive segments of the shipping industry, their attitude towards risk made them contract more and larger tonnage than the structure of factor prices could justify.

This claim implies that the first of Strømme Svendsen’s *survival mechanisms* was followed, ie that the strategies of Norwegian shipowners were more risky than those of their competitors. The question of risk is complex, and an evaluation of the relative importance of the attitude towards risk in the development of the Norwegian fleet structure is an impossible task. However, Norwegian shipowners showed their willingness to take risks in connection with chartering, where the risk proneness of Norwegian shipowners clearly shines through.

### 6.3. The Norwegian Chartering Policy

In connection with the shipping crisis, there were initially large differences in the economic performance of those companies which had secured their income through long-term contracts and those which had to offer their ships in a spot market characterised by a large supply surplus. There was no uniform behaviour among Norwegian tanker owners when it came to chartering policy – some shipowners had all their ships tied to long-term charters, others offered all their ships in the spot market and some chose a combination of the two alternatives. Despite the fact that some Norwegian shipowners operated their ships in a risk-averse manner, it is correct to say, in general terms, that Norwegian shipowners were more exposed to the fluctuations of the tanker market than most of their foreign competitors. However, the widespread portrayal of Norwegian shipowners as risk-seeking gamblers should be modified somewhat.

A commonly cited paragraph from an article in the American business publication *Fortune* can illustrate this. According to the article, “Norwegians own less than 15 per cent of the world tanker fleet, but account for nearly 50 per cent of the tonnage in the spot market.”<sup>27</sup> Not only are the figures incorrect, the assessment fails to take into account an important

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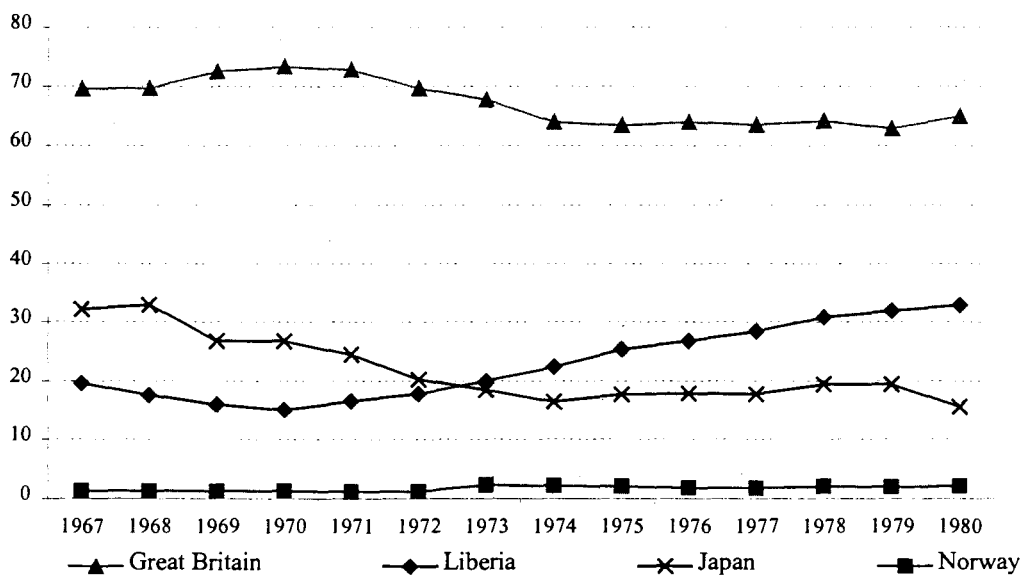
<sup>27</sup> Taken from the article “Betting \$20 billion on the tanker game”, *Fortune*, August 1974, p. 124.

reason for the Norwegian spot market focus, viz the lack of oil company-owned tonnage.

*What characterised the Norwegian chartering policy?*

The uneven flag distribution of oil company-owned tonnage has generally been neglected in analyses of the problems of the Norwegian shipping sector. The fact that the oil companies reserved cargoes for their own vessels implies that approximately a third of the tonnage in the tanker market was largely secured employment. In 1978 the laid-up vessels owned by oil companies or their subsidiaries amounted to approximately one million dead weight tons, representing less than one per cent of their fleets.<sup>28</sup> The lay up-rates for the independent tanker fleet were therefore considerably higher than the figures for the aggregate fleet, as a substantial share of the oil company-owned tonnage was insulated from the problems of securing employment. The extent of oil company-owned tonnage in the Norwegian fleet was negligible.

Figure 6.3. Share of company-owned tanker tonnage in various fleets, 1967-80<sup>29</sup>



If we adjust for the existence of oil company-owned tonnage, the difference between the Norwegian and the international lay-ups becomes less dramatic than Figure 5.6 indicates. By excluding the oil company-owned tonnage from the world tanker fleet, international lay up-rates would increase by approximately 50 per cent. A similar exercise for the Norwegian shipping sector would only have a minor effect, as most of the oil company-owned tankers in the Norwegian fleet were oil barges or really small tankers providing bunkers. However,

<sup>28</sup> Figures from Dabrowski, K., "Comments on the mechanisms of the world shipping market", *Maritime Policy and Management*, Volume 8, No. 2, 1981, p. 92.

<sup>29</sup> From calculations based on dead weight tons from Tables II-9 to II-22 in Jenkins, Gilbert, Stopford, Martin and Tyler, Cliff, *The Clarkson Oil Tanker Databook*, Clarkson Research Studies, London, 1993, pp. 82-95. The totals on which the calculations are based deviate from those in the original source due to the subtraction of combination carriers, which were included in the total but not in the fleet by employment. Moreover, government and domestic tonnage has been excluded. In Table II-12 in the original source the figures for the Norwegian and British fleets have been switched, but the chart has been corrected for this.

Texaco Norway owned a fleet which in 1974 amounted to 372.000 dead weight tons, comprising several medium-sized and one large tanker. Adjusting for the oil company-owned tonnage would lead to a 1,6 per cent reduction of the Norwegian fleet, whereas a corresponding correction of the international fleet in the same year would reduce the size of the fleet by almost 34 per cent.<sup>30</sup>

Measured as share of the independent fleet, the international lay up-rate for tankers was more than 22 per cent in 1976, as opposed to 14 per cent as share of the total fleet.<sup>31</sup> The first figure is more relevant in a comparison with Norwegian lay up-rates, as it eliminates the effects of the portion of the fleet which was relatively unaffected by the difficulties securing employment. The difference between the lay up-rates of the total and the independent fleet increased as the oil companies increased their proportion of the world tanker fleet in the course of the decade. The absence of oil companies in Norwegian shipping can only explain parts of the problem of the Norwegian shipping industry, however. Even though it can contribute to an understanding of the high Norwegian lay up-rates, it offered little consolation for shipowners who were unable to earn revenues on their vessels.

Another important reason for the high Norwegian lay-ups is the manner in which Norwegian shipowners chose to operate their ships. Porter has analysed the international market for tanker shipping in the 1970s, and he portrays the chartering policies of the Scandinavian shipowners in the following manner: "*The Scandinavians were considered gamblers among the gamblers of the shipping industry. They had placed more early orders for VLCCs and ULCCs than other nationalities and ran large portions of their fleet on the spot market. The Norwegians, for example, owned only 15 percent of the world tankers, but accounted for nearly 50 percent of the tonnage on the spot market.*"<sup>32</sup>

The latter assertion – which originates with the previously mentioned *Fortune*-article and has been repeated several places – should be modified.<sup>33</sup> According to figures from the British shipping analysts *Clarkson*, the Norwegian share of the world spot market reached its peak at the beginning of 1967 when more than a quarter of the tonnage in the spot market was Norwegian. In the period 1974-1980, on average approximately 18 per cent of the spot market tonnage was Norwegian vessels. This figure is almost exactly twice as high as the average

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<sup>30</sup> In 1976, the only oil company-owned tankers of any size outside the Texaco-fleet were the 32.000 dwt motor-tanker *Fjordshell*, owned by AS Shellbåtene and the 18.500 dwt *Esso Slagen*, owned by Norske Esso AS.

<sup>31</sup> This calculation is based on tonnage and lay-ups in dead weight tons. The size of the independent and company owned fleets originate with OECD, *Maritime Transport*, whereas the figures for lay up-rates are taken from *Review*.

<sup>32</sup> Porter, Michael, "The Oil Tanker Shipping Industry", in Porter, Michael (ed.), *Cases in Competitive Strategy*, Free Press, New York, 1983, p. 57. The claim is quoted in Tenold, Stig, *Skipsfartskrisen og norske redere – en økonomisk-historisk studie 1973-1980* [The shipping crisis and Norwegian shipowners – an economic-historical study 1973-1980], SNF-Report No. 60/95, The Foundation for Research in Economics and Business Administration, Bergen, 1995, p. 114.

<sup>33</sup> The same claim – about Norwegian vessels comprising 50 per cent of the spot market tonnage – is also put forward by Nerheim, Gunnar and Utne, Bjørn S., *Under samme stjerne – Rederiet Peder Smedvig 1915-1990* [Under the star – The shipowning company Peder Smedvig 1915-1990], Peder Smedvig A/S, Stavanger, 1990, p. 237, where the authors refer to the article in *Fortune*, August, 1974.

Norwegian share of the tanker fleet in the same period.<sup>34</sup>

In an analysis of Norwegian chartering policies, two elements are of particular interest. The first is the historical development of Norwegian chartering policies in the period around the crisis. Was there a marked change in the distribution of Norwegian tankers between the spot and the charter markets in the years preceding the crisis? The second is an international comparison of chartering policies. Were there large differences between the chartering policies of Norwegian shipowners and the shipowners of other countries?

In a historical context it is obvious that there had been a transformation of Norwegian chartering policies, though not necessarily one which is apparent from the distribution of the fleet between the various markets. The share of the Norwegian fleet which was given long charters decreased from the end of the 1960s onwards. Norman claims that “[i]n general, the paradox is that with the advent of supertankers, Norwegian shipowners have largely shifted from long-term timecharters to TCs of 1-3 years duration.”<sup>35</sup> However, when considering the share of Norwegian tonnage offered in the spot market, there appears to be no clear trend.

Table 6.4. Share of the Norwegian fleet on charters, per cent, 1963-79<sup>36</sup>

Time	Tankers	Tramp/ bulk
October 1957	86	64
October 1960	71	49
July 1963	59	33
July 1966	60	48
July 1969	67	51
July 1970	65	60
July 1971	87	77
July 1972	82	75
July 1973	81	71
July 1974	74	78
July 1975	60	61
July 1977	49	45
July 1979	36	53

The reduced willingness to sign charters is not evident from the figures in Table 6.4. The share of Norwegian tonnage on charters actually increased by more than 30 per cent between 1966 and 1973. Two factors can account for this apparent deviation. First, the share of the fleet operating on charters tends to increase when the freight rate increases. The two freight rate peaks in the tanker market in 1967 and 1970 can account for the historically high share of

<sup>34</sup> From calculations based on dead weight tons from Tables II-9 to II 22 in Jenkins, Stopford & Tyler, *op.cit.*, 1993, pp. 82-95. The formerly presented restrictions apply. The figures group spot market tonnage with tonnage in lay-up, tonnage used for storage and tankers used in the transport of grain. The high Norwegian share thus to some extent reflects the high Norwegian lay-ups, but this poses no big problem, as the tonnage would have had to be offered in the spot market if rates had been sufficiently high.

<sup>35</sup> Norman, Victor D., *Norwegian Shipping in the National Economy*, Institute for Shipping Research, Norges Handelshøyskole, Bergen, 1971, p. 64.

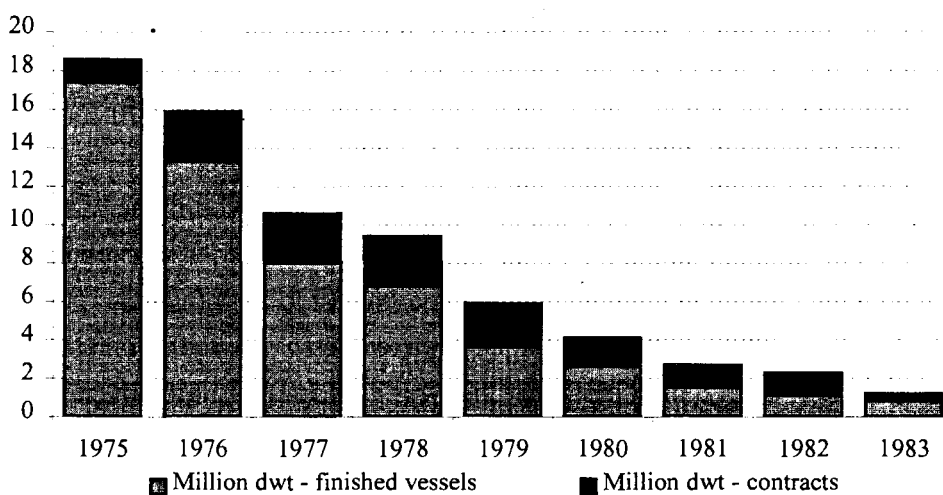
<sup>36</sup> Figures from Norges Rederforbund, quoted in Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 39, augmented by figures from Table 3.1 in Norges Rederforbund, *Momenter til belysning av norsk og internasjonal skipsfart* [Aspects illuminating Norwegian and international shipping] Oslo, May 1978 and December 1979.



Norwegian vessels on charters in the late 1960s and early 1970s. Charters entered into during the peak in 1967 may explain the high proportion of charters until 1970, whereas the peak in 1970 may explain the even higher share in the following years. Second, the figures do not reveal the length of the charters on which the Norwegian vessels were operating, and from the late 1960s Norwegian shipowners tended to reject long-term charters in favour of short- and medium-term charters of 1-5 years.

The figures showing the development of the various market segments can not directly substantiate the claim that Norwegians to a higher degree than previously rejected long charters. However, the high volume of Norwegian charters which terminated in the first years after the freight market breakdown indicates that there was a high degree of 1-5 year charters in the Norwegian fleet. Of the tonnage which had been given charters by July 1974, more than half operated on timecharters which would be terminated by 1977. Approximately two million dwt had been secured charters into the first years of the 1980s. This represented less than five per cent of the existing Norwegian tonnage and contracts.

Figure 6.4. Norwegian charters per 1 July 1974, development 1975-83<sup>37</sup>



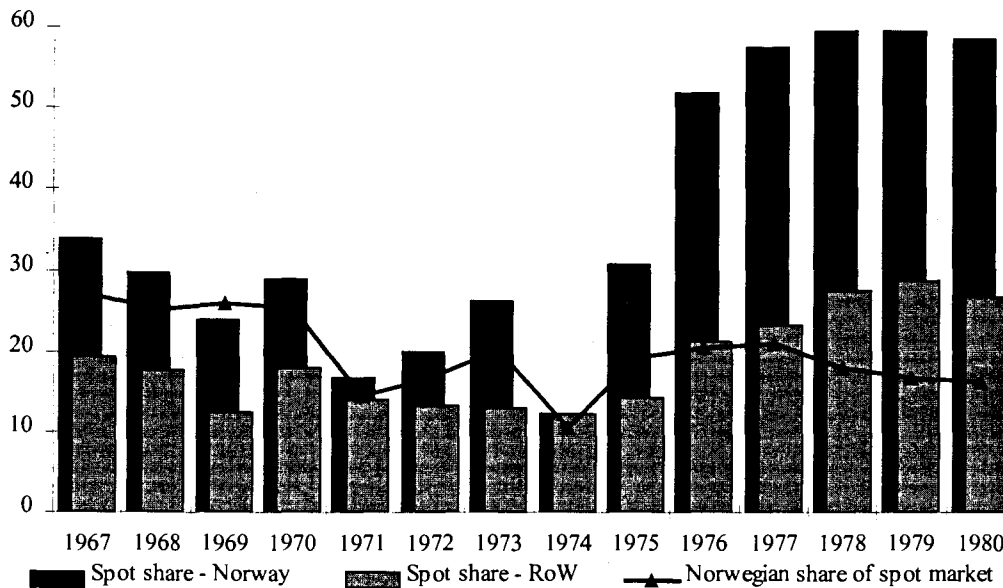
The steep reduction in Figure 6.4 illustrates the considerable amount of Norwegian timecharters which terminated in the period 1975-1979. This indicates that a large share of the Norwegian tonnage in the charter market was operating on short- and medium-term charters of 1-5 years, rather than long-term charters. Of the vessels on charter in July 1974, less than a quarter had been secured employment until the beginning of 1979. Accordingly, the ratio of short- and medium-term charters to long-term charters was approximately 3:1.

In an analysis of the plight of Norwegian shipowners, an international comparison of tonnage in the spot and charter markets will be a more fruitful approach than an analysis of the historical development within the Norwegian shipping industry. Again, there are difficulties in connection with the assessment of the length of the charters, as international statistics do not

<sup>37</sup> Based on figures from the manuscript "Various information on the economy of Norwegian shipowning companies", dated 30 June 1975, The Archives of the Norwegian Shipowners' Association, folder marked 6 B K 75 - Krisen 1975 I, 010175-300675.

reveal charter length. However, the specific chartering policy of Norwegian shipowners becomes relatively clear from analyses of the distribution of vessels between the spot and the charter markets.

Figure 6.5. Spot market share, Norwegian and RoW tanker fleets, 1967-80<sup>38</sup>



The line in Figure 6.5 shows the relatively large extent to which the supply side in the spot market was made up by Norwegian shipowners, and it is evident that the Norwegians' dominance of the spot market supply side decreased in the period from 1967 to 1974. The line shows that the 50 per cent Norwegian presence in the spot market, as claimed by *Fortune*, is way off the mark.

Two elements in Figure 6.5 require closer explanation. The first is the proximity between the Norwegian and international spot market shares in the middle of 1974. This can be explained by two factors. One is the aforementioned correlation of freight rates and chartering – the low share of the Norwegian fleet offered in the spot market in 1974 reflects the high freight rate level in the latter part of 1973. A similar reduction was evident after the peak in 1970. Second, the figures portray the share of the *existing fleets* offered in the spot market. Consequently, the high Norwegian newbuilding contracts which had been entered into without employment being secured is not reflected in the figure.

The second point which requires explanation is connected to the first. Why did the Norwegian spot share increase much faster than the share of the Rest of the World-fleet from 1975 onwards? The answers have already been given. One explanation is the fact that a high share of the charters on which Norwegian vessels were operating were short- and medium-term. Thus, the increase in the Norwegian spot market share can be explained by the fact that

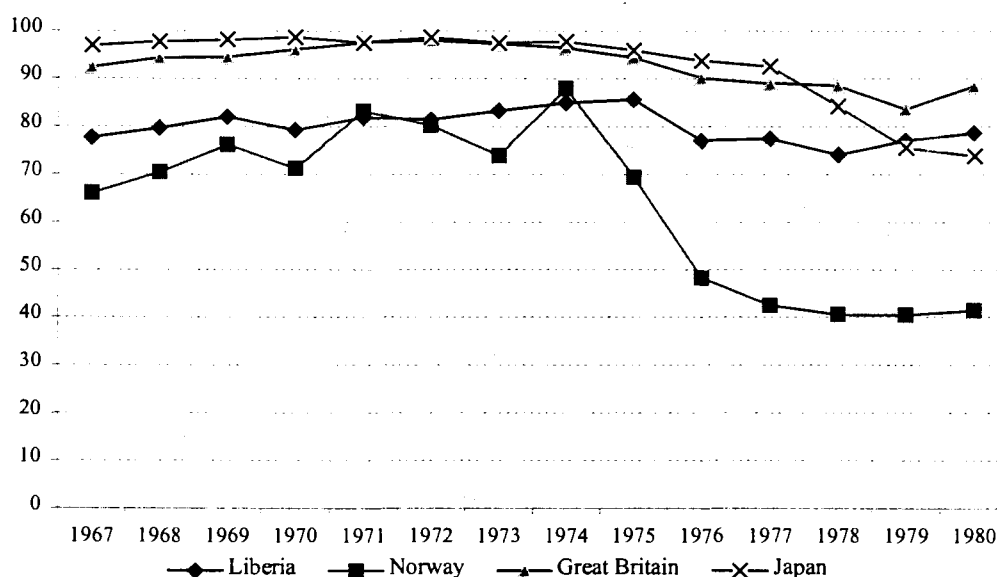
<sup>38</sup> From calculations based on dead weight tons from Tables II-9 to II 22 in Jenkins, Stopford & Tyler, *op.cit.*, 1993, pp. 82-95. The term "spot share" refers to all vessels which are not oil company-owned and which have not been assigned charters of more than three months, including vessels used for storage, in grain trading and laid-up vessels.

a large portion of these charters terminated relatively shortly after the freight market breakdown. Second, the Norwegian share of spot market and laid-up tonnage increased when unfixed newbuildings were delivered. Employment had not been secured for 80 per cent of the Norwegian newbuilding contracts, a proportion of unfixed newbuildings which was considerably higher than the international average.

The share of Norwegian tanker tonnage which was inactive or operating in the spot market was more than twice as high as the figures for the Rest of the World-fleet every year from 1975 onwards. The development traits depicted in Figure 6.5 also become apparent in a comparison of the employment of the tanker fleets of the most important maritime nations. Figure 6.6 is a comparison of the employment pattern of the four largest tanker fleets in the period 1967-1980, depicting the share of the fleets which were secured engagement, either as a result of oil company-ownership or as a result of chartering agreements.

Figure 6.6 shows that Norwegian shipowners by July 1974 had a smaller share of their fleet engaged in the spot market than shipowners with vessels registered in Liberia. It also shows that the share of Norwegian tonnage on charters was considerably higher than it had been in the period 1967-1973, having increased by approximately a third. Thus, the Norwegian shipowners' situation seemed favourable compared eg to shipowners with vessels registered in Liberia. Again, the two elements presented above cloak the actual situation, as differences in the length of charters and the entry of unfixed newbuildings played an important role.

Figure 6.6. Company-owned and chartered tonnage, 1967-80<sup>39</sup>



Even though the situation in 1974 indicates that Norwegian shipowners appear to have had a more fortunate starting point than their Liberian competitors, with 12 versus 15 per cent of the

<sup>39</sup> From calculations based on dead weight tons from Tables II-9 to II-22 in Jenkins, Stopford & Tyler, *op.cit.*, 1993, pp. 82-95. The lines refer to all tonnage which is oil company-owned or which have been assigned charters of more than three months. The Norwegian development is less dramatic than Figure 6.4 indicates, as Figure 6.6 takes into account charters signed after 1 July 1974.

fleet in the spot market, the development in the period 1974-1980 shows that appearances may be deceptive. Whereas the share of the Liberian fleet on charters and owned by oil companies was relatively stable, falling less than ten per cent between 1974 and 1980, the Norwegian share fell dramatically. By 1977 the amount of Norwegian tonnage which had been secured employment outside the spot market had been halved.

The figures above refer to charters of more than three months' duration. If figures for charters of more than twelve months' duration are used, the share of the chartered Norwegian fleet in 1974 falls from almost 88 per cent to 70 per cent, indicating that more than a fifth of the Norwegian charters may have had a duration between three and twelve months.<sup>40</sup>

The analysis above shows two factors which are important in an understanding of the effects of the shipping crisis for Norwegian shipowners. First, the share of tonnage which was operating in the spot market or on relatively short charters was high in an international perspective. Second, this situation was augmented by the introduction of unfixed newbuildings, which had a clearly negative impact despite large-scale Norwegian cancellations. The influence of the unfixed newbuildings will be analysed in more detail in connection with Norwegian contracting.

#### *What can explain the Norwegian chartering policy?*

The previous analysis has shown that the Norwegian shipowners to a larger extent than their international competitors relied on the spot market and short- and medium-term charters. Several factors have been offered as an explanation of this. In a government White Paper, the strongly increasing Norwegian costs and the uncertain exchange rate situation were used to explain the change in Norwegian chartering policies.<sup>41</sup> Changes in exchange rates and cost development may explain why Norwegian shipowners to a larger extent than previously preferred shorter timecharters. However, these factors influenced shipowners of all nations and were not a uniquely Norwegian phenomenon. The following analysis will only briefly deal with the historical development of Norwegian chartering policies, focusing instead on the factors which are important in an international perspective. The explanation of the Norwegian chartering policy will primarily be based upon the Norwegian shipowners' evaluation of the future market conditions and their attitude towards risk.

#### Great expectations?

To be able to evaluate the chartering policies of Norwegian shipowners, we need to know both their aims and their assessment of the market in which they operate. As for aims, we may assume that these were the same for shipowners of all nations, ie to maximise profits. Although some shipowners may have had accompanying goals – such as preserving the

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<sup>40</sup> Figure for charters of more than one year in July 1974 from Stortingsmelding nr. 52 (1980-81), *op.cit.*, p. 17. The fact that some charters may have had a duration of more than one year, but were terminated in the period January-July should be taken into account.

<sup>41</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 39.

reputation and tradition of the company, continuing the development of traditional business areas or even becoming the world's largest tanker owner – the notion of profit maximising individuals should give a fair representation of the motive. When it comes to the assessment of the market in which they operated, there is reason to expect a higher degree of variance between different shipowners.

There are two possible explanations of the fact that Norwegian shipowners operated a large share of their fleet in the spot market compared to their international competitors. On the one hand, Norwegian shipowners' assessment of the future market development may have been more positive than the assessments of their foreign competitors and the oil companies. The importance of this aspect is impossible to ascertain without any knowledge of the market expectations of the most important agents in a number of countries. On the other hand, Norwegian shipowners' chartering policy may be explained by differences in the willingness to take risks or differences in the evaluation of the risk associated with the various chartering alternatives.

In the context of market assessment, Norwegian shipowners' expectations regarding the development of the shipping market may have differed from those of their competitors. If the Norwegian shipowners had a more positive view of the future market development than foreign agents, they would operate a large share of their fleets in the spot market as they expected the demand and supply in the shipping market to develop in a manner which justified the spot market focus from an economic point of view. It is reasonable to assume that a shipowner anticipating a demand surplus will expect this demand surplus to be reflected in high spot market rates. The chartering policy of Norwegian shipowners could then be considered rational, given their expectations.

The growth of the world tanker fleet in 1974 equalled the average annual demand growth in the period 1966-73. Based on the judgement that this demand growth could be maintained, it would not be particularly risky to operate vessels in the spot market or on short charters. Expectations about a potential demand surplus which was not reflected in the level of long-term charter rates may then be one factor which can explain the fact that a large share of Norwegian vessels operated without long-term contracts.

There is little doubt about the fact that Norwegian shipowners had an extremely optimistic view of the development in world tanker demand. This may be due to the fact that the Norwegian shipowners to a larger extent than their competitors had an adaptive formation of expectations, ie they expected that the future market growth would be similar to the historical growth.<sup>42</sup> The strong growth in the demand for tanker transport in the 1960s was undoubtedly one of the main causes of the positive market assessment. Norwegian shipowners, and to a smaller extent their international competitors, may thus have been bedazzled by the combination of strong historical growth, high freight rates, large availability of financing and positive demand projections from the oil companies. Until the freight market

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<sup>42</sup> Confer the discussion in Chapter Three.

broke down, the Norwegian shipowners had been highly rewarded for their expansive and optimistic attitude.

Early in 1973, the Norwegian business publication *Kapital* claimed that the high value of the shares in one of the Norwegian shipping companies “*can be explained by the good prospects in the tanker sector.*” The company had just ordered a 280.000 dwt turbine tanker at a Japanese yard, and this was done without the security of any long-term charters.<sup>43</sup> In the final months before the oil price increase the publication claimed that Norwegian shipping shares were undervalued, despite the fact that several of these companies had experienced an increase in their share prices of between 300 and 1000 per cent during the last year.<sup>44</sup> It was concluded that “[i]n the long-term, tanker shipping shares have a large growth potential. This applies to for instance Waage I and II, Ruth [and] Hadrian.” Three of these four companies operated mainly in the spot market, and they had all contracted mammoth tankers without the security of long-term contracts.

A leading Norwegian shipping economist asserted in 1972 that “[i]nternational seaborne trade will probably continue to grow, by some eight per cent a year or more.”<sup>45</sup> A year earlier, the managing director of the Norwegian Shipowners’ Association presented an expected annual growth rate of 6,5-8 per cent.<sup>46</sup> The actual figure for the period 1973-1979 was less than 1,5 per cent, and at the trough in 1982, world seaborne trade was smaller than it had been ten years earlier. Gloating is not the motivation for the inclusion of these figures. They have been included as they illustrate two important points. First, that expectations about the development of seaborne trade were high in Norway. Second, that the unforeseen events in the Middle East and the actual development of the transport demand played havoc with these expectations.

However, the positiveness was not prevalent everywhere in the Norwegian shipping community. The shipbrokers Fearnley & Eger, in their review of the 1972 shipping scene, emphasised that the increase in trading distances was approaching a ceiling, and that future demand increases would have to rely on increased consumption.<sup>47</sup> Moreover, the shipowner Odd Gogstad in December 1972 warned of a potential tanker oversupply.<sup>48</sup> Judging by the subsequent Norwegian contracting, their pessimism was not shared by the tanker owners.

The great expectations of Norwegian shipowners can be contrasted with scepticism on the part of other agents. OECD, in their annual review of maritime transport, claimed in early 1973 that “*unless [...] the demand for tonnage substantially exceeds the estimates made [by the shipbuilding associations], it seems probable that there will be a significant oversupply of shipping during the next few years, and that shipyard capacity will be sufficient to meet any*

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<sup>43</sup> *Kapital*, No. 5, 1973, p. 31.

<sup>44</sup> *Kapital*, No. 19, 1973, p. 29. There is a considerable degree of correlation between the value of shipping shares and the development of the rate level.

<sup>45</sup> Svendsen, *op.cit.*, 1973, p. 12.

<sup>46</sup> Vikøren, David, “Den internasjonale situasjon for norsk skipsfart [The international situation for Norwegian shipping], *Statsøkonomisk Tidsskrift*, Volume 85, No. 1, 1971, p. 32.

<sup>47</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1972*, Oslo, 1973, p. 5.

<sup>48</sup> Review of the 1972 shipping scene in *Farmand*, No. 51, 1972, p. 154.

*calls that may be made upon it up to the end of the decade.*"<sup>49</sup> Following these dire prophecies, both Norwegian and international tanker contracting reached record heights.

If the Norwegian tanker owners had a more positive view of the future demand and freight rate development than their competitors, their chartering policy can be considered rational from an economic point of view.<sup>50</sup> The fact that Norwegian shipowners historically had achieved above-average revenues by operating in the spot market undoubtedly influenced their assessment of the situation.<sup>51</sup> Relatively optimistic expectations with regard to the future market development can therefore not be ruled out as an explanation of why Norwegian shipowners were relatively heavily engaged in the spot market. However, it is difficult to prove that systematically erroneous expectations were more prevalent among Norwegian shipowners than among their competitors without a detailed survey of the expectations of shipowners in a variety of countries.

### Risk attitude and evaluation

An alternative explanation of the Norwegian shipowners' chartering policy may be that their attitude towards risk differed from that of their international competitors. Differences in the attitude towards risks may have two explanations. One possibility is that they result from differences in the willingness to take risks, ie that Norwegian shipowners were relatively risk prone. Alternatively they may stem from differences in the perception of the risk associated with operation in the various market segments.

Several authors claim that the chartering policy of Norwegian shipowners is evidence of their willingness to take risks.<sup>52</sup> However, the assumption that chartering policy is directly associated with the willingness to take risk is not correct as long as the expectations about the future market development are unknown.

The perceived risk propensity among Norwegian shipowners is not a postwar phenomenon. Sturmey claims that the success of the Scandinavian shipowners in the interwar period was the result of the fact that "*they were not inhibited by traditional attitudes and were more flexible and enterprising in seeking new trades and in adapting their shipping enterprises to seek opportunities.*"<sup>53</sup> However the vessels which formed the basis for the interwar expansion of Norwegian tanker shipping were generally given long-term charters. The risk of these investments was associated with the low return and the fact that this market was relatively new and unknown, rather than the manner in which the ships were operated.

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<sup>49</sup> OECD, *Maritime Transport 1972*, paragraph 98.

<sup>50</sup> As previously mentioned, it is difficult to assess expectations *ex post*, but the level of contracting is a strong indication that the Norwegian shipping environment had high expectations regarding the future development.

<sup>51</sup> The fact that formal market analyses only were utilised to a limited degree in Norwegian shipping companies is emphasised in Norman, Victor D., "Shipping Problems - has the market mechanism failed?", *Norwegian Shipping News*, No. 7, 1976, p. 26.

<sup>52</sup> See Porter, *op.cit.*, 1983, p. 57. The notion of the risk-loving Norwegians can also be found in Nerheim & Utne, *op.cit.*, 1990, p. 217 or Hole, Vidar, *The Biggest Gamblers: structure and strategy in Norwegian oil tanker shipping during the era of growth 1925-1973*, unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1993.

<sup>53</sup> Sturmey, S. G., *British Shipping and World Competition*, The Athlone Press, London, 1962, p. 94.

Norwegian shipowners have traditionally been regarded as entrepreneurs, and Norwegian shipping organisations have typically been small and dynamic, exploiting the fact that the economies of scale originate with the vessel rather than the shipping company. Entrepreneurial organisations are often associated with a willingness to take risks, and creativity and the ability to innovate have often been regarded as the most important aspects of Norwegian shipping.<sup>54</sup>

The description of the Norwegian chartering policy, particularly when viewed in combination with the high Norwegian lay up-rates, may leave the impression that Norwegian shipowners were either naïve optimists or die-hard gamblers. Analyses show, however, that the spot market focus could be a justifiable strategy, where the increased risk would be rewarded through a substantial risk premium.

Table 6.5 is an analysis of the annual rate of return of various chartering policies. It gives an indication of the extremely profitable conditions for shipowners choosing a spot market strategy in the late 1960s and early 1970s. Average annual profits from the spot market in the period 1967-73 were almost 40 per cent of the newbuilding price for shipowners operating in this market, compared with 22 and 13 percent for medium- and long-term charters respectively. Indeed, the average return from a vessel operating in the spot market was almost twice as high as that of a vessel on 3-7 year charters. Spot market returns exceeded the returns from long-term charters in all years but one, and was higher than the return from medium-term charters every year except 1969 and 1972.

Table 6.5. Annual rate of return, per cent of the newbuilding price, 1967-76<sup>55</sup>

	Spot	Charter, 1-3 years	Charter, 3-7 years
1967	46,7	13	12,7
1968	35,5	15,2	9,6
1969	18,8	20,1	13,3
1970	48,8	14,4	8,8
1971	36,3	34,9	9,8
1972	11,3	40,7	17
1973	77,2	18,1	18,4
1974	7,5	40,2	7,8
1975	-14,2	22,2	20,7
1976	-1,6	-6	25,6
Average	26,6	21,3	14,4
Standard deviation	25,5	13	5

The higher expected return from spot market chartering reflects the fact that the oil companies perceive the costs associated with lack of tonnage as high. As transport costs constitute a relatively small share of the oil price at the point of consumption, the oil companies have a

<sup>54</sup> Svendsen, Arnljot Strømme, "Er rederbegavelsenens tid forbi?" [Is the era of shipowner talents over], *Bedriftsøkonomen*, No. 7, 1981, p. 352.

<sup>55</sup> The figures refer to annual rate of return, measured as revenue less operating costs under Norwegian flag as percentage of newbuilding price for an 80.000 dwt tanker built 1966-67, and are taken from Norman, Victor D., "Market strategies in bulk shipping", in Hope, Einar (ed.), *Studies in Shipping Economics – in honour of Professor Arnljot Strømme Svendsen*, Bedriftsøkonomens Forlag, Oslo, 1981, p. 16.



considerable willingness to pay for transport capacity in periods where they fear a tonnage shortage. Their willingness to pay is reflected in the high spot rates in periods of high tonnage demand, and ensuing high returns on vessels operating in the spot market.

The period analysed in Table 6.5 may give a somewhat misleading picture of the superiority of the spot market alternative. First, the period analysed contained three boom periods. This was more than usual for a ten year period, and increased both the average return and the standard deviation of the spot market. Second, a combination of policies may be preferable to a strategy were all vessels are operated in the same manner.

Several Norwegians have claimed that operating ships in the spot market was associated with a smaller degree of risk than tying them to long-term charters.<sup>56</sup> There were two reasons for this assertion. The first reason was that the high profits which some Norwegian shipowners had earned by operating their ships in the spot market represented a sufficient compensation for the periods when the spot market was depressed. The second justification was the uncertainty with regard to the exchange rate situation and the development of costs, which added an element of risk to long-term charters. This aspect became particularly important in periods with considerable uncertainty in the international economy. Several shipowners who had committed vessels to long-term charters in the late 1960s were caught off guard by the fall in the value of important currencies and unanticipated cost increases.

It is therefore possible that the question is about the perception of risk, rather than about the willingness to take risk. In an internal memorandum presented by a committee in the Norwegian Shipowners' Association it is claimed that "*[f]or several of the vessels now laid up it may apply that they would have given higher revenues to their owners by the combination of eg a three year voyage-charter at a good rate followed by several years of lay-up, than what they would have achieved by eg a 5-8 year timecharter which would have secured stable, but lower revenues.*"<sup>57</sup>

The disagreement between two of the biggest Norwegian shipowners may illustrate the different views on the risk inherent in the various chartering strategies. The business policy of the Norwegian shipowner Sigval Bergesen d.y. involved operating ships on long-term charters, and Bergesen even went as far as to upbraid shipowners who chose to operate in the spot market.<sup>58</sup> Hilmar Reksten, on the other hand, claimed that shipowners operating in the charter market were "*cotters*", and he asserted that the risk associated with this market was

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<sup>56</sup> See for instance Næss, Erling Dekke, *Tankfartens problemer og utsikter* [The problems and prospects of tanker shipping], Kristofer Lehmkuhl Lecture 1965, Norwegian School of Economics and Business Administration, 1965, p. 13 or Reksten, Hilmar, *Opplevelser* [Experiences], H. Aschehoug & Co., Oslo, 1979, p. 164.

<sup>57</sup> "Assessment of the current shipping situation", memorandum dated 7 January 1976, The Archives of the Norwegian Shipowners' Association, folder 6 B K 75 V – Krisen 1975 - 011275-310376.

<sup>58</sup> In *Kapital*, No. 16, 1974, p. 11 he calls Hilmar Reksten "*hazardous*", and declares that he does not regret losing the peak rates in the spot market due to his insistence on long-term charters.

higher than the spot market risk.<sup>59</sup> This debate is further presented in Chapter Eight.

A high propensity to take risks, different assessments of risk from their competitors or more positive expectations are all elements which may contribute to an understanding of the Norwegian chartering policy. Although the relative importance of the various factors is difficult to ascertain, the analysis indicates that all of the elements were present.

The attitude towards risk among Norwegian shipowners can be illustrated by a study from the early 1970s. Lorange and Norman interviewed 17 Scandinavian tanker owners in mid 1970, and found that under assumptions of good liquidity, risk-proneness is widespread in the Scandinavian shipping industry.<sup>60</sup> The situation prior to the freight market breakdown corresponds well with the type of situation in which Norwegian shipowners were willing to take high risks. The propensity to take risks may thus be important in explaining the focus on the spot market and medium- and short-term charters.

The previous presentation illustrated the positive expectations in parts of the Norwegian shipping community, but lack of information on the expectations of foreign shipowners makes international comparisons difficult. However, one manner in which different expectations between Norwegian and foreign shipowners would have been expressed, was by transfer of tonnage between the two groups of owners. If Norwegian shipowners had more positive expectations about the demand development than their foreign counterparts, purchases of vessels from foreign shipowners by Norwegians could be expected.

According to reports from shipbrokers, Norwegian shipowners did not buy any vessels above 100.000 dwt from foreign shipowners in 1972 or 1973. This might seem to undermine the hypothesis that Norwegian shipowners had more positive expectations than their international competitors. However, the purchase of second-hand ships was in many ways not a viable strategy for Norwegian shipowners. It is therefore likely that more positive expectations would be exhibited through a higher level of newbuilding contracts, rather than through transactions in the second-hand market. The analysis in Chapter 6.4 shows that Norwegian shipowners were more positive to the prospective market development than foreign shipowners, as seen through the signing of newbuilding contracts.

## 6.4. Contracting

The Norwegian shipowner and economist Erling Dekke Næss has claimed that there were three main reasons for the contracting boom prior to the international shipping crisis.<sup>61</sup> The first reason was that shipowners lacked information about the mechanisms in the international shipping market, particularly the charter market. Accordingly, the contracting decisions of the

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<sup>59</sup> Reksten used the word "*husmenn*" which was used to characterise poor tenant farmers with life tenure – see for instance Reksten, Hilmar, *Noen ideer om konkurransevilje og risikomomentet under strukturendringene i norsk tankskipsfart* [Some ideas about willingness to compete and the risk aspect during the structural changes in Norwegian tanker shipping], Kristofer Lehmkuhl Lecture 1971, Norwegian School of Economics and Business Administration, 1971, p. 6 or *Norwegian Shipping News*, No. 19, 1973, p. 630.

<sup>60</sup> Lorange & Norman, *op.cit.*, 1973, p. 57.

<sup>61</sup> Cited in *Norwegian Shipping News*, No. 12/13, 1975, p. 13-21.

shipowners failed to fully take into account the probable future tanker demand.

The second reason for the over-contracting was that the behaviour of the tanker owning companies may be described by a “follow my leader” or “flock of sheep” mentality as some shipowners more or less blindly imitated the actions of their competitors. This led the aggregate contracting to a level which could not be justified by realistic projections of the demand development. One of the reasons for this herd mentality may be the signals from the level of timecharter freight rates, as presented in Chapter Three – shipowners make similar decisions because they interpret the signals from the market in the same manner. Another reason may be that shipowners fear having to pay higher prices for newbuildings if they enter a contracting run at a late stage.

The third element in the analysis is of particular importance for Norwegian shipowners. Næss claims that the depreciation rules in some countries, particularly in Scandinavia, facilitated continuous reinvestment in ships for tax purposes. He claimed that “with regard to the shipowners’ contracting without taking the demand into account, the tax policies of several countries have lent a helping hand to the shipyards... [I]t may be worthwhile to take the risk of losses by speculating available capital on new tonnage if the alternative is to pay most of it as tax.”<sup>62</sup> The article in which Næss is cited presents three further factors which may have been of importance for the large level of contracting. The first is the role of shipbrokers, who may have been more interested in their own short-term commissions than the long-term needs of their clients. The other factors are the lack of caution in the shipbuilding industry and the loan policies of the banks and investment syndicates.

#### *What characterised the Norwegian contracting?*

Norwegian shipowners’ contracting in the period prior to the shipping crisis is influenced by all the elements described by Næss. Three aspects of the Norwegian contracting differed from world contracting in general. The first was the types of vessels ordered. The second was the level of contracts relative to the size of the existing fleet. Both these elements reflect aspects which were analysed in connection with the Norwegian fleet structure. The last characteristic was the amount of tonnage which had been ordered without transport assignments having been secured.

The contracting in 1973 partly reflects the Norwegian shipowners’ preference for large tankers and dry bulk vessels. However, in a comparison of Norwegian and international figures the differences between Norway and other countries are less conspicuous with regard to newbuilding contracts than with regard to the composition of the existing fleet.

The relative similarity with regard to contracting can partly be explained by the effect of vessel sales on the structural composition of the fleet, but is also a result of the fact that 1973 was an extraordinary year. Due to the development of the various market segments, the amount of tanker tonnage contracted at the international level was considerably higher than in

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<sup>62</sup> Næss, Erling Dekke, *op.cit.*, 1965, p. 11.

more “normal” years. At the international level, tankers contracts constituted more than 80 per cent of the total tonnage ordered, compared with an average of approximately 60 per cent in the period 1968-1972.

Table 6.6. Norwegian and international contracting and order book, based on dwt, 1973<sup>63</sup>

	Share of Norwegian contracting 1973	Share of intern. contracting 1973	Average size – Norw. order book	Average size – intern. order book
Tankers	84,0	80,5	174.974	171.365
Comb. carriers	1,4	2,9	121.462	137.753
Dry bulk carriers	14,3	11,2	72.348	44.438
Others	0,4	5,4	5.714	9.561

The distribution of newbuilding contracts illustrates the predominance of large bulk vessels in the Norwegian fleet. However, compared with the existing fleets at the time, it is evident that international newbuilding orders had acquired a “Norwegian” character. The high share of tankers ordered and the relative absence of general cargo vessels imply that the international contracting corresponds better with the structure of the Norwegian fleet than with the structure of the international fleet at the time. Moreover, the considerable difference in the average size of the tankers between the Norwegian and the international fleet is hardly reflected in the contracting.

The apparent neutralisation of the difference in average size, as seen in Table 6.6, is partly a reflection of different statistical bases. The international figures refer to bulk vessels above 10.000 dwt, whereas the Norwegian figures refer to vessels larger than 1000 dwt. When this is adjusted for, the average size of the Norwegian tankers increases by 10.000 dwt, whereas the other categories remain the same.<sup>64</sup> Despite this correction, the difference in average size between the Norwegian and the international order book – 185.000 dwt versus 171.000 dwt – is considerably smaller than in the case of the existing tanker fleets – 96.000 dwt versus 63.000 dwt.

Although the structural composition of the 1973 contracting was relatively similar between Norwegian and international shipowners, the level of contracting, as share of the existing fleet, differed. In 1973, Norwegian shipowners accounted for fourteen per cent of world tanker contracting, whereas the share of the world tanker fleet owned by Norwegians constituted approximately ten per cent. However, the fact that Norwegian shipowners contracted more tonnage than their share of the world fleet should account for was by no means conspicuous. The disproportionate contracting was the result of the Norwegian cost structure and the fact that Norway consistently had a faster and larger replacement of ships

<sup>63</sup> The table is based on figures for contracting and order book from Fearnley & Egers Chartering Co. Ltd., *Review*. The contracting figures refer to newbuildings ordered in 1973, whereas the figures for the average size of the vessels refer to the order book on 1 January 1974.

<sup>64</sup> The figures can be adjusted by means of the size distribution of Norwegian orders in Table 25 in Fearnley & Egers Chartering Co. Ltd., *Review 1973*.

than other countries.<sup>65</sup> The relative price of labour and capital in Norway may also explain why Norwegian shipowners contracted the types of ships, and sizes, which were adversely affected by the crisis.

It is possible to explain a large share of the variations in Norwegian tanker contracting by means of the rate level in medium-term charters. Strandenes claims that Norwegian shipowners were more influenced by variations in the current freight level than their foreign colleagues.<sup>66</sup> A given increase in the period rate led to an eight per cent increase in Norwegian contracting, corresponding to a five per cent increase in international contracting. The high level of Norwegian contracting in 1973, triggered by the strong freight rates, haunted Norwegian shipowners for a considerable time after the freight market breakdown, and was one of the reasons that Norwegian shipowners were particularly hard hit by the crisis.

Figure 6.7. Norwegian share of the tanker fleet and contracting, per cent, 1965-80<sup>67</sup>

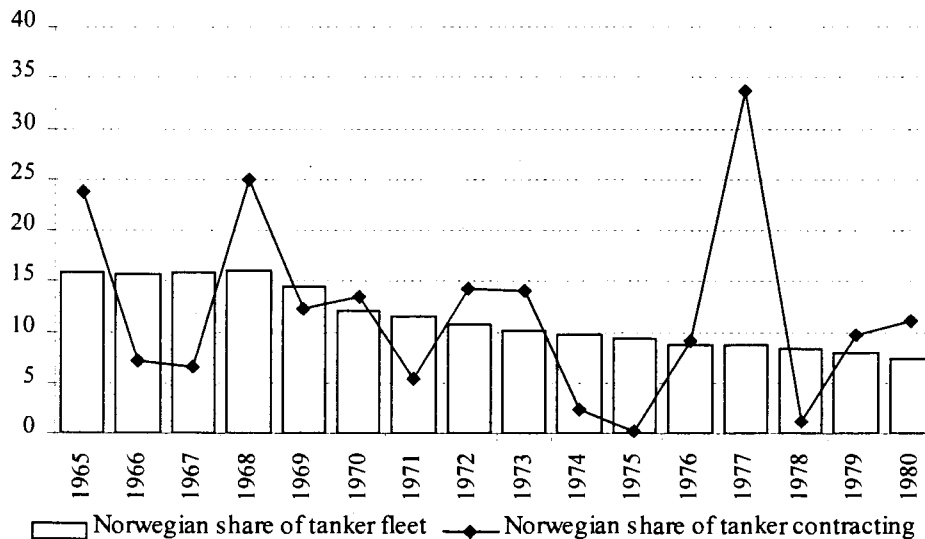


Figure 6.7 shows the violent fluctuations in the Norwegian shipowners' share of total tanker contracting.<sup>68</sup> There is little reason to claim that Norwegian owners in the beginning of the 1970s largely contracted new tankers when the freight rates and newbuilding prices were at low levels. In 1970 and 1973, when freight rates were high, the Norwegian share of tanker contracting was in the region of 14 per cent. The share was approximately the same in 1972,

<sup>65</sup> Confer the discussion of the Norwegian fleet structure in Chapter 6.2 and Stortingsmelding nr. 52 (1980-81), *op.cit.*, p. 18.

<sup>66</sup> *Norwegian Shipping News*, No. 13/14, 1979, p. 26.

<sup>67</sup> Calculation based upon figures from Table 3, Table 20 and Table 27 in Fearnley & Egers Chartering Co. Ltd., *Review*, 1976 and 1981. The figures are to some extent affected by the fact that the statistical basis differs – whereas the figures for the international tanker contracting only refer to vessels above 10.000 dwt, the Norwegian contracting figures include vessels in the 1000-10.000 dwt-range. An adjustment of the figures would not lead to significantly different results.

<sup>68</sup> The giant leap in Norwegian contracting in 1977 is by and large the result of two ULCC-vessels which Sigval Bergesen d.y. had contracted at the Japanese Mitsui-yard. These vessels accounted for more than two thirds of Norwegian contracting this year, and the low level of international contracting at this time gives Norway a large share of total contracting. See *Norwegian Shipping News*, No. 8B, 1977, pp. 34-35 where the company's reason for contracting in a generally "dead" newbuilding market is explained.

when the rate level was low. However, due to the swift changes in freight rates, annual figures may be somewhat misleading, and the majority of the 1972 contracts had been signed in the last part of the year, after the market had shown signs of recovery. The tonnage contracted by Norwegian shipowners at foreign yards increased from 304.000 grt in the third quarter to almost 3.2 million in the fourth quarter.<sup>69</sup> The Norwegian share of the international tanker contracting in the depressed market in 1971, when newbuilding prices were relatively low, was only approximately five per cent.

The low figures in 1974 and 1975 show the relatively quick response to the changed state of the tanker market. Indeed, if cancellations are deducted from contracting, the net contracting becomes negative. In the third quarter of 1974 the tonnage cancelled was higher than the new tonnage contracted, and this situation persisted, with one exception, until the third quarter of 1976.<sup>70</sup>

The tonnage which was contracted in 1974 and 1975 largely consisted of smaller vessels. The average size of Norwegian tankers contracted in 1973 was 184.000 dwt, reflecting the fact that 52 tankers of more than 100.000 dwt had been contracted. In 1974 no vessels of more than 60.000 dwt were ordered on Norwegian account. The average size of the tankers contracted fell to 30.000 dwt in 1974 and further to 4.000 dwt in 1975. The high Norwegian share of international contracting in 1977 is mainly the result of contracts for two large tankers and reflects the cessation of tanker contracting at the international level. Whereas the Norwegian contracting in 1977 made up more than a third of international contracting that year, the contracting would have constituted less than one per cent of the international contracting in 1973.

According to a Norwegian White Paper, Norwegian shipowners have been famous for contracting ships when the contracting market has been favourable and the newbuilding prices have been low.<sup>71</sup> Perhaps a little surprisingly, an analysis from the Norwegian School of Economics and Business Administration, printed as an appendix to the aforementioned White Paper, emphasises the heterogeneity of Norwegian contracting; "*Some Norwegian shipowning companies entered into contracts in years with low prices, whereas other companies concentrated their contracting activity in years with high freight rates and high newbuilding prices.*"<sup>72</sup> Indeed, the claim that Norwegian shipowners took advantage of low newbuilding prices is incompatible with the fact that the contracting of Norwegian shipowners largely was a response to high freight rates.

The analysis of Norwegian contracting discloses two features which we would expect, given the elements presented in the analysis of fleet structure above. Norwegian contracting

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<sup>69</sup> In the third quarter 290.000 grt of tanker tonnage was ordered, compared with 2.674.000 grt in the fourth quarter. Figures from Table XIII 35 in Statistisk Sentralbyrå, *Statistisk Månedshäfte* [Monthly Bulletin of Statistics], Central Bureau of Statistics, Oslo, November 1972 and April 1973.

<sup>70</sup> Figures from Table XIII 35 in Statistisk Sentralbyrå, *Statistisk Månedshäfte* [Monthly Bulletin of Statistics], Central Bureau of Statistics, Oslo, various issues.

<sup>71</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 39.

<sup>72</sup> *Ibid.*, p. 147.

was dominated by large bulk vessels, and the Norwegian share of international contracting was high relative to the Norwegian share of the world fleet. The relatively small differences in the structural composition of the Norwegian and international contracting were illustrated in Table 6.6, but must be understood in terms of the market at the time. The similarities were a result of the fact that the contracting of foreign shipowners had assumed a "Norwegian" flavour, not *vice versa*. With regard to the amount of vessels on order, the tanker and combination carrier orders of Norwegian shipowners corresponded to 106 per cent of their current fleet, whereas the corresponding figure for international shipowners was 82 per cent.

The structural differences between Norwegian and international contracting in 1973 are too small to fully explain why Norwegian shipowners were more severely affected by the shipping crisis than their international competitors. As for the level of contracting, Norwegian shipowners were more eager in the newbuilding market than their international competitors, a fact which to some extent can explain why they were harder hit by the freight market breakdown. However, the single most important difference between Norwegian and foreign shipowners was neither structure nor level, but rather the amount of newbuildings which had been ordered without employment being secured.

The unfixed tanker newbuilding contracts were based on expectations about a continuously growing demand for tanker transport. They were an important reason for the hardship of several Norwegian shipowners following the international shipping crisis. After the oil price increase, shipowners who had contracted unfixed vessels in the period with high freight rates had to choose between receiving vessels which had to operate in a market characterised by surplus capacity or paying large cancellation or conversion fees to the shipyards.

Table 6.7 shows Norwegian tankers and combination carriers above 200.000 dwt on order in the beginning of 1974.<sup>73</sup> The vessels had been ordered by 25 different shipowners, and 21 of these had contracted vessels for which charters had not been secured. The close relationship between various Norwegian shipowners implies that several companies may have participated in the investments without being included in the list.

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<sup>73</sup> The table is based on data from the list of "Norwegian newbuilding contracts as per 1<sup>st</sup> January 1974", *Norwegian Shipping News* N. 2A, 1974, pp. 41-64 and the publication "World Tanker Fleet of 200.000 tons and over including combination carriers and newbuildings" from the Norwegian shipbroker Johan G. Olsen. The latter publication includes six vessels which have not been registered in *Norwegian Shipping News*. Three of these are "Sanko-vessels" ordered by Mosvold. The other three were ordered by Onstad, Belstove and Höegh, but I have not been able to confirm from other sources whether these were actual contracts or options. The six vessels have therefore been left out of the table.

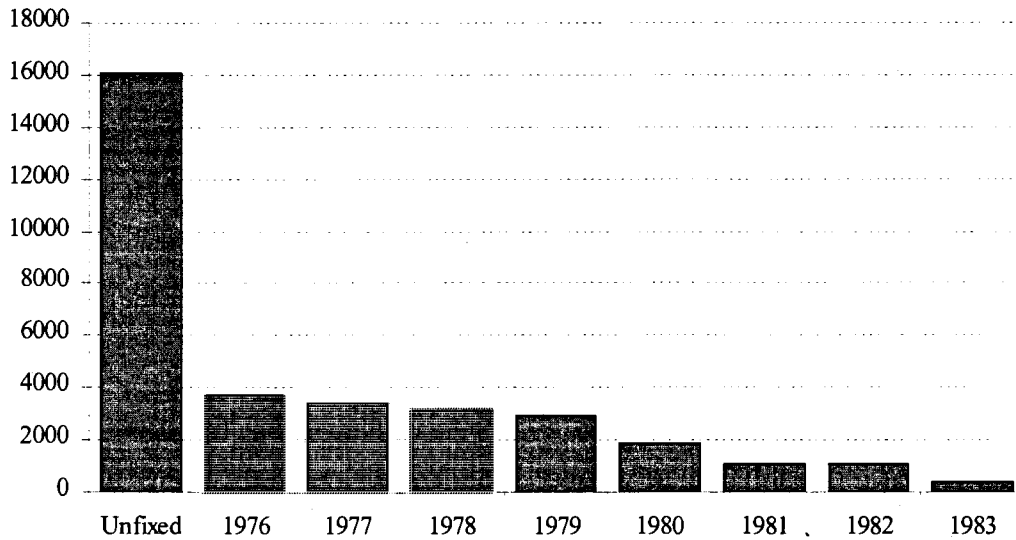
Table 6.7. Norwegian newbuilding contracts above 200.000 dwt per 1 January 1974

Shipowner	dwt	TT	Yard	Country	Delivery	Chartering
Anders Jahre	255	TT	Nippon Kokan	Japan	March 1974	5 year / 1979
Anders Jahre	255	TT	Nippon Kokan	Japan	August 1974	5 year / 1979
Anders Jahre	267	TT	Nippon Kokan	Japan	May 1977	Unfixed
Anders Jahre	285	TT	Nippon Kokan	Japan	March 1976	Unfixed
A. Jahre (Kosmos)	258	TT	Nippon Kokan	Japan	December 1975	Unfixed
Arth. H. Mathiesen	230	TT	Mitsui Shipbuilding	Japan	1977	Unfixed
Biørn Biørnstad	320	TT	Aker Group	Norway	4 qtr 1974	Unfixed
Biørn Biørnstad	258	TT	Aker Group	Norway	3 qtr 1975	Unfixed
Biørn Biørnstad & Co	230	TT	Aker Group	Norway	1 qtr 1976	Unfixed
Biørn Biørnstad & Co	280	TT	Aker Group	Norway	2 qtr 1976	Unfixed
CH Sørensen & Sønner	410	TT	Bremer Vulkan	Germany	Medio 1975	5 year / 1980
Einar Rasmussen	410	TT	Mitsui Shipbuilding	Japan	October 1974	4 year / 1978
Einar Rasmussen	233	TT	Uddevallavarvet	Sweden	2 half 1976	Unfixed
Einar Rasmussen	472	TT	Uddevallavarvet	Sweden	Mid 1977	Unfixed
Erling H Samuelsen	472	TT	Kockums Mekaniska	Sweden	June 1976	Unfixed
Erling H Samuelsen	236	TT	Kockums Mekaniska	Sweden	December 1977	Unfixed
H Staubo/ JP Pedersen	472	TT	Kockums Mekaniska	Sweden	August 1974	3 year / 1977
Hagb. Waage	472	TT	Howaldtswerke	Germany	1978	Unfixed
Hagb. Waage	320	TT	Howaldtswerke	Germany	1978	Unfixed
Hagb. Waage	258	TT	Aker Group	Norway	2 qtr 1974	Unfixed
Hagb. Waage	380	TT	Aker Group	Norway	December 1975	Unfixed
Hagb. Waage	380	TT	Aker Group	Norway	Nov 1977	Unfixed
H Ditlev-Simonsen	276	TT	Mitsui Shipbuilding	Japan	March 1978	Unfixed
H Ditlev-Simonsen	415	TT	Kockums Mekaniska	Sweden	December 1976	Unfixed
H Ditlev-Simonsen	410	TT	Kockums Mekaniska	Sweden	January 1978	Unfixed
Harry Borthen & Co	410	TT	Verolme	The Neth.	April 1975	Unfixed
HE Hansen-Tangen	267	TT	Uddevallavarvet	Sweden	June 1975	5 year / 1980
HE Hansen-Tangen	267	TT	Uddevallavarvet	Sweden	1975/1976	Unfixed
Hilmar Reksten	410	TT	Aker Group	Norway	1 qtr 1974	Unfixed
Hilmar Reksten	414	TT	Aker Group	Norway	2 qtr 1975	Unfixed
Hilmar Reksten	280	TT	Aker Group	Norway	1975	Unfixed
Hilmar Reksten	380	TT	Aker Group	Norway	1975	Unfixed
Hilmar Reksten	360	TT	Aker Group	Norway	4 qtr 1977	Unfixed
Hilmar Reksten	380	TT	Aker Group	Norway	1978	Unfixed
Hilmar Reksten	285	TT	Aker Group	Norway	1978	Unfixed
Hilmar Reksten	285	TT	Aker Group	Norway	1978	Unfixed
Jørgen Bang	352	TT	Kockums Mekaniska	Sweden	May 1975	2 year / 1976
Knut Knutsen OAS	370	TT	Kawasaki Heavy I	Japan	December 1974	Unfixed
Knut Knutsen OAS	286	TT	Kawasaki Heavy I	Japan	December 1976	Unfixed
Mosvold Shipping AS	285	MT	Sumitomo	Japan	April 1975	Unfixed
Mosvold Shipping AS	370	TT	Sumitomo	Japan	End 1976	Unfixed
Odd Godager & Co	285	TT	Uddevallavarvet	Sweden	June 1974	5 year / 1979
Odd Godager & Co	285	TT	Uddevallavarvet	Sweden	1 half 1976	Unfixed
Onstad Shipping AS	285	TT	Uddevallavarvet	Sweden	May 1977	Unfixed
P Meyer	285	TT	Howaldtswerke	Germany	1977	Unfixed
P Meyer	420	TT	Howaldtswerke(O/O)	Germany	3 qtr 1976	Unfixed
Peder Smedvig	420	TT	Howaldtswerke	Germany	1977	Unfixed
Sig. Bergesen dy & Co	420	MT	Mitsui Shipbuilding	Japan	July 1974	6 year / 1980
Sig. Bergesen dy & Co	420	TT	Mitsui Shipbuilding	Japan	July 1975	7 year / 1982
Sig. Bergesen dy & Co	233	TT	Mitsui Shipbuilding	Japan	December 1975	7 year / 1983
Sig. Bergesen dy & Co	230	TT	Kawasaki Heavy I	Japan	September 1976	Unfixed
Sig. Bergesen dy & Co	355	MS	Uljanik (O/O)	Yugoslavia	May 1975	8 year / 1982
Skibs-AS Belships Ltd	355	TT	Bremer Vulkan	Germany	April 1975	Unfixed
Thor Dahl AS	355	TT	Mitsui Shipbuilding	Japan	July 1976	Unfixed
Thor Dahl AS	355	MT	Mitsui Shipbuilding	Japan	September 1976	Unfixed
Tschudi & Eitzen	230	TT	Uddevallavarvet	Sweden	1977	Unfixed
Wilh. Wilhelmsen	233	TT	Aker Group	Norway	February 1974	5 year / 1979
Wilh. Wilhelmsen	230	TT	Nippon Kokan	Japan	December 1976	Unfixed
Wilh. Wilhelmsen	485	TT	Nippon Kokan	Japan	April 1975	Unfixed
Wilh. Wilhelmsen	228	TT	Nippon Kokan	Japan	March 1976	Unfixed



A considerable share of the vessels presented above were cancelled. Of the 60 newbuildings on order, 13 had been fixed on timecharters, ranging in duration from two to eight years. Figure 6.8 shows the amount of tonnage which was unfixed, as well as the amount which had been secured assignment in the period from 1976 to 1983. The bars for the various years refer to the amount of tonnage on charters at the beginning of the year.

Figure 6.8. Norwegian newbuildings on charters, 1000 dwt, 1976-83<sup>74</sup>



The Norwegian contracting in the beginning of the 1970s is important in explaining the fact that Norwegian shipowners were heavily affected by the international shipping crisis. Compared with their foreign competitors, Norwegian shipowners did not contract more tonnage than they had traditionally done. However, a large portion of the contracts had been signed at a point in time where the price of newbuilds was high or increasing. Moreover, more than 80 per cent of the largest tanker tonnage on order had not been secured timecharters. This is where the Norwegian contracting really differed from that of their competitors.

Of the non-Norwegian tanker tonnage on order in January 1974, 37 per cent had been given timecharters, 32 per cent were oil company contracts and 31 per cent were intended for the spot market.<sup>75</sup> The figures refer to those newbuilding contracts for which data on employment are available, and are based on approximately 400 observations for the international fleet and 60 observations for the Norwegian fleet. It is thus evident that whereas the portion of the existing Norwegian fleet operating in the spot market corresponded to the international share, the situation was different with regard to the “fleet” of newbuilding contracts – in this respect the Norwegian owners differed substantially from their international competitors.

<sup>74</sup> Based on data from Table 6.7.

<sup>75</sup> Calculations based on figures from the Norwegian shipbroker Johan G. Olsen.

Goss claims that the “real risk” of contracting large tankers is only evident when the first timecharter has expired, at which point most of the debt has been repaid.<sup>76</sup> The newbuildings of 21 Norwegian shipowners would not even reach this critical point, as they had not been fixed on charters which could secure these first instalments.

The eager contracting in the early 1970s affected Norwegian shipowners in two ways. Several shipowners had to receive newbuildings for which employment could not be found. The laid up vessels constituted a drain on the companies’ resources. Other shipowners avoided this by paying massive cancellation and conversion fees. It has been estimated that the fees paid by Norwegian shipowners in the period 1975-1977 were in the region of 1,5-2 billion kroner.<sup>77</sup> By following a more prudent contracting strategy, Norwegian shipowners could have avoided paying a “penalty” of such proportions.

The heterogeneity of the Norwegian shipping community was emphasised earlier, and the high amount of unfixed Norwegian contracts may have been the result of the influence of a few expansive and risk-seeking shipowners. If we adjust for the effects of the contracting of the three Norwegian shipowners usually presented as risk-lovers – Biørnstad, Waage and Reksten – and take into account the lack of oil company tonnage in the Norwegian fleet, the picture is partly modified. However, significant differences between Norwegian shipowners and owners in other countries still remain.

On the international scene, 45 per cent of the independent shipowners’ newbuildings were unfixed. This can be compared with 73 per cent for Norwegian shipowners, if we leave out the 17 unfixed vessels ordered by Biørnstad, Reksten and Waage. The difference is still substantial, and illustrates that the large amount of unfixed newbuildings was not the result of the influence of a handful of risk-lovers, but had a more fundamental basis in the Norwegian industry.

#### *How can the high Norwegian contracting be explained?*

The following analysis focuses on three elements which can explain the high Norwegian contracting. Two of these are related to features discussed above and will thus only briefly be analysed in this context. The first element is the Norwegian factor prices, and the fact that Norwegian shipowners operated in the technologically advanced, capital-intensive segment of the shipping sector. The second element is the assessment of the market conditions and the attitude towards risk. Like in the case of chartering, a relatively positive attitude with regard to the future market conditions or a higher propensity to take risks can explain the Norwegian disparity. The third element is the institutional setting, particularly with regard to tax policies.

The Norwegian fleet structure may partly be accounted for by the relative price of labour and capital in Norway. The fact that Norwegian seamen were expensive in an

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<sup>76</sup> Goss, Richard O., “A Comment on Risk Preference and Shipping Decisions”, in Lorange, Peter, and Norman, Victor (eds.), *Shipping Management*, Institute for Shipping Research, AS John Grieg, Bergen, 1973, p. 185.

<sup>77</sup> Memorandum to the Norwegian Minister of Trade and Shipping, Hallvard Bakke, dated 10 October 1977, The Archives of the Norwegian Shipowners’ Association, Folder 6 B K 75 – Krisen 1975 VII, 011077-311277.

international perspective implied that Norwegian shipowners were encouraged to invest in modern vessels which utilised economies of scale and the best-available technology, simultaneously minimising manning costs. As a result of the rapid technological development in the shipping industry there were considerable improvements in the operation of vessels. By ordering new, capital-intensive and technologically superior vessels, and disposing of these when even more advanced alternatives became available, Norwegian shipowners were able to utilise their comparative advantage with regard to capital costs and reduce the importance of the comparative disadvantage in connection with manning. This strategy necessitated a high level of contracting.

Norwegian shipowners' evaluation of the future transport demand and their attitude towards risk may also have influenced the amount of newbuilding contracts on Norwegian account. The mechanisms are the same as in connection with chartering strategies. If the Norwegian shipowners were more optimistic with regard to their expectations about future transport needs than their international competitors, this would be reflected in a larger share of tonnage on order. If they intended to benefit from the peaks in transport demand, and were willing to suffer the anguish of an oversupply, we should also expect high contracting levels.

Berg Andreassen has shown how the level of investment is influenced by the risk preference of the shipowner.<sup>78</sup> Shipowners who are willing to take risks will invest in a manner which secures that the peak transport demand will be met. Risk-averse shipowners, on the other hand, will typically use more conservative estimates of future transport demand as the basis for their decisions. In periods where the freight rate level is low, both groups will act in the same manner. The interesting point in this connection is that the contracting behaviour of Norwegian shipowners in the period before 1974 corresponds closely to the strategy which Berg Andreassen claims that "*risk lovers*" will follow in prosperous times.

It is evident that the factors which can explain the Norwegian fleet structure and chartering strategy may be relevant in connection with the high contracting level as well. Another important factor was briefly presented in the international context in Chapter Four, viz taxation. The manner in which the tax system is designed may in itself influence the strategic decisions of the shipping companies, implying that after-tax evaluations may differ from pre-tax evaluations. As Fischer and Nordvik point out, "*the principal method of subsidising international shipping since the Second World War has been through manipulations of domestic tax systems.*"<sup>79</sup>

Due to the fact that shipping is a mobile sector, where a large share of the factors of production are bought and sold internationally, it is necessary to take special precautions in connection with the taxation of shipowning companies. As a result of this, the tax treatment of Norwegian shipowners has traditionally been regarded as favourable compared with other

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<sup>78</sup> Andreassen, J. A. Berg, "Risk and investment decisions in non-liner shipping", *Maritime Policy and Management*, Vol. 17, No. 1, 1991, pp. 22-30.

<sup>79</sup> Fischer, Lewis R. and Nordvik, Helge W., "Subsidy and Protection in National Shipping Industries around the North Sea Since World War II", paper presented to the North Sea History Conference, Stavanger, Norway, 1995, p. 7.

sectors of the Norwegian economy.<sup>80</sup>

The relatively dominant position of shipping in the Norwegian economy can partly be explained by the fact that the tax system has been preferential for shipping investments, thus constituting an indirect subsidy relative to other sectors. Wergeland has pointed out four areas in which the tax system has been particularly preferential:<sup>81</sup>

- Liberal depreciation rules which have made large tax deductions possible.
- The fact that losses can be carried forward and be deducted from future profits.
- The “gross principle” with regard to taxation, which implies that the purchasing price is the basis for depreciation when second-hand tonnage is bought.
- The writing down of profits from sales against new investments.

As a result of the favourable treatment of shipping investments, the manner in which shipowners utilise their capital has been affected by the tax rules. The special tax treatment of the shipping sector has been motivated by the fact that the assets in this sector are far more costly than in other sectors of the Norwegian economy, and that a higher turnover of assets is necessary.<sup>82</sup> Accordingly, the tax practices with regard to the valuation of shipping assets have been favourable in order to amend the fast deterioration of these assets relative to other investments.

Although the special rules reflect actual features of the shipping industry, ie the relatively short life-span of the assets and the limited geographical restrictions on the capital, the arrangements have substantial consequences for the actions of the agents in the shipping sector. The Norwegian authorities may for instance, through their depreciation allowances, have influenced the contracting decisions of the shipowners.<sup>83</sup> Indeed, the Norwegian authorities recognised this and admitted that “[t]he special rules for shipping taxation will lead to a considerable tax credit for companies with economic results which make the rules effective.”<sup>84</sup>

The depreciation rate of Norwegian vessels varied from six to eight per cent annually for tankers and most other vessels and five to seven per cent for dry cargo vessels. However, two elements are of particular importance with respect to depreciation:

- The access to *tilleggsavskrivninger* [additional depreciation] when the vessel is delivered, representing five per cent of the original cost annually and 15 per cent in total, but limited

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<sup>80</sup> Hansen, Terje, *Aarbakke-utvalgets skisse til reform av bedrifts og kapitalbeskatningen og norsk skipsfartsnæring* [The Aarbakke-committee’s sketch for reform of the company- and capital-taxation and Norwegian shipping industry], Report No. 29/89, Centre for Applied Research, Bergen, 1989, p. 45. Despite the favourable treatment, Norwegian shipowners called for relief in connection with the shipping crisis; see *Norges Rederforbund, Årsberetning 1978/1979* [Annual report], p. 5.

<sup>81</sup> Wergeland, Tor, *Et konkurransedyktig Norge - Norsk skipsfarts konkurransevne* [A competitive Norway – the competitiveness of Norwegian shipping], SNF-report No. 50/1992, The Foundation for Research in Economics and Business Administration, Bergen, 1992, p. 47.

<sup>82</sup> Stortingsmelding nr. 52 (1980-81), *op.cit.*, p. 23.

<sup>83</sup> See for instance Næss, *op.cit.*, 1965, p. 11, Porter, *op.cit.*, 1983, p. 57 or Dobrowen, Kim *et.al.*, *Rederi og kapitaltilførsel – Hovedproblemer i moderne rederifinansiering* [Shipowner and capital supply – Main problems in modern shipping financing], Nordic Institute of Maritime Law, University of Oslo, 1981, p. 241.

<sup>84</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 65.

to 50 per cent of ordinary depreciation annually. Thus, if the shipowner chooses eight per cent ordinary depreciation, additional depreciation may be 4+4+4+3 per cent, and would stop after four years.

- Alternatively, shipowners had access to *åpningsavskrivninger* [accelerated depreciation] of up to 25 per cent of the original cost. However, the accelerated depreciation may not exceed 50 per cent of the taxable income of the shipowner. The most important feature of this access to accelerated depreciation, is that it may begin as soon as the first instalment on the building contract has been paid.<sup>85</sup>

The access to additional depreciation or accelerated depreciation shortened the period of ordinary depreciation, and have contributed to the liberal Norwegian depreciation rules for shipping investments. The fact that the depreciation rules are liberal has important ramifications:

- Companies will prefer investments in capital assets to financial investments.
- If the period of depreciation differs from the life of the asset, companies have an incentive to invest in the assets for which the depreciation allowances are favourable, in particular if additional or accelerated depreciation is possible.
- Companies operating in relatively capital-intensive sectors have an advantage compared with companies in less capital-intensive sectors, and companies will substitute capital for labour.
- Expanding companies are favoured as the tax credit which the depreciation represents makes it easier to finance increased capital needs.

The favourable Norwegian depreciation allowances may have induced shipowners to contract new ships without sufficient analysis of the market conditions at times when the profits were large. The existence of anticipated depreciation on shipbuilding contracts meant that shipowners with large profits could reduce their tax burden considerably by contracting new vessels. This factor may contribute to an explanation of the strong correlation between the freight rate level and Norwegian contracting and the apparent “herd behaviour”.

Another element of the Norwegian tax policy was the benefits of reinvestment in connection with revenues from the sale of assets. If a vessel was sold at a profit, the owner would be given a suspended tax relief on the capital gains from the sale. The tax on the profits of the sale could be deducted from the book value of a new investment within the following eight years. The writing down of sale profits when new investments were undertaken did not reduce the basis for depreciation, and would come on top of ordinary and additional or accelerated depreciation.

The maximum depreciation, including accelerated depreciation, on a tanker implies that the vessel is fully depreciated after ten years. The life-span of the vessel will generally be considerably longer, and the value of the vessel thus represents a “hidden reserve” for the

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<sup>85</sup> The Norwegian tax regime made provisions for accelerated depreciation in other sectors as well, although the deductible amount was smaller and depreciation could begin only when the building of the asset had begun, not when the first instalment was paid.

shipping company.<sup>86</sup> A fully depreciated vessel implies that the shipowner's taxes will increase unless the vessel is sold and the profits reinvested. By continuous reinvestment, the temporary tax relief inherent in the depreciation rules and suspended tax on profits from sales acquire a permanent nature.

Johan Seland of The Norwegian Shipowners' Association strongly refuted the assertion that the tax system could explain the timing of Norwegian contracting. In an interview he claimed that "*[v]ery few Norwegian newbuilding contracts could not have been postponed for a considerable time if the purpose was to gain preferential depreciation. As the contracting has happened at an earlier time, and been larger than necessary to secure the depreciation, it is obvious that other factors have been more important for the decisions.*"<sup>87</sup>

His assertion is partly correct. The fact that capital gains from sales could be suspended from taxation for eight years gave shipowners limited incentives to invest in new tonnage immediately after vessels had been sold. However, the question of capital gains is not the most important here, and although capital gains could be suspended, freight income could not.

The liberal depreciation rules only become important when the operation of the company leads to profits, and in particular when the profits are so high that maximum depreciation becomes possible. The fact that the tax burden would be high in years with high freight rates motivated shipowners to order new tonnage. If new contracts were entered into and accelerated depreciation of contracts was activated, their tax liability could be considerably reduced. The fact that high freight rates coincided with large order books implies that depreciation could commence several years before the yards had even begun the building of the vessels.

The analysis above takes into account the two most important aspects of the Norwegian tax system, and shows that the design of the tax system, and in particular the depreciation rules, may have contributed to the high Norwegian contracting. Other aspects of the Norwegian tax system, eg the access to carry forward losses and the provision for classification, devaluation and self-insurance funds, have not been included in the analysis, but distinguishes the tax treatment of shipping from that of other domestic industries. Moreover, the taxation practices were changed in the wake of the crisis. For instance, Norwegian shipowners were granted a reduction of income of 25 per cent of the price of vessels contracted at Norwegian yards in the period 15 February – 31 December 1977. This rule was motivated by the predicament of the Norwegian shipbuilding industry, and not Norwegian shipowners.<sup>88</sup>

## Summary

The Norwegian hardship in the period after the shipping crisis was reflected both in high lay up-rates and a strong reduction of the Norwegian fleet. The three features analysed above –

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<sup>86</sup> Dobrowen, Kim *et.al.*, *op.cit.*, 1981, p. 238.

<sup>87</sup> *Kapital*, No. 3, 1975, pp. 8-10

<sup>88</sup> Dobrowen, Kim *et.al.*, *op.cit.*, 1981, p. 244.

fleet structure, chartering strategy and contracting – can explain the fact that Norwegian shipowners were harder hit by the crisis than their international competitors. The analysis of the Norwegian fleet structure showed that Norwegian shipowners had invested a disproportionate share of their resources in the vessel types and size classes which were adversely affected by the crisis. Norwegian shipowners were thus more vulnerable to the changed conditions in the shipping market than foreign shipowners.

The analysis of the chartering policy shows that Norwegian and international shipowners had a similar proportion of their tonnage in the spot market by the outbreak of the oil crisis. However, this apparent similarity conceals two aspects which made Norwegian shipowners particularly exposed. First, there was a relatively large share of short- and medium-term charters in the Norwegian fleet, as shown by the large share of charters which terminated in the period 1974-1977. Second, although the share of the existing fleet which had been given charters was equal to the international average, Norwegian shipowners had a considerably higher share of unfixed newbuildings than their international competitors. In particular this applied to large tankers, where 80 per cent of the tonnage ordered on Norwegian account had not been given charters, compared with 31 per cent for other shipowners.

It was these unfixed newbuilding contracts, rather than Norwegian contracting *per se*, which differentiated Norwegian shipowners from their foreign competitors, and which had important bearings for the development of the Norwegian shipping industry in the wake of the crisis. Given the existing structure of the Norwegian fleet, the effects of the Norwegian tax system and the influence of Norwegian factor prices, a relatively large share of newbuildings on Norwegian account should be expected. However, whereas the relatively fast replacement of tonnage provided Norwegian with a competitive advantage in the 1960s and early 1970s, a large “fleet” of newbuildings became a liability in a market characterised by tonnage surplus.

## **6.5. Other Factors**

The factors presented above are paramount to an explanation of the high Norwegian lay up-rates and the economic difficulties of the Norwegian shipowners. However, some factors may have affected the Norwegian shipping sector negatively, without necessarily being visible through higher lay up-rates. The following analysis briefly looks at two such elements – the development of exchange rates and the development of costs.

### **6.5.1. The importance of exchange rate fluctuations**

The large exchange rates fluctuations after the breakdown of the international monetary system increased the shipowners’ risks with regard to contracting and chartering. Whereas the risks previously largely had been connected to freight market fluctuations, the demise of the fixed exchange rate-system implied that shipowners were faced with risks related to exchange rate fluctuations as well.

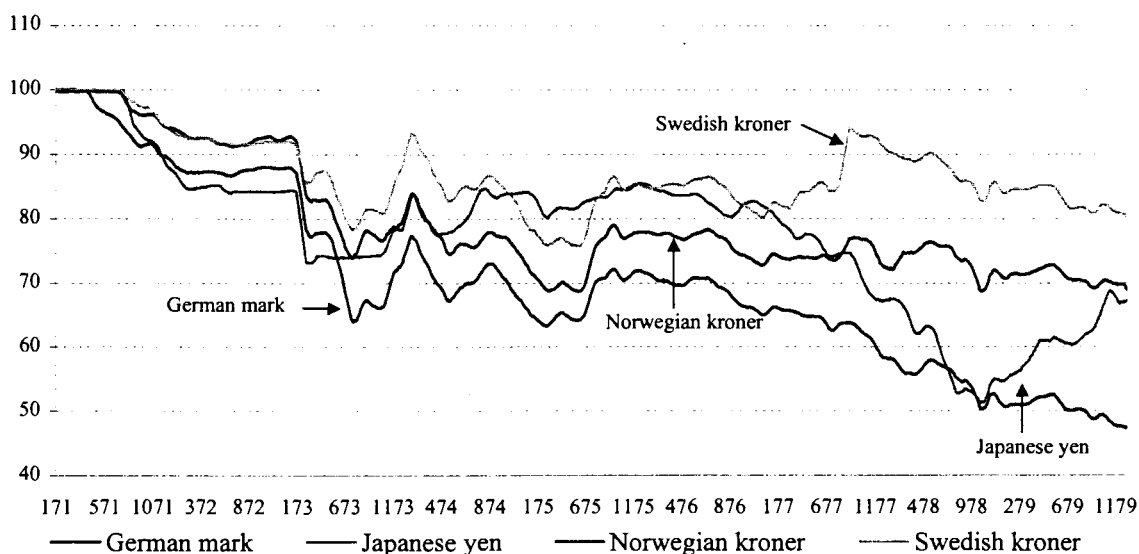
The currency instability may have had more severe implications for Norwegian

shipowners than for their foreign competitors. Two factors can account for this. First, the Norwegian fleet was relatively modern, implying that a relatively small share of the debt had been repaid. Accordingly, Norwegian shipowners had relatively high financial costs. Second, the Norwegian exchange rate-balance – the relationship between *income*-currencies and *cost*-currencies – may have made Norwegian shipowners relatively vulnerable.

Shipping income is usually received in dollar, whereas costs are accrued in a variety of currencies.<sup>89</sup> Bunkers costs were usually stipulated in dollar, like the freight income, and consequently did not involve any kind of exchange rate risk. In connection with interest and instalments, however, exchange rate developments may have been of some consequence. These costs were not necessarily in the same currency as the income, and exchange rate fluctuations would thus influence the costs in connection with investments.

In October 1977 the foreign debt of Norwegian shipowners totalled NoK 27,2 billion. It was distributed in the following manner (all figures denote NoK); 16,7 billion as US dollar (61 per cent), 2,5 billion as German mark (nine per cent), 2,5 billion as Swedish kroner (nine per cent), 1,7 billion as Japanese yen (six per cent), 1,3 billion as Swiss franc (five per cent) and 1,2 billion as French franc (four per cent). It is likely that the share of dollar in shipping debts increased during the 1970s as a result of the development of better mechanisms which could secure against exchange rate losses. Moreover, the Guarantee Institute actively tried to convert the debt of Norwegian shipowners to Eurodollars.<sup>90</sup>

Figure 6.9. Index of the value of the US dollar (4 January 1971=100), 1971-80



<sup>89</sup> The two instances in the 1970s where the dollar was devalued led to a reduction in the income of shipowners. According to Lund, Ole, "Dollardevaluering og bristende forutsetninger" [Dollar devaluation and mistaken premises], *Nordisk Skipsrederforenings Medlemsblad*, No. 499, 1974, p. 4422, several shipowners were in a position where they wanted to annul charter contracts entered into at pre-devaluation exchange rates.

<sup>90</sup> Figures from Norges Bank, reprinted in *Norwegian Shipping News*, No. 4, 1978. See also Stortingsmelding nr. 8 (1979-80), *Om virksomheten i Norsk Garantiinstitutt for skip og borefartøyer A/S i 1978* [On the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd. in 1978], Vedlegg 1 (Appendix 1), p. 9.



Figure 6.9 shows the large appreciation and fluctuations relative to the dollar of four of the most important currencies for Norwegian shipowners.<sup>91</sup> As a result of the large share of newbuilds on Norwegian account and the low average age of the Norwegian fleet, Norwegian shipowners were relatively vulnerable to fluctuations in the exchange rates. Financial costs accounted for a larger share of total costs for Norwegian shipowners than for the majority of their foreign colleagues.<sup>92</sup>

In late 1976 the Norwegian debt on existing vessels and contracts amounted to almost 36 billion kroner, or 7 billion dollar, of which four fifths were related to foreign creditors. Six months earlier the debt on the world fleet and contracts was estimated at 34,7 billion dollar.<sup>93</sup> Accordingly, Norwegian shipowners were responsible for approximately 20 per cent of the international shipping debt, whereas their share of the world fleet and order book was slightly more than eight per cent. The high degree of Norwegian shipping debt, of which less than half was denoted in American dollar, contributed to the hardship of Norwegian shipowners.

The Norwegian situation was thus influenced by a relatively high degree of debt compared with foreign shipowners, and a large share of this debt was denominated in the currencies of the most important suppliers of vessels. Foreign shipowners may have had a better exchange rate-balance between income and costs, thus augmenting the Norwegian disadvantage. It would be relatively easy for shipowners largely operating cheap second-hand tonnage, financed by the company's available resources or by loans given by banks or other financial institutions, to have their loans denoted in the same currency as the company's revenue.

A change in the Japanese attitude to financing made the problems particularly serious for shipowners who had contracted a large share of their newbuildings there. In the 1960s the Japanese authorities, eager to promote the country's shipbuilding industry, offered credit in dollar, thus making it relatively easy for shipowners to secure balance between income and revenue. From the beginning of the 1970s, however, the Eximbank, the major financial institution financing foreign orders at Japanese yards, was unwilling to quote in dollar. Accordingly, shipowners who contracted tonnage in Japan during the boom in the beginning of the decade were unfavourably affected by the exchange rate development. The situation was much the same for newbuildings ordered in Germany.<sup>94</sup>

In the two years following the freight market breakdown, the development of exchange

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<sup>91</sup> Figure 6.9 is based on daily figures from the Federal Reserve Board of the United States. The exchange rate on 4 January 1971 equals 100, and a level of 80 indicates a 20 per cent appreciation relative to the US dollar. In order to improve the clarity of the presentation, the figures have been converted to averages on a 20-day basis, and the x-axis crosses the y-axis at 40. A less precise survey of the development of the Norwegian currency can be found in Statistisk Sentralbyrå, *Historisk Statistikk 1994* [Historical Statistics 1994], Central Bureau of Statistics, Oslo, Table 24.28, p. 161.

