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A Strategic Model for Investment in Korean Shipping Under the New Liberalisation Treaty

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**A STRATEGIC MODEL FOR INVESTMENT IN KOREAN
SHIPPING UNDER THE NEW LIBERALISATION TREATY**

by

JIN HWAN KIM

A thesis submitted to the University of Plymouth in
partial fulfillment for the degree of

DOCTOR OF PHILOSOPHY

The Plymouth Business School

May 1999

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J.H.KIM

This work is dedicated to my late mother, Park, Y.J.

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By

Jin Hwan Kim

Abstract

Following trade liberalisation, shipping has been further affected by the world economic environment. Despite arguments as to whether the nature of the shipping industry is a liberalised one or not, it is now clearly seen as the case by the shipping industry itself.

The primary goal of this thesis is to examine the attitudes within Korean shipping circles. An empirical study was carried out to evaluate how shipping is being influenced by liberalisation under the new rules, established by the World Trade Organisation and the Organisation for Economic Co-operation and Development.

The null hypothesis was that there would be no substantial changes in Korean Shipping following liberalisation. The null hypothesis was rejected, which means that it was recognised by Korean shipping practitioners that there were significant changes after liberalisation. A further study was undertaken to test for relationships between the perspectives of four groups; financial managers of shipping companies, bankers, government policy makers and sales managers from shipbuilding companies. It transpired that there was unity in their perceptions of shipping investment. A hypothesised seven-factor strategic model of the shipping industry was initially proposed and re-interpreted following the empirical results. To cope with the new competitive market, strategic options are likely to include tax and registry considerations.

Finally, following the financial crisis in Korea last year, which occurred before this research was completed, interviews and a survey were conducted, based on a random selection of previous respondents. This was to establish whether their views had changed. The results revealed that they were now very hesitant to make any new investment decisions given the present situation.

However, respondents are sure that there will be no further measures to impede the current liberalisation moves in Korea. Rather they regard this financial crisis as a mechanism to accelerate liberalisation, following the International Monetary Fund's options to dismantle the Korean protectionist barriers.

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List of Acronyms and Abbreviations

ANOVA	Analysis of Variance
BBC	BareBoat Charter
BBC/HP	BareBoat Charter on Hire Purchase
BC	British Columbia
BIS	Bank for International Settlements
CEO	Chief Executive Officer
Chaebol	Vertical and laterally integrated corporation
COMECON	Commission for Economic Cooperation (Council of Mutual Economic Assistance)
CSDP	Computer Supported Design Project
DG IV	Directorate of General IV
DNMEs	Dynamic Non-member Economies
DOT	Department of Transport
EC	European Community
EU	European Union
FMC	Federal Maritime Committee
FOC	Flag of Convenience
GATS	General Agreement on Trade in Services
GATT	General Agreement of Tariff and Trade
GDP	Gross Domestic Product
GRT	Gross Rate Ton
G/T	Gross/ Ton
HA	Alternative Hypothesis
HHI	Hyundai Heavy Industry
H.K	Hong Kong
HO	Null Hypothesis
IMF	International Monetary Fund
IMO	International Maritime Organisation
IRR	Internal Rate of Return
JAMRI	Japan Maritime Research Institute
J.V	Joint Venture
KEPB	Korea Economic Planning Board
KFX	Financial Package sponsored by Korean Central Bank for Acquisition of Second-hand Vessel
KMI	Korea Maritime Institute
KMPA	Korea Maritime Port Association
KSA	Korea Shipowner's Associations
KSG	Korea Shipping Gazette
KSIA	Korea Shipbuilding Industry Associations
LDCs	Less Developing Countries
LIBOR	London Inter-Bank Offered Rate
LLP	Lloyd's List Press
LNG	Liquefied National Gas
LPG	Liquefied Petroleum Gas

LSE	Lloyd's Shipping Economist
MFN	Most Favorable Nation
MOL	Mitsui Osaka Line
MOMAF	Ministry of Maritime Affairs and Fishery
MT	Metric Tonnes
MTC	Maritime Transport Committee
MTN.TNC	Multilateral Trade Negotiation / Trade Negotiations Committee (of UR)
NAFTA	North America Free Trade Area
NGMTS	Negotiating Group On Maritime Transport Service
NPV	Net Present Value
NYK	Nippon Yusen Kaisha
OECD	Organisation for Economic Co-operation and Development
OPA	the US Oil Pollution Act
OSC	Ocean Shipping Consultants
P&O	P&O Containers Ltd.
R&D	Research and Development
ROI	Return on Investment
SOC	Social Overhead Capital
S&P	Sale and Purchase
SPSS	Statistical Package for Social Science
TEU	Twenty-foot Equivalent Unit
TMNs	Traditional Maritime Nations
T/S	Trans-shipment
U.K	United Kingdom
UN	United Nations
UNCTAD	United Nations Committee of Trade and Development
UR	Uruguay Round (of the GATT)
UR/GNS	Uruguay Round / Group of Negotiations on Services
U.S	United States
USA	United States of America
USTR	United States Trade Representative
V/L	Vessel
VLCC	Very Large Crude oil Carrier
Won	Unit of Korean National Currency
WP	Working Party
WSTS	World Sea Trade Service Review
WTO	World Trade Organisation

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AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other university award.

Signed..... *Jim Hwan Kim*
Date..... *25th May 1999*

Chapter I : Introduction

1.1 The Objective of Research

This thesis addresses the effects of the WTO agreement to introduce trade liberalisation in shipping provisions within Korea and to examine the implications of this policy on the decision making and policy formulation of the managers involved with ship operations, shipping investment and shipbuilding. The method used for this purpose is to apply a statistical approach as a tool for empirical study, with samples taken from Korean shipping circles including shipping, banking, government and shipbuilding. The intention is to discover whether there was any difference between the before and after liberalisation positions taken by the managements in the four sectors

Stopford (1990)[1] defines the judgment of a decision-maker to be changed by the environmental situations, here in terms of supply and demand of the shipping market :

" In principle, supply will follow demand if decision-makers are successful in judging what the future level of demand will be and taking the necessary actions to adjust the available supply. The decision-makers in this case are a composite group of shipowners, bankers, government officials and shipbuilders, all of whom have some control over the movement of supply, though their particular interests may be very different. (p.63)"

Branch (1988)[2] also notes the duty of shipowners to consider newly developed situational factors when making an investment decision in shipping, as saying :

" (as far as shipping investment is concerned), Shipowners have to weigh the relative merits of new and second-hand tonnage in a wide range of situations. The factors involved are considered and the way in which they affect the choices that will be made in 1990s. (p.59)"

Further, the study will reveal to what extent there are any differences between the four sectors examined in terms of their beliefs as to the Liberalisation effects on their decision making

The shipping industry in Korea was previously governed by the policy initiatives of the Korean government which sought to promote in particular, the shipping and shipbuilding industry as part of the national economic development schemes. Although a close relationship exists between these sectors and is emphasised in most national shipping environments the integration in Korea was especially close before the adoption of the WTO rules.

Parker (1993)[3] evaluates the relationship between shipowners and bank as follows :

" As a general rule therefore an owner with too many banks or with too few is more likely to be unable to easily resolve problems. An owner with a manageable number of banks or 'club' may be better placed but only if such banks are on a broadly similar relationship footing. . . . It is important to comment on the word 'relationship' because it is a qualitative abstract notion that will play a significant role in banks' attitudes to clients who encounter serious difficulties. (p.21)"

Delamater (1993) [4] also takes the same view as above :

"Shipowners will be wise to examine the strength and quality of their banking relationships, as well as that of the banks themselves. (p.11)"

Tzoannos and Bredima-Savopoulou (1990) [5] note about shipping and shipbuilding :

" In most EC member states governments look upon shipping and shipbuilding as being closely related industry. . . . In three countries, namely Italy, Portugal and Spain, national shipowners are compelled to place their orders of new vessels to national shipyards. (p.54)"

Stopford (1990) [6] mentions the relationship between shipping and shipbuilding as follows :

" Although the regional distribution of shipbuilding capacity depends upon competitiveness, there is clearly a close link between shipping and shipbuilding activities. (p.54)"

The thesis will examine the shipping strategies pursued before trade liberalisation and attempt some review of the necessary changes consequent upon the perceptions gleaned from the survey and will promote a strategy more in line with the likely outcomes for the industry post liberalisation.

Morden (1993) [7] clearly defines the strategy as below :

" The establishment of strategies and plans is a management decision-making process The process of business planning is used by decision-makers to formulate strategies and policies. (p.xix)"

Davis (1993) 's [8] effort to study the investment bank's view by setting up the model under the new environmental changes, was stated as follows :

" two of the questions posed to the investment community by the present regulatory environments confronting the shipping industry. One of these issues might be described as ' tactical' - the question of the extent of liability for environmental damage, and the second as 'strategic' - the whole question of the rate of return the investment community perceives to be available from investment in shipping. Taking the OPA as a model, (p.61)"

Hochstein (1988)[9] focuses on this matter in relation to port industry as saying :

" The continuously changing port environment has given rise to a new planning concept called strategic planning. Strategic planning can be defined as '...matching organisational capacities with the opportunities and risks created by the environment'. . . . The thrust is to develop a strategy that takes '....advantage of opportunities and counter threats by enhancing a port's strengths and mitigating its weaknesses' (p.33)"

The financial implication for the industry is further analysed in light of the changed circumstances with the benefit of a further selected survey of specialists in this field. This view is based on a second survey selected by the writer from the previous respondents where they are shown to have specialist knowledge in this field.

Writers on the Asian financial crisis are at present observing the current downturn and conjecturing on the likely long term effects. Ion (1998) [10] evaluates the situation as follows :

" A year ago the Asian economies were expecting a year of

further growth and an aggregate GDP increase of around 8%-10%. There were a few clouds on the horizon but the sense of optimism which has been the hallmark of the Asian region for more than a decade remained intact. The events of the last quarter of 1997 proved that much of the economic 'miracle' in many Asian countries was in fact just a mirage. The long term effects on the shipping industry are still difficult to ascertain (p.1)"

Fossey (1998) [11] makes a comment as below :

" It is hard to predict what the long-term effects of the recent economic turmoil in Asia will have on the container liner industry. But several local carriers are already engaged in restructuring programmes, which the liner trades to/from the area are becoming increasingly imbalanced. (p.49)"

However, Korea Maritime Press (1998) [12] divides the effects that Korean shipowners have faced so far as follows :

" In terms of positive effects, it is expected to improve the balance sheet based on freight which is to be charged upon the dollar basis, and the seafarer will be more easily recruited. On the negative side expected, it is hard to raise capital following higher interest rates, market instability due to fall of Asian trade volumes in the long run. (p.20) "

As far as shipbuilding is concerned, Fairplay (1998) [13] comments;

" Shipbuilding in Korea hit a wall at the end of 1997, and owner confidence in the industry virtually disappeared overnight. However, slowly but surely, newbuilding enquiries are starting to return, as a devalued currency enables price-cutting, driven by the national need to export its way out of trouble. (p.24)"

1.2 Null Hypothesis Adopted

Following the trade liberalisation policies of the WTO/OECD mechanism, the shipping industry has been also largely affected by the requirement for a more liberal trade environment, although it is already a well known assumption that shipping is subject to the open market, (the so called concept of freedom of seas principle). However, it has always been an area of protectionism. For those involved with national interests and strategic conflicts Korea is a prime example of these factors which have in the past played an important part in the protected environment of her shipping sector.

It can be easily understood that to protect one of the vital national industries is to recognise its strategic value within the overall national economy and shipping has always been included in this category. Protectionism in shipping is a persistent theme being practiced in the past and it is still one of the important areas that have not been fully resolved through the WTO negotiations.

Bjerregaard (1994) [14] analyses the matter in this context :

" After the Second World War a lot of developing countries continued the unfortunate tradition of protectionism within shipping. Protectionism has manifested itself as flag preference for own ships, and, for obvious reasons, less subsidies. In order to draw a parallel to the economy theory, one could say that developing countries based themselves on the infant industry concept. At the same time the industrialised countries based themselves on the theory of comparative advantages, and a reciprocating development was experienced within the OECD. "

As the Rochadale report describes [15], state intervention such as protectionism in shipping takes as many forms as has been broadly indicated.

" The government's responsibilities towards the industry fall into two categories. The first, ...is a general responsibility concerning the industry's commercial interest both at home and overseas, and promoting its contribution to the national well-being ; the second . . . is a more detailed regulatory function, established by statute, for the safety of ships and the welfare of seafarers. "

However, Frankel (1988)[16] recognises that protection in various forms has been the principal policy of many countries for the development of their national fleet, reviewing as follows :

- " Protectionism takes many forms and includes :
1. cargo sharing or reservation for national shipping ;
 2. cargo preference schemes for national shipping ;
 3. preferential port facility allocation to national shipping ; and,
 4. preferential exchange rates for national shipping. " (p.18)

Therefore, it is not so difficult to assume that the protectionism has hampered other countries' shipping industries, even though they might be benefitting from similar policies in their own country. Trade liberalisation can be regarded as an innovation to solve these problems, but it increases exposure to competition as it enlarges the free market global economy. Commentators generally agree that there is a need for greater competition in shipping regardless of the countries involved. As some maritime economists state [17] " however, a strong appeal for further liberalisation in shipping comes from both traditional maritime nations and developing countries, though the understanding of liberalisation in shipping remains different (p.13)"

The advantage of liberalisation using GATT (now WTO) especially in terms of a derived demand for shipping, is evident :

" The aim of GATT is to liberalise world trade and place it on a secure basis. With the reduction of tariff and non-tariff barriers achieved in various rounds of negotiations, GATT is expected to increase substantially the volume of international trade which in turn should increase the demand for maritime transport services. (p.12) [18] "

However, Schrier et al (1985) [19] identifies aspects concerning the desirable degree of liberalisation :

" A central question regarding the desirable degree of liberalisation is to the extent to which the elimination of impediments in maritime transport services can produce substantial efficiencies and substantially increase the total market for maritime services."

Shipping investment could be influenced by an investor's attitude to liberalisation.

But, it is not always the case.

Some commentators are less sanguine as to the benefits of trade liberalisation on shipping, and for the matter of implementation, Frankel (1988) [20] states :

" GATT which continues the Uruguay talks started in 1986 (and planned to end in 1990) is largely ignored, and GATT talks have become largely irrelevant to developments in world trade as protectionism again raises its head everywhere. (p.12)"

Ademuni-odeke (1988) [21] also identifies problems areas as below :

" Although multilateralism in shipping may have its advantages it also has its disadvantages as a departure from freedom of shipping. Although departure from the traditional patterns has evident advantages from the point of view of the operation of vessels, its implementation is difficult. Basic sources of disagreement are the criteria adopted for the distribution of reserved shipments. Countries controlling a large volume of trade will still aspire to reserve a substantial part for their own carriers. On the other hand, members whose foreign trade is insufficient to sustain the development of the viable merchant industry will favour an integrated multilateral approach, expecting to obtain a share in the carriage of trade between their bigger partners. (pp.164-165)"

Chrzanowski (1985) [22] also raises concerns :

" It is more a slogan than a reality, and it is a model for relationships within the shipping industry which can never be fully implemented. It is expected that this liberalisation in shipping will activate shipping investment, but there are those within the protected sector of the industry (cabotage operators and in some case closed conference operators who still remain skeptical)."

WSTS (1997) [23] discusses the opening of the Japanese domestic market to foreign products and says :

" Pressure to open up the market isn't really a sufficient solution. Success has come through producers' enlightened self-interest because they were most worried about severe protectionist barriers to trade. (p.I-13)"

About the matter of weakness, Wergeland (1994) [24] describes :

" Over the last few years, the term 'unfair trade practices' is used more and more frequently by nations to justify measures against trading partners, and if institutions as GATT (now WTO) is losing power, there is a real danger of

world wide increased protectionism. (p. 11)"

Frankel (1988) [25] identifies inequities :

" Similarly there are free trading arrangements among unequal trading partners which are not really fair because they do not consider large differences in capability. (p.15)"

As far as future development is concerned, Bjerregaard (1994) [26] insists on :

" Preaching a free market policy, it somehow sounds strange that the Danish Shipowners' Association has voiced a strong opposition to the inclusion of shipping in any future GATT round of talks on liberalisation of services. The main reasons are the low priority accorded by many countries to the interests of maritime trade, and the desire on the part of other nations to maintain or introduce protectionist measures. GATT has achieved significant results in the area of trade, but this does not mean that this will also implicitly apply to shipping. As shipping is to a very large extent liberalised between the established industrialised countries, and as the newly industrialised nations have come a considerable distance along the same road, it is difficult to see the advantages that could be gained by including shipping in the GATT round, especially since assurances of special considerations have already been given to the developing countries (pp.54-55)"

Westeneng, Haralambides and Zou (1994) [27] express the view :

" As the Uruguay Round concluded without adopting an agreed position for maritime transport (shipping is loosely included within a wider GATT framework but excluded from the specific round settlement), the prospects of the industry, with regard to further liberalisation, become somewhat vague. p.13)"

It can be seen that a conflict of views are still expressed as to the advantages of trade liberalisation on shipping. However, the industry will have to live with the

treaty obligations implied by the agreements concluded.

The assumption drawn is based on the null hypothesis that there will be no changes of both managers' perceptions and attitudes, and policies from shipping companies, banks, government and shipbuilding companies in the matter of investment decision-making subsequent to the adoption of the WTO rules.

1.3 The Structure of the Thesis

The thesis is constructed with ten chapters to pursue the four objectives previously selected and to examine the research in a logical manner using appropriate social scientific methodology. The structure of the thesis follows a deductive method in order to test the null hypothesis and accordingly to categorise the four sectors results and examine for statistical significance from the data collected in the empirical study. The framework of thesis is formulated from the available theoretical knowledge in the literature as well as from the imperatives of the field survey where the shipping contextual material has been carefully selected by reference to a pilot study prior to the general survey.

Chapter II presents an existing strategic model for shipping, based on shipowners attitudes and investment behaviour in the past. It also includes the discussion on the choice of a suitable strategic model relating to the factors to be considered in shipping investment and financing generally.

Chapter III is an examination of the past and present situation in Korean shipping and shipbuilding given the changed circumstances and the past and present provisions by government and the banking sector with some focus on the possible effects of the liberalisation strategy on these policies.

Chapter IV explains a preparatory procedure for statistical analysis, based on the survey process and the choice of sampling procedures including the statistical theory underlying it and the means of validating the sample.

Chapter V is a breakdown of the survey results, revealed in an appendix 2 (2.1).

Chapter VI then explores and compares the relationships between the four groups (of shipping, banking, government and the shipbuilding sector) and gives a breakdown of the survey results as shown in an appendix 2 (2.2).

Chapter VII is the interpretation of the results from statistical analyses chosen for the four groups in relation to shipping investment, to verify or not the null hypothesis.

Chapter VIII translates the strategic model given in the earlier chapter II, in terms of the findings from chapter VII and develops the new strategic model implied by these findings.

Chapter IX re-examines management opinions following the present financial crisis in Korea, based on the further survey of five respondents randomly chosen by

researcher.

Chapter X embodies the conclusion and the possible outcomes identified by the research.

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Chapter II : Literature Review on Shipping Context

2.1 Factors to be Considered in Shipping Investment

2.1.1 Regulation in Shipping Investment

The regulations imposed by national governments will have an impact on shipowner's decision-making for shipping investment. Protectionist measures towards national fleets such as flag preference, tax benefits and special financial packages are often employed by national governments. When this is agreed by a government's willingness to establish a national fleet, shipping investment would be activated, as shown in most developing countries.

Most governments have historically seen shipping companies as serving national needs (bolstering a strong merchant marine for defense purposes and ensuring access to foreign markets), in addition to furthering the commercial interests of the owners of the shipping lines. Many countries have policies intended to ensure the survival of national-flag carriers, including subsidies for shipbuilding, operational subsidies to shipowners, tax advantages, and other policies aimed at encouraging shippers to support their national flag. These policies have resulted in an industry which is not entirely driven by commercial economic forces [1].

Between the First and Second World Wars international shipping experienced a new setback, as several nations established protectionism to protect their own fleets. Strategic considerations were very much in focus, and several nations from Europe, as well as Japan, the United States and others furthermore tried to strengthen their fleets by subsidising in various ways. In some countries even state-owned

companies were established [2].

Subsidies to a country's maritime industries are probably a more common and certainly a more significant form of fiscal assistance throughout the world than discriminatory taxes on foreign competitors. The very distinguished opinion by Ademuni-odeke (1988) [3] on this matter follows : in the economic context a subsidy is a payment to individuals or a business by government for which it receives no products or services in return. The purpose of such payments is to maintain a particular service - in this case a maritime transport service - at a price that the public can readily afford but that cannot otherwise be profitably supplied at this price. The particular service or product should be essential to the public welfare and/or national interest. The government would therefore find it necessary to subsidise the enterprise in order to keep it operating and producing the service or product.

Financing and protection from competition are given special emphasis by many countries when formulating their respective maritime support programs. According to Hart et al (1993)[4], subsidies were well classified into several categories of the following:

Of the many classifications of shipping subsidies the most often used one is based on the division between direct and indirect subsidies. Direct subsidies may take form of :

- (a) construction subsidies
- (b) postal subsidies or postal/mail contracts,
- (c) operating subsidies
- (d) scrap-and-build subsidies
- (e) admiralty subsidies for special defence equipment
- (f) credit facility
- (g) guarantee of profits, share of loss, etc.,
- (h) subsidies of special marine insurance
- (i) lease of ships belonging to the State to private companies,
- (j) sale of ships belonging to the State to private companies.

Among indirect subsidies one may indicate :

- (a) subsidies to the shipbuilding industry,
- (b) customs reductions,
- (c) tax and depreciation allowances,
- (d) subsidies to immigrant's fares or operators transporting them,
- (e) reduction in port, canal and other charges,
- (f) subsidies for construction and operation of ports and canal
- (g) preferential railway tariffs to/from the country's seaports.

During the last 20 years there has been a tremendous expansion in the merchant fleet owned and operated by interests located within the Asian Pacific Rim. In recent years attention has focused on the growth of its container carrying services but throughout the whole period there has also been substantial growth in the numbers of other vessel types operated by regional interests (by both domestic and foreign flag holdings), most notably the dry bulk carrier and tanker fleets.

Undoubtedly a major factor encouraging the penetration of Pacific Rim fleets into the world scene was cost advantage. The region is the centre of the world shipbuilding industry and close relationships have been built up between local ship operators, cargo interests and shipbuilders. More than this has been the large differentials in operating costs - particularly crew costs, which (with the exception

of Japan) have given local ship operators a significant cost advantage - more so in periods of depressed freight levels.

According to Fossey (1997) [5], on the global level, the world container fleet is a crucial modifier of ship-borne capacity, as is the ration of cellular to non-cellular capacity ; while a change to routing patterns have caused fundamental changes in effective vessel productivity in recent years.

Regulatory bodies, especially in Europe and the USA, have become increasingly vigilant towards the liner shipping industry and have assailed many of the anti-trust exemptions previously enjoyed by carriers [6].

Table 2.1 Forecast Global Container Activity to 2000
(Million TEU of container handling operations)

Year	Loaded	Empty*	Total	Growth (%)
1990	69.7	17.7	87.4	6.6
1991	77.0	18.8	95.8	9.6
1992	84.5	20.7	105.2	9.9
1993	92.9	22.4	115.3	9.5
1994	102.0	24.7	126.7	9.9
1995	110.8	26.9	137.7	8.8
1996	120.3	29.1	149.4	8.5
1997	129.8	31.5	161.3	7.9
1998	139.3	33.7	173.0	7.3
1999	149.3	36.2	185.5	7.2
2000	159.6	38.6	198.2	6.9

Note : * for 1994-2000 assumes that 19.5% of total moves are empties
Source : Reference [7]

Table 2.2 Forecast Global Container Activity by Region

(Million TEU of total throughput at regional ports)

Region	1980	1990	1995	2000
N.America	9.5	16.7	20.8	24.1
Far East	7.7	23.0	39.6	60.4
W.Europe	11.7	22.4	30.5	39.9
SE Asia	1.9	9.6	20.6	34.9
Oceania	1.6	2.3	3.2	3.8
Mid East	1.9	3.5	6.8	10.5
L.America	2.3	4.8	8.0	11.7
E.Europe	0.4	0.6	0.6	1.0
S.Asia	0.2	1.8	3.4	5.8
Africa	1.5	2.7	4.2	6.2
Total	38.7	87.4	137.7	198.2
% of activity				
N.America	24.6	19.1	15.1	12.1
Far East	19.8	26.3	28.7	30.5
W.Europe	30.3	25.6	22.2	20.1
SE Asia	4.8	11.0	15.0	17.6
Oceania	4.2	2.7	2.3	1.9
Mid East	5.0	4.1	5.0	5.3
L.America	6.0	5.5	5.8	5.9
E.Europe	1.0	0.7	0.4	0.5
S.Asia	0.6	2.0	2.5	2.9
Africa	3.7	3.1	3.1	3.1

Source : Reference [8]

Some regional governments have initially played an active role in encouraging bulk fleet build-up in order to meet the increasing demand for bulk imports so that the domestic economy derives maximum benefit from the trade which it is generating. Latterly these fleets have been active in the cross-trade and have had a crucial impact on international shipping operation [9].

**Table 2.3 World Seaborne Dry Bulk Trades Development
1980-2005 (Unit : MT)**

	1980	1985	1990	1995	1996	1997	1998	2000	2005
Iron ore	319.3	322.7	356.0	414.0	401.2	420	425	430	450
Coal	189.5	275.4	344.3	422.3	435.0	450	465	510	560
Grains	167.3	157.3	165.6	185.5	184	185	187	195	215
Agribulks	94.3	97.9	11.8	125.5	124.5	124	125	131	141
Aluminium raws	49.9	40.0	53.1	50.0	52.0	53	53	53	55
Ores and minerals	79.9	89.8	98.0	110.6	115.0	118	121	133	145
Fertilisers	100.2	106.3	111.4	107.2	107.5	108	108	115	120
Forest products	150	132.0	158.0	163	166.0	170	175	180	200
Iron and steel	90.1	117.4	116.3	128.0	137.0	138	140	148	160
Manufactures	65.3	70.8	66.5	78.5	80.0	83	84	91	98
Total bulks	1,305.8	1,409.6	1,580.0	1,784.6	1,802.2	1,849	1,883	1,986	2,144

Note: Historical figures 1980-1996; Estimated figure 1997; Forecast figures 1998 - 2005.

Source : Reference [10]

2.1.2 The Shipping Market Function

The shipping market is one of the important factors when a shipowner makes an investment decision. The supply and demand in the shipping market function is closely related to freight rates and also influences ship prices which are linked with investment decision-making in shipping. Therefore, it is worthwhile to review this matter in order to understand relationships with shipping investment.

The shipping industry has been always dependent on two factors, supply and demand like other industries. Supply implies tonnage and demand implies the trade volumes of shippers, whose relationship produces the tariff rate [11]. A change in the balance of supply and demand affects the level of freight rates. When there is a shortage of transport capacity, freight rates rise and the older and less efficient ships become profitable to operate and are progressively brought back into service

until the whole of the physically operational fleet is at sea [12].

There is, however, a danger that supply and demand is mismatched because of over-investment in the modernisation structures which have significantly enhanced the productivity of the shipping sector ahead of the volume of transportable goods [13].

Traditionally, this equilibrium has occasionally resulted in a low rate following the overcapacity, especially in the three major routes, Far East/North America route, Far East/Europe-Mediterranean route, and North America/Europe-Mediterranean route [14].

But the fight for market share has forced rates down in some instances to levels which defy the laws of supply and demand. This has been further complicated by the fact that in many instances lines are competing for door-to-door shipments, and the inland segments have been used as part of the rate bargaining, with a result that they are often priced with little regard to actual costs [15].

Over the last decade, rates in the ocean liner industry have fluctuated considerably. One of the most important factors contributing to rate fluctuations has been trade imbalances. These imbalances tend to increase rates in one direction of a trade, while depressing rates in the opposite direction. As trade becomes more balanced, the rate levels often reverse themselves ; rates increase in the weak leg and fall in the stronger one [16].

The development of freight rates on individual trade routes is only partially determined by global supply and demand influences, with trade specific factors being far more important [17].

In the case of demand, the sheer pace of increase in flows of containerised traffic has had far-reaching implications for the port and shipping sectors. In the established markets investment has accelerated to accommodate these increases [18].

This sharp increase in demand as the economic consequences of the unification of the national EEC economies under the terms of the 1992 agreement will have far-reaching effects on the level of required investment in the port/terminal and shipping sectors of the industry [19].

At the same time, Stokes (1993) [20] said that most shipping slumps have been caused by excessive supply rather than a contraction in demand..

Containerisation is by its nature a costly business, but as competition becomes ever more intense, so does the need to pull costs down to win an edge, no matter how marginal, over rivals. In this sense, tonnaging policy is one of the main areas. Gardiner (1994)[21] discusses on this matter that investment in new deep-sea containerhips has actually been little dented by the economic climate, certainly less than one might expect. This is due to a number of factors as firstly, many lines had been holding off while new-building prices have been high, and are starting to

order in greater quantity now that prices have dropped somewhat. Secondly, the operating costs of the efficient ships, especially if good utilisation can be achieved, are much lower fuel-efficient, with low manning requirements, a new 4,000 TEU ship can be operated as cheaply as an older ship of half the size - slicing unit costs in half. The long-term benefits of using new tonnage are obvious. A third element is that many of the newbuilding orders which have taken place in recent years are not for owner-operators at all, but for tramp owners, ordered on the back of long-term charter deals with the new operators.

The supply side of the bulk shipping market is driven by the balance of scrapping and new-building. Since these activities play such an important part in the fortunes of the shipping market, it is worth taking a look at the broad trends in these two key areas [22].

An important factor in determining dry bulk carrier profitability is the size of the bulk carrier fleet. The future fleet will also be reflected in the existing new-building orderbook, which extends as far as 1997, although there is clearly uncertainty about new-building deliveries beyond this date. There is uncertainty, too, over future scrapping levels and the rate at which older tonnage will be removed from the fleet [23].

Future bulk carrier employment and the demand for bulk shipping is largely a function of three key factors - first, the quantities of dry bulk cargo being transported by sea, both internationally and in coastal trade ; second, the geographical pattern of bulk cargo traffic and the effects of this on the average

distances over which shipments are made and third, the performance of the bulk carrier fleet, the fleet's overall productivity being influenced, among other things, by DWT utilisation and average load factors, operating speeds, the frequency of ballasting, port turn-around times, delays and congestion, the incidence of scheduled and unscheduled repairs, etc. [24].

Crucial to any assessment of a shipping investment is an understanding of the factors which determine ship prices, either fundamentally or during the negotiating process. The principal influences on price are the current supply/demand balance and the market's expectation of change [25]. A new trend is that shipowners order vessels based not on market pricing but some value-added factors such as technology, time to order, delivery dates, etc.

The most fundamental price influence is the perception of the current and prospective supply/demand imbalance. This said, it is rare to find agreement on how this can be measured. In truth, any quantification is tenuous because the shipping industry is dynamic and automatically adjusts to changes in the underlying fundamentals through movements in freight rates [26].

Since 1990, the fundamental problems of recession in the industrialised world, tonnage oversupply and a dip in freight rates have combined to subdue both the new-building market and the level of sales for further trading. The price paid for secondhand tonnage in the 1990s is likely to be strongly influenced by (a) the state of the freight market and (b) the level of new-building prices (though the

relationship between these elements is by no means fixed) [27].

The most fundamental influence on the new-building price of a vessel will be the demand for that type of vessel at the time of ordering. This, invariably, will be linked to the freight market. Traditionally, the cyclical "boom-bust" nature of bulk shipping has mirrored the global economy, with freight rates rising when GDP growth rates pick up and falling when they slow down. During "boom" periods, when freight rates have risen, new-building orders have also risen, fueling new-building prices. Such a pattern was clearly evident in the early 1990s. In between these peaks, freight rates have generally been eroded by a combination of over-tonnaging, the result of high ordering levels during the boom periods, and weak demand for seaborne goods' movements [28].

Uremovich (1992) [29] discusses that in recent years we have seen, in many industries, the effective shifting of economic leverage from the supplier/carrier to the customer. This shift of leverage has been particularly acute in the transportation business. The major factors at work are seen as below :

- Deregulation/partial deregulation - loss of supply side controls
- New 'quality management' techniques focus on the customers
- Excess capacity in every mode - air, water, truck, rail
- Requirements for change from the customer's view ; new logistics patterns/demands; use of logistics as a competitive weapon. (p.19)

However in recent times the quality of the service providers has been an additional factor to the purely supply and demand considerations, consequently, this new dimension to the basic supply & demand of " value-added " has caused adjustments

to be made to rates which had prevailed during the 1970s and 1980s [30].

Having taken account of the relative historical importance of freight costs to delivered price and changes in freight rate levels, some consideration needs to be made in respect of the changing health of the ship operating community. This may also have implications beyond absolute freight rate levels, since for many operators the concern over freight is not purely with cost - quality and reliability of shipping service is also a crucial factor [31].

In order for any company to survive in any industry today a customer service focus can no longer be viewed as a 'concept'. It has become an absolute necessity and critical element of success for all of us [32].

Service is an important element of the liner shipping industry. In choosing a carrier to transport cargo, a shipper is concerned not just with the price, but also with the speed and predictability with which his product will be delivered, the choice of scheduled sailings by the carrier, the reliability of the carrier, and the adequacy of capacity of the carrier's vessels [33].

Carriers have also played an expanded role in distribution. The quality of ocean transportation today is such that millions of dollars of distribution costs have been eliminated from the system [34].

The only real beneficiaries continue to be the carrier's customers, who frequently find they are pushing on an open door when it comes to negotiating a rate decrease.

However, over the long term, it is much in the interests of shippers as carriers to see that the latter make a decent return on their investment [35].

2.1.3 Shipping Cycles and Forecasting

The shipping industry, through its long history, has been a cyclical one. It seems to be a fact of life that the freight rates and ship prices tend to fluctuate over the months and years in something like a cyclical manner, popularly known as the shipping cycle. Furthermore, in the past, following the Drewry (1993) [36] report, the various sectors of the shipping industry have each tended to display a cyclical pattern of new-building, which has exacerbated the problems associated with investment decision-making.

Shipping has long been perceived as - and is - one of the most cyclical industries for investors to come to terms with. Asset values are, with slight exceptions, driven by speculation on the rise (and fall) in freight market earnings. This means, however, that, given the ability to correctly assess the market sentiment towards specific sectors of the shipping industry, it has been proved, over and over again, that returns from investing in the industry can be extraordinarily high [37].

The "feast and famine" nature of shipbuilding which characterised the 1970's and 1980's has given way to a more orderly cyclical pattern. Replacement of tankers and bulk carriers now operates through market cycles ; periods of high freight rates trigger many orders, periods of low freight rates trigger higher scrapping. Fortunately for the shipbuilders, the market cycles for tankers and bulk carriers have

been asymmetric. When one market is up, another is down and vice versa : ordering booms for different ship types have followed one after another giving a reasonably stable workload [38].

As the prospects of a market upturn become more evident, shipowners will be considering orders for new tonnage as owners, therefore, begin to think about obtaining finance for new-building [39].

Hampton (1988) [40] discusses two shipping cycles, short and long. He defines that the idealised short cycle is typically 3 to 4 years in length and typically follows the economic trade cycles by a few months. The idealised long cycle lasts for a duration of 20 years and consists of the build-up and correction phases. The 8-12 year build-up phase consists of three short cycles with each peak rising to a higher level, and the 8-12 year correction phase is a period when the excesses of the long cycle build-up phase are worked off.

The working of the longer-term adjustment mechanism in shipping is seriously hampered by the problem of imperfect knowledge about future market development. Shipowners regularly order vessels at the top of market, only to find that when they are developed freight rates have collapsed [41].

Stopford (1991) [42] said that the most important feature of the shipping market cycle is far too unpredictable to provide bankers, or anyone else for that matter, with much guidance on the future earnings or collateral value of the vessels they

finance. He recognised that its weakness as a forecasting tool becomes only too apparent when the pattern of past cycles are examined in detail.

As far as bulk shipping is concerned, it is an industry which is prone to cyclical development and to prolonged periods of relatively poor-paying freight rates. The foundation for any bulk carrier market forecast must be an estimate of the future volume of bulk trade. It is necessary to know what categories of dry cargo may be carried by ships of this type, now and in future years, the quantities of each of which will be shipped by sea, and the geographical pattern of shipments, as this will determine the distance the cargo is shipped (and, in turn, ship demand) [43].

Hampton (1988) [44] argues that shipping investment requires a medium to long term forecast because of the limited liquidity of ships and the life of a ship is normally at least 20 years. For long term forecasts, particularly in the volatile shipping market, the cyclical model tends to work better because it is more dynamic and takes into account a longer period of history. However, Stopford (1997) [45] has a different and reasonable idea of prediction in shipping. He emphasises that the shipping market is so complex that there is little chance of making accurate predictions more than a short time ahead. What really matters is not predicting the future, but reading the signs that the market is turning before others and taking the appropriate action.

2.1.4 Risk Element and Decision-making in Shipping

Few industries have been as exposed to uncertainty as shipping. Being highly

international, both commercially and politically, shipping is a business which instantly is influenced by political and economic turmoil, wars and natural disasters [46], even though shipping is freeing itself from the worst influences of major world markets, such as oil, money and the worst excesses of government [47].

The shipping industry is a highly risky business, full of physical dangers [48] and as with all business, shipping decisions involve risk.

The importance of risk as a major influencing factor in investment decision -making is widely recognised [49]. Cullinane (1991) [50] observes, however, that this usually extends solely to the major capital investment decisions.

The shipowner accepts a risk which others are unwilling or unable to accept simply because the value of the ship and the economics of running of the ship involves huge sums of money which have to be invested over a long period of time where the market horizon is uncertain. As Gray (1986) [51] states, taking such risks is the shipowner's business, and they are risks which he or she cannot avoid. In return for accepting these risks the shipowner can expect to make a reasonable profit.

The decision of whether or not to invest in a particular venture is of fundamental importance to the success of a shipping enterprise. The capital requirements are however enormous and very few shipping companies are financially capable of making the investment decisions necessary or persuading banks and institutional investors to support them. Thus the ability to match the capital investments of a

service industry to the demands of its customers has been almost impossible as both sides of the equation have taken shorter and shorter term decisions.

Stopford (1997) [52] has pointed out the reason why these decisions are so crucial. These decisions are crucial because the shipping market is highly volatile, comprising a succession of alternating peaks and troughs.