<sup>92</sup> This may have contributed to the hardship of Norwegian shipowners by making them more exposed to exchange rate losses.

<sup>93</sup> Norwegian figures from Norges Offentlige Utredninger (1978:13) *Skipsfartsnæringen* [The shipping sector], p. 29. Debt relating to the oil rig sector has been excluded. For the international fleet, confer Table 3.2.

<sup>94</sup> Stokes, Peter, *Ship Finance – Credit Expansion and the Boom-Bust Cycle*, Lloyd's of London Press Ltd., London, 1992, p. 120.

rates had negative impact on shipowners with a large share of their costs in Swedish and Norwegian kroner, such as Norwegian owners. After 1976, this situation changed, and the exchange rate development turned out to be relatively favourable to Norwegian owners, particularly compared with companies with a large share of their debt denoted in German mark or Japanese yen. Even though the share of Norwegian contracts in Japan had increased to more than 30 per cent of total Norwegian newbuilding contracts, this was a considerably smaller share than the international average; in 1974 Japan delivered almost 60 per cent of all new-built tonnage.<sup>95</sup> The strong appreciation of the Japanese currency – from 295 yen/dollar in December 1976 to 177 yen/dollar in October 1978 – put several shipowners in a difficult position, and shipowners who had a relatively large share of their debt denoted in yen sustained heavy currency losses after the middle of the decade.<sup>96</sup>

Compared with some of their international competitors, several Norwegian shipowners were adversely affected by the exchange rate fluctuations. The exchange rate development in the 1970s favoured the different shipbuilding nations in turn; only the German mark experienced a negative development throughout the decade. Norwegian shipowners were unfavourably affected by the fact that they were responsible for a relatively large share of the international shipping debt. However, it is difficult to ascertain the magnitude and significance of this effect, as detailed information about the proportion of the debt of shipowners in various countries is unavailable.

### **6.5.2. The development of costs**

The hardship of Norwegian shipowners may also have been affected by the development of costs. The cost development has been used to explain the fact that the Norwegian shipowners operated a larger share of their ships in the spot market than they had traditionally done. According to one prominent Norwegian shipowner “*ordering newbuildings without the backing of freight contracts was much less of a gamble than ordering on the basis of long-term charter parties which give no security against rising costs and inflation.*”<sup>97</sup>

Due to the strong inflation in the beginning of the 1970s, there was a considerable increase in the cost of building and operation of vessels, but this generally influenced all shipowning companies in a like manner. However, there might be some support for the argument that the Norwegian shipowners were harder hit by the unfavourable development of costs than shipping companies abroad.

One reason for this is that the costs which increased the most may have weighed heavily in the “cost bundle” of Norwegian shipowners. If building costs increased faster than

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<sup>95</sup> Chida, Tomohei and Davies, Peter N., *The Japanese Shipping and Shipbuilding Industries - A History of Their Modern Growth*, Athlone Press, London, 1990, Table 6.9, p. 161.

<sup>96</sup> Some Norwegian shipowners with Japanese-built tonnage or contracts in Japan were negatively affected. However, due to the experience from the beginning of the decade, it had become more common to secure the debt burden against adverse exchange rate developments through a variety of mechanisms.

<sup>97</sup> See Reksten, Hilmar, *op.cit.*, 1971, p. 18. The quote is taken from an interview with Reksten in *Norwegian Shipping News*, No. 19, 1973, p. 630.

crew costs, Norwegian shipowners would be more severely affected than shipowners for whom the share of wages was high relative to construction costs, eg owners who operated old, relatively labour-intensive ships. The cost advantage of shipowners operating second-hand tonnage would, however, partly be neutralised by the fact that increases in the price of newbuilds manifest themselves in higher second-hand prices. Nevertheless, it is evident that the financial position of Norwegian shipowners was impaired by the fact that their aggressive contracting strategy forced them to pay large cancellation fees or accept newbuildings which at the time of delivery were far less worth than the price the Norwegian owners had agreed to pay.

Norwegian shipowners may also have been adversely hit due to differences in the development of the price of the factors of production available to the various shipowners.<sup>98</sup> This is to some extent counteracted by the international character of the shipping market; most factors of production were bought in the international market at a set of prices generally equal to all buyers. Consequently, the domestic cost level is of much less importance to shipping than to land-based industries. Some factors of production, eg bunkers, other provisions and debt capital, will generally only be bought in local markets if the prices here are competitive.<sup>99</sup> The only area in which national operating costs were of any particular significance was in connection with the manning of ships.

The total manning costs for Norwegian shipowners more than doubled between 1971 and 1977, and in a Norwegian White Paper it is claimed that the strong domestic growth of prices in the period 1974-77 resulted in a weakening of Norwegian shipowners' competitiveness and a deterioration of their economic standing.<sup>100</sup> Two factors reduce the importance of this element in a longer perspective. First, manning costs were of limited importance with regard to the majority of the Norwegian tonnage. Second, the development in the last part of the decade made up for the previous Norwegian cost disadvantage. A 1983 survey of the competitiveness of Norwegian shipping concluded that "*the wage development of Norwegian seamen has been moderate in the 1970s.*"<sup>101</sup>

Although it is difficult to estimate the extent to which the cost development of Norwegian shipowners was unfavourable, some general features can be described:

- From 1977 onwards Norwegian shipowners owned a disproportionate share of turbine-driven vessels. As a result of this the Norwegian fleet was relatively hard hit by the strong fuel price increase.
- The fact that Norwegian manning costs were high in an international perspective was

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<sup>98</sup> This implies that the price of one of the factors of production may develop differently for different shipowners. The development of the operating costs of Norwegian ships illustrates to some extent that the development of factor prices varied between countries; see Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 98.

<sup>99</sup> Some countries, notably Saudi Arabia, subsidised the price of bunkers for domestic vessels; see Norges Offentlige Utredninger (1983:7), *op.cit.*, p. 67. This is one of the relatively few examples of non-crew operating costs which varied with the nationality of the shipowner.

<sup>100</sup> Stortingsmelding nr. 52 (1980-81), *op.cit.*, p. 18. See the index of costs for Norwegian ships in Norges Rederforbund, *op.cit.*, 1979, Table 8.1., p. 28.

<sup>101</sup> Norges Offentlige Utredninger (1983:7), *op.cit.*, p. 56.

partly neutralised by the Norwegian focus on capital-intensive vessels. The development of Norwegian crew costs did not significantly diverge from the international trend, although there was a deterioration of the Norwegian competitiveness in the first part of the 1970s.

- The effects of the Norwegian contracting strategy were more important than the development of operating costs. Cancellation fees and superfluous newbuildings had a more negative influence on the economic performance of Norwegian shipping companies than the Norwegian cost development.

## 6.6. Summary

Three factors have been emphasised to explain why Norwegian shipowners were relatively hard hit by the international shipping crisis, compared with their international colleagues. The first explanation is that the Norwegian fleet was largely made up of the types and sizes of ships which were particularly hard hit by the crisis. The basis for this fleet structure can be found in the relative prices of the factors of production in Norway, which gave Norwegian shipowners a competitive advantage in the operation of relatively capital-intensive ships.

The second cause of the Norwegian hardship is that Norwegian shipowners to a larger degree than their competitors operated in the spot market or on short- and medium-term charters. Moreover, the share of oil company-owned tonnage in the Norwegian fleet was low in an international perspective. As a result of this, only a small share of the Norwegian fleet was secured employment in the years following the freight market breakdown.

The final reason for the unfavourable development of the Norwegian shipping sector is connected to the contracting undertaken in the period before the oil price increase. Norwegian shipowners had a larger share of the newbuilding contracts than their corresponding share of the world fleet. The difficulties with regard to the amount of tonnage on order were aggravated by the fact that several Norwegian shipowners had not secured employment.

The analysis shows that the commonly presented image of Norwegian shipowners as gamblers should be modified. Given their working conditions, including tax policies and factor prices, as well as expectations about continuing strong transport demand growth, their investments should be considered rational. Indeed, judged by the expectations prevalent in 1973, the Norwegian strategy – with regard to fleet structure, chartering and contracting – can to a large extent be considered sensible from an economic point of view. However, the oil price increases and the freight market breakdown transformed the shipping sector to such an extent that the actual development differed significantly from the expectations. Norwegian shipowners were more severely affected by this shift than shipowners in other countries.

## CHAPTER SEVEN

# THE GUARANTEE INSTITUTE

As the previous analysis has shown, the beginning of the 1970s represented a watershed in the development of the international market for shipping services.<sup>1</sup> The shipping crisis, characterised by depressed freight rate levels and high lay up-rates, had large consequences for Norway. On the one hand, the Norwegian shipping sector was more important for the domestic economy than the shipping sectors of any other industrialised nations.<sup>2</sup> On the other hand, Norwegian shipowners were adversely affected by the crisis.

The shipping malaise prompted a shift in the Norwegian shipping policy. Helge Nordvik has appropriately characterised the change as a development from “*benign neglect to active intervention*”.<sup>3</sup> First, the Norwegian authorities had to react to the fact that a considerable portion of Norwegian shipowners would be having liquidity difficulties as a result of lacking revenues and high costs. Second, the Norwegian authorities had to introduce measures which could secure the viability of the Norwegian shipping sector in the long-term. The response to the former challenge will be analysed in this chapter, whereas the long-term changes in the Norwegian shipping policy will be analysed in Chapter Ten.

### 7.1. The Initial Response of the Authorities

The Norwegian authorities responded to the crisis by establishing *Norsk Garantiinstitutt for skip og borefartøyer AS* [The Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd.] to alleviate the financial difficulties of the Norwegian shipping industry and to preserve valuable tonnage on Norwegian hands. The Guarantee Institute played an important role after its formation in 1975, and several shipowners avoided bankruptcy due to loans secured through guarantees provided by the institute. However, the shipowners were not the only group benefiting from the institution. Its establishment was important to the existence of the Norwegian shipbuilding industry, as well as to Norwegian borrowers’ creditworthiness and the stability of domestic financial markets.

Parallel with the plunging freight rates, the market for second-hand tonnage broke down. The result of the fall in the value of the vessels was that much of the equity which the tonnage represented was lost to Norwegian shipowners. The reduction of the value of the vessels was particularly troublesome due to the *minimum value-clause*, which was a common feature of international mortgage contracts. This clause gave the financial institutions the right

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<sup>1</sup> This chapter is based on a paper presented at the Ninth International Conference of the Association of the History of the Northern Seas, Corner Brook, Newfoundland, August 1999. I am grateful for financial support from the Norwegian School of Economics and Business Administration. A version of the paper is forthcoming in the *International Journal of Maritime History*.

<sup>2</sup> The only developed country where the importance of the shipping sector in the domestic economy was of the same magnitude as in Norway was Greece.

<sup>3</sup> Nordvik, Helge W, “From Benign Neglect to Active Intervention: Norwegian Government Shipping Policies from the 1970s Shipping Crisis to the Present”, paper presented to the IAME-Conference held at City University, Department of Trade, Shipping and Finance, London, September 20-22, 1997.

to demand extra collateral or instalments if there was a reduction in the value of the investment object, ie the ship. If the shipowners were unable to meet these terms, the creditors could demand possession of the ship. Several Norwegian shipowners, who originally had economic problems due to the reduction in freight rates and the disappearance of revenues due to lay-ups, were unable to pay extra instalments or supply additional collateral.

The dramatic deterioration of the collateral put Norwegian shipowners in an awkward position relative to their creditors. If the creditors wanted to exercise the rights stipulated in the minimum value-clause, they could either keep the ship, awaiting an increase in the value, or they could sell the vessel to agents with more financial resources. The reason for the limited use of the latter opportunity in the period after the breakdown of the freight rates was probably the sorry state of the market for second-hand tonnage.

Norwegian shipowners had also entered the growing market for drilling vessels. Parallel to the situation in the shipping sector, the market for drilling vessel services was characterised by increasing supply and stagnating demand from the middle of the 1970s. However, the difficulties in the rig sector were expected to be of a more temporary nature than those in the tanker sector. Two connecting links made it convenient to consider the difficulties of the rigowners together with those of the shipowners. First, the groups were to some extent overlapping, as the bulk of the rigs orders on Norwegian account had been placed by shipowners seeking new profit opportunities or wishing to diversify their operations. Second, the construction of drilling vessels had become an important activity for several Norwegian yards.

The importance of shipping in the Norwegian economy appeared to be the major motivation for the actions of the Norwegian authorities following the freight market breakdown. Traditionally, the shipping sector had been relatively free from government intervention. Despite giving shipowners favourable tax treatment, mainly as a result of the international character of the shipping industry, the Norwegian authorities had generally left the development of the fleet to the agents in the shipping industry. However, as the crisis threatened the viability of this sector, measures were introduced to reduce the anticipated flight of Norwegian tonnage following the adverse demand conditions.

Despite the obvious need for action to maintain the significant position of Norwegians in the international shipping industry, the government may have had other motives for their sudden involvement in the shipping sector. As a result of the close relationship between some of the hardest hit Norwegian shipowners and the country's leading shipbuilders, what were originally shipping sector difficulties could easily extend to the shipbuilding industry. This would affect one of Norway's most important labour-intensive industries, responsible for considerable rural employment. Moreover, it could put the state-controlled bond market at risk due to government-guaranteed loans extended to shipbuilders – the activation of these guarantees would have important ramifications. Additionally, loss of confidence following from a series of loan defaults and subsequent bankruptcies in the shipping sector could have affected Norwegian borrowers' position in the international financial market negatively. This

element was particularly important due to the considerable amount of cooperation between Norwegian shipowners.

Several large Norwegian shipowners had liquidity problems from late 1974 onwards. Their vessels were laid up and revenues were decreasing. However, financial costs, and in particular interest and instalments resulting from the high contracting in the beginning of the decade, remained high. The depressed freight rate level made profitable employment difficult, and the breakdown of the second-hand market implied that raising liquidity through vessel sales was difficult.

### **7.1.1. The establishment of the Guarantee Institute**

In late June 1975, the Ministry of Trade and Shipping appointed a committee to advise on government involvement that could solve the immediate financing difficulties of the shipping sector. The motive was *“to avoid that a considerable amount of tonnage is sold abroad at prices which are lower than those which can be justified from a socio-economic point of view.”*<sup>4</sup> Hermod Skånland, then deputy director of *Norges Bank* [the Central Bank of Norway], chaired the committee. He was simultaneously heading another government-appointed committee, analysing the problems of the shipbuilding sector.

The advisory committee worked fast, and delivered its recommendation three days after it had been constituted. In practice, the committee had been working for a fortnight, and the recommendation had been finalised before the committee was officially appointed. Two solutions were considered. One came from Haakon Nygaard, who had a central position within Norwegian shipping financing and had taken the initiative to the meeting with the Minister of Finance which led to the establishment of the advisory committee. He suggested the establishment of a state-owned guarantee institute as well as a shipowning company. This company, owned by shipping companies and financial institutions, should take over Norwegian-owned or Norwegian-built tonnage.<sup>5</sup>

The alternative solution was presented by the committee's chairman, and suggested the establishment of a guarantee institute, but not an institution owning ships. The final report, which received the support of the Ministry of Trade and Shipping, largely reflected his views. The crucial element of the advisory committee's report was thus the establishment of a temporary guarantee institute for ships and drilling vessels. The term *temporary* is of importance; the committee's advice was based on the assumption that freight markets within five years would have improved sufficiently for the vessels to be operated profitably. The guarantees should in principle be linked to the vessels, not the owners, thus reflecting that the aim was to protect Norwegian ships, not Norwegian shipowners.

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<sup>4</sup> Stortingsproposisjon nr. 17 (1975-76) *Om etablering av en midlertidig garantiordning for norske skip og borerigger* [Parliamentary proposition on the establishment of a temporary guarantee scheme for Norwegian ships and drilling vessels], p. 3.

<sup>5</sup> Letter from Haakon Nygaard to *Skipsfinansieringsutvalget* [The committee investigating ship financing] dated 17 June 1975, The Archives of the Norwegian Shipowners' Association, folder marked 6 B K 75 – Krisen 1975 I, 010175-300675.

In its proposition to *Stortinget* [the Norwegian Parliament], the Labour government largely supported the recommendation from the advisory committee. However, the inter-party Standing Committee on Finance and Economic Affairs was divided in its view on the scheme. The representatives from *Sosialistisk Venstreparti* [the Socialist Left Party] and the liberal Anders Langes Party chose not to support the government's proposal.

The dissenting members of the committee had opposing views on the establishment of the institute. The member representing the non-interventionist Anders Langes Party claimed that the arrangements largely would function as a helping hand to foreign financial institutions and suggested that the shipping industry, together with the financial institutions, should establish a private institution.<sup>6</sup> The members of the Socialist Left Party, on the other hand, pointed out that the shipowners themselves were to blame for their difficulties and advocated a scheme of contracting control, combined with the establishment of a state-owned shipowning company. They supported the establishment of a guarantee institute, but feared that the institute, if organised in the manner proposed by the advisory committee, would function as a "welfare office for shipowners".

Despite these remarks, the majority of the Standing Committee on Finance and Economic Affairs supported the establishment of a temporary guarantee institute. The institution could grant guarantees for the following purposes:

- Loans covering interest payment on previous loans.
- New loans financing previously signed newbuilding contracts for ships and drilling vessels, as well as the transfer of vessels or contracts between Norwegian shipowners.
- Loans covering cancellation fees, lay up-costs etc.

It was pointed out that the authorities' aggregate liability should not exceed NoK 2 billion, which at the time amounted to approximately \$ 350 million. However, a survey which had been sent out to Norwegian ship- and rigowners prior to the establishment of the institute indicated a need for guarantees in the region of NoK 5,4 billion.<sup>7</sup> As the need for guarantees was higher than expected, the committee realised that the proposed NoK 2 billion limit would be insufficient, and provisions were made for an extension of the authorities' liabilities relatively quickly.<sup>8</sup>

The recommendation from the Standing Committee on Finance and Economic Affairs was dealt with in the *Storting* on 24 November, 1975, and the ensuing debate very much followed traditional party lines. The Socialist Left Party's proposal to introduce state control of contracting and establish a state-run shipowning company was rejected against the 14 votes

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<sup>6</sup> Innst. S. nr. 58 (1975-76) *Innstilling fra finanskomiteen om etablering av en midlertidig garantiordning for norske skip og borerigger* [Recommendation from the Standing Committee on Finance and Economic Affairs on the establishment of a temporary guarantee scheme for Norwegian ships and drilling vessels], pp. 4-5.

<sup>7</sup> Letters from The Norwegian Shipowners' Association [*Norges Rederforbund*] and Norwegian Association of Drilling Contractors [*Norsk Boreriggeierforening*], both dated 4 November, 1975, Archives of the Norwegian Ministry of Foreign Affairs No. 164.58, *Norsk Garantiinstitut for skip og borefartøyer*, box 1, folder 2: 1/10-75-30/11-75. This archive is hereafter referred to as the GI-archive.

<sup>8</sup> Memo regarding the meeting of the Standing Committee on Finance and Economic Affairs dated 12 November, 1975, The GI-archive, box 1, folder 2: 1/10-75-30/11-75.



of the party's own representatives. The debate centred on the morals and viability of the Norwegian shipping community, and the shipowners were alternately presented as victims and villains.<sup>9</sup> Except for a comment that the establishment of the Guarantee Institute in reality "was a support to foreign financial institutions", the effects of the Guarantee Institute on agents outside the shipping sector were not mentioned.

The parliamentary debate about the establishment of the Guarantee Institute focused on the problems of shipowners and how these could be solved. The Norwegian shipowner Hilmar Reksten plays an important role in connection with the Guarantee Institute.<sup>10</sup> Reksten, who operated all his vessels in the spot market and had a massive newbuilding programme with the Norwegian Aker-group, was particularly severely hit by the shipping crisis and had serious liquidity problems shortly after the freight market breakdown.

Through a secret proposition to the *Storting*, the Ministry of Trade and Shipping suggested that the Norwegian authorities buy Reksten's portfolio of shares in Norwegian companies. On 11 June, the *Storting*, behind closed doors, decided to grant NoK 200 million for the purchase of Reksten's portfolio. The reason was not to help Reksten *per se*, but rather to "prevent that [Reksten's] liquidity problems should spread to the Aker-group, putting the company's 11.400 employees at stake."<sup>11</sup> The close ties between certain shipowners and the Norwegian shipbuilding industry, which had been at the forefront of this debate in June, were ignored in the debate about the establishment of the Guarantee Institute in November. Barely half a year later, in June 1976, when the increase of the guarantee limit was discussed, the debate was as much about Reksten as the Guarantee Institute.<sup>12</sup>

### **7.1.2. The organisation of the Guarantee Institute**

The Guarantee Institute was organised as a limited liability company. Sixty per cent of the 10.000 shares were held by the Norwegian authorities. Members of the Norwegian financial community held 2.000 shares, and two holding companies owned by Norwegian shipowners and drilling vessel owners held 1.000 shares each. Of the board's nine members, five were appointed by the government, one by *Norges Rederforbund* [the Norwegian Shipowners' Association], one by *Norsk Boreriggeerforening* [the Norwegian Association of Drilling Contractors], one by *Norsk Bankforening* [the Norwegian Bankers' Association] and one by *Norsk Sjømannsforbund* [the Norwegian Seamen's Association].

Section One of the company's directives clearly states the aims of the Guarantee

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<sup>9</sup> Stortingsforhandlingene, 24. november 1975 [Official report of the proceedings of the *Storting*, 24 November, 1975].

<sup>10</sup> In a lawsuit in the early 1990s, the Guarantee Institute's lawyer claimed that Reksten's difficulties were the reason for the establishment of the Guarantee Institute. See Chapter Eight for details.

<sup>11</sup> Quote from the secret proposition to the *Storting* regarding the authorities' purchase of Reksten's shares. Stortingsproposisjon nr. 187 (1974-75) *Om fullmakt til kjøp av aksjer i norske selskaper* [Parliamentary proposition on the authority to purchase shares in Norwegian companies], p. 1.

<sup>12</sup> Stortingsforhandlingene, 10. juni 1976 [Official report of the proceedings of the *Storting*, 10 June, 1975]. Again the importance of the Guarantee Institute for the shipbuilding industry was absent from the debate, except for a brief comment that "the indirect effects can be exemplified by the words the shipbuilding industry".

Institute, which were to grant guarantees for the provision of loans to:

- a. avoid that lack of liquidity forces Norwegian ships and drilling vessels to be sold abroad at lower prices than those which can be justified socio-economically
- b. maintain a competitive Norwegian shipping sector, including maintaining the built-up professional competence.<sup>13</sup>

The second element is fairly straightforward. A deterioration of the Norwegian shipping sector and reduction of shipping activities would not only affect the shipowning companies, but also a range of auxiliary services such as shipbroking, classification, maritime insurance and financing.

The first argument, however, may require a closer explanation. The Guarantee Institute was founded on the assumption that the breakdown of the shipping market was a temporary phenomenon, and that sale of tonnage at the prevailing prices would be socio-economically inefficient. Thus, some kind of market failure existed which made the price of vessels lower than their long-term income potential. Consequently, it would be profitable for the authorities to help Norwegian shipowners keep their tonnage while awaiting an improvement in market conditions. When market conditions had improved, the tonnage could either be sold in the international market at prices covering remaining debts or, preferably, be operated profitably by Norwegian shipowners. In this respect, the Guarantee Institute was founded upon the basis that the dire state of the shipping market was a temporary phenomenon.

An extremely important question was thus when the shipping crisis would come to an end and “normal market conditions” would occur. Indeed, the large degree of uncertainty regarding the length of the shipping crisis was the most speculative element of the guarantee scheme.

The view on when normal market conditions would be restored varied depending on the source and the time of analysis:

- The Norwegian Shipowners' Association had an optimistic view of the future development, and claimed that “*further growth in international trade can be expected relatively soon.*” They also claimed that an expected increase in newbuilding prices would “*put the vessels currently sailing or laid up in a very favourable competitive position.*”<sup>14</sup>
- The advisory committee assumed that normal market conditions would be achieved within a five year period, but pointed out that there was a considerable risk that the development could be less favourable.
- International sources had an even more pessimistic view. The Organisation for Economic Cooperation and Development claimed in early 1975 that high quantities of tonnage in lay-up were likely to continue well beyond 1980, particularly for the VLCC

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<sup>13</sup> Stortingsmelding nr. 93 (1977-78) *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1977* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1977], Appendix 2, p. 17.

<sup>14</sup> Comment from Norges Rederforbund, dated 16 July, 1975, printed as Appendix 3 of Stortingsproposisjon nr. 17 (1975-76), *op.cit.*, p. 19.

element.<sup>15</sup> The British company H.P. Drewry estimated that between 37 and 59 per cent of the tanker fleet would be surplus to requirements in 1980.<sup>16</sup>

The risk inherent in the establishment of the Guarantee Institute was closely connected to the question of normal market conditions. The advisory committee emphasised that “*there is a considerable risk of losses if the breakdown is long-term.*”<sup>17</sup> A detailed formula was constructed to estimate the profitability of preserving tonnage, but this was based on subjective assumptions about the length of time before the market improved, the reduction of the value of the vessel during lay-up, the level of interest rates etc.<sup>18</sup>

The Ministry of Finance based their estimates on far stricter assumptions than The Norwegian Shipowners’ Association, implying that a larger share of the Norwegian fleet should be sold abroad at the prevailing prices.<sup>19</sup> In the proposition to the *Storting* a wide range of estimates were presented; for a 250.000 dwt VLCC the “lower price of a vessel worth keeping” varied between NoK 45,9 million and NoK 167,8 million depending on the size of the variables.<sup>20</sup>

The advisory committee emphasised that the business risk already undertaken by investors and shipowners should not be transferred to the Guarantee Institute. State intervention should only occur “*as part of a reorganisation, where losses are incurred by the parties carrying the commercial risk.*”<sup>21</sup> When guarantees were granted for loans covering payment of interest on older loans, it was a general condition that the creditors postponed the demand for instalments.

The companies participating in the Guarantee Institute were initially divided into two risk groups, shipowners and rigowners, where the members of each group were responsible only for the guarantees granted to the benefit of the other members of the same group. The reason for this separation was the difference in the perceived risk of the ship- and the rig-guarantees. The participants were required to submit an unconditional guarantee to the Guarantee Institute, a so-called institutional guarantee, for their own and the other participants’ liabilities. The institute would then grant guarantees to the benefit of the participants in proportion to their submitted institutional guarantees. Depending on the type of loan for which a guarantee was needed, the Guarantee Institute would grant a guarantee up to

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<sup>15</sup> OECD, *Maritime Transport 1974*, Paris, 1975, p. 28.

<sup>16</sup> Drewry, *The Trading Outlook for Very Large Tankers*, H.P. Drewry Shipping Consultants Ltd., London, 1975.

<sup>17</sup> “Recommendation from The Advisory Committee regarding the financial difficulties of the shipping sector”, printed as Appendix 1 of *Stortingsproposisjon nr. 17 (1975-76)*, *op.cit.*, p. 3.

<sup>18</sup> The formula, and some of the estimates, can be found in *Stortingsproposisjon nr. 17 (1975-76)*, *op.cit.*, Appendix 4, pp. 23-25.

<sup>19</sup> Letter to the Minister of Trade and Shipping, dated 30 September, 1975, The GI-archive, box 1, folder 1: 1/5-75-30/9-75.

<sup>20</sup> Hambros Bank, a major creditor with several shipowning companies, used the estimates given in the appendix to *Stortingsproposisjon nr. 17 (1975-76)* to determine their definition of “market values”. According to a letter from managing director of the Guarantee Institute, Haakon Nygaard, to Hambros Bank, dated 21 January, 1976. The GI-archive, box 1, folder 3: 1/12-75-31/3-76, the difference between Hambros and the Guarantee Institute’s estimates was more than \$ 30 million. The “current value” of the vessels was important to the question of priority with regard to the ranking of security.

<sup>21</sup> *Stortingsproposisjon nr. 17 (1975-76)*, *op.cit.*, p. 4.

an amount equal to five to ten times the institutional guarantee.

The guarantees were secured by mortgages on vessels, real estate or other types of real security. The Articles of Association stated that the Guarantee Institute could accept collateral security up to amounts which exceeded the current market value of the mortgaged property. This was based on the idea that an increase in freight rates would lead to a sufficient increase in the value of the mortgaged property, and this practice thus reflects the theoretical basis of the institute.

As the value of the mortgaged property to a large extent corresponded to the second-hand value of vessels, the amount of guarantees which were uncovered fluctuated with the conditions in the freight market. If the market improved sufficiently, the granted guarantees would be covered by the value of the mortgaged property. If the market remained depressed, the value of the mortgaged property would not cover the granted guarantees, and the mortgage would have to be redeemed at a loss.

Table 7.1. Guaranteed amount secured within market value, per cent, 1976-81 <sup>22</sup>

	1976	1977	1978	1979	1980	1981
Ships	55	17	24	58	36	60
- tankers	49	13	21	50	NA	NA
-other ships	74	30	37	91	NA	NA
Drilling vessels	87	93	77	100	100	-
Total	68	47	41	71	47	60

In 1979 the market for drilling vessels had improved sufficiently for the full guaranteed amount to be covered by the market value of the mortgaged property. The stable value of the mortgaged property prior to this meant that the engagement in drilling vessels carried relatively little risk for the Guarantee Institute.

The security of the shipping engagements was more volatile, and in 1977 only 13 per cent of the granted guarantees in the tanker sector were secured by the market value of the collateral. The temporary improvement of the shipping market in 1979 reduced the institute's risk, but due to the subsequent deterioration of market conditions the value of the mortgaged property decreased and the Guarantee Institute chose to wind up its tanker engagements.

When a claim for payment was made under a guarantee, the institutional guarantee given by the shipowner in question was initially debited. Due to the rules through which guarantees were given in proportion to the institutional guarantee, this could maximum represent 20 per cent of the claim. The rest of the claim would constitute a loss, half of which would be covered by the authorities. The other half of the loss would be distributed among the other participants of the participant's risk group, proportionately to their own utilisation of guarantees. When the guarantees given by participants were fully utilised, the authorities were liable for further losses.

The anticipated losses in connection with the already granted guarantees prevented

<sup>22</sup> Estimates based on the annual reports from the Guarantee Institute to the *Storting*. The table refers to granted guarantees for the period 1976-1979 and issued guarantees for 1980 and 1981.

shipowners from approaching the institute. Consequently, the operation of the Guarantee Institute was extended in 1979. A new risk group, in which the participants were not liable for engagements entered into prior to 5 July, 1979, was established. As early as 1977, the Guarantee Institute stated that “*a new institutional guarantee will be considered lost the moment it is executed due to the risk of losses with regard to previous engagements.*”<sup>23</sup> In addition to the establishment of the new risk group, NoK 300 million of the NoK 4 billion guarantee limit were earmarked for Norwegian shipowners’ purchase of second-hand vessels. The purpose of this arrangement was to reduce the demands on the owners’ equity. The utilisation of these new arrangements was limited.<sup>24</sup>

## 7.2. The Effects of the Guarantee Institute

The rationale behind the Guarantee Institute can only be understood when the positions of several agents connected to the shipping industry are considered. The plight of shipowners was the focus when the establishment of the Guarantee Institute was presented to and discussed in the *Storting*. Nevertheless, the institution had important consequences for the Norwegian shipbuilding industry and Norwegian and international financial institutions.

### 7.2.1. Importance for the Norwegian shipping sector

The Norwegian shipping community reacted positively when the Guarantee Institute was established, and 101 companies, three quarters of them shipowning companies, joined the institute during the first six months. By the end of 1976 the Guarantee Institute had granted 26 guarantees to 23 companies.<sup>25</sup> The purpose of the majority of the guarantees granted to the shipping sector was liquidity loans, whereas 80 per cent of the value of the guarantees granted to rig-owners related to for long-term financing.

Measured by the value of the guarantees, more than 85 per cent of the Guarantee Institute’s engagements were in the tanker and drilling vessel segments. The Guarantee Institute was involved in the financing of 13 drilling vessels, which constituted around a third of all Norwegian-owned drilling vessels. The institute granted guarantees in connection with 22 large tankers, and at the turn of the decade a quarter of the Norwegian tanker fleet was owned by Guarantee Institute participants. The participation of shipowners outside the tanker segment was limited, as approximately eighty per cent of the guarantees to shipowners were granted to tanker owners.

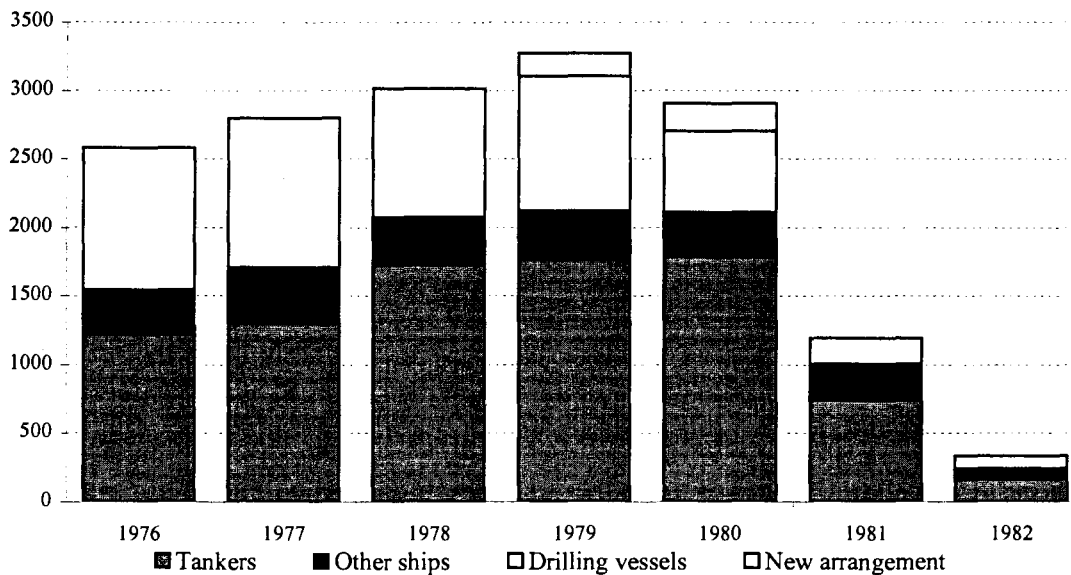
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<sup>23</sup> Stortingsmelding nr. 93 (1977-78) *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1977* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1977], Appendix 1, p. 7.

<sup>24</sup> The value of the guarantees granted under the new arrangements peaked at NoK 240 million in 1982. However, the losses from these guarantees were relatively high.

<sup>25</sup> Three requests had been turned down, and four of the original participants, two shipowning companies and two rig owners, had withdrawn from the arrangement. Of the 26 guarantees granted, 14 guarantees went to the shipping sector, and 12 were given for loans to rig owners.

Figure 7.1. Guarantee undertakings, million kroner, end of the year, 1976-82<sup>26</sup>

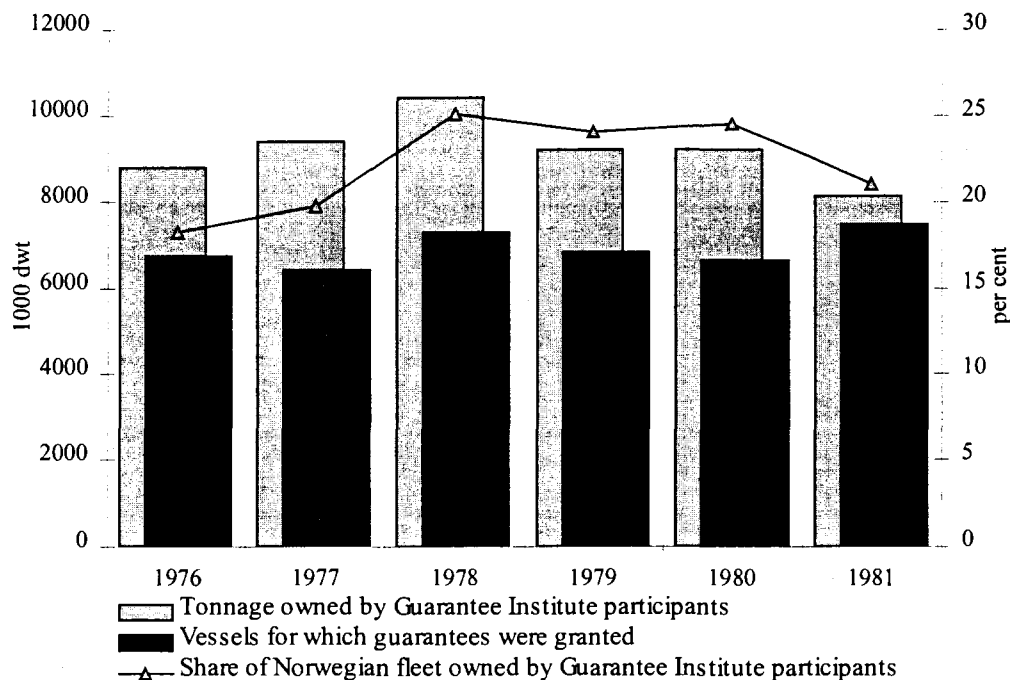


The amount of loans made possible by guarantees granted by the authorities was considerable, but this financial assistance was not spread evenly throughout the shipping sector. As previously mentioned, the impact of the crisis was different for shipowners following different strategies. A considerable share of the guarantees, particularly in the tanker sector, was provided to a relatively small number of shipowners with very large fleets. The average size of the guarantees granted to tanker owners was more than NoK 150 million in 1976, representing almost three times the average size of the guarantees granted to owners of other types of ships. The selective distribution of the guarantees may be exemplified by Hilmar Reksten's case. By 1977 almost half of the guarantees granted to shipowners, measured in kroner, had been given to Hilmar Reksten's companies RA Hadrian and RA Trajan.<sup>27</sup>

The participation of large shipowners such as Reksten in the Guarantee Institute implies that the share of Guarantee Institute-involvement in the Norwegian fleet becomes considerable. At the end of 1978, the 16 shipowners who had received guarantees from the Guarantee Institute owned more than ten million dwt of tonnage, representing more than a quarter of the Norwegian fleet. Three years later, almost twenty per cent of the Norwegian fleet consisted of vessels for which guarantees had been provided.

<sup>26</sup> Figures taken from the annual reports to the Storting on the activities of the Guarantee Institute.

<sup>27</sup> Estimates based on the quarterly report of the Guarantee Institute to the Ministry of Trade and Shipping, dated February 23, 1977, The GI-archive, box 2, folder 3: 1/1-77-31/7-77.

Figure 7.2. Amount of tonnage owned by shipowners receiving guarantees, 1976-81<sup>28</sup>

Due to the lag between contracting and delivery of vessels, the Norwegian fleet continued to grow after the freight market breakdown, from 40 million dwt in 1974 to 48 million in 1977. With one exception the Norwegian fleet had increased every year in the postwar period, but from 1978 onwards the size of the fleet was considerably reduced. The exodus was particularly large after the Guarantee Institute chose to wind up its engagements in large tankers in the beginning of the 1980s.

It is important to keep in mind that the aim of the authorities when establishing the Guarantee Institute was not to preserve the Norwegian fleet as such, but rather to avoid that modern tonnage was sold overseas. In spite of the large sales of Norwegian vessels to foreign shipowners in the latter part of the 1970s and early 1980s, the guarantees granted by the Guarantee Institute enabled shipowners to retain tonnage that they would otherwise have been forced to sell. Due to the large financial problems in the Norwegian shipping sector, a large share of this tonnage may have been sold abroad. Consequently, the reduction of the fleet would have been even more dramatic without government intervention.

The Guarantee Institute facilitated the restructuring of viable Norwegian shipping companies. Some of the companies which were assisted by the Guarantee Institute, being given a chance to recover and increase their equity, have continued to play an important role in Norwegian and international shipping. In addition to this, the Guarantee Institute stabilised the second-hand market by establishing a floor level on the value of vessels. A “fire sale” of Norwegian tonnage would have resulted in further reductions in vessel values. This could have contributed to a contagion of the financial problems, as more shipowners would have

<sup>28</sup> The term *participants* refers to shipowners who had been granted guarantees. Figures for Guarantee Institute participants come from the reports to the *Storting* on the activities of the Guarantee Institute. Figures for the size of the fleet originate with *Review*, various issues.

seen the value of their mortgaged property fall below the outstanding debt. Thus the establishment of the Guarantee Institute indirectly assisted shipowners who were not participants.

The institute's engagement in the rig sector was an unconditional success. No losses were incurred, and the Guarantee Institute estimated that the increase in the value of the affected drilling vessels was 5-6 billion kroner.<sup>29</sup> Consequently, in the case of the drilling vessels, the Guarantee Institute managed to reach its aim of preserving valuable tonnage on Norwegian hands. However, in other cases the tonnage, particularly the tankers, became less valuable from 1975 onwards. Accordingly, the desirability of keeping it was reduced as market conditions failed to improve.

The establishment of the Guarantee Institute may have delayed a necessary and beneficial structural transformation of the Norwegian shipping sector. Thanopoulou claims that the shipping crisis "*coincided with major changes in the distribution of world tonnage among the various fleets.*"<sup>30</sup> Due to the fact that government intervention affected the composition of the Norwegian fleet, reducing the amount of tanker and bulk tonnage sold to foreign shipowners, this transformation appeared relatively slowly in Norway. After the guarantees for the tankers were terminated, however, this development accelerated.<sup>31</sup>

One of the aims of the Guarantee Institute was to contribute to a greater balance between tonnage demand and supply at the international level.<sup>32</sup> Due to the high level of tonnage on order for Norwegian shipowners and the fact that several of the newbuildings would be unprofitable, the Guarantee Institute provided guarantees for loans to cover cancellation fees. The importance of this provision was limited; in 1976 such guarantees were given in connection with two drilling vessels, but these cancellations were later arranged without the assistance of the institute. In 1977 the Guarantee Institute granted a guarantee of NoK 13 million in connection with the cancellation of one ship. The limited utilisation of guarantees for cancellation purposes was partly a result of the fact that the amount of tonnage cancelled before the establishment of the Guarantee Institute was relatively high.

Nordvik claims that large sales of Norwegian tonnage in 1975-76 probably would have benefited the restructuring of the international tanker market.<sup>33</sup> He claims that the anticipated positive effects of the Guarantee Institute on the balance in the international market for

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<sup>29</sup> Stortingsmelding nr. 41 (1982-83) *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1981* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1981], Appendix 1, p. 12. Some of these gains were realised through sales of vessels at the high values. However, looking at the development at one particular point in time may lead to misleading conclusions. The value of the drilling vessels fell shortly after the Guarantee Institute had presented their positive estimates.

<sup>30</sup> Thanopoulou, Helen A, "The growth of fleets registered in the newly-emerging maritime countries and maritime crises", *Maritime Policy and Management*, Volume 22, No. 1, 1995, p. 51.

<sup>31</sup> There were additional reasons for this, eg the increased possibility for Norwegian owners to register their vessels in Flag of Convenience countries. The Guarantee Institute delayed the flight to Flag-of-Convenience registries, as the participants' vessels were required to fly the Norwegian flag. See Chapters Nine and Ten for a more detailed discussion.

<sup>32</sup> Stortingsproposisjon nr. 17 (1975-76), *op.cit.*, p. 5.

<sup>33</sup> Nordvik, *op.cit.*, 1997, p. 11.

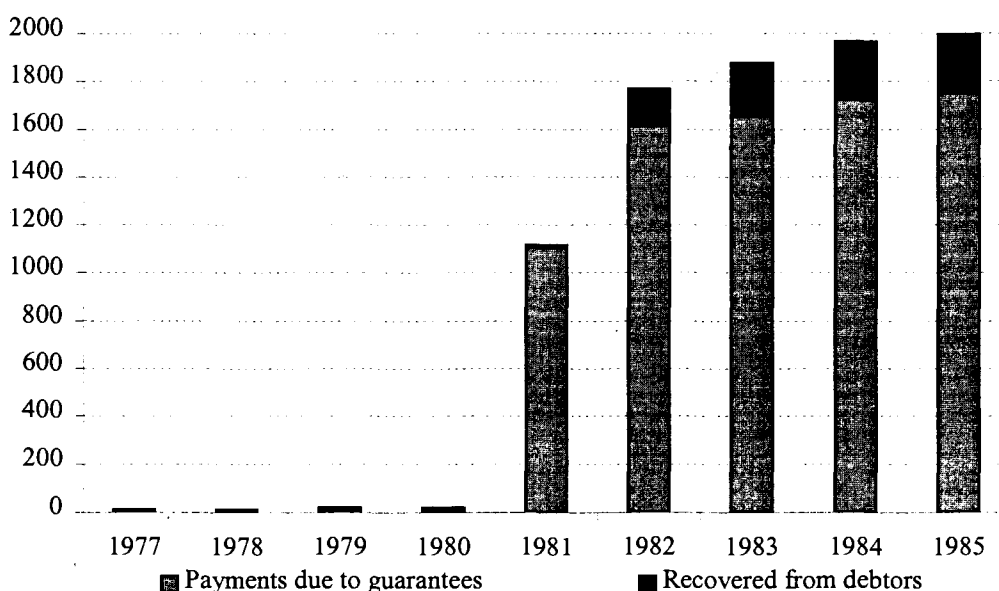


shipping services were grossly overrated.

In hindsight, large sales of Norwegian tanker tonnage in the period after the freight market breakdown would have been beneficial. Even the Guarantee Institute acknowledged this, and stated in a letter to the Ministry of Trade and Shipping in 1981 that *“it was probably a mistake not to sell the large tankers for what they would have provided in 1975.”*<sup>34</sup>

By the autumn of 1977 the authorities had realised that what they initially thought was a business cycle problem, in fact was a structural crisis. They reacted by requesting that the Guarantee Institute should anticipate a tanker tonnage surplus until 1985 when considering new applications. One result of this change in the expected market conditions was that several of the previously granted guarantees were renegotiated.<sup>35</sup> In 1981 the Guarantee Institute suggested that the losses stemming from its engagement in large tankers should be realised. They suggested a controlled winding-up of the tanker owning companies by disposing of their tonnage within a period of one to two years.

Figure 7.3. Accumulated Guarantee Institute losses, million kroner, 1977-85<sup>36</sup>



<sup>34</sup> Letter from the Guarantee Institute to the Ministry of Trade and Shipping, quoted in Norges Offentlige Utredninger (1983:13) *Reksten-saken* [Report to the Norwegian government from the investigative committee established by royal resolution 26 June, 1981 to go through the Reksten-case], p. 212.

<sup>35</sup> During the renegotiations, some of the creditors were more optimistic than the Guarantee Institute with regard to future market conditions. By assuming some responsibility for possible losses they managed to postpone the winding up of the Guarantee Institute’s tanker engagements.

<sup>36</sup> The figures presented in this chart, and in the rest of the chapter, are those which were available when all the guarantees granted by the Guarantee Institute had been terminated in the middle of the 1980s. The Norwegian authorities have later received dividend from some of the engagements. In the early 1990s, some NoK 200 million were received after the trustees in bankruptcy of the estate of Hilmar Reksten had unearthed the shipowners’ secret foreign funds. In 1995 the Guarantee Institute received NoK 300 million from Hambros Bank in the largest Norwegian settlement ever, following a damages claim for NoK 1,6 billion. It is yet impossible to determine the final losses of the Guarantee Institute, as some disputes still linger in the Norwegian judiciary more than 15 years after the institute wound up its tanker engagements.

The Guarantee Institute turned out to be an expensive arrangement for the Norwegian authorities, resulting in payments of more than NoK 1,7 billion or almost \$ 300 million. The losses were not evenly distributed among the institute's engagements – more than 80 per cent originated with the guarantees that had been granted to tanker owners.

However, the establishment of the Guarantee Institute was not only motivated by the concern for the shipping industry and the losses seem more reasonable when the auxiliary effects are taken into account. Although it was not said in public at the time, the Guarantee Institute had important consequences for a series of agents outside shipowning. In a worst-case-scenario, a series of bankruptcies in the shipping sector could be the first domino, leading to the fall of shipyards and financial institutions. The establishment of the Guarantee Institute solved this problem by securing that the first domino did not topple.

### **7.2.2. Importance for the Norwegian shipbuilding industry**

The importance of shipbuilding in the Norwegian economy increased in the first postwar decades. The sector expanded considerably in the 1950s and 1960s, and in 1973 1.255 million gross registered tons were built, compared to 550 million in 1968. Employment increased from 20.000 in 1960 to 30.000 in 1972. In addition to this, some 10-15.000 employees worked in companies delivering goods and services to the shipbuilding sector.<sup>37</sup>

At the forefront of the Norwegian shipbuilding sector was the Aker-group, Norway's largest industrial employer. The Aker-group owned several yards, including Stord Verft, which after 1967 had specialised in the construction of mammoth tankers. By the end of 1973, tonnage on order at Norwegian yards amounted to almost seven million dwt. More than two thirds of this was tonnage contracted at Aker Stord.<sup>38</sup> The close relationship between the Guarantee Institute and the Aker-group becomes evident when the total losses of the Guarantee Institute are examined. A conspicuously large share of the losses resulted from the three major customers at Aker Stord.

In the period 1967-1974, the Aker-group received newbuilding contracts for 31 tankers. 27 of these vessels were ordered by three shipowners; Hilmar Reksten had ordered 16 ships, Hagb. Waage had ordered six ships and Biørn Biørnstad & Co had ordered five ships. Reksten, Waage and Biørnstad had several things in common. First, their contracted vessels were intended for operation in the relatively risky spot market. Second, they had expansive newbuilding programmes, exceeding the size of their existing fleets. Third, they contracted all, or the majority, of their tonnage at Aker. Moreover, due to their chartering and contracting policies, they earned large amounts of money when conditions were good, but were extremely

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<sup>37</sup> Norges Offentlige Utredninger (1974:51) *Perspektivanalyse for skipsbyggningsindustrien* [Report to the Norwegian government on the perspectives of the Norwegian shipbuilding industry], p. 365.

<sup>38</sup> According to figures from Norwegian Shipping News' survey of Norwegian newbuilding contracts per 1 January, 1974, the following Norwegian newbuilding orders were recorded at Aker Stord: Wilh. Wilhelmsen – 1 vessel of 285.000 dwt, Hagb. Waage – 3 vessels totalling 940.000 dwt, Biørn Biørnstad & Co – 4 vessels totalling almost 1,3 million dwt and Hilmar Reksten – 8 vessels totalling more than 2,8 million dwt. The yard also had an order for a 285.000 dwt tanker from a foreign company.

vulnerable to changes in the market development.

It is possible to say that Aker's balance sheet reflected the high-risk strategy of their most important customers.<sup>39</sup> When the shipping market was characterised by increasing demand, profits were high. After the freight market breakdown, Aker's most important customers were among the first to be hit. Reksten was insolvent as early as 5 April, 1974, when he failed to pay instalments on vessels contracted at Aker Stord. The fact that the most important customers were unable to fulfil their contractual obligations was a major problem for Aker. Of the 17 mammoth tankers on order in the beginning of 1974, only seven vessels were built; tonnage amounting to more than three million dwt was cancelled, either by the shipowner, due to the market conditions, or by the yard, due to lacking payment. Within a six-month period, Aker lost contracts worth more than four billion kroner.

As a result of the increased competition in the shipbuilding sector in the postwar period, yard financing had become more and more important to secure newbuilding contracts. In Norway, *AS Låneinstituttet for Skipsbyggeriene* [the Mortgage Institute for Shipbuilders] had been established in 1959 to provide second mortgage loans to shipbuilders on favourable terms. As the capital raised by the Mortgage Institute for Shipbuilders carried a government guarantee, the terms were better than those the yards themselves would have faced. Mjelva claims Aker could not compete with the Japanese yards price-wise, but became competitive by taking high risks and offering favourable loans facilitated by the Norwegian state.<sup>40</sup>

The Norwegian shipyards were able to offer advantageous loans to attract newbuilding orders. The result was a three-sided relationship, where the yard provided credit to the shipowners, facilitated by long-term loans from the Mortgage Institute for Shipbuilders. The yard was the formal debtor for the loan from the Mortgage Institute, but for practical purposes the shipowner paid interest and instalments directly to the financial institution providing the loan.

The provision of financing to shipowners put the Aker-group at risk, and in the middle of 1975 they had lent more than NoK 500 million to various shipowners. At the same time, Aker's debt to the Mortgage Institute for Shipbuilders amounted to NoK 216 million, more than half of which was for Reksten's tankers. Aker were formally liable for the loans granted to shipowners through the Mortgage Institute for Shipbuilders, and had ordered large amounts of materials which became obsolete due to cancellations.

If Aker's main debtors, Biørnstad, Reksten and Waage had been declared bankrupt, their fleets would have been disposed of at prices which could not fully cover the second

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<sup>39</sup> The Aker-group owned several shipyards, and the following presentation relates to the company's yard at Stord. The group was also involved in the rig sector, and in 1975 had ten orders for oil rigs. Four of the owners which had contracted rigs had signalled that they would have trouble financing the newbuildings. For some of them, the Guarantee Institute came to the rescue.

<sup>40</sup> Mjelva, Hans K., "Stord Verft 1945-1975", *Sjøfartshistorisk Årbok 1995* [Norwegian Yearbook of Maritime History 1995], Bergen Maritime Museum, Bergen, 1996, p. 254. The assertion is partly confirmed by Hilmar Reksten in *Skipsfartøkonomisk Institutt, Rapport fra ekskursjon til Reksten-rederiene 21. november 1974* [Report from an excursion to the Reksten-companies 21 November 1974], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1975, p. 7.

mortgage. This would have exacerbated the serious financial difficulties of the Aker-group, and maybe even led to bankruptcy.

By establishing the Guarantee Institute, the authorities managed to “buy time” for the Aker-group. Despite the positive influence, it is important to keep in mind that the effects of the Guarantee Institute for the Norwegian shipbuilding industry was not officially an issue when the arrangement was established. Nevertheless, the distribution of the Guarantee Institute’s losses is striking, with more than two thirds of the total payments connected to the high-risk Aker-customers. In the beginning of 1974, Aker held only about 15 per cent of Norwegian shipowners’ newbuilding contracts.

Table 7.2. Distribution of Guarantee Institute losses <sup>41</sup>

	Losses (NoK)	Per cent of total
Biørnstad-rederiene	220,4 million	12,4
Nortank I & II (Waage)	140,1 million	7,9
RA Hadrian (Reksten)	245,7 million	13,9
RA Trajan (Reksten)	585,2 million	33
Sum – Aker-related	1.191,4 million	67,2
Knut Knutsen OAS	233,5 million	13,2
AS Havnrott	96,7 million	5,5
Seven smaller losses	250,6 million	14,1
Sum – not Aker-related	580,8 million	32,8

In 1982, Inger Prebensen, who was managing director of the Guarantee Institute at the time, claimed that “with regard to the shipyards one may conclude that the Guarantee Institute has contributed positively.” She also presented the main reasons for the establishment of the Guarantee Institute as “1. The yards – 2. The banks and financial institutions – 3. The shipowners.”<sup>42</sup> The difference between this list of priorities and the one presented in connection with the establishment of the Guarantee Institute is conspicuous.

It is a paradox that the authorities on the one hand supported the shipbuilding sector, and thus contributed to the continuing oversupply of tonnage, but on the other hand granted assistance to the shipowners who were victim of this oversupply. In no country was the close relationship between arrangements for the shipping sector and arrangements for the shipbuilding industry more evident than in Sweden.

Sweden was the only nation with lay up-rates at the same level as Norway.<sup>43</sup> However, shipbuilding was relatively more important than shipping in Sweden, and the Swedish state organised a national shipowning company, comprising shipowners and yards which had built vessels “on speculation” following the freight market breakdown.

<sup>41</sup> Based on figures from Stortingsmelding 24 (1986-87) *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1985* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1985], p. 2. The losses connected to the two Reksten-controlled companies were later reduced due to the discovery of secret foreign funds owned by Reksten. Even when this is taken into consideration, more than half of the losses can be related to Aker’s major customers.

<sup>42</sup> Statement from Inger Prebensen, quoted in *Norges Offentlige Utredninger* (1983:13), *op.cit.*, pp. 280-281.

<sup>43</sup> Confer the discussion in Chapter Five.

The Swedish solution proved far more costly than the Guarantee Institute had been. This was partly due to the fact that the basis for intervention was different, with emphasis on shipbuilders rather than Swedish shipowners, but also because the authorities waited longer before terminating their shipping engagements.<sup>44</sup> It may seem ironic that the majority of the vessels in which the state-owned Swedish holding-company were engaged had been contracted at Swedish yards by Norwegian shipowners. Thus, several Norwegian shipowners benefited from the Swedish solution.

The conditions of the shipbuilding industry were central to the handling of the shipping crisis in both Norway and Sweden, even though this was not explicitly expressed in the Norwegian case. Another hidden motive for the Norwegian authorities' intervention was the possible effects of the shipping crisis on the financial market.

### **7.2.3. Importance for the financial market**

Major bankruptcies in the shipping industry would put the financial sector at risk through two mechanisms. At the national level, it would influence the so-called Paragraph 15-market, a bond market largely controlled by the authorities. At the international level, massive defaults on loans to Norwegian shipowners could reduce the creditworthiness of Norwegian companies in general, and particularly those involved in the shipping sector.

In the selective, low interest rate loan regime operated by the Norwegian authorities in much of the postwar period, the Paragraph 15-market played a key role. Through this market, the authorities allocated capital to sectors and projects deemed worthy of the limited financial resources available in Norway. The amount of capital raised was partly at the discretion of the government, as they could demand that a certain proportion of the banks' and financial institutions' reserves be placed in this market.

The Paragraph 15-market was a significant tool for economic and industrial policies and an important source of capital for the institutions financing shipbuilding. These comprised the previously presented Mortgage Institute for Shipbuilders, as well as the four institutions granting first priority mortgages.<sup>45</sup> Before the Guarantee Institute was established, it was suggested that the authorities should increase the amount of capital available to these institutions and utilise the existing institutions when solving the financial difficulties of the shipowners.<sup>46</sup> However, this would imply increased priority of shipbuilding financing and a corresponding reduction of the amount of investment capital available for other purposes. By establishing the Guarantee Institute, the authorities managed to insulate the domestic bond

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<sup>44</sup> For a comparison of the Norwegian and Swedish solutions to the problem, see Lund, Ole, "Shippingkrise og stat" [Shipping crisis and state], *Bergen Bank Kvartalskrift* [Bergen Bank Quarterly Journal], No. 2, 1985, pp. 56-64.

<sup>45</sup> For an introduction to the financing of shipbuilding in the Norwegian market, with emphasis on *AS Låneinstituttet for Skipsbyggeriene*, see Platou, Fanny and Stokke, Berit, *Skip, verksted og finansiering* [Ship, yard and financing], Sjørettsfondet, Oslo, 1980.

<sup>46</sup> See the letter to the Minister of Finance and the Minister of Trade and Shipping from H.J. Darre Hirsch, managing director of the Norwegian Shipowners' Association, dated 14 May 1975, in *The Archives of the Norwegian Shipowners' Association*, folder marked 6 B K 75 – Krisen 1975 I, 010175-300675.

market from the problems of the shipping sector, simultaneously avoiding a reduction of the financial resources available for other purposes.

If some key Norwegian shipping companies had gone bankrupt, notably Biørnstad, Reksten and Waage, the Mortgage Institute for Shipbuilders would be at risk as the institution's financial base was insufficient to deal with the anticipated losses. The Mortgage Institute for Shipbuilders estimated in early 1975 that their possible losses on Aker alone would amount to approximately NoK 200 million, whereas the institute's total equity was NoK 150 million.<sup>47</sup> The authorities, as underwriters of the debt of the Mortgage Institute, would have been forced to fulfil their obligations. This could either be done by paying the creditors or by increasing the Mortgage Institute's liquidity through other mechanisms. In any case it would involve a redistribution of investment capital or an immediate pay-out on the authorities' hands.

The Norwegian institutions granting first priority mortgages would not necessarily have been affected by bankruptcies in the Norwegian shipping sector, as a larger share of the loans they had given were secured within the value of the mortgaged property. However, a "fire sale" of a substantial share of the Norwegian tanker fleet would have depressed vessel values further, and this could have put the first priority institutions at stake.

If the authorities had been unable to solve the financial problems of the shipping sector, the Mortgage Institute for Shipbuilders and possibly some of the first priority institutions would have been severely affected by the crisis. The result could have been the collapse of several Norwegian ship financing institutions, utilisation of government guarantees and a redistribution of investment capital to shipbuilding from other sectors. To make matters worse, the financial problems of the Norwegian shipping sector had international ramifications as well.

More than 80 per cent of Norwegian shipping investments were financed by means of foreign sources. In the beginning of the 1970s, it was relatively easy for shipowners to obtain loans – partly as a result of the good record of the shipping industry, partly as a result of the fact that a series of new agents entered the ship financing market for the first time in the late 1960s.

The depressed conditions in the shipping market after the freight market breakdown made the banking fraternity less willing to extend loans to shipowners, and provisions were made to increase the security of the transactions already entered into. Some Norwegian shipowners had contracted vessels without securing financing in advance, and were unlikely to obtain credit without guarantees exceeding the value of the vessels. Other Norwegian shipowners fell victim to the *minimum value clause*, which stipulated that extra instalments be paid or additional collateral made available if the value of the collateral fell below the outstanding debt. Government guarantees were vital in both situations.

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<sup>47</sup> Norges Offentlige Utredninger (1983:13), *op.cit.*, p. 30.

The establishment of the Guarantee Institute secured financing for the shipping sector which in the absence of government guarantees would have been unavailable. The fact that the collapse of several domestic ship financing institutions was avoided also contributed positively to Norway's position in the international financial market. This was important, as Norway at this time developed a considerable offshore oil industry, which necessitated large-scale borrowing from foreign sources. Consequently, it was necessary to maintain the confidence of foreign creditors.

It is difficult to assess to which extent the arrangement led to an improvement in Norwegian creditworthiness and better terms for Norwegian debtors outside the shipping sector. The large Norwegian borrowing was the basis for the most important transformation of the Norwegian economy in the postwar period, with petroleum products replacing shipping services as the major foreign exchange earner.<sup>48</sup> It is doubtful that bad experiences from the shipping industry would make foreign lenders more cautious when providing capital to the booming Norwegian oil industry.

### 7.3. Conclusion

The relative success of the Guarantee Institute can be measured by several factors.

- All drilling vessel engagements were terminated without loss for the authorities, but with profit for the rig owners. The experience regarding the drilling vessels reveals the potential of the arrangement.
- The bulk of the authorities' losses of more than NoK 1,7 billion came from tanker engagements, and the bleak side of the arrangement is evident with regard to the ship engagements.
- The Guarantee Institute was important for the continuing existence of some major agents in the Norwegian shipbuilding industry, particularly the Aker-group. However, due to the continuing high level of subsidisation in the shipbuilding industry, restructuring or capacity reduction might have been beneficial in the long term.<sup>49</sup>
- Through the establishment of the Guarantee Institute, the authorities succeeded in avoiding the failure of domestic ship financing institutions, which would have implied the activation of government guarantees.

The benefits of the arrangement were contingent on an improvement of the markets for ships and drilling vessels within a five-year period. In the market for drilling vessels, this improvement was evident at the turn of the decade. In the market for ships, and for large tankers in particular, what was initially viewed as a temporary downturn turned out to be a structural crisis. Consequently, freight rates and tonnage values never recovered sufficiently to avoid large losses for the Guarantee Institute. *If* the conditions in the tanker sector had improved in the manner assumed when the Guarantee Institute was established, the scheme

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<sup>48</sup> See Chapter Ten for a presentation of the transformation.

<sup>49</sup> This is a statement based on economic theory, and is of relatively little importance when regional and political factors are considered.

could have been regarded as an unconditional success.

It is interesting to note that the preservation of tonnage on Norwegian hands, which was the principal reason presented to the *Storting* and the public when the Guarantee Institute was established, to a large degree contributes negatively in an assessment of the institute. It is the indirect effects, with regard to the shipbuilding industry and the financial market, which tip the balance in favour of the arrangement.<sup>50</sup>

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<sup>50</sup> Lucy Smith, a long-term member of the board of the Guarantee Institute, acknowledged the contrast between revealed and actual reasons; see Smith, Lucy, "Statlige støtteordninger til rederifinansiering i Norge" [Government support for the financing of shipowning companies in Norway], the 9<sup>th</sup> Nordic Seminar on Maritime Law, Finland, September 1980, found in The Archives of the Norwegian Shipowners' Association, folder marked 6 B K 75 – Krisen 1975 XIV, 010779-290980.



## CHAPTER EIGHT

# THE FATE OF FOUR NORWEGIAN TANKER OWNERS

The purpose of this chapter is to illustrate the various manners in which the shipping crisis affected Norwegian shipowners, as well as the different responses triggered by the crisis. The analysis focuses on the development of the companies in the 1970s, ie the period prior to the tanker market breakdown and the first years after the crisis had begun to take its toll. The far-reaching short-term effects of strategic decisions are illustrated through the fates of Knut Knutsen OAS, Hilmar Rekstens Rederi, Rederiet Peder Smedvig and Sig. Bergesen d.y.

It is evident that the companies' actions in the period leading up to the crisis are paramount to an understanding of their subsequent fate. The four companies analysed show how the strategy during the heyday of high contracting and freight rates determined the companies' ability to adapt to the changes in the tanker sector, facilitating, complicating or preventing a sustainable adaptation to the new conditions.

There is no uniform measure on which an analysis of the strategy of shipowners can be based. I have chosen to focus on the business policy parameters presented in Chapter Six. Moreover, I will briefly look at the manner in which the shipowners chose to finance their business. Consequently, fleet structure, chartering policy, contracting and financing are used to represent the strategies of the companies. I have chosen to focus on shipowners who, to different extents, had invested in the tanker sector. The companies represent a variety of strategies with regard to fleet structure and chartering policies. However, they all had mammoth tanker tonnage on order prior to the freight market breakdown.

*Fleet structure* denotes the distribution of the fleet with regard to the types of vessels owned, as well as their age and size structure. However, the fleet structure is not necessarily a result of the shipowners' strategy at the moment analysed, but should rather be seen as the result of a combination of current and previous policies. The shipowner's recent judgements are reflected in the shipowner's newbuilding contracts, or the ships which he buys or sells in the second-hand market. Changes in the fleet structure or in the composition of newbuilding contracts are therefore to some degree a better representation of the shipowner's current strategy than the actual structure of the fleet.

The data on the various shipowners' fleets have been taken from the Veritas-register. This poses problems in connection with ships controlled through nominee companies or ships flying foreign flags, for instance those of Flag of Convenience-countries. These ships will not be included in the analysis due to the large degree of uncertainty regarding the ownership of such vessels. The question of *ownership* or *management* was central to the legal case against Hilmar Reksten, and it is evident that the use of Flags of Convenience and nominee companies makes it almost impossible to prove the correct ownership of some vessels.<sup>1</sup>

In some instances, ships that were sold during the last part of the previous year have erroneously been entered in the Veritas-register as owned by the same company the following

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<sup>1</sup> According to the British Rochdale-report (Committee of Inquiry into Shipping Report), Her Majesty's Stationery Office, London, 1970, p. i, "*The complexity of ownership has international ramifications which make it impossible to present a single definition of the UK industry which serves all purposes.*"

year as well. I have, as far as possible, tried to correct these mistakes by means of the surveys of second-hand ship sales printed in Fearnley & Eger's *Review* and the *Norwegian Shipping News*. The information from these sources has been used to supplement the data from the Veritas-register. Vessels chartered by the shipowner – from other shipowners – have also been omitted from the calculation of the shipowners' fleet size. However, the existence of such charter agreements will, where applicable, be analysed in the text.

*Chartering strategy* is the second parameter used to characterise the strategies of the companies. The choice between long- or medium-term charters or operation in the spot market was of great importance for the economic performance of the various shipowners in the period surrounding the crisis. The analysis in this chapter shows the great extent to which the chartering strategies influenced the fate of the companies.

*Contracting* is the third element used to denote the strategy of the shipowners. The contracting strategy comprises the timing of newbuilding contracts, the choice of yard or country of production and, most importantly, the size and type of newbuilding orders. Information on contracting has been taken from *Norwegian Shipping News*, which several times annually published a list of tonnage on order for Norwegian owners. A comparison between this list and other sources indicates that the survey from *Norwegian Shipping News* is fairly accurate. The information on the fleets and contracts has been organised in four databases, named after the respective companies.

*Financing* is the final element used to describe the policy of the four tanker owners. The degree of equity financing and the choice and use of external sources may be of interest in this connection. However, information on financing is hard to come by. The presentation of financing focuses on how the shipowners coped with the dire economic conditions in the latter part of the decade, eg whether or not they sought relief through the Guarantee Institute.

## **Chapter 8.1. Knut Knutsen OAS**

The shipowning-company owned and managed by the Knutsen-family had long traditions in the liner sector. In the beginning of the 1970s the company operated two liner services. The older of these, the *Knutsen Line, Orient Service*, a circular route in the Pacific Ocean calling on America, Asia and Australia, had been established in the middle of the 1950s. As a supplement to this line, the company started the *Knutsen Line, West Australia-West Pacific*-line in 1972. The liner operations of the company will largely be omitted from the analysis. It was due to the engagements in the tanker sector, in terms of tanker ownership and contracting, that Knutsen was particularly hard hit by the shipping crisis.

### **8.1.1. Historical introduction**

Prior to the Second World War Knut Knutsen OAS was the third largest shipowning company in Norway, and the company's founder, Knut Knutsen, was a distinguished person who was held in high regard in his hometown Haugesund.<sup>2</sup> The company was divided as part of an inheritance settlement after Knut Knutsen's death in 1946, and one part of the company was

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<sup>2</sup> Knut Knutsen was the son of shipowner Ole Andreas Knutsen, and the three letters in the name, OAS, represent this – Knut Knutsen, Ole Andreas Sønn (son of Ole Andreas).

merged into Chr. Haaland & Søn. After the split, Knut Knutsen's son, Ole Andreas Knutsen, continued to administer the remaining part of the company under the name Knut Knutsen OAS. However, the history of the company dates back to 1896.

The first Knutsen-ship, acquired in the late 19th century, was engaged in the Norwegian export of herring. The Knutsen-company is therefore a good example of the manner in which the Norwegian shipping industry evolved from servicing the Norwegian exports of goods to becoming an important supplier of transport services in tertiary markets. In a domestic perspective, Knutsen's shift from goods exports to transport services occurred relatively late, but the timing corresponds well with that of other merchants in the Haugesund-area. The company later diversified, concentrating on tramp shipping in the period before World War I. From the middle of the 1920s Knutsen invested in whaling ships and a whaling factory. The company withdrew from the whaling sector shortly after the Second World War, but the whaling company, Hvalfangst-AS Suderøy, was listed as the formal owner of five vessels in the beginning of the 1970s.<sup>3</sup>

In 1925, two 13.000 dwt tankers were delivered to Knut Knutsen OAS, and the company continued to expand in the tanker sector in the period up to the Second World War. On the eve of the war, the company's tanker fleet consisted of eight large tankers, and the company owned 18 other vessels. After the war, the company continued the expansion of its tanker fleet, and it has been claimed that the tankers have been responsible for most of the company's revenue in the post-war period.<sup>4</sup>

The company's first liner service was the *Knutsen Line, Scandinavian-South Pacific Service*, established in 1928, which existed until it was challenged by preferential treatment of domestic shipping by some of the countries in Latin-America. It has been claimed that Knutsen, due to "sentimental reasons" refrained from closing down this line.<sup>5</sup> Consequently, it may seem that some of the liner services were kept even after economic considerations indicated that the services should be discontinued. Nevertheless, two of the liner services established in the interwar period were abandoned after the company had lost important market shares due to the interruption of operations during the Second World War.

In the period after the Second World War, the company had two main areas of business; the liner and the tanker sector. The company's activities in the liner sector peaked at the end of the 1960s, when the liner fleet constituted 16 vessels.<sup>6</sup> In addition, the company continued its operation in the tanker sector, and in the latter part of the 1960s the company

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<sup>3</sup> In addition to the ownership of five small vessels, the company was until 1979 co-owner of the 216.000 dwt TT Elisabeth Knutsen, and owned 35 per cent of the TT Hilda Knutsen and 24 percent of the TT Torill Knutsen.

<sup>4</sup> Borgen, Svein Ole and Spanne, Martin, *Investeringsatferd i norske rederier - en casestudie av rederiet Knut Knutsen O.A.S* [Investment behaviour in Norwegian shipowning companies - a case study of Knut Knutsen OAS], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1982, p. 4.

<sup>5</sup> In Bang, Henning, Haukedal, Willy, Reve, Torger and Tronsmo, Per, *Omstilling og organisasjonskultur i norske rederier* [Transformation and organisational culture in Norwegian shipowning companies], Report No. 3/1986, Centre for Applied Research, Bergen, 1986, p. 87, an employee of Knutsen claims that "[w]e were fortunate when we were forced to abolish the South-America line." This analysis of the company is also published as Tronsmo, Per, *Omstilling og organisasjonskultur: lederskap og overlevelsesevne i tre norske rederier* [Transformation and organisational culture: management and the ability to survive in three Norwegian shipowning companies], Bedriftsøkonomens Forlag, Oslo, 1987.

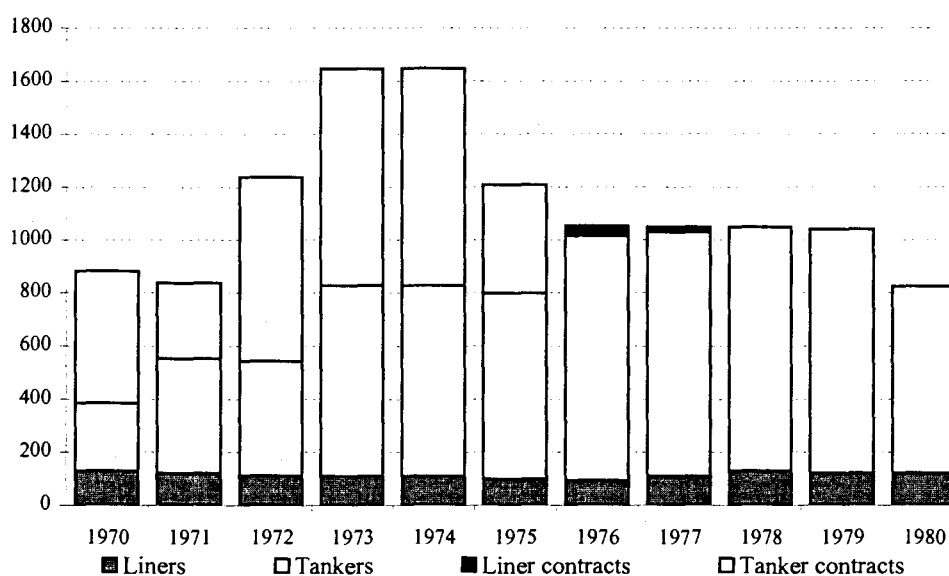
<sup>6</sup> Two of these ships, the Bakke Cooler and the Bakke Reefer, were employed in the transport of fruit, and were sold in the middle of the 1970s.

owned a tanker fleet of 250.000 dwt.<sup>7</sup> From the beginning of the 1970s, the company's expansion in the tanker sector accelerated. In October 1970, Knutsen launched the 216.000 ton TT Elisabeth Knutsen, which resulted in the tanker fleet being almost doubled.

### 8.1.2. Fleet structure

Knut Knutsen OAS were engaged in both liner and tanker operations in the period prior to the international shipping crisis. As a result of this, a casual glance at the fleet structure may give the impression of a company attempting to reduce risk through diversification.<sup>8</sup> However, the case of Knutsen is a good example of the fact that the current structure of the fleet may diverge from the company's strategy and focus.

Figure 8.1. Fleet and contracts, liner vessels and tankers, 1000 dwt, 1970-80<sup>9</sup>



The changes in the fleet structure during the 1970s, when the emphasis was on expansion of the tanker fleet, are evident from Figure 8.1. In 1970 and 1971 five of the company's liners were lengthened and rebuilt to be better suited for the transport of containers. This was the only major investment in the liner operations in the period. The company retained the liners, but channelled their resources into the tanker sector, where they undertook large investments. The liner fleet was subsequently neither renewed nor modernised, despite the fact that the international market for liner services at this time was characterised by large structural and technological changes. In 1978, the average age of the company's liner vessels was almost twenty years, whereas the average age of the tankers was five years.

<sup>7</sup> In the 1950s and 1960s, the tanker fleet grew slowly. In 1959 the company owned ten tankers, constituting 235.000 dwt. Ten years later, the number of tankers had been reduced to six, but due to the increase in average size, amounted to 252.100 dwt. The increase in the average size of the tankers is not necessarily a result of an increase in risk propensity. The technological development and the increasing economies of scale were the impetus behind the growing average size of the vessels.

<sup>8</sup> The company also had a brief interlude in the offshore sector in the middle of the 1970s; see Bang, Haukedal, Reve & Tronsmo, *op.cit.*, 1986, p. 153.

<sup>9</sup> The chart is based upon the Knutsen-database.

The activities of Knut Knutsen OAS became increasingly directed towards the tanker sector from the beginning of the 1970s. Thor Pande, the company's "heir apparent", claimed that he wanted to concentrate on the tanker sector, rather than the liner services.<sup>10</sup> The company had launched two supertankers, the TT Elisabeth Knutsen and the TT Torill Knutsen, before the breakdown of the tanker market. As a result of this, the tanker fleet in 1973 was almost three times the size that it had been only a few years previously. Moreover, Knutsen had contracted two 410.000 dwt tankers. Neither financing nor charters had been secured for these vessels.

### **8.1.3. Chartering strategy**

On the one hand, the fleet structure of Knut Knutsen OAS indicates a company wishing to reduce risk through diversification. On the other hand, the tanker chartering indicates a considerable willingness to take risk. The company usually operated their tankers in the spot market, even though medium-term charter agreements were only occasionally entered into.<sup>11</sup> One example of such an agreement is the four-year charter signed with Esso in connection with the investment in the TT Elisabeth Knutsen. The revenue from this charter enabled the investments in even larger tanker tonnage. As the company mainly operated in the spot market, the risk posed by fluctuations in the freight rate level has been large.

The risks undertaken by Knut Knutsen OAS were not confined to those represented by the spot market operation of their own vessels. In 1972, the company chartered an 85.000 ton motor tanker from the Japanese shipowning company Sanko. This ship, the MT Europride, was delivered in 1975. When they chartered the ship from the Japanese company, before the shipping crisis, Knutsen had not secured employment for the vessel. Consequently, the charter, like most of the Sanko-deals, "*proved a considerable financial embarrassment to those owners who were not willing or able to cancel before the tanker market crash.*"<sup>12</sup>

The Sanko-deals are an enticing chapter in the history of merchant shipping in the 1970s. When the Japanese authorities reorganised the Japanese shipping industry in the mid 1960s, six companies were given preferential treatment which facilitated their expansion in the latter part of the decade. Sanko was not among these, but managed to expand by signing large-scale, inexpensive newbuilding contracts which were secured through charters with European shipowners. In 1972 more than 50 such contracts were negotiated, and Knut Knutsen OAS were among the companies that ordered vessels through Sanko. The fact that Knutsen had chartered a ship in this manner is proof that the company's willingness to take risks was large in the period before the international shipping crisis. They "bought" risk, and possible profits, in addition to that represented by the company's own fleet.

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<sup>10</sup> This strategy was approved by Ole Andreas Knutsen; see Borgen & Spanne, *op.cit.*, 1982, p. 17. Pande left the company in 1978, after they had encountered large difficulties due to the tanker sector focus.

<sup>11</sup> According to Bang, Haukedal, Reve & Tronsmo, *op.cit.*, 1986, p. 82, "*The company had gambled enormously on the tanker operations. It operated in the spot market, like it always had.*"

<sup>12</sup> Stokes, Peter, *Ship Finance – Credit Expansion and the Boom-Bust Cycle*, Lloyd's of London Press Ltd., London, 1992, p. 81.

In 1975, all of Knutsen's tankers were laid up.<sup>13</sup> According to *Kapital*, the lay-up of TT Elisabeth Knutsen and TT Torill Knutsen led to annual expenses in the region of 30-40 million kroner, at a time when there was no revenue from these ships.<sup>14</sup>

Table 8.1. Knut Knutsen OAS – employment of large tankers, 1970-80<sup>15</sup>

	TT Elisabeth Knutsen 216.000 dwt	TT Torill Knutsen 285.000 dwt	TT Hilda Knutsen 410.000 dwt	Kawasaki 1215 410.000 dwt
1970	Delivered			
1971	TC Esso			
1972	TC Esso		Contracted - 270.000 dwt	
1973	TC Esso	Delivered	Converted to 410.000 dwt	Contracted
1974	TC Esso	Laid up (some trips)		
1975	Laid up	Laid up		Converted (2 liners)
1976	Laid up	Laid up	Delivered	
1977	Laid up	Laid up	Laid up (some trips)	
1978	Laid up	Laid up until Aug.	Laid up (some trips)	
1979	Sold	Spot market	Spot market	
1980		Laid up (some trips)	Laid up (some trips)	

The sale of a tanker such as TT Elisabeth Knutsen at the right time in 1979 would have been beneficial, compared with a sale in 1978 or 1980. However, Knutsen sold the vessel in March as a result of liquidity problems, and the timing was anything but good. Only a few months later, the price in the second-hand market was considerably higher.<sup>16</sup>

It has been estimated that Knut Knutsen OAS lost NoK 215 million from 1975 to 1979. This can be compared with a bottom line of 55 million in 1973 and 60 million in 1974.<sup>17</sup> The relatively risky strategy, with a considerable share of the tonnage engaged in the spot market, is the main cause of the extremely large fluctuations in operating profits.

#### 8.1.4. Contracting

In the years from 1970 to 1980, all of the newbuilding contracts which the company entered into were for tankers.<sup>18</sup> Contracting is a better measure of the company's present strategy than fleet structure, so it is evident that the focus of Knut Knutsen OAS during the 1960s had been transferred from liner services to the relatively risky tanker market.

The turbine-driven tanker Elisabeth Knutsen, delivered in 1970, had proven to be a very profitable investment for Knut Knutsen OAS, and the company's second supertanker was

<sup>13</sup> At this point, the tanker fleet consisted of the two supertankers TT Elisabeth Knutsen and TT Torill Knutsen, as well as the motortankers John Knutsen and Anna Knutsen. The latter ships were sold *en bloc* to owners registered in the Cayman Islands in October 1975 at \$11,5 million.

<sup>14</sup> *Kapital*, No. 14, 1975.

<sup>15</sup> The table is based on figures from the Knutsen-database, as well as information from Borgen & Spanne, *op.cit.*, 1982, Appendix 1 and *Kapital*, various issues.

<sup>16</sup> The TT Elisabeth Knutsen, built 1970, was sold at \$6.45 million to Korean interests. In August, a slightly smaller vessel, the TT Jarmona, built in 1968 was also sold from Norway to Korean interests. However, the price was \$9 million.

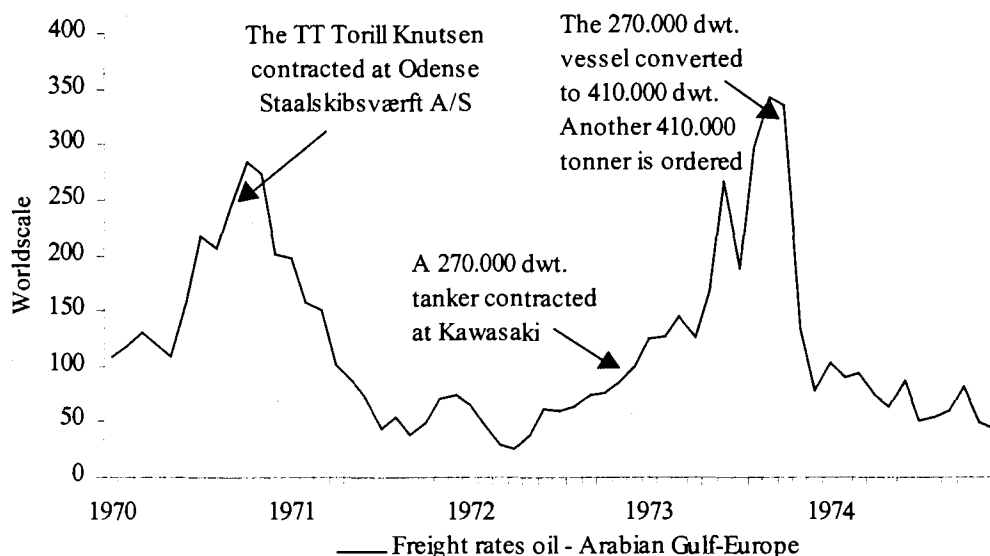
<sup>17</sup> Bang, Haukedal, Reve & Tronsmo, *op.cit.*, 1986, pp. 109 and 82.

<sup>18</sup> According to the lists published in the *Norwegian Shipping News*, Knut Knutsen OAS contracted a 14.000 dwt vessel at the VEB Mathias-Thesen Werft. This is a mix-up between Knut Knutsen OAS and the Oslo-based shipowner Knut A. Knutsen.

launched prior to the oil price increase. Due to the favourable conditions in the tanker market, the increased investments in this sector resulted in high profits in the beginning of the 1970s, and this encouraged the company to further contracting of large tankers.

In late 1972, Knut Knutsen OAS contracted as 270.000 dwt tanker at the Japanese Kawasaki-yard. In the summer of 1973, this contract was converted to 410.000 dwt, and early in the autumn this year, the company ordered another identical ship.<sup>19</sup> The contract was signed without secure financing or employment.<sup>20</sup> Shortly after the signing of the contract the oil price increased and the tanker market collapsed.

Figure 8.2. The freight rate level and contracting by Knut Knutsen OAS, 1970-74.



In addition to the distinct expansion in the tanker sector, another feature of the company's contracting is that newbuilding contracts have been entered into in periods where the company's liquidity has been good or where the freight rate level has been high. Due to the fact that the company operated most of its tankers in the spot market, these conditions have usually occurred concurrently. It has been claimed that "*analysis was banned in period were the tanker market was good.*"<sup>21</sup> In the same manner, the sale of vessels has, at times, been motivated by liquidity problems. As a result of this, the decisions to purchase and sell vessels have not always been part of a conscious strategy, but rather been influenced by external events such as the tanker market development and the liquidity of the company.

When the newbuildings contracted in 1972 and 1973 were delivered to Knut Knutsen OAS, the bottom had fallen out of the market. The TT Hilda Knutsen, building number 1215 at the Kawasaki-yard in Kobe, was originally scheduled to be launched in late 1974/ early 1975. The ship was delivered in April 1976, and had seven assignments until September 1978, after which it managed to earn acceptable rates in connection with the temporary freight level increase.

<sup>19</sup> This contract is registered in *Norwegian Shipping News* for the first time in January 1974, and is not included in the survey of newbuilding contracts from September 1973.

<sup>20</sup> This contract would haunt Knutsen until 1982, when the company had to come to terms with an agreement with the Guarantee Institute and the Japanese yard; see *Økonomisk Rapport*, No. 16, 1987, p. 86.

<sup>21</sup> Unnamed employee quoted in Bang, Haukedal, Reve & Tronsmo, *op.cit.*, 1986, p. 88.

Building number 1228 at Kawasaki, the sister-ship of TT Hilda Knutsen, was never delivered to Knut Knutsen OAS. In 1975 the company entered into negotiations with the yard with a view to converting the contract to two liner vessels. This conversion implied that Knut Knutsen OAS was spared from having to pay the cancellation fee or operating the ship in a depressed tanker market. However, due to the conversion fee and the exchange rate development, the two liners became twice as expensive as they would have been if they had been contracted in the traditional manner.<sup>22</sup>

The contracting of two large tankers, without employment secured, in the period prior to the oil price increase, was of great importance to Knut Knutsen OAS. The company's losses amounted to more than NoK 200 million between 1975 and 1979, and they encountered large economic difficulties. The contracting of consistently larger tanker tonnage was an important part of the company's expansion in the tanker sector. The heavy expansion started when the company ordered the TT Elisabeth Knutsen in the late 1960s, and ended abruptly when the tanker market collapsed.

### **8.1.5. Financing**

In spite of the extent of shipyard financing available, shipowners had to have close connections with banks to secure additional financing and liquidity-loans. The British finance institution Hambros Bank was originally Knutsen's most important financial partner. After the freight market breakdown, Hambros Bank had fallen victim to great losses in connection with the financing of the tanker fleets of two major Norwegian shipowners, Hilmar Reksten and Hagbart Waage. Due to the large losses that the bank had been forced to accept in connection with the financing of supertankers, Hambros would not give Knut Knutsen OAS an acceptable offer when the final part of the financing of TT Hilda Knutsen was to be arranged in 1975.<sup>23</sup>

Knut Knutsen OAS had to look for alternative bank connections, and the Guarantee Institute entered the scene as guarantor for the loans. They granted guarantees for the loans in connection with the TT Hilda Knutsen, and also assisted with regard to liquidity loans. A guarantee for a liquidity loan granted in late 1981 was motivated by the fact that *"the discontinuation of the Guarantee Institute's involvement in the tankers would lead to the winding-up of the company's additional activities. [...] As the company was one of the few remaining small Norwegian liner companies, the winding-up would be a further step in the direction of reduction of Norwegian liner activities."*<sup>24</sup> Accordingly, the neglected liner sector to some extent came to the rescue. The Guarantee Institute and Knutsen's main creditors became strongly involved in the operation of the company.<sup>25</sup>

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<sup>22</sup> Borgen & Spanne, *op.cit.*, 1982, p. 47.

<sup>23</sup> According to Borgen & Spanne, *op.cit.*, 1982, p. 47 this was a result of the fact that Knut Knutsen OAS had been unwilling to agree to a conversion fee six months earlier.

<sup>24</sup> Stortingsproposisjon nr. 21 (1982-83) *Om bevilgning til utbetaling under garantier stillet av Norsk garantiinstitutt for skip og borefartøyer AS for lån til rederiet Knut Knutsen OAS* [On the appropriation of payment with regard to guarantees granted by Norsk garantiinstitutt for skip og borefartøyer AS for loans to the shipowning company Knut Knutsen OAS], pp. 1-2.

<sup>25</sup> The Guarantee Institute, together with Manufacturers Hanover Trust and Bergen Bank, forced the company to recruit a managing director who had no previous relation to the company in the end of the 1970s.



### 8.1.6. Summary - Knut Knutsen OAS

Knut Knutsen OAS was originally involved in both the tanker and the liner sectors. Motivated by expectations of large profits, Knutsen expanded in the tanker sector, at the same time neglecting the need for modernisation and renewal of the liner fleet. The end result was that when the tanker market collapsed, the company had pooled its resources into a market characterised by overcapacity and depressed freight rates. Ironically, the large tanker investments implied that Knutsen had lost competitiveness in the relatively secure liner sector due to lack of investment.<sup>26</sup>

The development of Knut Knutsen OAS can illustrate how the tanker market focus of some Norwegian shipowners had disastrous consequences. The expansion in the tanker market enabled the company to reap large profits in the first part of the 1970s. The contracting of two ULCCs without financing or employment secured in advance proved to be extremely unfortunate when the tanker market broke down. As a result of the contracting in 1973, the company acquired a supertanker which alternately was laid-up and earning abysmal rates, as well as two liners which had become very expensive. Moreover, the company was forced to sell parts of the fleet due to acute liquidity problems.

The fate of Knut Knutsen OAS illustrates the changes in Norwegian shipping companies brought about by the shipping crisis. By the mid 1980s, after almost 90 years at the helm, the Knutsen family left the company.<sup>27</sup> The company's new owners implemented a new strategy, based on long-term charters. Knutsen OAS Shipping today operates a fleet of some 20 vessels, mainly shuttle tankers, product carriers and chemical tankers.

## Chapter 8.2. Hilmar Rekstens Rederi

Hilmar Reksten had built his shipowning company from scratch. Reksten was in the beginning of the 1970s one of the most famous characters on the international shipping scene. The reputation was primarily due to his risky strategy, as a result of which he had earned large profits on a series of speculative deals. "*The mysterious Norwegian Hilmar Reksten*" is called a "gambler" and an "archetypal entrepreneur". Other observers have called him "risk-loving" and "*the shipowner who was willing to break law and justice to accomplish his goal; becoming the largest tanker owner in the world.*"<sup>28</sup>

There are several problems connected to an assessment of Hilmar Reksten's importance in the international shipping market, as Reksten had considerable assets abroad, which were kept out of reach of the Norwegian authorities. It is, among other things, alleged that Hilmar Reksten, together with P&O, controlled the company Associated Bulk Carriers,

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<sup>26</sup> At the same time, it is important to remember that the increasing preferential treatment of domestic lines altered the conditions in the liner market from the middle of the 1970s. One possibility is therefore that larger investments in the liner sector would but have delayed the economic difficulties of the company.

<sup>27</sup> The basis for the withdrawal can be found in Bergen Bank's proposal to avoid bankruptcy, referred to in Stortingsproposisjon nr. 21 (1982-83), *op.cit.*, pp. 2-3.

<sup>28</sup> Quotes from *The Sunday Times*, 12 March, 1978, p. 63, Espeli, Harald, *Industripolitikk på avveie - Motkonjunkturpolitikken og Norges Industriforbunds rolle 1975-80* [Industrial policy gone astray - The counter-cyclical policy and the role of Norges Industriforbund 1975-80], Ad Notam Gyldendal, Oslo, 1992, p. 55 and Borgen, Erling, *Hilmar Rekstens eventyr* [The adventures of Hilmar Reksten], J.W. Cappelen's Forlag, 1981, p. 7.

which was one of the largest dry bulk companies in the world.<sup>29</sup> Due to the large amount of uncertainty surrounding Reksten's assets abroad, only the ships listed as owned by Reksten in the Veritas-registry are regarded as part of his fleet.

Even though an assessment of Reksten's fleet may be fraught with uncertainties, his strategy is easy to discern. Although he was known as a relatively shy person who seldom gave interviews, he explained and defended his choice of strategy and his business philosophy on several occasions. These sources will be used to underline certain elements in the analysis of Reksten's market behaviour and contracting.<sup>30</sup>

### **8.2.1. Historical introduction**

Hilmar Reksten embarked on a career as a shipowner in the interwar period, after studies in Germany. Before he started his studies in Germany, Hilmar Reksten speculated in German marks with borrowed money. He had obtained a 5.000 kroner loan from a shipowner in Bergen to finance his studies. The development of the German currency left his investment as good as worthless after four months. Reksten sometimes used this story to illustrate the uncertainty of the currency market, and the incidence might explain Reksten's fear of exchange rate losses in connection with long-term charters.<sup>31</sup>

Hilmar Reksten started out by operating his own and chartered vessels on The Great Lakes-trade. In 1938 he ordered his first tanker at the Swedish yard Kockums Verft.<sup>32</sup> During the Second World War, Hilmar Reksten worked for the Norwegian organisation Nortraship, which was responsible for the operation of the Norwegian fleet.<sup>33</sup>

Reksten questioned the Norwegian authorities' licensing-policy in the period after the Second World War, and he saw the policy as a direct discrimination against shipowners wishing to invest in large tankers.<sup>34</sup> Reksten was convinced that the largest potential for profit existed in the tanker market, and particularly in the spot market.

Despite feeling obstructed and opposed by the Norwegian authorities, Hilmar Reksten continued to expand in the tanker sector after the Second World War. Early in the 1960s he

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<sup>29</sup> See Næss, Erling Dekke, *Autobiography of a Shipping Man*, Seatrade, London, 1977, p. 233, *Norwegian Shipping News*, No. 12, 1973, p. 402 and *Norwegian Shipping News* No. 15, 1973, p. 487. Reksten claimed that he was only involved in the management of the vessels on behalf of the real owners, who wanted to remain anonymous.

<sup>30</sup> The advantage of this kind of sources is that they make it possible to analyse the evaluations of the shipowner before certain actions were undertaken, for instance the signing of a contract. The problem with the use of these evaluations in connection with Hilmar Reksten is that he, even after being proved wrong, claimed that he acted in the rational and most profitable manner. He also tended to blame circumstances of which he had no control for his failures.

<sup>31</sup> *Norwegian Shipping News*, No. 7B, 1971, p. 49.

<sup>32</sup> In *Norwegian Shipping News*, No. 1, 1976, p. 20, Reksten claims that he originally wanted to contract this ship at a Norwegian yard, but that he was surprised to learn that Norwegian yards were unable to build the kind of vessel that he wanted.

<sup>33</sup> For an introduction to Reksten's position in the Nortraship-organisation, confer the chapter "*Hilmar Reksten - et stormsentrum*" [Hilmar Reksten - eye of the hurricane] in Thowsen, Atle, *NORTRASHIP - Profit og patriotisme* [NORTRASHIP - Profit and Patriotism], Grøndahl og Dreyers Forlag A/S, Oslo, 1992, pp. 217-251.

<sup>34</sup> *Norwegian Shipping News*, No. 7B, 1971, p. 53 and Reksten, Hilmar, *Noen ideer om konkurransevilje og risikomomentet under strukturendringene i norsk tankskipsfart* [Some ideas about willingness to compete and the risk aspect during the structural changes in Norwegian tanker shipping], Kristofer Lehmkuhl Lecture 1971, Norwegian School of Economics and Business Administration, 1971, pp. 7-16.

contracted a series of seven turbine-driven tankers, delivered in the period 1965-1967.<sup>35</sup> The contracting of the TT Julian at Aker/Stord marked the beginning of a close association between Reksten and the Aker-group. In the years 1964-1972, Reksten contracted 12 VLCCs, at a total value of more than two billion kroner, at the yard.<sup>36</sup>

In addition to his own shipping company, Hilmar Reksten had economic interests in a variety of Norwegian companies, both within the shipping industry and in other sectors. Moreover, he owned several properties, and intended to build a yard on one of these.<sup>37</sup> Hilmar Reksten also owned a plethora of stocks and properties abroad.<sup>38</sup> When Reksten encountered liquidity problems in the middle of the 1970s, the Norwegian authorities decided to buy his Norwegian shares, valued at 200 million kroner.<sup>39</sup>

Hilmar Reksten's emergence as one of the world's leading tanker owners was the result of a business philosophy resting on three principles. First, he focussed on the market for oil transport. Second, he expanded his fleet through the ordering of the largest and most efficient vessels available. Third, he operated in the spot market, ie the market for single voyages, rather than on long-term contracts.

### 8.2.2. Fleet structure

Early in the 1970s, Hilmar Reksten claimed that he controlled the largest privately owned independent tanker fleet in the world.<sup>40</sup> The fleet mainly consisted of turbine-driven supertankers.<sup>41</sup> In 1970, Hilmar Reksten's tanker fleet amounted to more than one million dwt, and he had a similarly sized "fleet" of newbuilding contracts at German and Norwegian yards. In addition to his own vessels, he had chartered vessels from other shipowners, thereby increasing his risk as well as his potential revenue.

Hilmar Reksten had invested heavily in the tanker market, and after 1970 his fleet consisted almost exclusively of tankers. In 1975, Reksten received the gas-tanker GTT Lucian from Moss-Rosenberg Verft, allegedly after signing the \$40 million contract for the ship on a

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<sup>35</sup> The vessels were contracted in Germany, Great Britain, Sweden and, in the case of the TT Julian, Norway.

<sup>36</sup> Rederiaksjeselskapet Hadrian, *Driftsberetning og Resultat* [annual report], 1972, p. 7.

<sup>37</sup> See for instance Rederiaksjeselskapet Hadrian, *Driftsberetning og Resultat* [annual report], 1977, p. 12. The yard should build tankers of record-breaking proportions, ie in the region of 800.000 dwt; see *Norwegian Shipping News*, No. 15, 1973, p. 485.

<sup>38</sup> Borgen, *op.cit.*, 1981, p. 44, presents some of the New York Stock Exchange-listed shares allegedly owned by Reksten.

<sup>39</sup> Stortingsproposisjon nr. 187 (1974-75), *Om fullmakt til kjøp av aksjer i norske selskaper* [On the authorisation of the purchase of shares in Norwegian companies]. The fate of the shares after they were bought by the authorities was the centre of considerable debate in the Norwegian parliament; see for instance Innst. S. nr. 437 (1976-77), *Innstilling fra finanskomiteen om disponering av aksjer som staten kjøpte av Reksten-gruppen* [Recommendation from the Committee on Finance and Economic Affairs on the use of shares which the state bought from the Reksten-group] and Stortingsforhandlingene, 4. juni 1977, *Disponering av aksjer som staten kjøpte av Reksten-gruppen* [On the use of shares which the state bought from the Reksten-group], pp. 4275-4282.

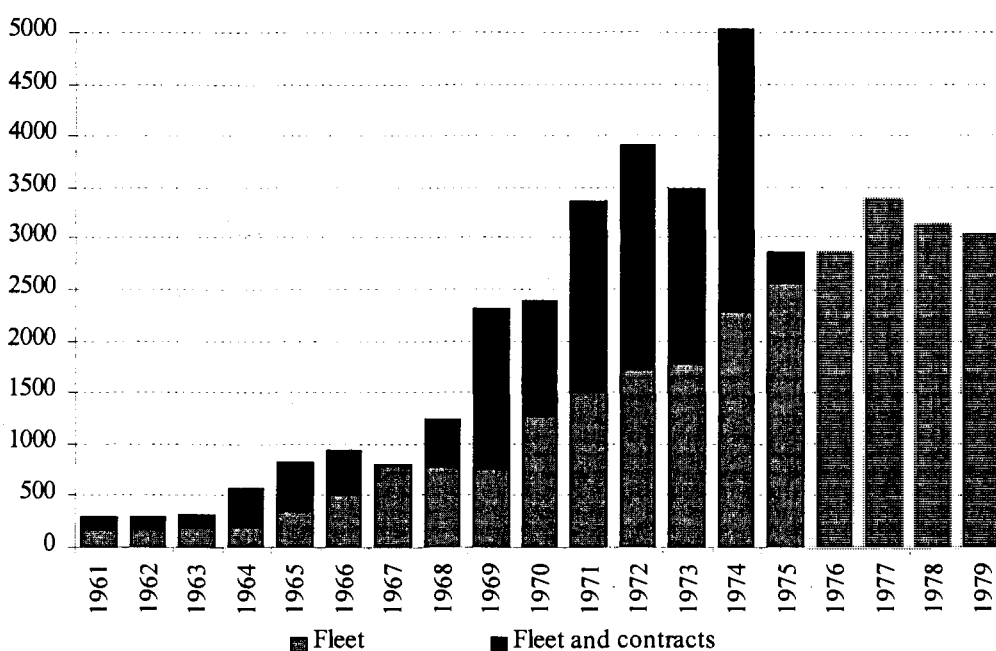
<sup>40</sup> Reksten, Hilmar, *Opplevelser* [Experiences], H. Aschehoug & Co., Oslo, 1979, p. 29. The assertion is correct if only vessels without charters are deemed "independent".

<sup>41</sup> In addition to the tankers, one of Reksten's companies owned four 16.000 dwt bulk carriers. These vessels are not included in the survey of Reksten's fleet, as they were relatively unimportant. The M/Aux Statsraad Lehmkuhl, a sailing vessel which was owned through the company *Bergens Skoleskib*, is also omitted from the analysis. This majestic vessel was bought by Reksten in 1968 and operated as a training ship for four years. She was taken over by a private foundation in 1978.

napkin.<sup>42</sup> Despite the inclusion of this vessel, more than 95 per cent of the fleet consisted of oil tankers.

One conspicuous feature of Reksten's operations was the large amount of contracts, relative to the size of the fleet. Norwegian shipowners held a disproportionate share of the world's newbuilding contracts. However, Reksten's amount of tonnage on order, relative to his existing fleet, was even larger than his Norwegian colleagues. One important reason for this was that Reksten contracted ships of ever-increasing sizes, and the average size of the vessels he contracted grew strongly in the beginning of the 1970s.

Figure 8.3. Reksten's fleet and contracts, million dwt, 1961-79<sup>43</sup>



The fleet structure is of importance in an explanation of why Hilmar Reksten was extremely hard hit by the international shipping crisis. First, the fleet consisted almost exclusively of tankers. Second, the vessels were large, and it was the freight rates and the values of the largest tankers which deteriorated the most in connection with the shipping crisis.

Table 8.2. Average size of Hilmar Reksten's tankers and tanker contracts, 1970-74<sup>44</sup>

	Average size - existing fleet	Average size - newbuilding contracts
1970	90.500 dwt	221.000 dwt
1971	100.000 dwt	265.000 dwt
1972	114.000 dwt	275.000 dwt
1973	196.500 dwt	285.000 dwt
1974	227.500 dwt	352.500 dwt

In addition to the operation of his own large fleet, Reksten increased his potential profits and risks by chartering-in four vessels from other shipowners. When he encountered economic

<sup>42</sup> Borgen, *op.cit.*, 1981, p. 88.

<sup>43</sup> Based on figures from the Reksten-database. The list does not include the vessels ordered in Hilmar Reksten's name, but intended for the company of his son Audun Reksten, vessels owned by Reksten through foreign companies or vessels chartered from other shipping companies. These vessels have also been omitted from the rest of the paper.

<sup>44</sup> Figures based on calculations from Reksten- database.

difficulties, Reksten did not have the financial resources necessary to honour the agreements he had signed, and the charters were annulled after the tanker market breakdown. As a result of this annulment, the original owners of the ships demanded \$300 million in compensation from Reksten.<sup>45</sup>

### 8.2.3. Chartering strategy

Hilmar Reksten had a clearly pronounced chartering strategy – only given particular circumstances would he commit his vessels to charters. The chartering strategy was a result of the fact that he judged the risk of operating in the spot market differently from his competitors. On one occasion, he claimed that “*the chartering policy [...] was based on commercial reasoning and not on gambling. I could not afford to gamble.*”<sup>46</sup>

Hilmar Reksten’s ships were as a rule operated in the spot market, and in his autobiography *Opplevelser [Experiences]* he characterises “*the four times I hit the bull’s eye in the spot market*” as the main achievements in his shipowning career. In 1948, the MT Julian was committed to a five-voyage charter, and the ship’s profit during these nine months far exceeded its initial price. Four years later, the MT Octavian was given a five year charter, quite unusual in view of Reksten’s general chartering policy. Reksten claims that this “*is an example that I committed vessels to charters when I felt that it was right.*”<sup>47</sup> The largest block-closure included 12 of Reksten’s 15 vessels, which were chartered to British Petroleum. This agreement, from 1970, involved 59 voyages around the Cape.<sup>48</sup>

Reksten’s spot market victories culminated in the closure of the VLCC TT Kong Haakon VII at the rate *Worldscale 400*. Reksten claims that this was “*a rate the world has never seen, neither before nor after.*”<sup>49</sup> The net profit from this trip was 42 million kroner, which implies that 40 per cent of the ship’s building price had been earned on a voyage which lasted 68 days.

On several occasions Reksten emphasised that he operated his vessels in the spot market because he regarded this as the market segment with the lower risk. Fear that the development of exchange rates or costs would reduce his profits made him see the charter market as the relatively risky alternative. Reksten claimed that “*the risk associated with this assessment of the market conditions is, in periods of depression, not unreasonably large for experienced shipowners with a practised organisation and competitive tonnage, which in periods of increasing demand also can reap unreasonably large profits.*”<sup>50</sup> Shipowners preferring long-term charters were referred to as “*husmenn*” [cotters].

One week before The Organisation of Petroleum Exporting Countries began their concerted effort to raise oil prices, Hilmar Reksten claimed in a public interview that “[a]gain

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<sup>45</sup> See *Kapital*, No. 18, 1978, p. 21. For an introduction to the saga surrounding the chartered-in vessels, see Tenold, Stig, “The Harder They Come... Hilmar Reksten from Boom to Bankruptcy”, paper presented at the Third International Congress of Maritime History, Esbjerg, August 2000.

<sup>46</sup> Reksten, *op.cit.*, 1979, p. 169.

<sup>47</sup> *Ibid.*, p. 168.

<sup>48</sup> It has been claimed that Reksten had considerably larger profits from these trips than those he declared to the Norwegian authorities, and that this revenue enabled him to buy his share of the Zapata-Næss fleet.

<sup>49</sup> Reksten, *op.cit.*, 1979, p. 169.

<sup>50</sup> Reksten, *op.cit.*, 1971, p. 21.

*I am in the fantastic position that all my vessels are by the goal line, unchartered and free.*"<sup>51</sup> The fantastic position was reflected in the closure of the TT Kong Haakon VII at Worldscales 400, but also in the high share of Reksten's fleet laid up the following years.

Immediately after the TT Kong Haakon VII had finished her trip at the historic freight rate Worldscales 400, the vessel was laid up and not employed for another four months. The vessel then undertook one voyage, at rates which did not cover costs. After the oil price increase, large parts of Reksten's fleet was constantly laid up, and the revenue from the few trips which were undertaken in several instances did not cover the variable costs.

Table 8.3. RA Hadrian's tankers and their employment, 1973-78<sup>52</sup>

	TT Vespasian 285.700 dwt	TT Hadrian 219.720 dwt	TT Octavian 219.720 dwt	TT Cyprian 285.400 dwt
1973		Spot market, inactive from October	Two voyages, six-voyage charter to August -74	
1974	Delivered June, three voyages	Spot market until November, laid up	Laid up from August	
1975	Laid up from February	One voyage, laid up	Laid up	Delivered
1976	One voyage, laid up	Laid up	Laid up, four voyages	Laid up
1977	Two voyages, laid up	Laid up	Two voyages, laid up	Three year charter
1978	Two voyages, laid up	Laid up	Laid up until November	Three year charter

Table 8.3 is a survey of one of Reksten's companies, RA Hadrian, and the employment of some of its tanker in the period after the tanker market collapse. Reksten's policy of operating his vessels in the spot market proved to have dramatic consequences, and at one point in 1975, all of his tankers were laid up. A few weeks before the tanker market collapse, Reksten had rejected an offer of long-term charters for several of his vessels, allegedly because of a difference of ten cents per ton between the charterer's offer and Reksten's demand.<sup>53</sup> The result of this rejection was that he ended up with large parts of his fleet in lay-up, and newbuilding contracts for even more unchartered vessels.

#### 8.2.4. Contracting

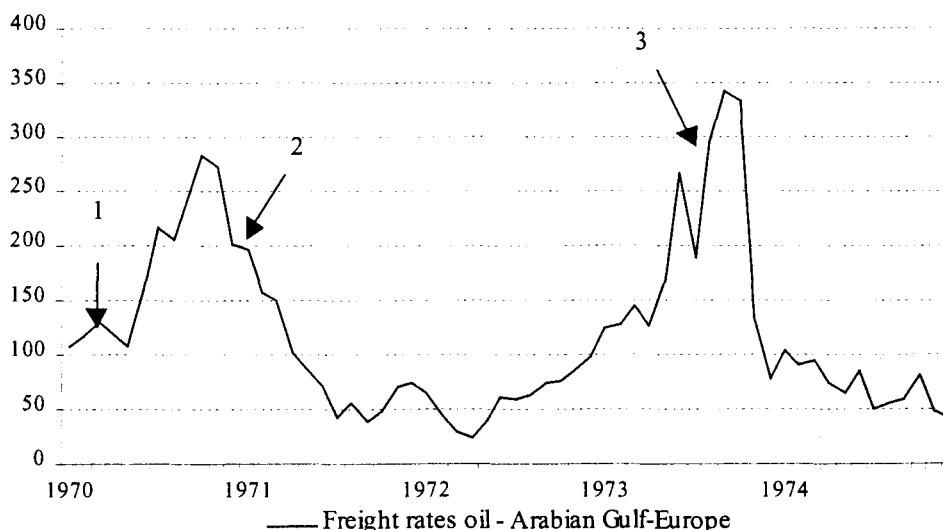
Hilmar Reksten's willingness to take risks is reflected in the newbuilding contracts he signed in the last part of the 1960s and the beginning of the 1970s. The numbers from one to three in the subsequent figure denote the following development:

1. February 1970: Two tankers are converted from 220.000 to 283.000 dwt, and another three ships of 283.000 dwt are contracted.
2. December 1970: Reksten contracts two additional tankers of 283.000 dwt.
3. July 1973: Reksten signed *pro forma* contracts about the building of two ships each representing 420.000 dwt. The contracts were later re-negotiated with the view of building four tankers, each 490.000 dwt.

<sup>51</sup> Interview with Hilmar Reksten arranged on 9 October 1973, reprinted in *Norges Industri*, 22 October 1973, p. 12.

<sup>52</sup> Information from Rederiaksjeselskapet Hadrian, *Driftsberetning og Resultat* [annual report].

<sup>53</sup> Borgen, *op.cit.*, 1981, p. 84.

Figure 8.4. Freight level and tanker contracting, 1970-74<sup>54</sup>

Hilmar Reksten usually contracted newbuildings in blocks, placing orders for a series of vessels at the same time. Early in 1970, Reksten contracted three ships, totalling 850.000 dwt, at the Aker-group/ Aker Stord-yard.<sup>55</sup> Less than a year later, he contracted two more vessels, 283.000-tonners, at the same yard. The final and biggest block of contracts was signed shortly before the freight market breakdown, when Reksten contracted four 420.000 dead weight ton tankers, totalling more than 1,6 million dwt, at Aker Stord.<sup>56</sup>

The large contracting of VLCCs and ULCCs, usually at fixed prices, meant that Reksten's contracts often were favourable compared to those of his competitors who fell victim to the strongly increasing newbuilding prices in the beginning of the 1970s.<sup>57</sup> As a result of the fact that all his tanker contracts after 1966 were with the Aker-group, a large share of Reksten's debt was denoted in Norwegian kroner.<sup>58</sup> Until 1976, the exchange rate development was unfavourable to Reksten. His income was denoted in dollar, the value of which fell sharply, whereas his expenses were largely in appreciating kroner and mark.

The massive contracting of consistently larger tonnage was an important element in Reksten's expansive tanker market strategy. The effect of the focus on large vessels is clearly visible when we compare his fleet and newbuilding contracts with the Norwegian and international averages.

<sup>54</sup> Based on figures from the Reksten-database.

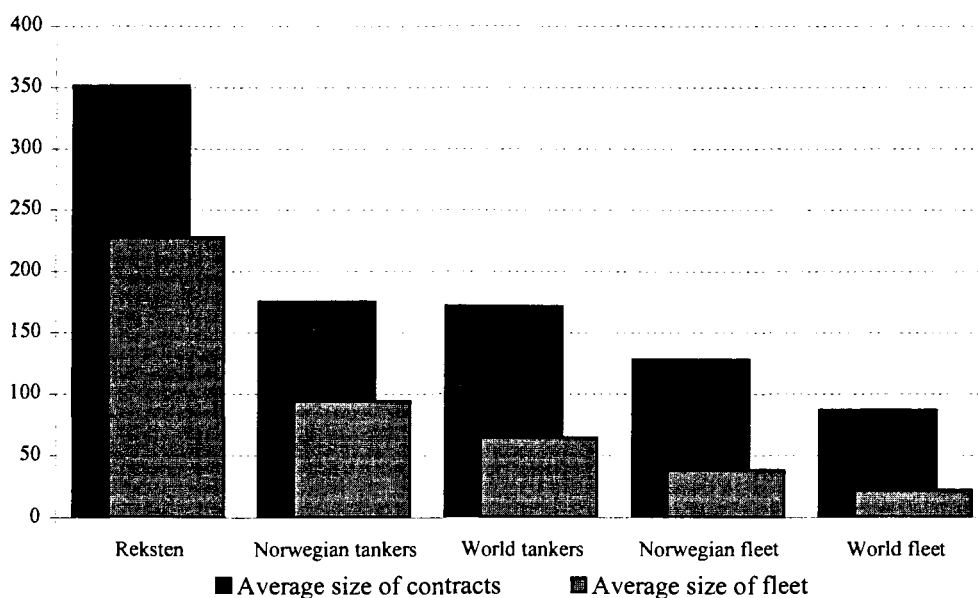
<sup>55</sup> Reksten, *op.cit.*, 1979, pp. 11-24 is a subjective introduction to the problems surrounding Reksten's contracts with Aker from the beginning of the 1970s. An alternative version of these events can be found in Onarheim, Onar, *Min tørn* [My bout], Gyldendal Norsk Forlag, 1984, pp. 177-182. Figure 8.4 is based on the dates which Reksten presents for his contracts, not the inclusions in the *Norwegian Shipping News*-list.

<sup>56</sup> These contracts were not registered in *Norwegian Shipping News*' list of vessels contracted by Norwegian owners, published in September 1973. Onarheim, Onar, *Min tørn* [My bout], Gyldendal Norsk Forlag, 1984, pp. 56-65 is an introduction to the negotiation-process which lasted from June 1973 and which ended in the contracting of the four tankers.

<sup>57</sup> Consequently, *Kapital*, No. 7-8, 1973, p. 41, claimed that there were large hidden reserves in the Reksten-fleet.

<sup>58</sup> Rederiaksjeselskapet Hadrian, *Driftsberetning og Resultat* [annual report], 1974, p. 4 includes a list of the Reksten-owned company RA Hadrian's debts. More than half of this was denoted in Norwegian kroner, approximately a third was in dollars and the rest was German marks.

Figure 8.5. Average size of fleets and vessels on order 1974, 1000 dwt<sup>59</sup>



All of Reksten's contracts were entered into without the security of long-term charters. Hilmar Reksten experienced the dangers inherent in this contracting policy as early as 1972, when the TT Hadrian went directly from the Aker/Stord-yard into lay-up. Two years later, as a result of the spot market policy, the net profit of the same ship was more than 50 million kroner.

In 1974 Reksten's turbine tanker contracts at Aker/Stord amounted to approximately three million dwt, and these ships were to be launched in a market with overcapacity and bunkers prices which favoured motor tankers. At the same time, it was evident that the value of the company's fleet was deteriorating, and this would create a difficult situation with regard to the creditors. The solution was to cancel some of the contracts with Aker/Stord.

Reksten had difficulties paying the instalments on the four turbine tankers as early as April 1974. He claimed that his lack of payment was a protest against the fact that his previously paid instalments had been used for other purposes than his own ships. At the same time, Reksten indicated that he intended to cancel several of the contracts at Aker/Stord because the yard would be unable to deliver the vessels at the scheduled time or secure financing in the manner which the contract stipulated.<sup>60</sup>

In September 1974 the Aker-group decided that the contracts with Reksten about the building of the four 420.000-tonners should be cancelled. The company chose to go to court to secure compensation for the losses that they had been forced to take as a result of the fact that

<sup>59</sup> The figures for Reksten are taken from the Reksten-database. The figures for the Norwegian and international fleets and contracts are taken from *Review 1975*, which includes tankers and bulk carriers of more than 10.000 dwt and other vessels over 1000 grt. The point made in Chapter Six, that the size differences between the Norwegian and international tanker fleets largely related to the existing fleets, rather than contracts, is obvious.

<sup>60</sup> On this occasion, it is easy to see how Reksten tended to blame external circumstances for his problems. In a letter to Fred. Olsen, chairman of the board in the Aker-group, he claims that "in July 1973 you even managed to fool me into signing the contracts for buildings number 414-417."; see Reksten, *op.cit.*, 1979, p. 66. Onarheim, Onar, *Min tørr* [My bout], Gyldendal Norsk Forlag, 1984, p. 150 takes the contrary position, claiming that "Hilmar Reksten had from the autumn of 1972 pushed Aker to give him more contracts, but the board decided that Aker had enough Reksten-contracts already. [...] Reksten did not give in. He was both insulted by and angry with Aker. [...] the end of the story was that Aker in June 1973 signed contracts for four vessels with delivery in 1977-78."



the ships were never to be built. Three months later, Reksten himself cancelled the two remaining contracts for the building of two 283.000-ton tankers, citing foul play from the yard as the reason.

As a result of the annulment of the contracts due to lacking payment of instalments, an arbitration court ordered Reksten to pay the Aker-group 320 million kroner.<sup>61</sup> In addition to this, he had to pay more than NoK 200 million in cancellation fees for the two 283.000-ton vessels.<sup>62</sup> Consequently, due to his eager contracting in 1972 and 1973, Reksten had to pay NoK 520 million for vessels which he never received. Even for a company with a more sustainable chartering strategy, it is doubtful whether expenses of this magnitude would be manageable.

The liquidity difficulties occurred parallel with a strong reduction of the value of Reksten's assets. Estimates from a Norwegian shipbroking company show that the value of a standard 200.000 dwt tanker decreased by 80 per cent from 1973 to 1975.<sup>63</sup> Reksten has estimated that the value of his fleet fell by more than two billion kroner, or two thirds, from January 1974 to September 1975.<sup>64</sup> His net wealth fell from NoK 2,7 billion to red figures over the same period.

### **8.2.5. Financing**

Hilmar Reksten's contracting was undertaken in an unorthodox manner. When the vessels were contracted, the only guarantee was Reksten's personal signature; neither charter agreements nor bank guarantees were necessary.<sup>65</sup> The reason for these unconventional deals was Reksten's close relationship to the British Hambros Bank.<sup>66</sup> Newbuilding contracts were mainly financed by means of the yard credits, originating with state-run agencies, but the additional financing was provided by Reksten personally or Hambros Bank.<sup>67</sup> There are several indications that Hambros Bank shared Reksten's opinion that operating the tankers in the spot market was the best alternative.<sup>68</sup>

Hambros Bank played a crucial role in connection with the financing of shipbuilding for Norwegian account, and several of the shipowners who contracted large parts of their tonnage from Norwegian shipyards had Hambros Bank as their main business associate in the banking sector.<sup>69</sup> After the tanker market collapse, the bank's losses on loans granted to Norwegian shipowners, particularly Hilmar Reksten and Hagbart Waage, were enormous.

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<sup>61</sup> The already paid initial term, constituting NoK 86 million, was deducted.

<sup>62</sup> 107 million was deducted from the total sum, due to instalments previously paid by Reksten.

<sup>63</sup> Fearnley & Egers Chartering Co. Ltd., *Review 1976*, Oslo, 1977, Table 19.

<sup>64</sup> Reksten, *op.cit.*, 1979, p. 175.

<sup>65</sup> *Ibid.*, p. 7. In an interview with *Norwegian Shipping News*, No. 7B, 1971, p. 59, Reksten asserts that "...if one becomes too involved with finances one begins to be afraid and to be dependent upon the banks. I do not recommend it."

<sup>66</sup> Borgen, *op.cit.*, 1981, p. 107 claims that Hambros Bank "secured their own business by taking security in Reksten's foreign assets, but in Norway let the authorities compensate through guarantees granted by Norsk Garantiinstitutt for Skip og Borefartøyer AS."

<sup>67</sup> In *Kapital*, No. 6, 1974, p. 3 it is claimed that Hambros bank helped Reksten through a period of serious economic difficulties before the freight rate increase in June 1967.

<sup>68</sup> See for instance Rederiaksjeselskapet Hadrian, *Driftsberetning og Resultat* [annual report], 1975, p. 5.

<sup>69</sup> See Hammer, Jan A. and Høy, Arvid, *Norsk skipsfart og dets lånekilder* [Norwegian shipping and its sources of finance], Skipsfartsøkonomisk Institutt, Bergen, 1983, p. 36.

According to *Norwegian Shipping News*, the bank had to write off £8,6 million in 1975/1976 as lost due to their involvement with Hilmar Reksten.<sup>70</sup> According to the bank's annual reports, the losses amounted to £4,6 million in 1976, an undisclosed amount transferred from the bank's inner reserves in 1978 and more than \$60 million in 1982.<sup>71</sup>

In the autumn of 1975, Reksten was threatened with bankruptcy. Transfer of money from a mysterious foreign company and an agreement between the Norwegian authorities, the Aker-group and Hambros Bank were necessary to secure the continuing operation of Reksten's companies. Another element which helped to relieve the Reksten-companies' liquidity problems in the period with deteriorating freight income and large lay-ups was the Norwegian authorities purchase of Reksten's private portfolio of stocks in the spring of 1975.

Hilmar Reksten was one of the first Norwegian shipowners to require the assistance of the Guarantee Institute, and a large portion of the Guarantee institute's resources were channelled to the Reksten-companies. Indeed, it has been claimed that the purpose of the institution was a means to saving Hilmar Reksten from bankruptcy, induced by the close links between Reksten and the Aker-group. This motive has been presented both by the Guarantee Institute's barristers and by Haakon Nygaard, one of the instigators behind the institution and later its managing director.<sup>72</sup>

The entry of the Guarantee Institute signalled the exit of Hilmar Reksten. A new company RA Trajan II, was established to take over vessels from the companies owned by Hilmar Reksten and his family. Moreover, the family's 80 per cent share majority in RA Hadrian was transferred to the Guarantee Institute without compensation. The vessels were to be managed by Hilmar Reksten's adopted son, Johan Reksten. Although Hilmar Reksten was allowed to remain on the board of RA Hadrian, he refused to sign the annual report and chose not to participate on board meetings as "*he questioned the legal basis of the agreements with the Aker-group and the Guarantee Institute.*"<sup>73</sup>

In order to secure the liquidity of the companies until the end of 1979, RA Trajan II and RA Hadrian received guarantees from the Guarantee Institute of NoK 277 million and NoK 463 million respectively.<sup>74</sup> In the period 1976-1980 the annual losses of the companies were in the region of NoK 270-300 million. Their negative balance increased from NoK 131 million in 1976 to NoK 1.275 million by the end of 1980.

In late 1981 the Guarantee Institute disbursed NoK 871 million in connection with the guarantees granted to the benefit of Reksten's companies. On 10 May 1982 RA Hadrian was

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<sup>70</sup> *Norwegian Shipping News*, No. 13/14, 1978, p. 13.

<sup>71</sup> Hambros Bank, *Report of the Directors and Accounts 1976*, p. 3 and Hambros Bank, *Report of the Directors and Accounts 1978*, p. 5. The bank reached two expensive settlements with the Norwegian authorities in 1982 and 1995; see Stokes, Peter, *op.cit.*, 1992, pp. 41-42 and Tenold, *op.cit.*, 2000.

<sup>72</sup> The Guarantee Institute's barristers claimed this in a court case against Hambros Bank in 1992; see *Aftenposten*, 29 October 1992, p. 7. Nygaard's claim can be found in *Rapport til Stortinget fra den granskningskommisjon i Reksten-saken som ble oppnevnt ved Stortingets vedtak 20. juni 1985* [Report to the Storting from the investigative committee in the Reksten-case established by royal resolution 20 June 1985], presented 9 February 1988, p. 199.

<sup>73</sup> Director's report, R/A Hadrian, *Driftsberetning og Resultat* [annual report], 1976, p. 32.

<sup>74</sup> Stortingsmelding nr. 103 (1980-81) *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1980* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1980], p. 4. The guarantees were renegotiated and increased in 1978.

wound up after almost fifty years of operation. The company's NoK 17,4 million share capital was lost, and the accumulated losses amounted to NoK 567 million. RA Trajan II continued its activities with Johan Reksten and Hambros Bank as the main shareholders.

### **8.2.6. The aftermath**

Due to the fact that Hilmar Reksten is often regarded as *the* personification of the shipping crisis, he may deserve more attention than the other shipowners presented here.<sup>75</sup> Moreover, his demise was as controversial as his business policy, and included, among other things, several lengthy court cases, the biggest civil action in Norwegian legal history and threats of impeachment in the case of government members involved in the case.

In 1979 Hilmar Reksten was charged with eight counts of tax evasion and exchange-control violations. He was acquitted on seven counts, but was fined one million kroner for offences in connection with undisclosed profits from the sale of a tanker in 1973. Hilmar Reksten condemned the criminal proceedings against him in a letter to the Norwegian Prime Minister Odvar Nordli; “[e]ven my iron constitution could not endure the strain.”<sup>76</sup> He died in Bergen in July 1980, aged 82.

Hilmar Reksten's estate was filed for bankruptcy by the Norwegian authorities in November 1980 due to lacking tax payments. In January 1991, more than ten years after the untangling of the Reksten-empire started, the Norwegian newspaper *Aftenposten* claimed that “[t]he Reksten-case is definitely approaching an end.”<sup>77</sup> However, legal cases in connection with the estate are still contested in the Norwegian judiciary. According to the current Norwegian national budget, “[d]ue to on-going lawsuits related to its only remaining activity, the Reksten-complex, the Guarantee Institute can not be dissolved.”<sup>78</sup>

### **8.2.7. Summary - Hilmar Reksten**

In *Opplevelser*, Hilmar Reksten presents a planned tanker-cooperation scheme between several Norwegian shipowners.<sup>79</sup> Two strategic elements were of crucial importance to this collaboration. First, no long-term charters should be entered into due to the risk posed by exchange rate changes and destructive inflation. Second, the investment should be in tankers of a size and quality which was “top of the league” with regard to efficiency, viz turbine-driven supertankers.

The collaboration never materialised, although Hilmar Reksten himself followed the prescribed policy. Operation in the spot market proved to be very profitable in the period where there was an increasing demand for tanker transport, but as a result of the freight market collapse it became impossible to secure profitable employment for ships without charters. The investment in large turbine tankers also proved to be extremely profitable in the period where demand increased faster than supply. However, after the oil price increase, this

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<sup>75</sup> For a more detailed assessment of Hilmar Reksten's strategy and fate, see Tenold, Stig, *op.cit.*, 2000.

<sup>76</sup> Letter from Hilmar Reksten to Prime Minister Odvar Nordli, dated 26 March 1979, Archives of the Norwegian Shipowners' Association, folder 6 B K 75 – Krisen 1975 XII: 011178-300679.

<sup>77</sup> *Aftenposten*, 24 January 1991, p. 22.

<sup>78</sup> Stortingsproposisjon nr. 1 (1999-2000) *Statsbudsjettet – Nærings- og Handelsdepartementet* [The National Budget – Proposition from the Ministry of Trade and Industry], p. 19.

<sup>79</sup> Reksten, *op.cit.*, 1979, pp. 163-167.

segment experienced the largest fall, both in freight rates and the value of vessels.

Hilmar Reksten took advantage of the profit opportunities in the shipping sector. On 9 October 1973, he considered himself “*in a fantastic position*”. No shipowners had more tonnage available for assignments in the red-hot spot market than he had. A few years later Hilmar Reksten set a new, more dubious record. No shipowners had more tonnage laid up than he had. As Stokes puts it; “*The highest flyer in 1973, Hilmar Reksten, was the first to plunge earthwards. [...] Reksten, whose ambitions in 1973 appeared to know no bounds, was a classic over-reacher, who sooner or later was bound to come to grief.*”<sup>80</sup>

### **Chapter 8.3. Rederiet Peder Smedvig**

Rederiet Peder Smedvig was a relatively diversified company involved in a series of businesses. Originally, the Smedvig-family’s companies were concentrated in two sectors – shipping and canned goods. After the Second World War, the company continued to expand in these sectors. The founder of the company, Peder Smedvig, died in 1959, and his son Torolf took over the management of the company.

Torolf Smedvig has on several occasions been presented as a typical entrepreneur, and he extended the commercial base of the company to include herring oil, property development, tourism and in particular offshore oil activities.<sup>81</sup> This short analysis of the company focuses on the engagement in the shipping sector, with particular emphasis on the tanker segment.

Rederiet Peder Smedvig partly differs from the other shipowning companies presented here as a result of their considerable diversification outside the shipping sector. However, the company’s fate in the tanker sector is a very good illustration of how a few untimely decisions prior to the international shipping crisis could have extremely large consequences in the period after the freight market breakdown.

#### **8.3.1. Historical introduction**

When Peder Smedvig in 1915 decided to retire from his career as a captain, he had already for some time owned stakes in several part-ownerships.<sup>82</sup> In the period 1915-1917 the company received favourable returns from their investments in the shipping sector. However, after the First World War the investments, financed by insurance settlements and profits from the sale of ships, were channelled into the canning industry.

In 1926, Peder Smedvig re-entered the shipping scene. The company bought several second-hand vessels in the period leading up to the Second World War, and in the 1930s the company started to tie these vessels to long-term charters. As opposed to some of the other

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<sup>80</sup> Stokes, Peter, *op.cit.*, 1992, p. 35 and p. 37.

<sup>81</sup> Nerheim, Gunnar and Utne, Bjørn S., *Under samme stjerne - Rederiet Peder Smedvig 1915-1990* [Under the star – The shipowning company Peder Smedvig 1915-1990], Peder Smedvig A/S, Stavanger, 1990, p. 179. This book is a very good introduction to the history of Smedvig’s companies and an excellent example of the potential of shipping company histories. The chapter is to a considerable extent based on information from the book.

<sup>82</sup> Nerheim & Utne, *op.cit.*, 1990, p. 37, claims that Peder Smedvig in 1915 “*joined the ranks of the shipowners*”. This can be explained by the fact that this was the first time Peder Smedvig was more than a passive investor. From 1915 onwards he acted as managing director and chairman of the board.

Norwegian shipowning companies, Smedvig was no pioneer within the growing oil tanker segment. The company's first tanker, the MT Glittre, was bought as late as 1935, the same year in which Smedvig Tankrederi AS was established. Originally, the ship was intended for operation in the spot market, but in 1937 it was chartered to Standard Oil at very good rates.<sup>83</sup> During the Second World War, Smedvig lost four of its five vessels.

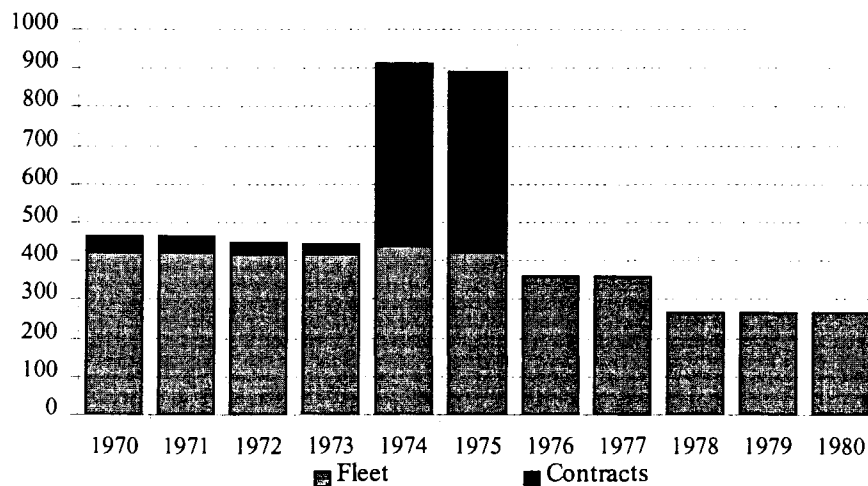
Peder Smedvig's son, Torolf Smedvig, had started working for the shipowning company in 1939. After 1959, the company's engagements and investments were diversified under Torolf Smedvig's management. For instance, the company was among the pioneers in the offshore oil industry. In 1971 Torolf Smedvig was among the first Norwegian shipowners to contract oil rigs. However, the company had already entered the offshore industry through investments in supply ships and onshore supply bases.

Smedvig, which in the interwar period largely had bought second-hand bulk carriers, invested mainly in newly built tankers after 1950. Intending to reap the benefits of the increasing economies of scale within the tanker sector, Smedvig contracted large vessels. The MT Vestalis was the largest vessel in Scandinavia when she was delivered in 1963, and the TT Veni became Norway's largest ship when she was launched in 1969.

### 8.3.2. Fleet structure

In the beginning of the 1970s, Smedvig's tanker fleet, consisting of a turbine tanker, three motor tankers and a combination carrier, amounted to 400.000 dwt. The turbine tanker, the 227.425 dwt TT Veni, represented more than half of the company's tonnage. This vessel had been delivered in 1969, which means that there was a doubling of the company's tonnage from 1969 to 1970. In addition to this, the company had contracted tonnage amounting to 40.000 dwt.

Figure 8.6. Smedvig's fleet and contracts, 1000 dwt, 1970-80



The undelivered tonnage in 1970 consisted of two gas tankers ordered at the Moss-Rosenberg yard. Due to the fact that Smedvig had ordered gas tankers, the figures in Figure 8.6 are misleading compared with those of other shipowners.<sup>84</sup> The reason for this is that gas tankers,

<sup>83</sup> Nerheim & Utne, *op.cit.*, 1990, p. 97.

<sup>84</sup> Smedvig's newbuilding contracts, measured in dwt, made up only ten per cent of the total fleet of the company in 1972, compared to a corresponding figure for Hilmar Reksten of almost 130 per cent. However, the

despite the modest size when measured in dwt, are a relatively costly investment. This is largely a result of the advanced technology necessary in connection with the building and operation of gas tankers. In the beginning of the 1970s, a 75.000 cubic metre LPG-vessel was as expensive as a 200.000 dead weight ton oil tanker.<sup>85</sup>

Due to the sale of the 18.775 dwt motor-tanker MT Venator, the size of Smedvig's fleet was reduced between 1971 and 1972. Subsequently, the tonnage increased three years in a row as a result of the delivery of supply ships and the previously mentioned gas tankers.<sup>86</sup> Smedvig was among the first Norwegian shipowners to invest in supply ships. Despite minor difficulties for some of the vessels, the return on the investment was satisfactory.<sup>87</sup>

There was no growth in Smedvig's tanker fleet during the 1970s. The company sold the MT Venita to Greek interests in 1974, and the MT Vestalis was also sold to Greece the following year. The combination carrier MS Vestan transported oil and iron ore until it was sold to Bangladesh in 1977. In the end of the 1970s, the turbine tanker TT Veni was consequently the only oil tanker left in Smedvig's fleet, and in 1980 this vessel was disposed of as well.

There were large changes in the structure of Smedvig's fleet during the 1970s. In 1970, the company owned a fleet of more than 400.000 dwt, consisting solely of oil tankers and combination carriers. During the decade the company gradually disposed of its tanker tonnage, at the same time investing in gas tankers and supply ships.

The investments in gas tankers were no unconditional economic success.<sup>88</sup> The LPG/C Vestri, which was the first of the gas tankers delivered to Smedvig, found employment throughout most of the 1970s.<sup>89</sup> After the delivery in 1972, the vessel was operated in the spot market until 1976, but was then given a one-year charter. As a result of the high rate level in the gas tanker market in 1974, half of the ship's original price had been recovered within the first three years of operation.<sup>90</sup> Due to strong competition in the gas transport market, the second gas tanker, the LNG/LPG/C Venator was laid up from September 1975 until May

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amount of money invested in the gas tankers was much larger than an investment in similarly sized oil tankers or bulk carriers would have been. Figures depicting contracts measured in dwt thus underestimate the financial commitment involved.

<sup>85</sup> See Fearnley & Egers Chartering Co. Ltd., *Review 1977*, Table 16, p. 22 for an introduction to the development of the price of LNG- and LPG-vessels from 1972 onwards. The differences in the value of various units of tonnage are more thoroughly analysed in Chapter 9.5.

<sup>86</sup> The investment in the supply ships was originally a collaboration between Smedvig and Halfdan Grieg, through the company IS Norway Supply Ships, where Smedvig owned two thirds; see Nerheim & Utne, *op.cit.*, 1990, p. 228.

<sup>87</sup> Smedvig first invested in the supply ship sector in 1965. In cooperation with Fearnley & Eger, Hambros Bank and Golden West they bought shares in two supply ship companies. In these companies, Smedvig was a "sleeping partner", and not involved in the operation of the vessels; see Blom, Per Gustav; Fjellstad, Knut Morten and Nessen, Frode, *Investeringsatferd i norske rederier - en casestudie av rederiet Peder Smedvig A/S*, unpublished thesis, Norwegian School of Economics and Business Administration, 1983, p. 14. For a more thorough introduction to IS Norway Supply Ships, confer Nerheim & Utne, *op.cit.*, 1990, p. 229-234. In connection with the supply ships there are several errors in the Veritas-registry. These have been commented upon in the Smedvig-database.

<sup>88</sup> In addition to the two fully-owned vessel, Smedvig owned a quarter of the LPG/C Gas Lion.

<sup>89</sup> Blom, Fjellstad, & Nessen, *op.cit.*, p. 27.

<sup>90</sup> Nerheim & Utne, *op.cit.*, 1990, p. 224.

1979. This was, among other things, a result of Smedvig's decision to operate the vessel in the spot market.

### 8.3.3. Chartering strategy

Smedvig's decision to operate the gas tankers in the spot market reflected an old strategic policy. According to Blom, Fjellstad and Nessen, the company's business strategy in the 1950s and 1960s can be summed up in the following manner: "*With long-term contracts on existing assets as a stable and secure source of income, the company would invest in new and risky projects, which, during a short period of time, could result in losses which would not affect the company's liquidity and financial strength.*"<sup>91</sup> The gas tankers represented the risky element; the oil tankers would give the secure revenue.

Smedvig usually operated the tankers on medium-term charters, which meant that all of the company's vessels were secured employment when the tanker market collapsed. As a result of the fact that the vessels were tied to charters, Smedvig's vessels were not affected by the reduction in the tanker rates immediately after the freight market breakdown – most of the vessels were secured employment at good rates well into 1974. However, another consequence of this policy was that the company did not benefit from the extremely high rates in the spot market before the oil price increase.

Table 8.4. The operation of some of Smedvig's vessels, 1973-78

	MT Vestalis 63.715 dwt	MT Venita 18.000	MS Vestan 93.026 dwt	TT Veni 227.425 dwt
1973	Charter until April -77	Charter until Nov. -74	Charter until Aug. -74	Charter until May -75
1974	Charter, later spot market	Charter until November, then sold	Vestalis' old charter from August	Charter until May, then laid up
1975	Charter until Aug., sold		Charter until April 1977	Laid up
1976			Spot from April	Laid up
1977			Spot until May, sold	Laid up
1978				Laid up

Initially, it may seem as though Smedvig stuck to their old business policy; the existing tanker fleet secured the revenue, whereas the gas tankers represented the risky element by operating in a relatively new segment without long-term charters.

The case is not that simple, however. In addition to the gas tankers, Smedvig had entered another risky project. In September 1973, immediately before the oil price increase, the company contracted a 472.000 dead weight ton tanker in Germany. This vessel, which was scheduled for delivery in 1977, was intended for operation in the spot market. Employment had therefore not been secured when the conditions in the tanker market suddenly changed.

In this respect the fate of the company reflects one of the most important aspects of the Norwegian shipowners' strategies. The potentially fatal effects of the tanker crisis were not a result of spot chartering of the existing fleet, although the duration of the charters after the tanker market collapse was relatively short. Rather, the crux of the problem was newbuilding contracts for which employment had not been secured.

<sup>91</sup> Blom, Fjellstad & Nessen, *op.cit.*, 1983, p. 3.

#### 8.3.4. Contracting

The contracting of building number 87 at the German Howaldtswerke-Deutsche Werft lay the foundation for serious problems for Smedvig. The company had agreed to pay 230 million German marks for the 472.000 dead weight ton tanker. In addition to this, the contract contained an escalation clause which made Smedvig liable to pay an increased amount if the German wages increased by more than ten per cent annually.

After the breakdown of the tanker market, Smedvig realised that the recently contracted supertanker could become a terribly costly investment for the company.<sup>92</sup> The charter market for tankers of this size had almost disappeared, and the fact that the contracted vessel was a turbine tanker meant that it would not be competitive after the increase in the price of bunkers. Early in 1975, Torolf Smedvig decided that it was necessary to cancel the newbuilding contract which had been signed with the Howaldtswerke.<sup>93</sup>

Parallel with the problems in the shipping industry, the shipbuilding industry had difficulties in securing assignments. Consequently, the German yard were unwilling to accept a cancellation of the contract, and they wanted Smedvig to place new orders for other types of tonnage. The company, on the other hand, was not interested in the building of any new vessels, and asked the yard to present an estimate of how much a cancellation would cost. Howaldtswerke demanded that Smedvig, if the company chose not to order substitute tonnage, had to pay a cancellation fee amounting to 150 million German marks.<sup>94</sup>

After negotiations with the German yard, Smedvig agreed to pay a cancellation fee of approximately 100 million Norwegian kroner. The result of the arbitration court settlement between Hilmar Reksten and the Aker-group became a guideline in connection with the bargaining about the size of the fee. Nerheim and Utne claims that “[d]espite the size of the amount, this loss can, in hindsight, be regarded as a good investment in the continuing existence of the company.”<sup>95</sup> If the ship had been delivered, the result might have been the bankruptcy of Rederiet Peder Smedvig.

#### 8.3.5. Financing

It has been claimed that Smedvig never wanted to have debts which exceeded the value of 50 per cent of the company’s assets.<sup>96</sup> The difficulty with this kind of policies is that they may occasionally lead to liquidity problems. In connection with the shipping crisis in the 1970s, this was exactly what happened.

Despite the fact that some of the tankers had been tied to profitable charters, Smedvig had problems with the payment of instalments on their debt in the summer of 1975. The reason for this was that the TT Veni and the LPG Vestri were unemployed, and the prospects for revenue from the drilling rig West Venture were bleak due to over-contracting in the market for drilling vessels. Moreover, the company had to pay parts of the cancellation fee to

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<sup>92</sup> According to Blom, Fjellstad & Nessen, *op.cit.*, 1983, p. 12, the contract was expensive compared with other contracts signed at the time.

<sup>93</sup> Nerheim & Utne, *op.cit.*, 1990, p. 247.

<sup>94</sup> *Ibid.*, p. 248.

<sup>95</sup> *Ibid.*, p. 250.

<sup>96</sup> Blom, Fjellstad, & Nessen, *op.cit.*, 1983, p. 31 claims that this saved the company during the 1970s’ shipping crisis. See also Nerheim & Utne, *op.cit.*, 1990, p. 181.



the Howaldtswerke-yard. Despite the sale of the MT Vestalis to Greece, the company's liquidity was anything but good.

In contrast to other Norwegian shipowners in similar difficulties, Smedvig chose not to participate in the Guarantee Institute. The decision was based on principles and ideological premises. Torolf Smedvig thought that the authorities should not be burdened with problems which the management of the company had caused themselves<sup>97</sup> The company preferred to enter into negotiations with its creditors about a three year postponement of payments. All the creditors, except the French *Crédit Lyonnais*, accepted a one year moratorium, effective from July 1976. However, as a result of this agreement with the creditors, the company did not have the freedom of action which they wanted.<sup>98</sup>

### **8.3.6. Summary - Rederiet Peder Smedvig**

Smedvig is a good example of a shipowning company which based their policy on a combination of secure and risky engagements. In connection with the international shipping crisis, the company had large difficulties due to one of these risky investments; the contracting of a 472.000 dead weight ton tanker from a German yard.

Smedvig did not have a large number of unchartered vessels which had to be laid up, so the immediate effects of the freight rate fall were small. However, the company's problems originated with a single unfortunate decision; the contracting of an unchartered ULCC in the period prior to the freight market breakdown.

The fate of Rederiet Peder Smedvig illustrates several aspects of the development of the Norwegian shipping sector in the 1970s and 1980s. The sale of the TT Veni in 1980 signalled a temporary exit from the tanker sector. In the mid 1980s the company's gas tankers were transferred to the Singapore registry, but taken back on five year timecharters. The basis for the foreign registry was a reduction of operating costs.

Moreover, Rederiet Peder Smedvig has undertaken the shift from shipping to offshore which was characteristic for several Norwegian shipping companies in the wake of the shipping crisis. Today, the company is a leading offshore drilling contractor, with a strategy based on medium- and long-term contracts. The company's fleet includes four mobile rigs operating in the North Sea, as well as ten tender rigs operating in international waters. Smedvig's involvement in the offshore sector, where the company was among the pioneers, is presented in more detail in Chapter 10.3.

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<sup>97</sup> *Ibid.*, p. 253.

<sup>98</sup> Due to the agreement with the creditors, the company could not buy an Aker H-3 drilling rig from the Guarantee Institute, despite the fact that the company's management saw this as a profitable investment.

## Chapter 8.4. Sig. Bergesen d.y.

When compared with the three companies previously presented, the fate of Sig. Bergesen d.y., Norway's largest shipowning company, illustrates the heterogeneity of the Norwegian shipping sector. The analysis in Chapter Six showed that the history of Norwegian shipping companies during the crisis could to a large extent be characterised by the tanker and bulk market focus, over-eager contracting and unfortunate chartering strategies, particularly with regard to large tankers on order. In most cases the end result was a drain on accumulated financial resources, which often led to bankruptcy or necessitated government involvement. The experience of Sig. Bergesen d.y. differs on several accounts from this stereotype. Through advantageous sales of newbuilding contracts, focus on long-term charters and relatively cautious fleet expansion, the company managed to consolidate its position during the crisis years and in several respects emerged strengthened by the beginning of the 1980s.

The fortunate development of Sig. Bergesen d.y. was not obvious given the company's position in early 1973. The company had pooled its resources in the market for large tankers, apparently making them more vulnerable than eg Knut Knutsen OAS. Moreover, the company was eager in the contracting market, and in early 1973 Sig. Bergesen d.y. had eleven mammoth tankers and one 223.000 dwt ore/oil carrier on order. However, the company differed from the other companies analysed on one important account – chartering strategy – and Bergesen had also managed to reduce the volume of newbuilding orders when the tanker market collapsed.

The experience of Sig. Bergesen d.y. illustrates the substantial differences in the economic performance between shipowners who had secured revenues through long-term charters and shipowners who fell victim to the depressed spot market. Moreover, it shows how some strategic decisions – in this case the decision to sell four newbuilding contracts shortly before the market collapsed – can fundamentally alter the economic situation of the company. Due to their strong financial standing, Bergesen could use accumulated resources to consolidate their position during the shipping crisis, taking over potentially profitable contracts and engagements from shipowners in financial distress.

### 8.4.1. Historical introduction

The roots of the company Sig. Bergesen d.y. can be traced back to the late 1880s, when Sigval Bergesen established his position as one of the most important managing owners in Stavanger, on the Western coast of Norway.<sup>99</sup> By 1900 Sigval Bergesen had become the largest steamship owner in Stavanger. His youngest son, Sig. Bergesen d.y. joined the company in 1916 and became partner two years later.<sup>100</sup> In the subsequent years Sig. Bergesen d.y. assumed responsibility for the daily management of the company, whereas his brother took care of the chartering.

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<sup>99</sup> For an introduction to the early period, see Jonassen, Jonas Schanche, *Sigval Bergesen 1863-1956*, Firma Sigval Bergesen, Stavanger, 1963 or Hanisch, Tore Jørgen and Ramskjær, Liv Jorunn, *Firmaet Sigval Bergesen, Stavanger: under vekslende vilkår 1887-1987*, Dreyer bok, Stavanger, 1987, pp. 9-98.

<sup>100</sup> Ole Bergesen, born three years before Sig. Bergesen d.y., also became partner in 1918. For a short biography of Sig. Bergesen d.y., see *Norsk Industri*, No. 4, 1975, p. 17.

In 1935 Sig. Bergesen d.y. left his father's firm, spurred by conflicts of interest and personal disagreements.<sup>101</sup> The split was triggered by the fact that Sig. Bergesen d.y. had contracted tanker tonnage in Denmark without his father's consent. Sig. Bergesen d.y. then spent four years in Denmark, working with the Danish shipowning giant A.P. Møller, among other things as member of the board at Møller's yard, Odense Staalskibsværft. At the same time he managed his own company, and in the period up until 1940 Sig. Bergesen d.y. had amassed a fleet of three tankers, totalling 45.000 grt.

During the Second World War Sig. Bergesen d.y. acquired the yard *Rosenberg Verft*, and from 1943 until 1970 this yard was an independent division of the Bergesen-corporation. In the first postwar decade, Bergesen's fleet expanded rapidly. Following the delivery of vessels from both Rosenberg and foreign yards, he had acquired a fleet of seven vessels, amounting to almost 185.000 dwt by 1955.

Four fifths of the tonnage built at Rosenberg in the 1960s went to Sig. Bergesen d.y.<sup>102</sup> Moreover, this tonnage was supplemented by a considerable amount of newbuildings from other yards, in particular in Japan. By 1970 Sig. Bergesen d.y. owned 18 vessels, ten of which had been built in Japan. The fleet amounted to more than 2,2 billion dwt, making Sig. Bergesen d.y. Norway's largest shipowner. In 1976, Sig. Bergesen d.y. withdrew from the management of the company due to failing health. The other three partners, Sig. Bergesen d.y.'s grandsons Petter Sundt and Morten Sigval Bergesen, and Jacob Erland Jacobsen managed the company's affairs.<sup>103</sup>

#### **8.4.2. Fleet Structure**

Judging by the structure of the company's fleet, Sig. Bergesen d.y. would be extremely vulnerable to changes in the tanker market. Like Hilmar Reksten, the company had pooled most of their resources in the market for large tankers, ie the market segment in which the freight rate collapse was the most pronounced. Bergesen also owned combination and bulk carriers, and diversified their operations into gas transport towards the end of the decade. Some of the company's vessels were flying foreign flags, as a result of cooperation with international shipping and mineral consortia.

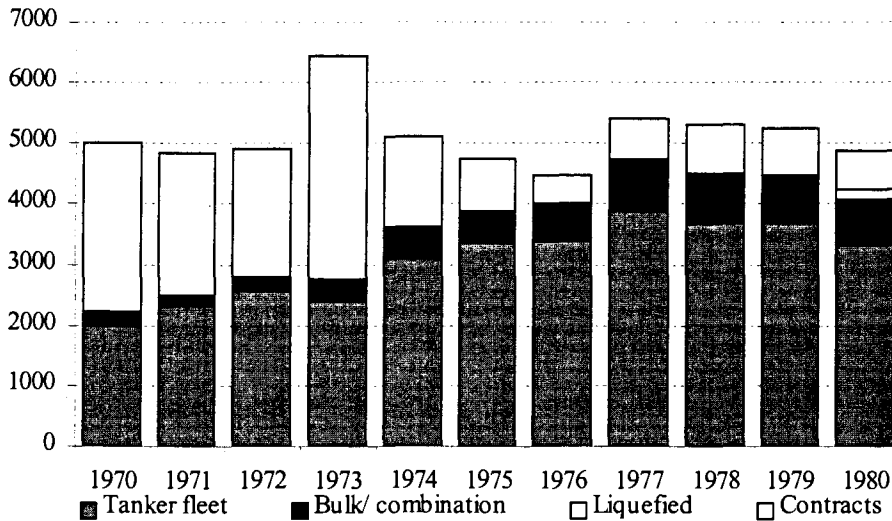
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<sup>101</sup> See Hanisch & Ramskjær, *op.cit.*, 1987, p. 94.

<sup>102</sup> Dahl, Ole Felix, "Med Bergesen som los og kaptein – AS Rosenberg Mekaniske Verksted 1945-70" [Bergesen as pilot and captain – AS Rosenberg Mekaniske Verksted 1945-70], unpublished thesis, The University of Bergen, 1995, p. 90.

<sup>103</sup> Sig. Bergesen d.y. & Co., *Report and Account for 1976*, p. 6.

Figure 8.7. Bergesen's fleet and contracts, 1000 dwt, 1970-80<sup>104</sup>



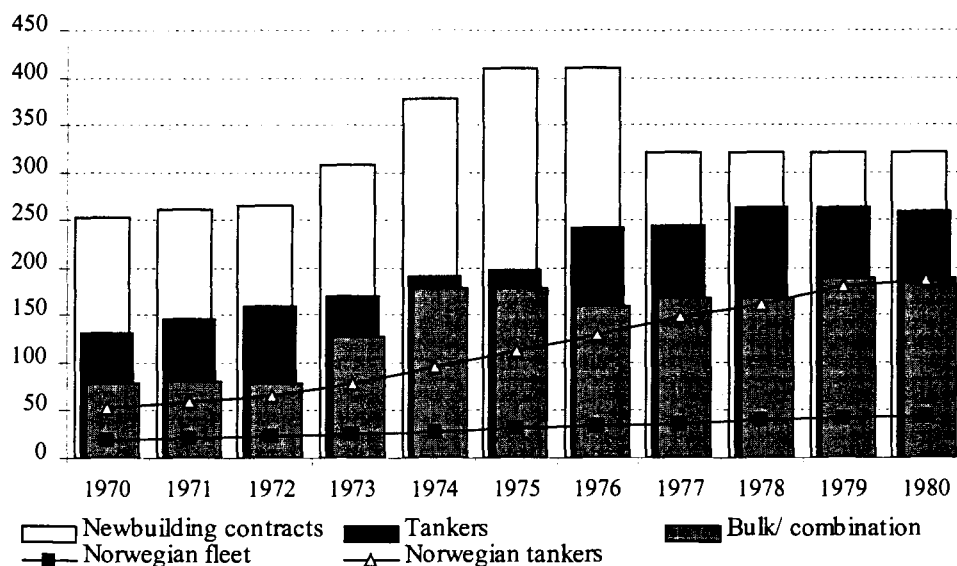
Bergesen's fleet expanded from 2,8 million dwt in 1973 to more than 4,2 million dwt in 1980, after peaking at more than 4,7 million dwt in 1977. The expansion was accomplished through a combination of newbuilding contracts and the purchase of second-hand vessels from shipowners in economic distress. As the analysis in Chapter Nine shows, Bergesen's position as the largest Norwegian shipowner was consolidated, as the company's share of the Norwegian fleet increased during the turbulent period in the late 1970s and the early 1980s.

Nerheim has called Bergesen a "*courageous Greek*", as he recognised the advantages of large tankers before other Norwegian shipowners.<sup>105</sup> The company's focus on large vessels was part of a conscious strategy; "*we have focussed on large vessels which are far more inexpensive to operate, and thus counteracted part of the cost development.*"<sup>106</sup> As a result of this focus, the average size of the vessels in Bergesen's fleet was considerably higher than the national average, a fact which is reflected in Figure 8.8.

<sup>104</sup> The figure is based on the Bergesen-database. Two contracts listed in *Norwegian Shipping News* have been excluded from the figures, as these relate to the ill-fated combination carriers *Berge Istra* and *Berge Vanga*, which were not included in Bergesen's Norwegian fleet. Moreover, only vessels registered in Norway are included.

<sup>105</sup> Quote from Nerheim, Gunnar, Jøssang, Lars Gaute and Utne, Bjørn S., *I vekst og forandring – Rosenberg Verft 100 år 1896-1996* [Growth and change – Rosenberg Verft 100 years 1896-1996], Kværner Rosenberg AS, Stavanger, 1995, p. 211. Greek shipowners and international oil companies took advantage of the economies of scale before most Norwegian shipowners. As the analysis in Chapter Six showed, the Norwegians had undoubtedly realised the benefits of large vessels by early 1970s.

<sup>106</sup> Interview with Sig. Bergesen d.y., *Norsk Industri*, No. 4, 1975, p. 16.

Figure 8.8. Average size, Bergesen's fleet and contracts, 1000 dwt, 1970-80<sup>107</sup>

Although both the share of tanker tonnage and the average size of the vessels in the Bergesen-fleet were considerably higher than in the case of most of their colleagues, Sig. Bergesen d.y. were less affected by the crisis than most other Norwegian owners. The main reasons for this were the company's chartering strategy – due to the reliance on long-term charters, the effects of the freight market breakdown were considerably delayed – and the fortunate sale of newbuilding contracts prior to the freight market breakdown.

#### 8.4.3. Chartering strategy

The strategic aspect which most clearly distinguishes Sig. Bergesen d.y. from the other companies presented here is the company's chartering policy. Like in the case of Hilmar Reksten, Sig. Bergesen d.y.'s belief in the excellence of his chartering strategy bordered on the religious. However, unlike Reksten, Bergesen was adamant that long-term charters were preferable to operation in the spot market.

In 1971 Reksten sent Bergesen almost a kilo of documents, containing calculations "proving" that his spot market strategy was superior to Bergesen's reliance on long-term charters. The reply from the latter was sarcastic; "*I have skimmed [your unconventional and most unexpected Easter greeting], but I am searching in vain for its head and tail, as I suppose the documentation should serve another purpose than showing that you are more clever than I am.*"<sup>108</sup> This was not Reksten's first attempt at converting Bergesen to the supremacy of the spot market, but Bergesen had previously "*appeared to be disagreeable and immune to approaches which could have hindered some of the harmful effects which the company's chartering policies entailed.*"<sup>109</sup>

<sup>107</sup> The figures do not include vessels registered abroad or the gas tankers and gas tanker contracts. The figures for the average size of the Norwegian vessels is taken from the database presented in Chapter 10, and the average size of the Norwegian tankers is taken from Figure 6.2.

<sup>108</sup> Borgen, Erling, *Huset Bergesen* [The House of Bergesen], Cappelen, Oslo, 1984, pp. 140-141.

<sup>109</sup> Reksten, Hilmar, "Sig. Bergesen d.y. & Co. 1947-1970", manuscript sent to Sig. Bergesen d.y. and Norwegian newspapers, 1971, p. 73.

Reksten's criticism was to some extent justified, as the cost and exchange rate development sometimes made Bergesen's charters unprofitable. In 1976, the MT Bergehus had six years left of a charter which was unprofitable to the company. The charter was cancelled, with effect from April 1978, after Bergesen paid the charterer a \$3.5 million compensation.<sup>110</sup> Nevertheless such expenses were relatively small compared with the costs incurred by Reksten as a result of the fact that most of his fleet remained unemployed due to his spot market focus.

Bergesen forfeited the freight rate peaks, as his vessels were tied to long charters. However, this policy implied that he had secured his income during the troughs in the spot market. Two analyses from the British shipping analysts H.P. Drewry illustrate the differences in the position of Reksten's and Bergesen's companies after the freight market had broken down. Whereas Reksten had been forced to lay-up the majority of his tonnage, Bergesen's fleet was secured revenues in 1976.

Table 8.5. Fleet employment, Reksten and Bergesen<sup>111</sup>

	Hilmar Reksten				Sig. Bergesen d.y.			
	Mid 1976		June 1979		Mid 1976		June 1979	
	No.	1000 dwt	No.	1000 dwt	No.	1000 dwt	No.	1000 dwt
Period market	(1)	(117)	2	576	20	4.073	15	3.925
Spot market	2	514	6	1.581			7 (6)	1.041 (988)
Laid up	10	2.241	4	892				
Unknown					5	588		

In mid 1976, approximately 80 per cent of Bergesen's fleet had been given charters which expired in 1978 or later, and more than 55 per cent of his fleet had employment secured after 1981. In an international perspective, the share of the Bergesen fleet which had been secured employment was high. Indeed, only two of the largest tanker owners in 1976 were in a more secure position than Bergesen. The least exposed company was Sir Yue-Kong Pao's World Wide-Group, by far the largest tanker owner with a fleet of more than 12 million dwt. A major proponent of the *shikumisen*-agreements, Pao had tied more than 90 per cent of his fleet to Japanese charterers. However, the economic problems of some of the charterers, notably the Japan Line, could have spelt disaster.<sup>112</sup> The other company with a large degree of charter cover was D. K. Ludwig's National Bulk Carriers. NBC had secured employment after 1981 for 76 per cent of the fleet.<sup>113</sup>

<sup>110</sup> Sig. Bergesen d.y. & Co., *Report and Account for 1976*, p. 4.

<sup>111</sup> Figures taken from Drewry, *The Role of Independent Tankers Owners*, H.P. Drewry Shipping Consultants Ltd., London, 1976, p. 40 and p. 43 and Drewry, *Independent Tanker Owners*, H.P. Drewry Shipping Consultants Ltd., London, 1979, p. 38 and p. 42. The figures in parentheses refer to tonnage on order. The difference between the estimates of the Bergesen fleet between Drewry and the Bergesen-database is a result of the fact that the former figures include vessels registered outside Norway, but excludes the gas tankers.

<sup>112</sup> See Stokes, Peter, *op.cit.*, 1992, pp. 59-60. Sir Pao had secured the income from his charterers through bank guarantees, and was thus less exposed than shipowners who had signed charter agreements with other companies in financial distress.

<sup>113</sup> The Japanese Yamashita-Shinnihon Steamship Co. and the New York-based Overseas Shipholding Group Ltd. also had a higher share of the fleet on charters into the 1980s. However, these companies were smaller than Bergesen, and the amount of tonnage on charters was thus lower.

Figure 8.9. Exposure of the world's 20 largest independent tanker owners, mid 1976<sup>114</sup>

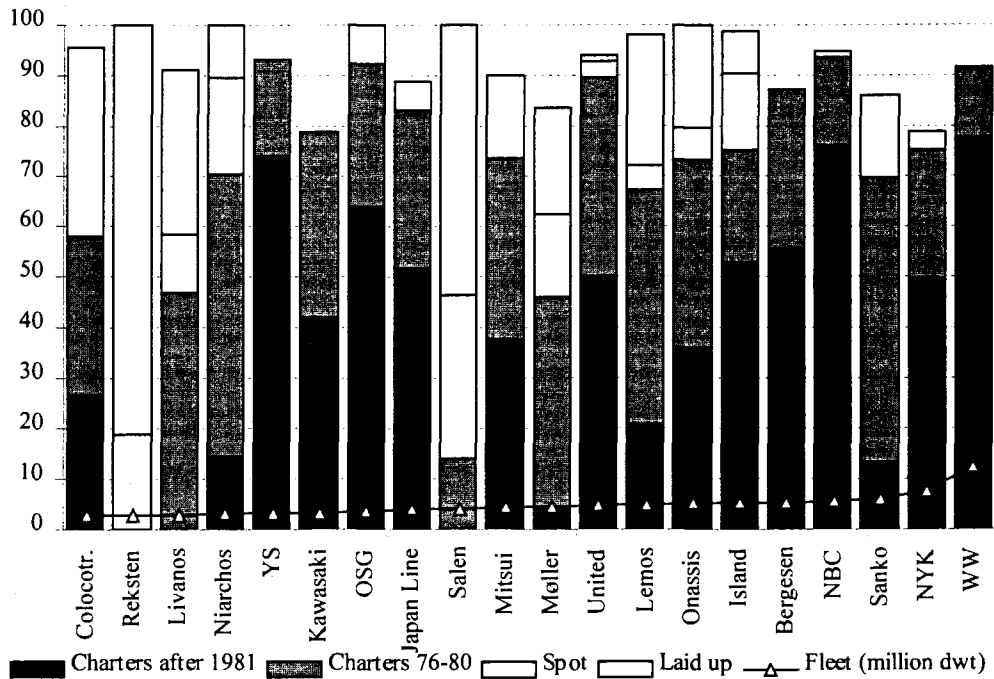


Figure 8.9 indicates the extent to which the world's 20 largest independent tanker owners were exposed to the shipping difficulties in the mid 1970s. The companies have been ranked by the size of their fleets. The figure illustrates the share of the companies' tonnage on charters which expired in the period 1976-1980, the share of the tonnage on charters after 1981 and the share of the tonnage laid up or operating in the spot market.

The difference between the two Norwegian participants is striking. Whereas Reksten had been forced to lay up ten of his twelve vessels, Bergesen had no vessels laid up on his own account, and at least eleven of his vessels were secured employment well into the 1980s. However, due to the structural change in the chartering market it became increasingly difficult for Bergesen to secure long-term employment when the current charters terminated. Accordingly, approximately a fifth of the fleet traded in the spot market in 1979.

Bergesen was the world's fifth largest independent tanker owner in 1976. Three years later, the company had been relegated to the eighth place, but was still fifth if tonnage on order was included.<sup>115</sup> One reason for the relegation was that Bergesen, in contrast to 80 per cent of the other large independents, had no backlog of newbuilding orders in mid 1976.<sup>116</sup> Indeed, although expansive in absolute figures, Bergesen's contracting in the period immediately prior to the freight market breakdown can be considered cautious.

<sup>114</sup> The bars show the manner in which the companies' vessels were employed. Vessels for which charter expiry date or employment were unknown have been excluded, thus giving aggregate percentages of less than 100 for several companies. The line shows the aggregate fleets of the companies, measured in million dwt. The figures have been taken from Drewry, *The Role of Independent Tankers Owners*, H.P. Drewry Shipping Consultants Ltd., London, 1976.

<sup>115</sup> Drewry, *op.cit.*, 1979, p. 4. Chartered-in vessels have not been included in any of the analyses.

<sup>116</sup> The tonnage on order in 1976 in Figure 8.8 refers to the Berge Empress, which was delivered in April 1976.

#### 8.4.4. Contracting

Judging by the tonnage on order in early 1973, Bergesen's contracting policy seems anything but cautious. The company had twelve vessels above 200.000 dwt on order, implying that the volume of contracts was approximately a third higher than the company's existing fleet. However, when the tanker market collapsed that autumn, four of the contracts had been disposed of. As a result of delivery of vessels and the sale of contracts, Bergesen's newbuildings on order in January 1974 corresponded to 40 per cent of the existing fleet, rather than 133 per cent, as it had been one year earlier. The company's order book was thus low, compared with 106 per cent of the existing fleet for Norwegian shipowners and 82 per cent for international shipowners.<sup>117</sup>

The contracting of Sig. Bergesen d.y. has at times been radically different from other Norwegian shipowners. In the summer of 1973, shortly before the tanker market breakdown, the company offloaded two 400.000 dwt contracts at the Japanese Kawasaki-yard to Italian interests, making \$40 million in the bargain. The sale of these contracts was prompted by fear of overcapacity and the fact that employment had not been secured, contrary to the company's policy. Previously the same year, Sig. Bergesen d.y. had sold two contracts in Denmark to the Greek shipowner Livanos, at a profit of approximately \$30 million.<sup>118</sup>

In 1977 Sig. Bergesen d.y. "*caused a small sensation – at home and abroad*" when the company, in the midst of the tanker gloom, contracted two 320.000 dwt tankers in Japan.<sup>119</sup> This newbuilding order, which allegedly cost in the region of NoK 500 million, was one of several expansionary moves made by the company in the depressed tanker market. The idea of newbuilding contracts in a market characterised by massive overcapacity may seem irrational. However, the vessels had diesel engines, which made them advantageous compared with the turbine-driven tankers of the same size available in the second-hand market. Moreover, the vessels were equipped with segregated ballast tanks, in anticipation of changes in the international maritime legislation.

The 1977 newbuilding contracts were controversial. Some of the agents in the shipping industry saw them as an indication that the vessels which were supported by guarantees from the Guarantee Institute may have become obsolete, rather than worth keeping. In an internal memorandum from the Norwegian Shipowners' Association it was claimed that "*[t]he price indicated is approximately NoK 500 million for the two vessels. However, we know from other sources that the price was particularly favourable, due to factors which can not be disclosed.*"<sup>120</sup> The memorandum speculates that the contracting may be connected to particular aspects of the situation of the company, rather than to the state of the tanker sector in general. One of the possible explanations suggested by the author of the memorandum is incentives with regard to taxation.

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<sup>117</sup> The order book as share of the fleet refers to tankers and combination carriers, and have been calculated based on Fearnley & Egers Chartering Co. Ltd., *Review*, Tables 3, 9, 20 and 26.

<sup>118</sup> Borgen, Erling, *op.cit.*, 1984, pp. 139-144.

<sup>119</sup> Quote from *Norwegian Shipping News*, No. 8B, 1977, p. 34.

<sup>120</sup> Quote from the manuscript "The tanker contracting of Sig. Bergesen d.y. & Co.", dated 2 May 1977, The Archives of the Norwegian Shipowners' Association, folder marked 6 B K 75 – Krisen 1975 VII, 010177-300977.



Some of the newbuilding contracts held by Bergesen in the late 1970s were a direct result of the shipping crisis and its effects on other Norwegian shipowners. Several of the gas tankers on order at the Finnish Wärtsilä-yard had originally been contracted by the Norwegian shipowning company Fearnley & Eger. However, due to considerable economic difficulties the company was unable to honour the contracts. Sig. Bergesen d.y. took over the contracts, signing a financing agreement with the yard in the process. The company's entry into the gas sector – which was to be the main focus in the 1980s and 1990s – was thus partly accidental.

The type of vessels contracted by Bergesen did not deviate significantly from other Norwegian owners – they ordered the largest and technologically most advanced tankers and combination carriers available. However, in some ways Bergesen can be seen as “first among equals”, as the company's focus on the most efficient tonnage was a means through which the company sought to neutralise the potentially harmful effects of long-term charters. Moreover, through the sale of four newbuilding contracts in 1973, the company managed to avoid an increase in the fleet which would have proved unfortunate.

Hilmar Reksten's amount of newbuilding orders was so large as to make an adaptation to the changed market conditions virtually impossible. If Bergesen had maintained the high volume of tonnage on order, the situation would have been less precarious, as the long-term charters secured the revenue from the company's existing fleet. Nevertheless, the newbuildings, and the fact that they had not been secured charters, would have represented a considerable drain on the company's resources. It is thus evident that whereas the chartering strategy was paramount to the company's relative success in the 1970s, the sale of the newbuilding orders was also important in explaining the positive development of the company.

#### **8.4.5. Financing**

Bergesen's financial strength was reflected in the fact that the company had large bank deposits throughout the crisis years. Shortly after the tanker market had broken down, the company's liquid reserves amounted to some 700 million kroner.<sup>121</sup> Two years later the company's bank deposits had increased, and Sig. Bergesen d.y. reported the highest operating surplus in the company's history – in a period where most other agents in the shipping sector were concerned with the tanker crisis.<sup>122</sup> The company's liquidity continued to improve during the crisis, in stark contrast to the majority of Norwegian shipowners, for whom the crisis implied a drain on the accumulated resources.<sup>123</sup>

The advantageous financial situation was a result of the fact that the company's vessels were earning revenues – rather than laid up at Bergesen's account. In essence, the profitability of the vessels was not affected by the state of the tanker market at any given time. Rather, the important factor was the state of the market at the point when the charters were

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<sup>121</sup> *Norsk Industri*, No. 4, 1975, p. 17.

<sup>122</sup> In 1976 the result was NoK 362 million, compared with NoK 321 million in 1975; see Sig. Bergesen d.y. & Co., *Report and Account for 1976*.