For the vast majority, ship ownership is a high-risk business. Few owners can avoid completely the perils of the freight market and consequently their investment has to be set in the context of the peaks and troughs and through mechanisms of changing supply and demand balances, market expectations, and availability of finances etc.[53].

When an executive chooses between a set of investment projects he takes into account his own attitude towards risk, together with other critical evaluation factors, as Frankel (1989) [54] also points out and the Drewry Report (1987) [55] also comments that the choice of project is determined by a potential investor's attitude to financial risk. However, attitudes towards risk and the cyclical vagaries of shipping investments have become less tolerant, as container lines have changed from simply ship-owning companies into global, multi-modal transport operations [56].

Following Andreassen (1990) [57] studies investment behaviour of non-liner shipping firms, and focuses on risk matters. He notes that the individual firm's or

decision maker's attitude towards risk is an integral part of the model. Two risk groups are classified : the risk averters and the risk lovers. The risk averters will tend to adjust their transportation capacity towards expected demand regardless of market fluctuations. The risk lover will normally attempt to adapt his or her capacity such that he or she is better able to cover peak demand. In an internally organised market it is easier to be risk loving where some of the variables are certain, thanks to protection and regulation. In a market where the boundaries are unlimited by deregulation the risk lover may be less willing to take these risks which are uncertain or in some cases unknown.

Furthermore, risk attitudes can change, and vary through industry volatility and environmental uncertainty as Jaucl and Glueck (1988) [58] described. In very volatile industries, executives must be capable of absorbing a greater amount of risk ; otherwise, they cannot function. Accordingly, the division of risk must be structured to reflect the volatility of the returns (It is desirable to have a safe level of first mortgage bank debt, with further investor involvement in the form of co-investment with the shipowner). In this regard, Thomas (1994) [59] has claimed that properly structured debt, such as subordinate finance can achieve meaningful returns for the investors and, at the same time, enhance the profits of the shipowner and partner.

According to Gray (1986) [60], successful risk management comes in three parts : first, taking normal limited risks which are covered by existing capital ; second, taking a small uncovered risk to maximise opportunity profits ; third, taking any

other risk which can be offset or hedged. It is worthwhile to remember the words of Jaucl and Glueck (1988) [61] that the investment-risk mix is related to strategic choice and so, of course, if expansion is the desired strategy, greater risks are acceptable. Finally, a meaningful comment is given by Richard (1994) [62] that the investment world is increasingly global, and sophisticated investors are increasingly evaluating opportunities on a comparative basis. However, owners will be under pressure to provide more and better information to meet the standards of management prevalent in other industries with which shipping will compete for credit.

At the same time, Stopford (1997) [63] also refers to the timing aspects of decision-making, and discusses that success depends upon a small number of crucial decisions about when (or the right time) to buy and sell ships, and whether to tie them up in long-term commitments such as time charters, or to keep them available for spot trading.

The timing of asset acquisition as a shipping investment can be of paramount importance especially since vessels are the most costly investment for a container shipping company [64]. The timing of a new vessel order is indicative of a more entrepreneurial approach to asset management amongst the carrier community. Up to 1990 containership ordering activity rose when prices rose and fell, indicating that carriers were essentially reacting to upturns in the world trade cycle [65].

2.1.5 Capital Raising

Demand for ship finance is derived from orders for new-building tonnage and the Sale & Purchase market. The requirement for new tonnage, and the ability of shipowners to afford to place orders for new vessels, depends on a complex equation involving the expected level of shipping demand and prevailing freight rates, as well as the availability of finance. For one reason or another, shipowners have not always, in spite of a sound financial basis, had the liquidity to finance the purchase of new tonnage. Ship mortgage banks have been developed to lend money for this purpose and this still remains the most common way of raising capital today.

With operating income restricted and to a large extent unpredictable, companies have been less able to use their own reserves when it comes to major investment projects, so they have been forced to find cash elsewhere. There are several options (excluding the obvious long-term solution of cost-cutting programmes). These include the more familiar forms, such as the recourse to parent company funds where applicable - although in times such as these, the rationale for investment has to be pretty convincing - or seeking outside loans [66].

As a matter of fact, investment in shipping requires large amounts of financing and moreover, Stokes (1994) [67] especially emphasises the need for long-term capital for shipping which has in practice a much shorter-term horizon. Therefore, entrepreneurs turn to banks for help in carrying out their plans for expansion in boom periods.

Conversely, there is a case that a banker would encourage the shipowner to invest during a boom period. The idea was followed by Davies (1994) [68] that while the shipping market continued to rise, and the companies, which invested at the beginning of the cycle, reported encouraging earnings and massive (though largely unrealised) capital appreciation, the structure was perceived to be very successful. Consequently the impetus for the establishment of such start-up shipping ventures began to come, not from the shipowners or managers themselves, but from investment bankers urging shipowners to 'use a fund' as a vehicle for 'going public' by the back door without having to offer their businesses to the public at a discount to net asset value.

However, according to LSE (1996) [69], shipowners can also raise money by forming joint ventures with each other. The joint venture agreement will almost certainly state, mainly for tax purposes, that the agreement between the parties does not constitute a partnership. From a legal perspective, it is probably a form of partnership, which is in itself another form of an equity investment vehicle. In the meantime, joint ventures are formed to recover operational difficulties especially where the management skills of one partner are used to supplement those of the other. Ward (1993) [70] indicates that the difficult liner market and the capital-heavy door-to-door concept have made it more pertinent to co-operate within the framework of conferences or in close commercial joint ventures in order to rationalise investment and services.

2.2 Suitable Strategic Model

Strategy becomes a fundamental framework through which an organisation can assert its vital continuity, while at the same time purposefully managing its adaptation to the changing environment to gain competitive advantage [71].

A global industry such as shipping, is one that comprises firms whose competitive positions in major geographic or national markets are fundamentally affected by their overall global competitive positions. To avoid strategic disadvantage, firms in global industries are virtually required to compete on a worldwide basis. Global industries have four unique strategy-shaping features [72] :

- differences in prices and costs from country to country due to currency exchange, fluctuations, differences in wage and inflation rates, and other economic factors.
- differences in buyer needs across different countries.
- differences in competitors and ways of competing from country to country.
- differences in trade rules and governmental regulations across different countries. (p.280)

According to Hax (1994) [73], strategy could be defined as a rendition of the CEO's personal mission statement, rationalised by the corporate planner, and brought into being by the executive committee and chief stockholders. There are six dimensions of strategy that can be described as the following :

- strategy as a coherent, unifying, and integrative pattern of decisions
- strategy as a means of establishing an organisation's purpose in terms of its long-term objectives
- strategy as a definition of a firm's competitive domain
- strategy as response to external opportunities and threats and to internal strengths and weaknesses as a means of achieving competitive advantage
- strategy as a logical system for differentiating managerial tasks at corporate, business, and functional levels
- strategy as a definition of the economic and noneconomic contribution the firm intends to make to its shareholders. (pp.9-11)

One must be creative and quick to recognise new opportunities [74]. Here, there are some basic lessons from economic theory and the experiences of successful firms. The basic lessons are [75] :

- (i) Invest in projects that take advantage of your competitive edge. The corollary is, stick to doing one or two things and doing them well ;don't get involved in business you are unfamiliar with.
- (ii) Invest in developing, maintaining, and enhancing your competitive advantages.
- (iii) Develop a global scanning capability. Don't be blindsided by new competitors or lower-cost production techniques or locations.
- (iv) Pick market niches where there is little competition. Be prepared to abandon markets where competitors are catching up and apply your competitive advantages to new products or markets.

Shaw (1993) [76] says that before finalising a corporate strategy, management must consider how it will affect shareholder wealth. Any new investment or planned growth which fails to meet this objective should be rejected. It is believed that management should ask themselves the following questions before embarking upon any new corporate strategy. These are :

- (i) How would alternative strategies affect shareholder value creation ?
- (ii) Which strategy is likely to create the most value ?
- (iii) For the selected strategy, how sensitive is value to internal and external business factors not contemplated in the "most likely" scenario ?

As far as the shipping is concerned, some valid strategic options could be applied to the real shipping world. Following the opening of the domestic market, it is actually useless to divide the national market in a broad sense, which means that every

shipping route can be employed by any of the shipping firms. Therefore, many options can be available and require an active strategic approach as long as they can afford it.

2.2.1 Strategy in the Competitive Shipping Market

The shipping industry, like any other segment of international business, will have to adapt to a new and changing world. Profound changes are emerging in the pattern of global economic development and trade, with important consequences for the shipping industry [77].

Porter (1998) [78] introduces his three generic strategies - lowest cost, differentiation, and focus which bring structure to the task of strategic positioning. He shows how competitive advantage can be defined in terms of relative cost and relative prices, thus linking it directly to profitability, and presents a whole new perspective on how profit is created and divided. The ideas address the underlying fundamentals of competition in a way that is independent of the specifics of the ways companies go about competing.

The shipping firm basically has two strategic options in its quest for comparative advantage : it can seek lower costs than its competitors or it can differentiate its product in a number of ways, including high advertising expenditures, product innovation, high product quality meaning a first-rate service. Each of these options involves a number specific investment decisions [79]. The more an investment

widens a firm's competitive advantage and reduces the chances of successful replication by competitors [80], the greater the likelihood that investment will be successful.

The profile of today's container shipping industry has been shaped to a considerable degree by the strategic decisions taken by individual liner companies on a series of fundamental operational and commercial issues. The container market is thus a dynamic organism characterised by the continuous struggle between competing corporate strategies, each intended to secure a commercial advantage. However, the financial performance of the container shipping industry has deteriorated in recent years to such an extent that many of the world's largest carriers have undergone massive philosophical and organisational restructuring in an attempt to erase the red ink from their profit and loss accounts [81].

Many commentators/pundits and authors of liner company annual reports point primarily to an ongoing erosion of rates driven by a combination of slow market growth and chronic overcapacity as the reasons for poor performance [82].

In the present environment the Korean industry is a year away from completing the present investment programme, or to some, over-investment cycle [83][84][85]. By the second quarter of 1998 carriers had received most of the ships on order and upgraded and expanded key terminals. What the industry does not possess is profitability. Further, the industry will lack the ability to raise rates in the marketplace - a condition which could last several years and could worsen. Serious cost

reductions may be the only avenue for survival.

In short, the competitive battleground has moved firmly and inexorably to the cost side. In all areas of industry, competition is forcing organisations into cost-cutting measures such as automation, outsourcing and buying from the cheapest suppliers. Simultaneously, organisations are having to expand their international markets, thereby increasing their transportation needs [86].

Accordingly, the present competition in the shipping market is severe and the strategies that shipping companies have to adopt have become diverse. Therefore, the existing concepts for looking at the shipping industry require change, otherwise shipping companies will fail to survive if they do not adapt to the changing circumstances especially those now appearing in the Korean economy.

2.2.2 Defining a Strategic Model for Korean Shipping

The following list of attributes have to be considered in accordance with subjects addressed in a subsequent questionnaire :

- (i) The Korean shipping industry is a regulated industry of government.
- (ii) Shipping investment is largely influenced by the demand side of the shipping market.
- (iii) The shipping cycle belongs to the category of the medium stage of cycles.
- (iv) Shipping Finance in Korea is controlled by government directly.
- (v) Attitudes of the shipping investor in Korea are passive.

- (vi) Shipbuilding is integrated with shipping in Korea.
- (vii) The reason for strategic alliances is for the expansion of services.
- (viii) Partnerships are likely to be with other Asian shipping companies.

These subjects will now be reconsidered.

- (i) The Korean shipping industry is a regulated industry of its own government.

The shipping industry in Korea, as one of the developing countries, but now a developed OECD country, is an important Korean nurtured industry and is obliged to follow various regulatory policies imposed and implemented by Korean government. This is involved with duality of policy by the Korean government that subsidises and protects the shipping industry as an infant industry, although, on the other hand, it controls (regulates) the shipping industry.

- (ii) Shipping investment is largely influenced by the demand side of the shipping market.

The market mechanism in modern society is mainstreamed by a demand (consumption) economy. This is the modern market principle in contrast to the supply (production) economy in the past. Accordingly, it can be said that a derived demand for shipping in the industry is a starting point to create shipping investment.

- (iii) The shipping cycle belongs to the category of the medium stage of cycles.

There is general opinion that the shipping cycle belongs to a medium stage ('5-10 years' for the shipping cycle, 'between 10-15 years' for ROI, and 'between 15-20 years' for depreciation). The reason for this length of period is that the shipping cycle is based upon the general economic cycle, and ROI and depreciation is upon ship's age that is generally assumed to be 'between 15-20 years'.

(iv) Shipping Finance in Korea is controlled directly by the government.

Korean shipping industry, and especially shipping finance, is strongly influenced by government policy. This is related to a policy implementation of Korean government which has the perception that the shipping industry is a source of dollar earnings and the shipbuilding industry is exporting manufacturing industry. Korea as one of the past developing countries has facilitated shipping earnings and provided finance as a means of protecting the industry and, by creating a barrier to entry to Korean shipping financial markets by foreign financiers, further protected the industry from foreign competition. This has been in fact a regulating mechanism over both the shipping and shipbuilding industries in the past.

(v) Attitude of shipping investors in Korea is passive.

To date, shipping investors in Korea have been sheltered under the umbrella of government policies with regard to access to funds, therefore they tended to avoid active investment strategies outside those permitted by government policy. That is why they have in the past avoided the risk of bankruptcy when making bad decisions since they are merely following Government directives and hence can get

assistance from the state when decisions go badly wrong. Therefore, attitude toward investment is passive which means there is strong tendency to be risk-averse.

(vi) Shipbuilding is integrated with shipping in Korea.

The choice of shipyard for the new-building of shipping is critical since the price of the ship cannot be ascertained through competitive bidding amongst foreign yards. The shipowner has been obliged to order ships from Korean yards by the compulsory policy measures of the Korean government. This is also precondition for shipping finance availability to a Korea shipping company. Furthermore many of the shipping companies are part of the Chaebol system which was in itself a government inspired method of ensuring local construction.

(vii) The reason for strategic alliances is the expansion of service.

The current shipping market has practiced strategic alliances as way of covering their own weaknesses with a partner's strength. This is one of the alternative methods to survive competition and to provide a wider range of service within the global shipping market.

(viii) Partnership is likely to be with other Asian shipping companies.

Generally speaking, more competitive business activities for service expansion can be achieved by making a strategic partnership with a shipping company of a country closely located geographically with nearly the same trade route for inbound and outbound cargo. A common business culture is more likely to prevail and the

partners will have a similar experience of their local market. Accordingly, it can be considered that an Asian shipping company is the best partner for an alliance in shipping.

2.3 Financing Techniques Accessed

There will also need to be a reappraisal of shipping as an industry. Shipping today is still very much the pursuit of private individuals. Very few companies are listed on the world's stock exchanges and yet there are in excess of 25,000 owners. This has created an industry with too little equity and an excessive amount of bank debt.

2.3.1 Finance for Ships

The bottom line of any ship finance deal is that a bank, or some other lender, advances money to a ship owner to assist the owner to build a new ship ; buy a second-hand ship ; convert, repair or alter a ship ; or refinance existing indebtedness secured on a ship. The lender must be secured and looks for his or her main, though by no means only, security to the ship itself. At the same time, financial terms and conditions change - especially in a cyclical industry such as shipping -and banks and owners become ever more sophisticated. Different types of vessels require lenders to take into account different considerations. But ultimately, the starting point is the same. The bank lends and the borrower secures the repayment of the loan by mortgaging his ship to the bank. Invariably there will be other security.

Graham (1991)[87] indicates that refinancing is largely the result of competition

between lenders - owners will generally approach more than one lender to finance a new acquisition. It is not uncommon for owners to switch lenders during the life of a facility when a different lender is able to offer better terms. Most lending secured on second-hand ships is by way of a term loan. In other words, the lender will lend to the shipowner a fixed amount repayable over an asset period. In its simple form, the loan will be available to the borrower in one drawing only and will be repayable in equal instalments over the duration of the term, most likely every six months.

Higher freight rates add to the recovery in liquidity levels. Different financial and investment decisions are made, to lower leverage, to build fleets with new tonnage or to build new fleets through second-hand acquisition.

In recent years, increasing importance has been attached to the financial side of an investment decision in a new-building project and, in many cases it is, the decisive factor in the shipowner's choice of a shipbuilder. If a shipowner desiring to finance a new-building should be unable to fund the difference between the government guarantee and the total cost of the vessel, additional funds may be gained by offering other assets as security for a loan.

When dealing with the financing of ship construction, as opposed to the financing of second-hand vessels, it is important to take into account not only commercial and financial considerations, but also political factors [88]. This point has been highlighted by Brooks (1990) [89] that such new-building promotion activity is not

only common in developed countries, but also in less developed countries too. Korea has been able to take business away from the established yards of Europe and Japan in spite of such programs.

In the meantime, necessary fleet renewal has to be carried out in an orderly and controlled manner [90]. The capital is there for shipping, but at present it will not become available in sufficient amounts unless freight rates improve considerably and/or legislation is introduced to encourage new investments. As Paine (1989)[91] says, given the labour intensive nature of ship construction, and the political sensitivity of ship exports, it also comes as no great surprise that the financing of new construction is heavily dominated by official export credit agencies.

However, the Drewry (1993) [92] report points out that there are really only four reasons why a company or individual will look to acquire a vessel or vessels on the second -hand market (p.34):

- in order to gain direct access to tonnage to meet a requirement to move cargo
- in order to be able to hire out the vessel on the charter market, and thereby to make a return on the investment
- as an asset management, in the hope of being able to resell the vessel at some future time for a larger sum
- to take advantage of tax benefits

Furthermore, banks, other lenders, shipyards and certain government departments also sometimes become owners, if loans fail or guarantees have to be taken up, but these are owners only by default and play no active part in the S & P (Sale &

Purchase) market.

The lack of effective financing arrangements for the acquisition of tonnage to be scrapped is equally disconcerting. Peters (1994) [93] showed a very pessimistic view of shipbreaking financing and said that there is a little hope for major improvements in shipbreaking capacities and output. The fact that the governments of these countries have shown little inclination to provide the funds for required investments in breaking facilities, not to mention foreign exchange needed to acquire tonnage to be scrapped, aggravates the situation.

2.3.2 Source of Finance

Irrespective of conditions in the finance sector there will still be a need for capital investment in the shipping industry. Even assuming minimal growth in demand for bulk tonnage, the age profile of the fleet, alone, guarantees the need for substantial replacement tonnage in the form of new-buildings in the coming decade [94].

A shipping company wishing to expand its fleet can consider a number of alternative sources of finance. The method which is the most appropriate will depend upon the type of company, its existing capital structure, the availability of the different types of finance, and the present and projected profitability of the company. Brooks (1990) [95] classifies source funds for ship finance into four areas. There are government financing, commercial debt markets, equity markets,

leasing and joint ventures.

2.3.2.1 Government Financing

New-building has traditionally been financed through a mixture of private and government funding. Government assistance has been provided through the medium of shipbuilding credits, either in the form of help to the yard which then offers benefits to the purchaser, or directly to the purchaser in the form of a favourable loan [96].

Brooks (1990) [97] also indicates that many countries wishing to counter the loss of heavy industry employment opportunities have supported failing labour-intensive shipbuilding industries with construction subsidies and easy credit terms. This type of behaviour effectively subsidises the interest rate on loans.

Since the mid nineteen sixties the position of a shipping company wishing to expand has been made very much easier by the availability of cheap credit provided by governments wishing to sustain their shipbuilding industries. This idea has been also followed by Stokes (1992) [98]. The very existence of generous subsidised credit arrangements for new-buildings tended to undermine the shipping industry's equity base by making it too easy for under-capitalised owners to contract new tonnage.

The most popular type of government assistance is the provision of a long-term loan, at a fixed rate of interest. Often these loans are arranged through state-controlled

banks, which lend at a subsidised rate and receive the balance on market rates from the government.

Apart from the provision of loan funds at below-market interest rates, governments sometimes undertake to guarantee private loans by shipowners contracting at its national yards. This benefits the shipowners when approaching an independent financial institution as the risk of default has effectively been transferred from the owner to the government, thereby reducing the risk premium segment of the interest charged on the loan.

Lastly, tax incentives schemes are also available in some countries in the form of tax write-offs, tax free reserves, and tax deferrals. Depreciation provides a tax shield by reducing taxable income. Accelerated depreciation allows a greater proportion of the value of the asset to be written-off in the early years when cash outflow is highest. This brings an immediate tax saving, greatly improving cash flow. A tax deferral scheme similarly affords an owner benefit in the early years [99].

Depreciation is a charge made against the profit of the period to represent the notional wearing out of the fixed asset over its useful life. This charge has no effect on cash resources - since it is purely a notional charge or non-cash cost item it is therefore not included in the assessment of ship costs. Nevertheless, some owners do consider depreciation as a measure of capital costs. Corporation taxation is another similar charge. Although a legitimate charge made against the profits of a

company, it is only liable when profits are made. However the ability to offset some expenses against tax liabilities and also the ability to carry-over losses from previous years, makes the inclusion of taxation an overly complex matter, which can only serve to cloud the issue [100].

2.4 Banks

Commercial banks play an important role in the shipping industry by providing significant amounts of short, medium and long-term funds for both new-building and secondhand purchases.

Today, more emphasis is placed on analysing projects and evaluating risk. The project is considered in the light of an income generator. Even so, there are signs that caution is being left behind as banks move back into financing shipping [101].

Coming out of the mid-1980s shipping as an industry found ways to cut costs. Flagging out, onshore and onboard personnel reductions were accompanied by the benefits of competing insurance markets and new lending based on recovering asset values. Strong equity markets provided an additional opportunity for some new capital to be attracted to the industry [102].

Equity funds for ship financing arise either from the shipping company's retention of trading profits, or capital profits. The latter can be generated either by asset sales or from the issuance of stocks and shares.

Generally, it has been difficult for shipping companies to raise equity funds from non-shipping sources partly because the industry is viewed by potential investors as an area inherently speculative and risk laden. While this is probably an over-generalisation, the shipping sector is volatile as evidenced by the well-publicised ups and downs of the freight market. These shipping investments seek to counter the risk by offering high dividend yields and a promise of capital appreciation, with a limited span for investment to take advantage of the cyclical nature of the industry. Apart from these short-term equity raising ventures, there has been large scale equity participation in longer-term shipping ventures, through a form of unit or investment trust [103].

The growth in ship leasing since the early 1970s has taken place as the shipowners' traditional preference for legal ownership has been softened by the financial advantages which leasing can often offer. Although the legal technicalities differ from country to country, leasing in general terms is a system whereby an investor(lessor) acquires and retains the beneficial ownership of a physical asset which is hired to the lessee to be employed in the course of the lessee's business activities. Thus, although the asset remains the property of the lessor, the lessee enjoys full operational control, subject only to certain minimum stipulations (usually related to repair and maintenance) as agreed in the lease contract.

There are two basic forms of leasing in common usage - a service or operating lease and a finance lease. An operating lease is usually accompanied by a maintenance /

repair contract in which the lessor agrees to provide all technical services in relation to the upkeep of the asset, with the lessee often having the right to demand replacement of the equipment in the event of premature technical obsolescence. The costs of this maintenance are either incorporated into the lease payments or contracted off separately.

Another important feature of an operating lease is that, frequently, it is not fully amortised over the initial term of the lease. That is to say, the payments required under the lease contract are not sufficient to recover the full cost of the equipment. Obviously, these leases have contracts written for less than the expected life of the equipment, with the lessor having to recover the cost either in subsequent renewal payments, or by leasing to a new lessee or on disposal of the goods. In financing leasing, which is more common in shipping, all repair and maintenance expenses are the responsibility of the lessee although, as mentioned above, the lessor may demand certain technical standards such as the maximum time permitted between drydocking, full compliance with IMO regulations, etc. This type of leasing is a sophisticated tax-oriented financing tool, and can be reviewed in effect as a simultaneous acquisition and financing operation [104].

2.4.1 Cost of Capital

Capital costs are generally those associated with the acquisition of a vessel. Vessels may be purchased from a shipowner's own funds (equity) or with borrowed money (debt). More common is a combination of both [105].

The cost of capital for a company is simply the rate that it has to pay to induce the investor to let the company use the investor's money rather than another. The investor, in general, has a wide range of choices from which to select an investment. In the process of optimizing the earnings of a shipping company, it is to be anticipated that the capital of the enterprise will be acquired at the most economical rate, that no more will be paid than is necessary to obtain the money. This principle applies not only to existing capital but also to any expansion that a company contemplates.

The cost of capital is essentially composed of two types : (a) opportunity cost and (b) risk cost. The opportunity cost is based on the concept that the present value of money is greater than its future value. The risk cost relates to the assumption that whenever the owner of capital invests it in any type of venture, there is always some risk of losing part or all of the capital [106].

The capital costs, for accounting and taxation purposes, considers the effect that a vessel acquisition has on an owner's profit and loss account and on taxable income. The two are not necessarily identical, as the definition of depreciation for tax purposes often differs from depreciation as determined by conventional accounting principles. Profit and loss accounting also differs from cash flow analysis, primarily because depreciation is not a cash flow item, merely an accounting tool [107].

2.4.1.1 Second-hand

Comparing the recent history of prices and operating costs with those for new-

buildings, it is apparent that second-hand acquisitions dating from the market low of 1986 have been burdened with relatively low capital repayment costs, and (other than containerships and, to a lesser extent, general cargoships) have therefore succeeded in providing owners with a positive cash-flow after capital charges throughout the period to 1992.

2.4.1.2 New-building

The level of capital costs obviously varies enormously, depending on a number of factors [108]. These include (p.102) :

- the type and size of the vessel.
- the size of the original loan
- whether the vessel was bought new or second-hand
- the remaining maturity of the loan
- the prevailing interest rate
- any peculiarities attached to the loan, such as balloon payments, moratoria, etc.

Furthermore, in terms of company liquidity, attention needs to be paid to how the costs of vessel acquisition are applied to the balance sheet. Broadly speaking, it has generally been the case throughout the latter half of the 1980s and early 1990s that income after operating costs has been insufficient to meet capital charges associated with a new-building. The only exceptions to this have been found in the gas carrier sector, due to the exceptionally high time charter rates during 1989, 1990 and first half of 1991.

2.4.2 Ship Finance in Korea

The shipowner's choice in the Korean shipping industry has in the past been to prefer the BBC/HP option rather than the planned shipbuilding purchase or second-hand purchase where ownership is directly registered in Korea. Therefore, the shipowners in Korea are already well placed to take advantage of the trade liberalisation policies implied by the WTO agreements. The offshore strategy of BBC/HP facilitates a considerable capital flexibility and involves foreign loans rather than government financed initiatives.

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Chapter III : Korean Shipping, Shipbuilding and Liberalisation Era

3.1 Liberal Trend in Shipping

3.1.1 Two Environments for Shipping

One important issue in economics is the choice between free trade and protectionism. Shipping liberalism consists of the recognition of the principle of free and fair competition in sea transport, irrespective of the flag the ship is flying. Consequently, any form of shipping protection is contrary to this principle. Under the policy of shipping liberalisation, shippers have the right of a free choice of carrier, be it a home or a foreign-flag vessel. However, the basic principle of shipping liberalism is that the merchant fleets operate on the freight market without any intervention of the public bodies like governments or their agencies. Government non-intervention is thus the very essence of the concept of liberal policy in shipping.

Protectionism is a policy aimed at protecting the domestic industries from external competition. Customs duties levied on foreign products are the main form of this policy. In shipping there exist numerous and diversified forms of protectionism. The objectives of a protectionist policy in shipping are of a twofold nature : first, to maintain the already established position of a country's merchant marine, and second, to expand their own merchant fleet to the size and structure desired and determined by the needs of the national economy of that country. But, there is also the opinion that protectionism has not yet caused significant inefficiencies in maritime transport. The major impact thus far has only been on market shares.

However, Vogel (1993) [1], an official at the UNCTAD seminar in Seoul, pointed out some difficulty that developing countries face, following liberalisation. He said that the conflict between liberalism and interventionism in maritime affairs is difficult to solve, in general, for those countries which have exercised a strong governmental involvement in shipping for several decades. At the same time, he recommended that the liberalisation of trade in shipping services may require a gradual, carefully phased approach, as many of these countries attach great importance to maintaining a national fleet for both economic and other reasons.

As Glaskowsky (1990) [2] notes, deregulation means economic deregulation. It means relaxing or eliminating entry and rate deregulation. Therefore, economic liberalisation can directly impact upon shipping business and shipping markets. So far, since the shipping industry has been regarded as an infant industry for those developing countries, and has been treated as a coherent area of protectionism, these waves of liberalisation and openness which have begun to be realised in the form of market liberalisation, accompanied with deregulation policies have had substantial impacts on the Korean shipping market (see Table 3.1).

Table 3.1 Container Trade Volumes by Sea in Korea (Unit:TEU)

Division		1992	1993	1994	1995	1996
All Korean Ports	Grand Total	22,876,467	3,203,966	4,034,667	4,800,977	5,202,898
	(rate increased)	(100%)	(100%)	(100%)	(100%)	(100%)
	Sub-total	2,720,534	2,940,651	3,440,659	3,941,679	4,260,240
	Import	1,190,457	1,343,620	1,653,106	1,915,988	2,067,963
	Export	1,530,077	1,597,031	1,787,553	2,025,691	2,192,277
Pusan Port	T / S	155,933	263,315	594,008	859,298	942,658
	Total	2,751,006	3,070,681	3,825,565	4,502,596	4,760,507
	(rate occupied)	(95.6%)	(95.8%)	(94.8%)	(93.8%)	(91.5%)
	Sub-total	2,595,073	2,807,366	3,231,557	3,643,298	3,819,155
	Import	1,131,347	1,274,737	1,537,130	1,749,880	1,838,164
Inchon Port	Export	1,463,726	1,532,629	1,694,427	1,893,418	1,980,991
	T / S	155,933	263,315	594,008	859,298	941,352
	Total	117,618	112,860	174,620	236,641	348,727
	(rate occupied)	(4.0%)	(3.5%)	(4.3%)	(4.9%)	(6.7%)
	Import	57,891	59,968	96,557	134,277	182,234
Wulsan Port	Export	59,727	52,892	78,063	102,364	166,493
	Total	7,364	18,878	31,998	42,567	47,003
	(rate occupied)	(0.3%)	(0.6%)	(0.8%)	(0.9%)	(0.9%)
	Sub-total	7,364	18,878	31,998	42,567	45,067
	Import	895	8,597	18,219	22,349	25,296
Masan Port	Export	6,459	10,281	13,779	20,218	19,771
	T / S	-	-	-	-	7,636
	Total	479	1,547	2,484	7,347	27,867
	(rate occupied)	(0.1%)	(0.1%)	(0.1%)	(0.1%)	(0.1%)
	Import	314	318	1,200	3,160	12,142
Kwang Yang Port	Export	165	1,229	1,284	4,187	15,725
	Total	-	-	-	11,826	16,893
	(rate occupied)	-	-	-	(0.3%)	(0.3%)
	Import	-	-	-	6,322	8,500
	Export	-	-	-	5,504	8,393
Kunsan Port	Total	-	-	-	-	1,901
	(rate occupied)	-	-	-	-	(0.1%)
	Import	-	-	-	-	997
	Export	-	-	-	-	904

Note : T/S (Trans-shipment)

Source : Reference [3]

3.1.2 Liberal Trend in Shipping

European Study Service (1993) [4] also reviews that efficient transport is a precondition for success in global markets. Accordingly, efficient transport is an essential facility for the exploitation or development of economic resources on a national or international scale. It allows articles or materials to be conveyed from areas of low utility to areas of high utility [5].

Liberalisation trends in all of the regions, coupled with global corporate strategies, will continue to encourage the development of global and regional markets. Regional markets will continue to be an important component of the global trading system for historical, cultural, geographic, and political reasons. For many commodities, however, the continued drive for scale and technological advantage will encourage global, rather than regional players, as the final winners. Consequently, the outlook for either inter-regional or intra-regional trade can be quite strong depending upon the commodity [6].

In addition, free trade policies have brought about a rapid growth of world trade, particularly so in the manufactured goods sector - the major component of the container trade and container port throughput. The development of the containerised market is linked to macroeconomic development and reflected in a long term correlation between GDP growth, trade growth in general, and growth of containerised trades and container port throughput in particular [7]. For example, the rapid economic growth in East Asia, especially in China and north & south-east

Asia, has been the basis for a phenomenal expansion of the region's container trade [8].

The largest container liner and groupings have now developed beyond any historical restrictions on new trade, with the aim of providing a global or quasi-global service network. While, until quite recently, the aim of even the largest operators was to establish a presence on each of the main axial trades, carrier ambitions are now even greater and have extended to embrace an array of north-south and intra-regional services [9].

However, Glaskowsky (1990)[10] defines that deregulators are those who favour few if any restrictions on carrier entry and ratemaking. Furthermore, following the liberalisation changes including the openness of shipping services to cross national trade, this has required national shipping operations to be restructured which has lead to the more competitive market for shipping activities for foreign shipping companies. Foreign governments, as well as international institutions and pressure groups alike, have sought to deregulate the national restrictions which hinder the activity in the free shipping market. It is considered that this kind of action is strongly related to the benefit they see in penetrating other foreign national shipping industries and shipping companies in order to increase their market share. Conversely, as Middleton (1997) [11] points out, the foreign government is unwilling, or unable by virtue of its commitment to liberalisation, to ride to the rescue with policy-directed lending, subsidies, forced takeovers and the rest of the apparatus of intervention.

For example, European Study Service (1993) [12] discusses issues concerning degrees of complexity and agony between EU member countries in terms of liberalisation of sea transport, as below :

" The 1986 package of shipping regulations still has to be elaborated and introduced. The need for free cabotage in the Community has already been mentioned in a wider context. Consortia either need to be brought within the ambit of the regulation on competition, or a separate regime similar to that applying to conferences should be introduced for consortia so that these modern forms of association between shipowners can benefit from the cartel ban exemption. (p.14)"

U.S DOT Newsletter (1997) [13] said that investing in transportation is a top priority for America. Efficient, safe, and cost-effective transportation is vital to any prosperous nation, specially in our competitive global economy.

In the mean time, US-flag liner carriers have to face up to the new era of US container shipping, which is heading towards deregulation. This is a world where conferences in all US trades have been deregulated (when the current US Ocean Reform Bill has finally been passed), where vessel subsidies are no longer guaranteed and where US Military Sealift Command cargoes are dwindling [14][15][16].

Clement (1997)[17] argues the deregulation of U.S transportation as follows :

" Congress has been deregulating the U.S. transportation industry since the late 1970's. In 1984 Congress began deregulating the international ocean shipping industry.....Compared to other modes of transportation, the

international shipping industry has historically been subject to little Government regulation of their commercial transactions. New shipping lines have never needed government approval before offering their services. The Government has never attempted to set their rates, as the government set or approved rates for the movement of goods on railroads and trucks. (p.1)"

However, a discriminatory clause of the proposed US Ocean Shipping Reform Act has been amended by the Houses of Representatives, following criticisms by foreign governments [18]. Internationally, Members of the International Council of Containership Operators, known as the Box-Club, have also launched a campaign to reduce legislative restrictions and raise returns for the liner industry. The Club, which presents about 90% of containership operators, claims political interference is suppressing freight rates to such an extent that returns on investment will not be sufficient to cover the cost of the vast number of new-building currently being ordered [19].

In the case of port restrictions [20][21][22], Japan promised to lift port restrictions but this was not kept as Japan promised. Now, the FMC (Federal Maritime Commission in US) have imposed the fines, \$ 100,000 per US call by Japanese carriers NYK, MOL and K- line on September 4, 1997. Recently, Japan has decided to take the necessary measures because of the US embargo December 1997.

However, there is some perception that the performance of publicly quoted shipping companies was not thought to have affected public perception of the industry and an overwhelming 88% of delegates in the LSE conference [23] indicated that the

influence of free market forces, including the degree of scrutiny placed on these companies and their vulnerability to take-over, was healthy for the sector. As far as the port industry is concerned, Pinder (1997) [24] discusses that deregulation is not simply a policy driven by ideology. Instead it can be seen as a strategic initiative to solve what are considered to be very real problems associated with a major port service.

3.1.3 The Concept of Liberalisation

As seen above, it has been regarded as liberalisation in the shipping market is a widespread perception in contemporary world shipping industry.

3.1.3.1 The Meaning

By liberalisation in this context we mean the development and use of markets to determine price and quantity rather than any closed system of allocation. In the investment context this means financial providers have access to the potential customers through the free operation of the market place.

However, the practicalities, pace, and sequencing of trade liberalisation measures vary from one country to another, but such measures have a number of common features. They are the core of a more comprehensive set of structural adjustment measures which have often been adopted in response to the conditional finance available from multilateral financial institutions, in particular the World Bank and IMF.

The pace and extent of liberalisation has varied greatly from country to country. Many of the countries of central and eastern Europe were liberalised in so far as they became market-oriented in the early 90's with the fall of Communism and the COMECON system [25]. As part of the transition process to democracy, market economics was rapidly adopted, reflecting in part an urgent need to act in the face of the disintegration of their economies [26]. Through the 1970s, the ASEAN economies were recording significant, steady growth, as were a number of economies in Latin America utilising the benefits of a market-driven economy. Appreciation of the flexibility provided by the market economy encouraged managers in these economies to develop further and to reduce the degree of regulation and protection. Countries both east and west accelerated domestic programmes to reduce regulation and cut trade barriers [27]. The global enthusiasm for free(r) trade and deregulation is not going to leave the West African region unscathed, and it is the major financial agencies, with their power over the international purse strings, that seem to be best placed to secure some market's liberalisation [28]. The success in some developing countries has led to replication in others following the same policies in order to promote growth. This change has been reflected in the deliberative forums of the UN. At a major UNCTAD conference in 1986, and at two special sessions of the UN General Assembly, there has been much greater reference to liberalisation and market forces than there had been in the past.

Shafaeddin (1994) [29] argues that liberalisation has generally involved neutralizing

incentives for exports and imports at low tariff levels through :

- removal of import quotas and other quantitative restriction or their conversion into tariffs ;
- subsequent reductions in the level and the dispersion of import tariff rates have caused ;
- compensatory devaluation of the national currency;
- removal or reduction of export taxes.

McKinnon (1993) [30] also confirms the demerit of protectionism in terms of foreign trade, price controls and subsidies in domestic trade, and exclusive franchises for parastatals (state-owned enterprises) proliferate in all branches of industry.