<sup>123</sup> By 1979 the liquidity had increased to NoK 839 million; see Sig. Bergesen d.y. & Co., *Half year report for the shareholders in companies managed by Sig. Bergesen d.y. & Co.*, 1979, p. 3.

entered into.<sup>124</sup> At the same time the company's debt servicing was relatively modest, partly as a result of the fact that the company had managed to offload some of the newbuilding contracts.

Despite the focus on the most depressed part of the shipping market, the prudent chartering strategy secured that there was no need for Sig. Bergesen d.y. to approach the Guarantee Institute as participant. However, the company managed to take advantage of the vessels which were sold by other shipowners who had been forced to seek assistance from the Guarantee Institute.<sup>125</sup>

In late 1981 Bergesen established a co-ownership, where they owned 51 per cent, and the Biørnstad-group, which was controlled by the Guarantee Institute, owned 49 per cent. The co-ownership took over three vessels previously owned by the ill-fated Biørnstad-companies, and Bergesen became responsible for the management and chartering of the vessels.<sup>126</sup> The following year Bergesen again went into co-ownership with the Guarantee Institute in connection with the previously Reksten-owned tankers TT Cyprian and TT Julian, and also managed the ex-Reksten tanker TT Trajan, which was owned by the Guarantee Institute.<sup>127</sup>

#### **8.4.6. Summary – Sig. Bergesen d.y.**

Contrary to the majority of Norwegian shipping companies, Sig. Bergesen d.y. emerged strengthened from the shipping crisis. In the mid 1980s the Bergesen-family's private ownership came to an end, as Bergesen d.y. ASA became a public company, listed in Oslo. The company is still one of the world's leading owners of supertankers, with a fleet of approximately five million dwt and several newbuilding orders. However, although the company still operates a relatively large share of their tankers on long-term contracts, the chartering strategy is not as distinct as it was prior to the shipping crisis.<sup>128</sup>

Following the company's fortuitous entry into the gas tanker segment, Bergesen has become one of the world's major owners of large gas carriers, and gas transportation today constitutes the company's largest business area. In 1999, sixty years after the company's founder returned from A.P. Møller in Denmark with valuable experience, the company entered into a pool agreement with A.P. Møller in the market for small gas carriers. The company's total fleet includes more than 80 vessels, and Bergesen also operates vessels for other owners.

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<sup>124</sup> Of course, the breakdown implied that when the vessels were redelivered to Bergesen, they would be affected by the depressed market. However, due to the focus on long-term charters the crisis could persevere for a number of years before Bergesen would be influenced.

<sup>125</sup> Jan Sundt, one of Sig. Bergesen d.y.'s grandsons, was director and "Second in command" of the Guarantee Institute. He left the position in 1979, before the close cooperation between Bergesen and the Guarantee Institute.

<sup>126</sup> Stortingsproposisjon nr. 38 (1981-82) *Om bevilgning til utbetaling under garanti stillet av Norsk Garantiinstitutt for skip og borefartøyer* [On the appropriation of pay-out with regard to guarantees granted by Norsk garantiinstitutt for skip og borefartøyer AS].

<sup>127</sup> Stortingsmelding nr. 53 (1981-82) *Om avtale av 5. februar 1982 mellom Norsk garantiinstitutt for skip og borefartøyer AS, Hambros Bank Limited, R/A Hadrian og R/A Trajan i forbindelse med avviklingen av garantiengasjementene i Reksten-flåten* [On the agreement dated 5 February 1982 between Norsk garantiinstitutt for skip og borefartøyer AS, Hambros Bank Limited, R/A Hadrian and R/A Trajan on the winding-up of the guarantee-engagements in the Reksten-fleet], p. 8.

<sup>128</sup> This can partly be explained by the change in the structure of the tanker market.

## 8.5. Summary

The presentation in this chapter has illustrated the differing degrees to which Norwegian shipowners were affected by the shipping crisis, and the four cases analysed above illustrate the heterogeneity of the Norwegian shipping sector. Four strategic elements have been emphasised – fleet structure, chartering strategy, contracting and financing.

The differences in the fate of the companies can be explained by all the policy parameters analysed, although chartering and contracting appears to have been particularly important. Fortunate decisions in these areas implied that Sig. Bergesen d.y. could emerge strengthened from the crisis in the shipping sector. Moreover, unfortunate decisions with regard to contracting and chartering – and in particular the combination of the two, in terms of unchartered newbuilding contracts – can explain the difficulties of Knutsen and Smedvig, as well as the collapse of Hilmar Reksten's empire.

The fleet structure was of some importance in explaining the unfortunate fate of Norwegian shipowners in general, compared with shipowners in other countries. However, the analysis of individual companies suggests that fleet structure *per se* is no good indication of the economic well-being of the companies. Rather, the existing fleet structure must be seen in relation to strategic determinants such as chartering and contracting. Whereas, judging by fleet structure alone, Knut Knutsen OAS seemed better equipped to cope with the crisis than eg Sig. Bergesen d.y., the history of the companies shows that this was not the case.

The contracting strategy can contribute to an explanation of the misfortune of three of the companies. For Knutsen and Smedvig, the contracting in the period prior to the freight market breakdown represented a considerable drain on the companies' resources. Newbuilding contracts signed before the tanker market collapsed had important ramifications for the financial strength of the companies. However, if the newbuilding contracts had been secured through profitable long-term charters, the situation would have been less precarious. In many ways, the economic difficulties of Knutsen and Smedvig mirror those of several other Norwegian shipowners – the basis for the problems was neither contracting nor chartering strategy *per se*, but rather the combination of these elements, ie the ordering of newbuildings for which charters had not been secured.

The fate of Hilmar Reksten illustrates the vulnerability of a shipowner who was willing to gamble on most strategic aspects. Reksten had pooled the majority of his resources into the market segment in which the crisis was most pronounced. Moreover, the sheer volume of newbuilding contracts would be sufficient to topple the company, given the freight-market breakdown. In addition to this, even in the absence of a large number of newbuilding contracts, Reksten's chances of sufficiently profitable employment after the freight market collapse were miniscule.

It is difficult to assess the extent to which the financial strength of the companies determined their possibilities for survival. However, in the cases of Knutsen and Smedvig, it is evident that the economic difficulties may be the result of divisibility problems – the sheer size of individual engagements tied up too much of the companies' resources. This was partly a result of the fact that it was difficult for companies with limited financial bases to diversify their risk in a period with a large increase in the price of each unit of capital, ie each ship.

Knutsen and Smedvig were both relatively small companies, for which the tonnage on order represented a dramatic increase in the size of the fleets. The large amount of resources committed through a single decision, such as the signing of a newbuilding contract, implied that the companies' fate hinged on the development of certain key markets. The competitiveness of Norwegian shipowners was closely related to the operation of technologically advanced vessels which could utilise the economies of scale in connection with vessel size. Due to the increase in the average size of vessels, individual strategic decisions tied up a disproportionate share of the companies' resources.

The four companies surveyed illustrate some of the changes in the Norwegian shipping sector following the shipping crisis. In the case of Knut Knutsen OAS, the company's fleet became the foundation for a shipping enterprise managed by new owners. Hilmar Reksten's Rederi became one of the most manifest victims of the shipping crisis, as RA Hadrian was wound up after more than 50 years of operation. Rederiet Peder Smedvig made a successful transition to an offshore company, whereas the fate of Sig. Bergesen d.y. illustrates that there was a continued basis for Norwegian shipowners even after the crisis.

## CHAPTER NINE

# THE DEVELOPMENT OF NORWEGIAN SHIPPING, 1970-1987

This chapter explores the salient structural trends in the Norwegian shipping sector in the period from 1970 to 1987. Significant development traits such as the increased concentration of Norwegian shipping, with regard to ports as well as companies, the reduction of the number of companies and the size of the fleet, as well as the increasing transfer of tonnage to Flags of Convenience are analysed. The analysis is based on a purpose-built data set.<sup>1</sup> This data set represents a systematisation of information from a variety of sources, and provides time-series and detailed information which have hitherto been unavailable in a form suitable for analysis. It has been founded upon two main sources – the Veritas register, in the case of companies and vessels, and Norwegian shipbrokers, in the case of sales and purchasing.

### 9.1. The Databases

In order to organise the vast amount of data on Norwegian ships and shipping in the 1970s and 1980s, I have constructed three databases which contain annual information on the Norwegian fleet and Norwegian shipowning companies in the period from 1970 to 1987. Although largely based upon publicly available sources, the manner in which the databases are organised provides detailed time-series. These time-series facilitate the analysis of the transformation of the Norwegian shipping industry in a period containing both strong expansion and severe contraction.

#### 9.1.1. The three databases

The data set utilised in the analysis has been organised in three databases, all with annual entries over the period 1970-1987. The main database includes all Norwegian shipowning companies and their vessels, given certain restrictions, as well as some aggregate figures. The company database traces the entry and exit of shipowning companies. The sales database includes all Norwegian vessels changing owners.

#### The main database

The main database is a survey of all Norwegian ships of more than 5.000 gross register tons (grt), as well as all companies owning tonnage of this size. It was made on the basis of statistics from three lists originating with the Norwegian classification society Det Norske Veritas. These lists were published in their annual *Register of Norwegian, Swedish, Danish, Finnish and Icelandic ships and of other ships classed with Det Norske Veritas*, hereafter referred to as the Veritas-register.<sup>2</sup>

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<sup>1</sup> A digital copy of the database may be obtained from the author upon request.

<sup>2</sup> From register No. 113, published 1985, onwards, the name was changed to *Register of ships classed with Det Norske Veritas and of other Norwegian, Swedish, Danish, Finnish and Icelandic ships*.

The main database was constructed in the following manner. First, a list of all companies owning vessels of more than 5.000 grt was made by means of the "*List of Norwegian owners and their vessels*". This list records ports of registry, and presents each shipowning company, the name of their vessels and the tonnage in grt.

The data from the geographically arranged list were then supplemented by information from the main register, where the vessels are listed individually and arranged on an alphabetical basis. The main register is considerably more detailed than the geographically arranged index, and the data derived from this list include year and country of production, type of ship, deadweight (dwt) capacity as well as information on previous names, conversions etc. The main database is presented in the following manner:

Table 9.1. The main database

Port/ shipowner	Grt	Dwt	Type of ship	Year of build	Country of build	Shipowner's fleet (grt)	Shipowner's fleet (dwt)
<b>Port</b>							
<i>Company</i>						260 385	505 459
MT Vessel	65 111	124 341	Oil tanker	1977	Sweden	(additional information)	

In the few instances where inconsistencies between the geographically arranged index and the main Veritas-register occur, alternative sources have been consulted. These have been referred to in the database. In some instances, deadweight capacity had not been supplied by the owners, and was consequently omitted from the general Veritas-register. In these cases, alternative sources have been referred to or an approximate figure has been calculated based on the index labelled "*Norwegian cargo vessels arranged according to deadweight capacity as stated by owners*". As a result of the large number of ships in this list, and the variety of sizes, this approximation will give a very good indication of the deadweight capacity of the vessels.<sup>3</sup> Alternatively, or in some cases as a supplement, the deadweight capacity of sister vessels has been used. The share of the vessels for which information about deadweight capacity was available increased over the period. Consequently, the missing data in early editions of the register have in some instances been supplemented by more precise information taken from later issues.

The tonnage applied to the various vessels may change from one year to the next as a result of conversions or changes in the measurement due to reclassification. Moreover, whereas most vessels were included in the list after delivery, some vessels were recorded in the register before they were delivered and classified. These vessels have been included in the list by owner, but omitted from the aggregate figures. Regarding vessels for which both *closed* and *open* tonnage were listed in the register, the latter has been used, in order to achieve congruity with the aggregate figures presented in the Veritas-register.

The aggregate figures representing the various shipowners' fleets include all the vessels listed separately. In addition, the aggregate grt-figure includes vessels below 5.000 grt,

<sup>3</sup> Only in a few cases may this method give figures which noticeably deviate from the actual capacity. When the dwt-capacity originates with this list or with other sources, rather than the main register, the sources have been indicated in the database in connection with the listing of the vessels in question. Moreover, figures originating outside the main register have been written in italics.

in order to give an indication of the full size of the shipowners' fleets. For some shipowners, such small vessels made up a considerable share of the total fleet. Drilling vessels have also been listed separately, in order to identify the shipowners who chose to enter this segment. Drilling vessels have been included in each shipowner's aggregate grt-figures, but have been left out of the aggregate dwt figures.

The annual entries have been accumulated in order to give a representation of the fleet as a whole. The accumulated figures are presented in the following manner:

Table 9.2. Aggregate figures, example from 1975

Sum column B (grt)	24 669 224	Sum column G (aggregate grt)	24 669 224
Sum column C (dwt)	42 279 218	Sum column H (aggregate dwt)	42 279 218
Total adjustment	983 969		
Column B adjusted	23 685 255	B adjusted/ Registered	0,9580
Registered	24 722 473	Column B/ Registered	0,9978
Adj. – one vessel < 5000 grt	27 539	B-drilling vessels/Reg.	0,9935
Adj. – several vessels < 5000 grt.	334 171	Reg-1975 and drilling vessels	24 100 214
Adj. – drilling vessels	106 235	Reg-1975 and drilling vessels/Reg	0,9748
Adj. – vessels built 1975	516 024		

The "Sum column B"-figures are accumulated figures for all tonnage owned by Norwegian shipowners with vessels above 5.000 grt, based on the individual vessel entries and measured in grt. The "Sum column G"-figures are accumulated figures based on the entries of individual shipowning companies. These have been included to ensure correspondence between the individual entries and the fleets assigned to the various companies. The "Sum column C"- and "Sum column H"-figures are accumulated in the same manner, but refer to dwt. Vessels smaller than 5.000 grt have been excluded from these figures.

The figure labelled "total adjustment" represents the sum of vessels below 5.000 grt, vessels delivered in the year surveyed and drilling vessels, as indicated in the figures labelled "Adj.". By subtracting the "total adjustment"-figure from the aggregate figure "Sum column B", we find the total tonnage represented by vessels above 5.000 grt. The "Registered"-figure refers to all vessels registered in the Norwegian fleet, regardless of size and type, as presented in the aggregate figures in the Veritas-register.

The figures in the last column denote the degree of correspondence between the database and the figures representing the Norwegian fleet. Accordingly, in 1975, the vessels above 5.000 grt made up almost 96 per cent of the fleet (B adjusted/ Registered). Moreover, the figures show that shipowners with vessels above 5.000 grt owned almost 97,5 per cent of the tonnage registered in the Norwegian fleet (Reg-1975 and drilling vessels/ Registered).<sup>4</sup>

<sup>4</sup> If vessels delivered in 1975 are included, the figure would be 99,35 per cent. However, the aggregate figures in the Veritas-register include some of the vessels delivered in the year on which the statistics are based, but exclude others. Accordingly, the share of the fleet owned by shipowners with vessels larger than 5.000 grt is likely to be somewhere between 97,5 per cent – which is the conservative estimate and excludes all vessels delivered in 1975 – and 99,3 per cent – which includes all vessels included in the 1975-register. In the expansive period in the mid 1970s, the latter figure sometimes exceeded 100 per cent, as the large amount of undelivered vessels was included in the registry list but not in the aggregate figures from Veritas. Similarly, when the contraction of the Norwegian fleet was most pronounced in the mid 1980s, some tonnage had been subtracted from the aggregate figures, but had not been deleted in the main register. Again, the sum of the tonnage on the main register would exceed the aggregate figures.

The entries in the database have been categorised with regard to port of registry. This enables us to analyse the importance of the various ports, and the premises will be discussed in detail later. The distribution on ports is included in each annual entry, with respect to grt as well as dwt, and is presented in the following manner:

Table 9.3. Distribution of the fleet, example from 1975

Port	Per cent (grt)	Tonnage (grt)	Per cent (dwt)	Tonnage (dwt)
Arendal	4,3	1 054 083	4,6	1 935 657
Bergen	11,5	2 847 669	11,5	4 874 692
Drammen	0,2	44 592	0,1	35 135
Egersund	0,2	58 618	0,2	66 165
Farsund	1,1	278 306	1,1	466 905
Grimstad	2,5	618 010	2,4	1 027 524
Haugesund	3,5	872 435	3,4	1 424 176
Kristiansand	8,1	2 000 989	8,3	3 500 859
Larvik	0,6	160 065	0,7	276 007
Mandal	0,7	165 491	0,7	303 168
Moss	0,8	209 572	0,9	395 620
Oslo	38,9	9 595 606	37,8	16 000 457
Porsgrunn	0,4	90 975	0,3	133 675
Sandefjord	9,8	2 412 926	10,5	4 458 522
Skudeneshavn	0,2	53 221	0,2	76 599
Stavanger	10,4	2 574 412	11,4	4 806 214
Tromsø	0,1	17 582	0,1	25 696
Trondheim	0,2	58 517	0,1	32 060
Tønsberg	6,3	1 556 155	5,8	2 440 087
Sum	100,0	24 669 224	100,0	42 279 218

The distribution of the fleet across ports varies, depending on whether grt or dwt are utilised. This reflects the fact that some ports had a relatively high share of large vessels, whereas companies in other ports mainly focused on smaller vessels. The deviation is largest for ports with a high share of either general cargo tonnage, such as Oslo, or huge tankers, such as Sandefjord and Stavanger. For ports with a more diversified structure, for instance Bergen, the deviation is negligible. The difference between the two measures is relatively small, however, and in the subsequent analysis the data based upon grt will mainly be utilised.

### The company database

The main database has formed the basis for the other two databases, focussing on companies and sales. The company database shows the number, entry and exit of Norwegian shipowning companies, and may as such provide information on the structural development of the Norwegian shipping sector. The term "company" is used to designate the *korresponderende reder* [managing owner].

In connection with changes from one year to the next, all new companies and all companies disappearing from the main database were registered in the company database. The changes were the result of companies starting up or dissolving operations, as well as companies fulfilling the 5.000 grt limit through acquisition of new tonnage or companies falling below this limit through disposal of vessels above 5.000 grt. Moreover, companies merging and companies changing their names have been recorded. In the case of the company



database, companies only operating drilling vessels have been indicated. The aggregate figures in the company database detail the number of companies owning vessels larger than 5.000 grt, categorised by port.

The company database facilitates an analysis of the structure and dynamics of the Norwegian shipping sector, with regard to features such as industry concentration, average size of companies and the entry and exit of companies in various regions. For most of the entries in the company database, the foundations or fate of the companies included have been briefly indicated.

### The sales database

The vessels which were no longer registered with their previous owners were included in a list of sales. The data from the main database were supplemented by information from other sources in an attempt at identifying the new owners and acquiring details about the sale. The representative entry from the sales database has to be divided into two parts to fit on a normal page :

Table 9.4. The sales database<sup>5</sup>

Vessel name	Grt	Dwt	Type	Year of build	Age	Time of sale
MS Emma Bakke (after -71 conv.)	8 198	10 981	OSD	1962	20	681

Price	New name	Flag	New owner	Additional information
2 200 000	Hai Meng	Panama	Thoresen Trading Co. Ltd., Hong Kong	

The sales database enables us to analyse the fate of the vessels leaving the Norwegian merchant marine, as well as transactions between Norwegian companies. As the database includes information on both the new flag of registry and the new managing owners, it sheds light upon the changes in the international maritime hegemony which will be presented in more detail in Chapter Ten.

The construction of the sales database revealed that there was sometimes a lag between the time the brokers reported that a vessel was sold and the deletion of the vessels from the main register. This implies that a lag between the recorded and the actual reduction of the Norwegian fleet might exist. However, this effect only applied to a relatively small share of the vessels, and the lags were not so large as to pose a problem in connection with the analysis of the data.

#### 9.1.2. Reliability and validity

The use of the Veritas-register as the main source benefits from the fact that the register contains a large degree of detailed information and simultaneously is a very reliable reference. As the register is compiled by an independent agency, whose raison d'être is to provide accurate and reliable information to outside agents, there is no reason to expect any bias in the reporting. According to a study of Det Norske Veritas, the company publishing the register, "[a]n important condition for classification is impartiality and integrity."<sup>6</sup>

<sup>5</sup> The figure "681" implies that the vessels was sold in June 1981, according to reports from Norwegian brokers.

<sup>6</sup> Valen, Erik, *I en klasse for seg – en studie av skipklassifikasjonsbransjen og Det Norske Veritas Classification*

The fact that the register is compiled by an independent agent without incentives to alter the figures, does not imply that the register is faultless. The aforementioned lags in connection with some vessels illustrate the problems encountered. However, these inaccuracies are a result of problems with regard to information gathering and updating, rather than a result of attempts at distorting the actual information. The relatively small number of such inaccuracies, and their limited importance for the analysis, imply that the Veritas-register can be regarded as the most reliable published representation of Norwegian shipowning companies and their fleets.

In 1987 Det Norske Veritas changed their manner of reporting. The geographically separated list by owner was replaced by an alphabetical list of shipowners of all nations, encompassing vessels registered in different ports. This has two important consequences. On the one hand, the information on vessels registered in Norway had to be compiled in a different manner from the previous years. The vessel entries in the alphabetical list were utilised, and the vessels were designated to their respective ports. The end result was the same as in the previous years.

On the other hand, the register for the first time makes it practicable to gather information on vessels owned by Norwegian shipowners, but registered abroad. However, although the list includes all vessels registered in Norway, in the case of foreign-registered ships owned by Norwegian shipowners, only vessels classified by Det Norske Veritas are included in the list. Due to the changes in the manner of reporting, the database entry for the year 1987 includes two different lists – one of vessels registered in Norway, identical to the main database entry in the previous years, and one of ships owned by Norwegian shipowners and classified by Det Norske Veritas.<sup>7</sup>

The validity of the information in the main database can be examined by a comparison of the database with other sources. Such a comparison reveals that there is a high degree of correspondence between the figures in the database and figures published elsewhere, and that the discrepancy between the database, the aggregate figures from the Veritas-register and the figures presented by other Norwegian sources is relatively small. A comparison of the tonnage in the database and the international figures presented by Lloyd's Register of Shipping, and reprinted in eg OECD's *Maritime Transport*, reveals larger differences. This is due to the fact that the database is based on figures from 1 January, whereas Lloyd's/ OECD present figures from the middle of the year.

When the tonnage in the database, adjusted for drilling vessels, tonnage delivered in the current year and tonnage below 5.000 grt, is compared with the gross registered tonnage of all vessels above 4.000 grt in the Veritas-statistics, the average annual deviation is approximately one per cent. The Veritas-register does not include an aggregate list based on dwt. However, a comparison of the dwt-figures can be accomplished by means of the information from Table 20 in *Review*, published on an annual basis by the Norwegian

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AS [In a class of their own – a study of the ship classification industry and Det Norske Veritas Classification AS], unpublished thesis, Norwegian School of Economics and Business Administration, 1992, p. 12.

<sup>7</sup> The international list refers only to ships above 5.000 grt, and contains less information on each vessel than the other annual entries.

shipbroking company Fearnley & Egers Chartering Co. Ltd. This comparison poses some problems, however, as the database registers all vessels above 5.000 grt, whereas the figures in *Review* refer to tankers, combination carriers and bulk vessels above 10.000 dwt and other vessels above 1.000 dwt. However, although the figures are not directly comparable, the annual average deviation is only slightly more than two per cent.

Figure 9.1. Deviation as per cent of database figures, 1970-87<sup>8</sup>

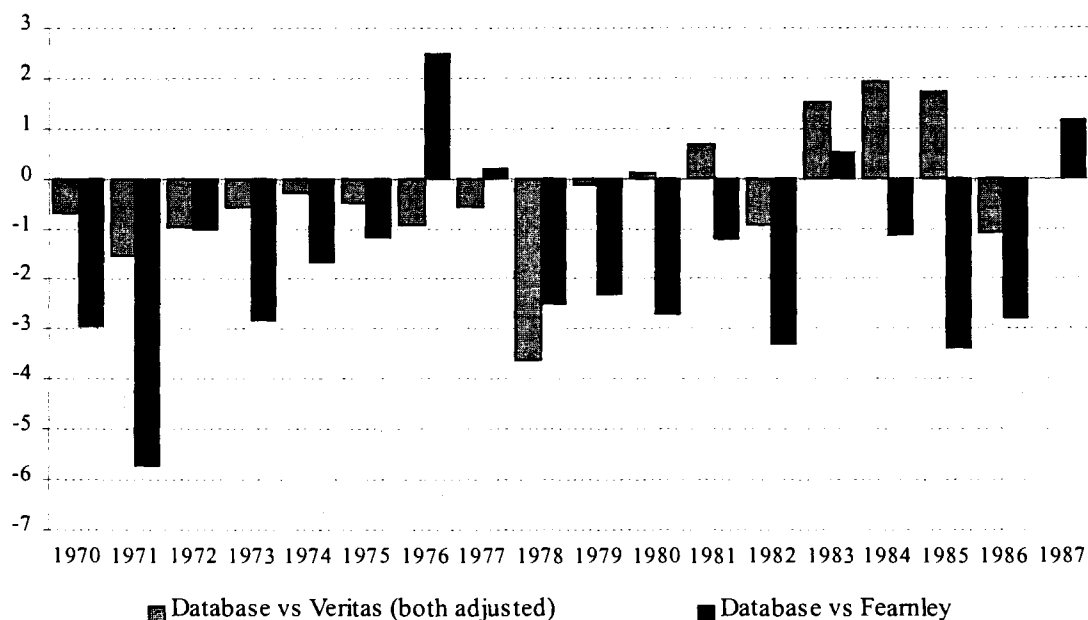


Figure 9.1 shows that the figures in the database correspond fairly well with the aggregate data from the Veritas-register. One reason for the deviation is the fact that vessels in the 5.000-6.000 grt bracket are not included in Veritas' aggregate figures – in fact, this can account for the full discrepancy in the beginning of the period. If we adjust for half of the tonnage in the Veritas-register's "4.000-6.000 grt"-category, the figure for 1971, which has the largest deviation in the first half of the 1970s, should be increased by 295.000 grt. This corresponds well with a deviation of 285.000 between the database and the aggregate Veritas-figures. In 1978, the year with the largest deviation altogether, this aspect can explain only approximately 15 per cent of the discrepancy. The majority of the difference originates with vessels delivered in 1978, which have been included in the aggregate Veritas-figures, but have been deducted from the figures in the database. In general, however, the correspondence between the figures is good – with an average annual deviation of 1,04 per cent.

The deviations from the *Review*-figures are more significant. The main reason for this is the fact that the definition of the Norwegian fleet differs between the database and the *Review*-figures. In the case of "other vessels", the *Review*-figures include all vessels above 1.000 grt, whereas the database only incorporates vessels above 5.000 grt. However, as the figures in the database include all vessels above 5.000 grt, the underestimation of "other

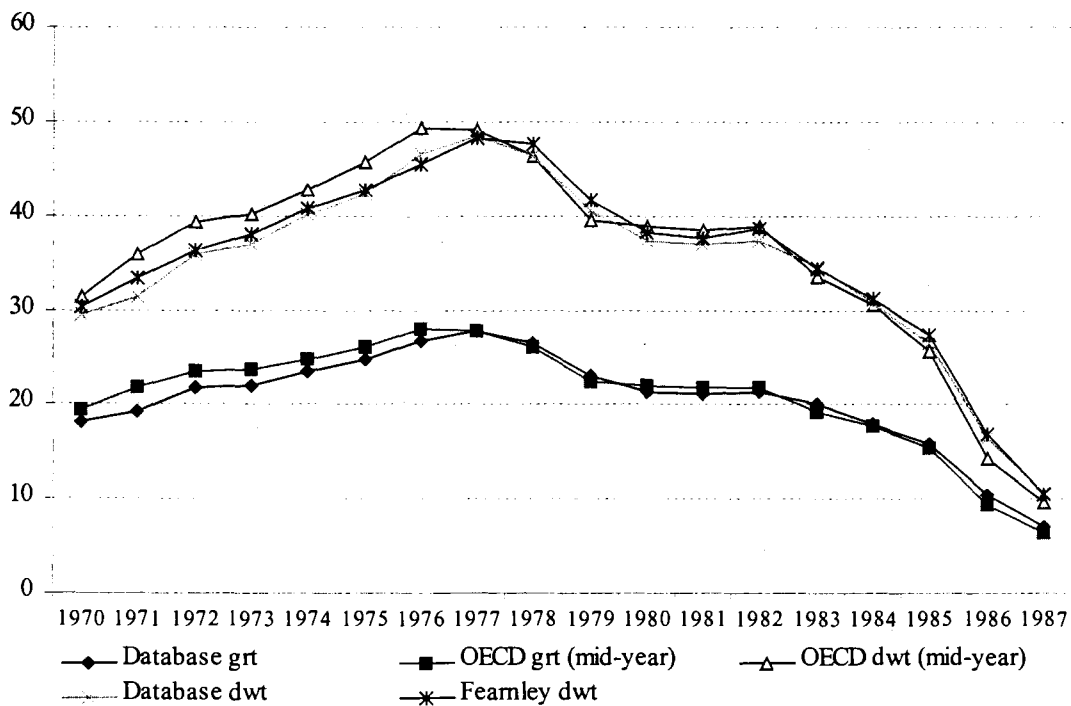
<sup>8</sup> The figures show the percentage deviation of the figures in the database when compared with the Veritas-register and the figures from Fearnley & Egers Chartering Co. Ltd., *Review*, Table 20. Negative percentages imply that the database figures are lower than the other sources. Aggregate data for 1987 are not available from Veritas.

vessels” is partly countered by the inclusion of some tankers, combination carriers and bulk carriers below 10.000 dwt, which have been left out of the *Review*-figures.

A closer analysis of the figures for 1971, in which the discrepancy is most prominent, shows that the deviation for tankers, combination carriers and bulk carriers is approximately three per cent. For the group “other vessels”, however, there is a deviation of 87 per cent, as a result of the considerable differences in definition. Comparisons for other years confirm this feature – the differences for tankers, combination carriers and bulk carriers are relatively small, whereas there are considerable differences with regard to other vessels. Nevertheless, given the chosen definition of the Norwegian fleet, the dwt-figures from the database give a good representation of the development of the aggregate Norwegian tonnage.

The information from the database confirms the development of the Norwegian fleet presented in Chapter Five. The strong growth in the early 1970s is evident, and the contraction, in particular from 1983 onwards, also corresponds with other sources.

Figure 9.2. Norwegian fleet, various sources, million dwt and grt, 1970-87<sup>9</sup>



The higher figures from OECD in the first part of the period and the lower figures in the latter part of the period can be attributed to the fact that the OECD-figures are based on the middle of the year, whereas the database refers to the beginning of the year. The OECD-figures for a given year are thus likely to be higher in periods of expansion and lower when the fleet is contracting. However, the difference is likely to be larger in periods of growth, as the discrepancy in periods where the size of the fleet is falling to some extent will be neutralised by the fact that the OECD-definition of the Norwegian fleet incorporates more vessels than

<sup>9</sup> The figures from the database refer to all Norwegian tonnage owned by shipowners with vessels larger than 5.000 grt. The definition previously presented applies to the figures labelled “Fearnley” and taken from Fearnley & Egers Chartering Co. Ltd., *Review*. The figures labelled “OECD” are annual figures from Lloyd’s Register of Shipping, reprinted in OECD, *Maritime Transport*.

the database-definition. The OECD-figures refer to all vessels above 100 grt.

The fact that the database corresponds well with other sources does not necessarily imply that it reflects the development traits which are analysed. The aim is to analyse the structural development of the Norwegian shipping industry. In this respect, two objections can be raised – one with regard to the treatment of chartering and another with regard to information on the company structure.

The first shortcoming is the fact that the database – and the register on which it is based – fail to take into account vessels which Norwegian shipowning companies have chartered-in from other sources. According to his biographers, John Fredriksen controlled a tanker fleet totalling four million dwt in the autumn of 1979, most of them chartered-in on one year charters.<sup>10</sup> Consequently, he managed Norway's second largest fleet, trailing only Sig. Bergesen d.y. However, as the vessels were chartered, rather than owned, Fredriksen's fleet is not registered in the Veritas-register or the database. In this respect, whereas the database is a good measure of Norwegian *shipowning*, it is not necessarily a good representation of the fleets managed by Norwegian shipping companies. The fact that only vessels owned by the companies are included must be taken into account in connection with the analysis and conclusions.

The second potentially problematic feature relates to the term *shipowning companies*. I have chosen to categorise the vessels in the Norwegian fleet according to their *korresponderende reder* [managing owner] as listed in the Veritas-register. In 1975 the Oslo-based shipowner Torvald Klaveness was listed as managing owner for a fleet totalling almost 350.000 dwt, and comprising 16 different vessels. Partly for legal reasons and partly for practical purposes, these vessels were owned by 13 different companies. The focus on managing owners reflects the size of the fleets controlled by various Norwegian shipowners, but this does not necessarily imply that the managing owner has *legal ownership* of all vessels assigned to his name.

Another problem originating with the use of managing owner to indicate ownership is that this definition conceals the large degree of cooperation in the Norwegian shipping community. Again, the case of Klaveness can be used as an example. Their share of the ownership of the companies for which they managed vessels ranged from 25 to 58 per cent. The remaining parts of the companies were owned by other participants, some of whom had invested in only one company and some of whom participated in several of the companies.<sup>11</sup> The participants in the companies legally owning the vessels in the Norwegian fleet ranged from shipbrokers and shipowners other than the managing owner, to ordinary investors and financial institutions. Accordingly, by focussing on managing owners, the dispersed ownership of the Norwegian fleet is to some extent disguised. On the other hand, an analysis of vessels based on *legal ownership* rather than *managing owners* would be relatively futile, as it would say nothing of the individual fleet size and the importance of the various agents in

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<sup>10</sup> Hauge, Odd Harald and Stavrum, Gunnar, *John Fredriksen – uautorisert biografi* [John Fredriksen – unauthorised biography], Gyldendal Norsk Forlag AS, Oslo, 1991, p. 69.

<sup>11</sup> See the presentation in Franck-Nielsen, Arne, *Skipsfartsnæringen – strukturelle trekk og arbeidsbetingelser* [The shipping industry – structural features and operating conditions], Working paper No. 29, The Study of the Distribution of Power in Norway, Bergen, 1975, p. 111.

the Norwegian shipping industry. The categorisation by managing owner can thus be justified from both a practical and an analytical point of view.

The aim of this chapter is to trace the trends in the Norwegian shipping industry in the 1970s and the majority of the 1980s. In this respect, the database is a good foundation upon which to analyse vessel ownership, with emphasis on managing owners, and aggregate trends.

## 9.2. The Geographical Distribution of the Norwegian Fleet

A traditional feature of the Norwegian shipping industry has been the geographical dispersion of the ownership of the fleet. Shipowning has been an important business activity in ports all along Norway's extensive coastline, and the widespread pattern of shipowning can be explained by the manner in which the industry evolved. Initially, the advantageous factors for the location of shipping activities had been access to raw materials for shipbuilding and a stable labour supply. During the 19<sup>th</sup> Century this changed to access to capital markets, proximity to communication- and trade-centres, organisational competence and dependence upon a qualified, national labour force.<sup>12</sup> Despite this development, shipping companies were situated in a large number of ports. The shipping crisis to some extent changed this feature, as the importance of the largest ports increased, whereas the activity in several smaller ports was discontinued.

The Veritas-register includes a list of Norwegian vessels by port of registry. However, this list comprises almost 60 ports, many of which only have a limited amount of relatively small vessels registered. Accordingly, the inclusion of small fishing and coastal vessels makes this list relatively unsuitable for an evaluation of the Norwegian merchant marine. Due to the restrictions on the tonnage included, the database gives a more reliable picture of the centres from which companies partake in the international transport of goods, defined as ports where vessels larger than 5.000 grt are registered.

The analysis reveals that there were considerable changes in the importance of the various ports, and that the transformation occurring parallel with the shipping crisis contributed to increased centralisation of the Norwegian fleet. Moreover, the figures from the database show that some regions were harder hit by the crisis than other regions, and several ports which had tonnage above 5.000 grt in the early 1970s disappeared during the period analysed. The trend towards fewer ports was evident despite the dynamic element which implies that the 5.000 grt limit was relatively more strict in 1970 than in the mid 1980s due to the increase in the average size of vessels.

### 9.2.1. The increased concentration

All vessels in the database have been assigned to their *hjemsted* [port of registry] according to the main Veritas-register. However, in the case of shipping companies with vessels registered in several ports, all vessels have been recorded in the port where the majority of the company's fleet was based. Two major companies deserve special attention in this respect.

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<sup>12</sup> See Nordvik, Helge W., "The Shipping Industries of the Scandinavian Countries: 1850-1913", in Fischer, Lewis R. and Panting, Gerald D. (eds.), *Change and Adaptation in Maritime History. The North Atlantic Fleets in the Nineteenth Century*, Maritime History Group, St. John's, 1985, pp. 117-148.

The company owned by Sig. Bergesen d.y. was based in Oslo, but the vessels are included in the fleet of Stavanger, which was entered as the port of registry. Similarly, the vessels of Wilh. Wilhelmsen were registered in Tønsberg, even though the company was based in Oslo. When these vessels are included in their ports of registry, rather than in the city in which the companies were based, the Oslo-registered fleet is underestimated, whereas the fleets of Stavanger and Tønsberg are inflated.

Table 9.5. Distribution of the Norwegian fleet across ports, per cent of total fleet, 1970-87<sup>13</sup>

	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-87 int.
Arendal	3,2	3,1	3,4	3,2	4,2	4,3	4,4	3,4	3,3	3,6	4,1	4,1	4,4	4,7	4,9	4,8	1,9		1,7
Bergen	12,2	11,7	11,4	11,6	11,2	11,5	12,2	13,4	13,6	13,9	13,6	13,0	12,8	11,5	11,3	9,3	9,6	7,6	13,9
Bodø	0,1	0,1	0,1	0,1															
Drammen	0,4	0,4	0,6	0,1	0,2	0,2	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,0	0,0				0,1
Egersund	0,1	0,1	0,3	0,2	0,2	0,2	0,2	0,1											
Farsund	2,0	1,9	1,6	1,6	1,3	1,1	1,1	1,2	1,0	0,9	0,8	0,6	0,7	1,0	1,1	2,2	1,7	0,9	1,5
Flekkefjord	0,2	0,2	0,1	0,1	0,1														
Fredrikstad	0,2	0,2													0,1	0,1	0,2	0,1	
Grimstad	2,7	2,7	2,6	2,3	2,4	2,5	2,2	2,3	2,4	1,8	1,8	1,9	2,1	2,5	2,1	2,3	2,3	2,9	6,2
Haugesund	3,4	3,7	3,2	3,6	3,6	3,5	3,6	3,5	3,4	3,6	3,5	2,9	2,8	2,7	3,4	1,0	1,1	1,6	1,1
Horten															0,2	0,2			
Kirkenes	0,1	0,1	0,0																
Kristiansand	8,0	7,8	7,7	8,2	8,0	8,1	9,0	9,0	9,3	9,1	8,8	8,9	7,6	8,5	8,7	9,8	12,1	11,0	9,5
Larvik	0,7	1,0	0,9	0,8	0,7	0,6	0,9	0,6	0,7	0,2	0,3	0,2	0,2	0,2	0,1	0,2	0,3	0,5	0,4
Lillesand	0,2	0,2	0,2	0,2	0,2		0,3	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,4	0,4			
Mandal	0,5	0,7	0,6	0,5	0,7	0,7	0,8	0,8	0,8	0,3									
Moss	1,5	1,4	1,3	1,5	1,2	0,8	1,8	1,8	1,7	1,7	1,9	1,9	0,1						
Narvik							0,0	0,0	0,0	0,0									
Oslo	37,8	36,3	38,3	39,5	38,7	38,9	36,4	36,8	36,6	37,5	37,7	38,5	38,9	37,9	34,8	36,2	31,6	34,0	59,7
Porsgrunn	0,7	0,6	0,6	0,6	0,4	0,4	0,3	0,3	0,4	0,5	0,5	0,5	0,5	0,5	0,7	0,8	0,6	1,0	1,1
Sandefjord	8,4	9,1	9,9	9,3	9,5	9,8	9,3	9,3	9,1	8,7	8,9	8,9	9,9	7,0	6,4	6,0	4,9	2,9	2,4
Skien											0,0	0,0	0,0	0,0	0,0	0,1			
Skudeneshavn	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,1	0,1	0,2	0,2	0,2	0,2						
Stavanger	9,4	9,5	9,2	9,0	10,1	10,4	10,3	10,5	9,9	11,4	11,7	12,3	14,5	17,4	19,6	21,3	25,4	29,0	1,9
Stokm.	0,1	0,1	0,1									0,1	0,1	0,1	0,1				
Tromsø	0,5	0,5	0,1	0,1	0,1	0,1	0,1	0,1	0,1								0,4	0,5	
Trondheim	0,4	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,3	0,2	0,3	0,3	0,1	0,2	0,2	0,2	0,4	0,5	0,1
Tvedestrand	0,1	0,1	0,1	0,0						0,0									
Tønsberg	6,5	7,8	7,0	6,4	6,4	6,3	6,7	6,2	6,8	5,7	5,4	5,3	4,7	5,3	5,8	5,0	7,5	7,5	0,2
Ålesund	0,5	0,4	0,5	0,5	0,3														
Sum	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Two features in Table 9.5 require attention. One is the increasing concentration in the Norwegian fleet, which will be presented shortly. The other is the deviation between the two columns labelled “-87” and “-87 int.”. The latter column includes ships registered abroad, and is based on the address of the company rather than on the port of registry. This explains why the tonnage registered in Fredrikstad and Tromsø in 1987 disappears when the fleet includes foreign-registered vessels.<sup>14</sup> The effect of a focus on address rather than port of registry for the fleets of Stavanger and Tønsberg, as seen in the difference between “1987” and “1987 int.”, is

<sup>13</sup> The table is based on grt as registered in the database. An entry of “0,0” implies that vessels above 5.000 grt have been registered in the port, but that the tonnage represents less than 0,05 per cent of the Norwegian fleet.

<sup>14</sup> The *MT Sletreal*, registered in Fredrikstad, is included under Oslo in the latter column. The change in the position of Tromsø was the result of a drilling vessel which is not included in the international figures for 1987.

also evident.

Figure 9.3. Number, entry and exit of ports with vessels above 5.000 grt, 1970-87<sup>15</sup>

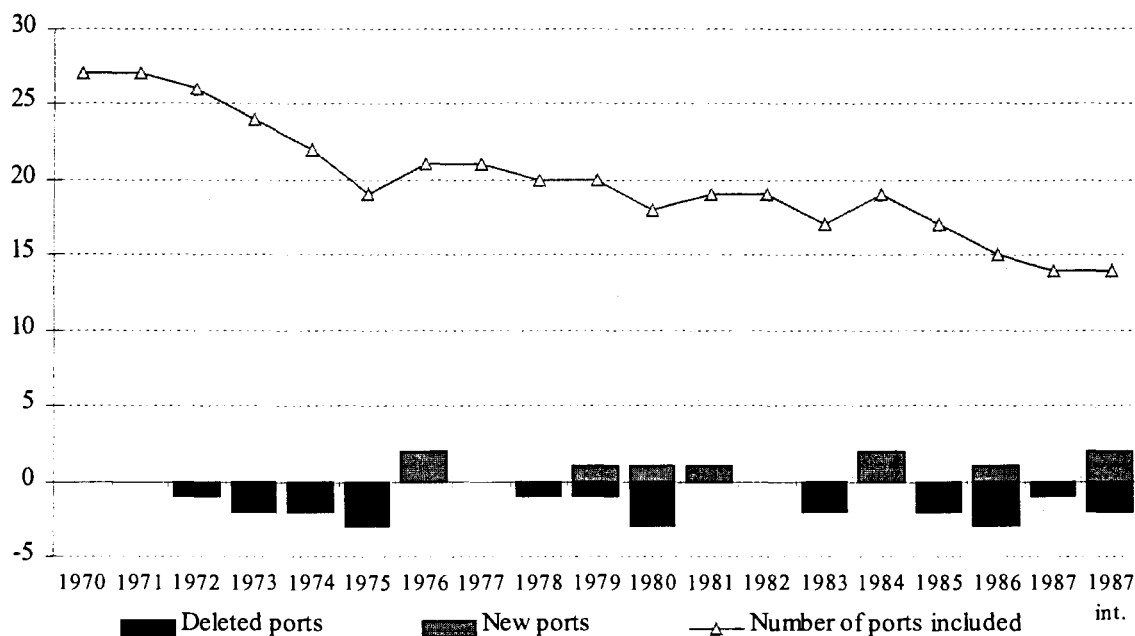


Figure 9.3 reveals that the number of ports in which vessels above 5.000 grt were registered was almost halved from 1970 to 1987. In 1970, vessels larger than 5.000 grt were registered in 27 different ports. The corresponding figure for 1987 was 14, irrespective of whether or not foreign-registered vessels were included. The number of ports was reduced from 27 to approximately 20 in the first half of the 1970s, when ports such as Bodø, Kirkenes, Fredrikstad and Stokmarknes fell below the assigned limit – the latter two albeit temporarily. The second reduction came in the latter part of the decade, when eg Egersund, Mandal and Tromsø disappeared. From the mid 1980s onwards, ports such as Drammen, Horten and Lillesand fell below the 5.000 grt limit.

The ports disappearing during the 1970s were largely relatively insignificant ports, in aggregate constituting less than two per cent of the fleet in 1970. The ports which were deleted in the latter part of the 1980s were more important, in particular Arendal. This port was among Norway's five largest in the 1970s, owned almost five per cent of the fleet in 1984 but had no tonnage above 5.000 grt left on the Norwegian registry by 1987. However, the reduction in the number of ports with tonnage above the limit is only one aspect of the increased concentration. Another distinct feature was the increasing importance of the largest Norwegian ports.

<sup>15</sup> The Figures 9.3 and 9.4 are based on grt as registered in the database and shown in Table 9.5. However, the Figures 9.5 to 9.7 have been adjusted as presented in the text.



Figure 9.4. Concentration in Norwegian shipping, ports, 1970-87

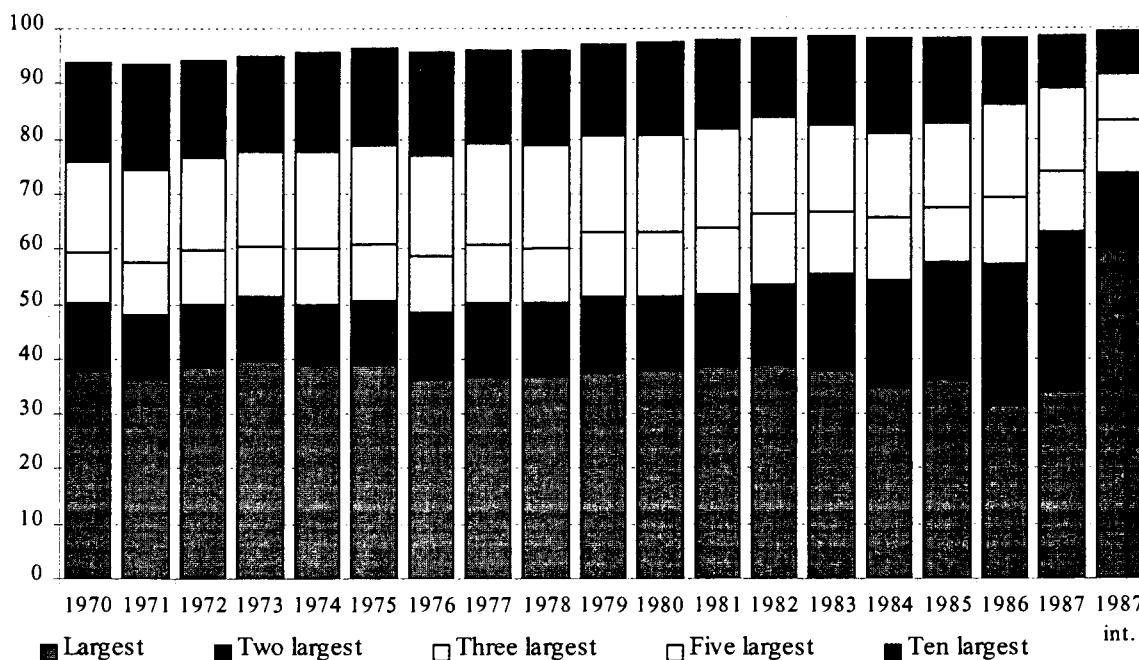


Figure 9.4 shows that the share of the fleet registered in Oslo, the largest port, fluctuated between 30 and 40 per cent, and actually decreased, over the period. The difference between “1987” and “1987 int.” is a result of the fact that the entry including foreign-registered vessels is based on the address of the companies, with Bergesen and Wilhelmsen included in the figures for Oslo, the largest port. Accordingly, the apparent increase in concentration in the latter entry is a result of different statistical bases, rather than a reflection of the actual development.

The importance of the two largest ports was relatively stable until the beginning of the 1980s. In 1982, however, Stavanger caught up with Bergen, solely as a result of the growing importance of the Sig. Bergesen d.y.-fleet. In the subsequent years, the fact that the Bergesen-tonnage was relatively stable, whereas the aggregate Norwegian fleet was substantially reduced, secured that the importance of the two most important ports increased, despite Oslo’s reduced share.

The increase in the share of the Norwegian fleet registered in the three largest and five largest ports was limited until 1981, adding up to 4,4 and 5,7 percentage points respectively. In the period from 1982 to 1987 the proportion of the fleet registered in the three largest ports grew considerably, from less than two thirds to almost three quarters.<sup>16</sup> This was largely a result of the increasingly important role played by Stavanger, the second largest port.

The importance of the largest port in Figure 9.4 can be considered an underestimation, due to the fact that the Bergesen- and Wilhelmsen-fleets were assigned to Stavanger and Tønsberg respectively. It is necessary to adjust for this element in order to get a more realistic depiction of the importance of the various maritime centres and the increasing concentration of the shipping industry. This element has been compensated for in Figure 9.5, where the

<sup>16</sup> The growth of the share registered in the five largest ports was smaller, from 83,8 to 89,1 per cent.

Bergesen- and Wilhelmsen-fleets have been registered under Oslo.<sup>17</sup> The data on which this figure is based will be used in the rest of the analysis in Chapter 9.2.

Figure 9.5. Adjusted concentration in Norwegian shipping, ports, 1970-87

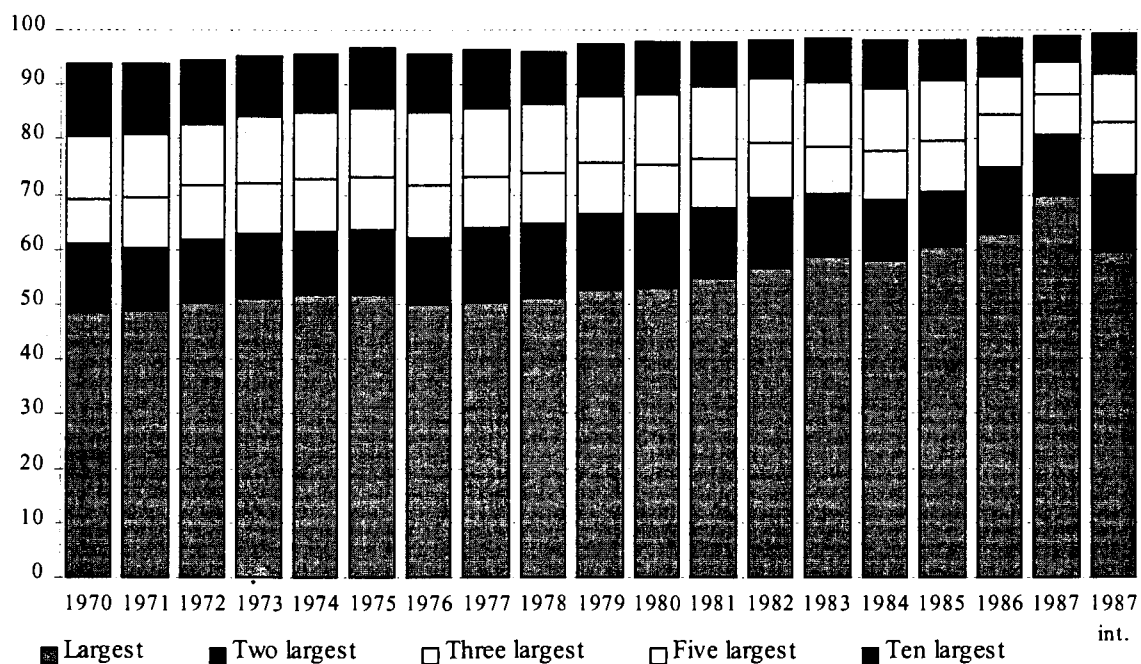


Figure 9.4 and Figure 9.5 illustrate the increased concentration in Norwegian shipping with regard to ports, a trend which partly reflects the significant and growing importance of the largest shipping companies. Whereas the inclusion of the Bergesen- and Wilhelmsen-fleets in the figures for Oslo would boost this city's tonnage by 28,5 per cent in 1970, the same exercise would more than double the Oslo-fleet in 1987. Indeed, Bergesen's tonnage alone would be Norway's second largest "port" in the latter year, two and half times larger than Kristiansand in third place. This is a reflection of the increasing concentration among shipping companies, which will be analysed in Chapter 9.3.

Figure 9.5 shows that the tonnage registered in ports outside the Top Five was almost eliminated over the period. Moreover, the share of the fleet registered in Oslo increased by more than 20 percentage points, from less than 49 per cent in 1970 to almost 70 per cent in 1987. The share of the fleet registered in the second and third largest ports was relatively constant, albeit slightly reduced. However, the share of the fleet which was registered in ports outside the three largest fell dramatically, declining from 29,3 per cent in 1970 to 11,6 per cent in 1987.

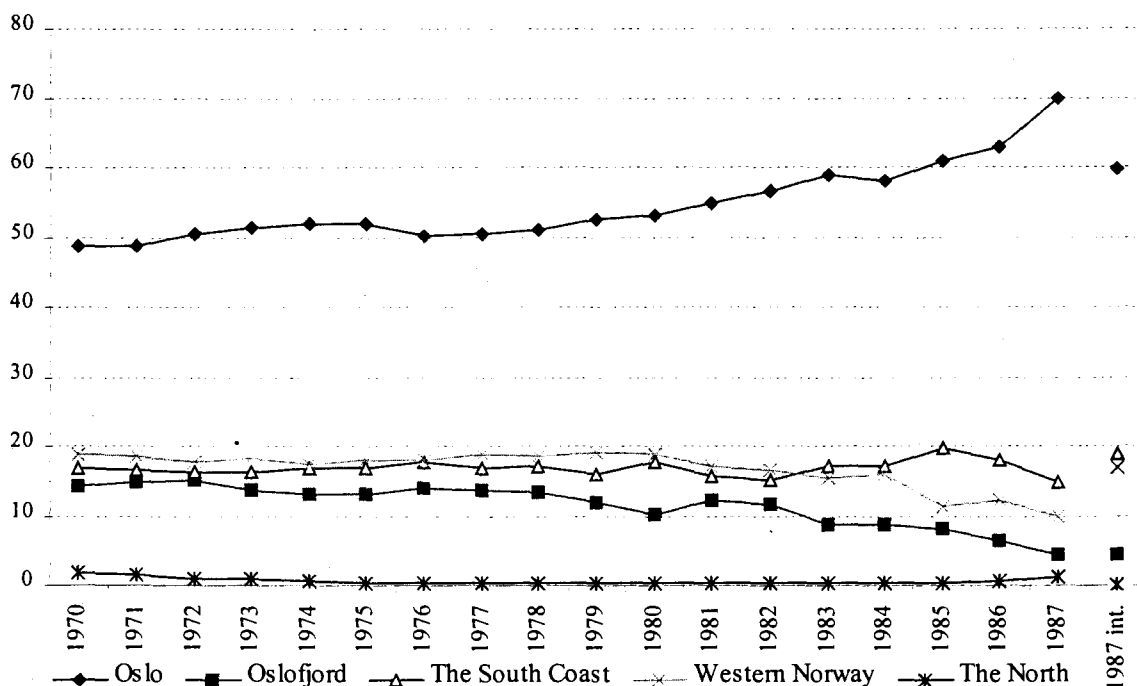
### 9.2.2. Changes in the importance of regions

Figure 9.4 and 9.5 show the development according to size, and do not illustrate the changes in the importance of individual ports. Whereas the figures indicate that the largest ports gained

<sup>17</sup> The Bergesen-fleet includes all vessels registered in Stavanger and owned by Sig. Bergesen d.y. & Co. until 1986, or Bergesen d.y. Gruppen from 1986 onwards, as well as the tonnage owned by General Ore Corporation in 1986. These vessels were managed by Bergesen and had previously been included in his fleet. The Wilhelmsen-fleet includes the vessels registered under Wilh. Wilhelmsen until 1986 and Wilh. Wilhelmsen Ltd. AS from 1986 onwards.

importance, they do not reveal the regional changes which accompanied this development. In order to analyse the geographic development traits, the figures from the database have been aggregated on a regional basis. An analysis of the regional figures reveals considerable changes in the weight of the various regions, and the trend towards increased concentration is again observable.

Figure 9.6. Share of the fleet by region, per cent, 1970-87<sup>18</sup>



The changes in the importance of the various regions are evident from Figure 9.6. At the beginning of the period, approximately half of the fleet belonged to companies based in Oslo, and the three regions Oslofjord, The South Coast and Western Norway each owned between 14 and 19 per cent of the tonnage. By 1980 the picture was very much the same, although the share of the Oslo-fleet had increased by approximately four percentage points, with a similar decrease for the Oslofjord region. The 1980s, however, was a period with more prominent changes.

The importance of the fleet based in the Oslofjord region continued to dwindle, and their share of the Norwegian fleet had fallen to approximately four per cent by 1987, both as share the Norwegian-registered tonnage and as share of all Norwegian-controlled tonnage. The decline was partly a result of the fact that the number of companies in the region with vessels above 5.000 grt fell from 23 to eight. Moreover, the average tonnage owned by the companies in the region fell from 111.500 grt in 1970 to less than 40.000 grt in 1987, after peaking at 184.000 grt in 1978.<sup>19</sup>

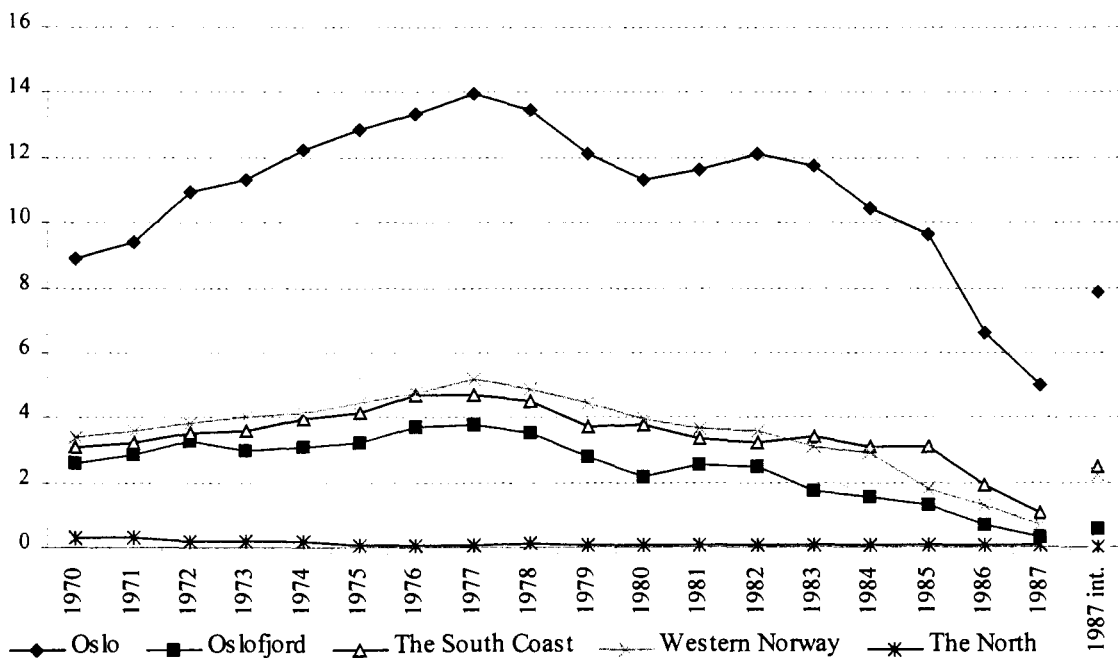
<sup>18</sup> The regions have been categorised in the following manner; *Oslofjord*: Drammen, Fredrikstad, Horten, Larvik, Moss, Porsgrunn, Sandefjord, Skien and Tønsberg – *The South Coast*: Arendal, Farsund, Flekkefjord, Grimstad, Kristiansand, Lillesand, Mandal and Tvedestrand – *Western Norway*: Bergen, Egersund, Haugesund, Skudeneshavn and Stavanger – *The North*: Bodø, Kirkenes, Narvik, Stokmarknes, Tromsø, Trondheim and Ålesund.

<sup>19</sup> The figures for the number of companies and aggregate tonnage do not include Wilh. Wilhelmsen.

The share of the tonnage owned by companies based in Western Norway was constant until 1980, but then declined by some 18 per cent until 1984. However, the Western Norway-fleet's share of the Norwegian fleet plunged from almost 16 to approximately 11 per cent from 1984 to 1985. This was caused by a reduction in the Bergen-fleet of more than 500.000 grt, or 28 per cent, and a similar decline in the Haugesund-fleet, which represented a reduction of almost three quarters. In Haugesund's case, the decline was largely the result of the disposal of several large tankers, whereas the reduction of the Bergen-fleet was a combination of large tankers being scrapped or sold abroad and the transfer of tonnage to foreign flags.

A comparison of the Norwegian-based and Norwegian-owned fleets in 1987 reveals some interesting features. First, the share of Oslo is reduced when foreign-registered vessels are taken into account, whereas the share of tonnage owned on the South Coast and in Western Norway increases. This is partly a result of the fact that shipowners in these regions to a larger extent than shipowners in the Oslo-region had taken advantage of the possibilities to register tonnage abroad. The share of the tonnage owned by shipowners in Grimstad is more than doubled when we look at Norwegian-owned rather than Norwegian-registered tonnage. Similarly, the share of the fleet based in Bergen increases from approximately eight to nearly 14 per cent. Second, when tonnage registered abroad is included, there is no significant reduction in the share of the Norwegian fleet based on the South Coast and in Western Norway relative to the situation in 1970. Rather, there is a small increase, from 16,8 to 18,9 per cent, for the South Coast, and a corresponding decline, from 18,8 to 16,9 per cent, in the case of Western Norway.

Figure 9.7. Tonnage in various regions, million grt, 1970-87



The tonnage of Oslo, the Oslofjord-region and Western Norway peaked in 1977, like the aggregate Norwegian fleet. The tonnage registered on the South Coast peaked the previous year, and the North fleet peaked in 1978, albeit at a tonnage level which was only a third of what it had been at the beginning of the 1970s. Figure 9.7 also shows that the temporary

cessation of the decline of the Norwegian fleet in the early 1980s was largely a result of the growth in the Oslo- and Oslofjord-fleets, and occurred amidst continuing reduction of the tonnage registered on the South Coast and in Western Norway. The demise of the Oslofjord shipowners is also conspicuous when we compare the amount of tonnage registered and owned in 1987 with previous periods.

Table 9.6. Tonnage in 1987 as share of 1970-fleet and peak fleet, regions, per cent

	1987/1970	1987/peak	1987 int./1970	1987 int./ peak
Oslo	56,1	35,6 (1977)	88,2	56,0 (1977)
Oslofjord	12,4	8,4 (1977)	21,9	14,9 (1977)
The South Coast	34,4	22,0 (1976)	80,8	51,8 (1976)
Western Norway	20,6	13,5 (1977)	64,8	42,6 (1977)
The North	24,6	73,7 (1978)	6,1	18,2 (1978)
Aggregate	39,1	25,7 (1977)	71,9	47,2 (1977)

The relative reduction of the fleets of the various groups reveals large regional differences. The reduction of the fleet registered in the North occurred earlier and was more pronounced than for the rest of the country, particularly when viewed in relation to Norwegian-owned tonnage. Tonnage-wise, the highest entry for the North-fleet was registered in 1970, after which the tonnage dwindled. By 1976 the tonnage had fallen by more than 90 per cent, but this partly reflected the relatively small number of vessels registered in the various ports, which implies that the disposal of only a few vessels may have large effects. The reduction was influenced by the exit of ports such as Bodø, Kirkenes, Stokmarknes and Ålesund, as well as a decrease in the tonnage registered in Tromsø. Trondheim was the only port in the North-category where the amount of tonnage registered was relatively stable. However, Trondheim's share of the Norwegian fleet fell as a result of the considerable expansion in other parts of the country.

Apart from the relatively insignificant fleet in the North, the highest relative decrease was recorded in the Oslofjord-region. In 1987 the tonnage in this region amounted to merely 12,4 per cent of the tonnage registered there in 1970, and only 8,4 per cent of the tonnage registered during the peak ten years previously. The situation is almost as severe if we adjust for tonnage registered abroad – relative to 1970 the tonnage had been reduced by almost 80 per cent, and it amounted to less than 15 per cent of the tonnage registered in the peak year.

If we take into account vessels registered abroad, the status in 1987 was not as grave for the main three regions of Norwegian shipping, Oslo, The South Coast and Western Norway. None of the regions had fleets of the same size as in 1970, let alone the peak in the mid 1970s. However, relative to 1970 the decrease was less than 20 per cent in Oslo and on the South Coast, and approximately a third in the case of Western Norway.

Although the reduction was dramatic, in particular when compared with the peak year, the situation was not as grave as the figures might indicate. Some degree of reduction could be expected, as the world fleet contracted from 1982 onwards. However, the reduction of the world fleet was smaller than for any of the Norwegian regions. Another mitigating element is the fact that a ton of shipping tonnage in 1970 was different from a ton of shipping tonnage in 1987.

The Norwegian fleet in the late 1980s consisted of far more specialised vessels than in

1970. Specialised vessels are more costly to build, but have a correspondingly higher revenue potential. This implies, on the one hand, that the value of the fleet – or rather that the value of each unit of tonnage – was higher in the mid 1980s than it had been in the early 1970s. On the other hand, several Norwegian shipowners had diversified their operations from the bulk sector, concentrating instead on market segments which can be characterised as “industrial shipping”. Norwegian shipowners were dominant within market segments such as the markets for supply vessels, large gas tankers and roll on-roll off carriers, as well as within chemical shipping, cruise shipping and open hatch bulk shipping. An adjusted measure of the decline of the Norwegian fleet, based on “*compensated gross register tons*” will be presented in Chapter 9.5.

### 9.2.3. Changes in the importance of ports

Chapter 9.2.2 showed the regional changes in the Norwegian fleet in the period from the early 1970s to the mid/ late 1980s. A similar analysis can be performed with relation to ports, and the purpose of this subchapter is to illustrate the development of the most important Norwegian maritime centres. This exercise shows that the regional categorisation disguises variations in the development of the ports within the same regions. Perhaps the best example of this is the South Coast, where the reduced position of the Arendal-fleet was made up for by an increase in the share of the Grimstad- and Kristiansand-fleets.

Annual figures reveal that seven different ports were at some point among the five largest in the period from 1970 to 1987. As was evident from Figure 9.5, the importance of these ports increased during the period. The largest growth took place in Oslo, whose share of the Norwegian-registered fleet increased from 48,6 per cent in 1970 to almost 70 per cent in 1987. The relative growth was nearly of the same magnitude in the case of Kristiansand, whereas Sandefjord suffered the largest decline, in per cent as well as in percentage points.<sup>20</sup>

Table 9.7. The largest ports, per cent of Norwegian fleet, 1970-87<sup>21</sup>

	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-87 int.
Oslo	48,6	48,7	50,3	51,2	51,9	52,0	50,1	50,4	50,9	52,6	53,1	54,8	56,5	58,7	57,9	60,8	62,8	69,8	59,7
Bergen	12,2	11,7	11,4	11,6	11,2	11,5	12,2	13,4	13,6	13,9	13,6	13,0	12,8	11,5	11,3	9,3	9,6	7,6	13,9
Sandefjord	8,4	9,1	9,9	9,3	9,5	9,8	9,3	9,3	9,1	8,7	8,9	8,9	9,9	7,0	6,4	6,0	4,9	2,9	2,4
Kristiansand	8,0	7,8	7,7	8,2	8,0	8,1	9,0	9,0	9,3	9,1	8,8	8,9	7,6	8,5	8,7	9,8	12,1	11,0	9,5
Haugesund	3,4	3,7	3,2	3,6	3,6	3,5	3,6	3,5	3,4	3,6	3,5	2,9	2,8	2,7	3,4	1,0	1,1	1,6	1,1
Arendal	3,2	3,1	3,4	3,2	4,2	4,3	4,4	3,4	3,3	3,6	4,1	4,1	4,4	4,7	4,9	4,8	1,9		1,7
Grimstad	2,7	2,7	2,6	2,3	2,4	2,5	2,2	2,3	2,4	1,8	1,8	1,9	2,1	2,5	2,1	2,3	2,3	2,9	6,2

Table 9.7 confirms the trend towards concentration in Oslo which was evident from the regional studies. Moreover, the latter two columns of the table show the varying impact of the inclusion of foreign-registered vessels in the 1987-figures. In the case of Bergen, the share of the Norwegian fleet is almost doubled when vessels registered abroad are taken into account.

<sup>20</sup> The situation for Arendal was even more grave when only Norwegian-registered tonnage is included. By 1987, no tonnage above 5.000 grt registered in Arendal remained. However, this was partly a reflection of the fact that Arendal shipowners had taken advantage of the access to foreign registry – when foreign-registered vessels are included, Arendal’s share of the Norwegian fleet was approximately halved relative to 1970, whereas Sandefjord’s share had fallen by more than 70 per cent.

<sup>21</sup> Based on grt, with the Bergesen- and Wilhelmsen-fleets included in the Oslo-figures.

This can be contrasted with a decrease in Haugesund, Kristiansand and Sandefjord, and suggests that shipowners in some cities were more eager to take advantage of the liberalisation of the Norwegian flag policy. Accordingly, the reduction of the fleet in eg Bergen during the first half of the 1980s, will be less dramatic if foreign-registered vessels are taken into account.

The share of the Norwegian fleet assigned to the various ports can illustrate the drastic transformation which occurs when the presumptions are changed. Table 9.8 mirrors Table 9.7, except for two changes. First, the share of the Norwegian fleet is based on dwt rather than grt. Second, the fleets of Sig. Bergesen d.y. and Wilh. Wilhelmsen have been assigned to Stavanger and Tønsberg respectively. The figures show the dramatic increase in Stavanger's share of the Norwegian fleet – from 1986 the city even surpassed Oslo, becoming the country's largest port. Tønsberg would also be among the five largest ports in the latter part of the period. However, if the Wilhelmsen-fleet were assigned to Oslo, Tønsberg would disappear completely in 1987, and would represent less than 0,3 per cent of the fleet in the previous year.

Table 9.8. The largest ports, per cent of the Norwegian fleet, unadjusted, 1970-87<sup>22</sup>

	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87
Oslo	36,6	35,1	37,2	38,6	37,6	37,8	35,3	35,7	36,6	36,3	37,7	36,7	37,1	35,9	32,3	33,4	26,7	30,3
Bergen	12,1	11,7	11,4	11,5	11,1	11,5	12,0	13,2	13,6	13,7	13,6	13,2	13,2	11,6	11,3	9,2	9,9	7,7
Stavanger	10,5	10,7	10,2	9,9	11,0	11,4	11,1	11,2	9,9	12,1	11,7	12,9	15,4	18,6	21,2	23,5	29,3	34,3
Sandefjord	8,9	9,8	10,6	10,0	10,3	10,5	9,9	9,9	9,1	9,4	8,9	9,7	10,7	7,4	6,8	6,4	4,8	1,9
Kristiansand	8,2	7,8	7,8	8,4	8,1	8,3	9,1	9,2	9,3	9,5	8,8	9,5	8,1	9,1	9,4	10,6	14,2	12,8
Tønsberg	6,4	7,6	6,9	6,1	6,1	5,8	6,2	5,8	6,8	5,4	5,4	4,9	4,2	4,9	5,3	4,3	6,7	6,6

Table 9.8 reveals drastic changes in the importance of the various ports, particularly in the latter part of the period. This can be attributed to the increased concentration in the shipping industry, which will be analysed later. However, the manner of reporting in Table 9.7 gives a more accurate impression of the development of the shipping industry, as it depicts the maritime centres, not the ports in which the vessels are registered.

Table 9.9. The largest ports by rank, 1970-87

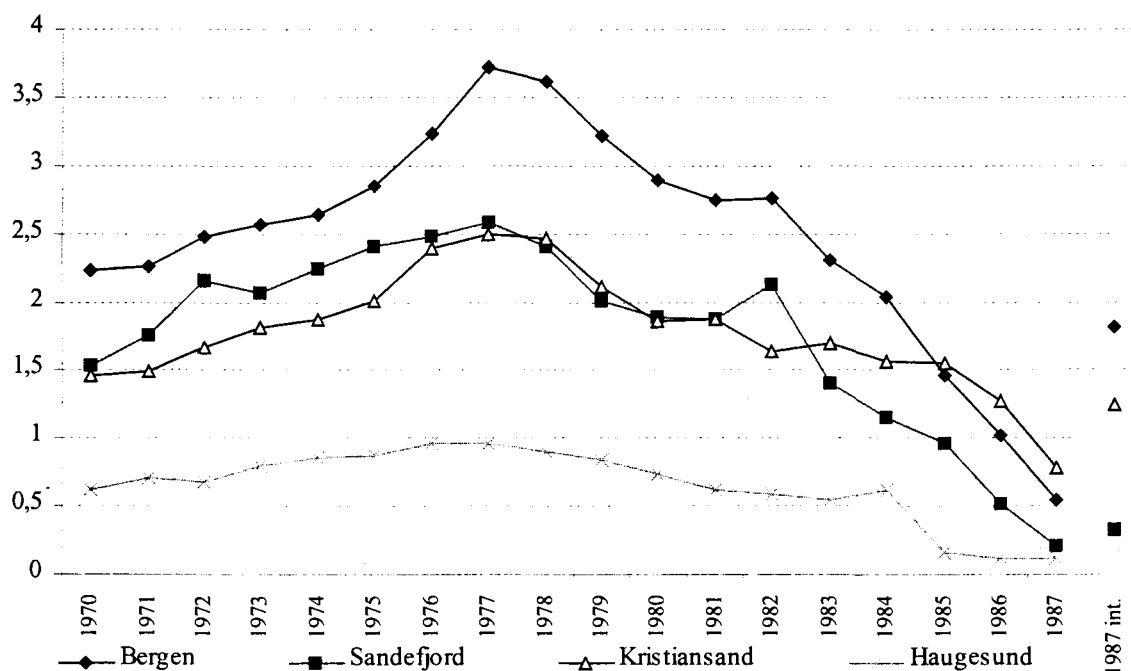
	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-87 nt.
Oslo	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Bergen	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2
Sandefjord	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	5
Kristiansand	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	2	2	3
Haugesund	5	5		5				5	5	5									
Arendal			5		5	5	5				5	5	5	5	5	5			
Grimstad																	5	5	4

Table 9.9 shows that the relationship among the three largest ports was stable up until 1983, when Kristiansand seized Sandefjord's position as Norway's third largest port, before conquering Bergen two years later. Sandefjord's share of the Norwegian fleet fell dramatically after 1982, and by 1987 the city's share of the Norwegian fleet had been reduced by more than

<sup>22</sup> Based on dwt, with the Bergesen- and Wilhelmsen-fleets included in the Stavanger and Tønsberg respectively.

two thirds. The position as the fifth largest fleet alternated between Haugesund and Arendal until 1980, when the Arendal-shipowners consolidated their position. However, the fifth place was taken over by Grimstad in 1986. The table also reveals that the rank of the various ports depended upon whether or not foreign-registered vessels were included.

Figure 9.8. Tonnage in the most important ports, million grt, 1970-87<sup>23</sup>



The development of the various ports confirms the trend seen both in the aggregate figures and in connection with the regional development. Again, there are large differences between the various ports with regard to the extent to which their fleets declined during the shipping crisis. When foreign-registered tonnage is taken into account, the decline relative to 1970 was less than 20 per cent for Oslo, Bergen and Kristiansand. The fact that their decline was lower than the average for the aggregate Norwegian fleet reflects the increased concentration with regard to the largest ports. Moreover, some ports, notably Grimstad, actually increased their tonnage relative to the situation before the crisis.

Table 9.10. Tonnage in 1987 as share of 1970-fleet and peak fleet, ports, per cent

	1987/1970	1987/peak	1987 int./1970	1987 int./ peak
Oslo	56,1	35,6 (1977)	88,2	56,0 (1977)
Bergen	24,2	14,5 (1977)	81,6	49,0 (1977)
Sandefjord	13,5	8,0 (1977)	20,8	12,4 (1977)
Kristiansand	53,6	31,4 (1977)	85,0	49,8 (1977)
Haugesund	18,4	11,8 (1977)	24,1	15,6 (1977)
Arendal			39,3	19,2 (1976)
Grimstad	41,1	31,9 (1977)	163,3	126,8 (1977)
Norway	39,1	25,7 (1977)	71,9	47,2 (1977)

Table 9.10 reveals that the flight of tonnage was particularly large in the case of Sandefjord and Haugesund. The reduction in the fleets of the various ports was accompanied by a strong

<sup>23</sup> For an introduction to the development of the amount of tonnage registered in Oslo, confer Figure 9.7.



reduction of the number of companies engaged in shipping from the various ports. This will be more closely examined in connection with the analysis of the development of shipping companies in the next chapter.

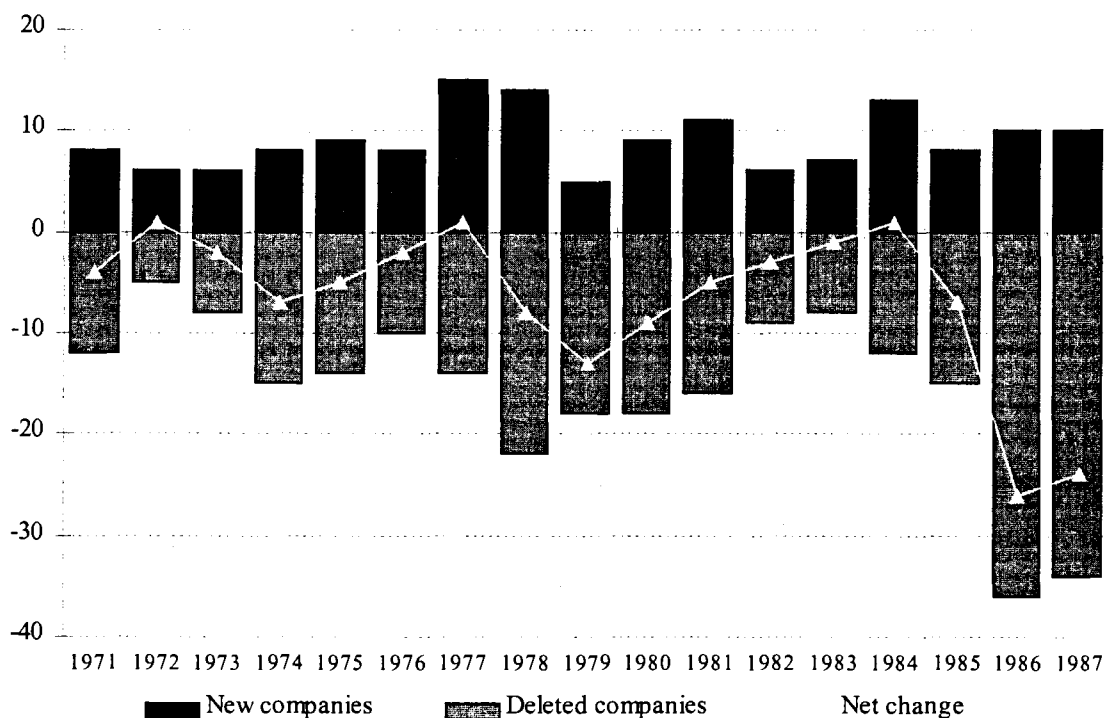
### 9.3. The Development of Norwegian Shipping Companies

As the entries in the database are categorised by managing owner, the database enables us to analyse the changes in the company structure in the Norwegian shipping sector. This subchapter commences with an examination of the decline in the number of shipping companies, the increased concentration of the Norwegian fleet in the hands of a few large companies and the heterogeneity of the companies in the shipping sector. Subsequently, the changes in the organisation of Norwegian shipping companies are briefly presented. The last part of the Chapter 9.3 is a presentation of the literature on Norwegian shipping companies during the crisis years. This literature indicates the diversity of the companies operating in the shipping sector and the different manners in which they adapted to the crisis.

#### 9.3.1. Changes in the number and average size of companies

The reduction of the Norwegian fleet was accompanied by a strong decline in the number of companies engaged in international shipping. In 1970 a total of 176 companies had owned vessels larger than 5.000 grt. The figure declined only marginally until 1973, as the number of new companies partly neutralised the effects of the companies abandoning their operations. In the following years the average reduction was higher, and particularly strong in the years 1978-1981.

Figure 9.9 Annual changes in the number of companies, 1970-86



After the liberalisation of the Norwegian flag policy in the mid 1980s, the decline accelerated, leading to a net reduction of 26 companies from 1985 to 1986 and 24 companies the following year. By 1987 the number of companies engaged in the international shipping sector, with vessels registered in Norway, had fallen to 64 – a reduction of almost two thirds relative to 1970.<sup>24</sup> Adjusting for companies with vessels registered abroad, the figure was almost halved, from 176 to 91 companies. The reduction of the number of companies participating in the shipping industry was one aspect of the increased concentration in Norwegian shipping. Moreover, the winding-up of some of the companies signalled the termination of shipping operation from several Norwegian cities.

Most of the figures used in this subchapter incorporate all companies owning vessels with tonnage above 5.000 grt, companies owning oil rigs as well as ships, and companies whose sole engagements were in the drilling sector.<sup>25</sup> The latter category comprises eight of the companies, so the reduction of companies owning ships was even more severe than the figures indicate. If rigowners are excluded, which implies that a more conservative measure of the Norwegian shipping sector is used, the number of companies with ships registered in Norway declines from 176 in 1970 to only 56 in 1987, a reduction of more than two thirds. However, such a definition fails to embrace the important transformation of several Norwegian shipping companies, exhibited through their conscious embrace of the offshore segment as well as the increasing amount of tonnage registered abroad. The basis for these development traits will be discussed in more detail in Chapter Ten.

The data on which Figure 9.10 is based depict the number of managing owners listed in the Veritas-register. However, they might exaggerate the degree of turbulence in the Norwegian shipping sector. In aggregate, 266 companies abandoned their operation in the period 1971-1987. Moreover, 154 companies are registered as entering the shipping sector. These figures are likely to be considerably higher than the actual termination and establishment of shipping companies.

Three aspects can explain the fact that the figures for new companies and deletions may overestimate the actual changes. First, the inclusion of offshore companies inflates the data, eg as a result of the fact that several shipowners chose to establish individual rig companies, but later wound up these companies and included the rigs in their original companies. Second, the data behind the figures reveal that 15 of the “new” companies were in fact companies which had been previously registered, but which had exited the shipping sector for a limited period of time. The inclusion of these companies increases the number of new companies by more than ten per cent and the number of companies deleted by approximately six per cent. Third, some of the new companies were established by creditors taking over vessels or by shipowners reorganising their companies. In several instances, these companies constituted “transitory companies”, ie they were not intended to operate vessels in the regular

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<sup>24</sup> Again, it is important to emphasise that the term “the international shipping sector” relates to companies with vessels above 5.000 grt. The figure is likely to be an underestimation, as companies with smaller vessels participated in this market as well. However, with regard to the analysis, it is both a convenient and consistent measure of the Norwegian merchant marine.

<sup>25</sup> The figures representing the Norwegian-owned fleet in 1987, incorporating ships registered abroad, do not take rigowners into account.

manner, and were often disbanded after the vessels were sold. Accordingly, banks or financial institutions may have had a short, involuntary interlude as “shipowners” due to problem loans, before withdrawing from the shipping sector. There were approximately ten such ephemerals over the period.

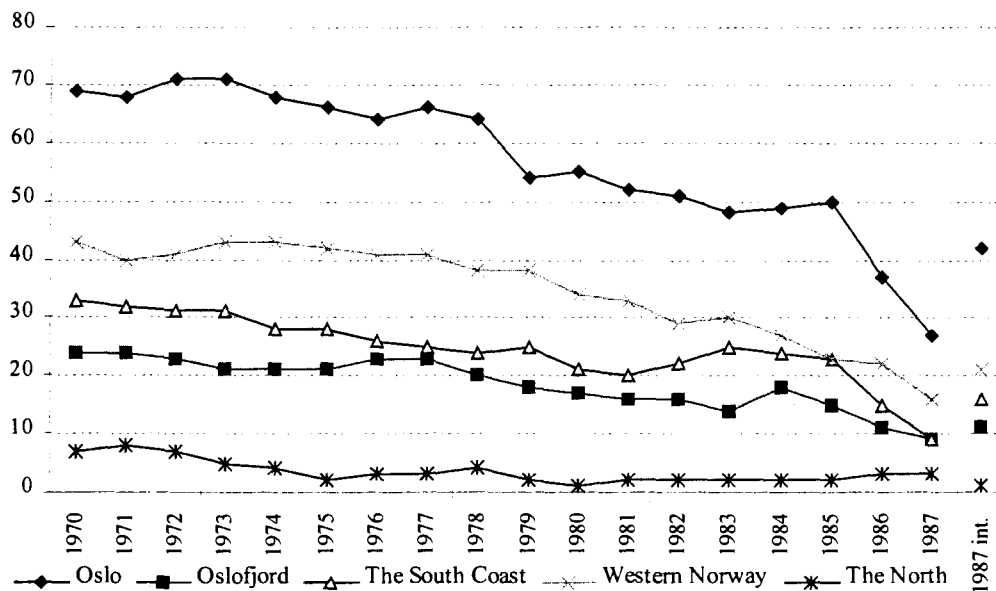
Table 9.11. Number of shipping companies, various ports, 1970-87<sup>26</sup>

	-70	-71	-72	-73	-74	-75	-76	-77	-78	-79	-80	-81	-82	-83	-84	-85	-86	-87	-87 int.
Arendal	6	6	6	6	6	6	5	5	5	5	4	4	4	5	5	5	1		2
Bergen	26	23	24	24	25	24	24	26	25	25	22	19	16	18	17	14	13	9	14
Bodø	1	1	1	1															
Drammen	1	1	1	1	1	1	2	3	2	2	2	2	2	1	1				1
Egersund	2	2	1	1	1	1	1	1											
Farsund	5	4	3	3	3	2	2	2	2	2	2	2	2	3	3	3	2	1	2
Flekkefjord	1	1	1	1	1														
Fredrikstad	1	1													1	1	1	1	
Grimstad	5	5	5	5	5	5	5	5	5	4	4	4	5	5	6	5	6	5	8
Haugesund	7	8	8	9	9	8	8	7	5	5	5	5	5	5	4	3	2	3	2
Horten															1	1			
Kirkenes	1	1	1																
Kristiansand	13	13	13	13	11	14	12	11	10	11	10	9	10	11	9	9	6	3	4
Larvik	2	2	2	3	4	4	4	4	3	2	2	2	2	2	2	2	2	2	2
Lillesand	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1			
Mandal	1	1	1	1	1	1	1	1	1	1									
Moss	3	3	3	3	2	2	2	2	2	2	2	2	1						
Narvik							1	1	1	1									
Oslo	69	68	71	71	68	66	64	66	64	54	55	52	51	48	49	50	37	27	42
Porsgrunn	2	2	2	2	2	2	3	2	2	2	2	2	2	2	3	3	2	3	4
Sandefjord	5	6	6	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	2
Skien											1	1	1	1	1	1			
Skudeneshavn	1	1	1	2	1	1	1	1	1	1	1	1	1						
Stavanger	7	6	7	7	7	8	7	6	7	7	6	8	7	7	6	6	7	4	5
Stokmarknes	1	1	1									1	1	1	1				
Tromsø	1	2	1	1	1	1	1	1	1								1	1	
Trondheim	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	2	2	1
Tvedestrand	1	1	1	1						1									
Tønsberg	10	9	9	8	8	8	8	8	7	6	4	3	4	4	5	4	3	1	2
Ålesund	2	2	2	2	2														
Sum	176	172	173	171	164	159	157	158	150	137	128	123	120	119	120	113	88	64	91

Table 9.11 shows the considerable reduction in the number of shipping companies in practically all Norwegian ports, as well as the large number of ports for which the crisis signalled the termination of their participation in the international shipping industry. Grimstad and Porsgrunn were the only ports which enjoyed an increase in the number of companies from 1970 to 1987. Except for the ports which disappeared altogether, Tønsberg, Haugesund and Kristiansand experienced the largest relative reduction. The data in Table 9.11 can be categorised on a regional basis, in order to illustrate the regional development trends with regard to the number of shipping companies.