Table 3.2 Pre- and Post Uruguay Round Average Tariff Rates on Imports by Developing Economies from Industrialised Economies, by Region of Origin and Destination (percent)

	Developing economies										All economies	
	America		Asia		Africa		Europe		Total		Before	After
	Before	After	Before	After	Before	After	Before	After	Before	After		
USA	16.2	14.0	16.0	10.9	12.0	11.9	17.0	14.3	16.1	12.5	4.8	3.2
EU	21.2	17.0	24.4	16.8	23.6	23.6	15.9	13.6	20.8	16.2	8.0	5.5
Japan	28.5	22.1	23.9	16.4	17.5	17.5	18.0	16.1	24.1	16.9	8.1	5.6
(A)	26.0	22.1	22.0	15.9	23.0	22.1	18.1	16.2	22.1	16.3	9.9	7.2
(B)	16.1	13.3	16.0	11.1	16.5	16.5	11.1	9.3	14.3	10.9	3.6	2.1
(C)	18.9	15.7	21.2	14.6	22.1	22.1	14.9	12.7	19.6	14.7	6.3	4.2
All economies	16.8	13.9	20.9	14.6	21.6	21.6	14.4	12.3	18.8	14.2	6.3	4.3

Note : trade -weighted tariffs. Columns indicate destination countries ; rows, origin countries. (A) Other industrialised Asia (B) Other industrialised (C) Total industrialised economies

Source : Reference [31]

Table 3.3 Average Pre- and Post Uruguay Round Protection Levels, by Importing Region (percent)

	Manufactures			Food		
	Pre-Round tariff	Post-Round tariff	Average change in import prices	Pre-Round tariff	Post-Round tariff	Average change in import prices
US&Canada	4.3	2.8	-1.4	11.7	11.0	-0.6
EU	6.5	3.9	-2.4	26.5	26.0	-0.3
Japan	4.9	2.1	-2.7	87.8	56.1	-8.1
S.Korea	16.1	8.2	-6.8	99.5	41.1	-17.9
Indonesia	14.2	13.5	-0.6	21.9	15.5	-4.2
Malaysia	11.0	7.7	-2.9	87.9	34.3	-14.9
Philippines	23.9	21.5	-1.8	86.9	33.4	-15.3
Thailand	36.2	27.6	-5.9	59.8	34.5	-10.8
Latin America	17.1	14.9	-1.6	2.3	1.5	-0.5
Sub-Saharan Africa	9.5	9.4	-0.1	15.6	12.4	-1.7
South Asia	51.9	37.1	-9.4	-3.5	-4.4	-0.7
Rest of world	10.6	9.1	-1.3	15.7	14.1	-1.2

Source : Reference [32]

3.1.3.2 The WTO and Shipping

This decade began with a number of initiatives aimed at liberalising the movement of goods, service and capital and, though to a lesser extent, persons.

Predominant examples are internal market of the European Community and the European Economic Area, but the same trends prevail in the GATT, the OECD, as well as in regional agreements like that on the North America Free Trade Area (NAFTA). The scope and modalities of these agreements may differ, as may the pace of implementation, but the direction seems clear.

The agreements are intended to enhance economic growth through improved efficiency stemming from increased competition, specialisation, rationalisation and

exploitation of economies of scale. A consequence of liberalisation, and a precondition for achieving enhanced growth, is that investments are attracted to those countries and regions offering the most favourable business opportunities.

But this implies also that competition will not be confined to that between individual enterprises. International liberalisation of trade and investments will, by nature, be accompanied by increased competition between national registrations and frameworks for business activities, reducing the possibilities of conducting national policies significantly different from those of other countries [33].

The WTO formed in 1995 recognises the trend of globalisation in international markets for goods and services. Globalisation refers to the growing economic interdependence of countries worldwide through the increasing volume and variety of cross-border transactions in goods and services and of international capital flows, and also through the more rapid and wide-spread diffusion of technology [34].

Table 3.4 GATT Negotiating Rounds

Round	Date	Number of Countries	Value of Trade Covered
Geneva	1947	23	\$ 10 billion
Annecy	1949	33	Unavailable
Torquay	1950	34	Unavailable
Geneva	1956	22	\$ 2.5 billion
Dillon	1961-2	45	\$ 4.9 billion
Kennedy	1962-7	48	\$ 40 billion
Tokyo	1973-9	99	\$ 155 billion
Uruguay	1986-94	111	\$ 1000 billion

Source : Reference [35]

The agreements spell out the principles of liberalization, and the permitted exceptions. They include individual countries' commitments to lower customs tariffs and other trade barriers, and to open and keep open services' markets. They set procedures for settling disputes. They prescribe special treatment for developing countries. They require governments to make their trade policies transparent by notifying the WTO about laws in force and measures adopted, and through regular reports by the secretariat on countries' trade policies [36].

As far as a direction in the development of the WTO era is concerned, it presents, first, an endless competition era in the world economy that includes industrial products, agricultural products, services and intellectual property, and prohibits subsidies and trade barriers. So, it is a very urgent matter to cultivate corporate competitiveness, especially, in the manufacturing industry and associated services. New rounds in the treaty will address the issues of other factors in trade, such as a blue round (labour), green round (environment), techno round (R&D), and a competition round (competition policy). The WTO is required to act globally as well as locally [37]. In this sense, Korea has driven forward towards an improvement of national perception regarding trade and international relationships and the training of internationally minded managers [38].

The WTO's main agenda, named after the Marrakesh Protocol to the General Agreement on Tariffs and Trade 1994 and the four appendices, i.e. Annex 1, Annex 1B and Annex 1C and Annex 2, includes a general agreement on services [39], an agreement on products and trade and an agreement on intellectual property

within the MTAs (Multilateral Trade Agreements). The Annex on Negotiations on Maritime Transport Services in the WTO is as shown as Appendix (3 to 6) in this thesis.

At its Ministerial meeting in Marrakesh from 12 to 15 April 1994, the Trade Negotiations Committee of GATT adopted the Decision on Negotiations on Maritime Transport Services [40]. The Decision established the Negotiating Group on Maritime Transport Service (NGMTS) and requested it to hold its first meeting no later than 16 May 1994. The mandate of the NGMTS is to hold comprehensive negotiations aiming at commitments in international shipping, auxiliary services and access to and use of port facilities, leading to the elimination of restrictions within a fixed time scale.

By the end of 1994, 37 countries were member of the NGMTS, while 10 countries and 3 international organisations (World Bank, UNCTAD and OECD) had acquired observer status. Substantive deliberations of the three meetings held in 1994 concentrated on the development of an information base that would provide details of the characteristics of the maritime sectors of the countries participating in the work of the NGMTS [41].

According to the services section of agreement in the WTO, maritime transport is described as follows [42] :

"Maritime transport negotiations were originally scheduled to end in June 1996, but participants failed to agree on a package of commitments. The talks will resume with

the new services round due to start no later than 2000. Some commitments are already included in some countries' schedules covering the three main areas in this sector: access to and use of port facilities; auxiliary services; and ocean transport".

According to the internal report of MOMAF [43], Korean government has considered that in fact, Korean shipping market is fully open to competition and that they also fully recognise that liberalisation of the national shipping market is beneficial to them. However as is the case worldwide, it is not ideal to open domestic short sea market, as "cabotage" is still practised elsewhere. They also consider that OECD shipping rules (see, appendix 7 to13) produces, in fact, real outcomes in terms of shipping liberalisation, rather than the yet to be applied WTO agreement that is still pending.

3.1.3.3 Financial Liberalisation in Korea

According to the OECD (1990) [44] report, liberalisation in the sense of the OECD Codes means the abolition of governmental restrictions on the conclusion or execution of both transactions and transfers with respect to the operations specified in the Codes. In other words, the obligation to liberalise goes beyond the requirement that the transfer of funds to and from abroad should be free from exchange control restrictions. It also requires that the underlying transactions themselves should not be frustrated by legal or administrative regulations [45].

Akyuz (1993) [46] has pointed out that external financial liberalisation means policy actions that increase the degree of the pace with which residents can acquire

assets and liabilities denominated in foreign currencies and non-residents can operate in national financial markets, i.e. financial openness. Three broad types of transaction can be distinguished in this respect : first, inward transactions, allowing residents to borrow freely in international financial markets, and non-residents to invest freely in domestic financial markets ; second, outward transactions, allowing residents to transfer capital and to hold financial assets abroad, and non-residents to issue loans and to borrow in domestic financial markets ; third, domestic transactions in foreign currencies, allowing debtor-creditor relations among residents in foreign currencies such as bank deposits and lending in foreign currencies. These three policies have been exactly implemented by Korean financial market after financial crisis in Korea in 1998.

The relationship between a developing country and financial openness was examined by Chapple (1991) [47] focusing on financial liberalisation in New Zealand between 1984-1990. He explains that the main lessons from New Zealand's financial liberalisation for developing countries are : as a miracle cure for all economic problems at low cost, it requires new attitudes and institutions, which are slow, painful and costly to develop ; it has the potential to create serious financial bubbles, unrealistic expectations and a boom and bust cycle which eventually undermines the chance for success of the liberalisation itself.

The IMF paper by Kirmani and his staff (1994) [48], named 'International Trade Policies', illustrates a specific commitment in the financial service sector of Korea to market access as following :

Table 3.5 Specific Commitments in the Financial Service Sector of Korea

Limitations on Market Access	Limitations on National Treatment
<p>Foreign investment is subject to certain restrictions, including ceilings on investment in stocks</p> <p>For all financial services subsectors, cross-boarder supply of financial services and financial services supplied abroad to Korean consumers may not be settled in Korean currency.</p> <p>New financial products are subject to approval.</p> <p><i>Banking and other financial services (excluding insurance).</i> Korea has not undertaken commitment regarding the cross-border supply of this category of services.</p> <p>Commercial presence in banking business (including deposit, loan, foreign exchange, settlement, and clearing services) is permitted only through representative offices and branches. No commitment is undertaken regarding financial-leasing services.</p> <p>Insurance of debentures is prohibited, and limitations apply to deposits and loans in foreign currency.</p> <p><i>Insurance and insurance-related services.</i> Korea has not undertaken commitment regarding the cross-board supply for this category of services, except for marine cargo insurance, and reinsurance and retrocession.</p> <p>The establishment of a commercial presence is subject to an economic need test, and the number of sales offices that can be set up is limited.</p> <p>No commitment has been made with respect to claim settlement and actual businesses.</p>	<p><i>Banking and other financial services (excluding insurance).</i> Korea has not undertaken commitment regarding the cross-boarder supply of this category of services</p> <p>Securities firms are required to have minimum amount of operating funds and are not allowed to establish multiple branches.</p> <p><i>Insurance and insurance-related services.</i> Ceding insurers are required to reinsure with priority given to reinsurance companies established in Korea, except export for aviation insurance.</p> <p>Top executive personnel of insurance establishments are required to reside in Korea.</p>

Source : Reference [49]

The Korean government at the early stage of this crisis had emphasized that the Korean economy is something different from that of developing countries and that

the fundamentals in Korean economy are sound. The situation is not so simple as the Korean government would like to believe. The government has asked the IMF to give a stand-by credit loan which will be accompanied by a restructuring package for Korean economy to be applied by the IMF automatically [50]. However, the Korean economy will have to improve its transparency in financial matters if it is to be supported by the international community especially for the funds provided by the UN agencies and international bankers. The IMF has especially asked Korean government to alter Korean Chaebol structure so that cross-subsidisation between the components of the Chaebol can be more easily identified and understood. This may mean that some of the Korean conglomerates will be facing severe financial difficulties as their credit exposure becomes known [51]. In terms of macro economic aspect, the IMF [52] is sticking to the demand that "Seoul" lowers its economic growth target for 1998 from that initially-set at 6 percent to less than 2.5 percent, Korea is calling for minimum growth of 3 percent, citing concerns over high unemployment and other adverse side effects.

3.2 Korean Shipping and Shipbuilding Policy

It is useful to describe government shipping and shipbuilding policy in general, including why a country needs its national fleet, and to study the special features of Korean shipping and shipbuilding policies, especially those relating to government subsidies. These are very important factors for Korean shipping and shipbuilding companies in relation to government shipping policies so far. However, these are also likely to be most important elements when we can consider investment liberalisation. Therefore, it is worthwhile to look into the past in this section and the

present liberal (in next sub-chapter 3.3) Korean shipping and shipbuilding policies.

3.2.1 Korean Shipping Policy

Shipping policy may be defined as a totality of economic, legal and administrative measures by means of which the country influences the position of its national fleet in the national economy and in the international fleet market. Furthermore, it constitutes a part of a country's transport policy which itself is an element of an overall economic policy. It is more or less developed in particular countries and consists of various elements depending on the size and the economic importance of the merchant fleets of these countries. Shipping policy has two different aspects : domestic, which is the attitude of the country towards its own merchant marines, and foreign, which is its attitude towards the fleets of other countries.

3.2.1.1 Early History - Realities and Consequences -

From the early '60s, General Park Jung-hee's military government during the developing stages of Korea, conducted a national economic policy with a great emphasis on shipping because of its strategic and economic importance to South Korea.

The first administrator of Korean Shipping and Port Administration (formerly KMPA, now, MOMAF, Ministry of Maritime Affairs and Fishery) was a retired military general, Mr.Kang, who had to justify his position by rapidly achieving favourable outcomes with regard to growth of the fleets and facilities for the

movement of goods by sea. It is essential for the institution and management to justify or present its existence as a means for attaining the targets set out by its superiors and in a hierarchical system such as the political structure seen in Korea during this period. Short-term targets were often achieved at the expense of long-term stability. In this sense the Korean shipping industry was biased by an outcome-oriented policy which would not consider the supply and demand of market equilibrium in the shipping market, thus, leading inevitably to market failure at some point [53]. The KMPA had concentrated on quantitative expansion, ignoring market situations and the dynamics of the global economy.

This was a by-product of the way the Korean economy was run during the process of economic development in the 1970s. As a result, the Korean shipping industry was not expected to make profits due to fierce competition between national shipping companies with overcapacity. Especially, the small and old non-economic vessels deployed on certain trade routes were not as competitive as other international carriers.

At the same time, a long shipping depression which began in the early 1980s, started a new phase for Korean shipping, this depression by exposing the weakness of Korean shipping to market-driven forces led to losses and this actually brought out the serious results of the Korean shipping industry that caused eventual troubles encountered in the late 1980s.

As far as financial aspects are concerned, most shipping companies in Korea in the

1970s' and 80s' raised capital from outside financial institutions to build vessels but it has become a large burden upon shipping companies since they require to earn in foreign currency ever increasing sums to meet that debt even during periods of collapsing freight rates [54]. For many of the companies the financial cost exceeded their capability to repay the principal and interest. This situation caused serious doubts about the credit-worthiness of Korean shipping in general, which has led to Korean vessels being seized, and shipping companies being declared bankrupt (such as Pan Ocean shipping). However, a fresh opportunity to reconstruct the Korean shipping industry now presents itself for a more constructive long-term and durable future as a global player.

3.2.1.2 Taxation in Shipping

Today most of the world ocean shipping that competes internationally operates in a fiscal climate with little or no tax on profits, so called zero tax. In the maritime countries that stick to conventional taxation of their shipping industry, there is serious unrest within the industry [55]. It seems impossible to compete for equity capital against players who need not include tax on profits as a cost element. The consequences of joining or not joining the zero tax club must be considered by government [56].

Taxation in shipping has been given many benefits in terms of the tax system under the policy of the promotion of the shipping industry in Korea. Until 1980, a limited area was taxed and the present tax system has been in practice since 1990 [57].

- (1) customs duties : import tax (2.5% of ship price) - abolition from 1997.
repair tax (2.5% of repair price).
- (2) corporate tax : overall tax like other industries
(20% under 100 million Won, 34 % above 100 million).
- (3) local tax : registered tax (tax rate, 0.2/1,000),
acquisition tax (50% reduction in tax rate 20/1,000),
property tax (50% reduction in tax rate, 3/1,000),
tax for joint extinguish facility (50% reduction in
0.16 % of local tax).

There are some problems with the taxation system in Korea. Higher tariffs on ships in Korea weaken international competitiveness, which is not imposed on vessels in foreign countries. However, the income from the customs duties has contributed to the national economy, as the customs duties on vessels belong to the balance of payments. This compares with aircraft, with no customs duties when importing and repairing in Korea. It is also said that it is quite unreasonable to impose customs duties on BBC/HP vessels that Korean shipping companies charter and operate, after building them at Korean or foreign shipyards. It is a general rule to impose customs duties after acquiring ownership, because ship ownership can be acquired when the date of maturity for the principal and interest as foreign debt is finished. However, in Korea, as soon as the BBC/HP contract is made, customs duties were imposed, although this was abolished from 1997.

For example, major maritime countries like Japan, USA, Norway, Taiwan, Singapore and the EU do not impose customs duties when repairing a ship, compared to the 2.5% customs duties imposition in Korea. Below is the comparison with tariffs on a 5,000 TEU (ship price, \$ 80m) containership in Korea and that of a FOC vessel in an advanced maritime country [58].

Table 3.6 Tariff Comparison between Korean and FOC Vessel

division	Korean V/L	FOC V/L	comparison
local tax	830,000\$	15,000\$	55 times
customs duties	2,000,000\$	-	-
total	2,830,000\$	15,000\$	188 times

Source : Reference [59]

In advanced maritime countries, the imposition of corporate tax on marginal profits for ship sales and purchase has been deferred for a longer period, but a corporate tax is imposed in Korea and starts in the first year. Tax exemption of corporate tax on marginal profits applies over the long period outside Korea because tax is imposed on the delivery of the vessels rather than on the purchase date as is the case in Korea. (A long period must be spent before the delivery of the ship estimating the optimum size of the vessel in order to secure alternative vessels following ship sales.) As a reference, tax deferment on the marginal profit from ship sales and purchase is 3 years in Japan, 5 years in the UK and 9 years in Norway, and zero in Korea. The imposition of local taxes such as registration tax or acquisition tax on the vessel, is higher than that of aircraft, which makes Korean shipowners less competitive than those in advanced maritime countries.

Table 3.7 The Comparison of Local Taxes between Ship and Aircraft in Korea

division	registered tax	acquisition tax	note
ship	0.02 %	1 %	In Panama as FOC country, and Norway, a little registered tax only, no acquisition tax
aircraft	0.01 %	nil	

Source : Reference [60]

This table is self-explanatory in comparing local taxes between ship and aircraft in Korea.

3.2.2 Korean Shipbuilding Policy - Historical Views -

The shipbuilding industry is one of the industries which remarkably impacts on a national economy as it is a highly capital, labour and technologically intensive industry. It has both forward and backward linkage effects overall the sectors, i.e. machinery, steel, electrical, and electronics. It is sometimes regarded equivalent to exporting goods in a country like Korea. Since the early stages of the 1970s, the Korean shipbuilding companies were investing into the world shipbuilding market, by implementing an export-driven policy and a promotion policy for heavy industry by the Korean government.

In the process of economic development, the Korean government has systematically formulated and implemented innovative support measures for shipbuilding and other sectors of the economy so as to achieve national targets. Because of this, relatively cheap materials, and an energetic and economic labour force, the industry has rapidly reached a prominent position [61].

As with almost every other aspect of shipping, the shipbuilding industry is a highly competitive entity in itself. Yard compete on cost, currency, finance, expertise and delivery for business and face their own cost pressures from labour, cost of materials, inflation, etc. [62].

The real breakthrough for Korean shipbuilding yards in their fight for world market share came in 1985 and 1986, when their cut-throat marketing achieved a leap of more than 13 % in the space of just two years. That this happened at a time when global ordering activity was touching its lowest level for the decade under the influence of prolonged economic recession, served to emphasise the means by which this was achieved - prices which cut all competition [63].

Two important things that the Korean shipbuilding industry faced in 1989 was the rationalisation measures for the shipbuilding industry and conflict on trade negotiations. Because the Korean position in the world shipbuilding industry had improved, outsiders, e.g. the USA and European countries gradually pressed Korea on matters of unfair trade such as government subsidies and tax benefits [64]. Therefore, the Korean government formally became a member of the WP6 (Working Party 6) of the OECD on October 1990 on the need to improve international co-operation.

However, the ban to build new capacity was lifted, in conjunction with the rationalisation measures in the shipbuilding industry in 1993. Korean shipbuilding tried to secure more advanced facilities and to adopt technological advances and to build higher value added vessels. At this stage, they regarded the chance of a second take-off for the Korean shipbuilding industry [65] as very likely. The Korean share of the world market was slightly higher than in following years, with a 28 % average share, against the 26 % noted in 1992. This involved the annual tonnage rising to around 5.6m GRT at the end of the 1990s, and falling to

5.0m GRT by 2005 [66].

3.3 Liberalisation in Korean Shipping and Shipbuilding

3.3.1 The Liberal Shipping Policy in Korea

New environments and periodical trends have made the Korean government think about and alter its current approach in the setting of a shipping policy. Korean shipping policy has changed to give greater autonomy and freedom of operation for shipowners. This change has enabled Korean shipping to cope actively with the international shipping environment and markets since 1988 when the rationalisation of the Korean shipping industry was completed.

The Korean shipping policy, implemented during the period of shipping industry rationalisation beginning in 1984, focused on the severe control of trade routes and the licensing system then in operation. New licenses for shipping businesses were suspended and firms were forced to abstain from increasing their tonnage. What was needed however was to consider a more flexible approach to keep the profit and loss balance in the black while undergoing the required changes dictated by the environment of shipping post 1988. The basic direction of shipping policy from 1989 has been concerned with a basic black-ink balance by expanding shipping business in a rationalised as well as a step by step process, and furthermore, by pushing forward liberalisation and globalisation of the shipping industry in response to the changes in the international environment.

The Korean government has driven forward these changes to meet the challenges by

the altered scene in shipping. These changes include a flexible management of tonnage and the diversified way for financing ships [67]. Further, a gradual deregulation of the trade routes and licenses and the establishment of a counterplan to cope with the pressures resulting from openness of the Korean shipping market.

The move towards liberalisation and deregulation was further emphasised, in the 1990s [68]. The major goals of this policy were : first, to promote and to strengthen competitiveness of the shipping industry by aiming at a second take-off base of growth between 1988-1989 ; second, to build up international maritime co-operation and to secure new shipping markets by extensively exchanging shipping with the northern countries with whom Korea at that time did not have diplomatic ties ; third, to increase the competence of shipowning management in Korea by exposing them to the opportunities afforded by a more international market for the shipping services, thereby improving their administrative competence and competitive position in the international shipping market generally.

3.3.1.1 Korean Shipping in the WTO

The Korean shipping industry has grown rapidly along with the national economy since the early 1960s. Behind such a rapid growth, the government's active support for domestic shipping firms has been essential. The government's direct support is no longer possible because of Korea's entry into the Organisation for Economic Cooperation and Development (OECD) and the launch of the World Trade Organisation in 1995 [69].

As the OECD (1994) [70] report indicated, Korean shipping in the world market had to change in order to survive and to compete with other shipping companies worldwide, it would not have any alternative except liberalisation. In Korea, the ocean-going shipping industry has experienced a great deal of change with the birth of a new world trade order, a deepening tendency to remove the trade blocks in the world economy following the settlement of UR negotiations in 1994, the reduction of scale in the waiver system, and the operation of a logistic information system, e.g. (permission to Cosco to call at Pusan, etc.).

The Korean government, therefore, is determined to sharpen the international competitiveness of the domestic shipping industry by employing all possible measures available, i.e. policy towards liberalisation and autonomy. There are many parts of the liberalisation measures in shipping and inland markets requested by the USA and others. The MOMAF (formerly, KMPA) has made changes such as improving the tax system, the ship acquiring system, and various kinds of deregulation to reinforce the international competitiveness of the Korean shipping industry. This is directly connected with the survival of Korean shipping in the world shipping markets which have been rapidly changing since 1995 when the WTO was established. At the same time, the shipping policy of Korean government has been altered in a direction of self-regulation taking into account the management ability of the enterprises. These changes were legislated in parliament after an in-depth study by related departments of government, shipping companies and related institutions. However, negotiations regarding further changes for the shipping services on items such as finance, basic communications and labour

mobility are to be continued by the WTO, within the NGMTS (Negotiating Group on Maritime Transport Service) with the participation of contracting countries [71].

The WTO shipping sector arrangements provided by the Korean government have been to offer further liberalisation in the areas of ocean-going passenger transportation, ocean-going cargo transportation, ship's maintenance and repair services [72].

3.3.1.2 Future Plans towards Liberalisation in Korea

European Study Service (1993) [73] confirms that the free movement of people and goods by road, rail, water and air creates cohesion between the Member States of European Union. Mobility in itself is capable of doing more than any directive to stimulate transfrontier economic processes. The situational changes associated with the free trade movement in Korean shipping and shipbuilding deregulation are one aspect towards an opening of Korean domestic markets generally. These changes have been widespread and affected Korean shipping and shipbuilding policies in general, such that shipping liberalisation is a main stream in maritime concern. Initiatives to end cargo reservation and other restrictive practices will be taken by the end of 1998 as Korea comes under increasing international pressure to open further its shipping markets to international competition [74].

Customs duties have been imposed when a ship is imported, either new or second-hand. However, for the Korean shipowner customs duties on vessels imported were abolished from 1997. Furthermore, the imposition of a corporate tax on the

marginal profits of sales and purchase, and that of insurance in ocean-going ships can be deferred (more than 5 years). This will support and hopefully lead to the improvement of the financial structure in shipping companies, together with raising financial resources. Local taxes are higher than elsewhere and the author suggests they should be lowered to the same level as aircraft in terms of the rate of registered tax and acquisition tax (see Table 3.7, earlier).

3.3.1.3 Korean Shipping under the IMF situations

The financial crisis starting from the foreign exchange liquidity crisis in Korea in late 1997 has made the Korean economy a temporary disaster area in this respect. The overall weakness in financial markets in the Asian money markets has hit Thailand, Indonesia and other Asian economies, with an impact on the Korean money market. Along with this, several Korean conglomerates dependent on funding a large portion of their capital through a high debt ratio have raised their capital by borrowing at a short-term high interest, which has caused a weak financial structure in the corporate economy which has led to catastrophic results. Nicholls (1997) [75] also analyses that in the past, Korea's banking system has fuelled domestic industrial expansion through debt financing, which has caused the acquisition of massive external short- and long-term debt. It now threatens to consume all industrial reserves being funnelled into the country. However, some foreign investors have already started to withdraw their money as soon as they noticed the unstable business situation in Korea. As the dollar reserves became deflected from the Korean financial markets, interest rates and exchange rates had to be hiked, the Korean Won has depreciated and this makes for a consumer's price

acceleration [76].

In the meantime, a WTO agreement liberalising global trade in the multitrillion-dollar financial services sector was sealed in the middle of December 1997 and provides companies with unprecedented opportunities in new markets and much-needed capital for emerging economies [77]. The agreement opens markets representing more than 95 percent of trade in banking, insurance, securities and financial information. Many developing countries, including most of Southeast Asia's (now wounded) "tiger" economies, have hitherto barred foreigners from entering their banking and insurance sectors in a bid to protect domestic industry. The WTO agreement, which will come into effect in 1999, should slash some of these barriers, allowing foreigners some kind of toe-hold in once off-limit sectors and bringing advances in technology to ineffective enterprises.

South Korea's banking industry has experienced successive years of poor earnings, and the government introduced measures in May 1996 to ward off a banking crisis similar to that suffered by Japan. Such a crisis could be precipitated by the increased foreign competition which will arise from the wider market access and liberalisation accompanying South Korea's planned accession to the OECD [78].

However, it is worthwhile to note WSTS (1996) 's analysis [79] about the current crisis, forecasting in advance.

" Currency crises tend to sharply reduce the flow of funds to emerging markets. The Mexican peso crisis was no exception, and may have made a significant contribution to the easier tone of world capital markets in 1995. As a result of the crisis, Mexico's fixed capital formation fell by

an estimated 42 percent in 1995. This eliminated the imbalance between saving and investment that had produced a huge external deficit in 1994. The so-called "Tequila Effect" also spread south. Brazil has tightened monetary policy to curb its external deficit. Argentina has seen a sharp contraction in investment and a rise in saving, shrinking its current account deficit (p. II-20)..... At the other extreme, there are increasing fears that some of the countries in Southeast Asia - Korea, Malaysia, the Philippines and Thailand, in particular - may be overheating and could suffer a Mexican-style crisis (p. II-22)."

At present the Korean shipping industry has suffered from higher interest rates owing to the financial crisis, and this matter is a major controversial issue between the Korean shipping industry and banks. Singapore Shipping Times Online (1998)

[80] conveys as follows :

" Hyundai Merchant Marine Co. and other South Korean shipping companies asked the government to help resolve a dispute with local banks over interest rates to protect their earnings. The move, coordinated by the Korea Shipowners Association, comes as several Korean banks refuse to allow companies to withdraw funds until they pay additional interest on loans levied after the country's financial crisis sent borrowing costs soaring..... Some of the banks are now demanding the shipping companies pay additional interest of 0.5 percentage point to 3 percentage points above the London Interbank Offered Rate, the official said. The shipping companies had secured 20-year loans, paying about 1 percentage point above Libor. "

The financial crisis in container shipping can be traced to three key areas [81] :

- Poor utilisation of assets (specially ship space)
- Inadequate freight rates
- Operating inefficiencies

LSE (1993) [82] also confirms that if the market remains depressed for an extended

period, there might not be sufficient resources to keep the venture afloat. Thus, the need might arise to dispose of assets (at unsatisfactory levels) to generate cash flow and, thereby devalue shareholdings.

Internet Web Site (1996) [83] further describes as below :

" P&O debts may force the company to sell off all major assets in order to survive. A huge US\$3.19-billion debt run up by P&O looks set to provide the foundations for the shedding of various assets including some shipping sectors. "

In shipping, the ship purchased with bank money has started to sell because company cannot afford to pay the principal as well as the interest rate under the this financial situations. For example, Hanjin shipping phased out total 23 container vessels. These are 13 ships (2,700TEU), 6 ships (1,200TEU), 1 ship (750 TEU), 2 ships (Panamax), 1 ship (handy size) and chartered in the number of vessels sold that is employed on the routes. The investment has been delayed or scaled down because of either a lack of money following the bank refusing loans to business using the excuse of having to raise their capital adequacy ratio to conform to BIS (Bank of International Settlements) requirements, or high interest rate although financier offers the money. Therefore it is not impossible for Korean shipping company to invest new project at this time.

Asia's financial crisis means there 's far more goods being exported to Europe and the US than are being imported back to the Far East. Hanscom (1998) [84] examines what effect this imbalance of container box is having on the liner industry. The problem is a direct consequence of the Asia currency and economic crisis that

has restricted the movement of goods into Asia and spurred the export of Far East goods to the US and Europe. Because the Asian export legs were traditionally strong, the impact was the wrong medicine for an industry dependent on balance. And it came as a deluge.

There have been also some effects in the US port owing to Asian currencies problems. Following Containerisation International (1998) [85], the Asian crisis has had a mixed effect on West Coast North American ports during the first quarter of 1998. As loaded imports surged, ranging from 13.9% at Poland to a massive 37% in Seattle, loaded exports also dropped. Overall Vancouver BC and the Southern California ports of Long Beach and Los Angeles did best with 9%, 6.7% increases respectively. The massive switch in balance is attributed solely to problems with Asian currencies. The drop in the value of Asian currencies has made goods produced in those economies more attractive and North American exports more expensive.

3.3.2 Current Korean Shipbuilding

3.3.2.1 Present Situation in Korean Shipbuilding

Shipbuilding in Korea is still a very important part of the national economy accounting for nearly 5% of exports by value. Like some other basic industries it is becoming a victim of the country's success. Large sums are being invested in further automation in the yards but severe wage inflation means that labour costs are increasing faster than productivity gains. At least the liberalisation of the financial system should reduce double digit interest rates. Cheap finance was one of the

advantages the Japanese held over their Korean competitors, but a more liberalised market should eliminate that.

The state of the global shipbuilding industry is closely related to the production capacity relative to the new-building demand. For many years shipbuilding has played a significant role in the economies of many of the world's industrialised nations [86]. Korea saw a significant increase in its shipbuilding capacity, along with the improved self-sufficiency ratio of ship related materials, by the beginning of 1997 when the expansion projects of its shipbuilding facilities were completed.

Production efficiencies and other factors have considerably narrowed the gaps existing between Japan and Korea in the area of non-price competitiveness, such as technological skills and quality. Korea has succeeded in maintaining the level of quality comparable with that of Japan - in so far as the hull structure is concerned - by building up the construction performances of a large quantity of diverse types of ships and marine structures throughout the 1980s, however, it is still lagging behind Japan in such areas as marine engines and ship related equipment [87].

In 1996, Hyundai Heavy Industries (HHI) had defended the increase in capacity as an absolute necessity to remain competitive. Since it was committed to retaining its then current 12,000 shipbuilding workforce, increasing facilities was the only way to raise output per man. Samsung opened its new VLCC dock, the biggest in Korea, and had secured its first order in 1996 of that class from the Yukong Line. It is adding export VLCC orders to its list as well as getting in on the LNG tenders for

which it had prepared itself with considerable investment. Hanjin has to move out of its crowded Pusan centre site some time in the next ten years for environmental reasons. The yard has the benefit of a considerable demand for tonnage from Hanjin Shipping and its affiliate Keoyang Shipping. Daewoo steadfastly maintains that it was right not to expand even though the growth of other yards had dropped it from second to fourth place in terms of capacity in a country where league tables matter [88].

3.3.2.2 Government Development Plan

The OECD shipbuilding negotiations were settled and implemented from January 1995, and are aimed at reducing subsidies and restricting dumping practices. The Department of Trade and Industry in Korea has assumed that the impact on industries in Korea will be great and therefore, have prepared a development plan for the shipbuilding industry.

The Korean government has suggested three technological tasks to develop the future shipbuilding industry in Korea, which includes ship design and CSDP (Computer Supported Design Project), super high-speed vessels, and advanced technology for efficient operation. The technologies will be developed with related Korean industries. Furthermore, the Korean government intends to improve the business environments e.g. SOC (Social Overhead Capital) expansion and to deregulate various sectors that have hindered the development of the Korean shipbuilding industry so far, and to prepare plans to reinforce international cooperation between world shipbuilding countries [89].

By permission of the OECD shipbuilding agreement regarding partial development of technology through government subsidy, the Department of Trade and Industry will help to ease the bottleneck of development projects in the future. In addition to that, the government has decided to support projects which require advanced technology through the joint participation in industry, academia and institutes under the category permitted by the multilateral shipbuilding agreement. In order to do that, the government has put 12 billion Won (unit of Korean currency) into the second stage of the CSDP over four years which started in 1996, and jointly supported the development of a high-speed vessel design by putting 33 billion Won over six years starting from 1996 - 1997. Furthermore, five major shipbuilding companies have formed a technology research association with government planning and an investment of 7 billion Won in the industry.

The Korean government, in pursuit of the policy to expand shipbuilding construction finance gradually, is planning to secure more than 1 billion Won annually to support the construction finance of BBC (bareboat charter on condition that the shipowners obtain Korean registry). Through the consultation with related departments such as the Finance and Economic Board, etc., the government is studying the concept to utilise the deferred-payment system to support export finance on BBC ship construction. Regulations will be moderated and these include the abolition of the license approval for the BBC vessel built in domestic yards, and the requirement to use mechanical equipment produced in Korea for the construction of BBC vessels.

It is also intended that the government will withdraw general subsidies especially for large shipbuilding companies and they will be required to conduct their business without government interference as far as new entry and exit from the shipbuilding industry including expansion of capacity are concerned [90]. For the small shipbuilding companies, the government has decided to support technological innovations by establishing the small and medium shipbuilding institute for technology.

The Korean government has set out to develop several items of prime technology, such as navigation and communication equipment that is difficult to produce locally, in order to develop these products for the shipbuilding industry. Moreover, the sixty items of common technology which cause bottlenecks in the production process such as various control systems will be developed, which will pull the rate of local production up to 95 % by the year of 2000. The Korean government is determined to expand the use of mechanical equipment produced locally in the construction of government and public vessels. As a consequence the five major shipbuilding companies are obliged to use mechanical equipment produced locally.

3.4 The Provisions by Korean Government and Banking

3.4.1 Government Sector - Past -

3.4.1.1 Impediments to Liberalisation

Any interference with, or distortion of, supply and demand in the market for international maritime transport services is an impediment to trade. These

impediments restrict the freedom of choice of the buyers of transport services (shippers) and/or the freedom of the sellers (the carriers) to supply services to the market and to compete on equal terms with each other. Schrier et al (1985) [91] defined that impediments to trade in international maritime transport services derive (i) from government actions, (ii) from private actions of groups of co-operating carriers and (iii) from contractual relations between selected shippers and carriers.

3.4.1.2 Barrier to Entry

The regulatory forms to foreigners in Korean shipping are largely categorised by : barrier to entry, restriction of the domestic market and investment in Korean companies. In the book by Farthing (1993) [92] and the KMI (1990) [93] report, these points are elaborated as follows. First, investment by foreigners has been prohibited in the area of port facilities and its operation. Second, it has been restricted in areas of i) short sea ferry and cargo services, ocean going cargo services (excluded in LNG, LPG and cross trade cargo service), ii) inland ferry and cargo services, iii) pilotage, iv) freight forwarding, and v) cargo brokerage. Third, foreigners have been restricted by the Korean Shipping Act (regulation.no 27), which stipulates that Korean nationality has to hold the majority of shares and possess 3/5 voting rights on the board of directors in a company where there is foreigner investment into a Korean shipping company.

Odeke (1984) [94] defined the waiver system as both cargo reservation in a narrow sense, and cargo preference and cargo distribution in a broad sense. However, the Korean government puts the Korean shipper under an obligation to make use of

Korean flag vessels when transporting major designated cargoes (imported cargo 9 items, exported cargo 2 items) by enforcement of the regulations of a waiver system (Korean Shipping Promotion Act, reg. 16) with a cargo reservation system. As far as cargo services by liner shipping are concerned, the Korean government allows Korean shippers only to load cargo on Korean flagged vessels. Waivers (a written confirmation to be exempt from using a Korean flagged ship) are issued in the case of a shipment not being able to be carried as cargo on a Korean flagged vessel, which makes it possible to use foreign flagged vessels. This waiver system has been judged as a contribution to both a stable transport system for import/export cargoes and a basis for business expansion.

3.4.1.3 Subsidy System

Government subsidies to the shipbuilding industry, either direct to owners or indirectly through national yards, have been an intrinsic part of new-building deals over the course of the last 25 years. However, during the early 1980s, it was generally thought that governments, endeavouring to generate employment for new-building yards, compounded shipping problems by launching new-buildings into a market which was already significantly over-tonnaged. As a result, a steady stream of negotiations has taken place in the latter half of the 1980s and early 1990s designed to wind down government aid to the shipping industry.

Nonetheless, problems do exist. Shipyard subsidies still exist in many countries, and while some governments are quite open about their aid to yards, others are more secretive [95]. The subsidised measure associated with new-building is of grant

benefit financially within the range of 80 percent in raising domestic capital (Korean Shipping Promotion Act. reg. 4). Moreover, it is also possible for the Korean government to assist a loss caused in ocean going trade routes as well as allowances of an operational subsidy, which complies with the operational subsidy measures (Korean Shipping Promotion Act. reg. 14&5). This operational subsidy was recently suspended owing to the limitations of government finance for the sector.

3.4.2 Ship Acquisition Systems in Banking Sector -Past -

According to the method of raising capital studied by KMPA (1996) [96], Korean shipowners have three options for financing a ship. These can be classified into (i) planned shipbuilding financed by the Industrial Bank of Korea, (ii) BBC/HP financed from foreign banks at the level of financing permitted by the Korean government and (iii) the purchase of secondhand vessels via a foreign currency loan from the Korean Central Bank (KFX).

3.4.2.1 Planned Shipbuilding

This system, planned shipbuilding, is based on the Korean Shipping Industry Promotion Act 1976. This programme gives financial and monetary support to a government appointed end user on the condition that it orders ships from a shipyard in Korea. The government's purpose, for the linkage promotion for the development between the shipping and shipbuilding industry in Korea [97], was its only way to secure the newbuilding of ships. Total tonnage built by this method has reached

4,730,000 G/T in 1996, which is 45 % of the overall ocean-going tonnage.

However, this system has resulted recently in a notable reduction in the number of ocean-going vessels built, since the introduction of the new method to finance new-building, namely BBC/HP financing with more favourable financial packages from foreign financiers. Moreover, in 1995, the actual record of planned shipbuilding utilised by the old method was under utilised. The fund allocated to the Industrial Bank of Korea was of 50 billion Won (Korea national currency unit) in order to promote the planned shipbuilding programme for ocean-going ships in 1996.

3.4.2.2 BBC/HP

This system is a method for financing new-building by a Korean shipowner who borrows capital from a foreign financier within the limit of funds permitted by the financing policy authorities. First, a paper company is established by a foreign financier in the third country, mainly FOC (Flag of Convenience) countries such as Panama, Liberia, etc.,. Second, the order is undertaken by the paper company at a Korean or foreign yard. Third, the Korean shipping company takes a bareboat charter and operates the ship under the conditions of purchase on a deferred payment basis. Fourth, when repayment for the ship is finished, this ship can obtain a Korean flag. This system currently is the most popular method of securing vessels with Korean shipowners [98]. Ocean-going ships constructed at Korean yards by the way of BBC/HP were approximately 50 %, 5.28 million G/T, of the total of ocean-going ships in Korea between 1989 and 1995.

3.4.2.3 Purchase of Second-hand Ship

At the end of 1992, the 'support policy for security of national fleet' decided upon by the 'Industry Policy Committee' announced the permission to purchase second-hand vessels within the 30 % of total tonnage needed annually. Capital for second-hand ships' purchase was raised, mainly, by foreign currency reserves from the Korean Central Bank.

3.4.2.4 Problems in Acquiring a Ship

This system is supported by foreign currency courtesy of the Industrial Bank of Korea, but it is less advantageous than BBC/HP financing in terms of loan interest, financing proportion, and the attached costs. However, an improvement of financial terms over planned shipbuilding are needed to better utilise the capital for ocean-going shipping companies.

Recently, the way to secure ocean-going ships by Korean shipowners was by the BBC/HP method. Of the total capital spent in financing shipping in 1996, BBC/HP financing accounted for \$1.8 billion, which is 86% of the total supporting capital, compared with the planned shipbuilding at 50 billion Won, and KFX at \$ 200 million for the second-hand ships which made up the remaining 14 %. The reason why Korean ocean-going shipping companies prefers BBC/HP over the planned shipbuilding and KFX system are that of the more favourable financial conditions offered by BBC/HP financing. The financing policy authority limits the use of BBC/HP financing annually due to foreign exchange and monetary management

policies. This attitude causes a surplus in demand, and causes some problems in securing new-building on time. This makes Korean shipping non-competitive and disadvantageous in terms of international competitiveness, compared with shipping companies in advanced maritime countries that have no restrictions on ship financing. In 1996, the demand for BBC/HP financing in Korean shipping industry was \$ 3.9 billion, but the limit for BBC/HP financing was \$ 1.8 billion, only 46 % of the demand.

Table 3.8 Comparison between Limits for BBC/HP Financing and its Demand

	('000m \$)			
	1993	1994	1995	1996
limits amount				
for financing (A)	10	10	10	18
demand (B)	15	18	26	39
deficit	5	8	16	21
proportion (A/B)	67 %	56 %	38 %	46 %

Source : Reference [99]

Table 3.9 The Financial Conditions between BBC/HP and the Planned Shipbuilding

	BBC/HP	Planned Shipbuilding
source of capital	. foreign financier . LIBOR + α	. foreign currency of industrial bank . application to quarterly floating interest of industrial bank
loan rate	. 100% of ship price contracted	. 80% of ship price estimated
repayment period, etc.,	. 12 years after ship delivery . contract commission (0.5375 % of not drawing-out money)	. repayment in 8 years within max. of a five years' grace period . buying a certain level of industry financing bond . customs duties on imported materials (13 % of imported price)

Source : Reference [100]

From the table the terms available for the BBC/HP borrower seem more favourable in that they afford greater flexibility for the shipowner in meeting the change of market demand, and utilising potentially lower global costs.

Even in 1995, the purchase of a secondhand ship less than 13 years old was permitted on the condition that there were some restrictions, such as a ban to purchase Japanese-built containerships. A standard of ship purchase was prepared by the notice for diversified sources (notice of Department of Trade and Industry) in December 29, 1995. The standard includes a ban on the importing of vessels more than 20 years old, and vessels less than 1,000 tons. However, shipowners were able to import a vessel freely if the vessel was less than 15 years old without an import license.

3.5 The Changed Provisions by Shipping and Shipbuilding

3.5.1 Government Side

3.5.1.1 The Present Status of Liberalisation

Full liberalisation and deregulation of the Korean shipping industry will be completed in the next couple of years. Since 1990, Korea was among the most active nations in freeing its shipping sector as part of the country's efforts to attain OECD status which Korea gained in 1997.

After 1988, the Korean government has been driving for market liberalisation through a gradual process, which includes the permission of foreign investment for the shipping-related businesses [101], the deregulation of the waiver system, and

permission for foreign shipping companies to set up their agencies in Korea. The number of foreign shipping companies have been increasing and have begun calling at Korean ports. There were 222 companies in 1986 and 348 companies in 1989. The number has been increasing continuously since then, although at the time of writing the figures have not yet been published for 1997- 8.

Zou (1994) [102] also explored shipping liberalisation in relation to cooperation and says that liberalisation in maritime transport should aim at a closer cooperation between the traditional maritime nations (TMNs) and the less developed countries (LDCs). Under the WTO rules it would be considered good practice for cooperation between the developed and less developed countries in the maritime sectors utilising where possible cheap manpower of the less developed countries and cheaper capital available in the developed countries, thereby enhancing the efficiency of the maritime sector. In the Korean shipping sector, four overseas shipping companies (international passenger and cargo services, two companies in each sector) entered into the Korean market as freight forwarders and agents in a form of joint ventures, although the short sea cargo service still has restrictions upon foreign investment.

In the international shipping industry, as shipping is an area where international cooperation is essential, a multilateral agreement in relation to 100 items concerning cargo sharing, quality standards, qualifications, safety and environmental standards, etc. has been adopted under the supervision of various international institutions. Among them, only 60 items have yet taken effect. Korea has adopted major

agreements such as the code of conduct in liner shipping and has participated in international co-operation by implementing the treaty on the agreement. Below is the Korean government's offer list to the Uruguay Round of the GATT on the matter of shipping.

Table 3.10 The Initial Offer to the UR on Shipping in Korea

sector	service supply pattern	condition, limitation on market access	condition, qualification on national treatment
ocean-going passenger service	I	unlimited, unconditional, but government permission needed in liner (Shipping Act, reg.4)	unconditional or no qualification needed
	II	unlimited or unconditional	unconditional or no qualification needed
	III	representative as Korean, J.V permitted in less than 50% of foreigner's investment share (Shipping Act, reg.2)	
ocean-going cargo service	I	flag preference system abolished (1,1995)	unconditional or no qualification needed
	II	unlimited or unconditional	unconditional or no qualification needed
	III	set up of branch office permitted (Shipping Act, reg.26). as Korean representative, J.V permitted for liner and special cargo	
shipping -related service (brokerage, agent, shipping management, ship lease)	I	unbound	unbound
	II	unlimited or unconditional	unconditional or no qualification needed
	III	as Korean representative, J.V permitted in less than 50% of foreigner's investment share (Shipping Act, reg.27) - when J.V in shipping agent by foreign shipping company, the extent of business activity is limited on their cargo	none

Note : i) these data were extracted from shipping sector among initial offer list

(MTN.TNC/W/61) on 8 service sectors submitted to UR/GNS at January, 1991.

ii) Roman charter is meant supply pattern of service that has (I) cross-board supply (II) consumption abroad (III) commercial presence (IV) movement of labour.

Source : Reference [103]

It can be seen from this table that there is a positive attempt by the Korean authority to substantially liberalise its maritime trade reflecting the general view that trade liberalisation and shipping is part of a general liberalisation policy for the economy at large.

3.5.1.2 Policies Changes

(1) Operational Aspects

Owners will no longer have to go through a bureaucratic system of government approval before launching international services. From 1996, the licensing system for ocean-going shipping was scrapped. Other moves have included the easing of shipping route restrictions, the ending of restrictions on sale and purchase of vessels and the ending of the waiver system for liner trades.

Under the reserved cargoes system, Korean shipping firms have had an exclusive operating right for certain, government-designated cargoes. Starting in 1997, the number of items which are subject to the cargo reservation system has been reduced to three - raw materials i.e. iron, coal and liquefied gas will be added to the list enabling foreign shipping lines to have full access to the market. This system of cargo reservation is to be completely abolished in January 1999, thus fully opening the domestic market to foreign competitors. Under these moves, the exclusive right of domestic owners to carry a percentage of the country's grain, petrochemical, and

crude oil imports and exports will also be scrapped.

Foreign carriers have been allowed to set up full branch offices in Korea since 1989 and from May 1995 they were allowed to invest up to 50% of the shares in shipping-related businesses in Korea such as shipping agents and freight forwarders. In June 1993 the Korean Shipping Act was revised to allow 100 % investment by foreigners, removing all investment restrictions.

(2) Financial Aspects

Most issues relating to liberalisation in shipping are related to a reduction of the barriers to domestic market accesses. Financial issues in Korean shipping are related to the acquisition of vessels and the abolition of the 2.5 % customs duties on the introduction of vessels on to the flag, either new or second-hand from abroad, from January of 1997 [104], and the increases in advances from Korean and foreign banks which shipowners can use when they secure a vessel in Korean or foreign yard. Korean banks have not in the past offered more favourable terms than that of foreign banks. Sometimes, Korean shipowner has raised the money by syndicated loans participated in foreign banks [105].

In the present IMF involved circumstances with the economy in financial difficulties it is possible that even more foreign sources of finance can be favoured by the shipping sector in Korea. However, according to the liberalisation moves, every part of the shipping industry benefits from a more open or relaxed financial system relating to ship acquisition, i.e. planned shipbuilding, BBC/HP and second-

hand purchase options. The room for state support for the industry is narrowing and it is unlikely that shipbuilding subsidies will feature as a main stimulus for shipowner investment in the future.

(3) Shipbuilding Negotiations

Multilateral shipbuilding negotiations have been carried on through OECD since October, 1989 by the USA shipbuilding industry appealing to USTR (United States Trade Representative) in June, 1989 because four countries, Korea, W.Germany (then), Japan and Norway, supplied their domestic shipbuilding industry with subsidies. More than four years of negotiations between the parties have led to many points in dispute to be agreed upon. Especially, following the settlement of the UR negotiations, the multilateral negotiations on the shipbuilding and steel industry that were in progress at the same time as the UR, were directly affected. Accordingly, both the Korean government and the shipbuilding industry together planned to cope with the settlement of the negotiations, and tried to minimise the expected impacts on the shipbuilding industry in Korea [106].

3.5.2 Banking Sector

3.5.2.1 Improvement for Ship Finance in Korea

As far as shipping finance in Korea is concerned, improvement has been more accelerated by IMF options to ask the Korean government to open the full financial market and abolish the barrier to entry in the Korean domestic markets. some points has to be improved. First, as a reference, BBC/HP financing in 1996 was \$ 1.8 billion, compared with \$ 1 billion in 1995, although the amount available was

greater, it was insufficient compared to the demand from the industry. Now, the limit on capital for BBC/HP ship construction has been abolished and possible to acquire foreign capital without a limit on capital they need. However, according to the agreement with IMF at November 1997 after the financial crisis, the Korean government has allowed the shipowners to have capital without limit to acquire a ship at either Korean or foreign yards per year, and also has simplified the process of capital raising on the BBC/HP option [107].

As far as planned shipbuilding is concerned, an attached condition such as the buying of industrial bank debentures for the improvement of the loan conditions has been relaxed, then, it is possible to activate capital for planned shipbuilding supported by the Industrial Bank of Korea. But, this scheme is more disadvantageous than BBC/HP financing in terms of interest rates. But, the possession of ships in the name of local overseas corporations established by Korean shipping companies should be allowed in order to secure an economic vessel as well as to diversify the method of securing ships. Furthermore, the reserved foreign currency by the Korean Central Bank (KFX) should not be limited to the purchase of secondhand vessels, it should be enlarged. Most importantly, Korean shipping companies should strengthen their industrial competitiveness and reduce their financial costs systematically.

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Chapter IV : The Preparatory Step to Statistical Analysis

4.1 The Process of Hypothesis Testing

The statistical tests in this dissertation were conducted on a sample survey of business executives in the Korean shipping industries such as shipping, bank, government and shipbuilding industry sample during the period December 1996. A total of 71 respondents of which there were 30 shipping companies (16 liners and 14 tramps), 14 from the banking sectors, 13 government officials and 14 from the shipbuilding industry.

In order to perform a hypothesis test, the methodology adopted is that we make some assumptions about the sample of the population that it conforms to the manager groups in the industry as a whole. The null hypothesis (H₀), that managers see no difference in the decision-making process as a result of trade liberalisation, is tested against the alternative hypothesis (H_A), that managers do have differences resulting from the adoption of free trade principles. On the basis of our sample findings, we either accept or reject the null hypothesis in favor of the alternative. The failure to reject the null hypothesis does not imply that the null is true. It simply means that the sample evidence is inconclusive to lead to a rejection of it.

The process of hypothesis testing must be carried out in a precise manner. There are basically four steps for the completion of test. First, is to determine the hypothesis under consideration. This requires that we decide if it is a one-tailed or two-tailed test, in this case it is two-tailed test because the comparators are at the extreme ends

of the distribution (see Appendix.14). Second, we have to calculate the critical value of significance for the sample statistic. Third, we have to formulate a decision rule based on the critical value. Fourth, we have to draw a proper conclusion or inference according to the decision rules chosen. These four steps can be summarised as follows [1] :

Step 1. Formulate the hypothesis.

Step 2. Calculate the critical value.

Step 3. Determine the decision rule.

Step 4. State the conclusion of the test regarding rejection of the rule, and any interpretation that might be derived from that conclusion.

4.2 Sampling Procedure

The survey had to encompass all the large Korean shipping companies, banks, government and shipbuilding companies involved in shipping investment. A total population of 102 Korean companies was identified for the study, extracted from the Yearbook of Korean Shipping Industry published by the Korea Shipping Gazette (1996) [2]. The survey questionnaire was faxed to target respondents and answers were faxed back or by post or direct collection by surveyor's visit. The sample chosen includes 20 ocean-going liners and 20 tramp shipping companies, 16 banks, 20 respondents from government (Ministry of Korea Maritime and Fishery) and 20 shipbuilding companies. The sample was selected because they are directly or indirectly linked with shipping investment. Among the 98 total target respondents, 71 persons responded to the survey. This was supplemented by interviews and telephone conversations in order to identify the manager's attitudes

in a number of areas associated with their decision-making and what possible effects the changes in liberalisation of their industry would have on their thinking.

Respondents were estimated as highly reliable persons who have worked in the shipping finance departments in shipping company and banks, in the shipping policy department of government and in sales department in shipbuilding companies for more than 10 years. The collection of questionnaire is especially valuable because in shipping sectors, it was from a limited but significant number of the sample group chosen from the whole population of the target group. Second, it is a such a difficult matter to get an opinion from government officials and the government sponsored bank in Korea in relation to their direct policy making, especially in developing country characterised as a conservative and bureaucratic society such as Korea. It was fortunate for the thesis to have responses from those sectors through several supporters highly positioned in the four sectors who helped to organise contacts with other respondents and to distribute the questionnaire themselves.

4.3 The Method of Analysis

The methods adopted were to use, first applying SPSS, a "t- test" for testing the null hypothesis that the two population means are equal, and second the "Wilcoxon matched-pairs signed-ranks test", which is a nonparametric procedure used with two related samples to test the null hypothesis that the distributions of two variables are the same. The latter makes no assumptions about the shapes of the distribution of

the two variables, and the absolute values of the differences between the two variables are calculated for each case and ranked from smallest to largest, and furthermore, the test statistic is based on the sums of ranks for negative and positive differences.

The reason why this method is chosen is because the nature and pattern of responses are related to a comparison between before and after results, under one factor, that is liberalisation. The merit of the method chosen is also to provide the influential level and change which has occurred between two points that are applied to one standard. Therefore, this two way analysis is properly used to interpret each question posed. Accordingly, the level of significance was tested by mean, and the significant difference by the p-value of critical factors in the questionnaire, and the strategies were analysed for future consideration of the financial managers, regarding the pre- and post-liberalisation environments. First is examination of the perceptions within the four groups of shipping, bank, government and shipbuilding sector in chapter 5 (breakdown of survey result is shown on Appendix 2.1 to chapter 5), second, is an examination of the differences between four groups as to their conception of the Korean shipping sector to be analysed in chapter 6 (breakdown of survey result is given in Appendix 2.2 to chapter 6).

4.4 Deductive Results

The deductive approach method is applied by either accepting or rejecting the hypothesis already set up, which assumes there is no significant difference between the before- and after-liberalisation by shipping market as it affects shipping

investment in Korea.

Tests are to be performed on independent and paired samples given a confidence interval of 95%), and nonparametric tests are employed to investigate any significant differences between before and after liberalisation attitudes of the respondents.

The first stage is to test the hypothesis that there is no significant difference within four sectors in relation to shipping investment, comparing before- and after-liberalisation in Korean shipping. In order to test this hypothesis, a paired-samples t - test, frequencies and nonparametric analysis is used, that is the Wilcoxon matched-pairs signed-ranks test (2 related samples test) is adopted because the nature of this survey is to test a significant difference of changes under the same group. The result is given in chapter 5 and Appendix 2.1.

The second stage is to test any differences between four groups, as regards shipping investment, comparing the before and after liberalisation. The result is given in chapter 6 and Appendix 2.2. The methodology taken is to use a paired-samples t - test that is measured on a Likert one-to-five scale to identify whether there is no difference between mean scores for survey variables, as well as the Wilcoxon matched-pairs signed-ranks test.

Third, six major models set up at chapter 2 are also re-interpreted, discussed in chapter 8.

4.5 Determinant of Shipping Investment

In this thesis some factors are used as determinants of investment in the shipping companies and these are regarded as the potentially important factors determining investment for new vessels, the conversion of existing tonnage or the purchase of second-hand ships are concepts supported by shipping economists and practitioners [3]. It is natural for a financial manager in a shipping company to utilise these factors in assessing shipping investment.

Seven factors, and associated sub-factors, were presented to participants in order to test the hypothesis, as listed below :

4.5.1 The Present Government Shipping Policy

- current government subsidy
- the current impediment to the liberalisation
- the effect on government regulations

4.5.2 The Shipping Market Situation

- shipping cycles
- change in market situation
- supply and demand of ships
- trade routes
- ship types

4.5.3 Shipping Finance

- macro-source of finance
- micro-source of finance
- financial conditions
- capital structure
- capital cost
- rate of loan
- external factors of investment
- investor's attitude towards risk
- timing of shipping investment
- factors regarding ship operations
- financial conditions in Korea
- methods of ship acquisition

4.5.4 The Return on Shipping Investment

- return on investment
- methods of investment evaluation

4.5.5 Choice of Shipyard

- selection of yard
- factors considered as yard selection
- ship registry

4.5.6 Depreciation in Ships

- period of depreciation

4.5.7 Strategic Alliance in Shipping

- purpose of alliance
- preference of partners in a potential alliance

There were no additional factors suggested by respondents, who filled in the questionnaire. The selection of the factors above was considered an appropriate means to measure a respondent's views of shipping investment both before- and after-liberalisation.

4.6 Testing Hypotheses Using the Differences in Means

4.6.1 Descriptive Statistics

Descriptive statistics may be an early step in exploring and understanding a new set of data. Before deciding what it describes (the location or centre of the distribution, its spread, etc.), the type of variables present should be analysed.

For many statistical purposes, counts are treated as measured variables. Arithmetic calculations like average and differences make sense for both measurements and counts, but not for the codes of unordered categorical variables.

The most common statistical descriptors are appropriate for quantitative variables.

In particular, mean and standard deviations are appropriate for quantitative variables, especially those that follow a normal distribution. Often, however, real data do not meet this assumption of normality, because the distribution is skewed or contains outliers, gaps, or other problems.

4.6.2 Tests for Comparing Means

The t - Test and Analysis of Variance (ANOVA) procedures, test the hypotheses about means of quantitative variables. The purpose is to draw conclusions about population parameters based on statistics observed in the sample. These tests are available from the Compare Means and the ANOVA Model menus. When the data comes from markedly non-normal distributions, a nonparametric test may be more appropriate and often essential for qualitative variables. Rather than using the data as recorded, several of the tests use ranks. While the nonparametric test statistics drop the assumption of normality, they do have assumptions similar to their parametric counterparts.

4.6.2.1 The t-test for Paired Observations

Independent-Samples and the t - test procedure test whether the means of a single variable for subjects in one group differ from that of another group. The Mann-Whitney rank sum test is a nonparametric analog for the two-sample t test. It is used to test that two samples come from identically distributed populations - i.e. there is no shift in the centre of location. The test is not completely distribution-free, since it assumes that the populations have the same shape. Thus, the groups may differ

with respect to their centre of location, but they should have the same variability and skewness. Other nonparametric tests for two independent samples are the Moses test of extreme reactions, the Kolmogorov-Smirnov test, and the Wald-Wolfowitz runs test. These tests were not chosen for this dissertation, an explanation of which is shown in Appendix 14).

The paired-samples t - test procedure (also known as a dependent t test) to test whether the mean of the casewise differences between two variables differs or equals zero. A typical study design for this test could include a 'before' and 'after' measure for each subject. The before and after measures are stored as separate variables, and this method is adopted in this thesis. This test is also appropriate for a matched pairs design, where subjects are matched on a variable that is related to the measure studied [4].

As far as a two-tailed hypothesis test for the population mean is concerned, there are numerous instances in which it may need to test a hypothesis about the value of the population mean. In essence, a large number of business decisions are based on the population mean. If evidence regarding this parameter can be gathered, those decisions are more reliable and are likely to produce more favorable outcomes [5]. It is also noted that tests of significance are particularly appropriate when the data come from a controlled experiment [6].

4.6.2.2 The Wilcoxon Matched-Pairs Signed Rank Test

The Wilcoxon procedure looks very attractive, even preferable to the t-procedure,

but it is not assumption-free. The assumptions under which the results quoted apply, both for the t-test and for the Wilcoxon test, include three quite restrictive assumptions [7]. First, all of the observations must have been sampled from the same population (F). This implies, among other things, that each of the observations must have the same variance (provided the variance exists). Second, the observations must be statistically independent of one another. Often this assumption fails, particularly when the observations are taken sequentially in time. Third, (F) the distribution must be symmetric.

The Mann-Whitney and the related Wilcoxon tests are nonparametric alternatives to the independent-samples t test. Like the t test, Mann-Whitney tests the null hypothesis that two independent samples come from the same population. Rather than being based on parameters of a normal distribution like mean and variance, the Wilcoxon and Mann-Whitney statistics are based on ranks. The Wilcoxon statistics (W) is calculated by ranking the pooled observations of the two samples, and obtaining the sum of the ranks of the population with the smaller sample size. The Mann-Whitney statistics (U) which is equivalent to the Wilcoxon statistics, is obtained by counting the number of times an observation from the group with the smaller samples size precedes an observation from the larger group.

The Mann-Whitney U - test (or simply the U - test) tests the equality of two population distributions. It is based on the assumption that two random samples are independently drawn from continuous variables. In this broadest sense, the null hypothesis states that the distributions of two populations are identical. However,

the test can be tailored to examine the equality of two population means or medians. To test the equality of mean, it should be assumed that the populations are symmetrical and have the same variance. Under these conditions the Mann-Whitney U test serves as the nonparametric alternative to the t-test, except it does not require the assumption of normality. If the assumption of symmetry is dropped, the median replaces the mean as the test statistics [8].

However, the Mann-Whitney U test is the same as the Wilcoxon rank sum test, but differs from the Wilcoxon matched-pairs signed rank test that is used in this thesis. The sign test is carried out in terms of the signs of the differences between matched pairs of observations, without regard to the magnitudes of these differences. The Wilcoxon matched-pairs signed rank test is another nonparametric test for significant differences between paired observations, which does take account of the magnitudes of the differences. Therefore when the differences between paired observations can be quantitatively measured rather than merely assigned rankings [9], the Wilcoxon matched-pairs signed rank test is preferable to the sign test. Both the sign test and the Wilcoxon matched-pairs signed rank test may be considered substitutes for the analogous parametric t test for paired observations. However, while the parametric t test for paired observations requires the assumption that the underlying population of differences is normally distributed, the nonparametric tests have the advantage of making no assumption about the population distributions [10]. As a nonparametric analog to the paired t test, the SPSS system provides the sign test and the Wilcoxon signed -rank test. For each pair of observations, the sign test uses only the direction of the differences (positive or negative), while the Wilcoxon

signed-rank test begins by ranking the differences without considering the signs, restoring the sign to each rank, and finally summing the ranks separately for the positive and negative differences.

4.6.3 One-way and Factorial Analysis of Variance

Analysis of variance is an extension of the two-samples t test to more than two groups. This analysis examines the variability among the sample means relative to the spread of the observations within each group. The null hypothesis is that the samples of values come from populations with equal means.

For a one-way analysis of variance (one-way ANOVA), groups or cells are defined using the levels of a single grouping factor that has two or more levels. In a factorial ANOVA, cells are defined using the cross-classification of two or more factors.

4.6.4 Testing Relationships

In selecting a statistic to measure the relationship between variables, it should identify what types of variables it is investigating. If the values are categories, it will be finding an appropriate measure in the 'Crosstabs' procedure. If the values are from a quantitative distribution that can be considered normal, a linear model may be used e.g. Regression or a Pearson correlation in the Bivariate Correlation procedure. If normality is too strong an assumption to make, the Spearman correlation might be considered (see Appendix. 14).

4.7 Using SPSS

4.7.1 The Function of the SPSS

The SPSS system used in this thesis is a comprehensive and flexible statistical analysis and data management system. SPSS can take data from almost any type of file and use them to generate tabulated reports, charts and plots of distributions and trends, descriptive statistics, and complex statistical analyses [11].

4.7.2 Data Analysis in SPSS

SPSS is a comprehensive statistical software system that aids the data analysis process at any level, with procedures ranging from data listings, tabulations, and descriptive statistics to complex statistical analyses. Integrated with the statistical procedures are graphics for screening data, understanding and interpreting analyses, and communication results. This is the statistical package used in this dissertation.

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Chapter V : Analysis of Survey Results within Four Groups

5.1 Total Survey Result within Four Sectors

This chapter investigates the null hypothesis that there are no significant differences and changes in the investment decision-making process between pre and post liberalisation of the Korean shipping, bank, government and shipbuilding industry. The breakdown of survey result is given in Appendix 2 (2.1).

5.2 Government Shipping Policy

Table 5.1 Significant Difference in Government Shipping Policy

item	CHANGED	UNCHANGED
(A) 6	5 (a-e)	1 (f)
(B) 11	9 (a-h, k)	2 (i-j)
(C) 4	1 (d)	3 (a-c)

(A) Government Subsidy

(a : operational subsidy, b : construction subsidy, c : financial aid, d : waiver system, e : cargo preference, f : tax benefit)

(B) The Level of Impediment to Liberalisation

(a : appointed route, b : route license, c : investment restriction to foreigners, d : ban to buy second-hand vessel, e : limits on business expansion, f : waiver system in liner shipping, g : waiver system in bulk shipping, h : ship acquisition system, i : vessel-related tax, j : ship registry system, k : seafarer policy)

(C) General Regulations by Country

(a : FMC, b : DG IV, c : Int'l regulations(IMO, UNCTAD,etc), d : Korean regulations)

Respondents generally recognise the changes in government shipping policy of Korean shipping industry following liberalisation. As far as government subsidy is concerned, the null hypothesis set up was rejected for all factors except tax matters, which means this beneficial aspect is reduced by change, on the other hand,

the obligatory and non-beneficial side such as tax remains as it was, by an unchanged observation.

It is also revealed that the respondents expressed dissatisfaction on tax matters, by continually mentioning the no change in the vessel-related tax and ship registry system as important factors impeding the liberalisation policy (it is supposed that second ship registry system is to be launched in 1999.1.1). However, respondents on the regulatory matters answered that there has been a change in relation to Korean regulations and the null hypothesis is rejected in this respect. Accordingly, the survey result show that the liberalisation brought some changes into Korean shipping in general terms, except for tax matters.

5.3 Shipping Market Situation

Table 5.2 Significant Difference in Shipping Market Situations

item	CHANGED	UNCHANGED
(A) 1	1 (a)	0
(B) 7	3 (b, c, f)	4 (a,d,e,g)
(C) 6	5 (a-c, e,f)	1 (d)
(D) 7	7 (a-g)	0
(E) 5	5 (a-e)	0

(A) Shipping Cycle

(a : shipping cycle)

(B) Shipping Market Situation

(a : rates, b : trade volumes, c : tonnage, d : ship price, e : number of demolition, f : operational performance & productivity, g : shipping cycle)

(C) Supply and Demand of Ship

(a : rates, b : market expectations, c : capital availability, d : shipbuilding capability,

e : unit cost of shipyard, f : construction subsidy)

(D) Trade Route

(a : transpacific route, b : European route, c : trans-Atlantic route, d : intra-Asia route, e : Korean-Japanese route, f : south-north route, g : niche route)

(E) Type of Tonnage

(a : container ship, b : bulk ship, c : tanker, d : specialised ship, e : other ships)

As for the shipping market situation, respondents replied that after liberalisation, the shipping cycle will get rapidly shorter, with greater emphasis on freight rates influencing tonnage and a general movement in favour of containerisation in the Trans Pacific routes.

In the shipping cycle responses, the results come out differently when analysed in absolute and relative terms. In some cases, they have recognised changes in trade volume and tonnage being built, but responded to some factors such as rates (restoration) still as unchanged following liberalisation. Furthermore, it is also judged that although the fluctuation to supply and demand of shipping market does influence rates, the rate will stay as it was if new-building increases at the same rate as trade volumes changes were observed in all areas other than shipbuilding capability. All trade routes were considered to be influenced by liberalisation, and type of tonnage, likewise resulted in a rejected hypothesis. As a consequence, respondents demonstrated that shipping liberalisation should make decisive changes and influences in the shipping market.

5.4 Shipping Finance

Table 5.3 Significant Difference in Shipping Finance

item	CHANGED	UNCHANGED
(A) 3	1 (b)	2 (a,c)
(B) 3	2 (a,c)	1 (b)
(C) 7	7 (a-g)	0
(D) 1	0	1(a)
(E) 1	0	1(a)
(F) 1	0	1 (a)
(G) 8	6 (a-e, h)	2 (f,g)
(H) 1	0	1 (a)
(I) 1	1 (a)	0
(J) 7	4 (a,b,e,g)	3 (b,d,f)
(K) 3	0	3 (a-c)
(L) 1	1 (a)	0

(A) Source of Finance

(a : domestic capital, b : foreign capital, c : internal capital)

(B) External Method of Finance

(a : shipyard credit, b : bank finance, c : lease finance)

(C) Financial Conditions

(a : financial source, b : interest rate, c : loan rate, d : repayment period, e : tax, f : exchange rate, g : inflation rate)

(D) Capital Structure

(a : capital structure)

(E) Capital Cost

(a : capital cost)

(F) Rate of Loan

(a : rate of loan)

(G) External Factor to Investment Decision-making

(a : period of ROI, b : decision-maker's attitude towards risk, c : shipping cycle, d : timing factors, e : capital structure, f : confidence in decision-making, g : bank's attitude, h : financial service level)

(H) Investor's Attitude towards Risk

(a : investor's attitude towards risk)

(I) Timing of Shipping Investment

(a : timing of shipping investment)

(J) Investment Factors Affected by Ship Operation

(a : market share, b : profitability (rates), c : load factor, d : fixed cost, e : floating cost, f : choice on routes, g : operational service level)

(K) Financial Conditions in Acquiring a Ship

(a : planned shipbuilding, b : bareboat charter on hire purchase, c : secondhand ship purchase)

(L) Method of Ship Acquisition in Korea

(a : method of ship acquisition in Korea)

As far as shipping finance is concerned, in nearly all the factors, while the order of priority is the same between before and after liberalisation, the significance of risk averse behaviour decreases relatively and a proportion of risk-mixed behaviour increases after liberalisation, which suggests a more rational and active investment process in terms of the investor's attitude after liberalisation.

Liberalisation can be also expected to activate more shipping investment as a result of the changes in financial conditions, considering that the financial conditions for shipping investment for new-building is very important and a kind of precondition to shipping investment liberalisation will have a significant effect on this matter. Therefore, it can be assumed that (although investment attitude following liberalisation is not affected) on account of the change in external factors to investment, as well as the financial conditions prevailing, the shipping investor would undertake more rational and prudent investment activities (risk mixed) when making a shipping investment decision. Furthermore, the process of acquiring a

ship will be changed by liberalisation according to the respondents. As a whole, the factors concerning shipping finance will be strongly influenced by liberalisation.

5.5 Return on Shipping Investment

Table 5.4 Significant Difference in Return on Shipping Investment

item	CHANGED	UNCHANGED
(A) 1	0	1 (a)
(B) 1	0	1(a)

(A) Return on Shipping Investment
(a : return on shipping investment)

(B) Evaluation Method on Shipping Investment
(a : evaluation method on shipping investment)

Although there is revealed no change in the shipping investment return there is the view that investment horizons are now going to be much shorter term and liberalisation will result in a change in investment policies

5.6 Choice of Shipyard

Table 5.5 Significant Difference in Choice of Shipyard

item	CHANGED	UNCHANGED
(A) 1	0	1 (a)
(B) 8	6 (c-h)	2 (a,b)
(C) 1	0	1 (a)

(A) Country's Shipyard
(a : country's shipyard)

(B) Shipyard Selection

(a : construction capability, b : labour force, c : technology, d : ship-linked industry, e : price competitiveness, f : non-price competitiveness, g : exchange rate in market, h : int'l competitiveness)

(C) Ship Registry Country

(a : ship registry country)

As for choice of shipyard, price competitiveness (ship price) and technology are still the most important factors and there is much change due to liberalisation. Especially, respondents point out that Korea is considered as the best world shipbuilding country even though the level of significance decreases relatively, and nearly all factors are affected by liberalisation in conjunction with shipyard selection. Panama is regarded the most favorite country for an FOC regime. In conclusion, respondents noted that liberalisation impacts on shipyard selection decisively, and at present this choice of shipyard still remains favourable to Korea, and that of registry goes to Panama.

5.7 Depreciation in Ships

Table 5.6 Significant Difference in Depreciation in Ships

item	CHANGED	UNCHANGED
(A) 1	0	1 (a)

(A) Depreciation in Ship
(a : depreciation in ship)

Changes in the rate of depreciation are as a consequence of the shorter investment horizon, hence the null hypothesis is again rejected.

5.8 Strategic Alliance in Shipping

Table 5.7 Significant Difference in Strategic Alliance in Shipping

item	CHANGED	UNCHANGED
(A) 1	1 (a)	0
(B) 1	0	1(a)

(A) Strategic Alliance in Shipping
(a : strategic alliance in shipping)

(B) Preference to Partnership
(a : preference to partnership)

In relation to strategic alliance in shipping, respondents believe that there will be a shift from market expansion to cost savings as a reason for such alliances after trade liberalisation. It also noted that preference to partnership is not a factor to be influenced by the liberalisation moves. In other words, a strategic alliance is required in order to cope with market changes (trade routes, supply and demand of ship, etc.) as previously shown.

Generally speaking, shipping investment in Korea has been decisively affected by liberalisation moves. This tells us that shipping liberalisation will make a sort of epoch-making turning point for the industry in Korea.

Chapter VI : The Comparison of Survey Results between Four Groups

6.1 Survey Result of Each Group between Four Sectors

This chapter examines four groups of the shipping sector in order to evaluate the limits of liberalisation in the Korean shipping industry. It will test the significant differences between shipping companies, banks, government and the shipbuilding industry before and after liberalisation.

The attribute to be investigated is in relation to government shipping policy, shipping market situation, shipping finance, choice of shipyard, depreciation policy in shipping, and alliances (or consortia) in shipping. The analysis chosen will also identify any bias in the results in this chapter which may be caused by the decision-makers in the four different sectors having substantially different views of the future, resulting in different priorities to that of the decision-makers in the four sectors. T-tests are used to indicate the scale of significance and Nonparametric tests with 2 related samples confirm the suitability of the sample. Four groups were compared in relation to each of the factors in the questionnaire. The breakdown of survey result is given in appendix 2 (2.2).