<sup>26</sup> The table is based on the port of registry of the company's vessels. The latter column, “-87 int.” includes companies with vessels registered abroad, and refers to the address of the company.

Figure 9.10. Number of shipping companies by region, 1970-87



By 1987, the number of shipping companies had declined by approximately 60 per cent in Oslo, the Oslofjord-region and Western Norway. The South of Norway was most severely hit, with the number of companies falling by almost 75 per cent.<sup>27</sup> If we include companies owning vessels registered abroad, the decline ranges from approximately 40 per cent, in the case of Oslo, to 55 per cent, for the Oslofjord-region.

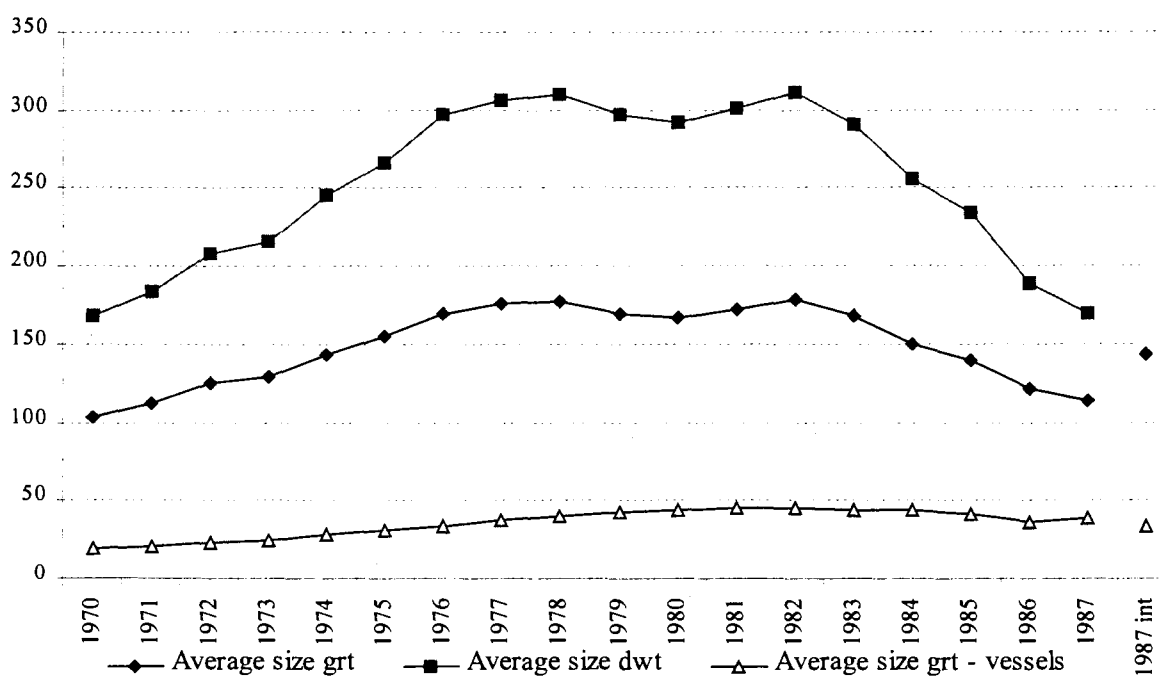
There were mainly four reasons for the reduction in the number of companies. First, companies were deleted as a result of mergers or acquisitions. However, this aspect was largely insignificant – less than five instances of mergers and acquisitions over the period 1970-1987 were reflected in the figures. Second, companies terminated their operations, often as a consequence of the dire state of the shipping market and the reduced profit opportunities. This accounts for the vast majority of the companies disappearing from the list, and was particularly prominent in the case of smaller shipowning companies with old, labour-intensive tonnage. Third, some companies transferred their vessels to foreign flags, leaving them with no tonnage on the Norwegian register, and consequently excluding them from the list of companies. For some of these companies, foreign registry only offered a temporary reprieve, and the vessels were later disposed of altogether. For other companies, foreign registry facilitated the continuation of their shipping activities. This can be demonstrated by the fact that 56 Norwegian companies owned ships registered in Norway in 1987, compared with 91 when companies owning vessels abroad are included. The fourth reason for the reduction in the number of companies was that some companies disposed of their larger vessels, concentrating instead on other segments, such as eg supply vessels or barges, which were not included in the list. Approximately 25 companies were deleted from the database due to the fact that their fleets temporarily or permanently fell below the 5.000 grt limit. Several of these

<sup>27</sup> The decline in the North only constitutes 57 per cent, but this region was relatively insignificant. In practice, the decline from seven to three companies hides the fact that the region was virtually out of the international shipping business altogether – the three companies registered in Tromsø and Trondheim in 1987 were all offshore companies. One company based in Trondheim had registered tonnage abroad.

companies later left the shipping sector altogether.

The reduction of the number of companies provides only one part of the explanation of the decline of the Norwegian fleet. Another reason for the diminishing Norwegian fleet was a reduction in the average size of the shipping companies.

Figure 9.11. Average size of companies and vessels, 1000 grt and dwt, 1970-87<sup>28</sup>



The average size of the companies in the Norwegian shipping sector increased until 1978, levelled out, and then peaked in 1982. The subsequent decline can to a large extent be explained by the winding-up of the Guarantee Institute's engagements, which implied that several large tankers were sold abroad as the authorities were no longer willing to pay in order to keep them in the Norwegian fleet. Accordingly, several companies with a considerable amount of tankers and bulk tonnage disappeared from the register. This can explain the fact that the average size of the shipping companies declines considerably faster than the average size of the vessels in the Norwegian fleet after 1982.

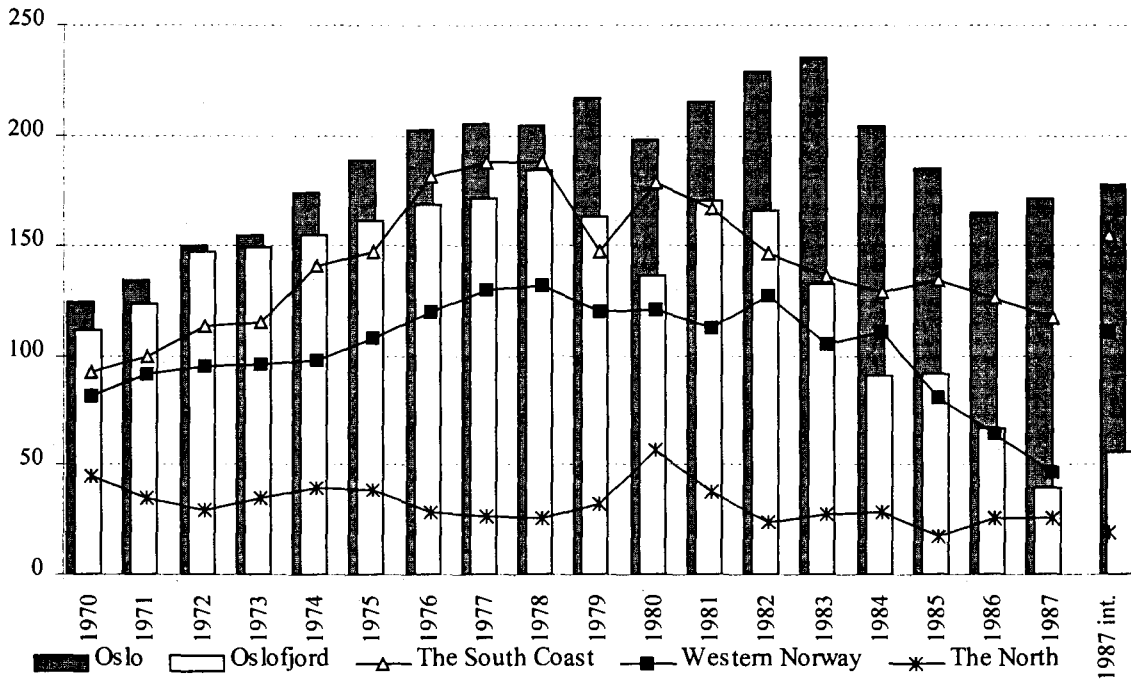
One conspicuous element of Figure 9.11 is the relationship between the average size of the companies measured in dwt and grt. The amount of deadweight tonnage per grt is higher for large vessels than for small vessels and higher for tankers and bulk carriers than for conventional cargo vessels, passenger vessels and drilling rigs. The conversion factor, which had been 161 per cent in 1970, increased to 176 per cent in 1979, as mammoth tankers, bulk carriers and combination carriers constituted an increasing proportion of the Norwegian fleet. By 1987 the conversion factor had declined to less than 150 per cent, reflecting the exodus of the largest vessels and the increased sophistication of the Norwegian tonnage.

The heterogeneity of the Norwegian shipping sector becomes evident when the data on the number of companies are seen in relation to the regional distribution of the tonnage. Figure 9.12 reveals that there were considerable differences between the "average companies"

<sup>28</sup> The lines refer to the average size of the companies, measured in 1000 grt and 1000 dwt, and the average size of the vessels above 5.000 grt measured in 1000 grt. International dwt figures are not available for 1987.

in the various geographical regions. The North was not only distinguished by a relatively low number of companies – the companies were considerably smaller than the national average as well.

Figure 9.12. Average size of companies in the various regions, 1000 grt, 1970-87<sup>29</sup>



The combination of the tonnage figures and the data on the number of companies sheds light upon several of the development traits previously presented. First, the demise of the Oslofjord-fleet can be understood in terms of the dramatic reduction in the average size of the companies based in the region. The average size of the companies fell by more than 75 per cent from 1981 to 1987. Accordingly, the reduction in the average size of the companies in the region was more important than the effect of the decrease in the number of companies from 15 to eight.

Second, the overall effect of the large reduction of companies on the South Coast was partly countered by the fact that the average size of the companies in the region actually increased from 1970 to 1987. The fact that the average size of the companies increases when foreign-registered vessels are taken into account can be explained by the exclusion companies owning only drilling rigs and the fact that several companies had more tonnage registered abroad than in Norway.

Third, the large difference in the average size between the companies in Oslo and the companies in the North indicates that there were large structural differences even within the Norwegian shipping industry. Moreover, the average size of the companies in the three major shipping regions increased from 1970 to 1987 when foreign-registered vessels are taken into account.

<sup>29</sup> The Bergesen- and Wilhelmsen-fleets have been included in the figures for Oslo.

### 9.3.2. Changes in company concentration

The degree of concentration in the shipping industry, measured by the share of the fleet owned by the largest companies, varies considerably from nation to nation. In Norway, ownership had generally been relatively dispersed, with no companies controlling substantial shares of the fleet. Moreover, the Norwegian shipping industry has traditionally been characterised by large differences in the size of the various agents, as small and giant firms have been existing side by side.

Due to the fact that the service produced – ie the transport of goods – is sold internationally, a high degree of concentration does not have the same effects on the functioning of the market as in sectors where a limited amount of producers sell their goods in a confined, domestic market. Accordingly, the concentration has little impact on the degree of competition in the shipping market, but should rather be seen as an indication of the dispersion of ownership and the diffusion of shipping activities.

According to an international study, the degree of concentration in the Norwegian shipping industry was low in a comparative perspective. Seven European countries were analysed in the mid 1970s, and all of the countries had more concentrated ownership structures than Norway. Of the Scandinavian countries, Denmark stands out due to the position of Rederiet A.P. Møller, which owned two thirds of the tonnage. In Finland, the ten largest companies owned 85,3 per cent of the fleet in 1976, and the corresponding figure for Sweden was 90,2 per cent. The survey also included France, Germany and Belgium, where the ten largest companies' shares of the national fleet were 72,5, 56,5 and 94,6 per cent respectively.<sup>30</sup>

The authors behind the international survey estimate that the share of the Norwegian fleet owned by the ten largest companies was 46,6 per cent in mid 1973. This figure, which is based on grt, is approximately four percentage points higher than the one given by calculations from the database. A comparison of the various figures presented in the study indicate that the reason for the discrepancy may be that the study underestimates the size of the Norwegian fleet.<sup>31</sup>

Compared with the other countries included in the study, the ownership of the Norwegian merchant marine was spread among a larger number of companies, based in most parts of the country. However, the shipping crisis coincided with an increasing degree of concentration. Although the degree of concentration in the late 1980s was lower than in other countries, there was a distinct trend towards increased concentration of ownership.

The fact that the number of companies owning ships declined by more than two thirds over the period 1970-1987 is in itself evidence of increased concentration. The effect of the reduction in the number of companies was augmented by increased concentration among the remaining companies, as the large companies increased their share of the Norwegian fleet.

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<sup>30</sup> Chrzanowski, Ignacy, Krzyzanowski, Maciel and Luks, Krzysztof, *Shipping Economics and Policy – A Socialist View*, Fairplay Publications Ltd., London, 1979, pp. 81-96.

<sup>31</sup> *Ibid.*, pp. 90-91. A comparison of the figures from Table 3.10 of the study and figures from OECD, *Maritime Transport 1973*, indicate that the size of the aggregate Norwegian fleet used in the study is too low, leading to an overestimation of the degree of concentration.

Figure 9.13. Concentration of the fleet, companies, based on dwt, 1970-87

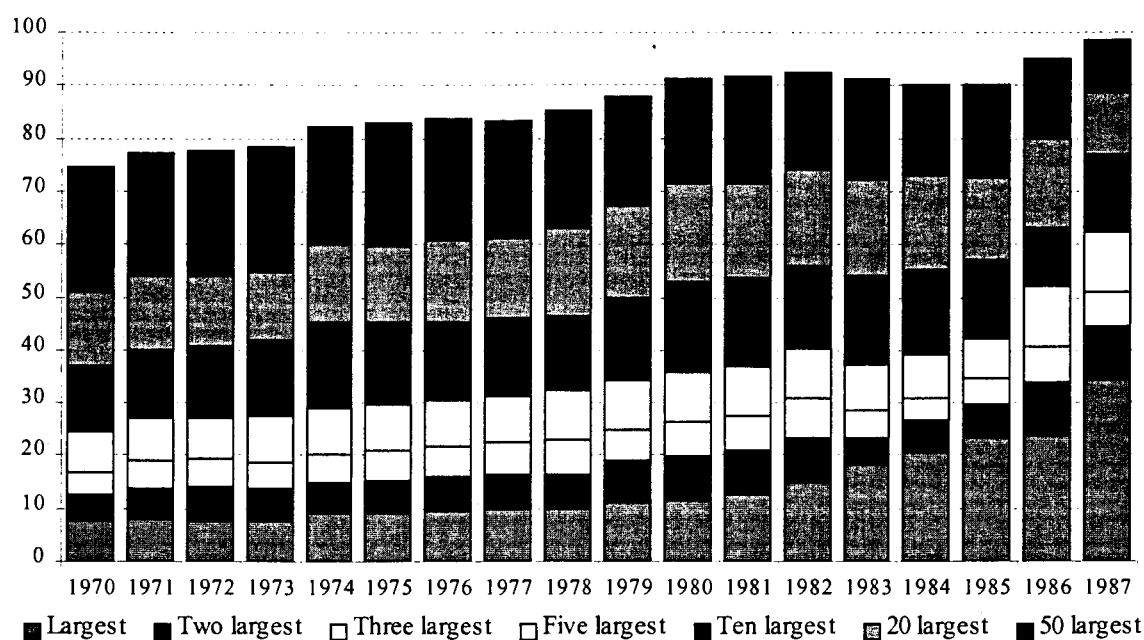


Figure 9.13 reveals several interesting development traits, in particular the increasingly important position of the country's largest shipowner and the marginalisation of the smaller companies. The proportion of the Norwegian fleet owned by the largest company, Sig. Bergesen d.y., which had constituted 7,5 per cent in 1970, grew steadily until 1980, when it accounted for 11,3 per cent. In the following years the growth accelerated, with the largest company's share passing 20 per cent of the fleet in 1984. Thereafter, the largest company's fleet declined, but not as sharply as the Norwegian fleet in general, and the share of the total Norwegian-registered fleet owned by the largest company increased to 23,5 per cent in 1986 and more than 34 per cent in 1987.<sup>32</sup> The share of the second largest company was doubled from 1970 to 1987, and the companies ranked from three to five increased their share of the fleet by approximately 50 per cent. In aggregate, the share of the Norwegian fleet, measured in dwt, owned by the five largest companies increased from approximately 24,3 per cent in 1970 to more than 62,4 per cent in 1987.

Whereas the larger companies became considerably more important, the position of the minor agents in the Norwegian shipping sector deteriorated sharply. In 1970, almost half of the Norwegian fleet was owned by companies which were not among the twenty largest. Ten years later the share had fallen to less than 30 per cent. There were two main reasons for this. First, the largest companies had taken delivery of substantial quantities of tonnage – the fleets of the twenty largest companies amounted to 26,6 million dwt in 1980, compared with approximately 15 million dwt in 1970. Second, the number of companies outside the twenty largest had fallen from 156 to 108, and their average size had only increased by approximately seven per cent, from 82.417 dwt to 98.999 dwt. This can be compared with an average

<sup>32</sup> The figures do not take into account Norwegian-owned vessels registered abroad. One reason for the large share of the Norwegian tonnage owned by the largest company was that this company to a lower extent than other companies had chosen to transfer vessels abroad.



increase of more than 77 per cent in the case of the twenty largest companies.<sup>33</sup>

However, as Figure 9.13 is based on dwt, the trend towards concentration will be more manifest than if grt were used. The importance of the biggest companies, which generally owned huge tankers and bulk carriers, will be larger as a result of the fact that the conversion factor from grt to dwt tends to be higher for large vessels. Accordingly, the importance of the minor companies, which largely operated smaller vessels, will be relatively low when dwt is used as the basis for comparison. Nevertheless, the trend towards increased concentration is manifest even when grt are used as the basis for analysis.

Figure 9.14. Concentration of the fleet, companies, based on grt, 1970-87

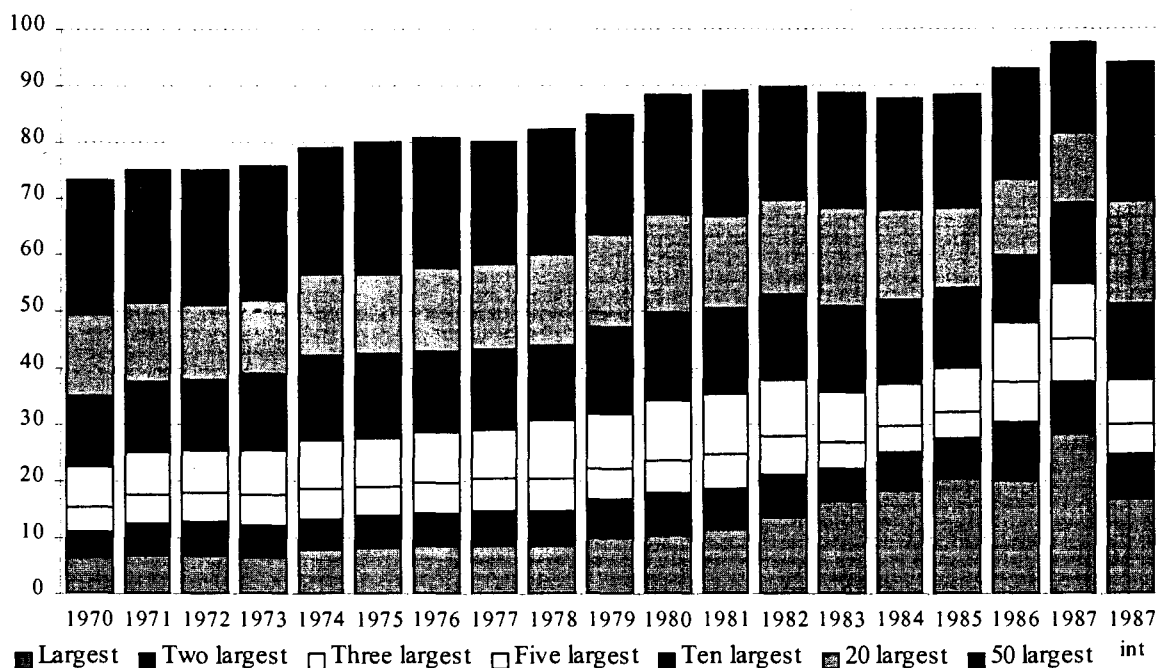


Figure 9.14 confirms the development traits seen in Figure 9.13, but the trends are less pronounced when grt rather than dwt is used as basis. Several of the trends in Figure 9.14 warrant an explanation. The two main features are the same as in Figure 9.13, viz the reduced weight of the smaller companies and the increasing importance of the larger companies, and particularly the largest company.

The reduced importance of companies which were outside the 20 and 50 largest had two causes. The first reason was the previously mentioned reduction in the number of companies from 176 to 64. This reduction implies that the share of the companies which were among the 20 largest increased from 11 per cent of all companies in 1970 to 31 per cent in 1987. Similarly, the percentage of all companies included in the bracket "50 largest" increased from 28 to 78 in the period 1970-1987. Second, the larger companies were considerably more active in the expansive period of Norwegian shipping in the first part of the 1970s, and some of them managed to maintain considerable fleets in spite of the reduction of Norwegian shipping in the period until 1987. The increased concentration was thus a result of structural

<sup>33</sup> It should be emphasised that the term "the twenty largest companies" is used in a dynamic manner, which implies that it refers to the twenty largest companies in any given year. Of the twenty largest companies in 1970, 12 were among the 20 largest in 1980 as well.

changes which occurred during the expansionary phase in the early 1970s *and* during the depression of the 1980s.

### 9.3.3. The rise and decline of the Norwegian fleet

It might be fruitful to divide the years from 1970 to 1987 into two periods when analysing the structural changes in the Norwegian fleet. The changes which occurred during the strong growth period prior to 1977 reveal the transformation of the structure of the Norwegian shipping sector in a period of growth. The subsequent development traits can be used to illustrate the changes in the Norwegian fleet and company structure after the shipping crisis had left its mark on the international shipping sector.

#### Structural changes during expansion, 1970-1977

The development of companies and tonnage in the expansive period of Norwegian shipping, from 1970 until the fleet peaked in 1977, shows that the growth of the Norwegian fleet was unevenly distributed among the various companies. Not surprisingly, the highest tonnage growth occurred in the largest shipowning companies, and the highest relative growth largely took place among the smaller companies. Nine of the ten largest companies in 1970 increased their fleets, and most considerably so. The exception was Fred. Olsen, who ranked ninth in 1970. He disposed of his tankers and large cargo vessels, concentrating instead on passenger vessels and drilling rigs.

Figure 9.15. Tonnage and tonnage growth in million grt and dwt, 1970-77

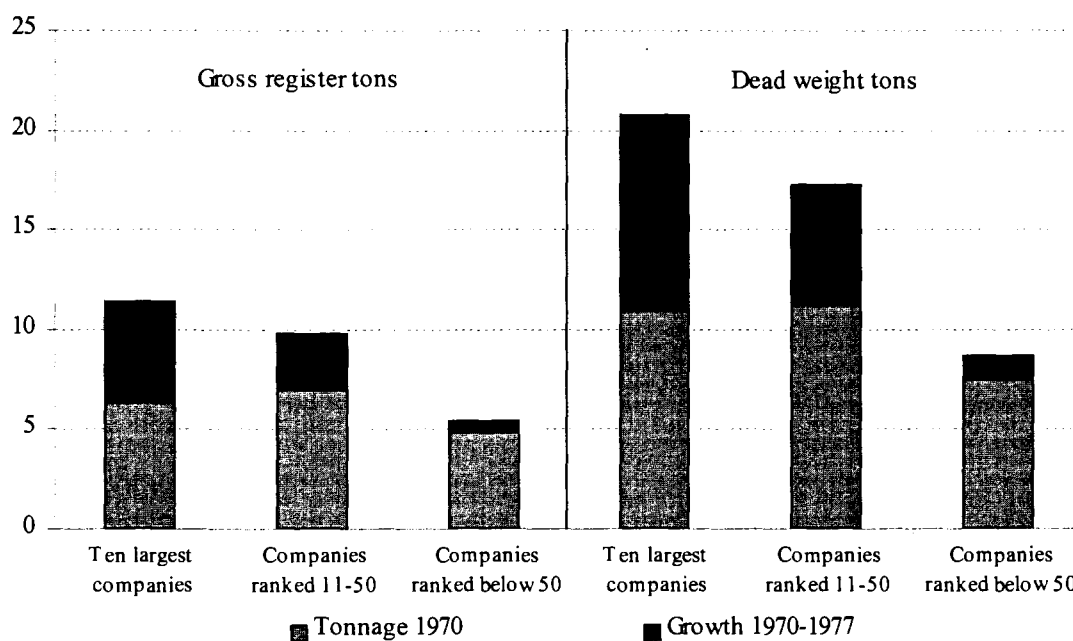


Figure 9.15 shows that the ten largest companies increased their tonnage to a larger extent than the smaller and medium-sized shipowning companies. Maybe surprisingly, the development is more pronounced when grt rather than dwt is used as the basis for comparison. This can be explained by the fact that although the largest companies included shipowners such as Bergesen and Reksten, who invested solely in mammoth tonnage, several of the larger companies, including Leif Høegh & Co. AS, Wilh. Wilhelmsen and Fearnley & Eger, had

invested in general cargo tonnage, gas carriers, vehicle carriers and drilling vessels. These vessels weigh relatively less when dwt is used as measuring rod. It was in particular the companies in the "11-50"-bracket which invested in larger ships. The grt/dwt-conversion factor for the tonnage growth in this category was almost 219 per cent, compared with approximately 200 per cent for the other two groups.<sup>34</sup>

Table 9.12. Highest growth 1970-77, absolute and relative<sup>35</sup>

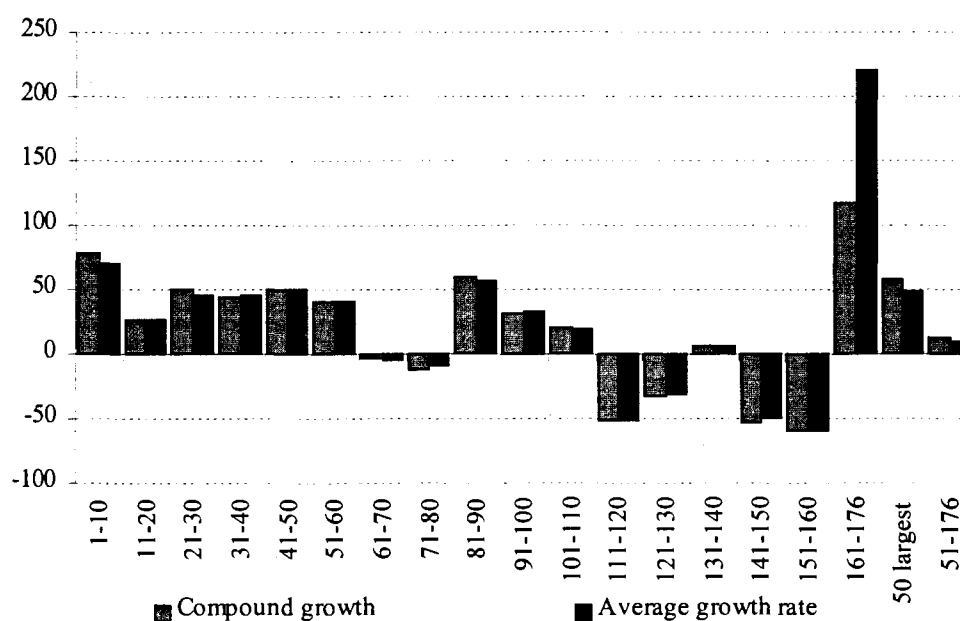
Company	Rank 1970	Growth grt	Per cent	Company	Rank 1970	Growth grt	Per cent
Sig. Bergesen d.y.	1	1.240.886	105,4	Jan-Erik Dyvi	169	146.038	1536,6
Hilmar Reksten	4	931.939	143,6	K.G. Jebsen AS	170	82.512	900,2
Anders Jahre	2	783.618	91,1	O.B. Sørensen & Co.	135	97.770	471,4
Einar Rasmussen	10	586.540	163,9	Arne Teigen	173	19.760	332,7
Wilh. Wilhelmsen	3	553.859	69,7	AS Gotaas-Larsen	146	45.703	293,6
Hagb. Waage	22	530.061	244,3	J.P. Pedersen & Søn	94	133.433	287,1
Fearnley & Eger	6	464.128	78,1	Hagb. Waage	22	530.061	244,3
Leif Høegh & Co.	5	321.875	51,0	Skjelbreds Rederi AS	99	92.171	233,7
C.H. Sørensen	25	304.121	153,4	Simonsen & Astrup	133	50.034	233,1
Odd Godager & Co.	38	294.559	227,7	Olaf Tønnevold	129	50.927	230,9
Knut Knutsen O.A.S.	15	276.718	108,2	Odd Godager & Co.	38	294.559	227,7
Biørn Biørnstad & Co.	18	243.308	102,8	Mosvolds Rederier	81	126.884	219,1
Mosvold Shipping Co.	8	195.523	43,7	Arth. H. Mathiesen	59	189.383	211,1
Arth. H. Mathiesen	59	189.383	211,1	Olaf Pedersens Rederi	157	24.578	199,3
AS Thor Dahl	7	177.408	35,2	Stove Shipping	82	108.154	187,2
J.M. Ugland	25	162.954	79,9	H.M. Wrangell & Co.	66	146.396	180,8
H.E. Hansen-Tangen	36	153.619	114,0	Firma Haldor Virik	97	73.416	176,9
H.M. Wrangell & Co.	66	146.396	180,8	Ole Schrøder & Co. AS	103	62.935	175,1
Jan-Erik Dyvi	169	146.038	1536,6	Einar Rasmussen	10	586.540	163,9
Sigurd Herlofson	13	145.710	55,0	C.H. Sørensen	25	304.121	153,4

The development of the companies at various positions in the shipping hierarchy confirms the strong growth element among the larger companies, and in particular among the ten largest companies. Nine of the ten largest companies in 1970 were among the twenty companies with the largest absolute growth in the period 1970-1977. For lower-ranked companies, the aggregate growth rates were influenced both by companies abandoning operations altogether and by small companies with very strong relative growth.

<sup>34</sup> The tonnage conversion factors for the 1970-fleets were 170 per cent for the ten largest companies, 160 per cent for the companies ranked 11-50 and 153 per cent for the smaller companies. By 1977 the conversion factors had increased to 183, 176 and 159 per cent respectively.

<sup>35</sup> The table is based on grt and does not include companies which were established in the period 1970-1977.

Figure 9.16. Growth rates by rank, 1970-77



The growth rates in Figure 9.16 have been measured in two ways. The *compound growth rates* refer to the growth of the tonnage assigned to the companies in each rank-bracket. Accordingly, the first column shows the relative growth of the aggregate tonnage of the ten largest companies between 1970 and 1977. The *average growth rates* represent the unweighted averages of the growth rates of the companies in each rank bracket. Strong growth of some companies may elevate these figures, as seen in the case of the companies ranked from 161 to 176.<sup>36</sup> Whereas their total tonnage increased by 117 per cent over the period, the average growth rates of the companies was 221 per cent. Although the two measures are largely coherent, the most accurate measure of the development of the various rank brackets is the compound growth rates, as these are less influenced by the growth of individual companies.<sup>37</sup>

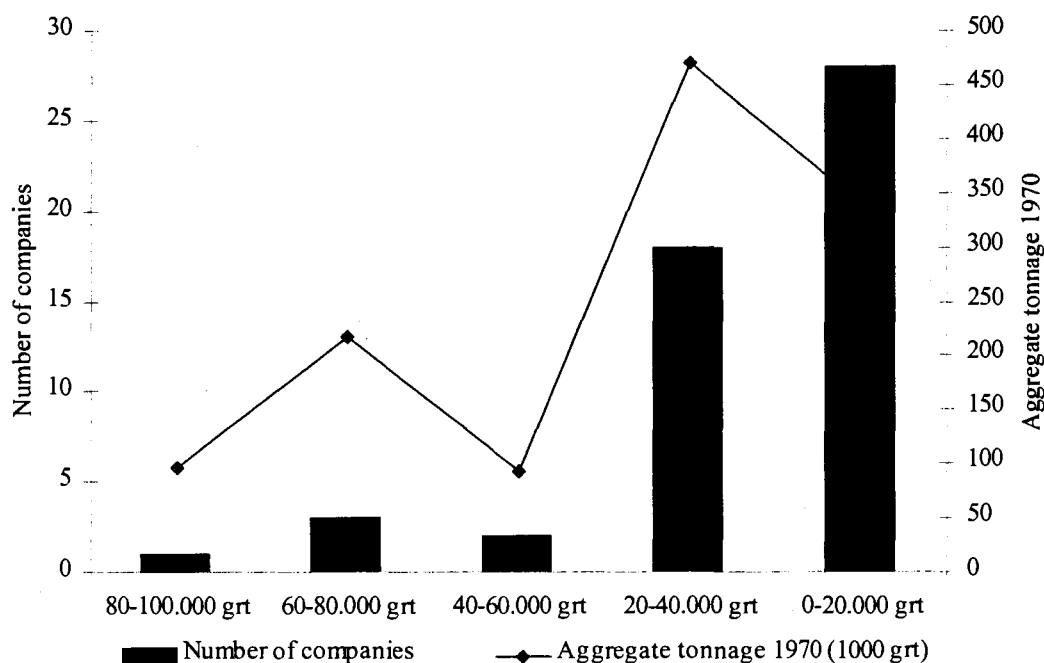
The low and negative growth rates of the smaller companies is influenced by the fact that the companies which ceased their operations were largely the smaller companies – the largest company which disposed of their fleet in the period was Herness Shipping Company, ranked 53<sup>rd</sup> in 1970, with five vessels amounting to approximately 96.000 grt. The majority of the companies registered in 1970 but deleted by 1977 were small companies, with an average tonnage in 1970 of less than 20.000 grt.<sup>38</sup>

<sup>36</sup> In Figure 9.16 the deleted companies have been assigned a reduction of 100 per cent. When these are excluded from the calculation of averages, the growth rates in the lower brackets increase, although the compound growth rates remain constant

<sup>37</sup> In the case of average growth rates, these could be positive despite a reduction in the aggregate tonnage owned by the companies in a given group. Such a situation could occur if one of the companies experienced particularly strong growth.

<sup>38</sup> The average tonnage of all companies deleted was approximately 23.400 dwt, and the average fleet of the companies in the “0-20.000 grt”-bracket, which contained the majority of the companies, was 12.000 grt.

Figure 9.17. Companies from 1970 not registered in 1977



The analysis shows that 52 companies which had been registered in 1970, were not included in the 1977-figures. Their aggregate tonnage had been approximately 1,2 million grt in 1970. Accordingly, they represented approximately 30 per cent of the companies registered in 1970, but less than seven per cent of the tonnage.

The reduction in the number of companies was countered by the inclusion of several new entrants. Of the 158 companies with tonnage in 1977, 33 companies had not been registered in 1970.<sup>39</sup> Some of these new companies had been able to build up considerable fleets, and three of the new companies had fleets larger than 100.000 grt. The new companies owned ships amounting to approximately one million grt, in addition to six offshore vessels. Accordingly, the aggregate fleet of the new companies was slightly smaller than the fleet of the deleted companies had been in 1970.

A closer examination of the new entrants reveals that five were offshore companies, three were operating passenger vessels, three were linked to oil companies, and one was a bank which had temporarily taken possession of a vessel. Five of the companies were registered as shipowners in 1970, but did not own vessels larger than 5.000 grt at that point. Moreover, six of the companies had strong ties to other companies existing in 1970.

The increased concentration in the Norwegian shipping sector in the period from 1970 to 1977 can be understood in terms of the differences in the rate of expansion of the companies at various positions in the shipping hierarchy. Altogether, the fleets of the fifty largest companies increased by approximately 60 per cent from 1970 to 1977, compared with 12 per cent in the case of the companies ranked from 51 to 176 in 1970. Nine of the ten largest companies were particularly eager, acquiring on average more than 500.000 grt each. Indeed,

<sup>39</sup> The number of companies registered in 1970 and 1977 were 176 and 158 respectively. The reason that the net reduction of 19 (52-33) companies diverges from the 18 (176-158) companies found in the annual data is that one managing owner had two separate companies entered in the annual figures for 1977. These have been added in connection with the estimate of the growth from 1970 to 1977.

more than 63 per cent of the expansion occurred within these nine companies.

### Structural changes during contraction, 1977-1987

The development in the expansive period of the 1970s revealed that the importance of the large companies increased as a result of their substantial acquisition of tonnage, whereas the growth of the smallest companies was considerably more modest. In the period from 1977 to 1987 a discussion of growth is somewhat misplaced. Only 11 of the 158 companies registered in 1977 had more tonnage on the Norwegian register in 1987 than in 1977. The majority of the companies registered in 1977 – 111 out of 158 – had in fact disposed of their Norwegian-registered fleets altogether. The share of the companies deleted thus increased from 30 per cent in the period 1970-1977 to more than 70 per cent from 1977 to 1987.<sup>40</sup>

There were considerable changes in the Norwegian shipping industry from 1977 to 1987. Accordingly, a comparison of the state of the industry is more difficult than in connection with the development from 1970 to 1977. The main reason for this is the turbulence in the population of Norwegian shipowning companies, characterised by creditor involvement, bankruptcies, liquidations and reorganisation.

One prominent question is how to treat companies which were severely affected by the crisis. Several companies went out of business, but laid the foundations for new companies. The following analysis focuses on the fleets, rather than the legal companies.<sup>41</sup> For instance, the vessels registered in 1987 under Havtor Management, have been compared with the 1977-fleet of the shipowner P. Meyer. The reorganisation of his company, based on the goodwill of the creditors and the Norwegian authorities, laid the foundation for the Havtor-fleet.<sup>42</sup>

Another important aspect is the treatment of companies owning tonnage registered abroad. The liberalisation of the Norwegian flag policy had important consequences for the shipping sector. The results of an analysis of the structural changes in the Norwegian fleet differ substantially depending on whether or not foreign-registered vessels are included. Accordingly, the analysis presents the results relating to both Norwegian-owned and Norwegian-registered tonnage, but with a focus on the former category.

The analysis of the structural changes during the shipping depression is strongly influenced by the demise of shipping companies and the exodus of tonnage. In many ways, the situation described in this part of the thesis may be seen as overtly negative, as it deals with the virtual collapse of one of Norway's most esteemed and prestigious sectors. However, two elements should modify this impression. First, there was a large degree of diversification

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<sup>40</sup> The figures refer to comparisons of individual years. In aggregate, 45 companies were deleted in the period 1970-1977 and 109 companies were deleted during the years from 1977 to 1987. The number of companies leaving the industry refers to companies with tonnage registered in Norway.

<sup>41</sup> It was not uncommon that some of the companies legally owning vessels found themselves in economic difficulties, whereas other companies related to the same shipowner remained relatively unscathed. The degree to which the managing owner was answerable as a result of joint responsibility and reciprocity agreements varied. In order to avoid confusion, the analysis of the structural changes focuses on the managing owner.

<sup>42</sup> For an introduction to the phoenix-like rise of Havtor Management, see *Norwegian Shipping News*, No. 6, 1981, pp. 35-38. A detailed report from one of the meetings of the creditors can be found in Archives of the Norwegian Ministry of Foreign Affairs No. 164.58, *Norsk Garantiinstitutt for skip og borefartøyer*, box 1, folder 2: 011075-301175.

and increased sophistication of the Norwegian shipping sector. This will be analysed in more detail in Chapter 9.5. Second, 1987 represents a trough with regard to both the Norwegian-owned and Norwegian-registered fleet. The introduction of the Norwegian International Ship Register and the improved conditions in the international shipping market paved the way for a considerable increase in the Norwegian fleet after 1987.

Figure 9.18. Changes in tonnage, million grt, 1977-87

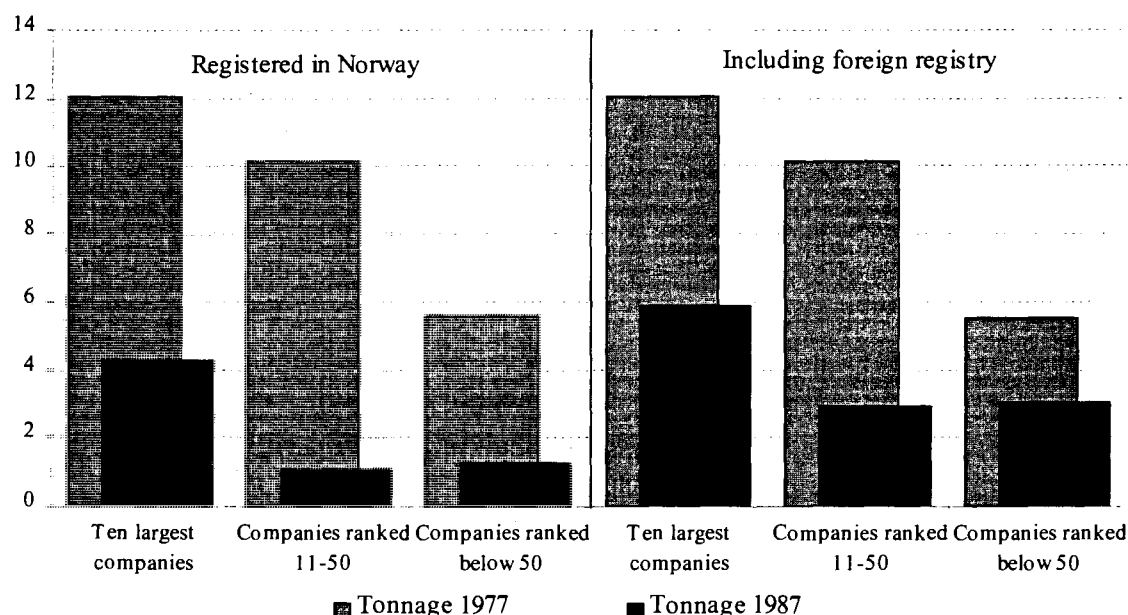


Figure 9.18 shows how the strong reduction of the Norwegian fleet from 1977 to 1987 was distributed among the companies in the Norwegian shipping sector. The development mirrors the development in the period from 1970 to 1977, although the reason for the increasingly important position of the largest companies was less severe contraction rather than heavier expansion. The difference is particularly manifest in the case of Norwegian-registered tonnage. The fleets of the ten largest companies were reduced by more than 7,7 million grt, compared with more than 9,1 million grt in the case of the companies ranked 11<sup>th</sup> to 50<sup>th</sup> in 1977 and approximately 4,3 million grt in the case of the smallest companies.<sup>43</sup>

Table 9.13. Tonnage and tonnage decline, 1977-87

	Norwegian register			Norwegian and international	
	Tonnage 1977	Tonnage 1987	Decline per cent	Tonnage 1987	Decline per cent
Ten largest companies	12.018.309	4.295.422	64,3	5.880.759	51,1
Companies ranked 11-50	10.153.007	1.046.582	89,7	2.932.410	71,1
Companies ranked below 50	5.564.929	1.272.733	77,1	3.027.381	45,6

The share of the Norwegian fleet owned by the ten largest companies in 1977 increased from approximately 43 per cent to almost 61 per cent in 1987 if only Norwegian-registered tonnage is considered. When vessels registered abroad are included, the share of the ten largest

<sup>43</sup> The figures are influenced by the fact that the vessels registered under Reksten Management have been assigned to Hilmar Rekstens Rederi. In principle, these vessels could also have been assigned to Johan Rekstens Rederi, which had managed some of the vessels. Johan Reksten and Hilmar Reksten were both filed for bankruptcy.

companies from 1977 becomes less than 50 per cent.<sup>44</sup>

A closer examination of the 33 new entrants recorded in the 1977-figures reveals the shifting fortunes of shipping industry engagements. More than two thirds of the companies had disappeared by 1987. However, five of the companies went against the grain and continued their expansion when other companies were scaling down their fleets. Of the new entrants, two drilling companies and three shipowners operated larger fleets in 1987 than they had done in 1977.<sup>45</sup>

Eleven companies increased their Norwegian-registered tonnage from 1977 to 1987. One of the agents, Einar Rasmussen, was among Norway's ten largest shipowners in 1977, but the increase of his fleet was relatively low.<sup>46</sup> The expanding companies also included Anders Wilhelmsen & Co. and Lauritz Kloster/ Kloster Cruise AS, ranked 59<sup>th</sup> and 99<sup>th</sup> respectively in 1977. They were both successful participants in the cruise industry. None of the other companies which increased their Norwegian-registered fleets from 1977 to 1987 were among the 100 largest in 1977. The eleven companies' increase was modest, totalling approximately 395.000 grt, and representing an aggregate growth of 23 per cent for the companies.<sup>47</sup> Two of the companies, both among the newcomers in 1977, only operated drilling vessels. However, to get a more representative picture of the companies expanding their fleets, foreign-registered vessels should be included.

Even when vessels registered abroad are included, the contrast between the periods 1970-1977 and 1977-1987 is striking. In the former period, 78 companies increased their tonnage, 44 companies reduced their fleets and 52 companies were deleted from the register. This represents 44, 25 and approximately 30 per cent of the companies respectively.<sup>48</sup> From 1977 to 1987 only 19 companies increased their tonnage, whereas 43 companies scaled down their fleets and 92 companies abandoned the shipping sector or focused on the operation of ships smaller than 5.000 grt. Accordingly, only 12 per cent of the companies increased their fleets, whereas 28 per cent reduced their tonnage and 60 per cent were deleted from the registry.

For the companies increasing their tonnage, the growth was less pronounced than in the previous period. From 1970 to 1977 the expanding companies increased their fleets by almost 11 million grt. From 1977 to 1987 the aggregate growth of the companies which increased their fleets was 1,6 million grt, which would only constitute approximately three quarters of the growth of the two most expansive companies in the previous period. Only four

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<sup>44</sup> The figures deviate from the ones in Figure 9.14 due to the fact that they refer to the ten largest companies in 1977, whereas Figure 9.14 shows the share of the fleet owned by the ten largest companies in any given year.

<sup>45</sup> The number of companies disappearing was 24. The drilling companies were Odfjell Drilling & Consulting Co. and Viking Offshore. The three expanding shipping companies were AS Bill, Peter Y. Berg and Larvik-Frederikshavnferjen, all included in Table 9.13. The three oil company-connected companies and the company of Peter Thorvildsen were also registered in 1987, albeit with smaller fleets than in 1977.

<sup>46</sup> The growth of 1,8 per cent refers to the combined tonnage of Einar Rasmussen and Rasmussen Management in 1987. In connection with the international figures, which exclude drilling vessels, there was a slight reduction of his fleet.

<sup>47</sup> If the largest company, Einar Rasmussen/ Rasmussen Management, is excluded, the average tonnage growth increases to 113 per cent.

<sup>48</sup> Two companies maintained the status quo from 1970 to 1977.



of the companies increased their fleets to such an extent that they would have been included among the 30 companies with highest absolute growth in the period 1970-1977.

From 1977 to 1987, companies expanding their fleet were the odd ones out, and the growth was more modest and less widespread than in the previous period. Fittingly, a ferry company's investment in a larger vessel warranted an inclusion among the fastest growers of the Norwegian shipping industry from 1977 to 1987.

A comparison of the growth of Norwegian shipping companies in the periods 1970-1977 and 1977-1987 reveals two interesting aspects. First, four of the companies expanding their fleets from 1977 to 1987 were among the companies with the highest growth in the previous period as well. Leif Høegh & Co. AS and J.M. Ugland were among the companies with the largest absolute tonnage increase from 1970-1977, whereas Kristian Gerhard Jebsens Skipsrederi AS and Ole Schrøder & Co. AS were among the companies with the highest relative growth rates. Second, Fred. Olsen, who recorded the largest absolute fleet reduction in the period 1970-1977, was among the fastest growers in the period 1977-1987. From 1970 to 1977 his fleet declined by approximately 270.000 grt as a result of his exit from the tanker sector. His fleet increased by approximately 260.000 grt over the following decade, as he re-entered the tanker sector with three Liberia-registered vessels.

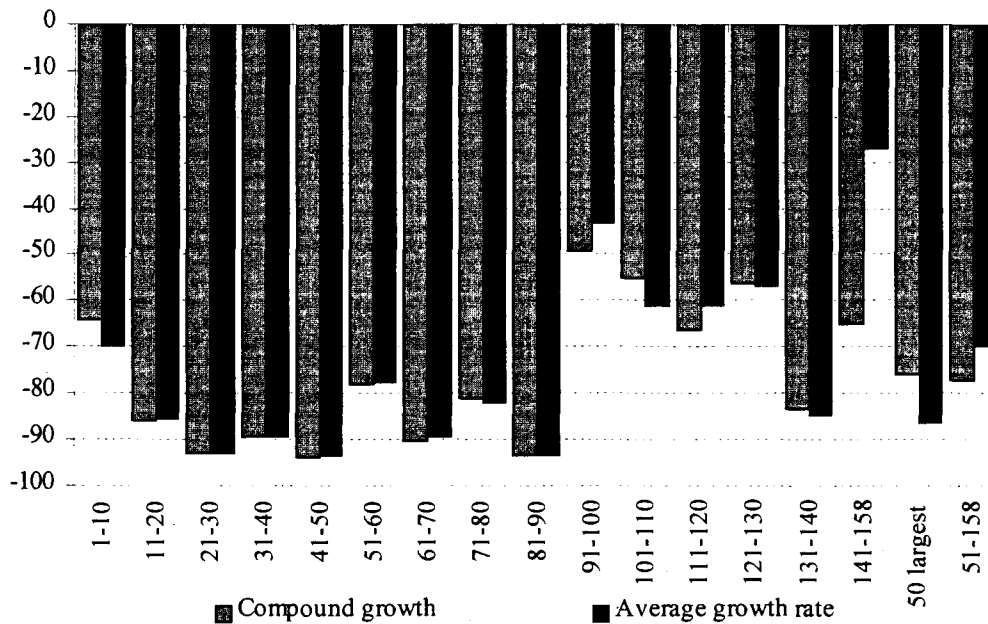
Table 9.14. Companies with expanding fleets, 1977-87<sup>49</sup>

Company	Rank 1977	Growth grt	Company	Rank 1977	Growth per cent
K.G. Jebsens Skipsrederi AS	73	279.468	Lauritz Kloster	99	368,1
Fred. Olsen & Co.	75	261.116	K.G. Jebsens Skipsrederi AS	73	304,8
Ugland Management Co. AS	88	183.047	Fred. Olsen & Co.	75	300,7
Lauritz Kloster	99	168.629	Chr. J. Reim	124	296,3
AS Bill	102	94.978	Ugland Management Co. AS	88	286,0
Anders Wilhelmsen & Co.	59	94.186	AS Bill	102	223,5
J.M. Ugland	17	83.582	Gerrards Rederi AS	120	218,2
Kristian Jebsens Rederi AS	66	76.491	Peter Y. Berg	154	215,2
Ole Schrøder & Co. AS	70	71.170	Larviks-Frederikshavnferjen	150	120,4
Leif Høegh & Co.	6	70.282	Ugland Shipping Co. AS	103	96,9
Chr. J. Reim	124	55.531	Anders Wilhelmsen & Co.	59	76,4
Torvald Klaveness	28	54.937	Iver Bugge	113	75,2
Gerrards Rederi AS	120	44.689	Ole Schrøder & Co. AS	70	72,0
Ugland Shipping Co. AS	103	39.843	Kristian Jebsens Rederi AS	66	70,4
Iver Bugge	113	21.096	William Hansen	129	29,6
Peter Y. Berg	154	10.915	Torvald Klaveness	28	22,9
Larviks-Frederikshavnferjen	150	8.189	J.M. Ugland	17	22,8
William Hansen	129	4.864	Leif Høegh & Co.	6	7,4
Christian Haaland	54	2.502	Christian Haaland	54	1,9

<sup>49</sup> Due to changes in the definition of companies, some aspects of the figures should be explained. The fleet assigned to J.M. Ugland in 1987 comprises the companies Uglands Rederi AS, AS Ugland Shuttle Tankers and Ugland Construction Co. AS. Ugland Management Co. AS refers to this company as well as Andreas Ugland Autoliners AS and Andreas Ugland Ventures AS. The fleet assigned to K.G. Jebsens Skipsrederi AS refers to the fleets of this company and Gearbulk Ltd., whereas the fleet of Kristian Jebsens Rederi refers to AS Jebsens Ship Management. Ole Schrøder & Co AS refers to the company named Osco Shipping and Lauritz Kloster to Kloster Cruise AS. In connection with the determination of the 1977 rank, companies only operating drilling vessels have been excluded, bringing the total number of companies to 154 rather than 158.

In connection with the presentation of the expansionary period 1970-1977, the relative growth of the companies was presented according to their rank, based on the size of their fleets. For the period 1977-1987 a similar analysis will have to be based on the relative decline of the companies' fleets. Table 9.13 indicates that such a presentation will be strongly influenced by whether or not foreign-registered vessels are included in the figures for 1987. If vessels registered abroad are included, the reduction will be considerably less marked for the medium-size and smaller companies than if foreign-registered vessels are excluded.

Figure 9.19. Rate of decline by rank, Norwegian-registered fleet, 1977-87<sup>50</sup>



The fact that some of the largest companies chose to maintain a considerable portion of their vessels on the Norwegian registry can explain the relatively low decline of the tonnage of the ten largest companies. Figure 9.19 shows that the companies ranked 11<sup>th</sup> to 90<sup>th</sup> should bear the brunt of the blame for the decline of the Norwegian fleet. This group consisted of companies which in 1977 operated fleets between 60.000 grt and 530.000 grt. Of the 80 companies in the group, 55 disposed of all their Norwegian-registered tonnage, including the four largest companies, which in 1977 had operated an aggregate fleet of more than 1,9 million grt.

The four companies can be used to illustrate the plight of the medium-sized companies.<sup>51</sup> In the period 1970-1977 the four companies expanded rapidly, all increasing their fleets by more than 100 per cent. Indeed, only two companies of similar size in 1970 increased more rapidly.<sup>52</sup> From 1973 to 1976 the four companies had taken delivery of approximately 2,3 million dwt of tanker tonnage. However, they were unable to cope with the crisis in the tanker market and were forced to dispose of their fleets, despite the fact that two

<sup>50</sup> For an introduction to the difference between the terms *compound growth rates* and *average growth rates*, see Figure 9.16.

<sup>51</sup> The four companies were Knut Knutsen OAS, C.H. Sørensen & Sønnen, Biørn Biørnstad & Co. and Odd Godager & Co.

<sup>52</sup> The two other fast growers in the 11<sup>th</sup> to 40<sup>th</sup> bracket were Hagb. Waage and Yngv. Hansen-Tangen/ H.E.

of the companies received assistance from the Guarantee Institute.<sup>53</sup>

Figure 9.20. Rate of decline by rank, including vessels registered abroad, 1977-87

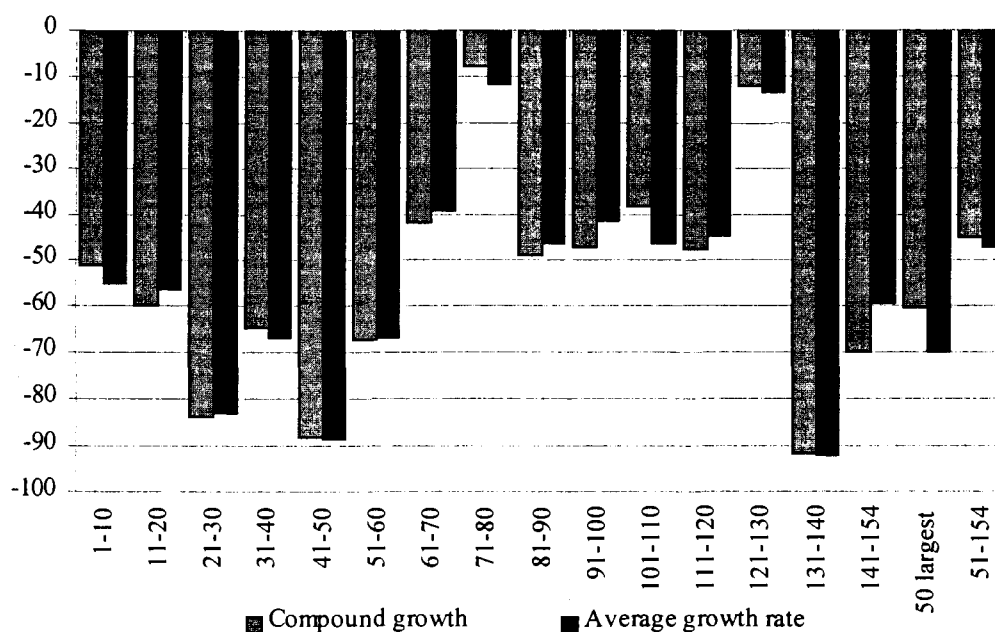


Figure 9.20 illustrates the negative development of companies at all positions in the shipping hierarchy. Again, the decline is least pronounced for the largest companies, as well as for some of the smaller categories. The low decline of the companies ranked 71-80 was a result of the expansion of two of the companies with the largest tonnage increase, Kristian Gerhard Jebsens Skipsrederi AS and Fred. Olsen & Co., which partly neutralised the decline of the other companies in the category. Similarly, the “121-130”-bracket includes two of the other companies expanding their fleets.

The contrast between the expansive period 1970-1977 and the period of contraction from 1977 to 1987 is striking. In the former period, the largest and medium-sized companies were the fastest growers, with the smaller companies losing ground. From 1977 to 1987 it was mainly the ten largest companies, and some of the smaller companies, which maintained their relative position, whereas the fleets of the medium-sized companies experienced the most severe contraction.

Table 9.15. Comparison of the growth of shipping companies<sup>54</sup>

Rank	Increase 1970-1977 per cent (grt)	Decline 1977-1987 Norwegian registry	Decline 1977-1987 All ships
Ten largest companies	78,2	64,3	51,1
Companies ranked 11-50	40,2	89,7	71,1
Companies ranked below 50	12,1	77,1	45,2

The low aggregate growth rate of the companies ranked below 50 from 1970 to 1977 was

Hansen-Tangen, both out of the shipping business altogether by 1987.

<sup>53</sup> None of the companies had tonnage registered in Norway in 1987, but C.H. Sørensen & Sønner managed three Panama-registered vessels.

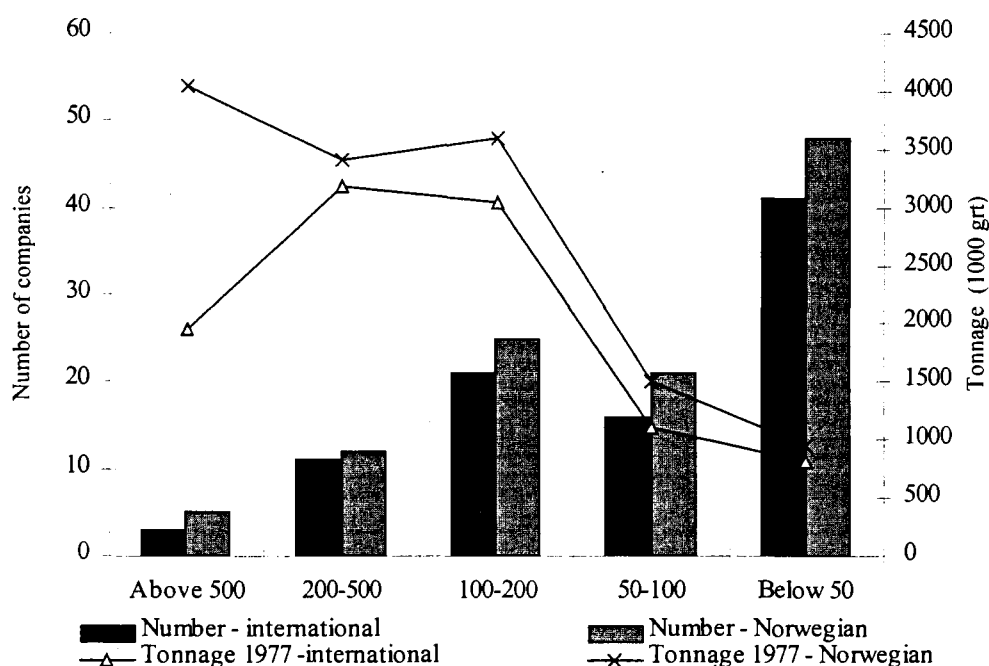
<sup>54</sup> The figure for the reduction of the foreign-registered fleet for the companies ranked below 50<sup>th</sup> place differs from the one in Table 9.14 by 0,4 percentage points. The reason is that companies only operating drilling vessels were included in the size of the 1977-fleet in Table 9.14, but excluded in Table 9.15.

partly affected by the demise of a considerable share of the companies registered – all of the 52 companies deleted in the 1977-figures belonged to this category. From 1977 to 1987 the other categories were also victim of companies disappearing.

Two of the ten largest companies in 1977, with a combined fleet of 1,4 million grt, were out of the shipping business by 1987. Tonnage-wise, the bulk of the erosion occurred among the companies ranked 11<sup>th</sup> to 50<sup>th</sup>. Of these 40 companies, 23 companies, with an aggregate tonnage of more than 5,5 million grt in 1977, were deleted from the registry. Of the 104 companies ranked below 50<sup>th</sup> place, 67 companies, with an aggregate tonnage of less than 3,2 million grt in 1977, were deleted. When internationally-registered tonnage is taken into account, the reduction of companies from 1977 to 1987 declines from 111 to 92.

The average size of the companies disappearing was considerably larger than in the period from 1970 to 1977, when it amounted to 23.400 grt. If we include foreign-registered tonnage, the average size of the deleted companies was approximately 110.000 grt. If we look at the companies deleted from the Norwegian registry, the average size was 121.500 grt. Moreover, companies of various sizes, not only companies below 100.000 grt as in the previous period, chose to leave the shipping business or concentrate on vessels smaller than 5.000 grt.

Figure 9.21. Companies from 1977 not registered 1987<sup>55</sup>



The 92 companies that were deleted constituted approximately 60 per cent of all Norwegian companies in 1977, but owned less than 37 per cent of all tonnage that year.<sup>56</sup> The companies which had no tonnage left on the Norwegian register constituted more than 70 per cent of all

<sup>55</sup> The companies are ranked by size in 1000 grt. Accordingly “200-500” indicates companies with a fleet between 200.000 grt and 500.000 grt in 1977. The columns and line marked “Norwegian” refer to companies with no tonnage on the Norwegian register, whereas “international” includes companies which did not have any tonnage at all, neither in Norway nor in other countries.

<sup>56</sup> Companies only owning drilling vessels have been excluded from the number of companies and from the total tonnage in connection with the international figures.

companies in 1977, and owned approximately 49 per cent of all Norwegian tonnage. A comparison with the figures for the period 1970-1977, which were 30 per cent of the companies and less than seven per cent of the tonnage, shows that a larger share of the companies disappeared. Moreover, the companies owned a considerably larger portion of the Norwegian fleet.

Despite the severe contraction of the Norwegian fleet, some new companies entered the scene during the depression. In 1987, 13 companies which had not been registered in 1977 owned ships registered in Norway.<sup>57</sup> Four of the companies were offshore companies, and the aggregate tonnage of the 13 shipowning companies amounted to some 500.000 grt. If we include companies managing vessels registered abroad, the figure increases to 17 companies, with an aggregate tonnage of approximately 1,26 million grt.<sup>58</sup>

Of the new entrants, Skibs-AS Karlander and O.H. Meling had been registered in the early 1970s, but had temporarily fallen below the 5.000 grt limit. Moreover, two of the companies had previously operated smaller vessels but acquired vessels above 5.000 grt, and two of the new owners were Norwegian manufacturing companies. The remaining eleven new entrants had close links to other shipping companies, such as eg J.O. Odfjell AS, which was established in connection with the division of AS Rederiet Odfjell between two branches of the Odfjell-family.

The period 1977-1987 was extremely turbulent, with a strong reduction in the amount of Norwegian tonnage and the number of Norwegian shipowning companies. The Norwegian-registered fleet, measured in dwt, declined by more than three quarters from 1977 to 1987. Simultaneously, the number of companies with ships registered in Norway fell from 154 to 56. The decline was partly mitigated by the registry of vessels abroad, but the Norwegian fleet was nevertheless more than halved over the period.

#### **9.3.4. Changes in the organisation of companies**

The importance of the largest managing owners increased considerably from 1970 to 1987, and a considerable number of the smaller companies operating vessels above 5.000 grt chose or were forced to withdraw from the shipping sector. Another transformation which took place – regarding the organisation of shipowning companies – is not evident from the data on managing owners. This subchapter traces the changing relationship among the various types of vessel ownership.

The most common type of enterprise in the shipping sector in the 19<sup>th</sup> Century was the *partsrederi* [co-ownership], regulated by custom and practice, special agreements and common business practices. This institution was similar to the 64<sup>th</sup>-ers which were widely used in the British shipping industry, and facilitated the widespread pattern of ownership characteristic of the Norwegian shipping industry at the time. Changes in the legal framework in the early 20<sup>th</sup> Century, in particular the introduction of legislation which made it possible to use ships as collateral security, facilitated the increased use of *aksjeselskaper* [limited liability

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<sup>57</sup> In aggregate, 94 new companies were registered in the period 1978-1987, but the vast majority of these had disappeared by 1987.

<sup>58</sup> The offshore companies have been excluded from these figures.

companies].

This subchapter focuses on *rederi* [owner], as opposed to managing owner. The Veritas-registers include information on both owners and managing owners, whereas the main database only includes the latter category. *Rederi* does not signify any given type of company, and several criteria can be used to distinguish the various arrangements through which ownership was organised. A common method is to focus upon the degree to which the owners are liable for the liens of the company. This would range from limited liability companies, where the participants' liability is limited to their investments in the company, to sole proprietorship, where the owners are answerable for all of the company's debts.

The Norwegian companies owning vessels above 5.000 grt in the period analysed can be put into four broad categories; *aksjeselskap* [limited liability companies], *interessentskap* [general partnerships], *kommandittselskap* [limited partnerships] and *andre rederier* [other shipowning companies].<sup>59</sup> However, neither the Norwegian nor the English terms are consistently defined, and some of the vessels were owned by a hybrid or combination of the various company-types.

Limited liability companies in the shipping sector have the same properties as limited liability companies in other sectors.<sup>60</sup> The terms *skipsaksjeselskap* [limited ship companies] and *rederiaksjeselskap* [shipowning companies limited] are also used, as well as some more antiquated forms of organisation. In the following analysis, the various types of limited liability companies have been gathered in one group. Limited liability companies owned the majority of Norwegian tonnage in 1970. Almost three quarters of the fleet were owned by limited liability companies, and more than half of the tonnage consisted of vessels owned by one limited liability company only.

The participants in general partnerships, comprising the Norwegian terms *interessentskap* [general partnerships] and *sameie* [co-ownership], are liable for all of the debt of the company, but they are taxed on an individual basis. There is thus no limit to the liabilities of the participants. *Sameie* has been a traditional form of organisation when companies within the same group buy or contract vessels, but has to some extent also been used by companies without legal linkages. In the early 1970s, approximately ten per cent of the Norwegian fleet was owned by general partnerships, either through *sameie* or through *interessentskap*. However, this manner of organising ownership became less attractive in the wake of the shipping crisis, as the participants could be negatively affected by the economic difficulties of the companies with which they cooperated.

Limited partnerships can be considered a hybrid of the two previous types. One of the owners, called *komplementar* [general partner] has unlimited liability, whereas the passive members, called *kommandittister* [limited partners], are liable for a given amount of the debt.

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<sup>59</sup> The English translations have been taken from the "Key to the register of ships and extract from Det Norske Veritas' rules" in the Veritas-register.

<sup>60</sup> The legal implications of the various types of companies are more thoroughly presented in Dobrowen, Kim, *et.al.*, *Rederi og kapitaltilførsel – Hovedproblemer i moderne rederifinansiering* [Shipowner and capital supply – Main problems in modern shipping financing], Nordic Institute of Maritime Law, University of Oslo, 1981 and Norges Offentlige Utredninger (1980:45), *Uteregistrering av skip og skipsfartens egenkapital* [Foreign registry of ships and the equity of shipping], pp. 4-7.

The number of passive members differs between various limited partnerships. Limited partnerships are not liable to tax, but each participant is taxed relative to their share of the company. Limited partnerships were more suitable for shipping and offshore investments than for other types of investments, as the limited partnership could be assigned to a single factor of production, eg a ship, supply vessel or a rig. The use of limited partnerships was moderate in the early 1970s, but this way of organising shipowning companies assumed increasing importance over the period analysed.

The category “other shipowning companies” includes the modern version of the *partsrederi* [co-ownership].<sup>61</sup> The co-ownerships may either have proportional liability, or they might have unlimited liability. In the former type, the participants are responsible for their share of the company’s debts, whereas in the latter type they assume full responsibility in the same manner as in general partnerships. However, as opposed to the general partnerships, co-ownerships with proportional liability are taxed at the company level. In the following analysis, the category “co-ownership” includes other companies which have not been listed as limited liability companies, eg sole proprietorships.<sup>62</sup>

The presentation in the previous paragraphs shows that the various types of companies to a considerable extent are overlapping. In addition to the similarities among the various forms of organisation, the different types of companies could be combined. For instance, limited liability companies would frequently assume the position of general partner in limited partnerships. Moreover, whereas there is unlimited liability in some types of co-ownership, the actual responsibility of the owners may be reduced if limited liability companies own *parter* [shares]. Accordingly, the following presentation does not present a definite picture of the development of ownership in the Norwegian shipping industry, in the sense that the figures are indisputable and well-defined.

In order to analyse the organisation of vessel ownership, the relative importance of the various company types in 1970, 1975, 1980 and 1985 has been investigated. The development traits are relatively clear, even though the similarities between the various types of organisation imply that a considerable degree of discretion has been necessary. The data set is based on the main body of the Veritas-register. The information in the geographically arranged index also facilitates the identification of the actual owner, but the manner in which this index is organised may lead to misinterpretation. Accordingly, information on the owners has been lifted from the individual entries. These entries provide a good starting point for an analysis, in the sense that information on ownership is included for all of the vessels. However, there may be flaws in the reporting as a result of inaccuracies, although a high degree of internal congruity indicates that the extent of such inaccuracies is relatively limited.

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<sup>61</sup> The English translation of the word *partrederi* is the same as the translation of *sameie*, partly as a result of the proximity between the two types of organisation.

<sup>62</sup> All Norwegian limited liability companies were required to include the abbreviation AS in their name, indicating that the company in question was an *aksjeselskap* [limited liability company]. Companies for which AS or similar terms indicating that the company was a limited liability company were absent, have been included in the category “other companies”.

Table 9.16. Company organisation, per cent of grt, selected years, 1970-85<sup>63</sup>

	1970	1975	1980	1985
Limited liability companies (AS)	73,4	56,8	43,8	35,3
Co-ownership/ companies (CO)	14,4	27,7	39,3	43,4
General partnerships (IS)	9,7	12,4	5,4	3,0
Limited partnerships (KS)	2,5	3,2	11,5	18,3

Table 9.16 shows the decrease in the share of the Norwegian fleet owned by limited liability companies and general partnerships, and the corresponding increase in the share of the fleet owned by other companies and limited partnerships. However, the figures are to some extent misleading, as some of the vessels listed as owned by limited liability companies were owned by two or more limited liability companies, which in effect indicates some kind of co-ownership. Accordingly, I have chosen to base the analysis on the categorisation usually utilised in analyses of ownership structure, where only vessels owned by a single limited liability company have been assigned to this category.

The share of the fleet owned by two or more limited liability companies declined sharply over the period. Accordingly, an analysis focussing on vessels owned by limited liability companies will indicate a stronger reduction of this category than an analysis of vessels owned by one limited liability company. When the figures are presented in the manner usually applied to analyses of the ownership structure in Norwegian shipping, the development traits from Table 9.16 are still apparent, but less pronounced.

Table 9.17. Company organisation, per cent of grt, selected years, 1970-85<sup>64</sup>

	1970	1975	1980	1985
One limited liability company (AS)	53,2	45,1	38,6	34,5
Co-ownership/ companies (CO)	34,6	39,4	44,6	44,2
- of which two or more limited liability companies	20,3	11,6	5,2	0,8
General partnerships (IS)	9,7	12,4	5,4	3,0
- of which sameie	2,8	3,4	3,1	2,0
Limited partnerships (KS)	2,5	3,2	11,5	18,3

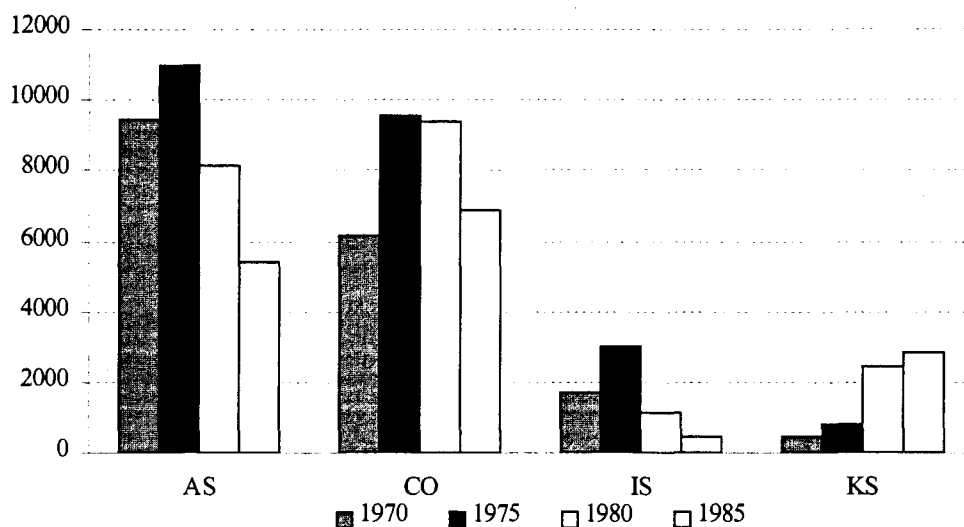
The share of the fleet owned by one limited liability company declined continuously over the period analysed, whereas the share of the fleet owned by limited partnerships showed the highest increase. However, due to the growth of the Norwegian fleet, the amount of tonnage assigned to each group increased from 1970 to 1975, as shown in Figure 9.22.

<sup>63</sup> The term "limited liability companies" includes the Norwegian terms *Aksjeselskap*, *Skipsaksjeselskap*, *Rederi-AS*, *Dampskips-AS* and *Hvalfangst-AS*. The category "Co-ownerships/ companies" includes all individual companies which are not described as limited liability companies, as well as co-ownerships of the *partrederi*-type. The term "General partnerships" designates *interessentskap* and co-ownerships of the *sameie*-type. Due to rounding-off, the sums of the columns deviate from 100.

<sup>64</sup> The term "limited liability companies" includes the Norwegian terms *Aksjeselskap*, *Skipsaksjeselskap*, *Rederi-AS*, *Dampskips-AS* and *Hvalfangst-AS*, but the term is only used when these companies are listed as the sole owner of the vessel. The category "Co-ownerships/ companies" contains all individual companies which are not described as limited liability companies, as well as co-ownerships of the *partrederi*-type and vessels owned by two or more limited liability companies. "General partnerships" is used to describe *interessentskap* and co-ownerships of the *sameie*-type. Due to rounding-off, a transfer of the share of vessels owned by two or more limited liability companies to the "limited liability company"-category in Table 9.16 gives results which deviate from those in Table 9.16. In the subsequent figures, the definitions utilised in the table apply.



Figure 9.22. Tonnage by company type, 1000 grt, selected years, 1970-85



The amount of tonnage owned by limited liability companies and general partnerships increased until 1975, but then declined considerably. The decline was least pronounced for companies in the “co-ownership”-category, whereas the amount of tonnage owned by limited partnerships increased over every five-year interval. There might be several reasons for this transformation, eg changes in the organisation of the companies or differences in the disposal and contracting of tonnage between the various groups. A closer analysis of the data upon which Figure 9.22 is based shows that the latter explanation is the more prominent.

The dynamics behind the increasing importance of “co-ownership”-category of companies and the reduced importance of limited liability companies, as pictured in Figure 9.22, can be found by examining the three periods independently. In the period from 1970 to 1975, the higher increase of the tonnage in the “co-ownership”-category was a result of the fact that the companies included here were more eager in the contracting market. A lower share of the AS-owned fleet was sold abroad, compared with the fleets of other companies, but the limited liability companies were less eager when it came to replacing the tonnage.<sup>65</sup>

In the period from 1975 to 1980 the reduced role of the limited liability companies can be explained by the fact that they disposed of more tonnage than the companies in the “co-ownership”-category, in absolute as well as relative figures. Moreover, the companies in the “co-ownership”-category again acquired a higher volume of new and second-hand tonnage. In the final period, from 1980 to 1985, limited liability companies disposed of a larger amount of tonnage, whereas the tonnage acquired by the two groups of companies was of the same magnitude. The reduction in the amount of tonnage was in particular a result of the fact that several large tankers, which had been owned by one limited liability company, were disposed of as the Norwegian authorities ceased to grant guarantees to keep them on the Norwegian register. The tonnage comprised by vessels above 100.000 grt declined by almost 60 per cent in the case of ships owned by one limited liability company, compared with less than 17 per cent for vessels owned by companies in the “co-ownership”-category.

<sup>65</sup> In absolute figures, the limited liability companies disposed of more tonnage. The main difference, however, was with regard to acquisition.

It is thus evident that for the period 1970-1985, the reduced importance of the limited liability companies can be explained in terms of both larger sales of tonnage and less eager acquisition of new and second-hand tonnage. In the case of tonnage sales, the reduction of the fleets of the companies in the "co-ownership"-category was approximately 20 per cent lower than for the limited liability companies. This effect, combined with a 12 per cent higher acquisition of tonnage for the "co-ownership"-category of companies, is important in explaining the structural changes in the organisation of Norwegian shipowning companies.<sup>66</sup>

Another possible explanation of the reduced importance of the limited liability companies is that the companies owning the individual vessels were reclassified. There is some evidence of such reclassification, but the effect on the fleet structure is ambiguous. In the period 1970-1975, the reduced share of the limited liability companies was affected by the transformation of limited liability-companies to "co-ownership"-category companies. The net change was nevertheless relatively unimportant, compared with the effect of the differences in disposal and acquisition of tonnage. In the other two periods, the tonnage converted from "co-ownership"-companies to ownership by one limited liability company exceeded the tonnage for which ownership was reclassified the other way. Moreover, the net changes were higher than in the first period. Accordingly, changes in the ownership of individual vessels did not contribute to the increasing share of the Norwegian fleet owned by companies in the "co-ownership"-group. Rather, these changes partly neutralised the differences in acquisition and disposal of tonnage.

The explanation of the reduced importance of vessels listed as owned by general partnerships mirrors the development presented above, although reclassification of ownership appears to be more important. For instance, 16 of the 25 vessels listed as owned by *sameie* in 1975 had been deleted by 1980. Only three of the vessels remained *sameie*-owned, whereas five had been transferred to *partrederi* and one had been transferred to a limited liability company.

One of the reasons for the decline in the use of general partnerships was difficulties in connection with the unlimited liability-clause. For some participants the experience became costly, as other participants were unable to contribute as expected due to economic difficulties. Accordingly, what had previously been a potential problem in connection with *sameie*-ownership, became a reality when the shipping crisis reduced the economic strength of some of the participating companies. The risk thus curbed the shipowners' willingness to enter into new general partnerships, and encouraged shipowners to reorganise the ownership of vessels owned by general partnerships. Only two of the 14 vessels owned by general partnerships in 1985 had been built after 1976.

The largest tonnage expansion, in absolute as well as relative terms, occurred within the limited partnerships. The amount of tonnage registered as owned by limited partnerships

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<sup>66</sup> In aggregate, the limited liability companies disposed of some 16 million grt, whereas the companies in the "co-ownership"-category disposed of 12,8 million grt. As for acquisition, the figures were approximately 11,3 million grt and 14,2 million grt respectively. These figures refer to tonnage increases and decreases as found by an analysis of five-year intervals, and do not include vessels for which ownership was re-classified from the "co-ownership"-category to the "limited liability companies"-category or *vice versa*.

increased from 445.000 grt in 1970 to almost three million grt 15 years later. However, this refers to the Norwegian fleet as defined in the databases, ie vessels larger than 5.000 grt. Some of the vessels for which the use of limited partnerships was particularly widespread have been excluded from these figures, a fact which implies that the actual usage and growth of limited partnerships was higher than indicated here.

According to the figures from the database, 103 ships and drilling units were organised as limited partnerships in 1985, corresponding to 26 per cent of the number of vessels and 17 per cent of the tonnage measured in dwt. A similar examination performed by *Norges Rederiforbund* in the autumn of 1984 found that limited partnerships owned 38 per cent of the number of vessels in the Norwegian fleet and 18 per cent of the dead weight tonnage.<sup>67</sup> The share was particularly high in the case of supply vessels, where almost 60 per cent of the vessels were owned by limited partnerships. These vessels have been excluded from the database due to the restrictions on size. Accordingly, the growth with regard to the number of vessels would be even more conspicuous if the total Norwegian fleet was analysed. However, the variations in dwt would not be of the same magnitude, due to the fact that the vessels left out of the analysis were relatively small.

The attractiveness of limited partnerships can be understood both in terms of the limitations on the liability of the limited partners and in terms of the manner in which these companies were treated by the authorities in connection with taxation. The owners were taxed independently, rather than at the company-level as in the case of limited liability companies. Accordingly, the deficits which were common in the initial period after the investment had been undertaken could be deducted from the tax burden of the individual investors. The limited partnerships consequently combined the most advantageous feature of the limited liability companies, ie the relatively low risk, with the most advantageous feature of the general partnerships, ie the right to deduct deficits from the personal tax burden of the owners. In a domestic perspective, the advantage of limited partnerships was their ability to channel resources from external, non-shipping sources to the shipping sector.

In the late 1970s, approximately 20 per cent of the investments in limited partnerships originated with groups outside the shipping sector. An official survey concluded that "*the majority of new enterprises and a large share of the contracting is organised through limited partnerships.*"<sup>68</sup> This can be exemplified by the fact that in 1985 more than 40 per cent of the vessels delivered in 1981 and later were owned by limited partnerships, compared with 36 per cent in the case of limited liability companies and 24 per cent in the case of companies in the "co-ownership"-category.<sup>69</sup>

The number of vessels owned by limited liability companies fell dramatically, from 694 in 1970 to 138 in 1985. This represented an 80 per cent decline, and the relative reduction was even more dramatic in the case of vessels owned by general partnerships, the number of

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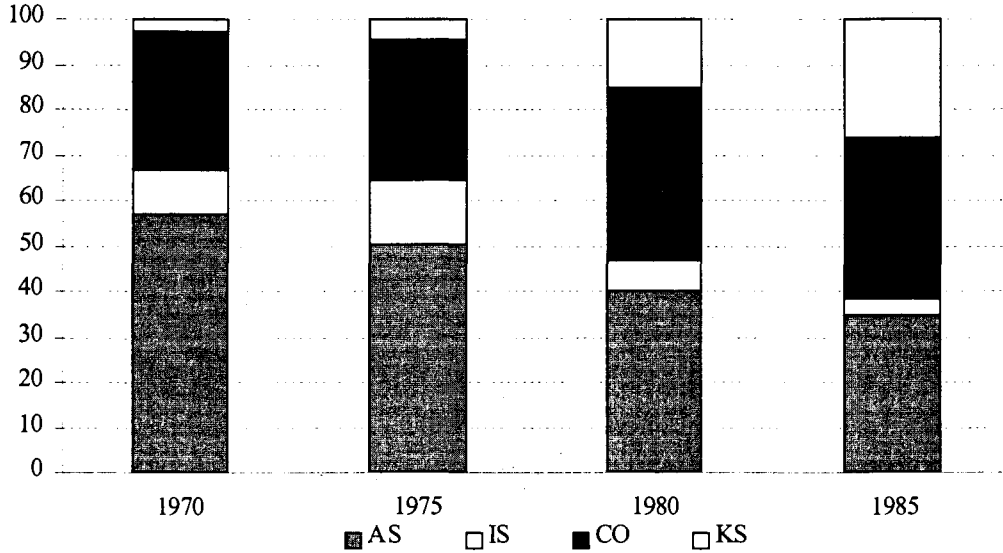
<sup>67</sup> The figures have been reprinted in Stortingsmelding nr. 53 (1984-85) *Om skipsfartsnæringen* [On the shipping industry], p. 12.

<sup>68</sup> *Norges Offentlige Utredninger* (1980:45), *op.cit.*, p. 50.

<sup>69</sup> However, the vessels delivered to the companies in the latter category were on average considerably larger than the vessels delivered to the other two types of companies, a fact which can partly explain why the share of tonnage owned by the companies in the "co-ownership"-category remained constant.

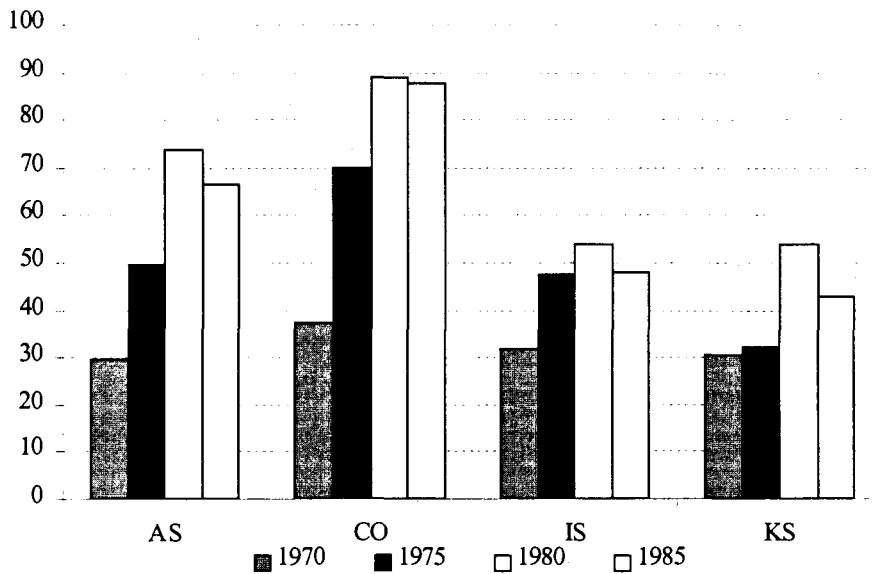
which fell from 88 to 14. The number of vessels owned by companies/ co-ownerships declined less dramatically, from 281 to 140, whereas the number of vessels owned by limited partnerships increased from 23 in 1970 to 103 fifteen years later.

Figure 9.23. Type of organisation, per cent of the number of vessels, selected years, 1970-85



The changes in the organisation of the Norwegian fleet are more prominent when the number of vessels are used as the unit of analysis. This reflects the fact that the average size of the vessels assigned to the various types of ownership varies. The vessels assigned to the “co-ownership”-category were larger than the other categories’ vessels in all of the four years examined. The fleets of the general partnerships and limited partnerships to a larger extent consisted of relatively small vessels.

Figure 9.24. Average size of vessels, 1000 dwt, selected years, 1970-85



The changes in the importance of the various types of companies are so substantial that there should be little doubt about the fact that the organisation of the Norwegian shipowning companies changed during the period analysed. However, the actual extent and effects of

these changes are difficult to quantify, due to the similarities between the various types of ownership and the fact that shipowners often utilised a combination of the different types of ownership. The increasing importance of the limited partnerships partly reflects the success in making non-shipping investors channel their resources to the shipping sector, spurred by generous taxation policies. A White Paper published in 1981 emphasised that *“it is important for [the shipping sector’s] ability to renew itself and expand that the main features of the rules regarding limited partnerships and limited partners is maintained.”*<sup>70</sup> Nevertheless, it is difficult to assess the extent to which this capital would have been invested in the shipping sector regardless of the existence of the limited partnerships.

### **9.3.5. Presentation in company histories**

The companies in the Norwegian shipping sector differ with regard to factors such as fleet size, tradition, strategies and organisation. In the bibliography in Chapter One, some of the books on Norwegian shipowners were presented, with a focus on the publications which can be considered the most valuable contributions from a “business history”-point of view. However, the majority of the shipping company histories were left out.

In a survey of Norwegian maritime history, Helge W. Nordvik claims that most of the books on individual shipping companies *“contain little factual information on the companies in question, and it goes without saying that there is no attempt to attribute sources and evidence for the many sweeping generalisations presented by the authors.”* Moreover, *“[t]hey are purely public relations exercises, but [...] singularly fail in enlightening the general public. On the contrary, their chief function is to perpetuate popular myths and they thus make a negative contribution to the history of maritime enterprise.”*<sup>71</sup> This scathing criticism only to some extent applies to the contributions included below.

I have chosen to focus on books that can be regarded as useful additions to the knowledge of Norwegian shipping companies, and ignored what Nordvik refers to as *“hagiographies”*. The contributions included here illustrate the diversity of the Norwegian shipping sector and the strategic decisions undertaken in Norwegian shipping companies in the period surveyed. Although the quality of the research and literature varies, all contributions included throw light upon the manner in which Norwegian shipping companies coped with the international crisis. The following presentation can thus be seen as the “common knowledge” of the strategic decisions of Norwegian shipping companies, as presented in isolated analyses.

Dag Bakka jr.’s book *“Hav i storm og stille”* gives an account of the large transformations and financial adaptation necessary to rescue the Norwegian shipowning company Helmer Staubo & Co.<sup>72</sup> The recipe included conversion, and later cancellation, of a vessel contracted in Japan, support from the Norwegian Guarantee Institute for Ships and

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<sup>70</sup> Stortingsmelding nr. 52 (1980-81) *Om skipsfartsnæringen* [On the shipping industry], p. 20.

<sup>71</sup> Nordvik, Helge W., “Norwegian Maritime Historical Research during the past Twenty Years: A Critical Survey”, *Sjøfartshistorisk Årbok 1990* [Norwegian Yearbook of Maritime History 1990], Bergen Maritime Museum, Bergen, 1991, p. 248.

<sup>72</sup> Bakka, Dag jr., *Hav i storm og stille – AS HAV Helmer Staubo & Co 1915-1990* [The history of the shipowner Helmer Staubo’s company AS HAV], Krohn Johansen Forlag, Larvik, 1990, pp. 72-79.

Drilling Vessels Ltd., protracted negotiations with the main creditors and sales of the vessels. Although marred by an extremely limited use of footnotes and secondary literature, the book provides insight into the operation and management of a shipping company, both during the shipping crisis and in connection with the revival of the Norwegian shipping industry after 1987.

The history of the shipowning company Leif Höegh & Co has been written by the same author, and the title of the book, "*Shipping through cycles*", embodies one of the most important aspects of the shipping industry. The book illustrates how a diversified company managed to acquire a reasonable return on capital through long-term contracts for its fleet of combination carriers and profitable investments in auto-carriers and liner services, despite having a gas tanker fleet which largely remained unemployed.<sup>73</sup> By 1980 Höegh had become one of the largest privately owned shipping groups in Norway. Ironically, the advantageous financial position by the turn of the decade facilitated a massive newbuilding programme, which had substantial negative effects in the second half of the shipping depression, from the early 1980s onwards.

Johannes Seland's short book on the Kristiansand-based shipowning company of Einar Rasmussen tells the story of a company that survived the crisis through a combination of newbuilding conversions, long-term charters and involvement in the offshore oil sector.<sup>74</sup> The book does not, however, throw light upon the judgements upon which this fortunate strategy was based.

Gustav Sætra's history of the Arendal-based shipowning-company Arnt J. Mørland illustrates the diversity of Norwegian shipowners' engagements, and the importance of this diversification for survival.<sup>75</sup> The company owned tankers, bulk carriers, several barges and a share of a drilling vessel, and also controlled tankers chartered-in from foreign companies. However, the company's experience in the 1970s shows many of the familiar signs of Norwegian shipowners in dire straits; disposal of tonnage, cancellation of contracts for newbuildings and chartered vessels, need for public support through the Guarantee Institute and red figures in the books. In 1979, for the first time in the company's history, Mørland was without ships. Due to profits from the offshore sector and the advantageous sale of a rig, the company acquired the financial basis necessary for a new beginning.

The history of I.M. Skaugen illustrates two features of Norwegian shipping.<sup>76</sup> First, the company's minority interests in a series of product tankers and drilling vessels show the high degree of cooperation between Norwegian shipowning companies which is often ignored when fleets are presented by managing owner. Second, the company's good economic performance in the 1970s came about as a result of large profits from cruise shipping, bulk shipping, car carriers and timber carriers. The proceeds from these segments overshadowed

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<sup>73</sup> Bakka, Dag jr., *Höegh – Shipping through cycles*, Leif Höegh & Co ASA, Oslo, 1997, pp. 164-172.

<sup>74</sup> Seland, Johs., *Poly-flåten gjennom femti år 1936-1986* [Fifty years of the Poly-fleet 1936-1986], Einar Rasmussens Rederi, Kristiansand, 1986, p. 68-71. The period 1973-1978 is analysed in a chapter aptly named "Into the North Sea", pp. 66-82.

<sup>75</sup> Sætra, Gustav, *Himmel og Hav* [Shipping and Beyond], Arnt J. Mørland, Arendal, 1991, pp. 278-291.

<sup>76</sup> Kolltveit, Bård, *Skaugen – 70 år i shipping – AS Eikland 1916-1986* [Skaugen – 70 years in shipping – The company AS Eikland 1916-1986], published by the company, Oslo, 1986.

the relatively mediocre results from the company's investments in oil rigs, supply ships and liners.<sup>77</sup>

Tore Jørgen Hanisch and Martin Bould have written a book on the Torvald Klaveness group, pioneers of the postwar dry bulk trade.<sup>78</sup> The company's experience in the 1970s illustrates the large changes necessary for a company which experienced escalating costs. Though not directly hit by the falling demand in the tanker market, major adjustments were required to keep the company profitable. The response was rationalisation and the transfer of vessels to lower-cost countries through joint-ventures.

AS Ivarans Rederi, though to a limited extent involved in the bulk sector, was generally regarded as a liner company, with a South America line as the company's main engagement.<sup>79</sup> Accordingly, the challenges facing this company in the 1970s were different from those facing most of the other companies presented here. One of them was discrimination; third-country flags were increasingly excluded from liner markets by state-owned or state-supported companies. Fortunately, the fact that other third-flag liner operators abandoned their operations left more room for Ivarans. Another challenge was the modernisation of the fleet to comply with the increased need for efficiency and the onset of containerisation. The company solved this by disposing of their older ships, contracting two new vessels and chartering-in capacity from other shipowners.

The offshore oil and gas sector represented another challenge for Ivarans Rederi. The company established a partnership for this purpose, KS Ivaran Drilling AS & Co, but the contracted rig was cancelled due to the deteriorating rig market from the mid 1970s, and the total investment capital was lost. The company was more fortunate with their investments in supply ships and gradually increased their engagements in this field. The company's first, cautious offshore investment, 5/64-shares of a drilling platform, was financed by the revenue from the sale of a bulk carrier, again showing how the oil sector provided an alluring investment alternative for shipping companies in the early 1970s.

Other histories of shipowning companies, eg several of the contributions by Birger Dannevig and Bård Kolltveit, do not attempt to analyse the shipping crisis or the forces behind the companies' fate. Rather, they focus on the development of the fleets, without trying to explain the strategy upon which the development was based, and the central decision makers, without trying to explain their decisions and the basis for their judgements.<sup>80</sup>

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<sup>77</sup> It may seem contradictory that the market segments which functioned as cash cows for some companies, led to bad results for other companies. This is due to the heterogeneity of shipping market segments, where even a relatively low level of aggregation may obscure considerable differences. The timing and the choice of contracting, sales and chartering strategy are of utmost importance for the financial results.

<sup>78</sup> Hanisch, Tore Jørgen and Bould, Martin, *Megler og Reder – Torvald Klaveness gruppen 1946-1996* [Shipbroker and Shipowner – The Torvald Klaveness Group 1946-1996], Messel Forlag, Oslo, 1996.

<sup>79</sup> Kolltveit, Bård, *Bridge across the Seas - AS Ivarans Rederi 1920-1995*, published by the company, Oslo, 1995.

<sup>80</sup> See for instance Dannevig, Birger, *Assuranceforeningen Gard 1907-1982*, published by the company, Arendal, 1982, Dannevig, Birger, *AS Uglands Rederi 1930-1980*, published by the company, Grimstad, 1980, Dannevig, Birger, *C.H. Sørensen & Sønner 1881-1981*, published by the company, Arendal, 1981, Dannevig, Birger, *Olaf Tønnevold & Sønner 1878-1978*, published by the company, Grimstad, 1977 or Dannevig, Birger, *Tønnevolds Rederi 1878-1978*, published by the company, Grimstad, 1977. Large proportions of the latter two books are in fact identical.

As Thowsen and Marøy emphasise in their presentation of one company history, “one might question the priority of the topics when the design of the chimney on one of Anders Wilhelmsen’s cruise vessels is given a lot of attention” and the reasons that the company abstained from the tanker contracting in the early 1970s are more or less neglected.<sup>81</sup>

The neglect has partly been remedied in an updated version of the book, where it is claimed that “[s]uspicious of an over-heated tanker market, and resisting pressure from some people in his own company, Arne Wilhelmsen decided that the future lay in other sectors of the industry, such as bulk carriers, supply ships, diving support vessels and tanker shuttles to service platforms in the North Sea. This decision would help Wilhelmsen survive the ensuing oil crisis and position it to take advantage of new markets in a rapidly changing industry.”<sup>82</sup> However, it is characteristic that an interview with the shipowner in an international shipping publication gives information on the company’s absence from the shipping sector which is more revealing and illuminating than the official history of the company; “The Oslo-based Anders Wilhelmsen Group could have broken its neck over potentially fatal tanker investments in the early 70s. [...] Shipowner Arne Wilhelmsen says he decided to listen to shipping economist Even Engelstad instead of some people in his own company who 30 years ago argued the future was in the crude oil tanker market.”<sup>83</sup>

The example above illustrates one of the main problems of shipping company histories. Official histories tend to emphasise the visions and sentiments of the owner. However, in this case the basis for the decision was cautious analysis by an academic, who to my knowledge is not even mentioned in the official publication despite his far-reaching importance for the financial well-being of the company.

#### 9.4. The Tonnage Leaving the Fleet

The previous analyses have been based on the main database and the database on the development of shipping companies. The third database details all vessels changing ownership. It enables the analysis of both the vessels which changed ownership within Norway and the vessels which left the Norwegian registry. The database includes information on the new ownership, the new country of registry and the sales transaction itself. However, the amount of information on each transaction varies. In particular, there are relatively large gaps in the details on the transactions from the beginning of the 1980s. These are a result of the fact that the broker reports started to include “representative sales” rather than “all Norwegian sales”.

Another potential problem is that there is a certain degree of inconsistency with regard to information on the new country of registry and the new ownership. Five main sources were

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<sup>81</sup> Hansen, Arild Marøy and Thowsen, Atle, “Sjøfartshistorie som etterkrigshistorisk forskningsfelt” [Postwar maritime history as topic for research], LOS-senter Working paper 91/6, Norwegian Research Center in Organization and Management, Bergen, 1991, p. 15, referring to Kolltveit, Bård, *Fra Verdens Ende mot de syv hav – Anders Wilhelmsen & Co. 1939-1979*, [From Verdens Ende towards the Seven Seas – Anders Wilhelmsen & Co. 1939-1979], published by the company, Oslo, 1989, pp. 137 and 149.

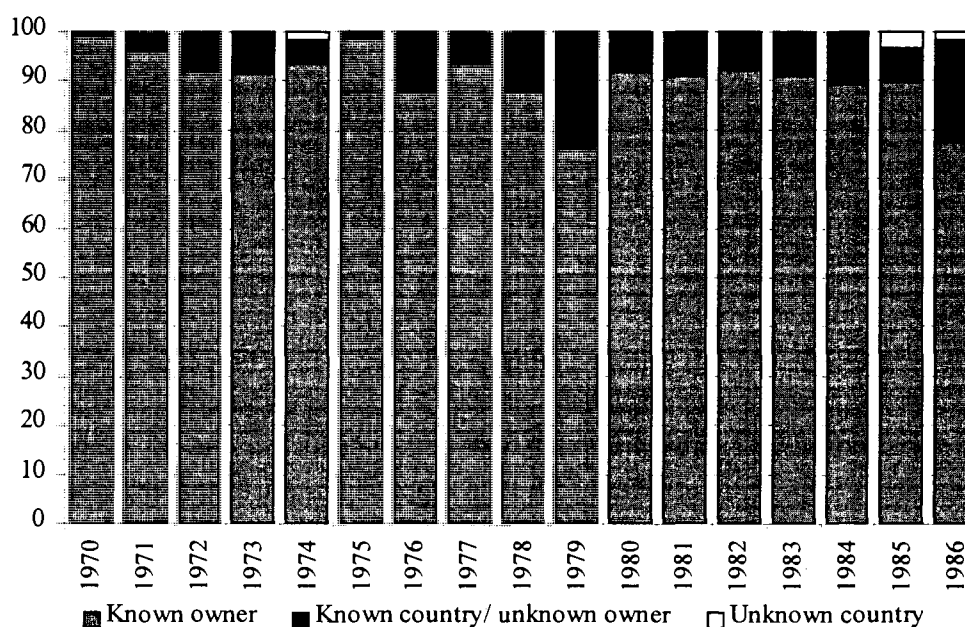
<sup>82</sup> Kolltveit, Bård, Vadseth, Knut and Butenschøn, Hans B., *Six Decades on the Seven Seas – A Saga of Value Creation*, Andresen & Butenschøn, 2000, p. 94.

<sup>83</sup> *TradeWinds*, 11 August 2000, p. 10.



consulted when the database was compiled, viz the Veritas-register, secondary literature, eg the histories of individual shipping companies, the database of the Norwegian fleet at the Bergen Maritime Museum, Lloyd's Register and reports from brokers. In the cases where information varied between the different sources, the sources have been ranked in the order presented above. Alternative information has been indicated in the database.

Figure 9.25. Validity of the sales database, per cent of all transactions, 1970-86<sup>84</sup>



The considerable amount of sources utilised has made it possible to determine the fate of the majority of the vessels which were sold in the Norwegian market, either to other Norwegian shipowners or to foreign agents. On average, information on the new owners is available for more than 90 per cent of the tonnage which changed owners, as shown in Figure 9.25. Measured by the number of transactions, information on the new owners is available for 1.600 of approximately 1.780 transactions. Information on the new country of registry, but not the new owner, is available in 167 instances, and only 13 vessels have been deleted from the main database without information on the new country of registry or the new owners.<sup>85</sup> Accordingly, the sales database is a useful tool for an analysis of the fate of the vessels which were sold in the Norwegian second-hand market for ships in the period 1970-1986.

The vessels which left the Norwegian fleet in the latter part of the period were both larger and more recently built than the vessels which were sold in the beginning of the period. The average size of the vessels sold from Norway increased from approximately 13.000 grt in 1970 to more than 50.000 grt in 1985.<sup>86</sup> Indeed, from 1983 until 1985 the vessels which were sold in the Norwegian market and registered abroad were larger than the average vessels in the Norwegian fleet. This can be explained by the fact that a large amount of the tonnage ordered during the tanker market heyday, ie mammoth tankers and combination carriers, were

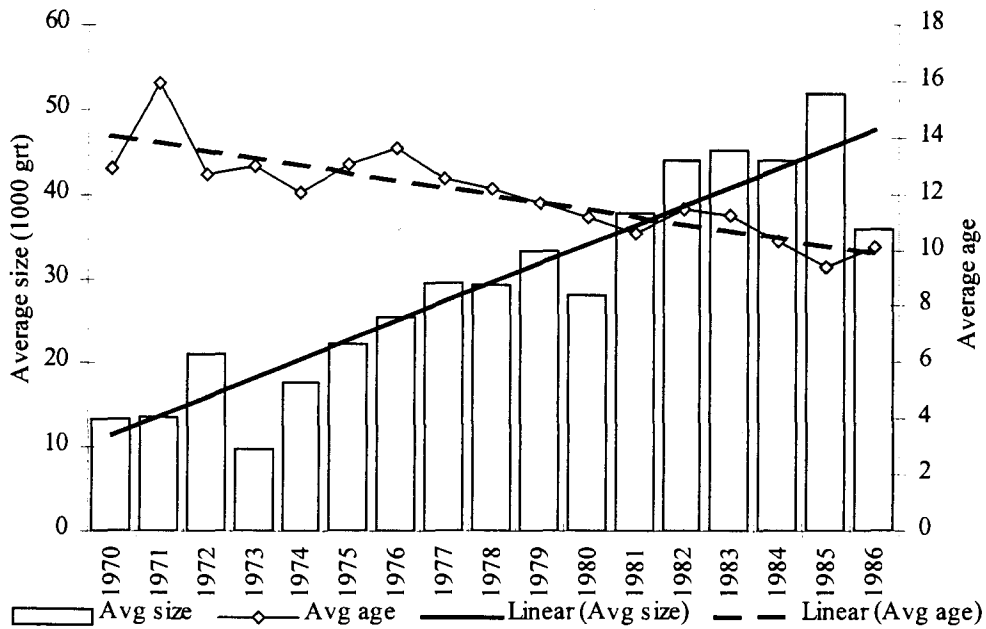
<sup>84</sup> The figures are based on the share of tonnage registered in grt, and do not include drilling vessels and vessels smaller than 5.000 grt.

<sup>85</sup> The 1.600 entries also include vessels which were scrapped.

<sup>86</sup> The average size in 1986 was lower, due to the fact that relatively few large tankers were sold.

disposed of. Almost 50 tankers and combination carriers above 100.000 grt were sold from 1983 to 1985.

Figure 9.26. Average age and size of vessels sold from Norway, 1970-86

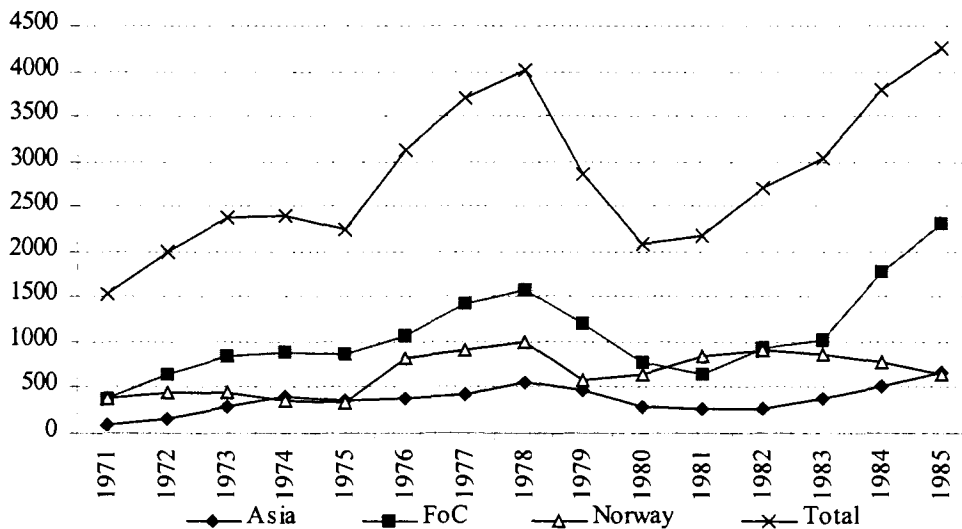


The average age of the vessels sold abroad decreased from approximately 13 years in the early 1970s to approximately ten years in the latter part of the period. However, the vessels which were sold abroad were older than the average of the Norwegian fleet throughout the period.

**9.4.1. Where did they go?**

The amount of tonnage which changed owners varied considerably from one year to the next. The majority of the tonnage was either transferred from one Norwegian owner to another or registered in Flags of Convenience-countries (FoC-countries) or Asian countries. In aggregate, 40 per cent of the tonnage changing owner was registered in an FoC-country, 13 per cent was registered in Asia and 22,5 per cent was transferred within the Norwegian market.

Figure 9.27. Tonnage changing owners, 1000 grt, three year moving average, 1971-85



The data upon which Figure 9.27 is based show that the share of the tonnage which was transferred between Norwegian owners fluctuated around a quarter of all tonnage until 1982, but thereafter fell dramatically, averaging 16 per cent from 1983 to 1986.<sup>87</sup> However, the claim that Norwegian shipowners were paralytic after the freight market breakdown, and thus were financially unable to purchase the vessels which their compatriots in distress were forced to sell, is not supported by the analysis. This assertion would be substantiated if there was a strong increase in the share of the Norwegian tonnage sold abroad, but this share was relatively constant in the first years after the freight market had broken down. However, it should be kept in mind that the existence of the Guarantee Institute affected these figures – it is likely that a higher share of the Norwegian fleet would have been sold abroad in the absence of this institution.<sup>88</sup>

The aim of this subchapter is to examine the fate of the vessels which left the Norwegian register. Vessels which were scrapped or lost have not been included in the analysis. This amounts to 52 vessels, totalling 1,25 million grt in the period 1970-1979, and 22 vessels, totalling 2,1 million grt in the period 1980-1986.<sup>89</sup> In an international perspective, the amount of tonnage which changed hands within Norway is relatively unimportant. The following analysis is based upon the vessels which were deleted from the Norwegian registry and transferred to foreign shipowners.

The vessels which were deleted from the Norwegian registry have been categorised in five groups. The majority of the tonnage, in excess of 52 per cent, went on to be registered in FoC-countries.<sup>90</sup> The second largest group consists of the emerging maritime nations in Asia, in particular China and Singapore. The growth of the merchant marines of the emerging maritime nations in Asia is analysed in more detail in Chapter Ten. Approximately 17 per cent of the Norwegian tonnage sold abroad was registered in this region.<sup>91</sup>

A considerable portion of the Norwegian fleet was taken over by Greek shipowners, either for operation under the Greek flag or FoCs. In the 1970s more than 19 per cent of the Norwegian tonnage sold abroad was transferred to the Greek flag, but this share fell to less than eight per cent in the period 1980-1986. In aggregate 14 per cent of the tonnage deleted from the Norwegian registry in the period 1970-1986 was subsequently registered in Greece.

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<sup>87</sup> The chart shows the total amount of tonnage for which the new country of registry is known, as well as the amount of tonnage which went to each of the three most important recipients – new Norwegian owners, Flag of Convenience-countries and Asian countries. In order to improve the readability of the presentation, the figures have been converted to three year moving averages.

<sup>88</sup> When these vessels were sold as the engagements of the Guarantee Institute were discontinued in the early 1980s, a considerable share was taken over by other Norwegian shipowners.

<sup>89</sup> Moreover, the thirteen vessels for which ownership and country of registry were unknown have been left out. This refers to three vessels, totalling approximately 30.000 grt, in the period 1970-1979, and ten vessels, amounting to approximately 300.000 grt, from 1980 to 1986.

<sup>90</sup> The countries included in the Flag of Convenience-category are Bahamas, Bermuda, Cayman Islands, Curacao, Cyprus, Gibraltar, Liberia, Malta, Panama, Somalia and the Lebanon.

<sup>91</sup> The category "Asia" comprises Bangladesh, China, Hong Kong, India, Indonesia, Pakistan, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, the Philippines and Vietnam.

Less than ten per cent of the tonnage sold from Norway went on to be registered in other OECD-countries.<sup>92</sup> Approximately eight per cent of the tonnage, comprising less than three million grt, was sold to other countries, including oil-producing countries, communist countries and developing countries.<sup>93</sup> When the Norwegian ownership was terminated, the vessels were registered in more than sixty different countries, a prime example of the fact that the market for second-hand ships is truly international.

Table 9.18. Tonnage leaving Norway by new country of registry<sup>94</sup>

	1970-1979		1980-1986		1970-1986		
	Grt	Share	Grt	Share	Grt	Share	World share
Asia	3.276.936	16,1	3.012.087	17,7	6.289.023	16,8	7,3
Flags of Convenience	9.465.815	46,5	9.984.617	58,8	19.450.432	52,1	28,4
OECD	2.332.106	11,4	1.075.229	6,3	3.407.335	9,1	52,3
Greece	3.910.144	19,2	1.323.440	7,8	5.233.584	14,0	
Other	1.387.491	6,8	1.593.477	9,4	2.980.968	8,0	12

In aggregate, tonnage amounting to more than 37,7 million grt was sold from Norway for registry abroad in the period 1970-1986.<sup>95</sup> The sales database includes information on the subsequent country of registry for almost 37,4 million grt of this tonnage. Table 9.18 shows how this tonnage was distributed among the various new registries.

In the last two columns of Table 9.18, the recipients' shares of the tonnage sold from Norway have been compared with their shares of the world fleet. The share of the tonnage which was registered in OECD-countries was relatively low, even when we adjust for the inclusion of the Norwegian and Greek fleets. There are two main reasons for this. First, the OECD-countries' share of the world fleet was declining over the period. Second, a large portion of the tonnage which left the Norwegian registry was unsuitable for operation from high cost, industrialised countries. Rather, the shipowners purchasing the vessels could only operate them profitably in low labour cost countries, which typically were countries outside the OECD.

The share of the tonnage sold to FoC-countries, Greece and Asia was relatively high. The explanations are the opposite of those which could account for the relatively low share of tonnage sold to OECD-countries. On the one hand, these registries were expanding heavily in the period, a development trait which is further analysed in Chapter Ten. Accordingly, one should expect that the acquisition of tonnage is relatively high, compared with the size of their current fleets. Second, by utilising low cost labour, shipowners in these countries could operate old vessels profitably even after they were unsuitable for operation with the

<sup>92</sup> The OECD-countries receiving tonnage were Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, Portugal, Sweden, the Netherlands, the United Kingdom and the United States. Greece has been excluded from these figures.

<sup>93</sup> The countries which received tonnage from Norway, and have been included in the "other"-category are Albania, Algeria, Argentina, Bulgaria, Cameroon, Chile, Colombia, DDR, Egypt, Iran, Iraq, Kuwait, Mexico, North Korea, Nigeria, Poland, Saudi Arabia, Turkey, United Arab Emirates, Uruguay, the USSR, Tanzania and Venezuela.

<sup>94</sup> The figures in the last column indicate the groups' average share of the world fleet in the period 1970-1986. The figure for the OECD-fleet includes both Norway and Greece.

<sup>95</sup> Only ships above 5.000 grt are included in the figures.

Norwegian flag. In this respect, Greece differed from the other OECD-countries, as it was a relatively low labour cost flag.

Figure 9.28. New registry, per cent of grt on an annual basis, 1970-86<sup>96</sup>

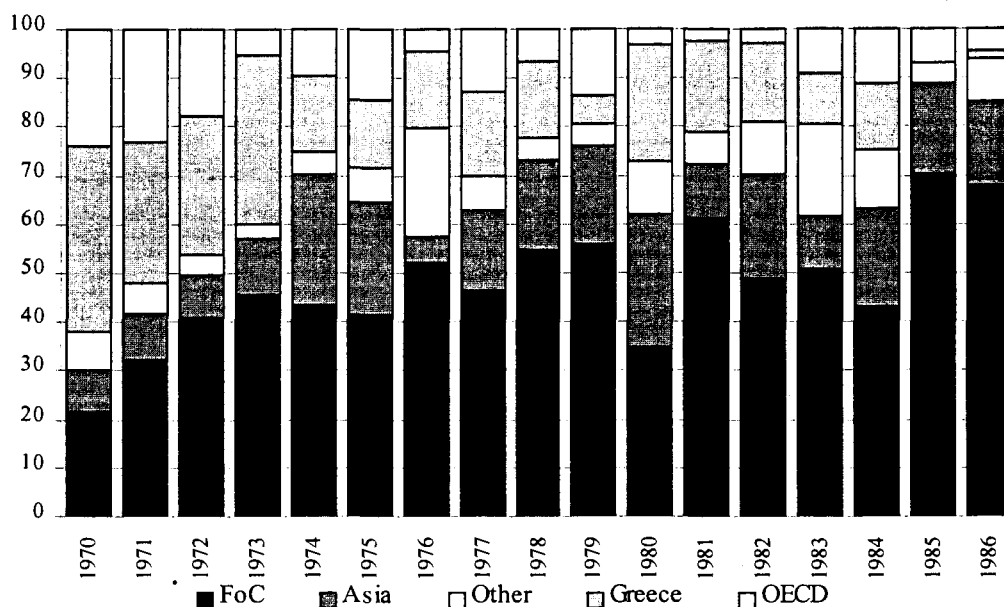


Figure 9.28 shows where the vessels which were sold by Norwegian shipowners were subsequently registered. The columns refer to per cent of the annual sales, and do not take into account the fact that the volume of tonnage sold varied immensely between the various years.

Greek shipowners operating their vessels under the Greek flag were particularly eager to purchase Norwegian second-hand tonnage in the beginning of the period. In 1970 alone, 27 vessels were sold for registry in Greece. Slightly more than half of this tonnage was purchased by Greek-based shipowners, whereas exiled Greek shipowners in Great Britain bought more than 40 per cent. The rest was purchased by Greek shipowners who had companies in the United States but preferred to fly the Greek flag. Moreover, Greek shipowners, both Greek- and foreign-based, bought a considerable share of the vessels which were registered in FoC-countries.<sup>97</sup>

Shipowners utilising Flags of Convenience increased their share of the purchases of Norwegian vessels in the early 1970s, and the share was stabilised at approximately 50 per cent in the period 1973-1984. However, in 1985 and 1986 more than two thirds of the tonnage leaving the Norwegian fleet were registered in FoC-countries. As the subsequent analysis will show, the high share in the 1980s was largely the result of traditional flagging-out of Norwegian vessels.

The third group buying a considerable share of the Norwegian tonnage was Asian shipowners. The most important countries in the "Asia"-category were China, Hong Kong, Singapore and the Philippines. In both Singapore and the Philippines, some of the vessels were purchased by agents with strong links to the Norwegian shipping sector. These agents

<sup>96</sup> The chart shows the distribution of the vessels leaving the Norwegian fleet, based on grt.

<sup>97</sup> In the analysis in Chapter 9.4.2, all shipowners have been defined by their country of operation. Accordingly, a considerable share of the vessels which were managed by British and American companies were in fact owned by Greek nationals.

were either Norwegian nationals who had started their careers abroad or companies established by Norwegian shipowners. As Figure 9.28 indicates, OECD-countries, with the exception of Greece, and the countries in the “other”-category were relatively unimportant.

#### **9.4.2. Where did they really go?**

As country of registry often differs from the nationality of the actual owner, the results of the analysis in Chapter 9.4.1 do not necessarily correspond with the nationality of the shipowners who purchased the Norwegian vessels. However, the sales database includes information on the majority of the new managing owners as well, and this enables us to analyse the new ownership of the vessels which left the Norwegian fleet.

The subsequent analysis is a return to the focus on *managing owners*, rather than legal companies, as in Chapter 9.3.4, or country of registry, as in Chapter 9.4.1. It should be emphasised that the growth of the ship management industry implies that some of the companies registered as managing owners, in particular in the latter part of the period, were in fact only managing the vessels for owners based in other countries. However, the extent of this practice was not so large as to affect the conclusions to any considerable extent. The development of the ship management industry is analysed in more detail in Chapter 10.4.3.

Data on the new managing owners are available for approximately 90 per cent of all the observations, regardless of whether the number of transactions or the volume of the tonnage sold is used.<sup>98</sup> However, approximately 22 per cent of the tonnage was sold in the Norwegian market, where information on the new ownership was available for all of the vessels. This implies that the observations of new *foreign* ownership is lower than 90 per cent. The new foreign owners have been identified in the case of approximately 86 per cent of the almost 1400 observations.<sup>99</sup> Measured in grt, the transactions in which the location of the new owners is identified cover slightly less than 84 per cent of the tonnage sold from Norway. Although precise information is lacking for approximately 14 per cent of the vessels, representing 16 per cent of the tonnage, the data can be considered relatively reliable with regard to the real ownership of the vessels which left the Norwegian fleet.

The analysis reveals two striking, but not surprising, features. First, there is little correspondence between the registration and the actual ownership of the vessels which left the Norwegian registry. This can be accounted for by the large share of the fleet transferred to FoC-countries. Second, the effects of the liberalisation of the Norwegian flag policy are evident, and flagging-out can explain quite a lot of the changes in ownership and registration from 1984 onwards.

The analysis in Chapter 9.4.1 showed that the OECD-countries were suspiciously absent in connection with the new registration of the tonnage which left the Norwegian fleet. Excluding Norway, the OECD-countries' average share of the world fleet was approximately

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<sup>98</sup> The percentages are practically identical as a result of the fact that the vessels for which data are missing did not deviate substantially in terms of size from the vessels for which information is available.

<sup>99</sup> In a handful of instances the database contains information on the name of the new company, but not where the company is based. The number of companies for which the location of the owners is not identified is 196, rather than the previously mentioned 179, which is the number of vessels for which the owners have not been identified. The term foreign owners includes Norwegian companies with vessels registered abroad.

45 per cent in the period 1970-1986. However, the OECD-countries purchased only 23,1 per cent of the Norwegian tonnage, and the majority of this tonnage was bought by Greek shipowners. An analysis of actual ownership neutralises this effect. Whereas less than a quarter of the tonnage sold abroad was registered in OECD-countries, companies based in these countries were the actual buyers of more than 70 per cent of the tonnage sold from Norway.<sup>100</sup>

### Analysis of vessels sold from Norway

The buyers of the tonnage which was sold from Norway have been divided into five main categories. The most important group consists of companies in the OECD-countries, which bought the majority of the tonnage which was sold abroad by Norwegian shipowners, largely for registration in FoC-countries.<sup>101</sup> The second most important group was Norwegian shipowners, who “bought” more than 21 per cent of the tonnage which left the Norwegian fleet and was registered elsewhere. However, the Norwegian share increased considerably, from less than seven per cent in the 1970s to almost 39 per cent in the period 1980-1986.

Shipowners in Asian countries bought 18,5 per cent of the tonnage sold from Norway. This figure is higher than the 16,8 per cent of the tonnage which was registered in Asia. The reason for this is that some Asian owners, in particular in Hong Kong and Singapore, chose to register their vessels in FoC-countries.<sup>102</sup> However, this effect was to some extent neutralised by the fact that some of the companies that registered their fleets in Asian countries were based outside the region.

Companies based in countries grouped in the “other”-category bought less than six per cent of the tonnage.<sup>103</sup> The “other”-category consists of a motley crew of owners based in countries which were relatively insignificant in an international maritime perspective.<sup>104</sup> The vast majority of the vessels sold to these countries were registered in the country of the owner, although there are some instances of separation of registry and ownership in the case of these countries as well.

Just like the registry of the vessels gives little indication of the actual nationality of the owners, the addresses of some shipping companies do not reveal where the owners are based. These companies have been included in the last category, called tax havens, which consists of companies for which the given address refers to countries with little limitation on foreign ownership. The countries included in this category are largely the same as those included in the FoC-category in the previous example. In addition, Monaco has been defined as a tax

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<sup>100</sup> The figure includes Greece and vessels which were registered outside Norway, but managed by Norwegian-based companies.

<sup>101</sup> The OECD-based companies which bought Norwegian tonnage were located in Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Portugal, Spain, Sweden, the Netherlands, the United Kingdom and the United States.

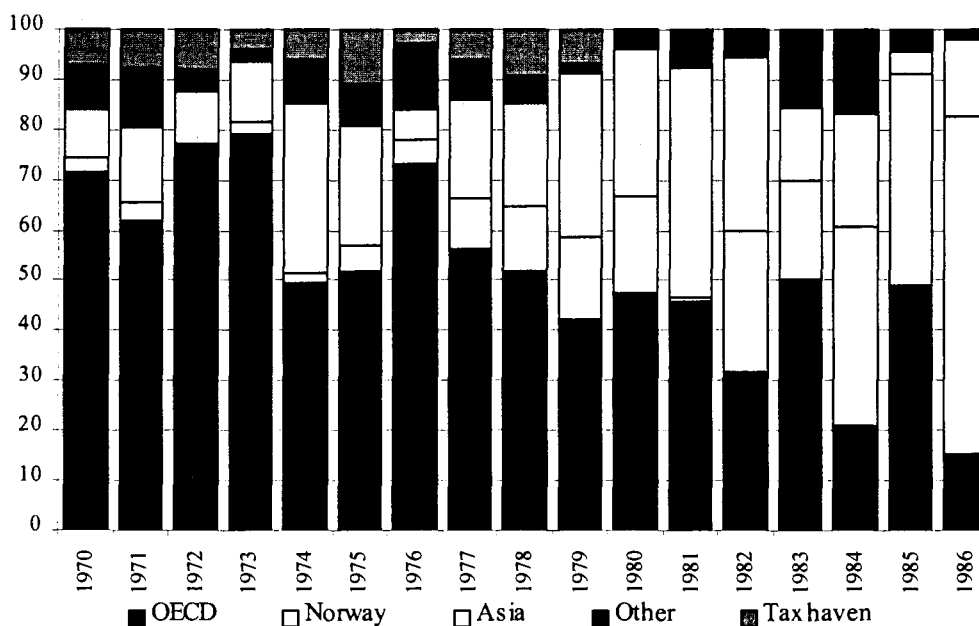
<sup>102</sup> The Asian companies which bought vessels from Norway were located in Bangladesh, China, Hong Kong, India, Indonesia, Pakistan, Singapore, South Korea, Sri Lanka, Taiwan, the Philippines and Vietnam.

<sup>103</sup> The companies were based in Albania, Algeria, Argentina, British West Indies, Bulgaria, Chile, Colombia, DDR, Iraq, Israel, Kuwait, Mexico, New Zealand, Nigeria, Poland, Saudi Arabia, South Africa, Tanzania, Turkey, United Arab Emirates, Uruguay, the USSR and Venezuela.

<sup>104</sup> Although the USSR controlled a considerable fleet, Soviet companies were not particularly important in the international shipping market; see Chrzanowski, Krzyzanowski & Luks, *op.cit.*, 1979, pp. 165-243.

haven. The inclusion of Switzerland in this category could be justified due to the discretion of the country's banking system, but I have chosen to include the Swiss shipowning companies in the OECD-category.<sup>105</sup>

Figure 9.29. Tonnage sold from Norway by actual ownership, 1970-86



The important position of the OECD-countries with regard to the ownership of the vessels sold from Norway is evident from Figure 9.29.<sup>106</sup> The largest recipients were Norwegian companies registering their vessels outside Norway. They purchased slightly more than 30 per cent of the tonnage bought by OECD-companies, followed by British companies, with 19 per cent, and Greek-based shipowners, with 17 per cent of the tonnage. US owners acquired approximately 10 per cent of the tonnage, whereas companies in other OECD-countries, in particular Finland, Germany, Sweden and the Netherlands, bought 23 per cent of the tonnage which was bought by OECD-based companies.

The tonnage which was taken over by Asian owners can broadly be put into three categories. First, Asian companies acquired a considerable amount of relatively old vessels, in particular in the beginning of the period. These vessels were largely intended for transport in regional waters, but do not weigh heavily when tonnage is used as the basis for analysis. Second, relatively modern bulk tonnage was sold to shipowners in Hong Kong and Singapore after the freight market breakdown, often for registry in FoC-countries. Third, several agents with close links to the Norwegian shipping industry operated from Asian countries, in particular Singapore. Moreover, some Norwegian shipowning companies were responsible for the establishment of new companies in this region, and in several instances tonnage was

<sup>105</sup> Some of the companies registered as based in Switzerland were "trusts", one of the favourite institutions utilised by shipowners wishing to avoid a revelation of their actual ownership. The countries included in the "tax havens"-category are Bermuda, Cyprus, Gibraltar, Liberia, Malta, Monaco, Panama and the Lebanon.

<sup>106</sup> The average of the annual shares of the tonnage sold to OECD-countries was approximately two thirds. However, 70,7 per cent of the tonnage sold abroad went to OECD-countries. The discrepancy is a result of the fact that the other groups, in particular Asian countries, had high annual shares around the turn of the decade, when the amount of tonnage sold was relatively low.



transferred from the Norwegian register to these new companies.

### Analysis of the tonnage transferred to Flags of Convenience

The considerable difference between the country of registry and the nationality of the actual owners is largely the result of the use of Flags of Convenience. This aspect of the international shipping sector is analysed in more detail in Chapter Ten. However, the sales database can be used to elucidate the actual ownership of the FoC-fleets in a manner which is usually not possible in connection with aggregate data on the world fleet.<sup>107</sup>

Vessels amounting to almost 17 million grt were transferred from Norway to Flags of Convenience in the period 1970-1986. The database contains information on the actual ownership for 87 per cent of the tonnage which was later registered in FoC-countries. This relates to approximately 89 per cent of the 656 observation of vessels leaving the Norwegian fleet for inclusion in such registries. The results of the analysis varies greatly depending on the period of observations.

Table 9.19. Previously Norwegian-registered tonnage in Flags of Convenience – actual owner

	1970-1979		1980-1986		1970-1986	
	Tonnage grt	Share	Tonnage grt	Share	Tonnage grt	Share
Tax haven	984.135	12,1	7.975	0,1	992.110	5,8
OECD	5.394.620	66,6	7.884.824	88,8	13.279.444	78,2
Greece	612.918	7,6	511.441	5,8	1.124.359	6,6
Norway	737.674	9,1	4.825.064	54,3	5.562.738	32,8
UK	1.407.206	17,4	780.079	8,8	2.187.285	12,9
US	1.569.421	19,4	229.005	2,6	1.798.426	10,6
Other OECD	1.067.401	13,2	1.539.235	17,3	2.606.636	15,3
Asia	1.533.844	18,9	939.747	10,6	2.473.591	14,6
Other	189.553	2,3	48.828	0,5	238.381	1,4

In the 1970s, the majority of the vessels which left the Norwegian fleet and were registered in Flags of Convenience were purchased by OECD-based owners, and this share increased in the period 1980-1986.<sup>108</sup> Companies registered in tax havens received a significant amount of the tonnage in the 1970s, but were nigh on absent in the 1980s. Asian owners were responsible for a significant share of the FoC-tonnage. Most of these vessels were owned by shipowning companies based in Hong Kong and Singapore.<sup>109</sup>

The amount of tonnage owned by shipowners outside tax havens, the OECD and Asia was negligible. Whereas shipowners in the “other”-category bought approximately seven per cent of the tonnage sold from Norway, they owned only 1,4 per cent of the tonnage which was later registered in FoC-countries. This is a result of the fact that the majority of the tonnage owned by shipowning companies in these countries was flying the domestic flag. Whereas

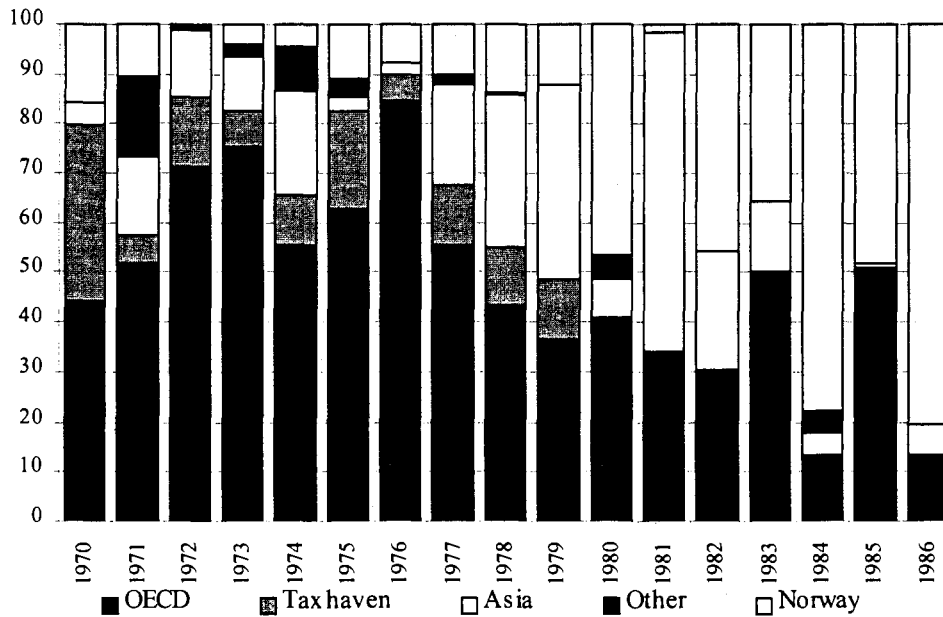
<sup>107</sup> The countries included in the FoC-category are Bahamas, Bermuda, Cayman Islands, Curacao, Cyprus, Gibraltar, Liberia, Malta, Panama, Somalia and the Lebanon. Bermuda, Cyprus, Gibraltar, Liberia, Monaco, Panama and the Lebanon are also included in the “tax haven”-category.

<sup>108</sup> In addition to owners in the countries specified above, owners in Belgium, Canada, Denmark, Finland, Germany, Italy, Portugal, Spain, Sweden and the Netherlands bought tonnage from Norway, and registered these vessels in FoC-countries.

<sup>109</sup> The Asian owners which had vessels registered in FoC-countries were based in Hong Kong, Indonesia, Singapore, South Korea, Taiwan and the Philippines.

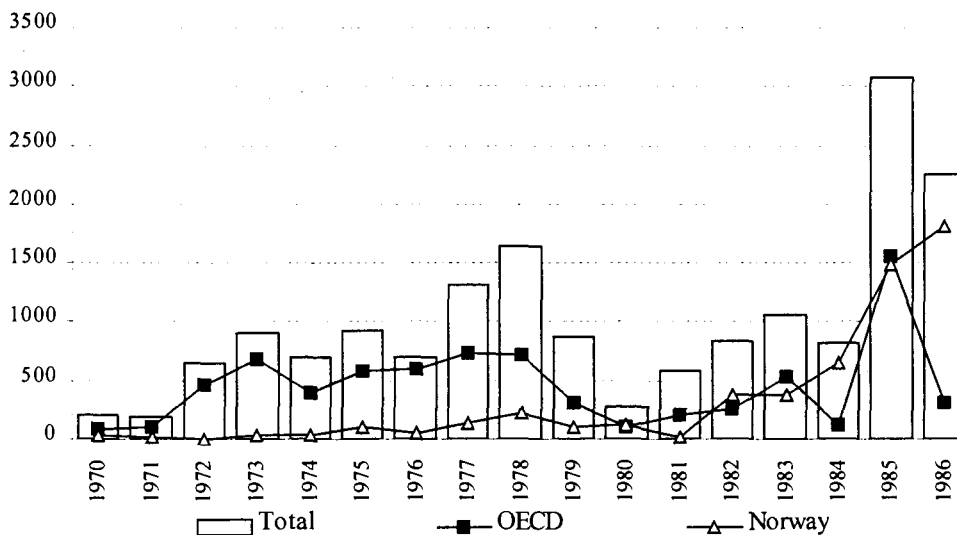
shipowners in 23 countries in the “other”-category bought vessels from Norway, only shipowners in three of these countries registered their vessels in FoC-countries.<sup>110</sup>

Figure 9.30. Flag of Convenience-registered vessels by owner nationality, 1970-86<sup>111</sup>



If the ownership of the vessels which were transferred to Flags of Convenience is broken down on an annual basis, the considerable changes in the importance of the various countries becomes evident. The most striking development is the increasing importance of Norwegian shipowners, a direct result of the changes in the Norwegian flag policy.

Figure 9.31. Real ownership of vessels transferred to FoC-countries, 1000 grt, 1970-86



Norwegian shipowners in fact purchased almost two thirds of the tonnage which was later registered in FoC-countries in the years 1984 to 1986. This was closely related to the

<sup>110</sup> These owners were based in Argentina, Israel and Saudi Arabia.

<sup>111</sup> The figure refers to ships over 5.000 grt deleted from the Norwegian registry and registered in Flag of Convenience-countries. The columns depict the shares of the annual figures, and do not take into account differences in the amount of tonnage registered between various years.

liberalisation of the Norwegian flag policy, and may to some extent be the result of a pent-up pressure which had existed for a number of years.

## **9.5. A More Positive Assessment of the Fleet Development**

Chapter 9.2 and Chapter 9.3 detailed the considerable transformation of the Norwegian shipping industry over a period spanning almost two decades. The first part of the period was characterised by market euphoria and strong expansion of the Norwegian fleet. The second part of the period saw a strong reduction in the number of companies and the tonnage on the Norwegian register. From 1970 to 1987 the number of companies with ships registered in Norway fell by more than two thirds, whilst the mass departure of Norwegian-registered vessels cut down the size of the fleet by more than three quarters relative to the peak year.

The focus on the number of companies and aggregate tonnage registered in Norway from 1970 to 1987 may give an overtly negative picture of the development of the Norwegian shipping industry. On the one hand, the development after 1987 proved the viability of the companies in the Norwegian shipping sector, but this aspect will not be discussed here. Nevertheless, the growth of the Norwegian fleet after the introduction of the Norwegian International Ship Register should be a major topic in any analysis of the recent development of the Norwegian shipping community. On the other hand, the Norwegian shipping industry had to some extent undergone a positive transformation from 1970 to 1987. Large tankers and bulk carriers, for which the market had been disastrously bad for most of the 1970s and 1980s, played a less important role. Rather, Norwegian shipowners had chosen to focus on some of the more advanced segments of the shipping industry. This transformation is the topic of the following analysis.

### **9.5.1. The price and value of shipping tonnage**

The previous analysis has used grt, and to a lesser extent dwt, to illustrate the changes in the Norwegian fleet and the Norwegian shipping industry. However, the use of tonnage as measuring rod to some extent cloaks the sophistication – or lack of such – of the tonnage in question. In the shipping sector, as in most other major industries, there is a strong correlation between the sophistication and quality of the factors of production and their price and value.

The large units which have dominated the tanker and bulk carrier industry – both with regard to tonnage and with regard to attention – are relatively cheap per grt and dwt compared with other types of tonnage. Accordingly, in 1970 the purchase of a 30.000 dwt product tanker was as expensive as the purchase of a bulk carrier twice the size, due to the more sophisticated technology utilised in connection with the construction of the former vessel. Whereas the cost per dwt for the product tanker would be approximately \$370, the cost per dwt for the bulk carrier would be approximately \$175, and the cost per dwt of eg a large tanker would be even lower.<sup>112</sup> The relative newbuilding price of the various types of vessels fluctuated due to changes in the conditions in various market segments.<sup>113</sup> Nevertheless, although a random year might give a faulty impression of the newbuilding price, the pattern was clear – the cost per

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<sup>112</sup> Figures from Table 16 in Fearnley & Egers Chartering Co. Ltd., *Review 1972*, p. 16.

<sup>113</sup> Demand factors play some role as well, as the potential supply of the various types of vessels is limited.

grt or dwt varied considerably depending on the type of vessel ordered.

The pattern behind the price differences can be presented in a relatively simple manner. First, smaller vessels were more expensive than larger vessels, measured in cost per grt or dwt. Second, specialised tonnage was more expensive than standardised tonnage. The difference was particularly large for vessels for which relatively advanced technology was necessary, either in the construction of the vessel or in connection with the vessel's own equipment and attributes.<sup>114</sup> Figure 9.32 shows the cost of a dwt of shipping tonnage of various types.

Figure 9.32. Differences in the price of newbuildings, \$ per dwt, 1972-85<sup>115</sup>

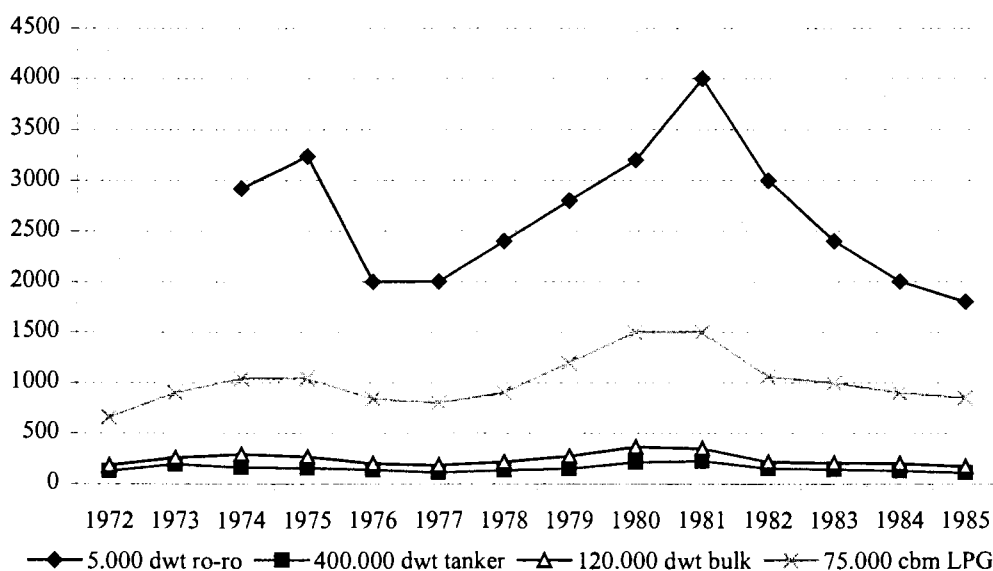
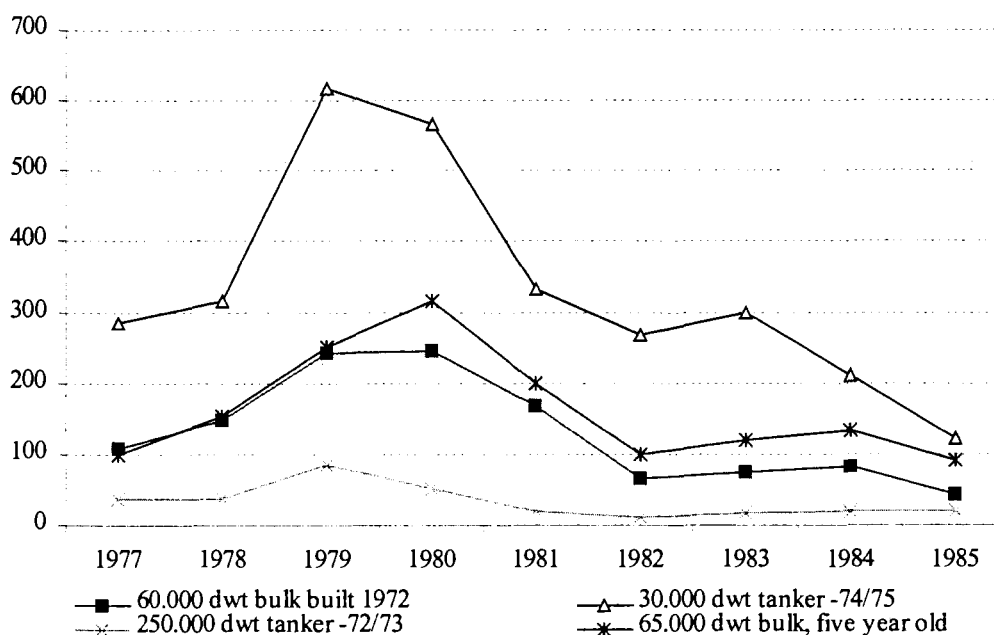


Figure 9.32 reveals both the large variations in the cost of one dwt of shipping capacity between various vessel types and size classes, and the considerable fluctuations in these prices. The same development pattern is evident with regard to the value of second-hand vessels, although this picture is not as clear. On the one hand, the second-hand market is more responsive to changes in the conditions in the freight market, as explained in Chapter Two. On the other hand, the inclusion of age, and in particular the condition of the vessels, as parameters, gives larger variations between vessels of otherwise identical types and sizes.

The price and value of second-hand tonnage can also be presented on a dwt-basis. However, consistent time series are more difficult to come by. The pattern is nevertheless much the same as in the case of newbuildings – smaller vessels are more expensive than larger vessels, and tonnage intended for specialised transport assignments, eg tonnage with purpose-made equipment, is more expensive than more generalised tonnage.

<sup>114</sup> Wijnolst, Niko and Wergeland, Tor, *Shipping*, Delft University Press, Delft, 1996, pp. 67-141, give a good introduction to the various types of ships utilised. Packard, W.V., *Sea Trading: The Ships*, Volume I, Fairplay Publications, London, 1984, lists some 250 different types of merchant ships.

<sup>115</sup> Based on the price of newbuildings as listed in the table "Contracting prices for newbuildings" in various editions of Fearnley & Egers Chartering Co. Ltd., *Review*. The price of a 5.000 dwt ro-ro vessel is only available from 1974 onwards. The basis for the estimates are listed in *Review*.

Figure 9.33. Average values, second-hand vessels, \$ per dwt, 1977-85<sup>116</sup>

The considerable variations between vessels of different types are evident in the development of the second-hand prices as well. The effect of the age of the ships can be seen with regard to the 65.000 dwt and the 60.000 dwt bulk vessels, where one of the lines shows the development of the price per dwt of a five year old vessel, and the other shows the development of the price of a vessel built in 1972.

The differences in the price and the value of the various types of shipping tonnage indicate that aggregate measures based on grt or dwt may give a distorted picture of the actual development of the fleet. When the structure of the fleet is taken into consideration, the underlying figures give a better indication of both the type of shipping undertaken and the value of the vessels.

### 9.5.2. *The structure of the Norwegian fleet – a compensated presentation*

With regard to fleet structure, the Norwegian merchant marine went through two important transformations in the period analysed. The first transformation had been a feature of the development of the Norwegian fleet for most of the postwar period, but was brought to an end in the middle of the 1970s. Large tankers, combination carriers and bulk vessels comprised an increasing share of the Norwegian fleet, and this trend continued until the final vessels ordered during the boom in 1973 were delivered around 1977/1978. The second transformation occurred when the importance of these vessels was reduced from the beginning of the 1980s. As the Norwegian fleet declined, the majority of the tonnage which was disposed of was the large tankers, combination carriers and bulk vessels which had been acquired from the late 1960s onwards. At the same time, Norwegian shipowners channelled much of their investments into more specialised types of tonnage, including gas tankers, chemical tankers and passenger vessels.

<sup>116</sup> Based on the price of second-hand vessels as listed in the tables "Second-hand dry cargo. Average values" and "Second-hand tankers. Average values" in various editions of Fearnley & Egers Chartering Co. Ltd., *Review*. The basis for the estimates are listed in *Review*.

Figure 9.34. Tonnage in the Norwegian fleet, million grt, selected years, 1970-87<sup>117</sup>

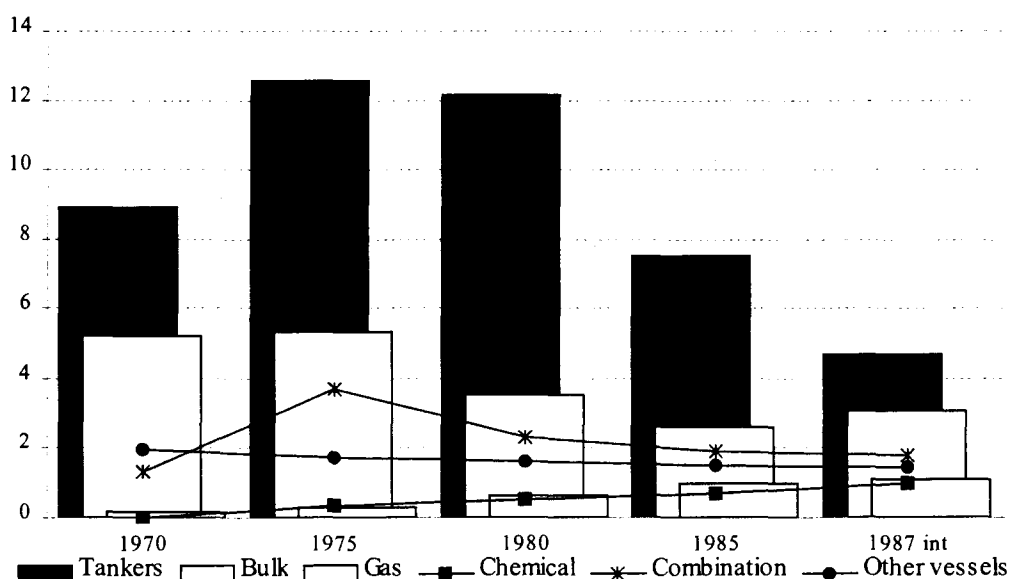
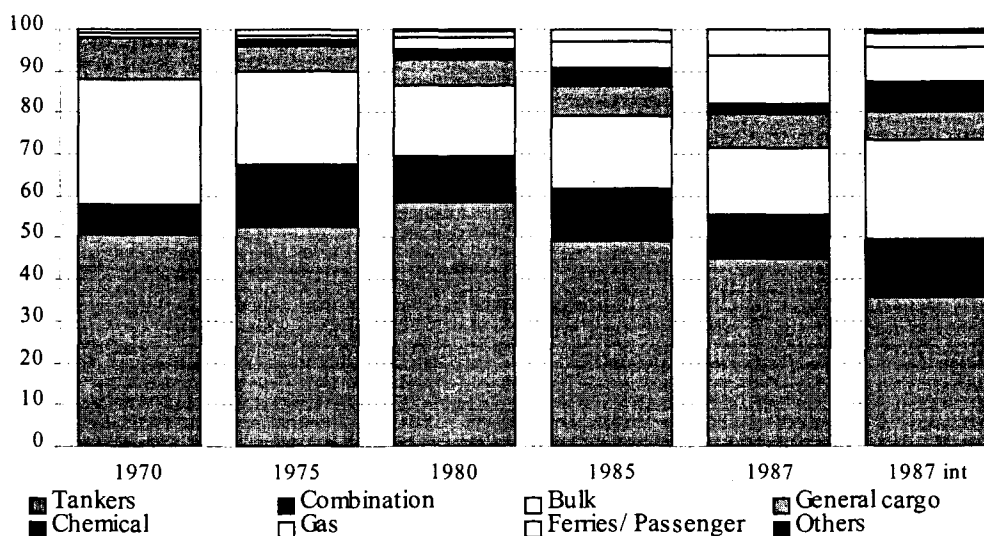


Figure 9.34 shows the structural composition of the Norwegian fleet, based on grt. The tonnage comprised by tankers and combination carriers increased until 1975, but thereafter declined considerably. The amount of tanker tonnage on the Norwegian register in 1987 was more than three quarters lower than it had been in 1975. The figures are even more conspicuous if the peak in 1977 is used as the basis for comparison. The most pronounced growth occurred in the case of chemical tankers, gas tankers and passenger vessels.

Figure 9.35. Composition of the Norwegian fleet, shares of grt, selected years, 1970-87



The changes are also conspicuous when we look at the relative composition of the Norwegian fleet, rather than absolute tonnage figures. Figure 9.35 shows that in the early 1970s, tankers, combination carriers, bulk carriers and general cargo vessels made up more than 98 per cent of

<sup>117</sup> Based on the main database. The figures for 1987 refer to the Norwegian-owned fleet. The reduction of the tanker tonnage mentioned in the text refers to the Norwegian-registered fleet. The figures for "other vessels" include passenger vessels, general cargo vessels and vessels which do not fit into the other categories. Drilling rigs are excluded from the analysis in this subchapter.

the Norwegian fleet. Seventeen years later the figure had fallen to approximately 80 per cent, largely as a result of the growing proportion of the Norwegian fleet constituted by gas carriers, chemical tankers and passenger vessels.

The two figures presented above indicate that there was a structural transformation of the composition of the Norwegian fleet which is not evident from the aggregate tonnage figures. When the figures are considered in relation to the development of prices and values as shown in the previous subchapter, it is evident that the fall in the value of the Norwegian fleet, measured per grt, must be smaller than the aggregate figures indicate. This can be inferred by the increasing importance after 1975 of vessels which are relatively expensive per unit of tonnage.

There is no universal measure of the value of shipping tonnage of various types. However, in connection with the building of vessels, there have been attempts at adjusting for the differences in construction costs. An OECD working party developed a measure in order to establish comparable figures for the level of activity in the shipbuilding industry. This measure, called *compensated gross tonnage* is based on the gross registered tonnage of the vessels, but includes a coefficient which adjusts for the need for labour relative to a given "standard vessel".

The term *cgrt* (compensated gross register tonnage) takes into account some of the features which affect the price differences shown in Figure 9.32, and the system of conversion coefficients is relatively detailed, depending on both the type and the size of the vessel. Although the method is intended to show structural traits in the shipbuilding industry, it may be applied to the shipping sector as well.

The following analysis is based upon the assumption that the compensated gross tonnage can be used to evaluate the changes in the Norwegian merchant marine. Although this measure is relatively crude, it gives a better presentation of the most important structural development traits than analyses based only on grt or dwt. A conversion of the data on the Norwegian fleet from grt to cgrt has two important implications. First, the importance of the large tankers, bulk carriers and combination vessels decreases, as the coefficients utilised for these vessels are relatively low. Second, the decline of the Norwegian fleet becomes considerably less conspicuous, as a result of the fact that vessels with a low conversion factor were largely replaced by vessels with a high conversion factor.

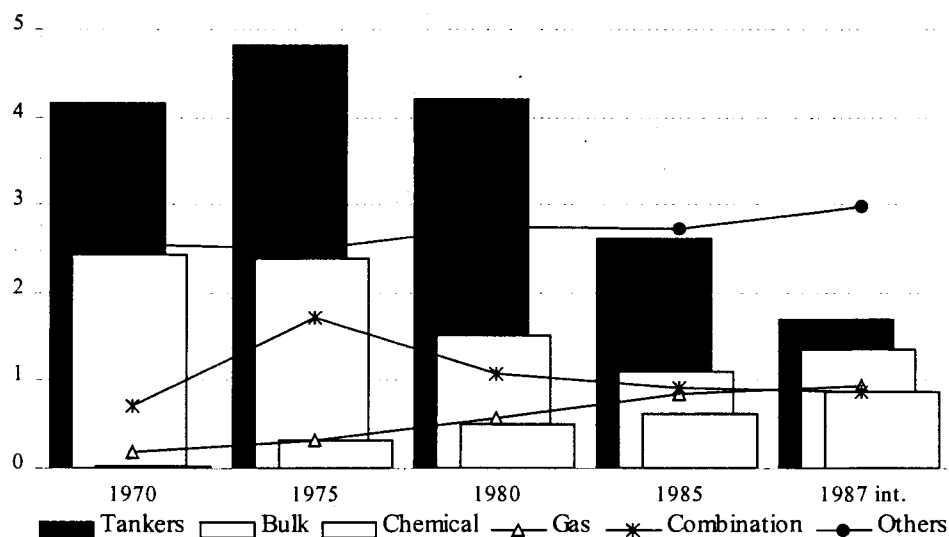
Table 9.20 shows the value of the conversion factors for the various types of vessels and sizes. The large effects of a conversion may be illustrated by the extreme examples in the case of a one million grt fleet. If this fleet consisted solely of mammoth tankers, its compensated tonnage would be 300.000 cgrt. On the other hand, if the fleet consisted solely of specialised vessels, eg tugs, offshore supply vessels and drilling ships, its compensated tonnage would be five million cgrt. Indeed, the compensated size of the fleet would be doubled if it consisted of product carriers in the 30-50.000 dwt range rather than crude carriers above 250.000 dwt.

Table 9.20. Conversion factors from OECD, late 1970s<sup>118</sup>

Vessel type/size	CF	Vessel type/size	CF	Vessel type/size	CF	Vessel type/size	CF
Crude oil tankers		Bulk carriers		Reefers		LNG	
10-30.000 dwt	0,65	10-30.000 dwt	0,60	4-10.000 dwt	2,00	4-10.000 dwt	1,60
30-50.000 dwt	0,50	30-50.000 dwt	0,50	10.000 dwt +	1,40	10-30.000 dwt	0,90
50-80.000 dwt	0,45	50-100.000 dwt	0,45	Small tankers/ bulk carriers		30-50.000 dwt	0,70
80-160.000 dwt	0,40	100.000 dwt +	0,40	4-10.000 dwt	1,80	50.000 dwt +	0,50
160-250.000 dwt	0,35	Combination carriers		Full-container / fast liners		Ro-ro / car carriers	
250.000 dwt +	0,30	10-30.000 dwt	0,65	4-10.000 dwt	1,4	4-10.000 dwt	2,00
Product carriers		30-50.000 dwt	0,55	10-30.000 dwt	0,90	10.000 dwt +	1,60
10-30.000 dwt	0,80	50-100.000 dwt	0,50	30.000 dwt +	0,80	Ferries/ pass.	
30-50.000 dwt	0,60	100.000 dwt +	0,40	LPG and chemical		All sizes	2,50
50.000 dwt +	0,50	General cargo		4-10.000 dwt	1,60	Other non-cargo	
		4-10.000 dwt	2,00	10-30.000 dwt	1,00	All sizes	5,00
		10.000 dwt +	1,40	50.000 dwt +	0,80		

A conversion of the tonnage in the Norwegian fleet for selected years in the period 1970-1987 yields dramatically different results from a straightforward addition of the grt or dwt of the various vessel groups. Figure 9.36 is based on the same data as Figure 9.34. However, the vessels have been assigned to their various size classes, measured by dwt, and the compensated gross tonnage has been calculated by means of the relevant grt figures.

Figure 9.36. Tonnage in the Norwegian fleet, million cgrt, selected years, 1970-87



The most conspicuous element in Figure 9.36, relative to Figure 9.34, is the high importance of the “other vessels”-category, which consists of general cargo vessels, passenger ships and ferries, as well as specialised tonnage. By 1985, the compensated gross tonnage of this group exceeded the tankers, despite the fact that the tankers were more than three times as large when grt was utilised. The development of the other types will be discussed later.

The most important change when cgrt, rather than conventional tonnage measures, is used, is the overall development of the fleet. The Norwegian-registered fleet, measured in grt, fell by 62,2 per cent from 1970 to 1987 and more than 72 per cent from 1975 to 1987.

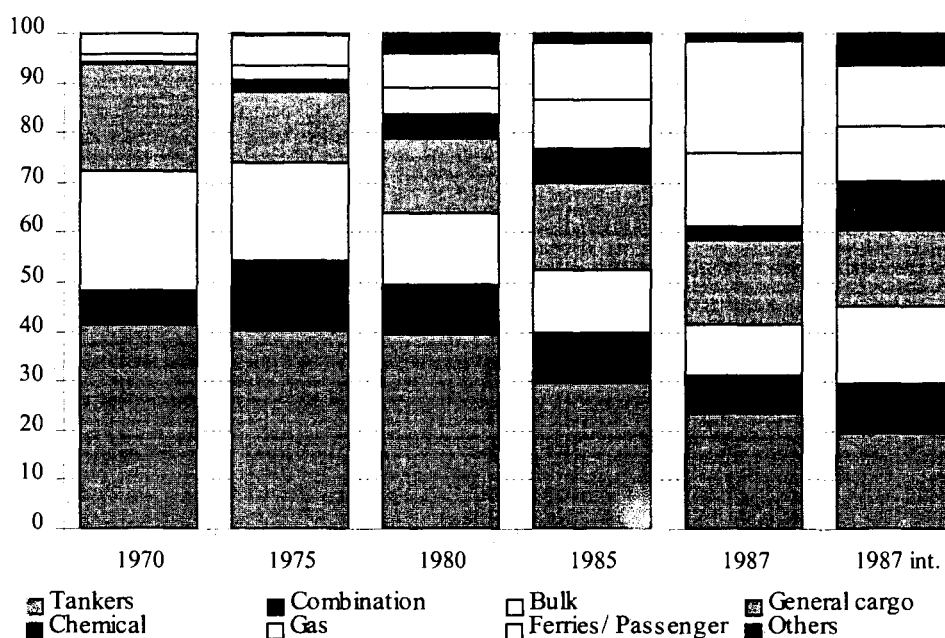
<sup>118</sup> The term “CF” refers to the conversion factors, which have been taken from Norges Offentlige Utredninger (1978:13) *Skipsfartsnæringen* [The shipping sector], pp. 17-18.



Measured in cgrt, the decline is reduced to 55 and 62,5 respectively. Accordingly, the conventional figures may be seen as overstating the reduction of the Norwegian fleet, due to the fact that structural changes are not taken into account.

The utilisation of compensated measures indicates that the downfall of the Norwegian shipping sector was less pronounced than indicated by ordinary analyses. The trend is also evident in connection with the Norwegian-owned fleet. Measured in grt, the decline was 25,6 per cent from 1970 to 1987 and 45 per cent from 1975 to 1987. Measured in cgrt, the fleet was reduced by 27,6 per cent relative to 1975, but only 13,4 per cent from 1970 to 1987. Moreover, the cgrt-adjustment may overstate the actual situation in 1970, a fact which will be explored later. If this is the case, the apparent decline in the Norwegian shipping sector from 1970 to 1987 can be disregarded when the structural changes in the fleet are taken into account.

Figure 9.37. Composition of the Norwegian fleet, shares of cgrt, selected years, 1970-87



Based on cgrt, the four most important groups – tankers, combination carriers, bulk carriers and general cargo vessels – comprised 96 per cent of the fleet in 1970, rather than more than 98 per cent, as in Figure 9.35. The largest changes, however, occur in the latter part of the period. Measured in grt, the four tonnage groups mentioned above made up 80 per cent of the fleet in 1987. When the figures are converted to cgrt, the share is less than 60 per cent for Norwegian-registered vessels, and slightly above 60 per cent for all Norwegian-owned vessels.

Whereas ferries and passenger vessels made up six cent of the Norwegian-registered fleet in 1987 when grt is used as the basis, these vessels in fact made up almost a quarter of the fleet when cgrt is used as the basis for comparison.<sup>119</sup> This can be explained by the fact that the conversion factor for passenger vessels is relatively high. Similarly, the largest reduction occurs in the case of tanker and combination carriers, with a relatively low conversion factor.

<sup>119</sup> However, due to the fact that the majority of the ferries and passenger vessels were registered in Norway, the share decreases when foreign-registered vessels are taken into account.

By a conversion from grt to cgrt, the share of these vessels falls from 70 to 50 per cent in 1980 and from 62 to 40 per cent of the fleet in 1985.

The increased sophistication of the Norwegian fleet can be shown by means of the development of the average conversion factor across time. Maybe surprisingly, the average conversion factor fell between 1970 and 1975. Two factors can account for this. On the one hand, there was a large inflow of mammoth tankers and combination carriers, ie vessels for which the conversion factor is relatively low. On the other hand, the Norwegian fleet in 1970 consisted of a considerable amount of older, relatively small cargo vessels. In 1970, more than 130 general cargo vessels were registered, and average age of these vessels was more than 14 years. By 1975 the majority of these vessels had been disposed of. As the conversion factor does not take into account age, the fact that this tonnage was relatively old is not reflected in the figures. This implies that the use of cgrt as an indication of value and replacement cost may actually overestimate the situation in 1970.

Table 9.21. Tonnage and conversion factors, selected years, 1970-87

	1970	1975	1980	1985	1987	1987 int.
Sum group cgrt	10.042.041	12.026.157	10.624.825	8.854.319	4.509.886	8.699.692
Sum group grt	17.476.185	23.656.915	20.786.556	15.227.378	6.662.724	13.098.975
Conversion factor	0,575	0,508	0,511	0,581	0,677	0,664

The difference between the conversion factors of the Norwegian-registered and Norwegian-owned fleet in 1987 can partly be explained by the fact that large tankers were an attractive object with regard to flagging-out. Moreover, for some of the domestically registered vessels, operating in certain niches, the advantage of operation under the relatively prestigious Norwegian flag may have been a reason for not flagging out. This can explain why the owners of the passenger vessels, which were largely engaged in the cruise industry, chose to maintain the Norwegian registry.

Table 9.21 shows that the sophistication of the Norwegian fleet, measured in terms of the conversion factor from grt to cgrt, increased over the period analysed. Accordingly, an evaluation of the Norwegian fleet measured in cgrt will give less negative results than an analysis based on grt or dwt. Measured in grt, the Norwegian-registered fleet declined by more than 70 per cent from 1975 to 1987. This gives an extremely gloomy depiction of the development of the Norwegian fleet. For a more positive assessment, we might compare the tonnage in 1975 with the Norwegian-owned fleet in 1987, and base the comparison on cgrt rather than grt. In that case, the reduction in the Norwegian fleet is 27,7 per cent, rather than 71,8 per cent.

The analysis presented above does not take into account the age of the vessels in the Norwegian fleet. By 1987 the average age of the vessels in the Norwegian fleet was approximately eight and a half years, corresponding to the situation in 1970.<sup>120</sup> The average age peaked at approximately nine years in 1973, but fell to slightly more than seven years in 1981. However, after 1981 the average age of the vessels increased due to the limited

<sup>120</sup> Based on an average of the age of all vessels. The fact that older vessels generally were smaller implies that an average taking into account the size of the vessels would yield different results.

contracting activity of Norwegian shipowners.

The differences in the development of the Norwegian fleet based on grt and cgrt reflect the structural changes in the Norwegian shipping industry. The state of the shipping industry in 1987 was not as bad, compared with previous years, as comparisons based on grt or dwt might indicate. When the Norwegian fleet peaked in 1977, the majority of the fleet consisted of large tankers, bulk carriers and combination carriers, which operated in the most competitive and volatile parts of the shipping industry. Indeed, these vessels were engaged in the segments of the shipping sector which was most severely affected by the crisis, and the value per unit of tonnage was relatively low.

Ten years later the mammoth tankers, combination carriers and bulk vessels were still important, although a large number of these vessels had been disposed of. However, the Norwegian-owned fleet by this time also consisted of a relatively large portion of technologically advanced vessels which operated in niches of the shipping market where the potential for profit was better than in the bulk sector. Moreover, the value of these vessels, per unit of tonnage, was considerably higher than for the vessels which had previously dominated the Norwegian fleet.

The structural transformation implied that the Norwegian fleet became increasingly sophisticated. Parallel with the increased sophistication, there was an increase in the diversification of the Norwegian fleet. Whereas the Norwegian fleet in 1970 largely consisted of general cargo vessels and ships transporting dry and liquid bulk cargoes, the situation in 1987 was characterised by a higher degree of activity in several specialised segments. Norwegian shipowners owned considerable fleets of passenger vessels, chemical and gas tankers and specialised vessels. Moreover, Norwegian shipowners had diversified into the offshore industry, owning considerable shares of the world's supply vessels and drilling rigs, a fact which has not been accounted for in the previous analysis.

The increased diversification of the Norwegian shipping industry implies that the agents to a smaller extent than previously would be affected by dramatic changes in one of the market segments. The breakdown of the tanker market after 1973 had disastrous consequences for the Norwegian shipping sector due to Norwegian shipowners' reliance upon this segment. The advantage of the increased diversification was that despite the collapse of one market segment, Norwegian shipowners operating in other parts of the shipping sector would remain relatively unaffected. The Norwegian shipping industry as a whole would thus be less vulnerable. Moreover, several shipowners operated in niches where the price of the transport service was not necessarily the dominant determinant of their competitive abilities, and where the freight rates were more stable.

## **9.6. Summary**

The database provides a good starting point for an analysis of several of the development traits in Norwegian shipping which are not evident from aggregate data. The analysis in this chapter has shown that there were large structural changes in the Norwegian shipping sector, with regard to regional distribution, the importance of various ports and the concentration among and organisation of shipping companies.

The geographical distribution of the Norwegian fleet changed dramatically from 1970 to 1987. The fleets of several small ports disappeared, and the number of Norwegian ports with vessels larger than 5.000 grt was almost halved. The period saw the virtual elimination of some of the historically most important Norwegian ports, including Tønsberg and Arendal. Oslo consolidated its position as the main centre of Norwegian maritime activity, whereas the Oslofjord-ports' share of the fleet plunged from 14 to four per cent. The shipowners in Western Norway and on the South Coast maintained their share of the Norwegian-owned fleet from 1970 to 1987. However, even within the regions there were large variations. Whereas the Arendal-fleet had virtually disappeared by 1987, the shipowners in neighbouring Grimstad had managed to increase their tonnage from 1970 to 1987.

The period was also characterised by a strong reduction in the number of Norwegian shipping companies and an increase in the concentration of the Norwegian fleet. The number of companies with ships registered in Norway was reduced by more than two thirds, from 176 in 1970 to 56 in 1987. In the period from 1970-1977 the companies abandoning their operations were largely smaller companies, and the changes were not larger than those which could be expected in a dynamic industry. In the latter part of the period, however, the development was considerably more grave. Several companies which had controlled considerable fleets in the 1970s chose or were forced to dispose of all their tonnage and wind up their shipping engagements. More than two thirds of the companies registered in 1977 had no tonnage left on the Norwegian register ten years later.

Parallel with the reduction in the number of shipping companies, there was a change in the organisation of vessel ownership. The share of the Norwegian fleet owned by limited liability companies and general partnerships declined, whereas the share of the fleet owned by co-ownerships and limited partnerships increased.

One of the elements investigated in this chapter is the fate of the vessels which left the Norwegian fleet. Over the period analysed, the average age of these vessels sold abroad declined, whereas the average size increased considerably. The analysis shows that the majority of the vessels went on to be registered in Flag of Convenience-countries. However, the actual owners of these vessels were largely companies in the OECD-countries. From 1982 onwards a large portion of the tonnage sold abroad remained under Norwegian management.

In analyses of national fleets and international market shares, grt and dwt are the most common units of analysis. In Chapter 9.5 an alternative view of the structure and development of the Norwegian fleet was presented. This analysis, based on compensated gross registered tonnage, takes the sophistication of the tonnage into account. Although originally intended for calculations of shipbuilding capacity, cgrt may be used to analyse the structural composition of existing fleets.

The analysis based on cgrt shows that after 1975 the vessels in the Norwegian fleet became increasingly sophisticated. The importance of large tankers and bulk vessels was reduced, whereas passenger vessels, gas tankers, chemical tankers and other types of specialised vessels became more important. When cgrt is used as the basis of analysis, the decline of the Norwegian fleet becomes considerably less dramatic, as the strong reduction in the amount of tonnage is partly countered by an increase in the quality of the fleet.

Accordingly, whereas the decline of the Norwegian-owned fleet from 1975 to 1987 is almost 45 per cent based on grt, the reduction in cgrt is slightly less than 28 per cent.

The use of cgrt as measuring rod neutralises some of the most dramatic features of the development of the Norwegian fleet. However, it does not hide the fact that the shipping crisis had large consequences for the Norwegian shipping industry. The Norwegian-registered and Norwegian-owned fleets dwindled, Norway's importance in the international shipping market was drastically reduced and the shipping sector lost its hegemonic position in the Norwegian economy. These aspects are analysed in more detail in Chapters Six and Ten.

It is difficult to evaluate the extent to which the development traits presented in this chapter would have occurred in the absence of the shipping crisis. Some of the features, eg the increasing concentration at the port and company levels, reflect long-term trends. However, the shipping crisis undoubtedly amplified this development – a large share of the companies which abandoned their operations can be seen as direct casualties of the crisis. The demise of these companies reinforced the trend towards greater concentration, and also led to the deletion of several previously important ports.

The strong reduction of the Norwegian fleet can be seen as an effect of the crisis. Moreover, the changes in the structure of the fleet, characterised by increased diversification and concentration, were also influenced by the freight market breakdown. The low freight rates in the markets for tanker and bulk transport made it difficult for Norwegian shipowners to compete, and forced several owners to dispose of their vessels. Moreover, Norwegian shipowners were encouraged to find new and more profitable niches. In many ways the shipping crisis led to the fall of a large share of the giants, both in terms of vessels and companies. Simultaneously, some of the shipping companies embraced new market opportunities, within eg industrial shipping, the cruise industry and the offshore sector. These market segments provided a good basis for Norway's continuing importance as one of the world's leading maritime nations.

## CHAPTER TEN

# THREE STRUCTURAL TRANSFORMATIONS

The development of the early 1970s heralded a new epoch in the postwar development of international shipping. The demand for shipping services, which had grown substantially in the 1950s and the 1960s, stagnated and after 1979 actually decreased. The demand development resulted in a massive reduction of freight rates and vessel values. Unprecedented levels of new tonnage entering the depressed market initially amplified the imbalance and led to slow steaming and high lay up-rates. In the early 1980s even a reduction of the world fleet was insufficient to neutralise the effects of the decreasing demand.