6.2 Government Shipping Policy

Table 6.1 Comparison with Government Shipping Policy

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 6	4 (a,d-f)	2 (a,b)	3 (a,d,e)	1 (a)	2 (b,c)	4 (c-f)	3 (b,c,f)	5 (b-f)
(B) 11	10 (a-i,k)	1 (k)	6 (a-c,e,g,j)	1 (f)	1 (j)	10 (a-j)	5 (d,f,h,i,k)	10 (a-e,g-k)
(C) 4	1 (d)	0	0	0	3 (a-c)	4 (a-d)	4 (a-d)	4 (a-d)

Note : S/C : Shipping Company S/B : Shipbuilding Company

(A) Government Subsidy

(a : operational subsidy, b : construction subsidy, c : financial aid, d : waiver system, e : cargo preference, f : tax benefit)

(B) The Level of Impediment to Liberalisation

(a : appointed route, b : route license, c : investment restriction to foreigners, d : ban to buy second-hand vessel, e : limits on business expansion, f : waiver system in liner shipping, g : waiver system in bulk shipping, h : ship acquisition system, i : vessel-related tax, j : ship registry system, k : seafarer policy)

(C) General Regulations by Country

(a : FMC, b : DG IV, c : Int'l regulations(IMO, UNCTAD,etc), d : Korean regulations)

This question is set to test the relationship between shipping policy and liberalisation in Korean shipping. The factors that Korean shipping policy includes are : government subsidy, barriers to liberalisation and regulations

First of all, the comparison was done between the four groups in relation to government shipping policy. So the respondents' replies on government subsidy show that shipping companies consider that this element has the highest possible level of change, and next in order, government, banks and shipbuilding companies. They all consider aid and tax matters in the financial aspects as the most important

From the first row of table 6.1 it can be seen that of the six items under A, referring to government subsidy, the shipping companies perceive a change on 4 items (a, d, e, f) and no change in 2 items (b, c). Other responses can be interpreted in a corresponding way

factors. The remarkable point is that all respondents reject the null hypothesis regarding a continuation of the operational subsidy, pointing to a reduction of the operational subsidy for shipping companies after trade liberalisation. Shipping companies responses were more uniform than the others on these factors perhaps due to the focus of the questions themselves !.

Shipping companies generally put weight on ship acquisition systems and ship registry matters, both banks and government emphasised tax matters, and shipbuilding companies were concerned with seafarer policy.

The answer relating to level of influence of general regulations by country is presented negatively in general. It is shown that all groups except the banks generally point to Korean regulations as the most important factor before liberalisation, All groups except government display an awareness of international regulations in relative terms after liberalisation. Indeed a government response emphasised the importance of the FMC of the U.S after liberalisation. Respondents from shipping companies recognise significant differences in Korean regulations, but others do not recognise this to the same degree. Government officials even suggested that the Korean regulations would not be affected by liberalisation. This can be translated as that they regard liberalisation had been already achieved in

some cases. Through additional interviews with the respondents there was little difference in terms of the beginning point of liberalisation between WTO/OECD established in this thesis and their actual perception of it.

6.3 The Shipping Market Situation

Table 6.2 Comparison with The Shipping Market Situation

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 1	1 (a)	0	0	0	0	1 (a)	1 (a)	1 (a)
(B) 7	2 (c, g)	0	0	1 (c)	5 (a,b,d,e,f)	7 (a-g)	7 (a-g)	6 (a,b,d-g)
(C) 6	4 (a,b,e,f)	1 (b)	0	1 (e)	2 (c,d)	5 (a,c-f)	6 (a-f)	5 (a-d,f)
(D) 7	5 (c-g)	0	1 (g)	3 (c-e)	2 (a,b)	7 (a-g)	6 (a-f)	4 (a,b,f,g)
(E) 5	2 (b,d)	0 (b)	1 (a)	2 (a,d)	3 (a,c,e)	5 (a-e)	4 (b-e)	3 (b,c,e)

Note : S/C : Shipping Company S/B : Shipbuilding Company

(A) Shipping Cycle

(a : shipping cycle)

(B) Shipping Market Situation

(a : rates, b : trade volumes, c : tonnage, d : ship price, e : number of demolition, f : operational performance & productivity, g : shipping cycle)

(C) Supply and Demand of Ship

(a : rates, b : market expectations, c : capital availability, d : shipbuilding capability, e : unit cost of shipyard, f : construction subsidy)

(D) Trade Route

(a : transpacific route, b : European route, c : trans-Atlantic route, d : intra-Asia route, e : Korean-Japanese route, f : south-north route, g : niche route)

(E) Type of Tonnage

(a : container ship, b : bulk ship, c : tanker, d : specialised ship, e : other ships)

This question verifies the relationship between the shipping market situation and liberalisation. The questionnaire on the shipping market situation refers to the shipping cycle, the shipping market situation, supply and demand, trade route and type of tonnage.

It is noted that all four groups agree that the shipping cycle gets shorter after liberalisation, in other words, this means the trend of the shipping cycle, previously inclined toward 10-20 years and centred on 5-10 years, is now inclined toward 5-10 years centred on 1-5 years. Shipping companies claim a significant difference in the shipping cycle between the two stages of liberalisation.

A first priority in terms of level of importance is placed on tonnage, by shipping and shipbuilding companies especially, following the recent over tonnage in the industry. Freight rates were seen as more important by banks and government after liberalisation. Respondents were generally interested in the state of management of shipping companies, stressing the changes likely to influence profitability. The null hypothesis is rejected, as far as tonnage and shipping cycles are concerned (as shown previously) by shipping companies, and tonnage by shipbuilding companies.

All four groups indicated that freight rates is a major factor for performance both before and after liberalisation. Rates affect the supply and demand of ships. As for any significant difference in this matter, rates and unit cost of shipyard (ship price) by shipping companies and unit cost of shipyard (ship price) by shipbuilding companies are seen as likely to change after liberalisation..

Transpacific trade routes were emphasised by the respondents. Three groups other than the government respondents (who chose the European route,) mentioned the transpacific route as the most important trade route after liberalisation. This shows the transport demand according to trade with the American continent still continues to be the most important. The Korean government, however concentrated on the European route as the most important route to change, that is, they placed more weight on the transport demand and trade relationships with Europe giving it equal status with the transpacific route. Respondents claimed that there will be a significant difference after liberalisation in relation to all trade routes, with primacy for the Transpacific and European routes by shipping companies, niche markets by government, and the Trans-Atlantic route and Intra-Asia route favoured by the shipbuilding companies.

In the matter of tonnage, , a high level of significance is given to bulk shipping by shipping companies, container shipping by banks, bulk shipping and container shipping by government, and tankers and container shipping by shipbuilding companies after liberalisation. Especially of note are the government shift in priority from bulk shipping to container shipping, and shipbuilding companies priority from tankers of the VLCC type to container shipping, after liberalisation. The null hypothesis is rejected for bulk shipping and for specialised shipping by shipping companies, container shipping by government, and container shipping and specialised shipping by shipbuilding companies.

6.4 Shipping Finance

Table 6.3 Comparison with Shipping Finance

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 3	1 (b)	1 (b)	0	1 (b)	2 (a,c)	2 (a,c)	3 (a-c)	2 (a,c)
(B) 3	2 (b,c)	1 (a)	0	0	1 (a)	2 (b,c)	3 (a-c)	3 (a-c)
(C) 7	3 (c,d,f)	1 (f)	0	6 (a-f)	4 (a,b,e,g)	6 (a-e,g)	7 (a-g)	1 (g)
(D) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)
(E) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)
(F) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)
(G) 8	6 (a,c-f,h)	5 (b-e,h)	0	4 (a,b,g,h)	2 (b,g)	3 (a,f,g)	8 (a-h)	4 (c-f)
(H) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)
(I) 1	1 (a)	0	0	0	0 (a)	1 (a)	1 (a)	1 (a)
(J) 7	3 (d,f,g)	1 (e)	0	2 (b,g)	4 (a-c,e)	6 (a-d,f,g)	7 (a-g)	5 (a,c-f)
(K) 3	0	0	0	1 (b)	3 (a-c)	3 (a-c)	3 (a-c)	2 (a,c)
(L) 1	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)	0

Note : S/C : Shipping Company S/B : Shipbuilding Company

The numbers in the table indicate the number of changed (unchanged) items from the list below

(A) Source of Finance

(a : domestic capital, b : foreign capital, c : internal capital)

(B) External Method of Finance

(a : shipyard credit, b : bank finance, c : lease finance)

(C) Financial Conditions

(a : financial source, b : interest rate, c : loan rate, d : repayment period, e : tax,

f : exchange rate, g : inflation rate)

(D) Capital Structure
(a : capital structure)

(E) Capital Cost
(a : capital cost)

(F) Rate of Loan
(a : rate of loan)

(G) External Factor to Investment Decision-making
(a : period of ROI, b : decision-maker's attitude towards risk, c : shipping cycle, d : timing factors, e : capital structure, f : confidence in decision-making, g : bank's attitude, h : financial service level)

(H) Investor's Attitude towards Risk
(a : investor's attitude towards risk)

(I) Timing of Shipping Investment
(a : timing of shipping investment)

(J) Investment Factors Affected by Ship Operation
(a : market share, b : profitability (rates), c : load factor, d : fixed cost, e : floating cost, f : choice on routes, g : operational service level)

(K) Financial Conditions in Acquiring a Ship
(a : planned shipbuilding, b : bareboat charter on hire purchase, c : secondhand ship purchase)

(L) Method of Ship Acquisition in Korea
(a : method of ship acquisition in Korea)

The questionnaire concerning shipping finance addresses issues concerning the source of finance and 11 other attributes, a total of 12 questions. All four groups placed emphasis on the availability of foreign capital after liberalisation, however, the groups excepting the government, suggested a significant change towards the provision of foreign capital following liberalisation. As far as the relationship between the financial conditions and liberalisation is concerned, shipping companies and banks gave interest rates their top priority in importance, but interest rates before liberalisation and exchange rates after liberalisation were the order of

priority by the Government and shipbuilding companies. This adds weight to foreign exchange as a factor in the decision making process especially after liberalisation. The shipbuilders however did not consider the inflation rate of all the factors affecting the financial conditions to be affected by liberalisation. Thus the null hypothesis is largely rejected for these factors.

As far as the external factors affecting investment decision-making are concerned, the shipping companies took into account the timing factors for both before and after liberalisation, the other three groups emphasised the decision-maker's attitude towards risk after liberalisation. Accordingly, it can be figured out that in general the investor's attitude toward timing and risk is important to decision-making in shipping investment. In terms of change there are significant differences in all factors except decision-maker's attitude towards risk and bank's attitude when borrowing which were considered to be unaltered, and the null hypothesis is mainly rejected.

Considering the level of significance for ship acquisition, the shipbuilding companies suggested that there would be a movement from planned shipbuilding before liberalisation to BBC/HP after liberalisation. The other three groups believe that the use of BBC/HP was changing irrespective of the before and after liberalisation situation. The hypothesis established is rejected by shipbuilding company in particular.

6.5 Return on Shipping Investment

Table 6.4 Comparison with Return on Shipping Investment

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)
(B) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)

Note : S/C : Shipping Company S/B : Shipbuilding Company

The numbers in the table indicate the number of changed (unchanged) items from the list below

(A) Return on Shipping Investment
(a : return on shipping investment)

(B) Evaluation Method on Shipping Investment
(a : evaluation method on shipping investment)

All respondents considered 'between 10 and 15 years' the top priority in both pre and post liberalisation, but there is only a little difference in relative terms. In other words, the period given by the shipping companies gets shorter as 'less than 10 years', but in case of the banks, it extends to 'between 15 and 20 years', and government placed weight on 'between 10 and 15 years' and more. Therefore, it can be assumed that shipping companies and shipbuilding companies which are exposed to very sensitive shipping market situations look to a shorter ROI, but banks and government remain wedded to a longer time horizon. There is no significant difference between before and after liberalisation on this question. Further more the NPV evaluation method for shipping investment was adopted by all respondents in general, suggesting consistency with wealth creation.

6.6 Choice of Shipyard

Table 6.5 Comparison with Choice of Shipyard

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 1	1 (a)	0	0	0	0	1 (a)	1 (a)	1 (a)
(B) 8	4 (e-h)	3 (f-h)	0	2 (g,h)	4 (a-d)	5 (a-e)	8 (a-h)	6 (a-f)
(C) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)

Note : S/C : Shipping Company S/B : Shipbuilding Company

The numbers in the table indicate the number of changed (unchanged) items from the list below

(A) Country's Shipyard
(a : country's shipyard)

(B) Shipyard Selection
(a : construction capability, b : labour force, c : technology, d : ship-linked industry, e : price competitiveness, f : non-price competitiveness, g : exchange rate in market, h : int'l competitiveness)

(C) Ship Registry Country
(a : ship registry country)

This question is aimed at shipyard selection and ship registry country. All groups gave consideration to Korea as the shipbuilding country, but there were interesting differences on other points. In the after liberalisation situation, shipping companies considered that Japan as a shipbuilder, would have a higher in preference than before liberalisation. Korea is regarded by the banks, as remaining exclusively the choice even after liberalisation, and for government both before and after liberalisation. The Korean government emphasised that Korean shipping companies should build their ships in Korean yards no matter what outcome would arise after

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6.7 Depreciation in Ships

Table 6.6 Comparison with Depreciation in Ships

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)

Note : S/C : Shipping Company S/B : Shipbuilding Company

The numbers in the table indicate the number of changed items, i.e. whether depreciation is to change or not.

(A) Depreciation in Ship

(a : depreciation in ship)

Various responses were shown in relation to the treatment of depreciation in ships.

Generally, 'between 15 and 20 years' is the most common range pre and post liberalisation, but there is a relative change already in vogue whereby the duration for depreciation of ships is already getting shorter and this policy will accelerate after liberalisation but not simply because of it.

6.8 Strategic Alliance in Shipping

Table 6.7 Comparison with Strategic Alliance in Shipping

item	CHANGE				NO CHANGE			
	S/C	Bank	Gov't	S/B	S/C	Bank	Gov't	S/B
(A) 1	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)	0
(B) 1	0	0	0	0	1 (a)	1 (a)	1 (a)	1 (a)

Note : S/C : Shipping Company S/B : Shipbuilding Company

The numbers in the table indicates the number of changed (unchanged) items from the list below

(A) Strategic Alliance in Shipping
(a : strategic alliance in shipping)

(B) Preference to Partnership
(a : preference to partnership)

The survey was designed to test the reasons for and preference for partnerships or strategic alliances in shipping. Nearly all the shipping companies who had highlighted the objectives as an expansion of services before liberalisation had changed to cost saving after liberalisation, (banks pointed out cost saving in both the before and after cases)..

Choice of company or national flag differed, the Korean Government favouring a U.S. shipping partnership both pre and post liberalisation, while the other three groups indicated a preference for a European partnership. This response from government is consistent, as they regard the FMC regulations of U.S as the most important factor influencing the post liberalisation situation as stated previously.

Chapter VII : The Significant Findings and an Interpretation of Total Survey

7.1 Introduction

By the analysis of the questionnaires answered by respondents, i.e. financial managers from shipping companies and banks, policy-makers from government and sales managers from shipbuilding companies, it was possible to get some significant findings and an interpretation of the same. The values arrived at from the statistical calculations revealed that there were a number of external aspects influencing the respondents' replies, e.g. government policies, market situation, or internal aspects i.e. companies' policies or in some cases simply the respondents' attitudes and judgment. Results are shown in appendix 2 (especially, 2.1).

7.2 Government Shipping Policy

There were three questions related to government shipping policy tested in the survey ; these were : government subsidy, the level of impediments to liberalisation and the general regulations on the industry. Generally speaking, the respondents thought that the liberalisation trend had affected their investment decision-making in relation to government shipping policy.

As far as government subsidy is concerned, the results revealed that tax benefits and financial aid were the most significant factors in both before- and after-liberalisation. In fact, the most important factor for the shipping industry as in other industries was probably tax. In some senses, the success and failure in shipping as a capital

intensive industry have been dependent upon how the shipowner can manage the financial aid provided by government or how tax has affected outcomes.

As far as the level of impediments to liberalisation, two factors, namely vessel-related tax issues and the ship registry system, were the most important ones. Given that ship registry is strongly related to tax, and vice versa, in order to get tax relief, deregulation of the ship registry system and the creation of a second international registry are seen as top priorities.

The respondents suggest that Korean regulations are the most important factors influencing their shipping business before liberalisation, but American FMC is now seen as important after liberalisation, the emphasis of the Transpacific trade after liberalisation is much greater.

7.3 The Shipping Market Situation

In a modern open economy, shipping is exposed to a severely competitive market, every industry including shipping regards the conditions in the market as more important than government aid. The market situation in shipping is largely dependent upon the general economic situation that produces the trade volumes for the shippers (demand side), and tonnage undertaken by shipping companies (supply side). The freight rates reflect the supply and demand under a fluctuating, volatile and cyclic market.

The respondents regarded the shipping cycle as getting shorter, implying that the

world trade market is changing more frequently given the more complex trade patterns and the emergence of developing countries in this field. The "product life cycle" of shipping services as well as the ship itself is getting shorter because R&D progress is rapid in response to complex customers' needs in the modern economic world.

The respondents considered that the freight rates are one of the most important factors and that the rates for a shipping company are the most important elements for them in making a shipping investment both before and after liberalisation. They determine the profitability, as a "going concern", and the decision to supply new tonnage. After liberalisation, tonnage was seen as of rising importance implying that the over-tonnage in present shipping markets is the current reason for poor rates and that in the absence of government subsidies the rates will be determined by the global availability of tonnage on each route.

With regard to the respondents' replies to trade routes, the Transpacific route, in which the United States have the most influence, requires a high frequency of service in shipping transportation. They also suggest that the European route is of secondary importance, and of rising importance is the emerging Intra-Asia route rather than the purely Atlantic route, because of the recent rapid growth in trade volumes in recent years post liberalisation.

The tonnage influence was divided with bulk shipping related first and liner second before liberalisation, but the order changed after liberalisation.

Respondents had generally admitted some changes in shipping investment following the liberalisation of trade in Korea. They identified an increasing importance for the factors arising from the fact that shipping investment was no longer set by the availability of government support or regulation, but largely determined by the commercial ROI principles involving a business plan which would take account of forecast earnings and costs determined by the global shipping market rates.

7.4 Shipping Finance

Shipping finance was considered the prime component of the decision-making process and was also the first aspect to be reviewed by a financial manager. The survey analysis shows a range of concepts employed by the shipping-related managers in Korea with regard to shipping investment. Post-liberalisation, financial managers are much more aware of risk externalities influencing the investment decision, such as general interest rates for loans, the freight conditions on the various routes, and alterations by the government agencies in the regulations concerning ship acquisition. The general atmosphere at present in Korean management with regard to shipping finance is that the respondents are now recognising the impact of liberalisation in their investment decision-making process.

Of primary concern among the respondents was, as they saw it, access to foreign capital and its much more advantageous terms for borrowing, compared with

domestic capital. In addition, it was revealed that they prefer using bank finance rather than shipyard credits and their associated restrictive conditions.

Of all the financial conditions mentioned, respondents said that interest rates were the most significant element for the reduction of the financial costs, and this is the reason for Korean shipping using foreign capital because of the generally lower interest rates available outside Korea. In fact, in the case of a syndicated loan which includes a foreign bank, Korean shipowners pay less interest than with a purely Korean bank.

The question relating to capital structure, demonstrated a desire for a higher equity base than was the case before liberalisation, because of the increased risks of the funding arrangements. As far as capital costs are concerned, respondents felt that they were getting lower because of the financial relaxation following the current wave of liberalisation.

The question regarding the percentage of loan currently employed revealed that the normal borrowing ratio at this time was '80% or more'. This would be considered high in markets other than shipping, but global practice in the shipping sector suggests a figure of 80% as normal. Therefore, a target of 80% would be considered acceptable in the post-liberalisation period.

Another external factor affecting shipping investment, is the timing of a loan and the period of return on the investment. Given the volatile situation of the shipping

market, it is absolutely necessary for shipowners to pick the right timing for the investment, especially as there is a business cycle associated with shipping. Investing at the wrong part of the cycle can be disastrous. Early returns on investment often take priority.

As to investors' attitudes towards risk, it is common knowledge that the shipping industry is heavily involved with risk because of the unpredictable and volatile market situation. It is necessary to predict the future shipping market within shipping cycles in order to reduce risk. Shipowners' attitudes towards risk are appraised in the survey. Respondents demonstrated a risk-mixed (prone+averse) attitude both before and after liberalisation. To the some extent risk-aversion before liberalisation transformed to a risk-mixed situation (prone+averse) after liberalisation.

In relation to timing of shipping investment, respondents put weight on the "turning point" ie when the business cycle turns from downward to upward and vice versa, as a first priority between the two stages of liberalisation. In investment factors affected by ship operation, the respondents chose freight rates as the most important, both before- liberalisation and after-liberalisation. As far as financial conditions in acquiring a ship are concerned, the interest rate is seen as the most important factor, and becoming of higher significance.

The BBC/HP option was favoured by all respondents.

7.5 Return on Shipping Investment

Respondents indicated that they would be expecting a shorter period for calculating the ROI because the shipping cycle appears to be getting shorter, especially now that there is greater competition generally and liberalisation will accelerate this trend.

The traditional method of evaluation on a shipping investment, was shown to be the net present value approach. Since this system remains a common practice for bankers, both national and international, it poses no difficulty for the post-liberalisation era, and it is also consistently used in shipping and shipbuilding. However, the IRR method is relatively more popular after liberalisation. For single project evaluations the two methods should give the same accept or reject decisions. However, when comparing projects the IRR method may be potentially misleading because it is only a relative measure and the economic value of a project can change through time. The net present value approach would be more consistent with wealth creation.

7.6 Choice of Shipyard

Korean shipyards were chosen as the builders of choice by most of the respondents. This was to be expected, given the pride with which most Koreans have in past economic success. In the past, Korean shipowners were obliged to have their ships built in Korean yards. However, in the after-liberalisation situation, they may be willing to order at other yards such as Japanese ones, where technology and or ship

price dictates.

In the question relating to shipyard selection, respondents chose price competitiveness and technology as the order of priority before liberalisation and after liberalisation. These two factors are the most important ones, where the lower prices of ships have been preferred and the degree of ship automation based on advanced technology lowers the operational cost of a vessel.

Panama was the registration country of choice by our respondents. Their advantageous packages are mainly related to tax matters and the level of safety standards accepted by world shipowners. Korean shipowners have asked the Korean government to relax the tax situation and deregulate the Korean ship registry system (The Korean second registry was set up at 1 January, 1999).

7.7 Depreciation in Ships

With a shorter shipping cycle now in vogue the period of depreciation is getting shorter. Respondents would expect larger depreciation rates to apply in the future, making some investment even more risk prone than was the case.

7.8 Strategic Alliance in Shipping

Within the present shipping market, strategic alliances have been the main issue for most shipowners. The diversified needs of shippers require shipowners to expand service areas, to upgrade service frequencies, and be better attuned to customer

needs at competitive rates. Shipowners should ally with other shipping companies, in order to meet by co-operation the user's needs in this globalised shipping market. Therefore, seeking strategic alliances is part of the shipowner's decision-making process in shipping investment.

Respondents suggested that the aim of the alliance was in order to facilitate the expansion of the service and achieve cost savings in the before-liberalisation period, but the priority was changed to first cost saving and then to the expansion of service after liberalisation, because of the present severe competitive market in rates and service provision.

The respondents' view of partnerships with European and American shipping companies was generally favourable, reflecting their existence on principal trade routes.

Chapter VIII : The Strategic Model Revisited

8.1 Introduction

In order to test the main hypothesis in this thesis we asked financial managers in Korean shipping, who make investment decisions, to consider what changes they would make to their decisions after the liberalisation of the shipping business. The results show that some strategies were implied by respondents in order to raise capital under the new system of trading. These strategies are examined and a strategic model developed which can be a useful guide to financial managers.

8.2 Modifications to the Strategic Model

The basic strategic model for shipping was outlined in Chapter 2 where in section 2.2.2 the listed attributes were given :

(i) The Korean shipping industry is a regulated industry of its own government.

A characteristic of shipping in a developing country is that the regulations imposed by its own country have always been regarded as the most important element. This is because the shipping industry is defined as an infant industry and a government subsidy is usually an essential. For the research results of this survey, it can be shown that foreign regulations such as FMC of the U.S are now a more powerful mechanism influencing Korean shipping in particular, rather than that of its own country (Korea). This means that this shipping industry is no longer limited by its need for national protectionist measures, but it is affected by international regulations especially those of the U.S.A, which is the largest trading country in the

world.

(ii) Shipping investment is largely influenced by demand side of the shipping market.

Shipping investment has in the past been regarded as influenced by a derived demand for trade volumes. This survey reveals that shipping investment largely depends upon tonnage in use and is a supply side condition,. This would appear to differ from the presumptions of the normal consumption led model of demand. However the supply and demand equation for trade volumes is still the inherent force which influences demand for investment. Say's Law of the market, where supply creates demand, is a relevant factor in the case of shipping provision in Korea. The industry is a strategic element in the South Korean defence effort, confronted as it was in the past by hostile neighbours and isolated from its political and military allies. Supply of available sea transport became a strategic necessity and consequently encouraged the maritime orientation of the industrial effort to self sufficiency.

(iii) Shipping has a medium stage cycle.

Shipping volumes are bound to fluctuate with the general economic cycle relating to trade. The experience of the past few decades has been that these cycles are getting shorter and the investment decisions as well as the strategies for profit maximisation dictate a shorter term horizon for investment decisions and a shorter depreciation period.

(iv) Shipping finance in Korea is directly controlled by government.

Shipping finance in Korea had in the past relied upon government initiatives. Government regulations would be used to rescue shipbuilding companies. Because of the political imperatives associated with national security, the government controlled the availability of shipping finance, in order to prevent over-borrowing by the industry, where the financial consequences were often shielded by other government supports such as subsidies. In this research, it is shown that demand for shipping finance is now largely decided by the prevailing interest rates, determined by the market. Shipping investment activities will in future be determined by commercial considerations and to achieve a more manageable portfolio of investment risk as a consequence of liberalisation.

(v) The attitude of shipping investors in Korea is passive.

Investors' attitudes towards shipping investment are determined largely by the current shipping market situation. They reacted in the past in a passive way to the perceived changes in the market, often later than necessary to avoid financial troubles and had to be bailed out from the consequences by the government. This survey reveals that their attitude has changed from risk-averse to risk mixed (prone+averse) in pursuit of more profitable investments. They are willing now to be pro-active in investment choices and timing, and recognise the less interventionist policies implied by liberalisation of the market.

(vi) Shipbuilding is sourced nationally.

In relation to choice of shipyard, Korean shipyards have been selected by Korean shipping companies as a matter of national policy. The survey results indicate that after liberalisation, Korea remains the country of choice. However Japanese yards are seen as alternatives, especially where a more favourable financial package, as well as technological factors, favours the Japanese.

(vii) Strategic alliances are used for expansion of service.

The survey results show that cost saving is becoming the more frequent reason for a strategic alliance in order to compete with other carriers in the world shipping markets after liberalisation. The efficient utilisation of common resources by means of a strategic alliance, can reduce costs and improve service quality and efficiency. Korean shippers need, however, global alliances with other foreign shipowners, if they are to successfully enter new markets and the survey responses were reflective of these views.

(viii) Partnership with an Asian shipping company.

In the past there was the commonly held perception of having a partnership with another Asian shipowner would best suit the needs of the Korean shipowners because of geographical proximity, common trade routes and shipping practices. Indeed the regional and cultural factors were considered paramount. The survey has shown that the post liberalisation shipowners and others related to the industry would now look favourably on U.S. and European partnerships, because of the need

for a global presence in the market and the internationalisation of the financial provisions. The U.S. partnership route was mentioned by most respondents because of the importance of the Transpacific routes for Korean shipping.

The trend for Korean shipping is marked by the greater emphasis on external sources of finance, shipbuilding, foreign partnerships and a more pro-active role for developing shipping services, investment and profitability, given the exposure to the competitive forces unleashed by liberalisation.

Chapter IX : Cases Reviewed since the Current Financial Crisis

9.1 Introduction

Cases have been observed since the current financial crisis in Korea. Five interviews were carried out after the emergence of the financial crisis in Korea. The respondents were chosen from the sample used in the initial survey to determine whether their views would have altered given the traumatic events of the crisis. The interviews were conducted personally by the author and were intended to act as a check on the validity of the opinions shown in the survey. In essence the respondents had not changed their views on the liberalisation policies of the government. If any, the change in opinion was more resolute towards the liberalisation policies.

9.2 Five Cases Examined

9.2.1 Case : One

(1) The Present Government Shipping Policy

The evidence from this later interview has shown that there will not be any major changes to the government's position, regarding its policy of trade liberalisation following the present financial crisis.

(2) The Shipping Market Situation

The view of this respondent was that the financial crisis at this time in Korea could have positive impacts on the shipping market. It may be difficult for Korean-related industries, but it will function as a brake on the economy where over-production

was leading to unsustainable growth and a possible crisis later in the cycle which could have had a global reach and lead to a later deeper world depression. The Asian economic bubble economies based on high property values and burgeoning export surpluses have now seen a sharp correction, which, if handled with some alterations in currency values and adjustments to securities prices, should allow a gradual recovery with support from the other economies less affected.

For South Korea, the economy has some fundamental strengths, and although the corrections will apply with some severity, the economy is more likely to recover quickly if the IMF loans and the conditions for their support are implemented by the new government. Examination of the past shipping cycles suggests that trade volumes in the next few years are set to rise as are the freight rates for seaborne trade.

(3) Shipping Finance (as a Core Sector of the Shipping Business)

In the view of the respondent the financial markets have already adjusted resulting in lower values for bonds and derivatives as well as equity prices. This has resulted in a much higher threshold for investment returns and higher interest rates. Consequently the shipowners are under pressure to modify their means of financing ship acquisitions and operational practices. The future policy will be to seek more equity based loans, longer term debt financing and foreign loans in hard currencies where earnings can be focused on hard currency markets.

(4) The Return on Shipping Investment

His view was that the returns on shipping investment in the past were usually higher than most domestic industries given the perceived higher risk elements in transport services generally. The changed financial circumstances will encourage investors to seek an even higher premium for this sort of investment putting added pressure on the bottom line outcomes of such investment chosen.

Additionally the period for duration of such loans will have to be longer, if the industry is to be able to compete in the international market where loan terms of the competitors are likely to remain advantageous and the period of the loans are already longer than those available to Korean shipowners.

(5) Choice of Shipyard

The reply as to the choice of shipyard for construction was that it is likely to remain the same as before simply because the devalued Won will be beneficial to those industries whose earnings are in foreign currencies with appreciating values. The South Korean yards are still as efficient as ever, but will probably concentrate on vessels with higher value added, given the likely competition from other Asian yards with even lower currency values following the recent financial crisis.

(6) Depreciation Methods in Shipping

The view was that considering the volatility in shipping markets, motivation to investment at this time is low. Therefore, ship depreciation is longer than before.

(7) Alliance (or Consortia) in Shipping

The respondent was unwilling to consider this question as there were several possible outcomes quite unrelated to the financial crisis.

(8) Attitude to Liberalisation (in relation to the Current Financial Crisis)

The respondent felt that it is always good policy for shipping and shipbuilding to be opened to both competition and transparency and the IMF will be contributing to this openness through the conditions imposed by the loans. Liberalisation was seen as a very necessary process.

(Respondent is from Daewoo Shipbuilding Co.).

9.2.2 Case : Two

(1) The Present Government Shipping Policy

The respondent here felt that there will be no policy changes following the financial turmoil in Korea. However, private alternatives will be sought more frequently by the Korean shipping companies making government initiatives less important in the future.

(2) The Shipping Market Situation

His view was that there has been already some evidence from the shipping market. Imports have dropped, leading to a lower load factor for the vessels. The exchange

rate effect has not yet influenced the market significantly since shipping earnings are still US\$ based. However, the trade volumes are getting lower, in particular for the port of Incheon, the biggest importing port in Korea, is very inactive now, as is the port of Pusan.

(3) Shipping Finance (as a core part of the Shipping Business)

The response was that the BBC/HP funding requires the investing partner to obtain guarantees from domestic banks, at this time the credit worthiness of many Korean banks is suspect and it is getting difficult to obtain the necessary guarantees of the quality necessary to meet international requirements.

(4) The Return on Shipping Investment

His opinion was that the length of ROI is certainly going to be longer, but the ROI rate may not alter.

(5) Choice of Shipyard

In his view Korean and foreign shipyards are asking for US\$ terms for construction which reduces the disadvantage of a depreciated Won. However, the technological competence in Korean shipyards is very high, so shipowners will still be likely to choose a Korean yard when acquiring a ship.

(6) Depreciation Methods in Shipping

The response was that the duration or rate of depreciation in ships has not been affected by this financial crisis because that process is an area for corporate accounting standards within the firm. [However, the interview could have argued that the standards relate to the method adopted and not to the rate on deviation.]

(7) Alliance (or Consortia) in Shipping

The respondent believed that his company was nothing to do with making policy decisions with regard to this possible strategy.

(8) Attitude to Liberalisation (in relation to the Current Financial Crisis)

He felt that in the liberalisation process in Korean shipping nearly all of relevant provisions have been deregulated according to the timetable of the OECD rules.

(Respondent is from the Korean Shipowner's Association, who had previously worked in a bulk company, when he originally answered the questionnaire.)

9.2.3 Case : Three

(1) The Present Government Shipping Policy

This respondent was of the opinion that there would be some changes to the national policy given the crisis at present. The policy of hands-off would lead to some difficulties for some shipping companies which might encourage intervention and a watering down or delay in the liberalisation process, especially now that unemployment is likely to feature as a problem for the economy in the near future.

(2) The Shipping Market Situation

From the perspective of this respondent the crisis has already had an impact on the markets such that rates have already lowered. The rate for a Panamax in grain has dropped between 20-30 % and the fall of 20-30% oil consumption has hit the tanker market in Korea.

(3) Shipping Finance (as a core part of the Shipping Business)

He believed that there will be some room for shipowners, with flexibility in terms of shipping finance, where they can raise money at the appropriate time whenever they need, unlike in the past where shipping investment was at the mercy of government policy and the plan for that year.

The shipowners have in the past not been free to raise funds abroad, instead merchant banks were given this task usually by borrowing short term from overseas lenders and then lend to the shipping company and others on a longer-term basis. The financial crisis has led to these banks becoming strapped for cash, resulting in the calling in of overdrafts and the cancelling of such contracts, it being impossible for borrowers to delay repaying the loans. It is at this time impossible for shipowners to avail themselves of this means of obtaining appropriate long term finance.

(4) The Return on Shipping Investment

This respondent was uncertain as to the likely effects the crisis would have on the ROI given that much of the past investment is in place with ROI figures set for those loans. Clearly the shortage of demand or supply will have an effect, but which will be larger is still unclear at this time.

(5) Choice of Shipyard

The respondent believed that at present the huge rise in interest rates would prevent any investment in shipping other than that already committed. The shipyards would be hard hit as a consequence.

(6) Depreciation Methods in Shipping

The period of depreciation was longer than before, about 18 years or more.

(7) Alliance (or Consortia) in Shipping

The view was that the shipping market is very uncertain because of the fall in trade volumes, therefore in order to share the risks as well as profit, a strategic alliance should be encouraged and this will raise the efficiency in ship operations. The area imbalance in trade volumes and employment of routes etc. should be shared between the several shipping companies.

(8) Attitude to Liberalisation (in relation to the Current Financial Crisis)

The respondent felt that liberalisation in shipping has been a little late ; it should have done earlier. In Korea the decision was delayed for too long and we had to suddenly try to catch up with the others with as yet an incomplete process. This opportunity caused by the crisis and the IMF intervention is good for liberalisation. In particular, for the seafaring side of the economy, the competitiveness implied will be of great benefit to the industry.

(Respondent is from Hyundai Merchant Marine.)

9.2.4 Case : Four

(1) The Present Government Shipping Policy

This respondent suggests that there is no relationship between government shipping policy and the present financial problems. The money for BBC/HP has been already provided to shipowners with long-term loans and it is up to the industry to avail itself of the provisions to date.

(2) The Shipping Market Situation

The view was put that there is no direct relationship with this crisis because the IMF is involved with domestic industries in Korea, not with international business, i.e. shipping. However, the situation in Indonesia and Thailand will affect long-term shipping markets since they are not only competitors in shipping provision, they

also offer major markets for trade and shipment.

(3) Shipping Finance (as a core part of the Shipping Business)

According to the respondent the present situation is that sources of finance are withering, which make it impossible to borrow at present, for the more they borrow, the rate of interest rises. Therefore, it is natural for shipping companies to reduce their investments as well as new ship acquisition excepting vessels ordered already before this crisis.

(4) The Return on Shipping Investment

The response to this question was that there are various variables in relation to ROI : market situation, changes of cost structure, and profitability of the investment. At present, the freight rate is falling, therefore ROI is naturally longer. If the shipping market recovers, the ROI is likely to return to the present value.

The situation of ROI is bad for the short term, it may improve in the long term because at the present time freight rates are believed to be at the bottom of the cycle (lowest rate of freight rate) and in the future the rates are likely to rise.

(5) Choice of Shipyard

The view expressed here is that, from now on, foreign shipowners will be worried about delivery of ships ordered in Korean Shipyards because of the instability of the financial structure of Korean builders. However, Korean builders may still be able

to undertake new-building contracts with their sister shipping companies within the Chaebol system if it continues .

(6) Depreciation Methods in Shipping

The view here is that the duration of depreciation in ship has nothing to do with this financial crisis because that is an area for corporate accounting standards.

(7) Alliance (or Consortia) in Shipping

The response was that this is not a new issue and is already a matter of policy for many shipowners. Alliances between several shipowners still leave the risk that the Korean or other partners may suffer financial collapse because of this crisis. This might result in a breakup of the consortia or put strains on the alliance such that those not directly connected to the financial crisis might be effected and thereby be less willing to proceed with alliances already decided.

(8) Attitude to Liberalisation (in relation to the Current Financial Crisis)

The respondent felt that according to the IMF principles, a company's transparency, as well as the deregulation achieved, ensures that liberalisation in shipping could be accomplished and in fact is still being pursued irrespective of the crisis.

(Respondent is from Hanjin Shipping Co.)

9.2.5 Case : Five

(1) The Present Government Shipping Policy

This respondent believed that government shipping policies could be affected by the present financial difficulties because it is basically impossible for a shipowner to have funds for construction or improvements.

(2) The Shipping Market Situation

He felt that the situation of shippers is difficult, leading to shipping companies having difficulty in marketing activity. Import and export markets are not so well operated in a financial crisis as there is the problem of credit and payments, and the fall in trade volumes would impact on shipping companies. For example, if Indonesia goes for a moratorium on payments of debt, trade transition would be stopped, and the recovery would take a long time. Exchange rates as well as money markets would be unstable which would cause the movement of trade volumes to weaken adding to the problems of shippers. All these impacts will affect particularly the liner shipping industry.