The previous presentation of the causes and effects of the international shipping crisis is a convenient backdrop for an analysis of three important transformations that took place in the maritime industry and the Norwegian economy during the 1970s and 1980s. On the international level, the structural development of the shipping industry was characterised by the growth of the Emerging Maritime Nations and the corresponding reduction in the importance of the Traditional Maritime Nations. This transformation embodies two features. First, the increase of the Flag of Convenience-fleets (FoC-fleets) continued, as the share of vessels registered in open registries increased from 18 per cent in mid-1970 to 27,5 per cent in mid-1986. Second, developing countries increased their share of the world fleet from 7,7 per cent to 20,3 per cent over the same period.<sup>1</sup> The share of the world fleet which was registered outside the traditional registries of the industrial countries thus doubled, from a quarter in mid-1970 to half in the middle of the next decade. One of the aims of this chapter is thus to answer the question “*How did the structure of the shipping industry change during the shipping crisis, and which factors can explain this development?*”

On the national level, there was a simultaneous transformation of the Norwegian economy, reflecting both the international development traits and factors which were specific to Norway. Parallel with the reduction of the Norwegian fleet, the shipping sector lost its hegemonic role as the most important export sector. The oil industry replaced shipping as the major earner of foreign exchange. However, the development of the Norwegian oil industry did not occur independently of the development in the shipping sector. Rather, Norwegian shipowners played a key role with regard to the investments necessary for oil exploration on the Norwegian continental shelf. They invested heavily in oilrigs, owned a large share of the supply vessels engaged in the Norwegian oil sector and in some instances also invested directly in oil exploration rights. Moreover, the reduction of the Norwegian-registered fleet occurred concurrently with an increase in Norwegian ship management. By taking over the operation of ships legally owned by foreign interests, Norwegian shipping agents succeeded in

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<sup>1</sup> Sletmo, Gunnar K., “Shipping’s fourth wave: ship management and Vernon’s trade cycles”, *Maritime Policy and Management*, Volume 16, No. 4, 1989, p. 299 – the figures deviate from those presented later due to differences in the definition of Flags of Convenience. Due to differences of this type, the figures should be seen as indicative rather than absolute measures. It has been claimed that the term “Flags of Convenience” should be avoided, as it is a value-laden term. Supporters of this institution prefer to use the term “Flags of Necessity”. In the following analysis I have chosen to use the former term, as it is considerably more common than the latter. This is a conscious choice on my part, but it is a choice based on clarity of presentation rather than politics.

utilising their competence in the shipping industry without owning the vessels themselves. Another aim of this chapter is to describe and analyse these development traits in the Norwegian economy and the Norwegian shipping sector.

This chapter is based on the assumption that the structural traits – the increased fleets of the Flags of Convenience, the Norwegian shift from shipping to oil and the internationalisation of Norwegian shipping – to some extent are related. On the one hand, the structural transformation of the international shipping industry involved an apparent reduction of the activity of the Traditional Maritime Nations. This was partly the continuation of a trend that had been evident in most of the postwar period. However, the development accelerated from the early 1970s onwards. On the other hand, the shipping disinvestment of Norwegian shipowners can not be treated as isolated from the international development. Rather, differences in expected returns between the shipping sector and the oil sector can explain the Norwegian shipowners' foray into the offshore sector.

The negative development of the international shipping market had three important implications. First, there was a change in the international distribution of the world fleet, influenced by the low freight rate level and the reduced profits of shipping investments. The depressed state of most parts of the shipping industry paved the way for the entry of non-Traditional Maritime Nations and the increased use of low cost Third World labour in FoC-fleets. Second, the low returns from the shipping sector following the freight market breakdown can explain the increased attractiveness of alternative investments. This was particularly evident in Norway, due to the opportunities presented to Norwegian shipowners in the North Sea. Finally, the shipping crisis prompted changes in shipping policy and business strategies which facilitated the internationalisation of Norwegian shipping.

### 10.1. The “Second” Shipping Crisis

The scope of the study has to be extended to fully facilitate the analysis of the three structural transformations. If the analysis is based on the previous definition of the shipping crisis, where the temporary freight rate increase in 1978/79 marked the end of the crisis, the structural changes will be less pronounced than if we take into account the development in the early and mid 1980s. The analysis thus focuses on the development from the early 1970s until 1987, which marked the end of the decline of the Norwegian-registered fleet. By 1987 new mechanisms, eg the establishment of “open registries” in Traditional Maritime Nations, led to another shift in the distribution of the world fleet. Moreover, although booms of the type witnessed in the 1960s and 1970s did not appear, the shipping market had regained some of its momentum, and the demand for shipping services increased from 1985 onwards.

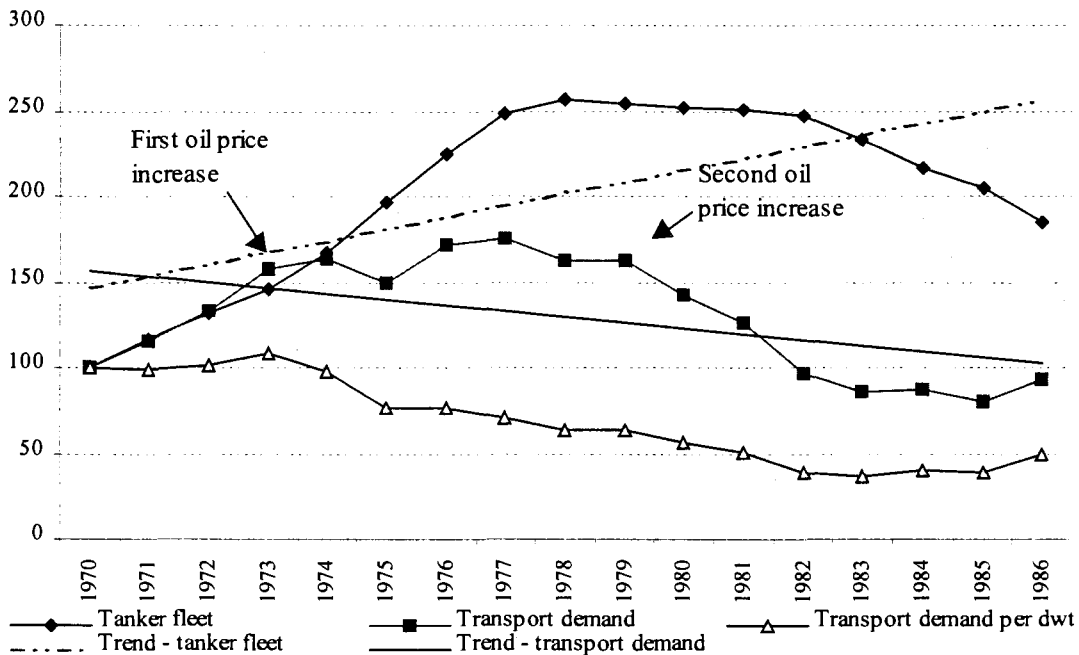
It may be convenient to use the division offered by Norman and Wergeland and consider the adverse conditions in the shipping sector as a manifestation of two different crises.<sup>2</sup> The first crisis was caused by insufficient demand and a dramatic increase of tonnage,

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<sup>2</sup> Norman, Victor D. and Wergeland, Tor, *Stortankmarkedet frem til 1985 – En analyse av markedet for tankskip over 200.000 dwt* [The market for large tankers until 1985 – An analysis of the market for tankers larger than 200.000 dwt], Center for Applied Research Report No. 5/1981, Norwegian School of Economics and Business Administration, Bergen, 1981, p. 1.

and has been analysed in detail previously in the thesis. The second crisis appeared as a result of the absolute decline of oil consumption and transport following the strong increase in the oil price in 1979/80. The movement of crude oil in 1985 was slightly more than 4.000 billion ton-miles, which was less than 40 per cent of the volume in the peak year 1977.<sup>3</sup> As a result of the second oil price increase, the imbalance between supply and demand in the market for tanker transport was aggravated.

Figure 10.1. Tanker demand and supply (1970=100), 1970-86<sup>4</sup>



The different bases of the two crises are evident from Figure 10.1. In the first crisis, shipowners were partly to blame for the malaise, as the imbalance between tonnage demand and supply to a considerable extent was a result of their aggressive contracting. Moreover, the adverse development of the demand side was a result of demand growth that was lower than anticipated, rather than falling. The demand for tanker transport, which had increased steadily in the postwar period, levelled off.

In the second crisis, the development of the world fleet plays a less prominent role. The world tanker fleet was reduced after 1978, and the increased scrapping from 1982 actually contributed positively to a reduction of the potential tonnage surplus. However, at the heart of the problems lay a significant reduction of shipping demand. The fall in the demand for tanker transport was so large that even a decrease in the world fleet was insufficient to bring about anything resembling balance between supply and demand. The line showing transport demand per dwt in Figure 10.1 illustrates this problem. Transport demand per dwt continued to fall until 1982, when it stabilised, indicating a proportionate reduction of tanker demand

<sup>3</sup> There was a small increase in the demand for transport of oil products in the period 1977-1985. Nevertheless, even when this modest increase is taken into account, total seaborne oil movements were more than halved over the period.

<sup>4</sup> Figures adapted from the tables of world transport demand and world fleet in Fearnley & Egers Chartering Co. Ltd., *Review*, various issues.



and supply. However, the amount of oil transport undertaken by each unit of tonnage was more than halved compared with the situation in the early part of the previous decade.

Figure 10.2. Tanker tonnage imbalance, million dwt, 1976-89<sup>5</sup>

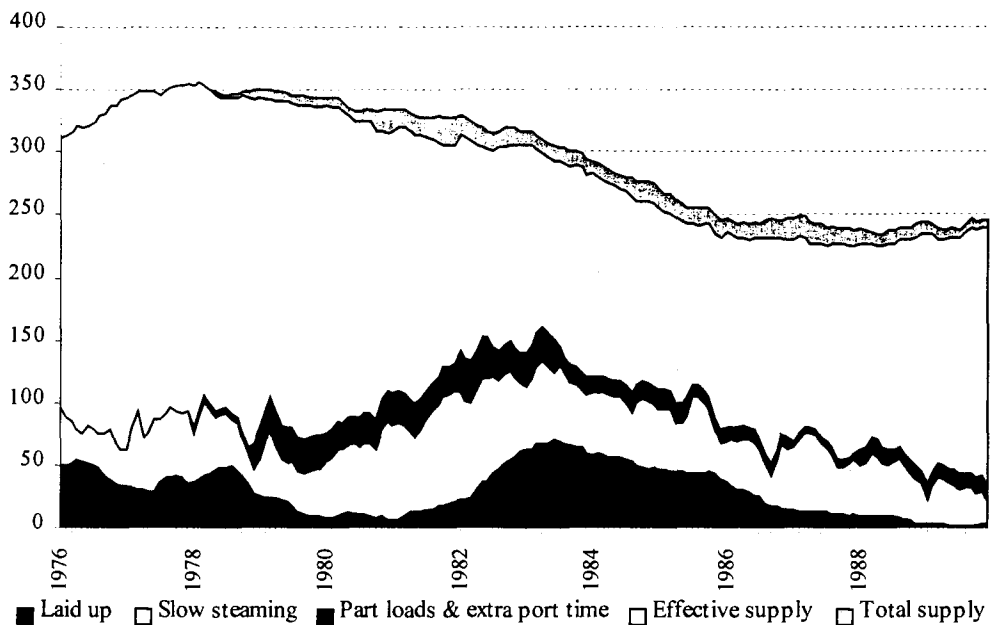
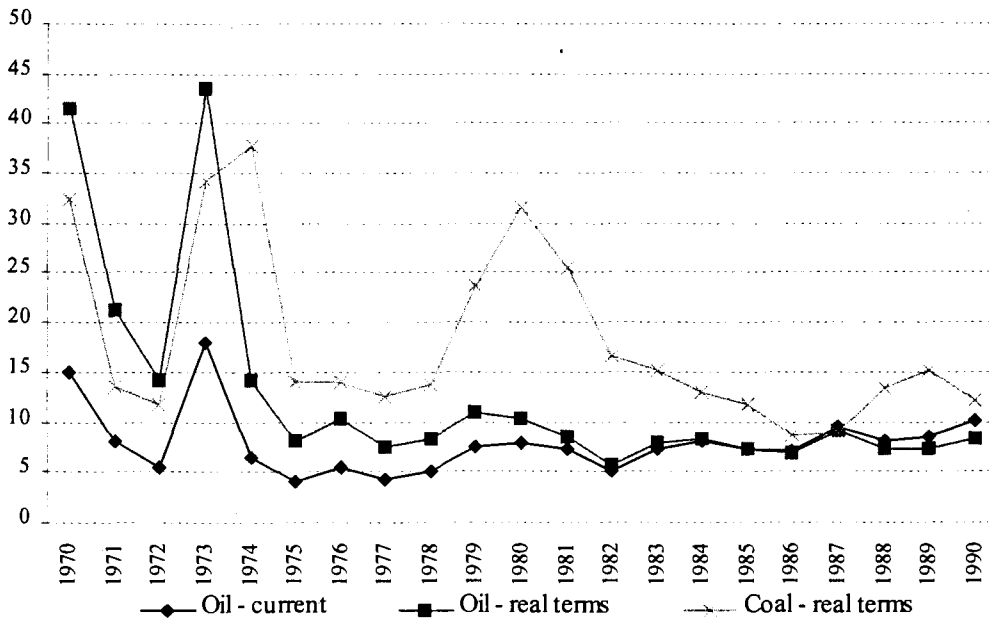


Figure 10.2 reveals the increasing imbalance between tanker demand and supply at the beginning of the 1980s. In April 1983, which represented the abyss of the crisis, total supply of tankers and combinations carriers was 310 million dwt, whereas basic demand was 137 million dwt. The actual surplus then amounts to 173 million dwt, indicating an overcapacity of more than 100 per cent. This implies that more than two vessels were available for every cargo of oil. Approximately a quarter of the surplus was reduced through the utilisation of tonnage for storage purposes, the acceptance of part cargoes and extra waiting time in ports. Of the effective surplus of 134 million dwt, more than a quarter was laid up and the rest neutralised through slow steaming.

The drastic changes in the tanker market following the two peaks in the beginning of the 1970s, and the continuation of the crisis into the 1980s are clearly illustrated by the development of freight rates. Despite a reduction in the amount of tonnage available from 1978 onwards, the freight rates did not recover, and the booms of the early 1970s were not repeated.

<sup>5</sup> Based on monthly figures taken from Jenkins, Gilbert, Stopford, Martin and Tyler, Cliff, *The Clarkson Oil Tanker Databook*, Clarkson Research Studies, London, 1993, Tables III-12 to III-25. Effective supply is measured as total tanker and combination carrier tonnage available minus tonnage used for storage. At the peak in late 1981, 22 million dwt were used for storage purposes, implying that effective supply was almost seven per cent lower than actual supply.

Figure 10.3. Freight rates in current and real terms, dollar per ton, 1970-90<sup>6</sup>

The crisis of the 1980s was different from the situation of the 1970s, as demand side developments overshadowed the effects of the supply side. In the 1970s a large amount of tonnage was launched in a market characterised by reduced growth. In the first part of the following decade the size of the world fleet was relatively stable, with the decrease in liquid bulk carriers outweighing the growth of other types of tonnage. However, due to the fact that the demand for crude oil transport was more than halved in the period 1980-1985, the total demand for seaborne trade, measured in ton-miles, was reduced by approximately 25 per cent.<sup>7</sup>

## 10.2. Structural Changes in International Shipping

There were large changes in the composition of the world fleet in the period after the freight rate plunge. One significant development trait was the continuing growth of vessels registered in “open registries”, or Flags of Convenience, such as Bahamas, Liberia, Panama, etc. More important for the shift in maritime dominance, however, was the increased participation of some relatively new entrants in the maritime sector. These countries, often dubbed Emerging Maritime Nations, were non-OECD developing countries, and it was especially Asian countries which increased their share of the world fleet. The increase in the fleets of the Emerging Maritime Nations was particularly prominent in the first half of the 1980s, by which time the long-term effects of the freight market breakdown had begun to take their toll. By 1987 the whole structure of the maritime industry had been transformed, as the hegemony of

<sup>6</sup> The figures are annual averages taken from Jenkins, Stopford & Tyler, *op.cit.*, 1993 and Fearnley & Egers Chartering Co. Ltd., *Review*, various issues. They have been deflated by the American wholesale price index, with 1985 as the base year. The graphs depicting oil are spot rates on the distance Middle East-West (Northwest Europe or US East Coast) The graphs depicting coal refer to a 50.000 dwt vessel on the distance Hampton Roads-Japan. As the graph is based on averages, some fluctuations are concealed. For instance, the oil rates increased from \$3,5 per ton in January 1987 to almost \$11 per ton in the middle of the year.

<sup>7</sup> Calculated on the basis of Fearnley & Egers Chartering Co. Ltd., *Review 1986*, Oslo, 1987, p. 30.

the Traditional Maritime Nations, represented by the OECD-registries, had been successfully challenged by FoC-countries and Emerging Maritime nations.

### 10.2.1. The reduced importance of Traditional Maritime Nations

In most of the postwar period the traditional industrial powers, represented by the members of the OECD, had controlled international shipping. Their position was reflected both in the standing of their domestic fleets and in the amount of tonnage they operated under Flags of Convenience. Indeed, the use of FoC-countries was largely an effect of intra-OECD competition. Although the FoC-fleets to some extent were outside the jurisdiction of the Traditional Maritime Nations, the companies having the controlling interest were generally not.

Following the shipping crisis, the fleets of the Traditional Maritime Nations were drastically reduced, both in absolute terms and as share of the world fleet. The reduced position of the Traditional Maritime Nations was to some extent reflected in the increase in the use of Flags of Convenience, but the main challenge to their position came from New Maritime Nations.

Figure 10.4. Distribution of the world fleet, per cent of dwt, 1970-87<sup>8</sup>

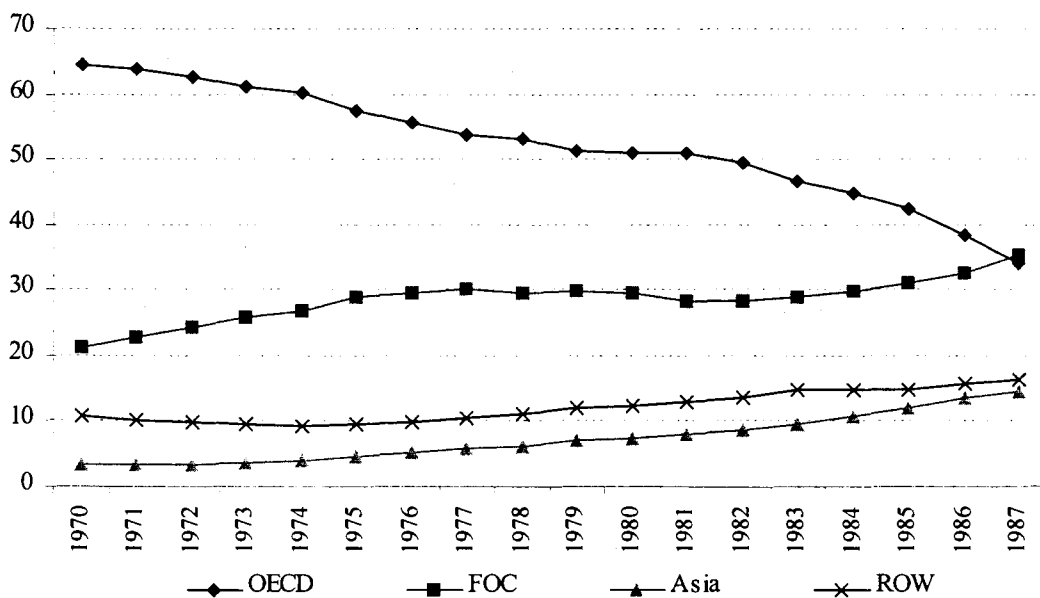


Figure 10.4 illustrates the challenged position of the OECD-countries in the international shipping market. The FoC-countries increased their share of the world fleet until 1977, but then stagnated. The growth in the FoC-share from 1982 onwards was augmented by the introduction of several new “countries” which opened for registration under the domestic flag, including the Cayman Islands, Saint Vincent and Vanuatu.<sup>9</sup>

<sup>8</sup> The figures have been taken from the data on the international fleet measured in dwt in OECD, *Maritime Transport*, various issues. All fleets of less than 400.000 grt have been included in the Rest of the World-fleet, and there is some degree of movement between the various groups, though not to an extent which significantly affects the results.

<sup>9</sup> The Flag of Convenience-countries included in this study are Bahamas (1971 and 1982-), Bermuda, the Cayman Islands (1985-), Cyprus, Gibraltar (1985-), Liberia, Malta (1982-), Panama, Somalia (1970-1977), Saint Vincent (1986-) and Vanuatu (1987).

The increase of the Asian fleet partly reflects the strong growth of China, Hong Kong and Singapore. The group as a whole, however, increased their tonnage from 11,5 million dwt in 1970 to more than 93 million dwt in 1987.<sup>10</sup> The same period witnessed an insignificant increase of the OECD-fleet from 215,5 million dwt to 218 million dwt. The latter figure was considerably lower than the OECD peak at 356 million dwt in 1978, and in the period 1970-1987 the OECD-countries' share of the world fleet was practically halved, falling from 64,5 to 34 per cent.

The reduction in the fleet of the OECD-countries was particularly marked from 1980 onwards, ie after it had become evident that the crisis was a structural rather than a temporary phenomenon. This reduction reflects two significant trends. On the one hand, it was the result of a significant disinvestment in the shipping sector in Traditional Maritime Nations. On the other hand, the apparent reduction was partly mitigated by the transfer of OECD-owned tonnage to Flags of Convenience.

### The increasing fleets of the Flags of Convenience

The amount of tonnage registered under Flags of Convenience increased considerably after the introduction of such registries in the interwar period, and their share of the world fleet more than doubled in the ten years after 1963.<sup>11</sup> The existence of Flags of Convenience has been controversial, and it has been claimed that these registries have become unregulated refuges for the fleets of shipowners with sub-standard vessels. This discussion lies outside the scope of this thesis.<sup>12</sup>

On the international level, there have been attempts to regulate the nationality composition of the world fleet, eg through the introduction of the *genuine link*-principle. However, the fleets of the FoC-countries, and also the number of countries offering such registries, increased considerably in the postwar period.

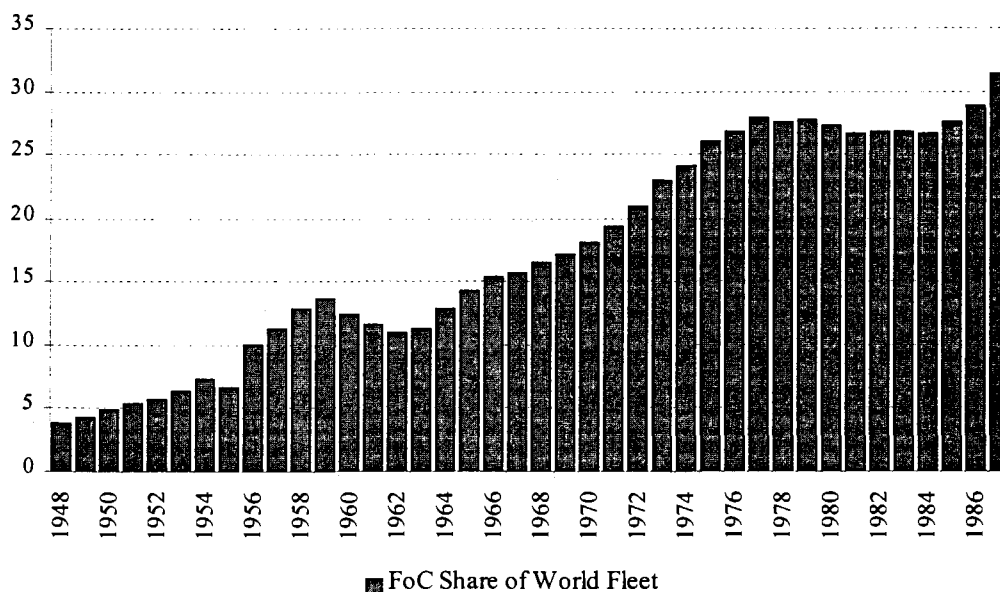
Figure 10.5 is based on grt, and for some countries with a fleet consisting of predominantly large ships, eg Liberia, the use of dead weight tonnage would lead to a greater share of the world fleet. However, some registries, eg Costa Rica, the Lebanon and Singapore consisted of relatively small vessels, so the net effect of a conversion from grt to dwt will be relatively small. The figures deviate from those presented in Figure 10.4, as Figure 10.5 is based upon gross registered tonnage and includes some countries which have been excluded in the other figures, eg Singapore in the period 1968-1983, and several minor maritime countries.

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<sup>10</sup> The countries included in the Asian fleet are China, Hong Kong, India, Indonesia, Malaysia (1974-), the Philippines, Singapore, South Korea and Taiwan.

<sup>11</sup> Flags of Convenience existed before this – for instance several British shipowners regarded Norway as a Flag of Convenience in the late 19<sup>th</sup> Century. However, it was in the interwar period that some of the Flags of Convenience that came to dominate the development in the postwar period first rose to prominence.

<sup>12</sup> For an analysis of the loss records of vessels flying Flags of Convenience, see OECD, *Maritime Transport* 1974, pp. 88-105.

Figure 10.5. FoC-tonnage as share of the world fleet, per cent, 1948-87<sup>13</sup>

The amount of tonnage registered in FoC-countries temporarily culminated in 1979, with their share of the world fleet reaching a temporary peak two years earlier. One reason for the decline of FOC-registered tonnage after 1979 was the increased scrapping which was also evident in Traditional Maritime Nations. Some countries, eg Liberia, had a relatively large share of independent and oil company-owned tanker tonnage. Tanker tonnage comprised 62 per cent of the Liberian fleet in mid 1980, compared with 42 per cent for the world fleet as a whole.<sup>14</sup> As a result of the overcapacity of large tankers this tonnage was particularly suitable for scrapping. Furthermore, the decline of the Liberian fleet can be explained by increased political uncertainty. The vessels leaving the registry for this reason, however, were likely to be transferred to other Flags of Convenience, rather than Traditional Maritime Nations. Accordingly, the 20,7 million dwt reduction of the Liberian fleet in the period 1979-1982, was partly reflected in a growth of almost 19 million dwt for the Panama fleet.

In 1983 Metaxas claimed that the slight reduction in the importance of the Flags of Convenience was a temporary and basically cyclical phenomenon. In principle this was correct, as the reduced share of world tonnage registered in FoC-countries only represented a minor, temporary setback. From 1982 their share started to increase again. In addition to the old stalwarts such as Cyprus, Liberia and Panama, new “countries” such as Vanuatu, Gibraltar and the Cayman Islands entered the scene.<sup>15</sup> The result of the increased competition was a low level of tonnage fees and a reduction of standards, similar to the “race to the bottom” some

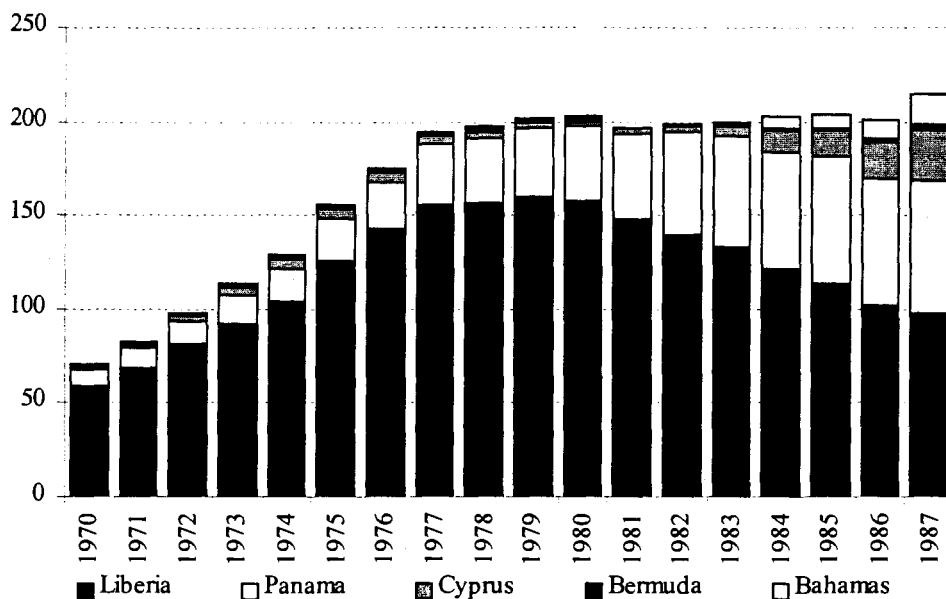
<sup>13</sup> Based on grt-figures from Metaxas, Basil N., *Flags of Convenience – A Study of Internationalisation*, Gower, London, 1985, p. 17, augmented by figures from the annual lists of the international fleet measured in OECD, *Maritime Transport*, for the years 1983-1987. The FoC-countries included in the data are Bahamas (1983-), Bermuda (1983-), the Cayman Islands (1985-), Cyprus (1966-), Liberia, Malta (1983-), Panama, Honduras (until 1983), Costa Rica (1953-1960 and 1975-1983), the Lebanon (1960-1983), Saint Vincent (1985-), Singapore (1968-1983) and Somalia (1960-1983).

<sup>14</sup> OECD, *Maritime Transport 1980*, Paris, 1981, p. 132. Percentages based on grt.

<sup>15</sup> The definition of Flags of Convenience affects the timing of their resurrection. In the 1980s some countries, such as Hong Kong, the Philippines and Singapore were defined by the International Transport Workers’ Federation as “Flags of Convenience on a ship by ship basis”.

commentators claim to have observed in the manufacturing industry.

Figure 10.6. The major Flags of Convenience, million dwt, 1970-87<sup>16</sup>



In the latter part of the 1980s the increase of tonnage outside the traditional registries was augmented by national “open registries” in Traditional Maritime Nations. These institutions represented a supplement and alternative to Flags of Convenience. Vessels registered in open registries were subject to some of the traditional maritime legislation, but were granted special privileges which made them a credible and cost-effective alternative to Flags of Convenience.

The increase in the fleets of the FoC-countries represents only one facet of the changing structure of the maritime industry. Moreover, the fact that roughly two thirds of the total FoC-tonnage was owned by the OECD-countries in the late 1980s indicates that an analysis of market share overstates the reduced importance of the Traditional Maritime Nations. Indeed, the most important feature of the structural transformation in the shipping industry was not the changes in the pattern of registration of OECD-tonnage, but rather the entry into the shipping sector of countries at a relatively low stage of development.

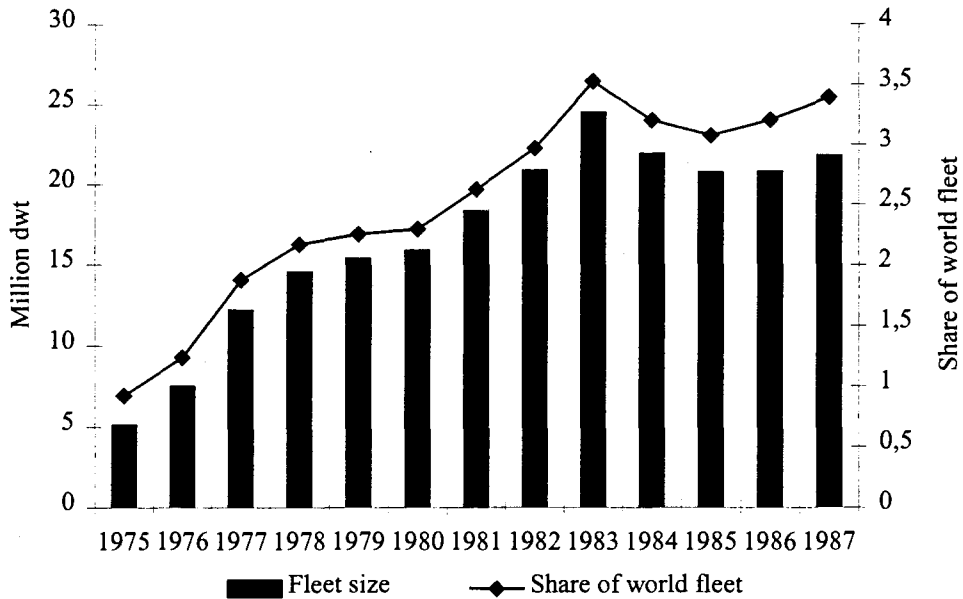
### The entry of non-OECD developing countries

It was particularly two groups of countries which increased their tonnage heavily in the period after the shipping crisis. The fleets of the oil-producing countries were almost negligible in the beginning of the 1970s, but had increased to approximately 3,5 per cent of the world fleet by 1983. The amount of tonnage owned by the oil-producing countries increased from approximately five million dwt in 1975 to 21,7 million dwt in 1987, peaking at approximately 24 million dwt in 1983.<sup>17</sup>

<sup>16</sup> The figures are based on the data on the international fleet measured in dwt in OECD, *Maritime Transport*, various issues.

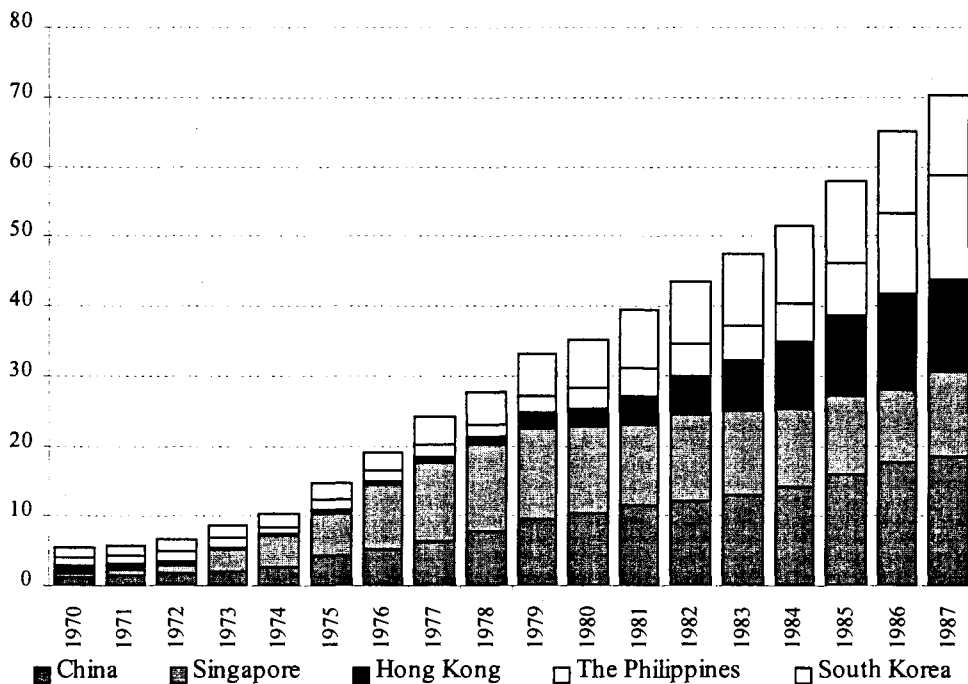
<sup>17</sup> Figures on the fleets of the oil-producing countries from the table of the world fleet in OECD, *Maritime Transport*, various issues. The countries included are Algeria, Iran, Iraq, Libya, Kuwait, Saudi Arabia, United Arab Emirates and Venezuela.

Figure 10.7. Oil-producing countries' fleet and share of world fleet, 1975-87



Even though their fleet growth was strong, the oil-producing countries were relatively unimportant in an international perspective. More significant, however, was the strong growth of non-OECD developing countries, of which a handful of Asian nations played a crucial role.

Figure 10.8. Five most important Asian Fleets, million dwt, 1970-87



As Figure 10.4 showed, the Asian share of the fleet increased from less than 3,5 per cent in 1970 to almost 15 per cent by 1987. The annual average growth of the fleets of Singapore and Hong Kong was more than 20 per cent, and also China, Malaysia, the Philippines and South Korea registered double-digit growth. The result was a massive transfer of shipping transport capacity from the Traditional Maritime Nations to the Emerging Maritime Nations in Asia.

### **10.2.2. The reasons for the structural transformation of the world fleet**

In many respects, the relocation of the international maritime industry mirrors one of the most important development traits of the international economy in the period since the 1960s. Just like countries which had previously been at a low level of development gained importance in the maritime sector, the momentum of world industrial production shifted from the OECD-countries to Newly Industrialised Countries, particularly in Asia. The subsequent analysis is based upon the hypothesis that the factors used to explain the transformation of international manufacturing may be applied in a maritime context.

The transformation of the manufacturing and shipping industries was the result of an interaction between the development in the countries which lost their position and the development in the countries which increased their role in the international economy. The development in the shipping sector might be explained by some of the elements which have been used to account for the changes in international manufacturing. Most analyses of the increased importance of the Newly Industrialised Countries in the international economy focus on certain aspects of these countries.<sup>18</sup> Common explanations include;

- The access to a large, relatively cheap and sufficiently skilled labour force
- High rates of investment, reflecting both a high domestic savings rate and a willingness to attract foreign capital and technology
- Sensible economic policies which facilitated savings and investments, and which sometimes targeted specific sectors
- Favourable international conditions, including access to internationally mobile capital, high demand and reduced trade barriers

Notwithstanding the fact the basis of the growth differed between the various countries, the elements presented above may be relevant to the changes in the international maritime industry. The following analysis illustrates that the first three elements have made a positive contribution to the fleet expansion of some of the non-traditional shipping nations in Asia.

#### *Labour*

As a result of the freight market breakdown, profit margins were squeezed and shipowners were forced to focus on costs. Whereas the majority of costs are equal for shipowners of all nations, with regard to wages, the costs are strongly affected by the choice of flag. In most of the Traditional Maritime Nations domestic labour legislation made it compulsory to employ a certain amount of nationals aboard vessels flying the domestic flag. The effect on costs could be substantial – in 1973 the wage costs for the operation of a 6-8.000 grt dry bulk vessel in a low labour cost country were 40 per cent lower than if the vessel had been flying the Norwegian flag, representing an annual saving of approximately NoK 600.000.<sup>19</sup>

The close connection between the freight market breakdown and the increased focus on costs implies that there is a direct link between the shipping crises and the changes in the

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<sup>18</sup> See Tenold, Stig, "Aspects of Economic Growth and Development in East and Southeast-Asia", NUPI Report No. 220, Norwegian Institute of International Affairs, Oslo, 1997 for an overview.

<sup>19</sup> Stortingsmelding nr. 23 (1975-76), *Om sjøfolkenes forhold og skipsfartens plass i samfunnet* [On the conditions for seamen and shipping's role in the society], p. 62.



international shipping hegemony. When there was a considerable demand for shipping transport capacity, the revenues were sufficient to allow shipping to be operated from high cost countries despite higher variable costs. When the freight market broke down, it became increasingly difficult for high cost countries to compete and operate profitably at the prevailing freight rate level.

In several Asian countries the existence of a relatively cheap labour force with maritime training and experience was an important stimulus to the growth of the domestic fleets. Some countries had a long tradition of providing seamen for vessels flying foreign flags. In 1978 personnel from South Korea, the Philippines and Taiwan made up more than 46 per cent of the personnel employed on Liberia-registered vessels.<sup>20</sup> In addition to bringing valuable foreign exchange to the domestic economy, some of the seamen utilised their income and experiences from the shipping sector to establish their own maritime businesses. In other countries, the attractiveness of a cheap labour force was supplemented by measures making it advantageous to employ local labour. In the expansionary phase of the Singapore fleet, benefits in the form of tax rebates were granted to shipowners registering their vessels in Singapore and employing local labour. The access to skilful, low cost labour has consequently been important for the growth of some of the most important Emerging Maritime Nations.

### *Investment*

High domestic rates of saving and investments are important in explaining the growth of the Newly Industrialising Countries, in relation to other developing countries as well as in relation to the industrialised nations. In both the manufacturing and the shipping sector the access to foreign capital was crucial, and in both sectors capital was acquired through a combination of high domestic savings, debt accrued abroad and Foreign Direct Investment. The latter element is particularly important in an analysis of the relocation of the international maritime industry. Several shipowning companies relocated some or all of their operation from Europe and North America to Asia. This relocation was partly a response to the booming trade in the region, partly motivated by cost factors. The capital and skills brought to the region by these companies were important for the development of the domestic shipping environment. The presence of the foreign subsidiaries supplemented the growth of locally based shipping.

Measuring Foreign Direct Investment in the shipping sector is a difficult task.<sup>21</sup> The fact that foreign companies established sales offices, subsidiaries or shipowning companies in the Emerging Maritime Nations was crucial for the growth of some of these countries as maritime centres. Moreover, the development of some of the Asian fleets was the direct result of strong linkages to other countries, as in the case of the *shikumisen*-deals between Hong Kong shipowners and Japanese corporations. Domestic investments in shipping, and the integration of the Asian countries into the international shipping finance market, enhanced the

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<sup>20</sup> Figures from Norges Offentlige Utredninger (1983:7), *Skipsfartens konkurranseevne* [The competitiveness of shipping], p. 54.

<sup>21</sup> See Tenold, Stig, "Norwegian Shipowning Companies and Foreign Direct Investment", SNF Working Paper No. 23/00, The Foundation for Research in Economics and Business Administration, Bergen, 2000 for a suggestion on how Foreign Direct Investment in the shipping sector should be analysed.

growth of locally based shipping. Several of the countries had long traditions in the shipping industry, and in many instances the increase in their fleets was the result of an expansion of local companies which supplemented the relocation of shipping companies from the Traditional Maritime Nations.

### *Policies*

A common element in the growth of the Emerging Maritime Nations was the attempt to encourage the entry of foreign maritime companies and the expansion of local companies through specific policies. In the manufacturing sector the extent and effects of such policies are controversial.<sup>22</sup> In the shipping sector, however, it is fairly easy to see that policy measures have been successful in expanding the fleets of certain countries. Singapore is perhaps the best example of this relationship between shipping policy and fleet growth.

In 1968 the Singapore authorities decided to open their flag to shipowners of all nations. The policy was based on measures similar to those in traditional Flags of Convenience. However, the Singapore authorities tried to establish a relatively close link between the national economy and the shipping sector, eg through the tax rebates offered to shipowners employing domestic crews. The success of the scheme was overwhelming, and the Singapore fleet increased from 230.000 grt to almost 8 million grt within a ten-year-period. In an effort to clean up the image of the Singapore flag, the authorities in the late 1970s introduced stricter regulation of the country's fleet. The shipping policy had nevertheless been successful in creating a strong national fleet and a viable shipping environment, augmented by the importance of Singapore as a regional maritime hub. The introduction of higher standards did not lead to any significant flight of tonnage. In 1987 Singapore ranked 13<sup>th</sup> among the world's maritime nations.

The provision of labour and capital, and the effects of specific policies, seems to have been important for the growth of Asian manufacturing and shipping. The final elements commonly used to explain the growth of the manufacturing production of the Newly Industrialised Countries – access to internationally mobile capital, high demand and reduced trade barriers – only to some extent apply to the shipping sector. As already shown, the access to internationally mobile capital was important. However, it would be foolhardy to claim that the shipping sector was subject to high demand. Rather, the opposite was the case – demand for shipping services was falling. Nevertheless, the depressed state of the shipping market may be important in an explanation of the shift of the world fleet from the Traditional Maritime Nations to Emerging Maritime Nations and Flags of Convenience.

The combined effect of the increased focus on costs and the reduced competitiveness of the Traditional Maritime Nations is perhaps the single most important explanation of the transfer of vessels to Flags of Convenience and New Maritime Nations. The shipping policies of several of the most important maritime nations were changed following the freight market breakdown. The use of low cost foreign labour was facilitated by increased access to registry

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<sup>22</sup> See for instance the large differences between Linder, Staffan Burenstam, *The Pacific Century*, Stanford University Press, California, 1986, p. 28 and Korea Institute for International Economic Policy, *Shifting towards the New Economy, Korea's Five-Year Economic Plan 1993-1997*, Seoul, 1993, p. 1

abroad and relaxation of domestic manning policies.<sup>23</sup> Judging by the changes in the world fleet, the former option proves to have been particularly attractive. In the late 1980s, US companies owned tonnage registered under 36 flags, and the United Kingdom, Japan, Germany, Norway, Greece, Hong Kong and the Netherlands also operated tonnage under more than 20 different flags.

Reduced trade barriers have been used to explain the growth of manufacturing in the Newly Industrialised Nations. The experience of the shipping sector is to some extent different. On the one hand, the Emerging Maritime Nations may have benefited from the low barriers to trade encountered when offering bulk shipping services to and from the OECD-countries, as well as the indirect effect of the trade liberalisation on the demand for seaborne transport. At the same time, however, several countries have expanded their own shipping activity through the introduction of restrictions on the transport of domestic imports and exports. In the beginning of the 1980s, the UNCTAD Code of Conduct with its 40-40-20 cargo sharing arrangement, was put into effect after 50 countries had ratified the rules.<sup>24</sup> This arrangement enhanced the possibilities of Emerging Maritime Nations to develop domestic liner fleets.

In addition to cargo reservation, some Emerging Maritime Nations used subsidies in order to build up domestic merchant marines. Even though the overall costs of such schemes generally exceed the benefits, cargo reservation and fleet subsidies may have been successful in increasing the size of domestic fleets. The cargo sharing arrangements and use of subsidies do not correspond well with the idea of reduced barriers to trade which is important in an explanation of the rise of the Asian countries as manufacturing producers. Nevertheless, the effect of these measures on the development of the fleets of Emerging Maritime Nations may be seen as positive when the expansion of the domestic fleets, rather than the net cost to the countries, is used as measuring rod.<sup>25</sup> Moreover, with regard to the manufacturing sector, there have been barriers to trade relating to imports, similar to the protective mechanisms utilised in the shipping sector.

Another reason for the increased attractiveness of Emerging Maritime Nations and Flags of Convenience may have been the reduction of vessels standards. As a result of the overcapacity in the shipping sector, investments in new tonnage dwindled. New investments were unlikely to be profitable, and it became increasingly difficult for shipping companies to accumulate the funds necessary for fleet modernisation and expansion. However, shipowners were unwilling to scrap existing tonnage in the hope that a market upturn would generate increasing demand for both transport services and second-hand tonnage.

The reduced construction of new vessels and the reluctance to scrap older ships led to

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<sup>23</sup> In the case of the Norwegian International Ship Register (NIS), established 1987, the only condition is that the head officer is a Norwegian national, although this condition may easily be waived.

<sup>24</sup> The number of countries necessary for implementation of the Code, which was set at 24, was no problem and had been achieved by early 1978. However, there was the additional requirement that the contracting parties should own at least 25 per cent of world tonnage. The accession of the European Economic Community secured that both conditions were met.

<sup>25</sup> See Yeats, Alexander J., *Shipping and Development Policy – An Integrated Assessment*, Praeger Publishers, New York, 1981 for an introduction to some of the economic aspects.

an increase in the average age of the world fleet and an apparent increase in ship casualties. The proportion of tonnage older than 10 years increased from 41 per cent in 1980 to 61 per cent in 1987. The tonnage lost increased from approximately 1 million grt, representing 0,25 per cent of the world fleet, in 1977 to 2,7 million grt, or 0,6 per cent of the fleet, in 1986.<sup>26</sup> However, the casualty figures fluctuate strongly, and Peters claims that the loss ratio doubled again between 1988 and 1991.<sup>27</sup> Although there is no clear trend in the development of the share of the world fleet lost, it is evident that the FoC-countries were responsible for a disproportionate share of tonnage lost.

The reduction of vessel standards may have prompted the transfer of tonnage from Traditional Maritime Countries to Flags of Convenience, as some of the countries in the latter group were often regarded as having a more lenient attitude with regard to seaworthiness. The claim that the reduced standard of vessels prompted the transfer to Flags of Convenience is difficult to substantiate, but may nevertheless have played a minor role in an explanation of the shift in the flag distribution of the world fleet. The main reasons for this shift in the maritime hierarchy are the factors described above, with particular emphasis on the need to reduce costs in a depressed market.

Helen Thanopoulou has offered an alternative explanation of the transformation of the international distribution of the shipping industry.<sup>28</sup> She has suggested the existence of a feedback relationship between the entrance of less-developed countries in shipping and the prolongation and deepening of maritime crises. In many respects her analysis is similar to the one presented above, but her focus is on the dynamics of the international economy rather than specific features of the Emerging Maritime Nations.

The basis for Thanopoulou's analysis is that depression periods in shipping adversely affect the higher cost units' possibilities of staying in the market. Traditional Maritime Nations attempted to increase specialisation, focusing on capital intensive segments in order to maintain a competitive advantage. The effort proved unsuccessful, and the Emerging Maritime Nations made a dynamic entry into all shipping segments, regardless of capital intensity. According to Thanopoulou, this challenge can be explained by the fact that shipping services in general had become relatively standardised, following the Vernon product cycle.

Sletmo has also used the framework of the Vernon product cycle on the shipping industry. At the introductory stage, the product – ie the shipping service – is non-standardised, implying that the provision is affected by technical and commercial experimentation. As the product matures it becomes more standardised, a fact which changes the competitive advantage of various suppliers. According to Sletmo, the changes in the distribution of the world fleet are the result of the maturity of the bulk sector; *“the impossibility of long-term product differentiation in bulk shipping and the high degree of substitutability of highly*

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<sup>26</sup> Figures for age distribution from Table XVIII and for losses from Table XX in OECD, *Maritime Transport*, 1981 and 1987.

<sup>27</sup> Peters, Hans J., “The Maritime Transport Crisis”, *World Bank Discussion Papers 220*, World Bank, Washington, 1993, p. 23. The loss ratios cited are, however, far smaller than those calculated based on figures from OECD, as used in my example.

<sup>28</sup> Thanopoulou, Helen A., “The growth of fleets registered in the newly-emerging maritime countries and maritime crises”, *Maritime Policy and Management*, Volume 22, No. 1, 1995, pp. 51-62.

*mobile services make the search for least-cost production systems even more essential in shipping than in manufacturing.*"<sup>29</sup>

The maturation of shipping services within a Vernon product cycle framework provides one explanation of the changes in the hierarchy of international shipping. In many ways, the services offered by the shipping industry evolved in a manner which rewarded the properties and factor relationships found in several Asian countries. For instance, the strong fall in vessel values greatly reduced the investments necessary to partake in the shipping industry, and in essence reduced the capital-intensity of several of the shipping segments. Simultaneously, vessel ownership in Traditional Maritime Nations became unfavourable, following developments in the shipping market, in terms of eg reduced freight rates, and in the domestic economy, eg through increasing wages for seamen.

It is thus evident that the decline of the Traditional Maritime Nations can be understood in the context of development traits which are familiar from the manufacturing sector. Moreover, factors in both the countries with reduced importance and the countries increasing their share of the world fleet was essential. Changes in the international division of labour, the maturation and standardisation of products and services and the increasing importance of Newly Industrialised Countries combined with the reduced viability of OECD shipping to give considerable structural changes in the maritime sector.

### **10.3. Structural Changes in the Norwegian Economy**

Norway was one of the countries that fell victim to the development traits analysed in the previous subchapter. However, as illustrated in Chapter Five, the flight from the Norwegian flag was more marked than for any other major shipping nations bar Great Britain. There were two main reasons for the strong reduction of the Norwegian fleet. First, Norwegians were more severely hit by the shipping crisis than shipowners in other countries. Accordingly, a continuation of their shipping activities became unprofitable or impossible for several Norwegian shipowning companies. Second, Norwegian shipowners were presented with a more alluring investment alternative, which made diversification more attractive than it had previously been. The basis for this can be found in the development of the Norwegian offshore industry. This subchapter briefly presents the structural changes in the Norwegian economy. Then, their implications for the Norwegian shipping sector are analysed.

#### **10.3.1. The transformation of the Norwegian economy**

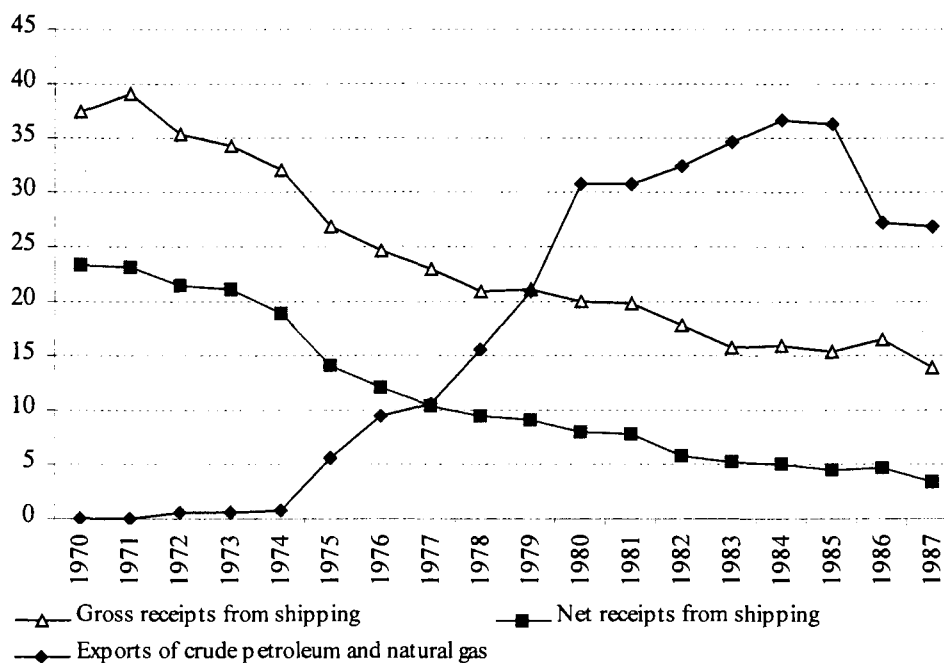
The discovery of oil on the Norwegian continental shelf heralded a massive transformation of the Norwegian economy. Up until the early 1970s, the surplus from the export of shipping services had largely been sufficient to offset the Norwegian deficit in the merchandise trade. From 1975 onwards, the Norwegian import surplus on goods and services accelerated. This was partly a result of reduced revenues from the shipping sector, but mainly an effect of the high growth of imports relative to exports. Whereas the value of Norwegian merchandise exports increased by 40 per cent in the period 1973-1976, the value of merchandise imports

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<sup>29</sup> Sletmo, *op.cit.*, 1989, p. 296.

increased by almost 80 per cent.<sup>30</sup> The situation was not as grave as it could have been, as a new sector was ready to fill the gap relatively shortly after the shipping revenues began to fall.

Figure 10.9. From oil to shipping – sectors' share of total exports, 1970-87<sup>31</sup>



Two important aspects are evident from Figure 10.9. The first aspect is the reduced importance of shipping in the total Norwegian exports. The significance of the shipping sector for the Norwegian Balance of Trade was more than halved in the period 1970-1987. In the early 1970s the shipping sector had facilitated more than 35 per cent of the Norwegian imports, whereas the share was approximately 15 per cent in most of the Eighties. However, shipping retained its position among the internationally competing Norwegian sectors. In “non-oil” Norway, shipping was still the most important export sector, with its share of total exports stable at approximately a quarter of total exports for most of the 1980s.

The second conspicuous feature of Figure 10.9 is the increasing Norwegian reliance on oil revenues. From being virtually insignificant in 1974, the exports of oil and gas comprised more than 15 per cent of total Norwegian exports four years later, and peaked at 36 per cent in 1984. The amount of oil exported increased from less than two million tons in 1974 to 20 million tons in 1982 and almost 42 million tons in 1987.<sup>32</sup>

The heavy reliance on international prices is a common feature of the export revenues from the shipping and oil sectors. Freight rates are volatile, and particularly so in the segments where the Norwegian shipowners pooled most of their resources. The result was considerable fluctuations in shipping export revenues. The oil price is subject to the same kinds of fluctuations. The fall in the importance of oil in Norwegian exports in the mid 1980s was the result of a reduction in the price of oil by two thirds within half a year. The average price of

<sup>30</sup> Statistisk Sentralbyrå, *Historisk Statistikk 1994* [Historical Statistics 1994], Central Bureau of Statistics, Oslo, 1994, Table 22.8. The figures refer to the groups “Other goods” and “Direct imports and exports in relation to oil activities”. Exports of crude petroleum and exports of imports of ships and oil platforms have been excluded.

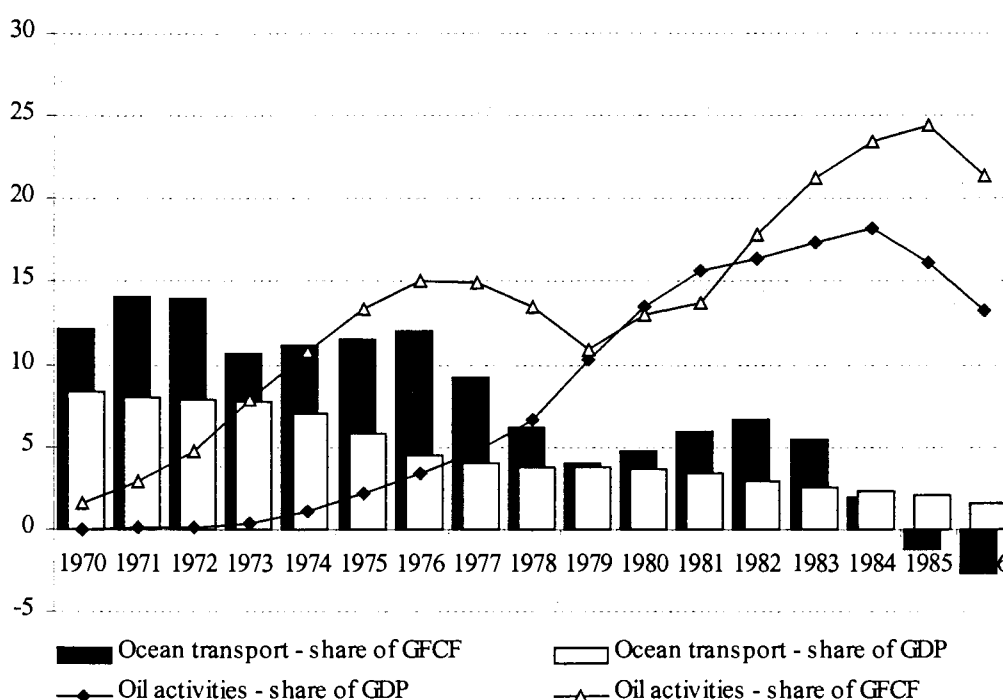
<sup>31</sup> Based on Tables 22.1 and 22.8 in Statistisk Sentralbyrå, *op.cit.*, 1994.

<sup>32</sup> Statistisk Sentralbyrå, *op.cit.*, 1994, Table 16.13.

Norwegian crude oil was halved between the fourth quarter of 1985 and the first quarter of 1986, and the reduced importance of oil in Norwegian exports occurred amidst increasing Norwegian oil export volumes.<sup>33</sup> It is obvious that the Norwegian economy changed their dependence from one volatile industry to another. However, in the oil sector the fluctuations were not caused by the kind of short-term supply and demand conditions creating fluctuations in the shipping sector, but rather largely the result of OPEC's cartel policy and the degree to which the OPEC members managed to implement this policy.

The transformation of the Norwegian economy was not only evident through the development of export values and volumes. The shift is also obvious, but not as pronounced, in the development of Gross Domestic Product (GDP) and Gross Fixed Capital Formation (GFCF).

Figure 10.10. The development of GDP- and GFCF-shares, 1970-86<sup>34</sup>



The lines depicting Gross Fixed Capital Formation and Gross Domestic Product in the oil industry in Figure 10.10 illustrate the heavy investments in the sector from the beginning of the 1970s, and the lag between investments and revenues. As these figures represent the overall activity of the Norwegian economy, the relative importance of internationally focused activities such as the shipping and oil sectors is lower than in the analysis of export sectors. However, the falling trend of shipping services and investments, and the corresponding increase in the importance of oil, is conspicuous.

By the 1980s, when the activity in the oil sector constituted around fifteen per cent of GDP, the Norwegian economy had undergone a fundamental transition. However, the oil sector was of great importance even before it started creating substantial revenues. In the

<sup>33</sup> Statistisk Sentralbyrå, *Olje- og gass- virksomhet 4. kvartal 1988. Statistikk og analyse* [Oil and gas activity 4<sup>th</sup> quarter 1988. Statistics and analysis], Central Bureau of Statistics, Oslo, 1989, p. 50.

<sup>34</sup> Based on Tables 22.1 and 22.18 in Statistisk Sentralbyrå, *op.cit.*, 1994. The figures are three year moving averages.

1970s the Norwegian economy was relatively unaffected by the international recession, and Norway had the highest growth of the OECD-countries in the period 1973-1986. This was a result of the large investments in the oil sector and expectations of future revenues enabling the authorities to implement a countercyclical policy.<sup>35</sup>

There are two reasons for the fact that the shipping sector's share of GFCF is systematically higher than the sector's share of GDP until 1983. One is the greater depreciation in the shipping sector, which implies that the sector's share of gross investments is not fully reflected in the sector's economic importance. The second reason is the fact that the return from shipping investments and the level of the activity in the shipping industry was low as a result of the crisis.

The increasing share of shipping in total GFCF in the period 1979 to 1982 reflects the contracting which took place during the temporary rate increase in the late 1970s. However, the negative GFCF-rate for shipping in the latter part of the period reflects the flight of tonnage from the Norwegian registry, which represented a massive disinvestment in shipping. Due to the establishment of the Norwegian International Ship Register in 1987 and the improved market conditions, the negative capital formation in the shipping sector became a temporary phenomenon. The sector's share of aggregate GFCF increased to more than seven per cent in 1988 and almost 13,5 per cent in 1989. The large fluctuations in the shipping sector's share of GFCF in the latter part of the 1980s was to some extent the result of vessels fleeing from – and later returning to – the Norwegian flag.

### **10.3.2. The reduction of the Norwegian fleet and shipping employment**

One important effect of the shipping crisis was that the prevailing assessment of the development of the shipping market changed as the agents realised that the problems were fundamental and long lasting rather than the results of a temporary downturn. It is difficult to establish a given date of this realisation, as various agents had different sentiments. The relatively abrupt cessation of tanker contracting after the oil price increase indicates that the shipowners had realised that the existing fleet and newbuilding orders were large enough to take care of future transport assignments. Furthermore, the large cancellations of newbuilding contracts in 1975 indicate that the shipowners had gained an understanding of the magnitude of the prospective imbalance in the tanker market.

Norwegian cancellations were concentrated around the first, second and fourth quarter of 1975. In the fourth quarter of 1975 more than one million grt of Norwegian contracts were cancelled at foreign yards, more than four times the level of the last quarter of 1974.<sup>36</sup> The fact that shipowners for quite a long period of time hesitated to pay cancellation fees indicates that they initially viewed the downturn as temporary. Indeed, previous periods with temporarily low rates had presented shipowners with tonnage on order with considerable profit opportunities when the freight market regained its momentum.

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<sup>35</sup> Hodne, Fritz and Grytten, Ola Honningdal, *Norsk økonomi 1900-1990* [The Norwegian economy 1900-1990], Tano, Oslo, 1992, pp. 255-271.

<sup>36</sup> Data on Norwegian newbuilding contracts which have been cancelled or sold, based on foreign yards. Statistisk Sentralbyrå, *Statistisk Månedshäfte* [Monthly Bulletin of Statistics], Central Bureau of Statistics, Oslo, No. 2, 1975, p. 51 and No. 1, 1976, p. 55.



The decline of the Norwegian shipping industry can be explained by several interrelated elements. The most obvious reason for the decline of the Norwegian fleet is that several shipping companies fell victim to the forces of the competitive market place. High costs and low revenues forced them to downscale or terminate their operations. In this respect, the Norwegian experience mirrors the international development, although the reduction of vessel ownership was particularly severe in Norway. Another reason for the decline of the Norwegian shipping industry does not fit into the international pattern. Norwegian shipowners were presented with a particularly favourable investment alternative that only to a limited extent was available to their international competitors, viz participation in the Norwegian offshore industry. Thus, specific domestic circumstances augmented the international dynamics.

As shown in Chapter Nine, several traditional and some relatively new shipping companies were unable to endure the effects of the crisis. Several companies had to sell some of their vessels and continue operation at a lower level of activity. A common strategy was to reduce ownership, but complement the shipowning activity by operating vessels on behalf of foreign shipowners. In the more severe instances, the economic difficulties resulted in bankruptcies, liquidations and voluntary or compulsory winding-up.

The analysis in Chapter Nine showed that the share of the vessels which were sold within Norway was relatively stable until the beginning of the 1980s. However, in aggregate more than three quarters of the vessels that were sold by Norwegian shipowners were scrapped or sold to foreign interests with sufficient capital and the ability to operate the vessels more cheaply.

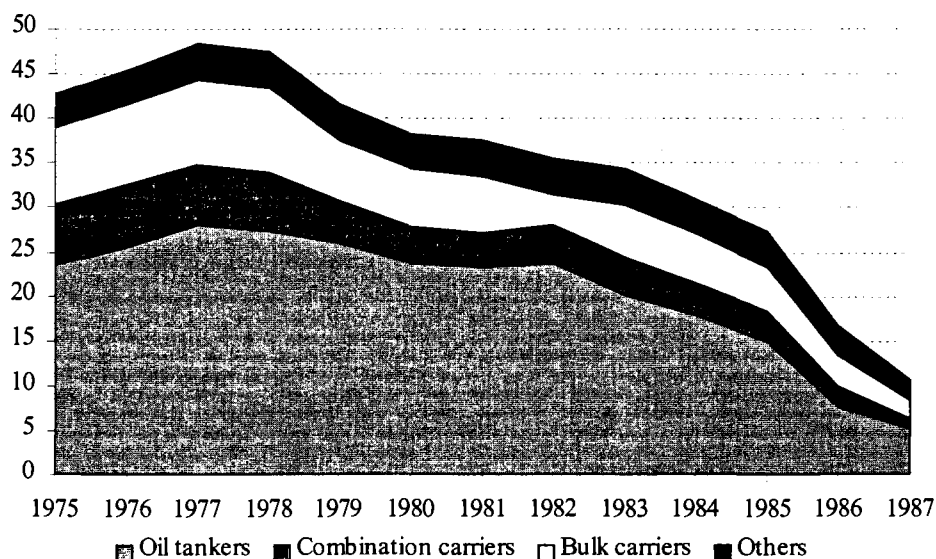
Some companies chose internationalisation as a strategy for survival. This strategy assumed many different forms, but a common element was that vessels were transferred to lower cost registries. Several Norwegian shipowners sold vessels to foreign interests and chartered them back, focusing on ship management rather than vessel ownership. Other shipowners took advantage of the liberalisation of the Norwegian shipping policy and registered their vessels abroad.

The end result of these development traits was an extensive disinvestment in Norwegian shipping. From the peak in 1977 to the trough in 1987, before the introduction of the Norwegian International Ship Register, the Norwegian fleet was reduced by almost 38 million dwt, representing more than 75 per cent of the 1977-fleet. The decline was particularly violent from 1982 onwards.<sup>37</sup>

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<sup>37</sup> Figures from OECD, *Maritime Transport*, which include all vessels above 100 grt show a reduction of more than 80 per cent from the peak to the trough in 1987.

Figure 10.11. Norwegian fleet, million dwt, 1975-87<sup>38</sup>



The reduction of the Norwegian fleet after 1977 represented a clear break with the heavy postwar expansion. In 1987 the Norwegian tonnage, comprising some 7 million grt, was at the same level as it had been in the mid 1950s. Even when the reduction of the world fleet is taken into account, the Norwegian case stands out.

This thesis has focused on the business aspects of the shipping sector, with emphasis on the fleet and companies, and employment issues have thus largely been neglected. The justification for this omission has been to reduce the scope of the thesis. However, in connection with the analysis of the shipping sector's reduced importance in the Norwegian economy, the changes in employment should be briefly mentioned.

The employment in the Norwegian merchant marine peaked in 1964, with approximately 44.000 Norwegians and more than 13.000 foreigners.<sup>39</sup> The subsequent reduction of the employment was mainly a result of the technological development, in terms of larger vessels, and the exodus of relatively labour-intensive vessels.

From 1951 to 1964 employment increased by approximately two thirds. However, this growth was low, compared with the growth of the Norwegian fleet, which increased by 140 per cent over the same period. The reason for the discrepancy was a reduction in the number of seamen per grt. This trend towards lower manning per grt had continued throughout the postwar period, and can partly be explained by an increase in the average size of the vessels in the Norwegian fleet.

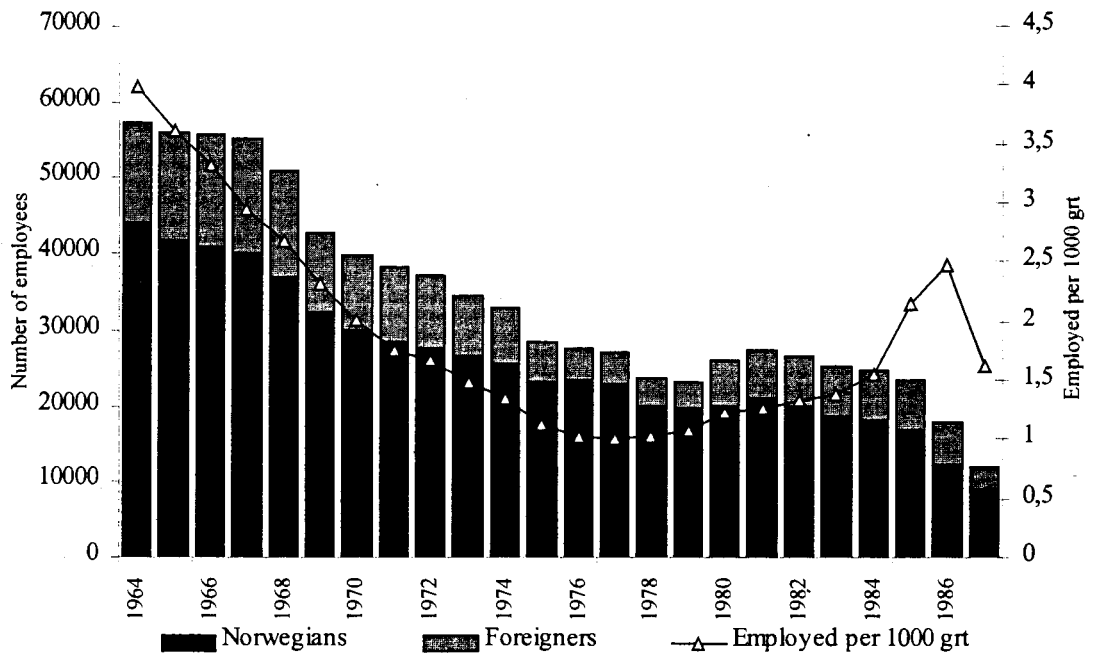
In 1951 the average number of seamen per 1000 grt was slightly lower than six. This figure had fallen to less than four by 1964. However, the strong growth of the fleet more than outweighed the effect of the reduction in the number of seamen per unit of tonnage. After

<sup>38</sup> Figures from Fearnley & Egers Chartering Co. Ltd., *Review 1986*, Oslo, 1987, p. 40. The figures refer to tankers, combined carriers and bulk carriers of more than 10.000 dwt and other seagoing cargo carrying vessels of more than 1000 dwt. Passenger vessels, ferries, supply ships and research vessels are excluded.

<sup>39</sup> The number of Norwegian seamen in the merchant marine peaked four years previously, at 44.445 persons; see Statistisk Sentralbyrå, *Historisk Statistikk 1968* [Historical Statistics 1968], Central Bureau of Statistics, Oslo, 1968, Table 56. The figures refer to the crew on foreign-going Norwegian vessels on 1 November, and do not take into account persons on paid- or sick-leave or unemployed.

1964 the decrease in the number of seamen per grt accelerated as a result of the inclusion of an increasing number of large vessels, with relatively low manning requirements, in the Norwegian fleet. Figure 10.12 illustrates the strong decrease in the number of seamen per dwt, as well as the overall reduction in the number of employed.<sup>40</sup>

Figure 10.12. Crew on board Norwegian-registered, foreign-going vessels, 1964-87<sup>41</sup>



The reduction in the number of employed per grt came to a halt in 1977 – the same year as the aggregate tonnage and the average size of the vessels in the Norwegian fleet peaked.<sup>42</sup> In the following years, the number of persons employed in the Norwegian merchant marine was relatively stable, despite an increase in the number of seamen per 1000 grt.<sup>43</sup>

The development of the number of seamen can thus be explained by two different trends. From 1964 onwards the falling employment can be explained by a reduction in the number of seamen per unit of tonnage which was greater than the increase in the fleet. Due to the development of the offshore industry and satisfactory onshore employment opportunities the majority of the surplus labour was absorbed without difficulties. The stability in the first years after 1977 can be explained by the fact that the number of seamen per unit of tonnage

<sup>40</sup> The figures give a correct picture of the number of crew on board Norwegian vessels, but exaggerate the reduction in the number of seamen due to an increase in the number of seamen per on board position. Due to a reduction in the average time spent on board, the number of seamen per position increased over the period.

<sup>41</sup> Based on Statistisk Sentralbyrå, *op.cit.*, 1994, Tables 20.10 and 20.15, supplemented by figures from Statistisk Sentralbyrå, *op.cit.*, 1968, Table 56. The increasing employment in 1980 was a result of the inclusion of foreigners employed in the ships' restaurants. The figures refer to November, and include NIS in the figure for 1987 – for an introduction to the basis for the figures, see Norges Offentlige Utredninger (1983:7), *op.cit.*, pp. 75-79. The sharp drop in employees per grt from 1986 to 1987 can be explained by the relatively high number of cruise vessels in the Norwegian-registered fleet prior to the introduction of NIS.

<sup>42</sup> Average size based on Statistisk Sentralbyrå, *op.cit.*, 1994, Tables 20.10. The figure differs from the one presented in Figure 9.11 due to different statistical bases.

<sup>43</sup> The increase in the crew shown in Figure 10.12 disappears when changes in the statistical base are neutralised – see the alternative figures in Stortingsmelding nr. 53 (1984-85), *Om skipsfartsnæringen* [On the shipping industry], p. 43. This implies that a considerable portion of the increase in crew per unit of tonnage also disappears.

neutralised the reduction in the fleet.

The apparent halt in the reduction of the employment in the late 1970s was a temporary phenomenon. After 1981 the number of Norwegians on board Norwegian-registered vessels started to fall, and the development was dramatic from 1984 onwards. By the time the NIS was introduced in 1987, the number of seamen had fallen by more than 10.000, or 40 per cent, relative to the situation three years previously.<sup>44</sup> Over the same period, the Norwegian fleet had decreased by approximately 60 per cent.

It is thus evident that the reduction in the employment in the merchant marine in the 1980s was a direct result of the shipping crisis. The basis for the decline was reduced activity – as seen through the declining amount of tonnage on the Norwegian register and vessels laid up – rather than the influence from technological development traits or changes in the manning requirements.

The foreigners employed on Norwegian vessels were largely engaged in the cruise industry or on vessels operating in the regional market in Asia. The share of foreign employees peaked in 1968, and then declined considerably over the next ten years. One reason for this was that the number of vessels with a large amount of foreign crew was reduced from 154 in 1967 to 80 in 1975.<sup>45</sup> From 1970 to 1981 the number of officers fell by 25 per cent, whereas the number of “other crew” fell by more than 45 per cent. The latter group included a higher share of foreigners, so a reduction in the share of foreigners should be expected.<sup>46</sup> From 1979 onwards the number of foreigners relative to Norwegians started to grow, partly as a result of changes in the statistical base. Moreover, the share of officers in total employment increased.

The shipping crisis manifested itself in a number of ways in the Norwegian economy. Lay up-rates increased and freight earnings and employment dwindled. The Norwegian-registered tonnage was considerably reduced, and although parts of the decline was offset by increased Norwegian ownership of tonnage flying foreign flags, there was both an absolute and relative decline in the Norwegian shipping activity. The end result was that the shipping sector in many ways had to concede its important role in the Norwegian economy.

### **10.3.3. The foray into the offshore sector**

The reduced attractiveness of shipping investments following the bleak market prospects – which affected shipowners of all nations – provides only a part of the explanation of the disinvestment in Norwegian shipping. Parallel with the fall in expected returns from shipping investments, the profitability of domestic investment alternatives increased. In Chapter Six it was claimed that the relatively low return from Norwegian manufacturing investments may contribute to an explanation of the traditionally large Norwegian presence in the shipping sector. After 1973 the offshore sector became an alluring alternative to manufacturing and shipping investments. The development of oil production on the Norwegian continental shelf

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<sup>44</sup> Bakka, Dag jr., *I hardt vær – skipsfartskrise og samlingsprosess. Norsk Sjøoffisersforbund 1995* [History commissioned by the Norwegian Maritime Officers Association], Norsk Sjøoffiserforbund, 1999, p. 46. The figures refer to the full employment, including crew on holiday or laid off.

<sup>45</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 29.

<sup>46</sup> Norges Offentlige Utredninger (1983:7), *op.cit.*, p. 75.

was a particularly attractive alternative for Norwegian shipowners with experience from the maritime industry, with foreign contacts and with capital available from vessel sales or freight revenues.

The decline of the Norwegian shipping industry was thus the result of two trends, both enhancing the flight of tonnage from the Norwegian registry. On the one hand, the state of the shipping market made profitable operation difficult for vessels flying the high cost Norwegian flag. A strong fall in expected revenues, which made all other investment alternatives more attractive, is one reason for the disinvestment in Norwegian shipping.

Additionally, the development of oil production on the Norwegian continental shelf presented Norwegian shipowners with investment alternatives that were more profitable than those which they had traditionally encountered within Norway. Moreover, investments in the oil sector could to a larger extent than traditional investment alternatives utilise the competence already existing in the shipping organisations, including access to international finance and experience with maritime labour. In short, the attractiveness of shipping investments fell, whereas the attractiveness of the investment alternatives increased.

The link between the tanker market breakdown and the expansion into the offshore industry is not only relevant for Norwegian shipowners, but also for Norwegian yards. Following the termination of Reksten's newbuilding contracts, the Aker group suspended the development of new ships, concentrating instead on the development and construction of mobile rigs.<sup>47</sup>

The effect of the oil price increase on the European offshore industry was significant. Several discoveries that had previously been considered as uneconomical to exploit became profitable following the increase in the price of oil. Moreover, the unstable political conditions in some of the most important oil-producing countries encouraged operators to increase their presence in more stable political environments such as the North Sea.

The Norwegian shipowners' engagement in the offshore industry can crudely be divided into four different areas; participation in oil companies, investments in onshore supply bases, investments in offshore rigs and investments in supply vessels. However, some shipowners were indirectly affected through their interests in the shipbuilding sector. Although the offshore industry was vital to the continuing existence of the shipbuilding sector and the yards owned by Norwegian shipowners, this theme lies outside the scope of this thesis. Moreover, other agents in the maritime market, such as the classification society Det Norske Veritas, were also able to transform their operations to take advantage of the opportunities in the Norwegian offshore sector. The following analysis focuses on shipowners' engagements in the rig and supply ship sectors, but the other areas where Norwegian shipowners participated will be touched upon briefly.

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<sup>47</sup> Nerheim, Gunnar, "Framveksten av det oljeindustrielle kompleks in Norge" [The emergence of the oil-industrial complex in Norway], *TMV Working Paper No. 80*, Centre for Technology and Culture, Oslo, 1994, p. 39.

## Shipowners' investments in oil companies

Three of Norway's largest shipowning companies, Sig. Bergesen d.y. & Co., Anders Jahre and Fearnley & Astrup, as well as Fred. Olsen through his Aker Group, participated in the establishment of Noco, the first Norwegian oil consortium, in 1964. Other shipowning interests joined a second consortium later the same year. The majority of the members of Noco II came from the shipping sector. From Bergen, Westfal-Larsen & Co. and J. Ludwig Mowinckels Rederi participated, R.S. Platou AS, primarily a shipbroker, invested in the consortium, and Fred. Olsen and Sig. Bergesen d.y. also took part. The latter was a late substitute for another shipowner, Einar Rasmussen of Kristiansand. In addition to the five shipping companies, two insurance companies and two industrial groups participated in the venture.<sup>48</sup>

When the two consortia merged into a common partnership in 1965, two more companies were admitted. Halfdan Ditlev-Simonsen & Co. and Smedvigs Tankrederi AS both came from the shipping sector.<sup>49</sup> The limited partnership Norwegian Oil Consortium AS, formally established in October 1965, had 20 participants, 11 of which came from the shipping sector.<sup>50</sup>

In 1971 the participants of the two consortia invited other agents to join in a new limited partnership. 78 Norwegian companies were willing to commit a total of NoK 683 million to the project, and approximately half of the participating companies were shipping companies. Indeed, the majority of the board of the new company consisted of persons with close ties to the Norwegian shipping industry.<sup>51</sup>

The new company, Nocoto, became a part of Saga Petroleum in 1972. The list of investors in Saga Petroleum shows the eagerness of Norwegian shipowners to participate in the oil sector – the majority of the 96 participating companies were shipping companies.

Table 10.1 illustrates the extent to which the shipping companies listed on the Oslo Stock Exchange participated in oil exploration. Almost 30 of the companies had invested in Saga Petroleum, and the majority of the companies had investments in other offshore projects as well. In addition to the 29 listed companies with interests in Saga, 28 non-listed shipping companies had committed investment capital to the project.

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<sup>48</sup> Saga Petroleum, *Sagaen om Saga* [The Saga of Saga], Saga Petroleum ASA, Oslo, 1997, p. 12.

<sup>49</sup> Ditlev-Simonsen and Smedvig bought the shares previously owned by Noco I and Sig. Bergesen d.y., as the number of participants was limited to 20 and no participants could hold more than one share.

<sup>50</sup> Prior to the merger, the shipowners Wilh. Wilhelmsen bought the stake of Europetrol, one of the original founders of Noco.

<sup>51</sup> Hanisch, Tore Jørgen and Nerheim, Gunnar, "Fra vantro til overmot" [From Disbelief to Arrogance], *Norwegian Oil History – Volume 1*, Norsk Petroleumsforening, Oslo, 1992, pp. 39-40 and 176-181.

Table 10.1. Some listed shipping companies' interests in oil companies, million kroner<sup>52</sup>

Shipping company	Saga	Other interests	Shipping company	Saga	Other interests
Antarctic	0,5		Kosmos	20	Noco
Avenir	1	Polaris	Nordheim	17,1	Noco
Beaulieu	1	Polaris	Ocean	2	Polaris
Beaumont	1,5	Polaris	Odd	6,66	Syracuse & 25/4
Belship	8		Rosshavet	8	
Bergehus	2	Noco	Ruth	12	Polaris & Pelikan
Billabong	2		Seattle	0,75	Polaris
Bonheur	3	Noco	Sigmalm	10	
Borgå	3	Noco	Skagerak	-	Scanpet
Den N. Middelhavslinje	4	Noco	Tønseberg Hvalfangeri	0,5	
Den N. Amerikalinje	-	Polaris	Vestfold	2	
Det Nordenfjeldske DS	6		Vestheim	0,95	Noco
Ganger Rolf	9	Noco	Vito	-	Scanpet
Herlofsson Shipping	4	Pelikan	Waage I	5	Polaris & Pelikan
Jelølinjen	1	Noco	Waage II	3	Polaris & Pelikan
Klaveness DS	2		Ørnen	6,66	Syracuse & 25/4

Another link between the Norwegian shipping companies and the growing offshore sector was through onshore supply bases. Among the agents entering this part of the offshore industry were Peder Smedvig, Fred. Olsen, Wallem-Steckmest, Mosvold and Jacob Stolt-Nielsen.<sup>53</sup> However, the development of onshore supply bases was limited to a handful of shipping companies. The investments in Saga Petroleum brought together a much larger share of the shipping sector. Nevertheless, the value of the investments was low compared with the two major areas of offshore expansion for Norwegian shipowners – investments in oil rigs and supply vessels. Indeed, the investments in rigs in 1971 were higher than the aggregate committed resources in Saga Petroleum.

### Shipowners' investments in the oil rig sector

Although a considerable share of the Norwegian shipowning companies had been involved in the offshore industry before the shipping crisis through their investments in Norwegian and international oil consortia, the operation of drilling vessels and supply ships was to become the main point of entry into the domestic offshore industry for Norwegian shipowners. In time, the competence and resources acquired in the domestic offshore industry became a steppingstone for the entry into the international market.

*Norwegian Shipping News* reported in late August 1971 that the Stavanger-based company Smedvig had ordered the first drilling vessel on Norwegian account.<sup>54</sup> The effect was

<sup>52</sup> Figures taken from "Oversikt over norske børsnoterte selskapers engasjement i oljeleting" [Survey of Norwegian listed companies' interests in oil exploration], published by the Norwegian bank DnC and reprinted in Seeberg, Bjørn, *Norsk skipsfart og dens engasjement i petroleumaktivitetene i Nordsjøen* [Norwegian shipping and its participation in the petroleum activities in the North Sea], unpublished thesis, Norwegian School of Economics and Business Administration, Bergen, 1973, p. 28. The figures in columns two and five refer to the investments in Saga Petroleum, the columns labelled "Other interests" refer to investments in other companies, some of which participated in Saga.

<sup>53</sup> See Seeberg, Bjørn, *op.cit.*, 1973, pp. 30-31 for a short introduction.

<sup>54</sup> *Norwegian Shipping News*, No. 16, p. 656. However, Fred. Olsen had in the mid-1960s converted a whaling factory to a drilling vessel, but this vessel turned out to be unsuitable for operation in the North Sea.

conspicuous. As we have seen in other parts of the shipping sector, contracting tends to be undertaken in swarms. The 1971 Platou Report states that “*There was a rush for the earliest building prospects, and in the course of a few autumn months nine semi-submersible platforms were ordered, to be registered in Norway.*”<sup>55</sup> At the same time, a Norwegian consortium headed by P. Meyer ordered the dynamically positioned drill-ship MS Havdrill in the Netherlands, bringing the total number of drilling vessels contracted on Norwegian account to ten. By conservative estimates, the Norwegian investments in semi-submersible rigs in 1971 may be valued at \$115 million, with the “Havdrill” adding another \$20 million.

Table 10.2. Norwegian drilling rigs contracted 1971<sup>56</sup>

Company	Type and yard	Participants
KS Deep Sea Drilling Co. AS	Semi-submersible Aker H-3, Norway	Rederiet Odfjell AS, Westfal-Larsen & Co. AS, R.S. Platou AS, Wallem, Steckmest & Co. AS, Det Norske Oljeselskap, Vesta, Gerrards Rederi, A.F. Klaveness & Co. AS, Mosvolds Rederi AS
Gotaas-Larsen I	Semi-submersible Aker H-3, Norw.	Gotaas-Larsen AS Fearnley & Eger
Gotaas-Larsen II	Semi-submersible Voyager, Norway	Gotaas-Larsen AS AS Thor Dahl
AS Norsedrift & Co.	Semi-submersible Pentagone, France	Sigurd Herlofson & Co. AS, Halfdan Ditlev-Simonsen & Co., Skibs-AS Belships, Olav Ringdal, two unnamed participants
Nordic Offshore Drilling Company AS	Drillship, Pelican, the Neth.	P. Meyer, R.S. Platou AS, Den Norske Creditbank, B. Holter-Sørensen & Co., IHC (the Netherlands), Foramer (France)
Peder Smedvig	Semi-submersible Norrig-5, France	Peder Smedvig
Hagb. Waage I	Semi-submersible Voyager, U.S.	Hagb. Waage
Hagb. Waage II	Semi-submersible Voyager, U.S.	Hagb. Waage
Waage-Wilhelmsen	Semi-submersible Voyager, Norway	Hagb. Waage, Wilh. Wilhelmsen
Ugland group	Semi-submersible SS-3000, U.S.	Ugland group, Zapata (U.S.)