(3) Shipping Finance (as a core element in the Shipping Business)

The view here is that the industry will have a tough time finding willing investors in a situation where existing US\$ loans will be difficult to repay and locally funded operations will have to be postponed given the funding shortage within the economy. In the case of LNG construction, it is impossible for a company to

borrow the additional money required, and have to meet an even higher interest rate if they can borrow.

(4) The Return on Shipping Investment

The respondent would not comment on any likely changes in this respect simply because of the range of variables which go to determining this factor.

(5) Choice of Shipyard

The comment here was that the shipyards themselves will lose credibility if they cannot offer finance to customers and given the close links through the Chaebol system they may become exposed as high risk businesses if the Chaebols themselves have to be split up (according to possible interpretations of the IMF rules).

(6) Depreciation in Ship

An important point was raised by this question : a ship is recorded as a fixed debt on the book value. When the Won depreciates, the amount of debt is increased and the amount of depreciation is also increased automatically. [However, the interview could have mentioned , firstly, that whether the debt increases depend on the currency denomination of the debt and , secondly, the asset book value would be unaffected unless it was recorded in a foreign branch or subsidiary 's accounts.]

(7) Alliance (or Consortia) in Shipping.

The respondent declined to voice an opinion on this topic as it was felt that the alliances being pursued would probably have several factors unrelated to the present financial crisis which would impinge on this policy.

(8) Attitude to Liberalisation (in relation to the Current Financial Crisis)

The response was that, basically, liberalisation in shipping should be done and if there is an area yet un-deregulated, it has to be done, regardless of the financial crisis.

(Respondent is from the Korea Marine Transport Co.)

9.3 Summary

It can be seen from the above responses that the financial crisis is influencing much of the policy deliberations of the management in the industry. The main issues are in addressing the short term problems associated with the shortage of funds and the decline in trade. When these have been overcome, or adjusted to, the respondents were particularly sanguine about the future and were universally in support of the further deregulation of their industry and the trade liberalisation this would bring.

Chapter X : Conclusion

10.1 Hypothesis and Model Tested

This study, first of all, has been aimed at analysing and testing the impact upon Korean shipping of the liberalisation phenomenon, as represented by the WTO/OECD rules. For this purpose, a null hypothesis was set up that assumes there is no change in the Korean shipping industry following liberalisation. The hypothesised model (see, chapter II), which was concerned with Korean shipping and how the nature of the shipping industry itself is established, was also investigated by analysing the responses from Korean shipping managers and policy makers.

In order to do this, the survey was carried out involving the main players in Korean shipping, such as financial managers of shipping companies and banks, policy-makers from government and sales managers from shipbuilding companies. In addition to the questionnaires, interviews and telephone conversations were an integral part of the data collection stage.

Especially, the theoretical approaches in the literature review in the early part of the thesis were very useful and the parts analysed and compared were classified into four different groups. Moreover, another survey was also done in relation to the current financial crisis in Korea using five random respondents.

10.2 Concluding Results

The main conclusion of this research is that Korean shipping has been very strongly influenced by shipping liberalisation. The questionnaires addressed seven key issues : government shipping policy, the shipping market situation, shipping investment, shipping finance, shipyards, depreciation and strategic alliance. Respondents clearly indicated that they recognised a significant change in Korean shipping following liberalisation. In particular, they nearly all acknowledged changes to regulatory impediment factors and financial conditions in shipping investment.

In response to the impact on Korean shipping following liberalisation, the results, perhaps surprisingly, show a unity between the shipping companies, banks, government and shipbuilding companies. As to the research analysis between the four groups, the level of perception to the changes by shipping companies is higher than for the other groups, implying that shipping companies lie at the front line in the shipping market and are therefore more seriously affected by the consequences of a more liberalised trade.

Satisfactory results were derived from testing the hypothesised seven factor model of the existing Korean and general shipping industry. This actually identifies that there have been many changes in accordance with the existing perception of Korean shipping and other shipping matters. As stated previously in chapter 8, it was discovered that there are changes in regulatory and operational terms, such that the market principle is more predominant following liberalisation. Also there are trends to prefer Japanese shipyards and alliance partnerships are more directed

towards U.S. shipping companies. Shipping investment has moved away from being demand-orientated to supply-orientated, and business cycles in shipping are getting shorter, which implies market players have to respond faster.

As to the financial crisis in Korea which was previously mentioned, shipping companies have appealed to the government to lower interest rates, and randomly selected respondents also expect this opportunity may be a constructive turning point, in bringing about a change in the financial system in Korea, promoting a more transparent mechanism.

In conclusion, this thesis reveals, first, that the Korean shipping industry has been undoubtedly changed by the impact of shipping liberalisation and, second, that the hypothesised Korean general shipping model has been severely challenged.

Appendix 1 : Main Survey Questionnaire

The decision-making of shipping investment in Korean shipping and liberalisation

The purpose of this survey is to examine the changes of financial manager's attitude towards shipping investment between the before- and the after-liberalisation as a part of openness being accelerated nationally and internationally, and it is also tested significant differences of financial managers who make a decision in shipping investment between two stages of liberalisation in Korea. The turning point that liberalisation begins was set up the time on the settlement of WTO as well as join of OECD membership.

However, as for the following questions, please, indicate the scale of preference or pick up an appropriate answer as example.

Ex) please, indicate the scale of significance as you think about.....										
(1: the least important, 5 : the most important)										
	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) AAA	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) BBB	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) CCC	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Ex) What would you think about.....										
before liberalisation () after liberalisation ()										
1) AAA 2) BBB 3) CCC										

1. please, give an answer what sort of shipping company you have been engaged in, if you are working for shipping company ?

- 1) shipping company ()
- 2) bank ()
- 3) government ()
- 4) shipbuilding company

I. The following question is related to government shipping policy

1. please, indicate the level of preference among government subsidies system, if you decide to make a shipping investment.

(1: the least important, 5 : the most important)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) operational subsidy	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) construction subsidy	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) financial aid	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) waiver system	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) cargo preference	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) tax benefit	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

2. In Korea, what would you think the level of impediment of the existing regulations against liberalisation (the changes to be required in order to implement the WTO regulations relatively).

(1: the least, 5 : the most)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) appointed route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) route license	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) investment restriction to foreigners	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) ban to buy second-hand v/l	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) limits on business expansion	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) waiver system in liner shipping	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8) waiver system	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
9) ship security system	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
10) vessel-related tax	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
11) ship registry system	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
12) seafarer policy	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

3. please, indicate the level of influences of general regulations by country when you make shipping investment.

(1: the least influential 5: the most influential)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) FMC	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) DG IV	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) Int'l regulations. (IMO, UNCTAD, etc)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) Korean regulations	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

II. The following question is related to shipping market situations

1. how long would you think the term of shipping cycle is ?

<before liberalisation> () <after liberalisation> ()

- 1) 1-5 years 2) 5-10 years 3) 10-20 years 4) 20-30 years 5) 30-50 years 6) others

2. please, point out the level of changes of shipping market situations due to liberalisation.

(1: the least, smallest, shortest 5: the most, largest, longest)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) rates	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) trade volumes	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) tonnage	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) ship price	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) number of scrapings	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) operational performance & productivity	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) shipping cycle	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

3. please, indicate the significance of factors below influenced by ship's supply and demand in decision-making process of shipping investment.

(1: the least important 5: the most important)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) rates	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) market expectations	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) capital availability	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) shipbuilding capacity	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) unit cost of shipyard	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) construction subsidy	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

4. how much would you think the rate on trade routes influences the decision-making process in shipping investment ?

(1: the least influential 5: the most influential)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) transpacific route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) European route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) transatlantic route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) intra-Asia route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) Korean-Japanese route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) south-north route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) niche route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

5. how much would you think the type of vessel influences the shipping market ?
 (1: the least influential 5: the most influential)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) container ship	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) bulk ship	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) tanker	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) specialised ship	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) other ships	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

III. The following question is related to shipping finance

1. please, indicate the level of utilisation of the source of finance, when you make a financial decision-making in shipping investment.

(1: the least 5: the most)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) domestic capital	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) foreign capital	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) internal capital	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

2. please, indicate the level of utilisation of an external financing source among basic methods of acquiring a capital.

(1: the least 5: the most)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) shipyard credit	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) bank finance	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) lease finance	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

3. please, indicate the scale of significance in relation to financial conditions in making a decision of shipping investment.

(1: the least important 5: the most important)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) financial source	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) interest rate	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) loan rate	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) repayment period	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) tax	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) exchange rate	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) inflation rate	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

4. how would you feel the structure of capital in your company ?

(1 : the most unstable 5: the most stable)

before liberalisation					after liberalisation				
1	2	3	4	5	1	2	3	4	5
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

5. please, indicate the cost of capital when you make a financial decision in shipping investment.

(1 : the lowest 5: the highest)

before liberalisation					after liberalisation				
1	2	3	4	5	1	2	3	4	5
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

6. how would you think the degree of a reasonable rate of loan in shipping finance ?

<before liberalisation> () <after liberalisation> ()

- 1) less than 10% 2) between 10-20 % 3) between 20-30 %
 4) between 30-50 % 5) between 50-80 % 6) more than 80%

7. please, indicate the degree of influence of external factors in making shipping investment decision.

(1: the least influence, 5 : the most influence)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) period of ROI	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) decision-maker's attitude towards risk	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) shipping cycle	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) timing factors	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) capital structure	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) confidence in decision-making	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) bank's attitude	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8) financial service level	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

8. how would you think investor's desirable attitude towards risk in financial decision-making in shipping investment ?

<before liberalisation> () <after liberalisation> ()

- 1) risk-prone 2) risk-averse 3) risk mixed (prone+averse) 4) other

9. when would you think suitable timing on investment is ?

<before liberalisation> () <after liberalisation> ()

- 1) top of cycle 2) bottom of cycle 3) turning point 4) other

10. please, point out the level of importance of factors considered into investment decision in shipping regarding ship operation.

(1: the least importance, 5 : the most importance)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) market share	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) profitability (rates)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) load factor	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) fixed cost	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) floating cost	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) choice on route	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) operational service level	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

11. what would you think the most important one among financial conditions, when you acquire a ship in Korea, is ?

	<before liberalisation>	<after liberalisation>
(1) the planned shipping	()	()
(2) bareboat charter on hire purchase	()	()
(3) secondhand ship purchase	()	()

1) source of finance 2) interest rate 3) loan rate 4) repayment period 5) tax

12. what would you think the most preferable method of acquiring a ship in Korea is, as you make a decision in shipping investment ?

<before liberalisation> () <after liberalisation> ()

1) planned shipbuilding 2) bbc/hp 3) second-hand ship

IV. The following question is related to return on shipping investment

1. what would you think the most desirable period of return on investment in shipping is ?

<before liberalisation> () <after liberalisation> ()

1) less than 10 years 2) between 10 and 15 years 3) between 15 and 20 years 4) between 20-25 years 5) more than 25 years 6) other

2. please, tick up what your evaluation method on investment is.

<before liberalisation> () <after liberalisation> ()

1) net present value 2) internal rate of return 3) payback method 4) sensitivity analysis 5) other

V. The following question is related to shipyard

1. which shipyard of countries would you prefer most ?
 <before liberalisation> () <after liberalisation> ()

- 1) Korea 2) United States 3) Japan 4) EU 5) Others

2. please, indicate the level of significance of factors considered in selecting the shipyard.
 (1: the least important, 5 : the most important)

	before liberalisation					after liberalisation				
	1	2	3	4	5	1	2	3	4	5
1) construction capability	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
2) labour force	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
3) technology	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
4) ship-linked industry	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
5) price competitiveness	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
6) non-price competitiveness	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7) exchange rate in market	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8) int'l competitiveness	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

3. which ship registry country would you prefer most as you build a ship ?
 <before liberalisation> () <after liberalisation> ()

- 1) Panama 2) Liberia 3) Greece 4) Korea 5) Others

VI. The following question is related to depreciation

1. how long would you think the period of depreciation is ?
 <before liberalisation> () <after liberalisation> ()

- 1) less than 15 years 2) between 15-20 years 3) more than 20 years 4) other

VII. The following question is related to strategic alliance in shipping

1. please, indicate what the most important factor as you make a strategic alliance in shipping, is.
 <before liberalisation> () <after liberalisation> ()

- 1) expansion of service 2) upgrade of service frequency 3) reduction of transit time
 4) providing the inland service 5) cost saving

2. please, indicate preference to shipping company as partner when you make a strategic alliance in shipping.

<before liberalisation> () <after liberalisation> ()

1) American shipping co. 2) European shipping co. 3) Taiwanese shipping co.
4) Hong Kong shipping co. 4) Japanese shipping co.

name :

name of company :

position :

telephone no.:

I sincerely give you the great gratitude for your considerable responses.

Jin-Hwan Kim

Plymouth Business School (Ph.D. Candidate)

University of Plymouth, U.K.

Appendix 2 : Breakdown of Survey Results

Appendix 2.1 to Chapter. 5 Analysis of Survey Results within Four Groups Table (2)5.1 ~ Table (2)5.30, (pp.206-235)

(2)5.1 Government Shipping Policy

- 5.1.1 Government Subsidy
- 5.1.2 The Level of Impediments to Liberalisation
- 5.1.3 General Regulations by Country

(2)5.2 Shipping Market Situation

- 5.2.1 Shipping Cycle
- 5.2.2 Shipping Market Situation
- 5.2.3 Supply and Demand of Ships
- 5.2.4 Trade Routes
- 5.2.5 Type of Tonnage

(2)5.3 Shipping Finance

- 5.3.1 Source of Finance
- 5.3.2 External Method of Finance
- 5.3.3 Financial Conditions
- 5.3.4 Capital Structure
- 5.3.5 Capital Cost
- 5.3.6 Rate of Loan
- 5.3.7 External Factors to Investment Decision-making
- 5.3.8 Investor's Attitude towards Risk
- 5.3.9 Timing of Shipping Investment
- 5.3.10 Investment Factors Affected by Ship Operation
- 5.3.11 Financial Conditions in Acquiring a Ship
 - (1) Planned Shipbuilding
 - (2) Bareboat Charter on Hire Purchase (BBC/HP)
 - (3) Secondhand Ship Purchase
- 5.3.12 Method of Ship Acquisition in Korea

(2)5.4 Return on Shipping Investment

- 5.4.1 Return on Shipping Investment
- 5.4.2 Evaluation Method on Shipping Investment

(2)5.5 Choice of Shipyard

- 5.5.1 Choice of Country
- 5.5.2 Shipyard Selection
- 5.5.3 Ship Registry Country

(2)5.6 Depreciation in Ships

5.6.1 Depreciation in Ship

(2)5.7 Strategic Alliance in Shipping

5.7.1 Strategic Alliance in Shipping

5.7.2 Preference to Partnership

Appendix 2.2 to Chapter 6. Comparison between the Four Groups

Table (2)6.1~ Table (2)6.30, (pp.236-281)

(2)6.1 Government Shipping Policy

(2)6.1.1 Government Subsidy

(1) Shipping Company

(2) Banking Sector

(3) Government Sector

(4) Shipbuilding Company

(2)6.1.2 The Level of Impediments to Liberalisation

(1) Shipping Company

(2) Banking Sector

(3) Government Sector

(4) Shipbuilding Company

(2)6.1.3 General Regulations by Country

(1) Shipping Company

(2) Banking Sector

(3) Government Sector

(4) Shipbuilding Company

(2)6.2 Shipping Market Situation

(2)6.2.1 Shipping Cycle

(1) Shipping Company

(2) Banking Sector

(3) Government Sector

(4) Shipbuilding Company

(2)6.2.2 Shipping Market Situation

(1) Shipping Company

(2) Banking Sector

(3) Government Sector

(4) Shipbuilding Company

(2)6.2.3 Supply and Demand of Ships

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.2.4 Trade Routes

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.2.5 Type of Tonnage

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3 Shipping Finance

(2)6.3.1 Source of Finance

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Sector

(2)6.3.2 External Method of Finance

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.3 Financial Conditions

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.4 Capital Structure

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Sector

(2)6.3.5 Capital Cost

- (1) Shipping Sector
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.6 Rate of Loan

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.7 External Factors to Investment Decision-making

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Sector

(2)6.3.8 Investor's Attitude towards Risk

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.9 Timing of Shipping Investment

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.10 Investment Factors Affected by Ship Operation

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.11 Financial Conditions in Acquiring a Ship

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.3.12 Method of Ship Acquisition in Korea

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.4 Return on Shipping Investment

(2)6.4.1 Return on Shipping Investment

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.4.2 Evaluation Method on Shipping Investment

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.5 Choice of Shipyard

(2)6.5.1 Choice of Country

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.5.2 Shipyard Selection

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.5.3 Ship Registry Country

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.6 Depreciation in Ships

(2)6.6.1 Depreciation in Ship

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.7 Strategic Alliance in Shipping

(2)6.7.1 Strategic Alliance in Shipping

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

(2)6.7.2 Preference to Partnership

- (1) Shipping Company
- (2) Banking Sector
- (3) Government Sector
- (4) Shipbuilding Company

Appendix 2.1 to Chapter. 5 Analysis of Survey Results within Four Groups

(2)5.1 Government Shipping Policy

In order to test the hypothesis that the liberalisation move will not affect the Korean shipping, bank, government and shipbuilding industry, this government's shipping policy was examined first. Three questions related to government subsidy, other impediments of the existing regulations against liberalisation and the general international regulations requiring changes.

5.1.1 Government Subsidy

The question of government subsidy was drawn to test how respondents consider this factor, before they make a decision to finance shipping investment. Like shipping is known as a protected industry, especially in a developing country, Korea also practiced this mechanism of protectionism in world shipping). The financial managers of Korean shipping were asked to indicate the scale of importance of a number of issues, comparing the before- and after-liberalisation in Korean shipping, as set out in the Table (2)5.1.

This Table (2)5.1 demonstrates the difference in the importance of a government subsidy between before- and after-liberalisation when the financial managers, policy makers and sales managers in four sectors decides to make a shipping investment.

Table (2)5.1 Government Subsidy (Mean Likert Score)

	Before	After
operational subsidy	3.1719	2.4219
construction subsidy	3.3594	2.7969
financial aid	4.0000	3.5075
waiver system	3.4000	2.5385
cargo preference	3.2813	2.4844
tax benefit	3.9254	4.1194
Overall mean	3.5230	2.9781

With regard to the period of before-liberalisation, both financial aid (m=4.00) and the tax benefit (m=3.92) of the government subsidy system were at the same time given the highest priority, and operational subsidy (m=3.17) was of lowest importance. On the other hand, for the after-liberalisation period, these two factors (tax benefit m=4.11, financial aid m=3.50) were also regarded being of greater importance by respondents, and operational subsidy (m=2.42) and cargo preference (m=2.48) were of lowest importance. The priority in order was slightly changed for this matter. Therefore, this analysis reveals that respondents within four groups tend to regard these two factors, tax benefit and financial aid, as the most importance factors in terms of the government subsidy system, when they invest. They tended to place the greatest emphasis upon the tax benefit factor for the after-liberalisation period.

The decline in the overall mean score following liberalisation demonstrates that government subsidies are becoming less significant.

5.1.2 The Level of Impediments to Liberalisation

Table (2)5.2 measures the difference in mean Likert score between before- and after- liberalisation in relation to the impediment level of the existing regulations against liberalisation, that is, factors regarded as a kind of barrier which the changes are required to implement the liberalised regulations as WTO and OECD.

Table (2)5.2 The Level of Impediment to Liberalisation (Mean Likert Score)

	Before	After
appointed route	3.4839	2.7258
route license	3.6719	2.9375
investment restriction to foreigners	3.5846	2.7846
ban to buy second-hand vessel	3.6154	2.9077
limits on business expansion	3.4923	2.7538
waiver system in liner shipping	3.1587	2.4603
waiver system in bulk shipping	3.4688	2.7656
ship acquisition system	3.6364	2.9545
vessel-related tax	3.5152	3.6667
ship registry system	3.5758	3.2879

(continued)

seafarer policy	3.4615	3.0154
Overall mean	3.5150	2.9327

For the before-liberalisation period, route license (m=3.67) and ship acquisition system (m=3.63) among the impediment levels were a higher priority, and the waiver system in liner shipping (m=3.15) and seafarer policy (m=3.46) were of lower importance. It also indicates that for after-liberalisation, vessel-related tax (m=3.66) and the ship registry system (m=3.28) were also given greater importance and meanwhile, two factors namely seafarer policy (m=1.19) and the waiver system in liner shipping (m=2.46) were regarded as of lesser importance. As far as this analysis is concerned, the respondents in Korean shipping regard the route license and the vessel-related tax as most important factors in the existing Korean regulations which were impediments to liberalisation. It was, however, implied by respondents that ship acquisition system and the ship registry system is a hot issue at the present time in Korea.

The reduction in the overall mean score following liberalisation demonstrates a reduction in the level of impediment over time.

5.1.3 General Regulations by Country

In Table (2)5.3 is set out the difference in mean Likert score for the before- and after-liberalisation periods, regarding the level of influence of the regulations by country, for decision-making in shipping investment.

Table (2)5.3 General Regulations by Country (Mean Likert Score)

	Before	After
FMC	3.0820	4.0328
DG IV	2.9180	3.0492
Int'l regulations. (IMO, UNCTAD,etc)	3.2031	3.4219
Korean regulations	3.8730	3.4921
Overall mean	3.2690	3.4990

In the before liberalisation case, Korean regulations (m=3.87) among the general regulations was a higher priority, and DG IV of European Union (m=2.91) was of lower priority. The different pattern of responses for the after-liberalisation case was disclosed, such that FMC of American regulation (m=4.03) was given the most preference, and DG IV of European Union (from m=2.91 to m=3.04) was of the least importance among general regulations by country. Therefore, the Korean regulation and American one were taken into account as factors to influence investment decision-making. The American regulation after liberalisation was regarded as the most influential item regarding shipping investment, which Korean shipowner heavily dependent on transpacific market think getting more important route as it was.

Although the mean score for the influence of regulations have slightly increased overall, there was a reduction in the level of importance of Korean regulations.

(2)5.2 Shipping Market Situation

The following analysis was done. These include the shipping cycle, the market situation, the supply and demand of ships, trade routes, and types of tonnage.

5.2.1 Shipping Cycle

In relation to the shipping cycle, each financial manager was asked to mention the difference in the level of importance for the before- and after-liberalisation periods. Frequencies and Wilcoxon Matched-Pairs signed-Ranks Test, are shown in Table (2)5.4.

Table (2)5.4 Shipping Cycle

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	7	10.0	10.0
5-10 years	2	41	58.6	68.6

(continued)

10-20 years	3	19	27.1	95.7
20-30 years	4	3	4.3	100.0
	Total	70	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	23	33.8	33.8
5-10 years	2	35	51.5	85.3
10-20 years	3	9	13.2	98.5
20-30 years	4	1	1.5	100.0
	Total	68	100.0	

Significance Probability for Wilcoxon test (SPSS output) = 0.0001

The results of the analysis reveal that 58.6 % of total respondents to the shipping cycle answered 5-10 years, 27.1% answered 10-20 years, in the case of before-liberalisation. As far as after-liberalisation is concerned, 51.5% and 33.8% for each sample size said 5-10 years and 1-5 years. Therefore, it seems that the period of shipping cycle was getting moved from 5-10 years and 10-20 years to 1-5 years in the after-liberalisation case, comparing the before-liberalisation case.

There was significant difference ($p=0.0001$) between the before-liberalisation and the after-liberalisation case, investigated by using Wilcoxon Matched-Pairs Signed-Ranks Test.

5.2.2 Shipping Market Situation

Respondents were asked for a scale of importance regarding the factors affecting the market situation for the before- and after-liberalisation case, the result was shown in Table (2)5.5.

Table (2)5.5 Shipping Market Situations (Mean Likert Score)

	Before	After
rates	3.2609	3.4493
trade volumes	3.1324	3.4412
tonnage	3.0870	3.6667
ship price	3.1618	3.2353
number of demolition	2.6716	2.9104
operational performance & productivity.	2.9853	3.3088
shipping cycle	3.1739	2.9710
Overall mean	3.0676	3.2832

It was revealed, for the before- liberalisation case, that rates ($m=3.26$) and shipping cycle ($m=3.17$) were of higher importance, and the number of scrapings ($m=2.67$) was of least importance, in connection with the changes in market situation. The financial managers, policy makers and sales managers placed more importance upon tonnage ($m=3.66$) and rates ($m=3.44$), and lower significance upon the number of scrapings ($m=2.91$) and shipping cycle ($m=2.97$) after liberalisation. It tells us that respondents in Korean shipping regarded rates, supply and demand of tonnage among shipping market situations as the most important factors when they decide to invest in shipping. This is also the fundamental factors considered in real shipping market all the time, which tonnage taking into account over-capacity causes lower level of rates in shipping market, as a pending question in shipping industry. One interesting point is that the shipping cycle moved from the second most important in the before-liberalisation case to the second least important in the after-liberalisation case.

Overall there was an increase in the mean response to the importance of shipping market factors following liberalisation.

5.2.3 Supply and Demand of Ships

Each respondents were asked to indicate the scale of importance of various items regarding a ship's supply and demand, as shown in Table (2)5.6.

Table (2)5.6 Supply and Demand of Ship (Mean Likert Score)

	Before	After
rates	4.1884	4.3623
market expectations	3.8286	4.0429
capital availability	3.5000	3.7143
shipbuilding capability	3.1143	3.2143
unit cost of shipyard	3.0857	3.3286
construction subsidy	3.4507	2.9859
Overall mean	3.5280	3.6081

This analysis reveals that rates ($m=4.18$) and market expectations ($m=3.82$) were a higher priority and the unit cost of a shipyard (ship price) ($m=2.90$) was the least priority before liberalisation. At the same time, there was the same pattern of responses for this question after liberalisation, in which rates ($m=4.36$) and market expectations ($m=4.04$) were of higher preference and construction subsidy ($m=2.98$) was the lowest. Each group managers in Korean shipping deemed these two factors, rates and market expectations, as most important ones in relation to the factors that affect a ship's supply and demand between both stages of liberalisation.

The survey remarkably notes that now, respondents no longer consider the ship price (unit cost of shipyard) as an important factor taken into account when they order a vessel.

5.2.4 Trade Routes

Mean Likert responses are indicated for the following routes (see Table (2)5.7).

Table (2)5.7 Trade Route (Mean Likert Score)

	Before	After
transpacific route	3.6724	3.9310
European route	3.4310	3.7241
trans-Atlantic route	2.9474	3.2982
intra-Asia route	3.3000	3.7167
Korean-Japanese route	2.8305	3.2712
south-north route	2.1228	2.5789
niche route	2.5370	3.0000
Overall mean	2.9773	3.3600

The transpacific route (m=3.67) and the European route (m=3.43), the so-called principal routes, were of higher significance and the north-south trade (m=2.12) and niche route (m=2.53) were of lower significance before liberalisation. As shown at before liberalisation, there was more weight placed on the transpacific route (m=3.93) and European routes (m=3.72), and less weight on the north-south route (m=2.57) and the niche market (m=3.00) after liberalisation. Each managers in Korean shipping showed that the rates on the transpacific route, European route was of most importance when they take account of shipping investment, at both before- and after-liberalisation.

Obviously, it is true for Korean shipping to place a weight upon these two routes because of the importance and share it occupies. Surprisingly, there were significant differences between before and after liberalisation on all the routes. This may be translated as the marketability of all trade routes, gaining in importance because of changes in global shipping routes and environments. Therefore, it can be identified that respondents actually recognised the present route situations affected by the global and liberalised shipping markets in world.

5.2.5 Type of Tonnage

The level of importance in tonnage was determined according to the ship's type.

Table (2)5.8 Type of Tonnage (Mean Likert Score)

	Before	After
container ship	3.5714	4.0635
bulk ship	3.6308	3.8769
tanker	3.4032	3.5968
specialised ship	2.5714	2.9206
other ships	2.3043	2.5652
Overall mean	3.0962	3.4046

The results show that the bulk ship (m=3.63) and container ship (m=3.57) were of higher importance and other ship such as cruise vessel (m=2.30) and specialised

ship ($m=2.57$) were of less importance before liberalisation. The ordering priority of top two priority was conversely situated between two stages of liberalisation. This means container shipping is the sector that has been much more emphasised at the present time of container shipping, including the Korea. Furthermore, all factors were found more important after liberalisation, compared with before liberalisation.

(2)5.3 Shipping Finance

The following questions were considered in terms of the hypothesis : the source of finance, external method of financing, financial conditions, capital structure, capital cost, rate of loan, external factors to influence an investment decision, investor's attitude towards risk, timing of investment, investment factors affected by ship operation, financial conditions in relation to ship acquisition in Korea, and preference in ship acquisition method.

5.3.1 Source of Finance

The each group managers were asked to indicate the utility level of source of finance both before and after liberalisation.

Table (2)5.9 Source of Finance (Mean Likert Score)

	Before	After
domestic capital	3.1250	2.9821
foreign capital	3.4655	4.2931
internal capital	2.3750	2.3214
Overall mean	2.9885	3.1989

In this analysis, it was revealed that the foreign capital ($m=3.46$) as the financial source had the highest priority and the lowest one was internal capital ($m=2.37$) before liberalisation. Equally, it had a same pattern of responses after liberalisation. As expected, it was revealed that the foreign capital ($m=4.29$) was considered as of highest priority after liberalisation, because its presumed lower rate of interest.

5.3.2 External Method of Finance

In Table (2)5.10 is shown the significant difference in the utility level of external sources of finance for raising capital in shipping finance, with comparisons between before and after liberalisation.

Table (2)5.10 External Method of Finance (Mean Likert Score)

	Before	After
shipyard credit	2.8000	2.3818
bank finance	3.7018	3.8246
lease finance	2.9818	3.5273
Overall mean	3.1612	3.2446

Bank finance (m=3.70) is seen as the top priority and shipyard credit (m=2.80) was the lowest before liberalisation. It has the same ordering after liberalisation. Consequently, each group managers in Korean shipping took bank finance as the most important factor in deciding to raise capital. Particularly, it was shown that bank finance (m=3.82) was the most significant factor after liberalisation.

5.3.3 Financial Conditions

This analysis is related to the significant difference in financial conditions considered by respondents joined in the survey before and after liberalisation.

Table (2)5.11 Financial Conditions (Mean Likert Score)

	Before	After
financial source	3.5088	3.7544
interest rate	4.2241	4.4655
loan rate	3.8621	4.0690
repayment period	3.7544	4.0877
tax	3.3860	3.7544
exchange rate	3.2982	4.0351
inflation rate	3.1053	3.4035
Overall mean	3.5913	3.9385

It was observed that interest rates (from m=4.22 to m=4.46) held the higher priority

and of lowest significance was the inflation rate (from $m=3.10$ to $m=3.40$) for both stages of liberalisation. Hence, it can be said that interest rate was more significant among financial conditions for decision makers in Korean shipping investment. Especially, this was the most important factors after liberalisation.

Each financial factor was of higher significance after liberalisation.

5.3.4 Capital Structure

Table (2)5.12 reveals the results of the significance of stability in the capital structure of a Korean shipping company, for the pre and post stages of liberalisation.

Table (2)5.12 Capital Structure (Mean Likert Score)

	Before	After
capital structure	3.2000	3.3600

As for the stability of capital structure, the significance (from $m=3.20$ to $m=3.36$) was higher after liberalisation than before liberalisation.

5.3.5 Capital Cost

The next aspect concerns the difference in capital cost in financial decision-making in a Korean shipping company before and after liberalisation.

Table (2)5.13 Capital Cost (Mean Likert Score)

	Before	After
capital cost	3.0588	3.0392

The capital cost factor became less important after liberalisation than before, although the differences are very small.

5.3.6 Rate of Loan

Table (2)5.14 is based on the analysis of the significant differences between the rate of loan financed from a bank in terms of the percentage of price, pre and post liberalisation periods, using both Frequencies test and Wilcoxon Matched-Pairs Signed-ranks Test.

Table (2)5.14 Rate of Loan

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	3	5.3	5.3
between 10-20%	2	3	5.3	10.5
between 20-30%	3	7	12.3	22.8
between 30-50%	4	8	14.0	36.8
between 50-80%	5	12	21.1	57.9
more than 80%	6	24	42.1	100.0
		Total	57	100.0

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	2	3.4	3.4
between 10-20%	2	3	5.2	8.6
between 20-30%	3	7	12.1	20.7
between 30-50%	4	5	8.6	29.3
between 50-80%	5	15	25.9	55.2
more than 80%	6	26	44.8	100.0
		Total	58	100.0

Significance Probability for Wilcoxon test (SPSS output) = 0.1996

From the frequencies, 42.1% of the total respondents thought 'more than 80%' and 21.1% of them said 'between 50-80%' as the reasonable rate of loan before liberalisation, and the same ordering was shown after liberalisation. Therefore, 'more than 80%' of the loan rate was the most important factor after liberalisation, and before. It was again tested by a Nonparametric test to know the significant

difference between the before- and the after-liberalisation. However, the answer ($p=0.1996$) shows that there was no significant difference.

5.3.7 External Factors to Investment Decision-making

The next section analyses the difference in the external factors, influencing in the decision-making process, between the before- and the after-liberalisation periods.

Table(2) 5.15 External Factor to Investment Decision-making (Mean Likert Score)

	Before	After
period of ROI	3.7193	4.1579
decision-maker's attitude towards risk	3.6140	4.0526
shipping cycle	3.5789	3.8947
timing factors	3.7544	4.1579
capital structure	3.3860	3.7719
confidence in decision-making	3.2500	3.3929
bank's attitude	3.1754	3.4211
financial service level	3.1228	3.5614
Overall mean	3.4501	3.8013

Two factors, timing factors ($m=3.75$) and period of return on investment ($m=3.71$), were of higher preference, and financial service level ($m=3.12$) and bank's attitude ($m=3.17$) together were of lower significance before liberalisation. There was change in order of preference after liberalisation, such as aforesaid two factors have same price ($m=4.15$) of higher importance and confidence in decision-making ($m=3.39$) and bank's attitude ($m=3.42$) of lower importance. Accordingly, it transpired that these two factors, timing factors of investment and period of return on investment, were considered the most important ones when each group managers in Korean shipping decide to make a shipping investment. The timing factors and period of return on investment was regarded as more important factors after liberalisation.

All external factors were found to be becoming more important to investment decision-making after liberalisation.

5.3.8 Investor's Attitude towards Risk

Table (2)5.16 relates to the differences between the investor's attitude towards risk, before- and after-liberalisation periods, using Frequencies and 2 related samples of Nonparametric Tests.

Table (2)5.16 Investor's Attitude towards Risk

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	5	8.6	8.6
risk averse	2	24	41.4	50.0
risk mixed (prone+averse)	3	29	50.0	100.0
		-----	-----	
	Total	58	100.0	

After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	5	8.6	8.6
risk averse	2	17	29.3	37.9
risk mixed (prone+averse)	3	36	62.1	100.0
		-----	-----	
	Total	58	100.0	

Significance Probability of Ranks (SPSS) = 0.3298

By using frequencies, 50.0% of total respondents answered 'risk-mixed (prone+averse)' and 41.4% of them responded 'risk averse' for the before-liberalisation case. As far as the after-liberalisation period is concerned, 62.1% of them pointed out 'risk mixed' and 29.3% of total respondents indicated risk-averse. Accordingly, respondents regarded the 'risk mixed' case as the most important factor in both before and after liberalisation. However, by the Wilcoxon Matched-Pairs Signed-Ranks Test, there is no significant difference ($p=0.3298$) between two stages of liberalisation.

5.3.9 Timing of Shipping Investment

The next question regards the timing of investment in shipping in order to look at a significant difference between the situations before and after liberalisation.

Table (2)5.17 Timing of Shipping Investment

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	12	20.3	20.3
bottom of cycle	2	23	39.0	59.3
turning point	3	23	39.0	98.3
other	4	1	1.7	100.0
		-----	-----	
	Total	59	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	2	3.4	3.4
bottom of cycle	2	23	39.0	42.4
turning point	3	32	54.2	96.6
other	4	2	3.4	100.0
		-----	-----	
	Total	59	100.0	

Significance Probability of Ranks (SPSS) = 0.0045

From the frequencies analysis, 39.0% of the total responded 'bottom of cycle' and 'turning point', 20.3% of them indicated 'top of cycle' as an important factor before liberalisation. Meanwhile, 54.2% of respondents answered 'turning point' and 39.0% of them said 'bottom of cycle' after liberalisation. So, it can be observed that the 'turning point' was regarded as the more important factor in both before and after liberalisation.

Based on Nonparametric testing, it was revealed that there is a significant difference (p=0.0045) between the before- and the after-liberalisation case.

5.3.10 Investment Factors Affected by Ship Operation

The following tables indicates differences, for the factors associated with

ship operation in the investment decision-making process, between the before- and the after- liberalisation periods.

Table (2)5.18 Investment Factors Affected by Ship Operation(Mean Likert Score)

	Before	After
market share	3.3455	3.7091
profitability (rates)	4.1455	4.5091
load factor	3.5098	3.6667
fixed cost	3.4364	3.6182
floating cost	3.3636	3.6182
choice on routes	3.5926	3.7963
operational service level	3.4444	3.9815
Overall mean	3.5483	3.8427

Profitability (rates) (m=4.14) and choice on routes (m=3.59) were a higher preference and market share (m=3.34) was of the lowest importance before liberalisation. For the after-liberalisation stage, profitability (rates) (m=4.50) and operational service level (m=3.98) were the more important factors, and fixed cost (m=3.61) and the floating cost (m=3.61) were of lower significance. Profitability (rates) and operational service level were considered as more important factors, and in particular, profitability (rates) during the after-liberalisation periods was a top priority. As far as operational service level is concerned, it reflects a growing concern and the importance of the customer's service in the present shipping market.

Each factor was rated of higher importance after liberalisation.

5.3.11 Financial Conditions in Acquiring a Ship

The next three results test whether there is a significant difference in financial conditions in securing a ship by Korean investors, by a way of planned shipbuilding, bareboat charter on hire purchase (BBC/HP) and secondhand purchase. Comparisons made between the before- and the after-liberalisation periods.

(1) Planned Shipbuilding

Table (2)5.19 Planned Shipbuilding

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	11	19.3	19.3
interest rate	2	32	56.1	75.4
loan rate	3	11	19.3	94.7
repayment period	4	1	1.8	96.5
tax	5	2	3.5	100.0
	Total	57	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	3	5.3	5.3
interest rate	2	38	66.7	71.9
loan rare	3	12	21.1	93.0
period of repayment	4	1	1.8	94.7
tax	5	3	5.3	100.0
	Total	57	100.0	

Significance Probability of Ranks (SPSS) = 0.1422

For the two stages of liberalisation in relation to the planned shipbuilding, there is the same pattern of priority. The former showed that 56.1% of respondents pointed out 'interest rate'. The latter pointed out that 66.7% chose 'interest rate'.

Interest rates for both stages of liberalisation, was the most important factor in Korea. This means that financial managers, policy-makers and sales managers in Korean shipping industry still regarded the interest rate as a decisive factor when they decide to make a shipping investment by means of a planned shipbuilding. This system operated by the Korean government was devised to make Korean shipowners compulsorily use funds from the Korean Industrial Bank with a relatively high interest rate compared with foreign money. Therefore, the interest rate has been regarded as a very important factor by Korean shipping

managers, in utilising this system.

By using the Wilcoxon Matched-pairs Signed-ranks Test, it was shown that there was no significant difference ($p=0.1422$) between the before- and the after-liberalisation cases.

(2) Bareboat Charter on Hire Purchase (BBC/HP)

Under this system the Korean shipowner builds a ship with Korean or a foreign bank's money under the maximum amount permitted by the government, through a paper company in case of foreign money established at an overseas country by the Korean shipping company in order to raise capital, and once financed, this money should be used to construct a ship at either a Korean yard or a foreign yard.

Table (2)5.20 Bareboat Charter on Hire Purchase

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	9	15.3	15.3
interest rate	2	34	57.6	72.9
loan rate	3	6	10.2	83.1
repayment period	4	7	11.9	94.9
tax	5	3	5.1	100.0
		-----	-----	
	Total	59	100.0	

After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	6	10.3	10.3
interest rate	2	36	62.1	72.4
loan rate	3	8	13.8	86.2
repayment period	4	7	12.1	98.3
tax	5	1	1.7	100.0
		-----	-----	
	Total	58	100.0	

Significance Probability of Ranks (SPSS) = 0.9176

From the frequencies test BBC/HP, 57.6% of total respondents indicated 'interest rate' as an important factor before liberalisation, and 62.1% of them answered 'interest rate' after liberalisation as well.

Each group managers took the interest rate into account as the most important factor in this investment activity. It was disclosed that the interest rate after liberalisation was regarded more significant than before liberalisation, and that other factors were treated as either of more importance or less, respectively. This means that post liberalisation Korean shipping managers have come to be concerned with other factors such as loan rate and repayment period more relatively than the interest rate. However, the interest rate was still the most significant factor for both stages, and the interest rate at a Korean bank is still higher than that of a foreign bank.

By Nonparametric testing, it was presented that there is no a significant difference ($p=0.9176$) between the before-liberalisation and the after-liberalisation cases.

(3) Secondhand Ship Purchase

Table (2)5.21 Secondhand Ship Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	15	26.3	26.3
interest rate	2	15	26.3	52.6
loan rate	3	12	21.1	73.7
repayment period	4	7	12.3	86.0
tax	5	8	14.0	100.0
		-----	-----	
	Total	57	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	10	17.9	17.9
interest rate	2	20	35.7	53.6
loan rate	3	11	19.6	73.2
repayment period	4	9	16.1	89.3

(continued)

tax	5	6	10.7	100.0
		-----	-----	
	Total	56	100.0	

Significance Probability of Ranks (SPSS) =0.4202

In this analysis of secondhand purchase options, 26.3% of respondents selected 'interest rate' and source of finance respectively before liberalisation and 35.7%, 19.6% of them responded the interest rate, loan rate after liberalisation. The rate of interest after liberalisation was shown to be of more importance than before liberalisation, as repayment period were becoming relatively more important.

From Nonparametric tests, there was no significant difference ($p=0.4202$) between the before- and the after-liberalisation case.

In summary, financial managers in Korean shipping have regarded the rate of interest as the most important factor, in both absolute and relative terms, when they make a decision in shipping investment, furthermore, the importance is getting higher in all three parts in whether the planned shipbuilding or BBC/HP or secondhand purchase options. They come to be interested in other factors, in relative terms, after liberalisation, including the options such as all three options of ship acquisition system. This means that a competitive financial package to investors is, to some extent, judged from more value-added financial service these days. However, the interest rate for all three parts was shown to be more important after liberalisation, compared with before liberalisation. There is now a tendency for the Korean shipowner reluctant to use this condition to raise money in building a ship, especially after liberalisation, which compulsory options to use this terms were removed.

5.3.12 Method of Ship Acquisition in Korea

Table (2)5.22 relates to the ship acquisition programme making comparisons pre and post liberalisation, using frequencies and Nonparametric testing.

Table (2)5.22 Method of Ship Acquisition in Korea

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	17	30.4	30.4
bbc/hp	2	33	58.9	89.3
second-hand ship	3	6	10.7	100.0
		-----	-----	
	Total	56	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	1	1.8	1.8
bbc/hp	2	46	83.6	85.5
second-hand ship	3	7	12.7	98.2
	4	1	1.8	100.0
		-----	-----	
	Total	55	100.0	

Significance Probability of Ranks (SPSS) = 0.0035

From the frequencies, 58.9% of respondents chose BBC/HP in the case of before-liberalisation, and (83.6%) was shown in the after-liberalisation case. An interesting feature was that BBC/HP and secondhand purchase options were more significant in after liberalisation, but planned shipbuilding diminished in preference after liberalisation, moving its share towards aforesaid two factors, mainly to BBC/HP, Korean shipowners are less interested in this option as it is non-competitive financial package under deregulation of the financial markets.

The Nonparametric analysis suggests that there was significant difference (p=0.0035) between the results before and after liberalisation.

(2)5.4 Return on Shipping Investment

To test the main hypothesis, further questions relate to the return on shipping investment and the evaluation method of shipping investment.

5.4.1 Return on Shipping Investment

In Table (2)5.23 this is an evaluation of a reasonable period of return on investment in shipping, with comparisons between before and after liberalisation, by the two testing methods previously adopted.

Table (2)5.23 Return on Shipping Investment

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	10	17.2	17.2
between 10 and 15years	2	31	53.4	70.7
between 15 and 20 years	3	14	24.1	94.8
between 20 and 25 years	4	3	5.2	100.0
		-----	-----	
	Total	58	100.0	

After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	16	27.1	27.1
between 10 and 15 years	2	31	52.5	79.7
between 15 and 20 years	3	10	16.9	96.6
between 20 and 25 years	4	2	3.4	100.0
		-----	-----	
	Total	59	100.0	

Significance Probability of Ranks (SPSS) = 0.0654

Results revealed that 53.4% of total respondents chose 'between 10-15 years' and 21.4% of them chose 'between 15-20 years' for the before-liberalisation case. For the after-liberalisation, 52.5% of respondents said 'between 10-15 years' and 27.1% of responding managers said 'less than 10 years'. The case of 'less than

10 years' was relatively more important, instead, 'between 10 and 20 years' is getting less important between the two stages of liberalisation. They regarded the period of return on shipping investment as being relatively shorter after liberalisation. Half of them believe 'between 10-15 years' as the most important factor in both stages.

As far as a significant difference is concerned, there was no change ($p=0.0654$) between the before-liberalisation and the after-liberalisation periods.

5.4.2 Evaluation Method on Shipping Investment

In Table (2)5.24 the evaluation method was tested, with comparisons between the situations before and after liberalisation.

Table (2)5.24 Evaluation Method on Shipping Investment

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	20	55.6	55.6
internal rate of return	2	11	30.6	86.1
payback method	3	5	13.9	100.0
		-----	-----	
	Total	36	100.0	

After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	17	44.7	44.7
internal rate of return	2	15	39.5	84.2
payback method	3	5	13.2	97.4
	4	1	2.6	100.0
		-----	-----	
	Total	38	100.0	

Significance Probability of Ranks (SPSS) = 0.3505

Accordingly, 55.6% of respondents preferred the NPV method and 30.6% of them identified the IRR method for the before-liberalisation period. Similar results

for the after-liberalisation phase. The NPV method of both stages was of the highest significance.

As far as a significant difference is concerned, there was no change ($p=0.3505$) between the before- and the after-liberalisation periods.

(2)5.5 Choice of Shipyard

In order to test the hypothesis, the following analysis was performed regarding the country's shipyards, the selection factors to shipyard and the ship registry countries.

5.5.1 Choice of Country

In Table (2)5.25 was included the result of a significant difference regarding the shipbuilding country selected by shipping company to build in a ship, making comparisons between the before- and the after-liberalisation periods.

Table (2)5.25 Country's Shipyard

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	48	87.3	87.3
Japan	3	6	10.9	98.2
Europe	4	1	1.8	100.0
		-----	-----	
	Total	55	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	39	73.6	73.6
America	2	1	1.9	75.5
Japan	3	12	22.6	98.1
others	5	1	1.9	100.0
		-----	-----	
	Total	53	100.0	

Significance Probability of Ranks (SPSS) = 0.2097

By frequencies, 87.3% of respondents pointed out a Korean shipyard and 10.9%, a Japanese one, for the before-liberalisation case. In the case of after-liberalisation, 73.6% chose Korea and 22.6%, Japan. The preference for a Korean shipyard was relatively higher than for a Japanese one before liberalisation, but, some portion of Korean one moves to Japanese one after liberalisation.

By the Wilcoxon Matched-Pairs Signed-Ranks Test, it was analysed that there was no a significant difference ($p=0.2097$) between the before- and the after-liberalisation case.

5.5.2 Shipyard Selection

For this question, each group managers were asked to indicate the scale of significance in relation to factors considered by a shipping company when building a ship.

Table (2)5.26 Shipyard Selection (Mean Likert Score)

	Before	After
construction capability	3.6852	3.7963
labour force	3.2222	3.2778
technology	4.1091	4.2727
ship-linked industry	3.0741	3.2593
price competitiveness	4.2727	4.5636
non-price competitiveness	3.2407	3.5741
exchange rate in market	3.2222	3.8519
int'l competitiveness	3.4630	3.9074
Overall mean	3.5362	3.8129

The price competitiveness ($m=4.34$) and technology ($m=4.23$) were of higher importance and "ship-linked" industry ($m=2.80$) was the lowest one. The same ordering ($m=4.73$, $m=4.30$) was shown in the after-liberalisation case. Therefore, these two factors, price-competitiveness for cost aspects and technology for the hi-tech vessel, were considered as more important factors by each group managers when making a decision to invest in shipping both before and after liberalisation. The price competitiveness was the first priority for both stages.

Each factor was considered as becoming more important after liberalisation.

5.5.3 Ship Registry Country

We examine the difference in relation to the country of ship registry between the before- and after-liberalisation periods.

Table (2)5.27 Ship Registry Country

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	40	72.7	72.7
Liberia	2	8	14.5	87.3
Greece	3	2	3.6	90.9
Korea	4	5	9.1	100.0
		-----	-----	
	Total	55	100.0	

After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	36	64.3	64.3
Liberia	2	13	23.2	87.5
Greece	3	1	1.8	89.3
Korea	4	4	7.1	96.4
others	5	2	3.6	100.0
		-----	-----	
	Total	56	100.0	

Significance Probability of Ranks (SPSS) = 0.4955

72.7% of respondents named Panama and 14.5% of them pointed out Korea before liberalisation. For the after-liberalisation case, 64.3% chose Panama and 23.2%, Liberia. Accordingly, the position of Panama was getting ever less important, and it was shown that respondents preferred Liberia to Panama and Korea relatively in after-liberalisation case.

There was no significant difference ($p=0.4955$) between the situations before and

after liberalisation.

(2)5.6 Depreciation in Ships

The subsequent question was checked to identify the period of depreciation in ship before and after liberalisation.

5.6.1 Depreciation in Ship

Table (2)5.28 Depreciation in Ship

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	12	20.0	20.0
between 15 and 20 years	2	39	65.0	85.0
more than 20 years	3	9	15.0	100.0
	Total	60	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	23	37.7	37.7
between 15 and 20 years	2	29	47.5	85.2
more than 20 years	3	9	14.8	100.0
	Total	61	100.0	

Significance Probability of Ranks (SPSS) = 0.0883

From the Table (2)5.28, 65.0% of respondents confirmed 'between 15-20 years' and 20.0%, 'less than 15 years' for the before-liberalisation. After liberalisation, 47.5% chose 'between 15-20 years' and 37.7% 'less than 15 years'. Therefore, the respondents thought the depreciation period in ships was getting shorter after liberalisation.

By the Nonparametric testing, it was shown that there was no significant difference

($p=0.0883$) between the cases before and after liberalisation.

(2)5.7 Strategic Alliance in Shipping

To test the hypothesis established, the purpose of an alliance and the partnership preferences were analysed.

5.7.1 Strategic Alliance in Shipping

The significance of the difference between the purpose of strategic alliance by shipping company before and after liberalisation was evaluated.

Table (2)5.29 Strategic Alliance in Shipping

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	30	53.6	53.6
upgrade of service frequency	2	3	5.4	58.9
reduction of transit time	3	1	1.8	60.7
providing the inland service	4	1	1.8	62.5
cost saving	5	21	37.5	100.0
	Total	56	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	15	26.3	26.3
upgrade of service frequency	2	6	10.5	36.8
reduction of transit time	3	4	7.0	43.9
cost saving	5	32	56.1	100.0
	Total	57	100.0	

Significance Probability of Ranks (SPSS) = 0.0056

Following the analysis of results, 53.6% of respondents pointed out 'expansion of service area', and 37.5%, 'cost savings' before liberalisation. Meanwhile, for the

after-liberalisation case, 56.1% selected 'cost savings' and 26.3%, 'expansion of service area'. The expansion of the service area was becoming relatively less important, than in case of cost saving. This means that they are concentrating on more competition of trade trades pursuing the fruitful profit-making policy only. It was also shown that there was a significant difference ($p=0.0056$) between the situations before and after liberalisation.

5.7.2 Preference to Partnership

The Table (2)5.30 is set out to reveal differences in relation to partner's nationality desired by Korean shipping when they decide to make a strategic alliance.

Table (2)5.30 Preference to Partnership

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	10	21.7	21.7
European shipping co.	2	19	41.3	63.0
Taiwanese shipping co.	3	3	6.5	69.6
HongKong shipping co.	4	1	2.2	71.7
Japanese shipping co.	5	13	28.3	100.0
	Total	46	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	11	23.4	23.4
European shipping co.	2	21	44.7	68.1
Taiwanese shipping co.	3	3	6.4	74.5
HongKong shipping co.	4	3	6.4	80.9
Japanese shipping co.	5	9	19.1	100.0
	Total	47	100.0	

Significance Probability of Ranks (SPSS) = 0.2668

By frequencies analysis, as a partner to an alliance, 41.3% of respondents answered 'European shipping company' and 28.3%, 'Japanese one' before liberalisation. The

different pattern of ordering was shown after liberalisation, European shipping company was getting more important and the Japanese one replaced by American shipping company, getting less important. Using a Wilcoxon Matched-Pairs Signed-Ranks Test, it is shown that there is no significant difference ($p=0.2668$) between the before- and the after-liberalisation periods.

Appendix 2.2 to Chapter 6. Comparison between the Four Groups

An analysis was performed of the impact of liberalisation, with appropriate comparisons between the four groups.

(2)6.1 Government Shipping Policy

(2)6.1.1 Government Subsidy

(1) Shipping Company

Table (2)6.1 Government Subsidy (Mean Likert Score)

	Before	After
operational subsidy	2.6538	2.1154
construction subsidy	2.9286	2.5357
financial aid	4.2069	3.9310
waiver system	3.2500	2.3929
cargo preference	2.8519	2.1111
tax benefit	4.2069	4.5517
Overall mean	3.5164	2.8496

(2) Banking Sector

Table (2)6.1 Government Subsidy (Mean Likert Score)

	Before	After
operational subsidy	3.6667	2.6667
construction subsidy	3.9091	3.2727
financial aid	4.0000	3.4167
waiver system	3.2727	2.9091
cargo preference	3.4545	3.0000
tax benefit	3.6667	3.2500
Overall mean	3.6616	3.0859

(3) Government Sector

Table (2)6.1 Government Subsidy (Mean Likert Score)

	Before	After
operational subsidy	2.9167	2.0000
construction subsidy	3.9091	3.1818
financial aid	3.7500	3.2500
waiver system	3.5000	1.9167
cargo preference	3.5000	2.0000
tax benefit	3.5000	3.6667
Overall mean	3.5126	2.6692

(4) Shipbuilding Company

Table (2)6.1 Government Subsidy (Mean Likert Score)

	Before	After
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	Before	After
operational subsidy	3.9286	3.1429
construction subsidy	3.3571	2.6429
financial aid	3.7857	2.9286
waiver system	3.7143	3.0714
cargo preference	3.7857	3.2143
tax benefit	3.9286	4.3571
Overall mean	3.7500	3.2262

(2)6.1.2 The Level of Impediments to Liberalisation

(1) Shipping Company

Table (2)6.2 The Level of Impediment to Liberalisation (Mean Likert Score)

	Before	After
appointed route	3.7143	2.5357
route license	3.9286	2.9643
investment restriction to foreigners	3.7500	2.7857
ban to buy second-hand vessel	3.9655	3.0345
limits on business expansion	3.6429	2.5714
waiver system in liner shipping	3.0370	2.2963
waiver system in bulk shipping	3.5185	2.7037
ship acquisition system	4.1034	3.0690
vessel-related tax	3.8966	3.2414
ship registry system	4.0345	3.7586
seafarer policy	3.7931	3.2069
Overall mean	3.7622	2.9243

(2) Banking Sector

Table (2)6.2 The Level of Impediment to Liberalisation (Mean Likert Score)

	Before	After
appointed route	3.3000	3.1000
route license	3.4000	3.1000
investment restriction to foreigners	3.7000	2.8000
ban to buy second-hand vessel	3.8000	2.8000
limits on business expansion	3.4000	2.8000
waiver system in liner shipping	3.3000	2.8000
waiver system in bulk shipping	3.5000	2.8000
ship acquisition system	3.2000	2.6000
vessel-related tax	3.4000	6.6000
ship registry system	3.3000	2.8000
seafarer policy	3.3000	2.4000
Overall mean	3.4182	3.1455

(3) Government Sector

Table (2)6.2 The Level of Impediment to Liberalisation (Mean Likert Score)

	Before	After
appointed route	3.2500	2.0833
route license	3.5385	2.3077
investment restriction to foreigners	3.2308	2.3077
ban to buy second-hand vessel	2.9167	2.4167
limits on business expansion	3.4615	2.4615
waiver system in liner shipping	3.0000	2.0000
waiver system in bulk shipping	3.3846	2.2308
ship acquisition system	3.0769	2.5385
vessel-related tax	2.7692	2.8462
ship registry system	3.1538	2.3846
seafarer policy	2.9231	2.3846
Overall mean	3.1550	2.3601

(4) Shipbuilding Company

Table (2)6.2 The Level of Impediment to Liberalisation (Mean Likert Score)

	Before	After
appointed route	3.3333	3.5000
route license	3.4615	3.3846
investment restriction to foreigners	3.5000	3.2143
ban to buy second-hand vessel	3.3571	3.1429
limits on business expansion	3.2857	3.3571
waiver system in liner shipping	3.4286	2.9286
waiver system in bulk shipping	3.4286	3.3571
ship acquisition system	3.5000	3.3571
vessel-related tax	3.5000	3.2143
ship registry system	3.2143	3.5000
seafarer policy	3.3846	3.6923
Overall mean	3.3994	3.3317

(2)6.1.3 General Regulations by Country

(1) Shipping Company

Table (2)6.3 General Regulations by Country (Mean Likert Score)

	Before	After
FMC	2.7200	2.8000
DG IV	2.5200	2.6400
Int'l regulations. (IMO, UNCTAD, etc)	3.1429	3.3214
Korean regulations	4.1724	3.6897
Overall mean	3.1388	3.1128

(2) Banking Sector

Table (2)6.3 General Regulations by Country (Mean Likert Score)

	Before	After
FMC	3.7000	3.9000
DG IV	3.5000	3.7000
Int'l regulations. (IMO, UNCTAD, etc)	3.6000	4.0000
Korean regulations	3.6667	3.5556
Overall mean	3.6167	3.7889

(3) Government Sector

Table (2)6.3 General Regulations by Country (Mean Likert Score)

	Before	After
FMC	3.5385	7.0769
DG IV	2.9231	2.9231
Int'l regulations. (IMO, UNCTAD, etc)	2.8462	3.0769
Korean regulations	3.6667	3.0833
Overall mean	3.2436	4.0401

(4) Shipbuilding Company

Table (2)6.3 General Regulations by Country (Mean Likert Score)

	Before	After
FMC	2.8462	3.4615
DG IV	3.2308	3.4615
Int'l regulations. (IMO, UNCTAD, etc)	3.3846	3.5385
Korean regulations	3.5385	3.3846
Overall mean	3.2500	3.4615

(2)6.2 Shipping Market Situation

(2)6.2.1 Shipping Cycle

(1) Shipping Company

Table (2)6.4 Shipping Cycle

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	2	6.7	6.7
5-10 years	2	20	66.7	73.3
10-20 years	3	7	23.3	96.7
20-30 years	4	1	3.3	100.0

Total 30 100.0

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	14	46.7	46.7
5-10 years	2	14	46.7	93.3
10-20 years	3	2	6.7	100.0
		-----	-----	
	Total	30	100.0	

Significance Probability of Ranks (SPSS) = 0.0004

(2) Banking Sector

Table (2)6.4 Shipping Cycle

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	1	7.7	7.7
5-10 years	2	7	53.8	61.5
10-20 years	3	3	23.1	84.6
20-30 years	4	2	15.4	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	3	23.1	23.1
5-10 years	2	7	53.8	76.9
10-20 years	3	2	15.4	92.3
20-30 years	4	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.0910

(3) Government Sector

Table (2)6.4 Shipping Cycle

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	3	23.1	23.1
5-10 years	2	6	46.2	69.2

10-20 years	3	4	30.8	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	3	27.3	27.3
5-10 years	2	7	63.6	90.9
10-20 years	3	1	9.1	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.3105

(4) Shipbuilding Company

Table (2)6.4 Shipping Cycle

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	1	7.1	7.1
5-10 years	2	8	57.1	64.3
10-20 years	3	5	35.7	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
1-5 years	1	3	21.4	21.4
5-10 years	2	7	50.0	71.4
10-20 years	3	4	28.6	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.3105

(2)6.2.2 Shipping Market Situation

(1) Shipping Company

Table (2)6.5 Shipping Market Situations (Mean Likert Score)

Before After

rates	3.2414	3.4483
trade volumes	3.1333	3.3667
tonnage	3.0333	3.7667
ship price	3.1333	3.2000
number of demolition	2.4828	2.7586
operational performance & productivity.	2.9333	3.0667
shipping cycle	3.3000	2.8000
Overall mean	3.0368	3.201

(2) Banking Sector

Table (2)6.5 Shipping Market Situations (Mean Likert Score)

	Before	After
rates	3.0000	3.4615
trade volumes	2.9167	3.4167
tonnage	3.0000	3.4167
ship price	3.0000	3.0000
number of demolition	3.0833	3.0000
operational performance & productivity.	2.9167	3.4167
shipping cycle	2.9167	3.0833
Overall mean	2.9762	3.2571

(3) Government Sector

Table (2)6.5 Shipping Market Situations (Mean Likert Score)

	Before	After
rates	3.6154	3.6923
trade volumes	3.3333	3.6667
tonnage	3.3077	3.5385
ship price	3.1667	3.0000
number of demolition	2.6667	2.7500
operational performance & productivity.	3.1667	3.3333
shipping cycle	3.3077	3.0000
Overall mean	3.2235	3.2830

(4) Shipbuilding Company

Table (2)6.5 Shipping Market Situations (Mean Likert Score)

	Before	After
rates	3.2143	3.2143
trade volumes	3.1429	3.4286
tonnage	3.0714	3.7857
ship price	3.3571	3.7143
number of demolition	2.7143	3.2857
operational performance	3.0000	3.7143

& productivity.		
shipping cycle	3.0000	3.2143
Overall mean	3.0714	3.4796

(2)6.2.3 Supply and Demand of Ships

(1) Shipping Company

Table (2)6.6 Supply and Demand of Ship (Mean Likert Score)

	Before	After
rates	4.3103	4.5517
market expectations	3.9000	4.1667
capital availability	3.5000	3.7000
shipbuilding capability	3.3667	3.3000
unit cost of shipyard	2.9000	3.1333
construction subsidy	3.3000	2.7333
Overall mean	3.5462	3.5975

(2) Banking Sector

Table (2)6.6 Supply and Demand of Ship (Mean Likert Score)

	Before	After
rates	4.3077	4.5385
market expectations	3.7692	4.2308
capital availability	3.6154	3.7692
shipbuilding capability	3.2308	3.3846
unit cost of shipyard	3.5385	3.6154
construction subsidy	3.7143	3.4286
Overall mean	3.6960	3.8279

(3) Government Sector

Table (2)6.6 Supply and Demand of Ship (Mean Likert Score)

	Before	After
rates	4.2308	4.1538
market expectations	4.3077	4.0000
capital availability	3.6923	3.6923
shipbuilding capability	2.4615	2.3846
unit cost of shipyard	3.0000	2.9231
construction subsidy	3.6154	2.9231
Overall mean	3.5513	3.3462

(4) Shipbuilding Company

Table (2)6.6 Supply and Demand of Ship (Mean Likert Score)

	Before	After
rates	3.7857	4.0000
market expectations	3.2857	3.6429

capital availability	3.2143	3.7143
shipbuilding capability	3.0714	3.6429
unit cost of shipyard	3.1429	3.8571
construction subsidy	3.3571	3.1429
Overall mean	3.3095	3.6667

(2)6.2.4 Trade Routes

(1) Shipping Company

Table (2)6.7 Trade Route (Mean Likert Score)

	Before	After
transpacific route	3.7600	3.9200
European route	3.2800	3.4400
trans-Atlantic route	2.9167	3.2500
intra-Asia route	3.1852	3.6667
Korean-Japanese route	2.3846	2.8846
south-north route	1.8333	2.4583
niche route	2.2000	2.8800
Overall mean	2.7943	3.2142

(2) Banking Sector

Table (2)6.7 Trade Route (Mean Likert Score)

	Before	After
transpacific route	3.4286	3.8571
European route	3.4286	3.7143
trans-Atlantic route	3.1429	3.2857
intra-Asia route	3.4286	3.5714
Korean-Japanese route	3.2857	3.4286
south-north route	2.7143	3.0000
niche route	2.8571	3.0000
Overall mean	3.1837	3.4082

(3) Government Sector

Table (2)6.7 Trade Route (Mean Likert Score)

	Before	After
transpacific route	3.6667	4.0833
European route	3.7500	4.1667
trans-Atlantic route	2.9167	3.0833
intra-Asia route	3.6667	3.8333
Korean-Japanese route	3.3333	3.6667
south-north route	1.6667	2.0833
niche route	2.5000	3.0000
Overall mean	3.0714	3.4167

(4) Shipbuilding Company

Table (2)6.7 Trade Route (Mean Likert Score)

	Before	After
transpacific route	3.6429	3.8571
European route	3.4286	3.8571
trans-Atlantic route	2.9286	3.5714
intra-Asia route	3.1429	3.7857
Korean-Japanese route	3.0000	3.5714
south-north route	2.7143	3.0000
niche route	3.0000	3.2143
Overall mean	3.1225	3.551

(2)6.2.5 Type of Tonnage**(1) Shipping Company****Table (2)6.8 Type of Tonnage (Mean Likert Score)**

	Before	After
container ship	3.5926	3.9259
bulk ship	3.6207	3.9310
tanker	3.3462	3.5769
specialised ship	2.2963	2.8148
other ships	1.7000	2.0000
Overall mean	2.9112	3.2497

(2) Banking Sector**Table (2)6.8 Type of Tonnage (Mean Likert Score)**

	Before	After
container ship	3.6667	4.1111
bulk ship	3.2222	3.4444
tanker	3.2222	3.5556
specialised ship	2.6667	2.7778
other ships	2.6667	3.0000
Overall mean	3.0889	3.3778

(3) Government Sector**Table (2)6.8 Type of Tonnage (Mean Likert Score)**

	Before	After
container ship	3.7692	4.3077
bulk ship	4.0000	4.2308
tanker	3.3077	3.3077
specialised ship	2.8462	2.8462
other ships	2.2500	2.5000
Overall mean	3.2346	3.4385

(4) Shipbuilding Company**Table (2)6.8 Type of Tonnage (Mean Likert Score)**

	Before	After
container ship	3.7692	4.3077
bulk ship	4.0000	4.2308
tanker	3.3077	3.3077
specialised ship	2.8462	2.8462
other ships	2.2500	2.5000
Overall mean	3.2346	3.4385

	Before	After
container ship	3.2857	4.0714
bulk ship	3.5714	3.7143
tanker	3.7143	3.9286
specialised ship	2.7857	3.2857
other ships	3.0000	3.2857
Overall mean	3.2714	3.6571

(2)6.3 Shipping Finance

(2)6.3.1 Source of Finance

(1) Shipping Company

Table (2)6.9 Source of Finance (Mean Likert Score)

	Before	After
domestic capital	3.0714	2.7143
foreign capital	3.8667	4.7000
internal capital	2.0357	1.9286
Overall mean	2.9913	3.1143

(2) Banking Sector

Table (2)6.9 Source of Finance (Mean Likert Score)

	Before	After
domestic capital	3.5000	3.5000
foreign capital	3.2000	4.0000
internal capital	2.3000	2.3000
Overall mean	3	3.2667

(3) Government Sector

Table (2)6.9 Source of Finance (Mean Likert Score)

	Before	After
domestic capital	3.2000	2.8000
foreign capital	2.8000	3.6000
internal capital	2.8000	3.0000
Overall mean	2.9333	3.1333

(4) Shipbuilding Sector

Table (2)6.9 Source of Finance (Mean Likert Score)

	Before	After
domestic capital	2.9231	3.2308
foreign capital	3.0000	3.8462
internal capital	3.0000	2.9231
Overall mean	2.9667	3.3334

(2)6.3.2 External Method of Finance

(1) Shipping Company

Table (2)6.10 External Method of Finance (Mean Likert Score)

	Before	After
shipyard credit	2.4074	1.9259
bank finance	3.7586	4.0690
lease finance	2.9643	3.6429
Overall mean	3.0434	3.2126

(2) Banking Sector

Table (2)6.10 External Method of Finance (Mean Likert Score)

	Before	After
shipyard credit	3.4000	2.8000
bank finance	4.0000	3.8000
lease finance	3.1111	3.3333
Overall mean	3.5037	3.3111

(3) Government Sector

Table (2)6.10 External Method of Finance (Mean Likert Score)

	Before	After
shipyard credit	3.0000	2.4000
bank finance	3.2000	3.2000
lease finance	3.6000	3.4000
Overall mean	3.2667	3

(4) Shipbuilding Company

Table (2)6.10 External Method of Finance (Mean Likert Score)

	Before	After
shipyard credit	3.0769	3.0000
bank finance	3.5385	3.5385
lease finance	2.6923	3.4615
Overall mean	3.1026	3.3333

(2)6.3.3 Financial Conditions

(1) Shipping Company

Table (2)6.11 Financial Conditions (Mean Likert Score)

	Before	After
financial source	3.4828	3.6897
interest rate	4.6207	4.7241
loan rate	4.1724	4.4483
repayment period	4.0345	4.3793

tax	3.4828	3.6552
exchange rate	3.3448	3.8276
inflation rate	3.1379	3.2414
Overall mean	3.7537	3.9951

(2) Banking Sector

Table (2)6.11 Financial Conditions (Mean Likert Score)

	Before	After
financial source	3.6000	3.8000
interest rate	4.0000	4.3000
loan rate	3.8000	3.7000
repayment period	3.7000	3.7000
tax	3.1000	3.4000
exchange rate	3.2000	4.2000
inflation rate	3.2000	3.6000
Overall mean	3.5143	3.8143

(3) Government Sector

Table (2)6.11 Financial Conditions (Mean Likert Score)

	Before	After
financial source	4.0000	3.5000
interest rate	4.0000	4.2000
loan rate	4.0000	3.4000
repayment period	4.0000	3.7500
tax	3.2500	4.0000
exchange rate	3.7500	4.2500
inflation rate	3.5000	4.0000
Overall mean	3.7857	3.8714

(4) Shipbuilding Company

Table (2)6.11 Financial Conditions (Mean Likert Score)

	Before	After
financial source	3.3571	3.9286
interest rate	3.6429	4.1429
loan rate	3.2143	3.7857
repayment period	3.1429	3.8571
tax	3.4286	4.1429
exchange rate	3.1429	4.2857
inflation rate	2.8571	3.4286
Overall mean	3.2551	3.9388

(2)6.3.4 Capital Structure

(1) Shipping Company

Table (2)6.12 Capital Structure (Mean Likert Score)

	Before	After
capital structure	3.3214	3.4286

(2) Banking Sector

Table (2)6.12 Capital Structure (Mean Likert Score)

	Before	After
capital structure	3.5000	3.3333

(3) Government Sector

Table (2)6.12 Capital Structure (Mean Likert Score)

	Before	After
capital structure	2.0000	3.6667

(4) Shipbuilding Sector

Table (2)6.12 Capital Structure (Mean Likert Score)

	Before	After
capital structure	3.0769	3.1538

(2)6.3.5 Capital Cost

(1) Shipping Sector

Table (2)6.13 Capital Cost (Mean Likert Score)

	Before	After
capital cost	3.2143	3.0000

(2) Banking Sector

Table (2)6.13 Capital Cost (Mean Likert Score)

	Before	After
capital cost	2.6667	3.1667

(3) Government Sector

Table (2)6.13 Capital Cost (Mean Likert Score)

	Before	After
capital cost	2.5000	3.0000

(4) Shipbuilding Company

Table (2)6.13 Capital Cost (Mean Likert Score)

	Before	After
capital cost	3.0000	3.1538

(2)6.3.6 Rate of Loan

(1) Shipping Company

Table (2)6.14 Rate of Loan**Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	1	3.4	3.4
between 20-30%	3	2	6.9	10.3
between 30-50%	4	2	6.9	17.2
between 50-80%	5	6	20.7	37.9
more than 80%	6	18	62.1	100.0
		-----	-----	
	Total	29	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	1	3.3	3.3
between 20-30%	3	2	6.7	10.0
between 30-50%	4	2	6.7	16.7
between 50-80%	5	3	10.0	26.7
more than 80%	6	22	73.3	100.0
		-----	-----	
	Total	30	100.0	

Significance Probability of Ranks (SPSS) = 0.4631

(2) Banking Sector**Table (2)6.14 Rate of Loan****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
between 20-30%	3	1	11.1	11.1
between 30-50%	4	2	22.2	33.3
between 50-80%	5	3	33.3	66.7
more than 80%	6	3	33.3	100.0
		-----	-----	
	Total	9	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
between 20-30%	3	2	22.2	22.2
between 30-50%	4	1	11.1	33.3
between 50-80%	5	4	44.4	77.8
more than 80%	6	2	22.2	100.0
		-----	-----	
	Total	9	100.0	

Significance Probability of Ranks (SPSS) = 0.3613

(3) Government Sector
Table (2)6.14 Rate of Loan

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	1	20.0	20.0
between 10-20%	2	1	20.0	40.0
between 20-30%	3	1	20.0	60.0
more than 80%	6	2	40.0	100.0
		-----	-----	
	Total	5	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	1	20.0	20.0
between 20-30%	3	1	20.0	40.0
between 30-50%	4	1	20.0	60.0
between 50-80%	5	2	40.0	100.0
		-----	-----	
	Total	5	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(4) Shipbuilding Company
Table (2)6.14 Rate of Loan

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10%	1	1	7.1	7.1
between 10-20%	2	2	14.3	21.4
between 20-30%	3	3	21.4	42.9
between 30-50%	4	4	28.6	71.4
between 50-80%	5	3	21.4	92.9
more than 80%	6	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
between 10-20%	2	3	21.4	21.4

between 20-30%	3	2	14.3	35.7
between 30-50%	4	1	7.1	42.9
between 50-80%	5	6	42.9	85.7
more than 80%	6	2	14.3	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.0277

(2)6.3.7 External Factors to Investment Decision-making

(1) Shipping Company

Table (2)6.15 External Factor to Investment Decision-making (Mean Likert Score)

	Before	After
period of ROI	3.9333	4.3333
decision-maker's attitude towards risk	3.8333	4.0000
shipping cycle	3.7333	3.9333
timing factors	4.0000	4.3667
capital structure	3.6000	4.0000
confidence in decision-making	3.2414	3.5172
bank's attitude	3.2333	3.2667
financial service level	3.2333	3.5000
Overall mean	3.6010	3.8647

(2) Banking Sector

Table (2)6.15 External Factor to Investment Decision-making (Mean Likert Score)

	Before	After
period of ROI	3.7778	3.8889
decision-maker's attitude towards risk	3.4444	4.1111
shipping cycle	3.3333	3.8889
timing factors	3.1111	3.8889
capital structure	2.8889	3.5556
confidence in decision-making	3.1111	3.3333
bank's attitude	3.2222	3.3333
financial service level	2.7778	3.4444
Overall mean	3.2083	3.6806

(3) Government Sector

Table (2)6.15 External Factor to Investment Decision-making (Mean Likert Score)

	Before	After
period of ROI	3.2500	3.7500
decision-maker's attitude towards risk	3.2500	4.0000
shipping cycle	3.0000	3.5000
timing factors	3.0000	3.7500

capital structure	3.2500	4.0000
confidence in decision-making	3.0000	3.5000
bank's attitude	3.5000	3.7500
financial service level	3.2500	4.0000
Overall mean	3.1875	3.7813

(4) Shipbuilding Sector

Table (2)6.15 External Factor to Investment Decision-making (Mean Likert Score)

	Before	After
period of ROI	3.3571	4.0714
decision-maker's attitude towards risk	3.3571	4.1429
shipping cycle	3.5714	3.9286
timing factors	3.8571	4.0000
capital structure	3.2857	3.3571
confidence in decision-making	3.4286	3.1429
bank's attitude	2.9286	3.7143
financial service level	3.0714	3.6429
Overall mean	3.3571	3.7500