Almost half of Norway’s 25 largest shipowning companies participated in the rush for newbuildings in 1971. Several of the companies that did not initially take part entered the offshore sector at a later stage. The entry into the offshore sector was a combination of long-term strategic changes and the herd behaviour often seen by Norwegian shipowning companies.

Smedvig had originally considered the contracting of a drilling rig as early as 1968, but temporarily shelved the plans due to the loss of key personnel.<sup>57</sup> When the decision to contract was taken in 1971, several of Norway’s most prominent shipowning companies had signalled their intention to do the same. All except one of the companies ordering rigs in 1971 were relatively large, with dry bulk or tanker fleets in excess of 100.000 dwt.<sup>58</sup> The “Deep Sea

<sup>55</sup> R.S. Platou, *The Platou Report 1971*, Oslo, 1972. p. 23.

<sup>56</sup> Information from list presented in *Norwegian Shipping News*, No. 2, 1972, pp. 39-40.

<sup>57</sup> Nerheim, Gunnar and Utne, Bjørn S., *Under samme stjerne – Rederiet Peder Smedvig 1915-1990* [Under the star – The shipowning company Peder Smedvig 1915-1990], Peder Smedvig A/S, Stavanger, 1990, p. 203.

<sup>58</sup> The exception was B. Holter-Sørensen & Co. which participated in the consortium contracting the “Havdrill”. This company owned two medium-sized bulk carriers totalling 82.000 dwt.



Driller”, the vessel ordered by a consortium headed by Odfjell, was the first of the Aker H-3 rigs, a vessel type which came to play a crucial role for the Norwegian shipbuilding industry as well as for Norwegian shipowners.

The Aker H-3 rig was central when the second contracting boom on Norwegian account occurred in 1973 and 1974. In the latter year 19 new drilling rigs were contracted for operation under the Norwegian flag, and Norwegian interests also participated in another seven drilling vessels, not intended for the Norwegian registry. Within a month in the beginning of 1973, the Aker yards received five orders for H-3 rigs, and Norwegian interests were involved in all contracts.<sup>59</sup> In February 1974, 25 Aker H-3 rigs had been ordered. The demand for these rigs had been so high that the yards operated with a relatively long period of delivery. Accordingly, eleven of the rigs were to be built at other yards that had licensed the concept.

By 1974 Norwegian shipowners had entered the oil drilling sector on a large scale, either through vessels already delivered or through newbuilding orders. By the end of 1974, 54 units had been ordered with Norwegian participation, and 39 of these were intended for the Norwegian registry. Again, the herd behaviour is evident, and on the international level 30 newbuilding contracts for mobile drilling units were signed within a 45-day period in the end of 1973 and beginning of 1974.<sup>60</sup> The parallel to the shipping industry is obvious both with regard to the contracting behaviour and with regard to the yards’ response. The heavy demand led to a strong increase in yard capacity, and the annual building capacity, which had been 30-40 units in 1973 and 1974, was doubled in 1975 and doubled again in 1976.

Figure 10.13. Norwegian rigs, number and tonnage, 1000 grt, 1973-86<sup>61</sup>

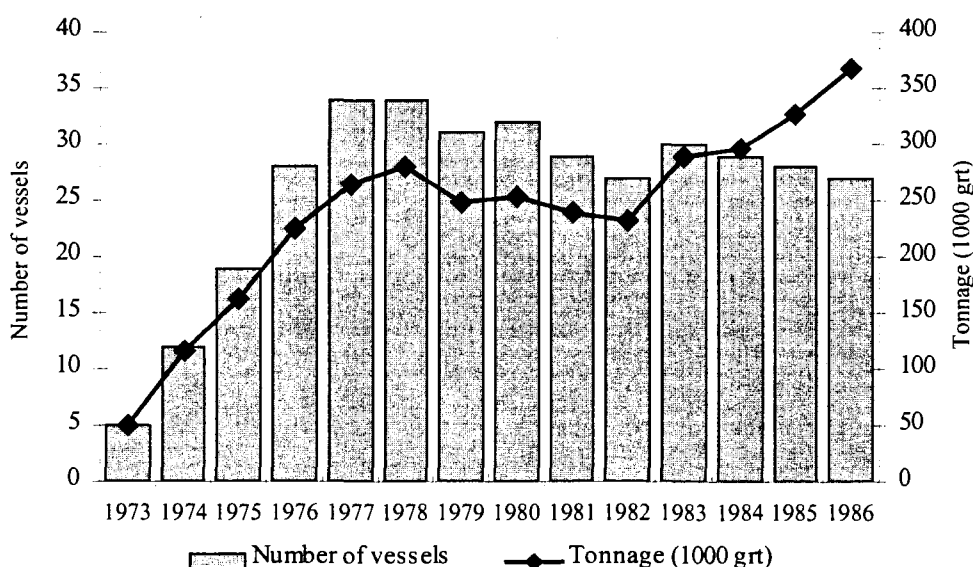


Figure 10.13 shows the Norwegian shipowners’ investments in the rig sector. Originally, the vessels were mainly semi-submersible rigs, but in 1976 the first self-elevating units were

<sup>59</sup> Hanisch & Nerheim, *op.cit.*, 1992, p. 247.

<sup>60</sup> R.S. Platou, *The Platou Report 1974*, Oslo, 1975, p. 17.

<sup>61</sup> Based on the database from the Veritas-registry. The data have been adjusted to represent date of build, rather than date of inclusion in the registry, and are thus end of the year figures. The figure includes the drilling vessel MS Havdrill in the period 1973-1976 and the drilling vessel MS Pelerin from 1976 to 1986.

delivered. A year previously, the first drilling unit had been converted to living quarters/service units, and several Norwegian shipowners followed suit – by the end of 1977 the Norwegian rig fleet was fairly diversified. Of the 34 vessels in the Norwegian fleet at this time, 13 were traditional drilling units, 11 had been permanently or temporarily converted to living quarters, three had been supplemented with special crane equipment, five were self-elevating units and two were drill-ships.<sup>62</sup>

The Norwegian shipowners' foray into the offshore industry had several similarities to their investments in shipping. The favourable tax treatment with regard to depreciation was the same as in the shipping industry, and it is therefore not surprising that the two spurts of drilling vessel contracting in 1971 and 1973/1974 followed very good years for Norwegian shipping. Moreover, the Norwegians also brought another aspect of their shipping strategies to the offshore sector – speculation. According to Hanisch and Nerheim, “[Norwegian shipowners] introduced a completely new element to the drilling sector. They built drilling vessels on speculation, without having secured drilling contracts with oil companies in advance.”<sup>63</sup>

The results of the herd behaviour were partly the same as those found in the tanker sector – overcapacity, lay-ups and low rates. In 1975 the balance between demand and supply deteriorated, following large deliveries and new tax rules which led to reduced growth of exploration activity. By the end of 1975, six semi-submersible drilling vessels had been laid up, and in 1976 the lay up-rate in the North Sea was approximately 30 per cent. In April that year, Norwegian shipowners had invested in 42 offshore rigs, of which only half had been delivered.<sup>64</sup> The difficulties in the North Sea were the basis for the inclusion of drilling vessels in the Norwegian authorities' initiatives toward the shipping sector, displayed through the Guarantee Institute.

However, the crisis in the offshore sector was neither as dramatic nor as permanent as in the shipping sector, and the market improved in 1977. There was a minor setback in 1978, before the market picked up again. The daily rate for rigs increased from \$16.000 to \$40.000 from December 1978 to December 1979, and more than doubled again, to \$90.000 by December 1980. As a result of the improved market conditions, the value of a 1974-built Aker H3 rig increased from \$22 million in late 1978 to \$80 million two years later.<sup>65</sup> Due to the increase in the value of the drilling rigs, the state intervention through the Guarantee Institute, which had been established amidst bleak market prospects in the mid-1970s, could be considered a success.

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<sup>62</sup> Stortingsmelding nr. 93 (1977-78), *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1977* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1977], p. 15.

<sup>63</sup> Hanisch & Nerheim, *op.cit.*, 1992, p. 233.

<sup>64</sup> Stortingsproposisjon nr 186 (1975-76), *Om utviding av statens garantiansvar overfor Norsk garantiinstitutt for skip og borefartøyer A/S* [Royal proposition on the expansion of the authorities' guarantee responsibility towards the Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd.], p. 3.

<sup>65</sup> Figures from Stortingsmelding nr. 108 (1980-81), *Om virksomheten i Norsk garantiinstitutt for skip og borefartøyer AS i 1980* [Report to the Storting on the activities of The Norwegian Guarantee Institute for Ships and Drilling Vessels AS in 1980], p. 11.

Norwegian shipowners' entry into the rig sector was facilitated by their network of international contacts, including their relations to the major oil companies, shipyards and financing institutions. By the middle of 1975, the nineteen rigs delivered to Norwegian owners had represented an investment of some NoK 2,5 billion. The average Norwegian share of these vessels was approximately 75 per cent, so they represented an investment for domestic shipowners of NoK 1.875 million. Moreover, 43 vessels, at a value of NoK 6,5 billion had been contracted, but not yet delivered. This represented another NoK 5.625 million of capital from Norwegian shipowners.<sup>66</sup>

### Shipowners' investments in the supply ship sector

Although the amount of shipping capital invested in oil rigs was high, the Norwegian shipowners' activities in the offshore sector were not confined to the rig segment. The increased exploration and exploitation in the North Sea also led to a need for servicing, and the supply ship sector presented investment opportunities for shipowners who could not afford or did not want to be involved in rig ownership. As Table 10.2 shows, the first companies to invest in drilling rigs were the established companies of the Norwegian shipping industry, particularly operators of tankers and large bulk carriers. However, the booming offshore sector presented opportunities for the minor players in the Norwegian shipping industry as well.

Several companies, a combination of large and small agents, entered the offshore sector through investments in supply ships. In 1971 the first three supply ships had been delivered and another 17 units had been ordered.<sup>67</sup> Initially, the investments turned out to be very profitable, but again, the herd behaviour was evident. By the end of 1973, 24 supply vessels were registered in the Norwegian fleet, and an additional 46 were on order. The following year another 75 contracts were signed.<sup>68</sup>

To a larger extent than for other parts of the offshore and shipping sectors, the investment in supply vessels took place outside the traditional shipping centres of Bergen, Oslo and the South Coast. The cost of a supply ship was only a fraction of the price of a drilling unit, usually in the region of five per cent. Accordingly, the supply ship sector represented a gateway to the offshore adventure for smaller companies with limited resources, who were unable or unwilling to commit themselves to rig investments. A considerable share of the supply vessels was delivered from relatively small Norwegian yards.

Most of the supply vessels were owned through *kommandittselskap* [limited partnerships], due to favourable taxation practices. Several of the limited partnerships gathered companies both from the shipping sector – eg shipowners and brokers – and other parts of the Norwegian business community. The shipbrokers Johan G. Olsen in Kristiansand and Joachim Grieg in Bergen were vital to the establishment of some of the most important supply ship operators.

For some of the shipping companies, the entry into the supply ship sector was a logical and convenient step, based on their expertise in vessel operation and the depression in other

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<sup>66</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 20. More than two thirds of the 62 vessels were registered in Norway or intended for the Norwegian registry.

<sup>67</sup> R.S. Platou, *The Platou Report 1971*, Oslo, 1972, p. 23.

<sup>68</sup> Hanisch & Nerheim, *op.cit.*, 1992, p. 228.

segments of the shipping industry. The access to organisation through limited partnerships gave further impetus to the development of the supply ship sector, and was particularly important in attracting investors who had little or no previous engagement in the shipping sector.

An analysis of the shipping companies engaged in the supply ship sector shows that the majority of the companies had previously been engaged in small-scale shipping. Some of the companies, like Ivarans Rederi AS, I.M. Skaugen, Peder Smedvig and Wilh. Wilhelmsen, had experience from the operation of large vessels, and started supply ship services either through their own organisations or indirectly through newly established companies. However, the majority of the supply ship operators had their roots in a different part of the shipping industry than the shipowners who entered the rig sector.<sup>69</sup> Moreover, the supply ship sector was characterised by a relatively high degree of concentration, with the six largest companies controlling almost half of the fleet in the mid-1970s.

Table 10.3. Major supply ship operators, 1977<sup>70</sup>

Company	Vessels	Traditional engagement	Other interests
N.R. Bugge, Tønsberg	8	Tanker shipping	Managing one foreign tanker
Wilhelmsen Offshore, Oslo	14	Part of Wilh. Wilhelmsen group	Diversified within shipping
Peder Smedvig, Stavanger	6	Diversified shipping/industry	Shipping and other offshore
Viking Supply Ships, Kr. sand	5	Shipping (Bendt Rasmussen)	Shipping and other offshore
I.M. Skaugen & Co., Oslo	4	Diversified shipping	Diversified shipping
Stolt Nielsen, Haugesund	6	Diversified shipping	Shipping and other offshore
Normand, Haugesund	6	Various shipping companies	Various shipping interests
KS Sandøy Supply, Brattvåg	6	Shipping and fishery interests	Shipping and fishery interests
Johs. Larsen, Bergen	7	Tramp shipping	One barge and one large ship

The history of the Haugesund-based Normand-group can illustrate Norwegian shipowners' entry into the supply ship sector. The company's six partners all had their roots in the shipping sector.<sup>71</sup> When the company's first supply ship was launched in 1974, three of the participants each had fleets of more than 40.000 grt, and were ranked from 90<sup>th</sup> to 100<sup>th</sup> on a list of Norway's largest shipowners. The fleet expanded both as a result of vessels jointly owned by the former participants and vessels contracted by one of the participants, Solstads Rederi, which managed the fleet.

In 1974 Solstads Rederi owned a fleet of eight cargo vessels, mostly engaged in Asia. These vessels were gradually disposed of, and by 1982 the company has become an offshore-company, rather than a traditional shipowning company.<sup>72</sup> By this time the company's supply vessels operated both in the North Sea and in distant waters. The experience of Solstads

<sup>69</sup> Løvberg, Atle and Reinholdsen, Egil, *Norsk engasjement innen supply-skipsfart* [Norwegian involvement in supply shipping], Institute for Shipping Research, Norwegian School of Economics and Business Administration, 1977, pp. 8-12.

<sup>70</sup> Adapted on the basis of Bøe, Harald and Kvammen, Ivar Neerland, *Forsynings- og servicetjenester – en ny skipsfartsnæring* [Supply- and service-provision – a new shipping segment], Institute for Shipping Research, Norwegian School of Economics and Business Administration, 1977, pp. 77-79.

<sup>71</sup> The three major owners were DS AS Produce (Sverre Odland) and KS Skips-AS Solhav (Solstads Rederi AS), both with 25 per cent, and DS AS Vestland (Rich. Amlie) with 20 per cent. Moreover DS AS Notos, John K. Kyvik and R.G. Hagland AS participated, with shares ranging from five to 15 per cent.

<sup>72</sup> Misje, Magne, *Solstads Rederi A/S 1964-1989*, Solstads Rederi, Skudeneshavn, 1989, p. 30.

Rederi shows both that the offshore industry presented an alternative for traditional shipowners, and that the engagement in the North Sea facilitated the expansion into new areas.

The supply sector fell victim to the reduced growth of exploration activity in the North Sea in the mid 1970s. Again, the supply side swelled while the demand side increased less than anticipated. One participant blamed the limited partnerships and the preferable tax treatment of supply ship investments for the overcapacity.<sup>73</sup> Like in the rig sector, the alternatives to accepting the low rates in the North Sea were conversion or increased operation outside the Norwegian sector. By the early 1980s Norwegian interests were among the world's largest supply ship owners, and their vessels were engaged in several different regions.

#### **10.3.4. From shipping to shipping and offshore**

The transfer of funds from the shipping sector to the offshore sector was considerable. In July 1975 Norwegian shipowners had oil rig contracts at a value of more than NoK 5,5 billion. Moreover, NoK 1.500 million worth of supply vessel contracts, representing approximately 100 vessels, had been signed. The value of Norwegian shipping companies' investments in drilling and supply vessel contracts can thus be estimated at more than NoK 7 billion. At the same time, the total value of Norwegian ship newbuilding contracts was some NoK 26.500 million.<sup>74</sup>

The figures above show that the offshore investments of Norwegian shipowners amounted to more than a quarter of their shipping investments. The value of the shipping contracts were however still influenced by the backlog of vessels ordered during the contracting heyday, but not yet delivered. It may thus be reasonable to assume that Norwegian shipowners in 1974 and the beginning of 1975 invested considerably more in oil rigs and supply vessels than they did in newbuilding contracts for traditional ships. Moreover, Norwegian shipping interests had substantial investments in oil exploration and exploitation companies such as eg Saga Petroleum, in addition to the drilling and supply vessel investments.

The offshore investments were not confined to the Norwegian continental shelf, but gave Norwegian shipowners a chance to operate in foreign waters as well. By the beginning of the early 1980s, Norwegian supply ship owners had more vessels operating outside Norwegian jurisdiction than they had in Norwegian waters. The Norwegian shipping companies' investments in offshore oil sector continued into the 1980s, and totalled an estimated NoK 25 billion in the period 1974-1984.<sup>75</sup>

The offshore industry represented a manner through which the Norwegian shipping companies could diversify from the depressed shipping sector, yet utilise some of the competence inherent in their organisations. Their main competitive advantage was the maritime experience, reflected both in the management of vessels, the competence of the

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<sup>73</sup> Rasmussen, Bendt, *Gjennom bølger på sjø og land* [Through waves at sea and on shore], Vigmstad & Bjørke, Bergen, 1996, p. 224.

<sup>74</sup> Figures from Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 20.

<sup>75</sup> Lykke, Knut, "Norsk skipsfart – strategi og politikk" [Norwegian shipping – strategy and policy], *Sosialøkonomen*, No. 5, 1985, p. 16.

labour force and the similarity between shipping and offshore investments.<sup>76</sup> Moreover, Norwegian shipping companies actively tried to develop offshore expertise within their own organisations.<sup>77</sup>

The importance of the offshore sector for Norwegian shipping companies has its parallel in the importance of Norwegian shipping companies for the offshore sector. By the early 1990s the Norwegian rigowners had become major players in the international market, with a market share of approximately 40 per cent. Only one of the most prominent drilling companies had its roots outside the shipping sector.<sup>78</sup>

## 10.4. Norwegian Shipping in a New Context

During the shipping crisis, the character of the Norwegian maritime industry was transformed. By analysing the development of the Norwegian shipping industry in the period 1970-1987, we can clearly see some of the effects of the international shipping crisis, but the development traits also reflect the increased internationalisation of the shipping industry. As previously shown, it is difficult to differentiate the effects of the crisis from the general, long-term development of the shipping sector. However, with regard to Norwegian shipowners, some of the development traits were clearly the results of new opportunities following the liberalisation of the Norwegian shipping policy brought about by the crisis.

### 10.4.1. Changes in shipping policy

One way of measuring the influence of the shipping crisis on the development of the shipping industry is to examine the premises for the changes in the Norwegian shipping policy. Such an evaluation reveals that the effects of the shipping crisis, and the ensuing depressed state of the Norwegian shipping industry, have been extensively used as justification for the shift in policy. Consequently, the internationalisation of the Norwegian shipping industry, visible through increased foreign registry and a focus on ship management as a substitute for or supplement to vessel ownership, would not have occurred to the same extent if the freight markets had been good and revenues sufficient for continued profitable operation under the Norwegian flag.

Traditionally, the Norwegian legislation affected the structure of the shipping industry through two mechanisms. On the one hand, the legislation constrained foreign agents' access to the Norwegian register by laying down strict rules for vessels included in the Norwegian register. On the other hand, the legislation restricted Norwegian subjects' access to owning ships outside the Norwegian registry.

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<sup>76</sup> The existence of a well-functioning second-hand market is one important similarity between the shipping and the rig sectors.

<sup>77</sup> See Nerheim, Gunnar and Øye, Kristin Gjerde, *Uglandrederiene – verdensvirksomhet med lokale røtter* [The Ugland shipowning companies – international business with local roots], Andreas K.L. Ugland & Johan Jørgen Ugland, Grimstad, 1996, pp. 248-258 for an introduction to the various manners in which this was accomplished.

<sup>78</sup> Reve, Torger, Lensberg, Terje and Grønhaug, Kjell, *Et konkurransedyktig Norge* [A competitive Norway], TANO AS, Oslo, 1992, p. 158-159.

Foreign shipowners were not allowed to register their ships in the Norwegian registry according to *Sjøloven av 20. juli 1893* [The Norwegian Maritime Act], which had been partly motivated by foreigners' use of Norway as a Flag of Convenience. Paragraph 1 of this act lays down the conditions for the inclusion of a ship in the Norwegian registry:

- Norwegian subjects had to hold at least 6/10 of the capital.
- Norwegian subjects should be entitled to exercise at least 6/10 of the voting rights in the company.
- The chairman and the majority of the members of the board must be Norwegian citizens resident in Norway, and have lived there for the preceding two years.<sup>79</sup>

The condition that Norwegians should have a controlling interest in the company in fact eliminated foreign ownership of vessels in the Norwegian registry. Prior to the Second World War there was no direct parallel limiting the Norwegian ownership of vessels in foreign registries.

In the postwar period, however, Norwegian investments abroad were restricted under the provision of *Valutaloven* [The Currency Control Act], originally a provisional ordinance dated 1944, but later passed as an act and amended several times. Due to the foreign exchange legislation, Norwegian agents were generally not allowed to invest in foreign shipowning companies. Shipowners wishing to invest abroad had to apply to the Ministry of Trade and Shipping for exemption from the general rules.<sup>80</sup> In accordance with the increased foreign investments of Norwegian companies, the practice was gradually liberalised in the postwar period. However, the authorities claim that the enforcement of the regulation was relatively strict for shipowning companies.

Shipowners' direct investments abroad can be placed in two categories. The first category is subsidiaries with a similarity to the sales offices of industrial companies, undertaking import and marketing of goods produced in Norway. The equivalent in the shipping sector would be agencies or broker offices, and in this area the licensing practices of the authorities have been liberal. The second category, the founding of new shipowning companies or purchase of foreign companies, is equivalent to investment in foreign production facilities in the industrial sector. In this area the licensing has differed; industrial companies would be granted a license, whereas the licensing of shipowning companies would be restrictive.<sup>81</sup>

Norwegian exchange controls have thus been used as a tool of Norwegian flag policy, restricting the foreign investments of Norwegian shipowning companies. Despite this policy, some Norwegian-owned vessels were flying foreign flags, either as a result of exemptions from the general rule, or through investments in "unregulated companies", ie companies

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<sup>79</sup> See Gombrii, Karl Johan *et al.*, *Nordisk skipsfart under fremmed flagg* [Nordic shipping flying foreign flags], Nordic Institute of Maritime Law, University of Oslo, 1981, p. II-110.

<sup>80</sup> For a thorough account of Norwegian legislation regarding investments in foreign shipping, see Breistein, Gisle Stray, *Valutaregulering og skipsfart* [Currency control and shipping], Institute for Shipping Research, Norwegian School of Economics and Business Administration, Bergen, 1984. For most companies outside the shipping sector, *Norges Bank* was responsible for the licensing. Licensing in some other sectors, eg fisheries and agriculture, was also allocated to their respective ministries.

<sup>81</sup> *Norges Offentlige Utredninger* (1980:45), *Uteregistrering av skip og skipsfartens egenkapital* [Foreign registry of ships and the equity of shipping], p. 26.

established before the strict foreign exchange control regime was introduced during the second World War.

Norwegian shipowners' foreign investments were low compared with most of their competitors. However, some ownership of or interests in foreign vessels existed even before the shipping crisis. As a result of the need for dispensation from the general rules in connection with Norwegian shipowners' investments abroad, we have access to detailed information about the basis for these investments:

- Local regulations implying that vessels can only be operated under a given flag.
- Local activity which makes it unnatural, from an operational point of view, to register the vessels in a distant, foreign country, eg coastal fishing, barges etc.
- Dependence upon near contact with foreign business associates.
- Dependence upon foreign legislation giving special financing arrangements necessary for the accomplishment of the project.
- Dependence upon transport contracts which otherwise would not be attainable.
- Cooperation on major projects where the risk is spread among several types of interests, eg banks, yards and shippers.
- Dependence upon and utilisation of foreign managerial and technological competence.<sup>82</sup>

The list shows the *declared reasons* for ownership abroad. However, the licensing policy was strict, in particular when compared with the legislation in other countries. Licenses had not been granted in connection with applications where the main reasons were to exploit advantages with regard to lower taxes, cheaper crews, lower social expenses or to exploit advantages in connection with subsidies or national preferences. There might of course be discrepancies between the reasons shipowners reveal when applying for licenses and their actual reasons, eg due to the fact that shipowners are likely to have some idea about the conditions necessary for licenses to be granted.

In the period 1962-1975 the authorities granted 121 licenses, and only 20 applications were turned down. The authorities, however, claim that a restrictive policy was followed. They refer to their "*relatively restrictive attitude*" and also claimed that "*the traditional practice of allowing registration under foreign flags can be considered restrictive.*"<sup>83</sup> The fact that six out of seven applications for foreign ownership were rewarded with a license does not intuitively correspond with the authorities' assertion that a restrictive policy had been followed. Moreover, a former bureaucrat in the Ministry of Trade and Shipping has claimed that the licensing practice had in fact been liberal, but was influenced by a great deal of arbitrariness.<sup>84</sup>

The share of total applications which was granted a license is not necessarily a good measure in an evaluation of the strictness of the policy enforcement. Despite the possible arbitrariness, the potential applicants would have information about the legal framework and the bureaucrats' implementation of this framework. Accordingly, there is reason to believe

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<sup>82</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 24.

<sup>83</sup> Quotes from Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 24 and Norges Offentlige Utredninger (1980:45), *op.cit.*, p. 27.

<sup>84</sup> Breistein, *op.cit.*, 1984, p. 83.



that several shipowners wishing to register ships abroad, but for the “wrong reasons”, withheld their applications because they knew that they would not be given a dispensation. Accordingly, the number of vessels which would have been registered under foreign flags in absence of the licensing policy is likely to be considerably higher than the 20 applications which were turned down.

In 1975, the government emphasised that “*Norwegian shipping, as a main rule, shall be based on vessels flying the Norwegian flag and employing Norwegian crews.*”<sup>85</sup> Although the government made provisions for the flagging-out of vessels due to high Norwegian costs, this possibility was refuted by the parliament. It is thus evident that there was some movement towards liberalisation of the flag policy, but that there was no majority support for such a change. However, the shipping crisis made the problems even more acute, and paved the way for changes in the policy. In 1979, a parliamentary committee supported temporary flagging-out of Norwegian vessels as an alternative to the sale of these vessels to foreign-owned companies.

The large outflow of Norwegian tonnage after the restrictions on foreign registry were eased might indicate that there had been an unsatiated need for foreign registry which the previous legislation had been able to hold back. However, two trends were working in tandem, both affected by the sad state of the shipping market. On the one hand, vessels were sold to foreign shipowners which could operate them in a more effective manner. On the other hand, Norwegian shipowners transferred parts of their fleets to foreign registries in an attempt to increase their competitiveness. The analysis in Chapter Nine showed that both mechanisms were prominent in the late 1970s and early 1980s.

In 1984, Norwegian shipowners held interests in almost 400 foreign-registered vessels, totalling more than 10 million dead weight tons. The basis on which licences were granted, can be put into eleven different categories:

Table 10.4. The basis for licenses for registration abroad, 1984<sup>86</sup>

Basis for license	Number of vessels	Tonnage 1000 dwt.	Norwegian share (per cent)
Discrimination	70	467	78
Access to equity	93	3.391	84
Access to cargoes	97	3.235	64
Technically obsolete tonnage	14	74	100
Renewal 1:1	19	708	97
Temporary registration abroad	32	1.377	100
Nordic cooperation	5	225	85
Local business	22	230	87
Cooperation with developing countries	8	133	36
Minority shares	15	158	9
Other licences	7	462	100
Total	382	10.460	80

When regarding the reasons for applications for licenses, we can see that the motives are very much policy induced. The Norwegian shipowners who wanted to establish themselves abroad

<sup>85</sup> Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 25.

<sup>86</sup> Based on Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 36

– and were allowed to do so – often did this as a response to national legislation. There is thus reason to believe that a large share of the Norwegian vessels owned abroad did not fit into the historically most dominant frame of Norwegian shipping, viz large scale bulk shipping. This can be confirmed by the fact that only in three categories – temporary registration abroad, Nordic cooperation and other licences – is the average size of the vessels for which licences were granted more than 40.000 dead weight tons. The average size of vessels registered abroad, 27.400 dwt is considerably smaller than the corresponding average for the Norwegian fleet, which was approximately 54.000 dwt at the time. This supports the idea that the Norwegian vessels registered under foreign flags to a large extent were engaged in liner and special trades, where the average size of the vessels is smaller than in the bulk trades.<sup>87</sup>

In the middle of the 1980s, the authorities realised that “*a flexible flag policy is necessary to maintain a Norwegian shipping sector.*”<sup>88</sup> After some parliamentary wrangles – brought about as a result of the change from conservative to Labour government – the Norwegian policy was further liberalised.<sup>89</sup> The end result was that the act establishing an open Norwegian shipping register was passed, and the register came into effect from 1 July 1987. At the same time, liberalisation of the foreign exchange legislation had made it easier for Norwegian shipowning companies to establish subsidiaries abroad.

The changes represented a reorientation of the Norwegian flag policy and contributed to a considerable influx of tonnage in the Norwegian fleet. The basis for the major turnaround in Norwegian flag policy was twofold:

- that “*the access to operation under a foreign flag in many cases is a condition for the operation of shipping from Norway*” and
- that “*this kind of shipping implies that the most profitable functions, demanding the highest competence, are maintained as Norwegian businesses*”

The establishment of the Norwegian International Ship Register (NIS) was a means through which the authorities sought to maintain and develop Norwegian maritime competence, while at the same time countering the flight of Norwegian tonnage to foreign flags.

Like in the case of the structural transformation of the world fleet, the internationalisation of Norwegian shipping and the policy changes which facilitated this development, was the result of two concurrent trends. The shift in Norwegian policy was both a response to the shipping crisis and a result of more long-term changes in the maritime hegemony and the structure of the shipping sector. An investigation of the parliamentary proceedings illustrates this, and also indicates when and to which extent the various elements have been important.

The liberalisation of the Norwegian flag policy in the late 1970s can be considered a direct response to the shipping crisis. The proposition to the parliament refers to previous

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<sup>87</sup> Figures for the Norwegian fleet are taken from *Review 1983*. However, these figures are not necessarily directly comparable with the figures from Stortingsmelding nr. 53 (1984-85), *op.cit.*, due to the fact that the classification of vessels may differ.

<sup>88</sup> Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 40.

<sup>89</sup> Nordvik, Helge W, “From Benign Neglect to Active Intervention: Norwegian Government Shipping Policies from the 1970s Shipping Crisis to the Present”, paper presented to the IAME-Conference held at City University, Department of Trade, Shipping and Finance, London, September 20-22, 1997, pp. 13-20.

consideration of the flag issue, and emphasises that “*the possibilities for profitable operation under the Norwegian flag have been considerably reduced after the parliament’s discussion of the Shipping-report [1975-76].*”<sup>90</sup> In the recommendation from the extended Committee on Finance and Economic Affairs “*the current state of the shipping industry*”, ie the shipping crisis, is used to justify the liberalisation of the possibilities for foreign registry.<sup>91</sup> The first steps towards a more liberal shipping policy can thus be attributed to the effects of the shipping crisis on Norwegian shipping.

The second stage of liberalisation was not a result of the shipping crisis *per se*, but rather a reflection of the increasing discord between the Norwegian shipping policy and the shipping policies of other nations. The Department of Trade and Shipping emphasised that “[i]n the evaluation of the flag policy it must be made allowances for the fact that an increasing share of the world fleet is registered in countries with free registers.” As a result of the policy changes, Norwegian shipowners were allowed to transfer “*technically obsolete tonnage*” as a means to diversifying their operation.<sup>92</sup>

By the mid-1980s the third stage of liberalisation came into effect. The authorities had realised that “[a] restrictive flag policy will only delay the development towards operation under foreign flags.”<sup>93</sup> Accordingly, the government suggested that the procedures prior to foreign registry should be simplified. The general prohibition was terminated, and replaced with general access to foreign registry. Instead of a policy disallowing foreign registry, which given certain conditions could be waived, the policy became one of tolerance, but with two specified prohibitions. Applications were no longer dealt with on an individual basis. Rather, all applications were endorsed, unless there were specific reasons for refusal.

As shown in Figure 10.11 the reduction of the Norwegian fleet was dramatic in the period leading up to the changes in flag policy. However, three features of the Norwegian shipping policy may have delayed the outflow. First, it is reasonable to assume that some of the vessels which were transferred to foreign registries would have been transferred at an earlier point in the absence of a restrictive flag policy. Second, the Norwegian authorities introduced tax measures, particularly in connection with the taxation of limited partnerships, which were only available for vessels flying the Norwegian flag. Third, the existence of the Guarantee Institute contributed to the preservation of large tankers and bulk carriers on the Norwegian registry.

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<sup>90</sup> Stortingsproposisjon nr. 46 (1978-79), *Om støttetiltak for skipsfartsnæringen* [On support measures for the shipping industry], p. 10

<sup>91</sup> Innst. S. nr. 167 (1978-79), *Innstilling fra den forsterkede finanskomite om støttetiltak for skipsfartsnæringen* [Recommendation from the extended Committee on Finance and Economic Affairs about support measures for the shipping industry], p. 9.

<sup>92</sup> Quotes from Stortingsmelding nr. 52 (1980-81), *Om skipsfartsnæringen* [On the shipping industry], p. 31 and p. 30.

<sup>93</sup> Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 41.

#### 10.4.2. *The internationalisation of Norwegian shipping*

The complexity of ownership in the shipping sector leaves a lot to be desired with regard to the determination of a ship's nationality. As Cashman puts it, "[i]t is a brave man who will address the question of who owns the fleet and put forward a hypothesis without some inner feeling of disquiet and vulnerability."<sup>94</sup> In the following analysis, two approaches have been chosen to present the increased internationalisation of Norwegian shipping. First, I focus on the tonnage registered in the two most important FoC-registries, Liberia and Panama, but where the managing owners are registered in Norway. Second, I present the tonnage leaving the Norwegian registry, but which was still managed from Norway the subsequent year.

The number of vessels and amount of Norwegian-managed tonnage registered under Flags of Convenience represent a crude measure of the internationalisation of the Norwegian shipping industry. Nevertheless, the development is remarkable. In 1970, five Norwegian-managed vessels were registered in Liberia, and five years later the figure had been doubled.<sup>95</sup> In the next five-year-period, from 1975 to 1980, the number of Norwegian-affiliated Liberia-registered vessels increased to 33, and another three vessels were registered in Panama. From 1980 to 1986, there was an average annual increase of 20 per cent in the number of vessels managed by Norwegian shipowners and registered in Liberia and Panama. Moreover, the average size of the vessels increased by 15 per cent over the same period.

By analysing the amount of Norwegian-managed tonnage registered in the two most important FoC-countries, Liberia and Panama, the two notable trends towards internationalisation are illuminated. First, the figures reveal the tonnage owned by Norwegian shipowning companies, but registered under Flags of Convenience. Second, the figures show the increased use of Norwegian management companies by foreign shipowners. The latter trend is likely to be underestimated as the main source, the Veritas-registry, is unable to capture the chartering-in of foreign vessels on long timecharters, bareboat charters etc.

The tonnage registered in Liberia and Panama only captures a portion of the Norwegian-owned, foreign-registered vessels. According to official figures, Norwegian shipowners participated in the ownership of 136 vessels, amounting to 3,3 million dwt, in late 1974. The Norwegian share of these vessels was approximately 40 per cent. The number of licences for foreign projects increased from an annual average of 20 in the period 1975-1980, to more than 60 annually in 1983 and 1983, and further to 115 in 1984.<sup>96</sup> By 1984 the tonnage with Norwegian participation had increased by more than 200 per cent, to almost 10,5 million dwt. More importantly, the average Norwegian share had increased from 40 per cent to 80 per cent. In June 1984, approximately 45 per cent of the vessels were registered in Liberia or Panama, whereas a third was registered in other OECD-countries.<sup>97</sup>

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<sup>94</sup> Cashman, John P., "Shipping Statistics – Who Owns the Fleet", in Strandenes, Siri Pettersen, Svendsen, Arnljot Strømme and Wergeland, Tor (eds.), *Shipping Strategies and Bulk Shipping in the 1990s*, Center for International Business, Bergen, 1989, p. 73.

<sup>95</sup> All figures in the subsequent analysis refer to vessels of more than 5.000 grt. They are based on the Veritas-register, and consequently do not necessarily include all relevant vessels.

<sup>96</sup> Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 35.

<sup>97</sup> *Ibid.*, p. 36.

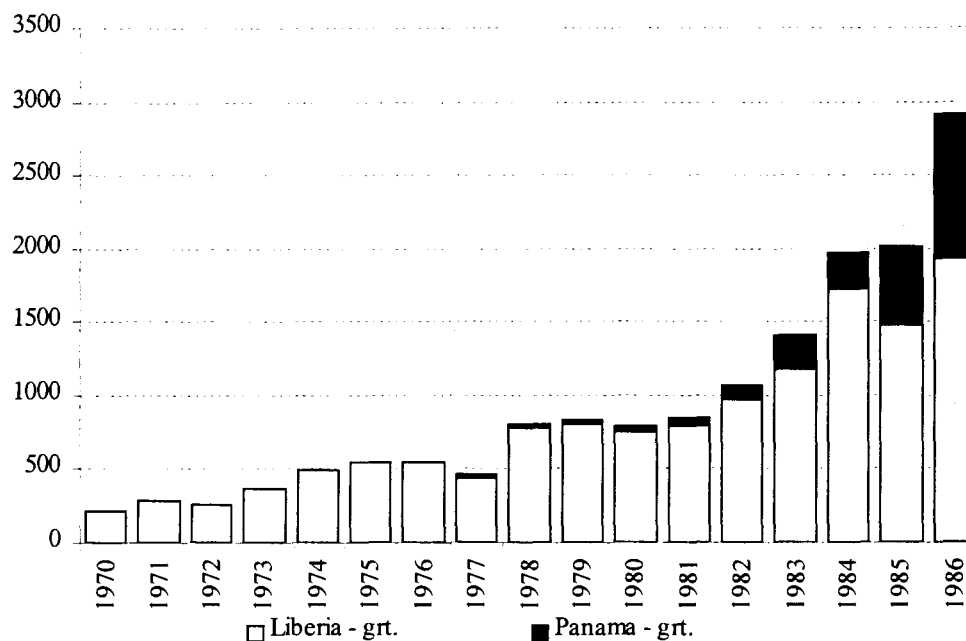
Figure 10.14. Liberia- and Panama-vessels managed from Norway, 1000 grt, 1970-86<sup>98</sup>

Figure 10.14 gives an indication of the increase in foreign-registered tonnage with Norwegian management. Until 1978 ore carriers managed by Sig. Bergesen d.y. & Co accounted for more than 50 per cent of the Liberia-registered tonnage. The company was allowed to register these vessels abroad due to cooperation with international ore conglomerates. It is important to emphasise that the increase in Norwegian-affiliated tonnage registered in FoC-countries is as much a result of the political development previously described as of changing economic considerations.

From 1980 onwards, foreign registry was allowed to secure the profitable operation of vessels which were to be sold abroad after an expected increase in second hand-values. In the period 1980-1983, 64 vessels were transferred abroad as an alternative to sale.<sup>99</sup> This practice is one of the reasons for the relatively high turnover of the Norwegian-managed vessels in the Liberian and Panamanian fleets. However, several companies had to apply for an extension of the initial two year temporary waiver, as the anticipated value increases failed to materialise.

Later, foreign registry was still considered an exemption from the general rule, but the practice became so liberal as to facilitate large-scale registry under foreign flags. By the middle of the 1980s, the dire conditions in the shipping industry had forced the authorities to make a total reversal of their flag policy. The aim was no longer, as in 1975, that "*Norwegian shipping, as a main rule, shall be based on vessels flying the Norwegian flag and employing Norwegian crews*", but rather that "[a]ccess to operation under a foreign flag in many cases

<sup>98</sup> The chart is based on a database consisting of figures from the list of national fleets by owner in the Veritas-registries, 1970-1986. Vessels managed by Gotaas-Larsen's and Stolt-Nielsen's Norwegian affiliates have been excluded. The same applies to vessels managed by foreign affiliates of Norwegian companies, such as the Hong Kong arms of Wallem and Thoresen International/ AS Bruusgaard Kiøsterud/ Arne Teigen. The figures include ships above 5.000 grt, as well as the drilling vessel Pacnorse I in the period 1978-1982, one semi-submersible rig in 1978 and 1986 and two rigs in 1984 and 1985.

<sup>99</sup> Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 36.

is a condition for the operation of shipping from Norway.”<sup>100</sup> The policy change was accompanied by a quadrupling of the Norwegian-controlled tonnage registered in Liberia and Panama.

The effects of the changes in the Norwegian shipping policy are evident from Figure 10.15 which is based on the Veritas-database. The figure shows the tonnage and number of vessels sold abroad from Norwegian shipowners, where the management of the vessels the following year was a Norwegian company.

Figure 10.15. Vessels sold abroad with continued Norwegian management, 1970-1986<sup>101</sup>

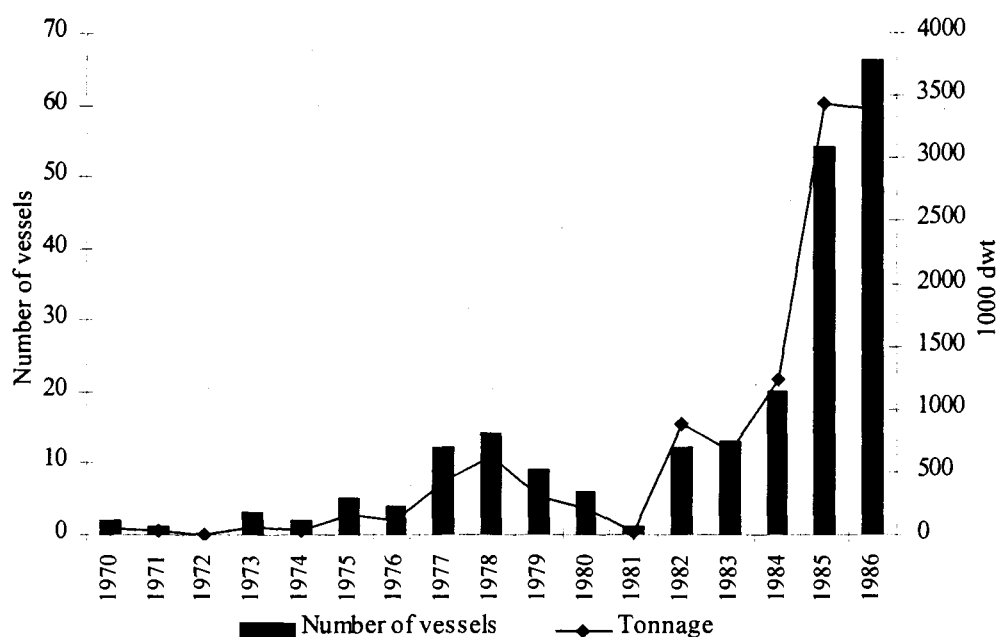


Figure 10.15 illustrates several of the trends that have been presented in the preceding discussion. First, the relatively low number of vessels leaving the Norwegian fleet in the first half of the 1970s may be an indication that foreign registry was partly motivated by the crisis – the numbers begin to rise when the crisis had become evident, but were reduced in the period of very good rates around the turn of the decade. Second, the changes in flag policy are evident. The number of vessels transferred to foreign registries increases considerably after it became possible to transfer vessels abroad as an alternative to disposal. The trend accelerated after the shift in shipping policy from “prohibition with possible waivers” to “free-for-all with some exceptions” in the mid 1980s.

The data on which Figure 10.15 is based also reveal a strong tendency towards increasing average size of the tonnage sold abroad, but managed from Norway. Nine of the 13 vessels transferred in the period 1970-1975 were bulk carriers, and the average tonnage was approximately 23.000 dwt. In the period 1976-1980, the average tonnage increased to almost 40.000 dwt, largely as a result of the inclusion of some medium-size tankers. In the period 1981-1986 fourteen mammoth tankers were transferred abroad, but still operated from Norway, contributing to an increase in average vessel size to almost 53.000 dwt.

<sup>100</sup> Quotes from Stortingsmelding nr. 23 (1975-76), *op.cit.*, p. 25 and Stortingsmelding nr. 53 (1984-85), *op.cit.*, p. 41.

<sup>101</sup> Based on the Veritas-database, as presented in Chapter Nine

### 10.4.3. Ship management

The increased number of foreign vessels managed from Norway was the result of two trends. On the one hand, there was the previously mentioned transfer of Norwegian tonnage abroad, with continued Norwegian ownership and management. On the other hand, Norwegian companies increasingly managed vessels owned by foreign entities which had no other link to the company. In this respect, the Norwegian companies undertook some or all of the business operation of the ship. The service which was sold was thus not transport in the conventional sense, but rather the technical and operational competence necessary to provide the transport service. Ship management is a complex term, embracing eg commercial management, technical management, manning management and provision management. The first two types of management are the most common, and those which will be focused upon in this context.

The growth of ship management was an international phenomenon, but like in other parts of the shipping industry, Norwegian companies became eager participants. There were two major causes for the increase in ship management. First, the increasing capital intensity in the shipping sector, coupled with advantageous tax treatment of shipping investments, brought several non-shipping agents into the industry. These investors, exemplified by the “doctors and dentists”-shipowners of Germany, the Netherlands and Scandinavia, often used an owner or a specialised manager for the daily operation of their vessels. Second, the shipping crisis itself represented an impetus for the growth of management companies. When traditional shipowners encountered liquidity problems after the freight market breakdown, a considerable amount of tonnage was taken over by creditors with limited shipping experience. Due to the state of the second-hand market, the creditors usually chose to keep the ship for a limited period of time, hoping for a recovery of the values. This facilitated the entry of specialised management companies, sometimes founded upon the remains of the original owners.

According to Spruyt, who has analysed the phenomenon in detail, business for ship managers expanded at an annual rate of nine per cent in the 1980s. According to estimates from the latter part of the 1980s, somewhere between 3.000 and 4.000 vessels were managed by other companies than the actual owners, and the number of companies offering management services was thought to be in the region of 300 to 500.<sup>102</sup> The large deviation with regard to the number is a result of the fact that the extent of such arrangements depends upon the definition of ship management used. Moreover, there has only been a very limited amount of research on this part of the shipping sector, and no precise statistics exist.

The degree of concentration among ship management companies has been higher than among traditional shipowning companies. Nevertheless, some Norwegian companies have attained an important position in the industry. Barber International, a part of the Wilhelmsen-group, was among the five major management companies in the mid- and late 1980s. The development of the company illustrates the shift in the Norwegian shipping industry. Based on the shipping competence of the Wilhelmsen-group, Barber International Ltd. was established in 1975. In the late 1980s, approximately 15 per cent of the tonnage managed by the company was Wilhelmsen-owned. This shows that ship management in many cases

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<sup>102</sup> Spruyt, John, *Ship Management*, Lloyd's of London Press Ltd., London, 1994, p. 2.

became a supplement to the vessel ownership of Norwegian shipowners, rather than a complimentary activity.

For some companies, the link between the shipping crisis and the growth of management services is evident. Havtor Management AS was founded upon the ruins of P. Meyers Rederi. By means of support from the Guarantee Institute and the creditors the company was allowed continue their operation. In the early 1980s the company was managing 20 vessels amounting to 1 million dwt of tonnage. The fleet was a combination of co-owned vessels and vessels on management contracts.<sup>103</sup>

In an analysis of the ship management industry it is claimed that the Norwegian management company Osco Shipping AS “*is a direct creation of the shipping crisis of 1974.*”<sup>104</sup> When the shipping companies of Ole Schrøder encountered liquidity difficulties, the creditors were persuaded that the company should retain management, but not ownership, of the vessels. Osco Shipping AS grew as a result of the management of the old Schrøder-fleet and new vessels.

The entry into ship management was a rational solution to the development of the shipping market after the crisis. By managing ships for other owners, Norwegian shipowners were able to utilise their knowledge of the commercial and technical side of shipping, without necessarily investing in shipping capacity themselves. In addition to the companies mentioned above, Norwegian Ship Management, a cooperation between several Norwegian shipowners, Irgens Larsen, specialising in reefers, and Gerrard Management, another company which operated previously owned vessels which had been taken over by the creditors, took advantage of the opportunities for professional ship management.<sup>105</sup>

## 10.5. Summary

This chapter has shown that the period after the shipping crisis was characterised by major changes in the international maritime hegemony, the Norwegian economy and the Norwegian shipping industry. According to the analysis, some of the development traits were a direct consequence of the shipping crisis, whereas others were the result of more long-term structural trends in the shipping sector.

The three structural transformations presented in this chapter are to some extent related. The reduction of the fleets of the Traditional Maritime Countries was particularly prominent in the case of Norway. The temporary diminution of the Norwegian fleet has three main causes. First, it can be explained by the effects of the shipping crisis, which sounded the death-knell for a large number of Norwegian shipping companies and which made shipowning with a Norwegian base a relatively unprofitable enterprise. Second, the reduction of the Norwegian fleet was affected by the advantageous investment possibilities in the offshore sector, which enabled several Norwegian shipowning companies to diversify their operations. By the middle of the 1980s Norwegian shipowners had invested more than NoK 25 billion in

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<sup>103</sup> *Norwegian Shipping News*, No. 6, 1981, pp. 35-38.

<sup>104</sup> Storhaug, Håkon, *Ship management industrien – en analyse* [The ship management industry – an analysis], unpublished thesis, Norwegian School of Management, Oslo, 1989, p. 92.

<sup>105</sup> *Ibid.*, p. 96.



the offshore industry. Third, it was a result of the increased internationalisation of the Norwegian shipping industry, made possible by changes in the Norwegian shipping policy. One aspect of this internationalisation was the increase in foreign-registered, Norwegian-owned vessels. Another implication was the increased focus on vessel management rather than vessel ownership.

The foray into ship management and the offshore industry was based upon the maritime heritage of Norwegian shipowning companies. In both instances Norwegian shipping companies were able to utilise their managerial, commercial and technical knowledge, without having to invest heavily in ships.

## CHAPTER ELEVEN

# SUMMARY AND CONCLUSION

The aim of this thesis has been twofold. First, to analyse the causes and effects of the international shipping crisis of the 1970s. Second, to explain why Norwegian shipowners were particularly severely hit by the crisis, and to trace the effects of the crisis on the Norwegian shipping sector.

### 11.1. What Were the Causes of the Shipping Crisis?

In several areas the early 1970s represented a severe break with the development of the first postwar decades, and most sectors were faced with the need for readjustment from heavy expansion to lower growth. For the international shipping industry, the basis for the crisis can be found on both the demand and supply sides. The demand growth dwindled while the fleet increased, resulting in a severe and escalating imbalance. On the demand side, three development traits are of particular importance for an understanding of the crisis in the shipping industry.

First, the OPEC-initiated oil price increases fundamentally transferred the status of oil from being a source of energy to becoming the means in an economic and political battle. This was of particular importance for the tanker industry. Oil was by far the most important commodity for this segment of the shipping sector, and the uninterrupted growth in tanker transport demand of the first postwar decades was initially replaced by stagnation, but later by absolute reduction.

The oil price increases are to some extent related to the second shift in the world economy, from high growth of production and trade to recession. Several economists believed that the increased understanding of the economic environment and improved government intervention had facilitated a transformation from business cycles to growth cycles. The development of the 1970s proved them wrong, as governments had to combat the twin evils of accelerating inflation and increasing unemployment. Monetary and fiscal policies directed towards controlling the inflationary forces aggravated the recession.

The slump in economic activity, which was aggravated by the oil price increases, affected all segments of the shipping sector, including the bulk and liner trades. In 1975 ten industrial countries recorded a reduction in economic activity. The shipping crisis was thus to some extent one aspect of a more general economic crisis, in which several of the most important sectors were affected by overcapacity and falling demand. However, the difficulties in the shipping industry were more severe and lasted longer than in most other sectors.

The demise of the gold-dollar standard, which marked the end of the stable postwar monetary regime, was the third major transformation affecting the international market for shipping services. The breakdown of the international monetary regime resulted in increased uncertainty and played havoc with the previous stability of international exchange rates. To some extent, the monetary development of the pre-crisis years is important, as it led to

escalating inflation and low real interest rates facilitating large investments in the shipping sector. Moreover, the end of the gold-dollar standard resulted in larger exchange rate fluctuations. The result was an increase in the exchange rate risk for shipowners who operated in the international market, and consequently generally had income and costs in different currencies.

The effect of these developments was a severe shift in the fundamentals on the demand side in the shipping market. The demand for seaborne trade had grown substantially in the postwar period, both as a result of larger volumes and longer trading distances. The positive trend was expected to continue, but after 1973 the anticipated demand growth failed to materialise.

On the supply side, the crisis was exacerbated by the high volume of newbuilding contracts signed prior to the crisis, in anticipation of persistent demand growth. Due to the lag between contracting and completion of vessels, large amounts of tonnage entered a saturated market. In this respect, two questions are of particular importance:

- What can explain the widespread contracting in the period leading up to the crisis?
- Why did the world fleet continue to grow even after the massive oversupply was evident?

The mechanisms of the shipping market are important to answer these questions. More specifically, it has been a traditional feature of the shipping sector that periods with slack demand and laid-up tonnage alternate with relatively shorter periods of high demand and freight rates. Indeed, when the crisis of the 1970s became evident, the majority of shipowners acted as though they faced a temporary reduction in demand growth. As the crisis escalated, however, the agents realised that the imbalance between supply and demand was more severe than previously anticipated and experienced.

*What can explain the widespread contracting in the period leading up to the crisis?*

In early 1974, the amount of tankers and combination carriers on order represented more than eighty per cent of the existing fleet. The basis for the growth of the supply side was presented by means of an analysis focusing on three groups of agents; shipowners, shipyards and financial institutions. In the analysis of the high level of contracting, the following elements were emphasised:

- *The belief among shipowners and oil companies that the demand for oil transport would continue to grow.* Their belief can be attributed to the *adaptive expectations*-hypothesis, which posits that shipowners put inordinate emphasis on the current and historical rate levels and development. Moreover, the contracting may be understood in terms of the general consensus in the shipping market at the time, which implied that continuing demand growth was expected.
- *The high rate level in the latter part of 1973, which induced shipowners to order new tonnage.* It is evident that current market conditions play a crucial role in determining the contracting of shipowners, and the contracting boom may have been affected by the fact that some of the most successful shipowners in the previous decades had been the ones who had contracted most eagerly.

- *The massive subsidisation of the shipbuilding industry in most Western countries and Japan.* The subsidies inflated the growth of the world fleet and can be understood in terms of domestic regional, labour and industrial policies. Moreover, the subsidies contributed to the contagion and prolongation of the crisis.
- *The access to easy financing.* This was a result of the American Balance of Payments deficit, the abundance of capital in the Eurodollar market, government subsidies to shipbuilding and the entry of new and relatively inexperienced agents into the ship financing market. Moreover, vessels were considered “floating real estate”, and prior to the crisis the return from mortgages to the shipping sector had been good for most banks.
- *The increasing rates of inflation.* As a result of the high price increases in the early 1970s, real interest rates were relatively low. Additionally, the tax system in several of the major shipping nations made large investments attractive for shipowners with high revenues. The combination of low real interest rates and advantageous tax deductions often resulted in a negative post-tax real interest rate on shipping investments.

The high pre-crisis contracting can thus be explained by the fact that, given the historical development, the expectations of the most important agents and the influence from the authorities through subsidies and tax policies, contracting was considered profitable. The individual investment projects' profitability was enhanced by the influence from the strong competition among shipyards and bankers, as well as by the influence of tax regimes.

*Why did the world fleet continue to grow even after the massive oversupply was evident?*

The main reason for the continuing growth of the world tanker fleet after the freight market had broken down was the lag between contracting and delivery, which is particularly long in periods of large order books. Some of the vessels on order in 1973 were scheduled for delivery in 1978/79. Another reason for the relatively slow reaction to the oversupply was that the agents in the maritime sector were unable to fully fathom the extent of the crisis, and viewed it as a temporary phenomenon of the kind often experienced in the shipping sector.

Cyclical downturns are a regular feature of the shipping industry, and are – at least in the short term – difficult to differentiate from the kind of fundamental shifts experienced in the 1970s and 1980s. The lag between the freight market breakdown and the large cancellations of newbuildings indicates that a considerable period of time passed before the shipowners recognised that the crisis was so severe that paying cancellation fees was favourable to accepting delivery. The agents in the shipping sector were not alone in regarding the problems as transitory.

The supply surplus in the tanker market was diffused to other parts of the shipping market. Initially the crisis was spread through the entry of combination carriers previously operating in the tanker segment. The conversion of newbuilding contracts from tankers to other vessels increased the non-tanker fleet in the medium term. The contagion was aggravated when shipyards, unable to secure new tanker orders, offered generous terms to attract orders for the building of other types of vessels. Falling demand following the economic recession in several of the most important industrial nations added to the problems

in the non-tanker shipping sector.

In short, the shipping crisis was the result of a tremendous disparity between expected and actual development. The supply side increased, based on expectations about consistently strong growth in the demand for shipping services. Due to the oil price increase and the economic recession, the actual demand growth was negligible, and even negative for some segments. By the time the agents on the supply side realised that the expected demand growth would not materialise, it had become impossible to adapt the size of the supply side to the new circumstances.

## **11.2. What Were the Effects of the Shipping Crisis?**

The first outcome of the changed conditions in the shipping sector was a drastic fall in tanker freight rates and reduced activity in the charter market. Freight rates on some voyages fell by more than 80 per cent within a month. Tanker lay-ups, which had been negligible at the end of 1973, increased to more than 18 per cent of the fleet in the second quarter of 1976. A reduction of the average speed of the vessels – a practice which became more profitable following the increased price of bunkers – contributed to a reduction of the supply surplus. The use of tankers for storage purposes, the acceptance of part cargoes and extra waiting time in ports were other alternatives to lay-up.

As the shipping crisis unfolded, the amount and average size of tankers scrapped increased. However, as new, large vessels entering the market more than made up for the volume of tonnage scrapped, the tanker fleet continued to grow until 1978. Moreover, shipowners were hesitant to scrap underutilised assets, as they were hoping for a market recovery which would increase the value of their tonnage.

Due to the freight market breakdown – and the strong correlation between freight rates and the price of second-hand vessels – the value of the world fleet plummeted. Again, the reductions recorded in the tanker sector were particularly violent. A 220,000 dwt turbine tanker, which had been valued at \$52 million in 1973, was valued at \$23 million in 1974 and \$10 million the following year – a value reduction of more than eighty per cent within two years.

The shipping crisis led to serious liquidity problems for a large share of the shipping companies, particularly those that had invested heavily in the tanker sector. As profit margins were squeezed, the high level of costs in Traditional Maritime Nations forced shipowners in these countries to reduce their operations or to transfer their tonnage to Flags of Convenience. The large disinvestment in shipping in the Western industrial nations was reflected in the increasing importance of Emerging Maritime Nations, particularly Asian countries, and there were large changes in the distribution of the international fleet in the period 1975-1985.

The growth of the supply side is particularly important in explaining the predicament of the shipping industry in the 1970s. The transport capacity of the world fleet increased by more than 50 per cent in the period 1973-1977, spurred by an increase in the tanker fleet of more than two thirds. This massive growth of the supply side aggravated the negative effects of the reduced demand growth following the oil price increase and the recession in the

industrialised countries.

However, in connection with the increasing imbalance in the shipping market in the 1980s, which I have called “the second shipping crisis”, demand side developments attained a more significant role. The transport of crude oil fell by more than 60 per cent in the period 1977-1985, contributing to a 25 per cent reduction of seaborne transport. Even a decrease in the tonnage supply was insufficient to neutralise the effects of the falling demand for transport services.

### **11.3. Why Were Norwegian Shipowners Particularly Hard Hit?**

Norwegian shipowners had been particularly successful in the growth period of the 1950s and 1960s. In the expansion phase of international shipping in the first postwar decades, demand for shipping services often exceeded supply. This was partly a result of the fact that the capacity within the shipbuilding industry was insufficient to meet the constantly increasing demand for newbuilds, partly a reflection of the unanticipated growth of transport capacity demand. The shipowners who were eager in the contracting market, ordering new tonnage which could utilise the increasing economies of scale and find profitable employment immediately after delivery, were particularly fortunate. Even though there were periods of slack demand, the profits from the freight rate peaks secured the profitability of the investments.

The most favourable investment alternative in this period of high growth was large, relatively fast vessels, in particular tankers. Owners of supertankers were able to earn considerable amounts of money, as their vessels could utilise economies of scale and transport large cargoes efficiently. Several Norwegian shipowners had channelled much of their resources into the fast-growing bulk sector, and a large share of the Norwegian fleet consisted of mammoth tankers and flexible combination carriers. This allowed Norwegian shipowners to reap the benefits from the favourable demand situation before the oil price increases.

The oil price increases from 1973 onwards paved the way for a structural change in the markets for shipping services and energy, and exacerbated a negative trend in the international economy. The unfavourable demand situation implied that the tables had been turned; those who had benefited from the development in the 1960s were the ones who were the least adapted to the new circumstances. The vessels that had previously been among the most advantageous became particularly ill-suited to the new conditions. The reduced demand growth was particularly manifest in the market for large tankers. Due to the increased price of bunkers, turbine-driven vessels lost competitiveness to motor tankers, which used fuel more efficiently.

The state of the shipping market in the 1970s was diametrically opposite to the situation in the 1960s. As demand growth faltered and bunkers prices increased, a fleet consisting of large turbine tankers became a burden rather than an advantage. As the market was characterised by oversupply, a large “fleet” of newbuilding contracts became a liability rather than an asset. The winners of the 1960s in many cases became the losers of the 1970s, as their strategy was no longer treated favourably by the market forces.

It is difficult to assess to which extent Norwegian shipowners were harder hit by the crisis than their international competitors. In this thesis, two features have been presented to illustrate the disparate Norwegian experience. First, lay up-rates were compared. The comparison shows that Norwegian lay-ups were considerably higher than the international average, and that Sweden was the only country with lay up-rates at the Norwegian level. Second, the long-term development of national fleets was analysed. The flight from the Norwegian flag was particularly large in an international perspective. Moreover, the reduction of the Norwegian fleet occurred earlier and was more pronounced than for any other major shipping nation bar Great Britain.

Due to the heterogeneity of shipping companies it is difficult to draw conclusions based on aggregates. However, both the high lay up-rates and the strong reduction of the fleet in the wake of the crisis indicate that Norwegian shipowners were harder hit by the changed fundamentals of the shipping market than their competitors. The reasons for the unfortunate Norwegian experience can be found by an analysis of the Norwegian shipowners' strategic decisions. In this thesis, three "policy instruments" – fleet structure, chartering and contracting – have been used to highlight the differences between Norwegian shipowners and the international agents.

### *Structure of the fleet*

A relatively large share of the Norwegian fleet consisted of vessels operating in the segments of the shipping market that were hardest hit by the crisis. In 1975 tankers and combination carriers constituted 70 per cent of the Norwegian fleet, compared to an average of less than 60 per cent for the Rest-of-the-World fleet. Moreover, the average Norwegian tanker was more than 50 per cent larger than the average vessel in the foreign tanker fleet, and the average Norwegian ship was more than twice as large as the average vessel in the international fleet. The disproportionate Norwegian investments in these types of ships can be explained by the relative price of labour and capital in Norway, which made investments in modern, capital- and technology-intensive vessels relatively profitable.

Although the structure of the fleet implied that Norwegian shipowners were particularly severely affected by the crisis, the investments were not irrational given the conditions under which Norwegian shipowners were working. On the one hand, operation of older, labour-intensive vessels would not be profitable as a result of the high Norwegian manning costs. On the other hand, given the widespread expectations about continuing strong growth in the demand for bulk shipping services, investments in large tankers and bulk carriers were considered favourable.

The fact that Norwegian shipowners had invested massively in the vessels that were hardest hit by the decrease in freight rates implies that the fall in the value of Norwegian vessels was particularly large. This put Norwegian shipowners in a difficult position towards their creditors, and paved the way for the involvement of the authorities through the Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd. The government involvement mirrored the positive expectations of the Norwegian shipping community, as it

was based on the assumption that there would be a relatively swift recovery of the freight markets. The institution secured that tonnage which was perceived to be valuable was kept on Norwegian hands rather than sold abroad.

In the period following the crisis, Norwegian shipping lost its important position both in the Norwegian economy and in the international shipping community. By 1987, the Norwegian fleet had been reduced by almost 38 million dwt, or more than three quarters, compared with the peak ten years earlier. The reduction was partly the result of foreign registry of Norwegian owned vessels, but this was insufficient to avoid a massive reduction of the Norwegian-controlled share of the world fleet.

### *Chartering policy*

Traditionally, Norwegian shipowners had operated a relatively large share of their tonnage in the spot market. In the initial period after the freight market breakdown, shipowners who had secured employment for their vessels through long-term contracts were considerably less affected by the crisis than owners operating in the spot market. However, the analysis presented in this thesis suggests that the focus on the Norwegian chartering strategy should be modified. Several sources have claimed that Norwegian shipowners were responsible for “*fifty per cent of the tonnage in the spot market*”, and that this overproportion can explain their subsequent predicament. My analysis shows that the Norwegian share of the tonnage offered in the spot market peaked at 27 per cent in 1967, and averaged 18 per cent in the 1970s.

Indeed, in the beginning of 1974 the Norwegian share of the vessels offered in the spot market corresponded well with their share of the world tanker fleet. The share of the Norwegian vessels offered in the tanker spot market was 14 per cent, the same proportion as the Rest-of-the-World fleet. Accordingly, the Norwegian chartering strategy does not appear to be fundamentally different from that of their competitors. Moreover, a comparison of the return from the various market segments shows that the additional risk presented by the spot market had been more than sufficiently rewarded through higher average return in the period before the freight market broke down.

However, two aspects of the chartering policy put Norwegian shipowners at risk. First, they generally operated on shorter charters than their competitors. Accordingly, they would be able to weather a temporary downturn, but not a fundamental break of the kind experienced in the 1970s. Second, Norwegian shipowners were responsible for a large share of the mammoth tanker tonnage contracted, and the degree of charter cover for these vessels was extremely low. More than 80 per cent of the large Norwegian tankers on order were intended for the spot market, compared with roughly a third for the international fleet. The analysis of chartering policies indicates that it was not the amount of Norwegian tonnage in the spot market, but rather the shorter duration of charter agreements and the large amount of unfixed tonnage on order that put Norwegian shipowners in a difficult position.



### *Contracting*

Norwegian shipowners had traditionally had a large share of tonnage on order. This can be explained by their focus on new, technologically advanced and large vessels which utilised economies of scale and reduced the unfavourable effects of high manning costs. The fact that the Norwegian fleet was relatively modern means that a lower share of the loans necessary for the financing of the ships had been repaid. This posed problems due to the *minimum value*-clause, a common feature of international financing contracts, which enabled the creditor to demand extra collateral or additional instalments if the value of the mortgaged property fell.

In 1974 Norwegian tanker orders were more than 30 per cent higher than the size of the existing fleet, whereas foreign shipowners' newbuilding orders constituted approximately 90 per cent of their current tonnage. The focus on modern vessels, and hence the large amount of tonnage on order, reflected the competitive advantages of Norwegian shipowners, and can be seen as a consequence of the relative price of labour and capital in Norway.

Although the investments were sensible given their expectations and resources, when the freight market broke down, Norwegian shipowners were in a particularly vulnerable position. The large amount of newbuilding contracts could either be cancelled, involving an expensive cancellation fee, or the new vessels could enter a market where there was little hope of profitable employment. Several large tankers went straight from the building berth into lay-up. For some Norwegian companies the fees paid in connection with the cancellation of newbuildings represented a smaller drain on resources than accepting delivery of a tanker for which no market existed.

The high level of contracting undertaken before the freight market breakdown hampered several Norwegian shipowners' ability to adapt to the changes in market conditions. Due to the backlog of ordered, undelivered vessels, the Norwegian fleet continued to grow until 1977, although contracting all but dried up after 1973.

During the 1973 boom, the international newbuilding orders had acquired a "Norwegian" character, dominated by large vessels, in particular tankers. The differences in size and vessel type were therefore more pronounced for the existing fleet than for the vessels on order in the beginning of 1974. Accordingly, the difference between Norwegian and international contracting was to a higher degree related to the amount of contracts than to the vessels contracted.

### *A new view on the predicament of Norwegian shipowners*

The strategic elements analysed in this thesis are important for our understanding of the predicament of the Norwegian shipping industry. However, the commonly presented view that Norwegian shipowners were victims of their own willingness to take risks should be modified. Rather, the Norwegian misfortune can to a large extent be understood in terms of a combination of risk propensity and rational decisions based on expectations that did not come true.

First, the failure to anticipate the massive changes in the shipping market and the international economy was not confined to Norwegian shipowners. Most economic agents

were taken by surprise by both the magnitude of the changes and the length of the crisis, and their adaptation to the changed conditions was initially based on the notion that the downturn was temporary.

Second, the focus on large and modern vessels was largely the result of the competitive advantage of Norwegian shipowners in the management of technically advanced tonnage, and can be explained by the relative price of labour and capital in Norway. Indeed, the Norwegian shipowners channelled their resources to the part of the shipping market where they were able to make a profit – that this was the segment in which the collapse would be the most dramatic was impossible to foresee.

Third, the analysis indicates that the importance of the chartering strategy of Norwegian shipowners has often been exaggerated. On the one hand, the Norwegian presence in the spot market in the period prior to the freight market breakdown was equal to the international average. On the other hand, the crisis turned out to be so severe and long-lasting that even shipowners who had chosen what was traditionally considered a more prudent chartering strategy, with emphasis on medium-term charters, were severely affected by the difficulties.

In one respect, the view of Norwegian shipowners as risk-takers may be justified. The amount of unfixed large tankers on order was extremely high in an international perspective. 80 per cent of the largest Norwegian tankers on order had not been secured employment, compared with 31 per cent for the Rest-of-the World fleet. The difference is less conspicuous if we leave out the three most risk-loving Norwegian shipowners – Biørnstad, Reksten and Waage – but nevertheless substantial. Then, 73 per cent of the Norwegian tonnage on order was unfixed, compared with 45 per cent for independent shipowners in other countries. However, the contrast is still striking, and the financial drain stemming from tankers ordered during the heyday of the early 1970s haunted several Norwegian shipowners for a considerable period of time.

Due to the importance of the shipping sector in the Norwegian economy, the shipping crisis prompted public action. The Norwegian authorities responded to the crisis in two ways. Initially, they reacted by establishing the Norwegian Guarantee Institute for Ships and Drilling Vessels Ltd. in order to assist Norwegian shipowners and “*preserve valuable tonnage on Norwegian hands.*” As the crisis turned out to be more fundamental than originally anticipated by the shipowners and authorities, the value of the tanker tonnage kept on the Norwegian registry by means of guarantees from the Guarantee Institute never recovered. The authorities were forced to accept considerable losses. However, the analysis in this thesis shows that the Guarantee Institute had important positive effects, both with regard to drilling vessels, the Norwegian shipbuilding industry and the Norwegian ship financing institutions.

From the early 1980s onwards, the authorities eased the access to registration of Norwegian vessels abroad – which made it possible to take advantage of less expensive foreign crews. The combination of a relatively strict flag policy and the existence of the Guarantee Institute had led to a pent-up demand for foreign registration. An exodus of tonnage commenced when the restrictions were relaxed and the Guarantee Institute’s engagements

abandoned. The Norwegian fleet was reduced by more than 75 per cent from the late 1970s to the mid-1980s. However, in the late 1980s, after a reorientation of the shipping policy led to the introduction of the Norwegian International Ship Register, the Norwegian fleet started to grow again.

#### **11.4. How Did Norwegian Shipowners Adapt to the Crisis?**

In Chapter Eight, four Norwegian shipowners were analysed in order to evaluate how strategic decisions influenced the fate of various Norwegian shipowning companies. The four companies, all of which had considerable interests in the tanker sector, were to varying degrees affected by the crisis.

The differences in the fate of the four shipping companies considered here correspond well with the heterogeneity of the Norwegian shipping sector in general. Some companies survived relatively unscathed due to advantageous business decisions undertaken prior to or shortly after the freight market breakdown, whereas the obligations of other companies were so large as to make an adaptation to the changed state of the shipping market impossible. Moreover, the companies that were severely affected by the crisis chose different strategies to cope with their predicament. The four cases analysed in this thesis show that:

- Shipowners operating in the spot market earned spectacular amounts of money during the 1973-boom, but were particularly hard hit by the breakdown of the market. In previous periods high revenues during the freight rate peaks would offset their low income in a depressed market. After 1973, there were no such peak periods.
- For some shipowners, the cancellation of newbuildings was vital to the continuing existence of the company. However, for the most expansive shipowners, the sheer amount of newbuildings on order implied that only a relatively rapid freight rate recovery could have saved them from bankruptcy.
- Shipowners operating in more than one market segment were able to recuperate some of their tanker sector losses through profits from other segments. However, as the shipping crisis deepened, few segments remained unaffected.
- Companies with a sound financial base were able to take advantage of the unfortunate development of companies with economic difficulties.

By means of a purpose-built database comprising all shipowners with vessels greater than 5.000 grt, the development of the aggregate Norwegian fleet has been analysed. The analysis illustrates the drastic reduction of the Norwegian shipping activity in the wake of the shipping crisis. The tonnage on the Norwegian registry fell from 40 million dwt in 1973 to less than ten million dwt in 1987, after peaking at almost 50 million dwt ten years earlier. The number of Norwegian ports with companies owning vessels of more than 5.000 grt was almost halved in the period from 1970 to 1987. Moreover, the number of owners with ships above this size on the Norwegian registry fell by more than 100, representing a decline of more than two thirds. The reduction in the number of shipping companies was almost 50 per cent even when companies which transferred their vessels to foreign flags are included.

The analysis of the figures from the database reveals that the shipping crisis coincided

with a trend towards increased concentration in the Norwegian shipping industry. This trend was evident both at the geographical and at the company level, as the shipping crisis sounded the death knell for a large number of Norwegian ports and shipping companies with a long maritime history.

The share of the Norwegian-registered fleet belonging to Oslo-based companies increased from approximately 50 per cent in 1970 to 70 per cent in 1987. However, when foreign-registered vessels are included, Oslo's share declines. This reflects the fact that the shipowners based in Western Norway and on the South Coast had been more eager to take advantage of the liberalisation of the Norwegian shipping policy. When foreign-registered vessels are included, the share of the fleet based in Western Norway and on the South Coast did not change significantly between 1970 and 1987.

The Oslofjord-region was particularly hard hit by the shipping crisis. The decline in the Oslofjord-fleet from 1970 to 1987 was almost 80 per cent, even when foreign-registered vessels are included. In 1987 the amount of Norwegian-registered tonnage in the Oslofjord-region amounted to only 8,4 per cent of the tonnage registered during the peak ten years earlier. The decline followed a reduction in the number of companies, but a strong decrease in the average size of the companies was even more important.

The shipping crisis had different effects on the importance of the various ports as well. On the South Coast, Grimstad-based shipowners managed to increase their tonnage, whereas the fleet of Arendal was virtually eliminated. On average, the Norwegian-owned fleet fell by slightly less than 30 per cent from 1970 to 1987. However, this figure hides large regional differences. The Oslo-fleet contracted by 12 per cent, and other important ports such as Bergen and Kristiansand lost less than a fifth of their tonnage. However, the reduction in Sandefjord was almost 80 per cent, and the tonnage owned by Haugesund-based owners was reduced by more than three quarters.

The increased regional concentration reflected a similar trend among shipping companies. In the early 1970s the five largest shipowners accounted for a quarter of the Norwegian fleet, and approximately half of the fleet belonged to the twenty largest companies. By 1987 the twenty largest companies owned almost 90 per cent of the tonnage flying the Norwegian flag, and the five largest companies accounted for more than sixty per cent of the fleet. This trend towards greater concentration is a common result of economic crises, as companies with a strong financial base increase their presence in the market at the expense of less viable companies which are forced to exit from the sector.

The figures indicate that Norwegian vessels operated by relatively small shipowners contracted substantially – the share of tonnage owned by companies outside the Top 20-list fell from approximately 50 per cent in 1970 to less than 12 per cent in 1987. However, if we adjust for Norwegian owned tonnage registered abroad, the trend in the latter part of the period is less pronounced. The share of the Norwegian-owned tonnage managed by the five largest and twenty largest companies had stabilised at the levels from the mid-1980s – around 40 and 70 per cent respectively. There was thus a clear tendency towards increased concentration, but the development was not as pronounced as the figures depicting

Norwegian-registered tonnage indicate. Accordingly, it is evident that the access to foreign registry to a larger extent was utilised by the smaller Norwegian shipowning companies than by the larger companies.

The increased concentration was also influenced by the fact that the largest companies were particularly eager in the expansive period of Norwegian shipping from 1970 to 1977. Indeed, more than 63 per cent of the expansion of the fleet in this period occurred within nine of the ten largest companies. During the subsequent contraction of the Norwegian fleet, the majority of the companies – 111 out of 158 – disposed of their Norwegian-registered tonnage altogether. In the period from 1977 to 1987, the increasingly important position of the larger companies can be understood in terms of less severe contraction, rather than heavier expansion.

Another distinct trend is the continuity among the largest Norwegian shipowning companies. Seven of the ten largest Norwegian shipping companies in 1970 were among the ten largest in 1986 as well. Of the remaining three companies, two had gone through massive restructuring but were still among the 15 largest companies, and one company ranked 22<sup>nd</sup>, but was among the fifteen largest when foreign-registered tonnage was included. The sustainability of the larger companies was influenced by the creditors' and the authorities' willingness to save the larger companies through moratoria, restructuring and guarantees. Nevertheless, the development indicates that the effects of the shipping crisis were more severe for the smaller Norwegian shipowning companies – the majority of which disappeared altogether – than for the larger companies.

The organisation of the companies in the Norwegian shipping sector also changed during the turbulent period. The share of the Norwegian tonnage owned by one limited liability company or *interessentskap* [general partnerships] declined, whereas the share of the tonnage owned by other firms, and in particular *kommandittselskap* [limited partnerships], increased.

Parallel with the reduction of the Norwegian fleet from 1978 onwards, the Norwegian merchant marine became increasingly diversified, as individual shipowners focused on more specialised segments of the shipping sector. A comparison based on compensated gross register tons, a measure which takes into account the sophistication of the vessels, reveals that the reduction of the Norwegian-owned fleet was far less dramatic than indicated by an analysis based on dead weight tons. This can be explained by the fact that Norwegian shipowners had scaled down their involvement in the bulk sector, focussing instead on more advanced types of tonnage.

### **11.5. What Were the Structural Effects of the Crisis?**

The examination of the structural development of the Norwegian fleet in the period surrounding the shipping crisis details the dramatic flight from the Norwegian flag from 1978 onwards. The reduction of the Norwegian fleet is explained both by the economic problems of the Norwegian shipping industry and in terms of changes in the Norwegian shipping policy. The analysis shows that the changes in the Norwegian flag policy to a considerable extent was

brought about by factors which were directly related to the crisis, in particular the reduced viability of Norwegian-flag shipping.

However, the reduction of the Norwegian fleet was to some extent a reflection of an international trend. This development – involving a reduction of the fleets of the Traditional Maritime Nations and an increase in the fleets of Flags of Convenience and Emerging Maritime Nations – was particularly prominent in the case of Norway. Moreover, it was partly the continuation of a trend that was evident prior to the freight market breakdown and partly the result of circumstances that were more directly related to the crisis.

The shipping crisis signalled the end of the industrialised countries' domination of the shipping industry. The share of the world fleet registered in the OECD-countries fell from 64,5 per cent in 1970 to 34 per cent in 1987. The reduction in the fleet of the OECD-countries was particularly marked from 1980 onwards, ie after it had become evident that the crisis was structural rather than transitory. The decline reflects the significant disinvestment in the shipping sector in Traditional Maritime Nations, but was partly mitigated by the transfer of OECD-owned tonnage to Flags of Convenience. The analysis of the Emerging Maritime Nations in Asia shows that several of the factors that are commonly used to explain the growth in Asian manufacturing are applicable to the shipping sector as well.

The tonnage sold from Norway in the period 1970-1986 confirms the international development traits. Only 23 per cent of the tonnage went on to be registered in OECD-countries, and the majority of this tonnage was registered in Greece. However, shipowners based in the OECD-countries were the actual owners of more than 70 per cent of the tonnage leaving the Norwegian fleet. In the period from 1984 to 1986, after the liberalisation of the Norwegian flag policy, Norwegian shipowners retained the management of almost two thirds of the tonnage that was deleted from the Norwegian registry.

Parallel with the shipping crisis there was a major transformation of the Norwegian economy. The shipping sector had to concede its hegemonic position in Norwegian exports, and the gap was filled by the flourishing oil sector. The gross receipts from shipping, as share of total exports, were more than halved in the period 1974-1982, whereas the export of crude petroleum and natural gas increased from less than 1 per cent to almost one third of total exports over the same period.

The possibilities in the offshore industry presented Norwegian shipowners with an alluring investment alternative. The reduction of the Norwegian shipping sector was thus not only a reflection of the lower expected returns from this sector, but also a result of the higher profit opportunities represented by the offshore sector. In addition, the offshore sector made it possible for the companies in the shipping industry to utilise some of their business contacts, organisational competence and knowledge of an international maritime sector in a new, non-depressed market.

The shipowners' engagement in the oil sector was considerable, partly as investors in onshore bases and oil exploration companies, but primarily with regard to investments in oil rigs and supply vessels. By the middle of 1975 Norwegian shipowners' rig and supply vessel contracts were valued at more than NoK seven billion, which represented more than a quarter

of the value of the contracts for traditional vessels. The offshore investments of Norwegian shipowners amounted to more than NoK 25 billion in the period 1974-1984. Moreover, the initial investments in offshore activities in the North Sea provided a steppingstone for their participation in the international offshore market. The emergence of the offshore industry alleviated the effects of the shipping crisis, for the Norwegian economy in general, and for several Norwegian shipowners in particular.

Another trend was the increased focus on ship management, as a substitute for or supplement to conventional vessel ownership. This was a common trait in the international shipping industry, reflecting the increased importance of creditors and institutional investors in shipowning in the wake of the crisis. Some of the Norwegian management companies were founded upon the ruins of traditional shipowning companies. By focussing on ship management, Norwegian shipowners were able to utilise their knowledge of the shipping sector, including its commercial and technical aspects, without necessarily owning ships themselves.

## 11.6. Further Research

The analysis of the most important agents of the shipping industry – shipowners, shipyards and financial institutions – was facilitated by some studies of particular aspects of the crisis. However, the current literature leaves a lot to be desired when it comes to detailed analyses of the interaction between the various agents. Were shipowners encouraged to overinvest due to the positive demand expectations which the oil companies communicated through timecharter rates? Were banks and shipyards blinded by the strong postwar growth of shipping demand and the positive expectations of shipowners, or were they willing to take risks because they expected to be bailed out if the market collapsed? Moreover, the motivation for and effects of government policies and intervention are other topics that deserve further examination. Did the OECD-restrictions on shipbuilding subsidies accelerate the downsizing of shipyard activity in Europe and contribute to the shift of activity to non-OECD countries? To which extent did subsidies contribute to the contagion of the shipping crisis outside the tanker sector?

The focus on Norwegian shipowners in this thesis was partly hampered by the lack of similar analyses of shipowners of other nations. Whereas the Norwegian experience has been contrasted with that of foreign shipowners at an international level, studies of a more national character may be important in explaining the importance of the various strategic choices. How did the shipping crisis affect shipowners with a different strategy than Norwegian shipowners? Were long charters a sufficient basis for Hong Kong shipowners to acquire their important position in the shipping industry?

Other future research topics relate to the individual agents in the Norwegian shipping industry. The basis for the Norwegian shipowners' strategic decisions – which left some of them extremely vulnerable and others less affected – is interesting from a business history point of view. Another important aspect – which may have implications for future policy recommendations – is the influence of the tax system. To which extent did the tax system

contribute to the overcontracting? How could this unwanted effect of the tax system be moderated or eliminated?

The analysis has shown that there was a shift in the maritime hegemony concurrent with the shipping crisis. However, the nature of the relationship between the crisis and the structural changes should be more firmly established. In particular, the question of whether or not the crisis amplified or expedited the structural transformation should be further analysed. This latter aspect can be examined both at the Norwegian and at the international level.

Although some of the structural features of the shipping industry have changed following the crisis, the shipping sector is still characterised by several of the elements which contributed to the crisis in the 1970s. Accordingly, there is still a need for research on the influence of and relationship between elements such as financing, rate level, chartering, contracting and shipbuilding subsidies. A thorough understanding of the mechanisms of the shipping industry may alleviate the effects of future crises or reduce the probability of a crisis of the magnitude experienced in the 1970s.

## **11.7. Conclusion**

This thesis endeavours to be the first substantial examination of the international shipping crisis of the 1970s. The analysis shows among other things that the shipping crisis was caused by a fundamental and unexpected shift in the development of seaborne trade after the oil price increases of the early 1970s. The strategic judgements of and the relationship among three groups of agents – shipowners, shipyards and financing institutions – augmented the effects of the negative demand development. As a result of the discrepancy between the actual and the anticipated development of demand, the shipping sector fell victim to a long-term crisis. The effects were far-reaching, particularly for countries with a considerable shipping sector, such as Norway.

The fact that Norwegian shipowners were particularly hard hit by the malaise can be understood in terms of their strategies in the period leading up to the crisis. The Norwegian predicament resulted from a combination of structural traits and unfortunate strategic decisions. However, the analysis shows that some of the factors that have previously been emphasised in the explanation of the Norwegian misfortune should be modified. Moreover, the strategies followed by Norwegian shipowners were rational given their working conditions and the growth expectations which were prevalent in all parts of the international economy at the time.

The shipping crisis coincided with massive changes in the international maritime hegemony, one aspect of which was the temporary diminution of the Norwegian fleet. The effect on the Norwegian economy was mitigated by the oil exploration and exploitation on the Norwegian continental shelf. Norway's dependence shifted from one volatile, maritime industry to another.



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