(2)6.3.8 Investor's Attitude towards Risk

(1) Shipping Company

Table (2)6.16 Investor's Attitude towards Risk

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	3	10.3	10.3
risk averse	2	14	48.3	58.6
risk mixed (prone+averse)	3	12	41.4	100.0
		-----	-----	
	Total	29	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	3	10.3	10.3
risk averse	2	8	27.6	37.9
risk mixed (prone+averse)	3	18	62.1	100.0
		-----	-----	
	Total	29	100.0	

Significance Probability of Ranks (SPSS) = 0.2446

(2) Banking Sector

Table (2)6.16 Investor's Attitude towards Risk

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk averse	2	3	27.3	27.3
risk mixed (prone+averse)	3	8	72.7	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk averse	2	4	36.4	36.4
risk mixed (prone+averse)	3	7	63.6	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.7353

(3) Government Sector**Table (2)6.16 Investor's Attitude towards Risk****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
risk averse	2	1	25.0	25.0
risk mixed (prone+averse)	3	3	75.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	1	25.0	25.0
risk averse	2	2	50.0	75.0
risk mixed (prone+averse)	3	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.1088

(4) Shipbuilding Company**Table (2)6.16 Investor's Attitude towards Risk****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	2	14.3	14.3

risk averse	2	6	42.9	57.1
risk mixed (prone+averse)	3	6	42.9	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
risk prone	1	1	7.1	7.1
risk averse	2	3	21.4	28.6
risk mixed (prone+averse)	3	10	71.4	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.1386

(2)6.3.9 Timing of Shipping Investment

(1) Shipping Company

Table (2)6.17 Timing of Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	9	30.0	30.0
bottom of cycle	2	12	40.0	70.0
turning point	3	8	26.7	96.7
other	4	1	3.3	100.0
		-----	-----	
	Total	30	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	2	6.7	6.7
bottom of cycle	2	11	36.7	43.3
turning point	3	15	50.0	93.3
other	4	2	6.7	100.0
		-----	-----	
	Total	30	100.0	

Significance Probability of Ranks (SPSS) = 0.0060

(2) Banking Sector

Table (2)6.17 Timing of Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	1	9.1	9.1
bottom of cycle	2	4	36.4	45.5
turning point	3	6	54.5	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bottom of cycle	2	3	27.3	27.3
turning point	3	8	72.7	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.2733

(3) Government Sector**Table (2)6.17 Timing of Shipping Investment****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
bottom of cycle	2	1	25.0	25.0
turning point	3	3	75.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bottom of cycle	2	3	75.0	75.0
turning point	3	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.1797

(4) Shipbuilding Company**Table (2)6.17 Timing of Shipping Investment****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
top of cycle	1	2	14.3	14.3

bottom of cycle	2	6	42.9	57.1
turning point	3	6	42.9	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bottom of cycle	2	6	42.9	42.9
turning point	3	8	57.1	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.2367

(2)6.3.10 Investment Factors Affected by Ship Operation

(1) Shipping Company

Table (2)6.18 Investment Factors Affected by Ship Operation (Mean Likert Score)

	Before	After
market share	3.3214	3.6786
profitability (rates)	4.3448	4.5172
load factor	3.6538	3.8077
fixed cost	3.6429	3.8929
floating cost	3.4286	3.6071
choice on routes	3.5556	3.8889
operational service level	3.5556	4.0370
Overall mean	3.6432	3.9185

(2) Banking Sector

Table (2)6.18 Investment Factors Affected by Ship Operation (Mean Likert Score)

	Before	After
market share	3.5556	3.7778
profitability (rates)	4.1111	4.3333
load factor	3.4286	3.2857
fixed cost	3.2222	3.2222
floating cost	3.2222	3.6667
choice on routes	3.5556	3.6667
operational service level	3.2222	3.6667
Overall mean	3.4739	3.6599

(3) Government Sector

Table (2)6.18 Investment Factors Affected by Ship Operation (Mean Likert Score)

	Before	After
--	--------	-------

market share	3.7500	3.7500
profitability (rates)	3.7500	4.2500
load factor	3.5000	3.5000
fixed cost	3.2500	3.2500
floating cost	3.2500	3.2500
choice on routes	3.2500	3.7500
operational service level	3.2500	3.7500
Overall mean	3.4286	3.6429

(4) Shipbuilding Company

Table (2)6.18 Investment Factors Affected by Ship Operation (Mean Likert Score)

	Before	After
market share	3.1429	3.7143
profitability (rates)	3.8462	4.6923
load factor	3.2857	3.6429
fixed cost	3.2143	3.4286
floating cost	3.3571	3.7143
choice on routes	3.7857	3.7143
operational service level	3.4286	4.1429
Overall mean	3.4372	3.8642

(2)6.3.11 Financial Conditions in Acquiring a Ship

(1) Shipping Company

Table (2)6.19 Planned Shipbuilding

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	2	7.1	7.1
interest rate	2	19	67.9	75.0
loan rate	3	5	17.9	92.9
repayment period	4	1	3.6	96.4
tax	5	1	3.6	100.0
	Total	28	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	2	7.1	7.1
interest rate	2	20	71.4	78.6
loan rare	3	6	21.4	100.0
	Total	28	100.0	

Significance Probability of Ranks (SPSS) = 0.2850

Table (2)6.20 Bareboat Charter on Hire Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	3	10.0	10.0
interest rate	2	19	63.3	73.3
loan rate	3	2	6.7	80.0
repayment period	4	3	10.0	90.0
tax	5	3	10.0	100.0
		-----	-----	
	Total	30	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	4	13.3	13.3
interest rate	2	17	56.7	70.0
loan rate	3	4	13.3	83.3
repayment period	4	4	13.3	96.7
tax	5	1	3.3	100.0
		-----	-----	
	Total	30	100.0	

Significance Probability of Ranks (SPSS) = 0.5896

Table (2)6.21 Secondhand Ship Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	5	17.2	17.2
interest rate	2	11	37.9	55.2
loan rate	3	4	13.8	69.0
repayment period	4	5	17.2	86.2
tax	5	4	13.8	100.0
		-----	-----	
	Total	29	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	5	17.2	17.2
interest rate	2	10	34.5	51.7
loan rate	3	6	20.7	72.4

repayment period	4	6	20.7	93.1
tax	5	2	6.9	100.0
		-----	-----	
	Total	29	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(2) Banking Sector
Table (2)6.19 Planned Shipbuilding

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	2	18.2	18.2
interest rate	2	5	45.5	63.6
loan rate	3	3	27.3	90.9
tax	5	1	9.1	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
interest rate	2	5	45.5	45.5
loan rare	3	3	27.3	72.7
period of repayment	4	1	9.1	81.8
tax	5	2	18.2	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.2012

Table (2)6.20 Bareboat Charter on Hire Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	9.1	9.1
interest rate	2	5	45.5	54.5
loan rate	3	4	36.4	90.9
repayment period	4	1	9.1	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
-------------	-------	-----------	---------	----------------

source of finance	1	1	10.0	10.0
interest rate	2	5	50.0	60.0
loan rate	3	2	20.0	80.0
repayment period	4	2	20.0	100.0
		-----	-----	
	Total	10	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

Table (2)6.21 Secondhand Ship Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	9.1	9.1
interest rate	2	2	18.2	27.3
loan rate	3	6	54.5	81.8
tax	5	2	18.2	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	10.0	10.0
interest rate	2	2	20.0	30.0
loan rate	3	4	40.0	70.0
repayment period	4	1	10.0	80.0
tax	5	2	20.0	100.0
		-----	-----	
	Total	10	100.0	

Significance Probability of Ranks (SPSS) = 0.1797

(3)Government Sector

Table (2)6.19 Planned Shipbuilding

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	2	50.0	50.0
interest rate	2	1	25.0	75.0
loan rate	3	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
interest rate	2	4	100.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.5930

Table (2)6.20 Bareboat Charter on Hire Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	25.0	25.0
interest rate	2	1	25.0	50.0
repayment period	4	2	50.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
interest rate	2	4	100.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.2850

Table (2)6.21 Secondhand Ship Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	2	50.0	50.0
interest rate	2	1	25.0	75.0
loan rate	3	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
interest rate	2	4	100.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.5930

(4)Shipbuilding Company
Table (2)6.19 Planned Shipbuilding

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	5	35.7	35.7
interest rate	2	7	50.0	85.7
loan rate	3	2	14.3	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	7.1	7.1
interest rate	2	9	64.3	71.4
loan rare	3	3	21.4	92.9
tax	5	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.0630

Table (2)6.20 Bareboat Charter on Hire Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	4	28.6	28.6
interest rate	2	9	64.3	92.9
repayment period	4	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	1	7.1	7.1
interest rate	2	10	71.4	78.6
roan rate	3	2	14.3	92.9
repayment period	4	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.0431

Table (2)6.21 Secondhand Ship Purchase

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	7	53.8	53.8
interest rate	2	1	7.7	61.5
loan rate	3	1	7.7	69.2
repayment period	4	2	15.4	84.6
tax	5	2	15.4	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
source of finance	1	4	30.8	30.8
interest rate	2	4	30.8	61.5
loan rate	3	1	7.7	69.2
repayment period	4	2	15.4	84.6
tax	5	2	15.4	100.0
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.6121

(2)6.3.12 Method of Ship Acquisition in Korea**(1) Shipping Company****Table (2)6.22 Method of Ship Acquisition in Korea**

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	4	13.3	13.3
bbc/hp	2	21	70.0	83.3
second-hand ship	3	5	16.7	100.0
		-----	-----	
	Total	30	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	1	3.4	3.4
bbc/hp	2	22	75.9	79.3

second-hand ship	3	6	20.7	100.0
		-----	-----	
	Total	29	100.0	

Significance Probability of Ranks (SPSS) = 0.3078

(2) Banking Sector

Table (2)6.22 Method of Ship Acquisition in Korea

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	4	44.4	44.4
bbc/hp	2	5	55.6	100.0
		-----	-----	
	Total	9	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bbc/hp	2	9	100.0	100.0
		-----	-----	
	Total	9	100.0	

Significance Probability of Ranks (SPSS) = 0.0679

(3) Government Sector

Table (2)6.22 Method of Ship Acquisition in Korea

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	1	25.0	25.0
bbc/hp	2	3	75.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bbc/hp	2	3	75.0	75.0
second-hand ship	3	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 0.1797

(4) Shipbuilding Company
Table (2)6.22 Method of Ship Acquisition in Korea

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
planned shipbuilding	1	8	61.5	61.5
bbc/hp	2	4	30.8	92.3
second-hand ship	3	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
bbc/hp	2	12	92.3	92.3
	4	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.0330

(2)6.4 Return on Shipping Investment
(2)6.4.1 Return on Shipping Investment

(1) Shipping Company
Table (2)6.23 Return on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	4	14.3	14.3
between 10 and 15years	2	18	64.3	78.6
between 15 and 20 years	3	6	21.4	100.0
		-----	-----	
	Total	28	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	8	27.6	27.6
between 10 and 15years	2	15	51.7	79.3
between 15 and 20 years	3	5	17.2	96.6
between 20 and 25 years	4	1	3.4	100.0
		-----	-----	
	Total	29	100.0	

Significance Probability of Ranks (SPSS) = 0.4446

(2) Banking Sector

Table (2)6.23 Return on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	3	27.3	27.3
between 10 and 15years	2	3	27.3	54.5
between 15 and 20 years	3	3	27.3	81.8
between 20 and 25 years	4	2	18.2	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	2	18.2	18.2
between 10 and 15years	2	5	45.5	63.6
between 15 and 20 years	3	4	36.4	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.5002

(3) Government Sector

Table (2)6.23 Return on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
between 10 and 15years	2	3	60.0	60.0
between 15 and 20 years	3	1	20.0	80.0
between 20 and 25 years	4	1	20.0	100.0
		-----	-----	
	Total	5	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
between 10 and 15years	2	4	80.0	80.0
between 20 and 25 years	4	1	20.0	100.0
		-----	-----	
	Total	5	100.0	

Significance Probability of Ranks (SPSS) = 0.3173

(4) Shipbuilding Company

Table (2)6.23 Return on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	3	21.4	21.4
between 10 and 15years	2	7	50.0	71.4
between 15 and 20 years	3	4	28.6	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 10 years	1	6	42.9	42.9
between 10 and 15years	2	7	50.0	92.9
between 15 and 20 years	3	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.1415

(2)6.4.2 Evaluation Method on Shipping Investment

(1) Shipping Company

Table (2)6.24 Evaluation Method on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	11	55.0	55.0
internal rate of return	2	6	30.0	85.0
payback method	3	3	15.0	100.0
		-----	-----	
	Total	20	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	12	57.1	57.1
internal rate of return	2	7	33.3	90.5
payback method	3	2	9.5	100.0
		-----	-----	

Total 21 100.0

Significance Probability of Ranks (SPSS) = 0.3613

(2) Banking Sector

Table (2)6.24 Evaluation Method on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	3	75.0	75.0
internal rate of return	2	1	25.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	3	60.0	60.0
internal rate of return	2	2	40.0	100.0
		-----	-----	
	Total	5	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(3) Government Sector

Table (2)6.24 Evaluation Method on Shipping Investment

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	1	50.0	50.0
internal rate of return	2	1	50.0	100.0
		-----	-----	
	Total	2	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	1	50.0	50.0
internal rate of return	2	1	50.0	100.0
		-----	-----	
	Total	2	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(4) Shipbuilding Company**Table (2)6.24 Evaluation Method on Shipping Investment****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	5	50.0	50.0
internal rate of return	2	3	30.0	80.0
payback method	3	2	20.0	100.0
		-----	-----	
	Total	10	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
net present value	1	1	10.0	10.0
internal rate of return	2	5	50.0	60.0
payback method	3	3	30.0	90.0
sensitivity analysis	4	1	10.0	100.0
		-----	-----	
	Total	10	100.0	

Significance Probability of Ranks (SPSS) = 0.1056

(2)6.5 Choice of Shipyard**(2)6.5.1 Choice of Country****(1) Shipping Company****Table (2)6.25 Country's Shipyard****Before Liberalisation**

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	24	88.9	88.9
Japan	3	3	11.1	100.0
		-----	-----	
	Total	27	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	14	56.0	56.0
Japan	3	10	40.0	96.0
others	5	1	4.0	100.0
		-----	-----	
	Total	25	100.0	

Significance Probability of Ranks (SPSS) = 0.0218

(2) Banking Sector

Table (2)6.25 Country's Shipyard

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	9	81.8	81.8
Japan	3	2	18.2	100.0
		-----	-----	
	Total	11	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	11	100.0	100.0
		-----	-----	
	Total	11	100.0	

Significance Probability of Ranks (SPSS) = 0.1797

(3) Government Sector

Table (2)6.25 Country's Shipyard

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	4	100.0	100.0
		-----	-----	
	Total	4	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	4	100.0	100.0
		-----	-----	
	Total	4	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(4) Shipbuilding Company

Table (2)6.25 Country's Shipyard

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
--------------------	--------------	------------------	----------------	------------------------

Korea	1	11	84.6	84.6
Japan	3	1	7.7	92.3
Europe	4	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Korea	1	10	76.9	76.9
America	2	1	7.7	84.6
Japan	3	2	15.4	100.0
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.8927

(2)6.5.2 Shipyard Selection

(1) Shipping Company

Table (2)6.26 Shipyard Selection (Mean Likert Score)

	Before	After
construction capability	3.8000	3.9200
labour force	2.9200	3.0400
technology	4.2308	4.3077
ship-linked industry	2.8000	2.9600
price competitiveness	4.3462	4.7308
non-price competitiveness	3.2400	3.4000
exchange rate in market	3.0000	3.4800
int'l competitiveness	3.3200	3.6000
Overall mean	3.4571	3.6798

(2) Banking Sector

Table (2)6.26 Shipyard Selection (Mean Likert Score)

	Before	After
construction capability	3.8333	4.0000
labour force	3.4167	3.3333
technology	4.0000	4.1667
ship-linked industry	3.4167	3.5000
price competitiveness	4.0000	4.4167
non-price competitiveness	3.3333	3.9167
exchange rate in market	3.6667	4.1667
int'l competitiveness	3.6667	4.0833
Overall mean	3.6667	3.9479

(3) Government Sector

Table (2)6.26 Shipyard Selection (Mean Likert Score)

	Before	After
construction capability	3.6000	3.4000
labour force	3.5000	3.7500
technology	3.7500	4.0000
ship-linked industry	3.5000	3.7500
price competitiveness	4.2500	4.5000
non-price competitiveness	3.2500	3.7500
exchange rate in market	3.5000	4.2500
int'l competitiveness	3.2500	4.0000
Overall mean	3.575	3.925

(4) Shipbuilding Company

Table (2)6.26 Shipyard Selection (Mean Likert Score)

	Before	After
construction capability	3.3077	3.3846
labour force	3.5385	3.5385
technology	4.0769	4.3846
ship-linked industry	3.1538	3.4615
price competitiveness	4.3846	4.3077
non-price competitiveness	3.1538	3.5385
exchange rate in market	3.1538	4.1538
int'l competitiveness	3.6154	4.3077
Overall mean	3.5481	3.8846

(2)6.5.3 Ship Registry Country

(1) Shipping Company

Table (2)6.27 Ship Registry Country

Before Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	21	75.0	75.0
Liberia	2	3	10.7	85.7
Korea	4	4	14.3	100.0
		-----	-----	
	Total	28	100.0	
After Liberalisation				
Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	22	78.6	78.6
Liberia	2	3	10.7	89.3
Korea	4	1	3.6	92.9
others	5	2	7.1	100.0

Total	28	100.0
-------	----	-------

Significance Probability of Ranks (SPSS) = 1.0000

(2) Banking Sector

Table (2)6.27 Ship Registry Country

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	4	44.4	44.4
Liberia	2	4	44.4	88.9
Greece	3	1	11.1	100.0
Total		9	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	3	30.0	30.0
Liberia	2	6	60.0	90.0
Greece	3	1	10.0	100.0
Total		10	100.0	

Significance Probability of Ranks (SPSS) = 0.3173

(3) Government Sector

Table (2)6.27 Ship Registry Country

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	4	80.0	80.0
Korea	4	1	20.0	100.0
Total		5	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	3	60.0	60.0
Korea	4	2	40.0	100.0
Total		5	100.0	

Significance Probability of Ranks (SPSS) = 0.5930

(4) Shipbuilding Company
Table (2)6.27 Ship Registry Country

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	11	84.6	84.6
Liberia	2	1	7.7	92.3
Greece	3	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
Panama	1	8	61.5	61.5
Liberia	2	4	30.8	92.3
Korea	4	1	7.7	100.0
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.3452

(2)6.6 Depreciation in Ships
(2)6.6.1 Depreciation in Ship

(1) Shipping Company
Table (2)6.28 Depreciation in Ship

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	3	10.3	10.3
between 15 and 20 years	2	24	82.8	93.1
more than 20 years	3	2	6.9	100.0
		-----	-----	
	Total	29	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	10	33.3	33.3
between 15 and 20 years	2	18	60.0	93.3
more than 20 years	3	2	6.7	100.0

	-----	-----
Total	30	100.0

Significance Probability of Ranks (SPSS) = 0.1097

(2) Banking Sector

Table (2)6.28 Depreciation in Ship

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	1	8.3	8.3
between 15 and 20 years	2	7	58.3	66.7
more than 20 years	3	4	33.3	100.0
		-----	-----	
	Total	12	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	2	16.7	16.7
between 15 and 20 years	2	5	41.7	58.3
more than 20 years	3	5	41.7	100.0
		-----	-----	
	Total	12	100.0	

Significance Probability of Ranks (SPSS) = 1.0000

(3) Government Sector

Table (2)6.28 Depreciation in Ship

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	2	40.0	40.0
between 15 and 20 years	2	1	20.0	60.0
more than 20 years	3	2	40.0	100.0
		-----	-----	
	Total	5	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	2	40.0	40.0
between 15 and 20 years	2	2	40.0	80.0
more than 20 years	3	1	20.0	100.0
		-----	-----	

Total 5 100.0

Significance Probability of Ranks (SPSS) = 0.3173

(4) Shipbuilding Company
Table (2)6.28 Depreciation in Ship

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	6	42.9	42.9
between 15 and 20 years	2	7	50.0	92.9
more than 20 years	3	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
less than 15 years	1	9	64.3	64.3
between 15 and 20 years	2	4	28.6	92.9
more than 20 years	3	1	7.1	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.3454

(2)6.7 Strategic Alliance in Shipping
(2)6.7.1 Strategic Alliance in Shipping

(1) Shipping Company
Table (2)6.29 Strategic Alliance in Shipping

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	13	48.1	48.1
upgrade of service frequency	2	3	11.1	59.3
cost saving	5	11	40.7	100.0
		-----	-----	
	Total	27	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	10	35.7	35.7

upgrade of service	frequency	2	5	17.9	53.6
cost saving		5	13	46.4	100.0
			-----	-----	
	Total		28	100.0	

Significance Probability of Ranks (SPSS) = 0.5076

(2) Banking Sector

Table (2)6.29 Strategic Alliance in Shipping

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	4	40.0	40.0
cost saving	5	6	60.0	100.0
		-----	-----	
	Total	10	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	3	30.0	30.0
cost saving	5	7	70.0	100.0
		-----	-----	
	Total	10	100.0	

Significance Probability of Ranks (SPSS) = 0.3173

(3) Government Sector

Table (2)6.29 Strategic Alliance in Shipping

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	4	80.0	80.0
cost saving	5	1	20.0	100.0
		-----	-----	
	Total	5	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	1	20.0	20.0
reduction of transit time	3	1	20.0	40.0
cost saving	5	3	60.0	100.0
		-----	-----	
	Total	5	100.0	

Significance Probability of Ranks (SPSS) = 0.1088

(4) Shipbuilding Company

Table (2)6.29 Strategic Alliance in Shipping

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	9	64.3	64.3
reduction of transit time	3	1	7.1	71.4
providing the inland service	4	1	7.1	78.6
cost saving	5	3	21.4	100.0
		-----	-----	
	Total	14	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
expansion of service	1	1	7.1	7.1
upgrade of service frequency	2	1	7.1	14.3
reduction of transit time	3	3	21.4	35.7
cost saving	5	9	64.3	100.0
		-----	-----	
	Total	14	100.0	

Significance Probability of Ranks (SPSS) = 0.0145

(2)6.7.2 Preference to Partnership

(1) Shipping Company

Table (2)6.30 Preference to Partnership

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	1	4.8	4.8
European shipping co.	2	9	42.9	47.6
Taiwanese shipping co.	3	3	14.3	61.9
Japanese shipping co.	5	8	38.1	100.0
		-----	-----	
	Total	21	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
-------------	-------	-----------	---------	----------------

American shipping co.	1	3	13.6	13.6
European shipping co.	2	10	45.5	59.1
Taiwanese shipping co.	3	2	9.1	68.2
HongKong shipping co.	4	2	9.1	77.3
Japanese shipping co.	5	5	22.7	100.0
		-----	-----	
	Total	22	100.0	

Significance Probability of Ranks (SPSS) = 0.2411

(2) Banking Sector

Table (2)6.30 Preference to Partnership

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	1	12.5	12.5
European shipping co.	2	5	62.5	75.0
Japanese shipping co.	5	2	25.0	100.0
		-----	-----	
	Total	8	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	1	12.5	12.5
European shipping co.	2	5	62.5	75.0
Japanese shipping co.	5	2	25.0	100.0
		-----	-----	
	Total	8	100.0	

Significance Probability of Ranks (SPSS) = 0.6547

(3) Government Sector

Table (2)6.30 Preference to Partnership

Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	3	60.0	60.0
Japanese shipping co.	5	2	40.0	100.0
		8		
		-----	-----	
	Total	13	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	3	60.0	60.0
HongKong shipping co.	4	1	20.0	80.0
Japanese shipping co.	5	1	20.0	100.0
	.	8		
		-----	-----	
	Total	13	100.0	

Significance Probability of Ranks (SPSS) = 0.6547

(4) Shipbuilding Company
Table (2)6.30 Preference to Partnership
Before Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	5	41.7	41.7
European shipping co.	2	5	41.7	83.3
HongKong shipping co.	4	1	8.3	91.7
Japanese shipping co.	5	1	8.3	100.0
		-----	-----	
	Total	12	100.0	

After Liberalisation

Value Label	Value	Frequency	Percent	Cum Percent
American shipping co.	1	4	33.3	33.3
European shipping co.	2	6	50.0	83.3
Taiwanese shipping co.	3	1	8.3	91.7
Japanese shipping co.	5	1	8.3	100.0
		-----	-----	
	Total	12	100.0	

Significance Probability of Ranks (SPSS) = 0.7532

ANNEX ON NEGOTIATIONS ON MARITIME TRANSPORT SERVICES

1. Article II and the Annex on Article II Exemptions, including the requirement to list in the Annex any measure inconsistent with most-favoured-nation treatment that a Member will maintain, shall enter into force for international shipping, auxiliary services and access to and use of port facilities only on:

(a) the implementation date to be determined under paragraph 4 of the Ministerial Decision on Negotiations on Maritime Transport Services; or,

(b) should the negotiations not succeed, the date of the final report of the Negotiating Group on Maritime Transport Services provided for in that Decision.

2. Paragraph 1 shall not apply to any specific commitment on maritime transport services which is inscribed in a Member's Schedule.

3. From the conclusion of the negotiations referred to in paragraph 1, and before the implementation date, a Member may improve, modify or withdraw all or part of its specific commitments in this sector without offering compensation, notwithstanding the provisions of Article XXI.

Appendix 4 : Source : Reference [2]

DECISION ON NEGOTIATIONS ON MARITIME TRANSPORT SERVICES

Ministers,

Noting that commitments scheduled by participants on maritime transport services at the conclusion of the Uruguay Round shall enter into force on an MFN basis at the same time as the Agreement Establishing the World Trade Organization (hereinafter referred to as the "WTO Agreement"),

Decide as follows:

1. Negotiations shall be entered into on a voluntary basis in the sector of maritime transport services within the framework of the General Agreement on Trade in Services. The negotiations shall be comprehensive in scope, aiming at commitments in international shipping, auxiliary services and access to and use of port facilities, leading to the elimination of restrictions within a fixed time scale.

2. A Negotiating Group on Maritime Transport Services (hereinafter referred to as the "NGMTS") is established to carry out this mandate. The NGMTS shall report periodically on the progress of these negotiations.

3. The negotiations in the NGMTS shall be open to all governments and the European Communities which announce their intention to participate. To date, the following have announced their intention to take part in the negotiations:

Argentina, Canada, European Communities and their member States, Finland, Hong Kong, Iceland, Indonesia, Korea, Malaysia, Mexico, New Zealand, Norway, Philippines, Poland, Romania, Singapore, Sweden, Switzerland, Thailand, Turkey, United States.

Further notifications of intention to participate shall be addressed to the depositary of the WTO Agreement.

4. The NGMTS shall hold its first negotiating session no later than 16 May 1994. It shall conclude these negotiations and make a final report no later than June 1996. The final report of the NGMTS shall include a date for the implementation of results of these negotiations.

5. Until the conclusion of the negotiations Article II and paragraphs 1 and 2 of the Annex on Article II Exemptions are suspended in their application to this sector, and it is not necessary to list MFN exemptions. At the conclusion of the negotiations, Members shall be free to improve, modify or withdraw any commitments made in this sector during the Uruguay Round without offering compensation, notwithstanding the provisions of

Article XXI of the Agreement. At the same time Members shall finalize their positions relating to MFN exemptions in this sector, notwithstanding the provisions of the Annex on Article II Exemptions. Should negotiations not succeed, the Council for Trade in Services shall decide whether to continue the negotiations in accordance with this mandate.

6. Any commitments resulting from the negotiations, including the date of their entry into force, shall be inscribed in the Schedules annexed to the General Agreement on Trade in Services and be subject to all the provisions of the Agreement.

7. Commencing immediately and continuing until the implementation date to be determined under paragraph 4, it is understood that participants shall not apply any measure affecting trade in maritime transport services except in response to measures applied by other countries and with a view to maintaining or improving the freedom of provision of maritime transport services, nor in such a manner as would improve their negotiating position and leverage.

8. The implementation of paragraph 7 shall be subject to surveillance in the NGMTS. Any participant may bring to the attention of the NGMTS any action or omission which it believes to be relevant to the fulfilment of paragraph 7. Such notifications shall be deemed to have been submitted to the NGMTS upon their receipt by the Secretariat.

PART IV

PROGRESSIVE LIBERALIZATION

Article XIX

Negotiation of Specific Commitments

1. In pursuance of the objectives of this Agreement, Members shall enter into successive rounds of negotiations, beginning not later than five years from the date of entry into force of the WTO Agreement and periodically thereafter, with a view to achieving a progressively higher level of liberalization. Such negotiations shall be directed to the reduction or elimination of the adverse effects on trade in services of measures as a means of providing effective market access. This process shall take place with a view to promoting the interests of all participants on a mutually advantageous basis and to securing an overall balance of rights and obligations.
2. The process of liberalization shall take place with due respect for national policy objectives and the level of development of individual Members, both overall and in individual sectors. There shall be appropriate flexibility for individual developing country Members for opening fewer sectors, liberalizing fewer types of transactions, progressively extending market access in line with their development situation and, when making access to their markets available to foreign service suppliers, attaching to such access conditions aimed at achieving the objectives referred to in Article IV.
3. For each round, negotiating guidelines and procedures shall be established. For the purposes of establishing such guidelines, the Council for Trade in Services shall carry out an assessment of trade in services in overall terms and on a sectoral basis with reference to the objectives of this Agreement, including those set out in paragraph 1 of Article IV. Negotiating guidelines shall establish modalities for the treatment of liberalization undertaken autonomously by Members since previous negotiations, as well as for the special treatment for least-developed country Members under the provisions of paragraph 3 of Article IV.
4. The process of progressive liberalization shall be advanced in each such round through bilateral, plurilateral or multilateral negotiations directed towards increasing the general level of specific commitments undertaken by Members under this Agreement.

Article XX

Schedules of Specific Commitments

1. Each Member shall set out in a schedule the specific commitments it undertakes under Part III of this Agreement. With respect to sectors where such commitments are undertaken, each Schedule shall specify:

- (a) terms, limitations and conditions on market access;
 - (b) conditions and qualifications on national treatment;
 - (c) undertakings relating to additional commitments;
 - (d) where appropriate the time-frame for implementation of such commitments; and
 - (e) the date of entry into force of such commitments.
2. Measures inconsistent with both Articles XVI and XVII shall be inscribed in the column relating to Article XVI. In this case the inscription will be considered to provide a condition or qualification to Article XVII as well.
 3. Schedules of specific commitments shall be annexed to this Agreement and shall form an integral part thereof.

Article XXI

Modification of Schedules

1. (a) A Member (referred to in this Article as the "modifying Member") may modify or withdraw any commitment in its Schedule, at any time after three years have elapsed from the date on which that commitment entered into force, in accordance with the provisions of this Article.
(b) A modifying Member shall notify its intent to modify or withdraw a commitment pursuant to this Article to the Council for Trade in Services no later than three months before the intended date of implementation of the modification or withdrawal.
2. (a) At the request of any Member the benefits of which under this Agreement may be affected (referred to in this Article as an "affected Member") by a proposed modification or withdrawal notified under subparagraph 1(b), the modifying Member shall enter into negotiations with a view to reaching agreement on any necessary compensatory adjustment. In such negotiations and agreement, the Members concerned shall endeavour to maintain a general level of mutually advantageous commitments not less favourable to trade than that provided for in Schedules of specific commitments prior to such negotiations.
(b) Compensatory adjustments shall be made on a most-favoured-nation basis.
3. (a) If agreement is not reached between the modifying Member and any affected Member before the end of the period provided for negotiations, such affected Member may refer the matter to arbitration. Any affected Member that wishes to enforce a right that it may have to compensation must participate in the arbitration.
(b) If no affected Member has requested arbitration, the modifying Member shall be free to implement the proposed modification or withdrawal.
4. (a) The modifying Member may not modify or withdraw its commitment until it has made compensatory adjustments in conformity with the findings of the

arbitration.

(b) If the modifying Member implements its proposed modification or withdrawal and does not comply with the findings of the arbitration, any affected Member that participated in the arbitration may modify or withdraw substantially equivalent benefits in conformity with those findings. Notwithstanding Article II, such a modification or withdrawal may be implemented solely with respect to the modifying Member.

5. The Council for Trade in Services shall establish procedures for rectification or modification of Schedules. Any Member which has modified or withdrawn scheduled commitments under this Article shall modify its Schedule according to such procedures.

Appendix 6 : Source : Reference [4]

The Agreements:

Services - rules for growth and investment

The General Agreement on Trade in Services (GATS) is the first ever set of multilateral, legally-enforceable rules covering international trade in services. It was negotiated in the Uruguay Round. Like the agreements on goods, GATS operates on three levels: the main text containing general principles and obligations; annexes dealing with rules for specific sectors; and individual countries' specific commitments to provide access to their markets. Unlike in goods, GATS has a fourth special element: lists showing where countries are temporarily not applying the "most-favoured-nation" principle of non-discrimination. These commitments - like tariff schedules under GATT - are an integral part of the agreement. So are the temporary withdrawals of most-favoured-nation treatment.

A WTO Council for Trade in Services oversees the operation of the agreement. Negotiations on commitments in four topics have taken place after the Uruguay Round. A full new services round will start no later than 2000.

The framework: the GATS articles

- Basic principles
- All services are covered by GATS
- Most-favoured-nation treatment applies to all services, except the one-off temporary exemptions
- National treatment applies in the areas where commitments are made
- Transparency in regulations, inquiry points
- Regulations have to be objective and reasonable
- International payments: normally unrestricted
- Individual countries' commitments: negotiated and bound

Progressive liberalization: through further negotiations

GATS's 29 articles cover all services sectors. They contain the general obligations that all members have to apply. (See also Principles of the trading system.):

Maritime transport

Maritime transport negotiations were originally scheduled to end in June 1996, but participants failed to agree on a package of commitments. The talks will resume with the new services round due to start no later than 2000. Some commitments are already included in some countries' schedules covering the three main areas in this sector: access to and use of port facilities; auxiliary services; and ocean transport.

After the Uruguay Round

GATS talks that resumed after the round. A full new services round will start in 2000 at the latest.

- Basic telecommunications completed February 1997
- Financial services to end late 1997
- Maritime transport suspended
- Movement of natural persons completed July 1995
- Other issues for future negotiation: subsidies, government procurement, safeguards, qualifications, technical standards, licensing

Appendix 7 : : Source : Reference [5]

OECD : Transport

Maritime Transport

Activities in the field of maritime transport are directed towards eliminating measures that distort competition or hamper the freedom to provide maritime and maritime-related services. The Maritime Transport Committee is also promoting compatibility of shipping policies - notably in the area of competition policies applied to international maritime trades - and initiatives concerning maritime safety and the protection of the marine environment.

Shipbuilding

In the area of shipbuilding, the OECD seeks to encourage transparency, exchange of information, monitoring, peer review and moral persuasion. The Council Working Party on Shipbuilding provides a forum for the exchange of information among governments on world shipbuilding policies and conditions, and is the only international body charged with influencing and guiding government policies in shipbuilding.

Appendix 8 : : Source : Reference [6]

Maritime Transport Committee

Objectives

The Maritime Transport Committee seeks to eliminate obstacles to the free circulation of maritime transport services by promoting compatible competition policies for maritime transport and liberalisation of maritime and maritime-related services. At a political level, it also aids the International Maritime Organisation in its effort to eliminate sub-standard shipping. More generally it promotes initiatives that encourage maritime safety and the protection of the marine environment.

All Member countries take part in the work of the committee, Russia participates as an observer, and the participation of non-Member countries in the Committee's work is actively encouraged.

Appendix 9 : : Source : Reference [7]

Maritime Transport/Activities

The OECD offers the only international forum for considering maritime transport issues from both the policy and economic angles. It encourages dialogue, consultation and harmonisation of OECD Member countries' maritime policies. It has defined principles that govern the way in which the industry operates and ensures their enforcement. The principles are based on free access of fleets to international traffic, free and fair competition on shipping markets, lack of discrimination, and priority for multilateral dispute settlement. These principles are contained in the OECD Council Recommendation of 13 February 1987. Although it cannot be mandatorily enforced, this document represents a policy commitment for the countries that have adhered to it. As the 29 OECD Member countries account for over two-thirds of world-wide imports and exports, these principles may be considered as universally applicable. The Committee seeks to secure their observance by non-member maritime nations.

In accordance with its approved Programme of Work for the period 1997-98, the Maritime Transport Committee (MTC) has undertaken work in the following areas:

- Compatibility of shipping policies
- Promotion of rules concerning maritime safety and the protection of the marine environment
- Consideration of support measures provided by Member countries for shipping
- Dialogue with non-Member countries, including a Workshop on Shipping Policies with China
- Review of MTC Common Shipping Principles
- Trade in Services

Summary of main issues discussed at last MTC meeting on 23-24 April 1998

Appendix 10 : : Source : Reference [8]

Compatibility of Shipping Policies

The OECD seeks to ensure compatibility of shipping policies, given that diverging policies and legislation are considered detrimental to maritime transport operators. This is particularly true for competition policy where rules may vary considerably from one part of the world to another, and this may impede the liberalisation and the adjustment of commercial policies in the maritime sector. The Maritime Transport Committee is trying to encourage pragmatic solutions in this area, and has just released its report.

MTC Conclusions on Work on Promotion of Compatibility of Competition Policy Applied to International Liner Shipping Including Multimodal Transport with a Maritime Leg.

Appendix 11 : : Source : Reference [9]

Activities :

Meeting of the Maritime Transport Committee, Paris, 23-24 April 1998

The principal issues considered by the Maritime Transport Committee (MTC) were: a Draft Understanding on Principles concerning Shipping Policy for discussion between representatives of OECD countries and Dynamic Non-member Economies (DNMEs); shipping relations among Member countries; possible actions to combat substandard shipping by involving players other than shipowners in the shipping market, and the Committee 1999-2000 Programme of Work. The Committee also elected its officers for 1998.

Relations with Non-member Economies

After considerable discussion, the Committee agreed to a draft Understanding on Principles to be Adhered to in International Maritime Transport for discussion with DNMEs at a meeting to be held in conjunction with the next MTC meeting in December 1998. Within the OECD, the DNME group comprises: Argentina, Brazil, Chile, Chinese Taipei, Indonesia, Hong Kong (China), Malaysia, Singapore and Thailand.

The draft principles concern shipping policy; encouragement of commercial initiatives and co-operation; promotion of maritime safety and protection of the marine environment; and consultations to improve competitive access to international seaborne trade.

The Committee also endorsed a proposal for the next stage of the dialogue on maritime issues with China. It is envisaged that such a step will go beyond the traditional exchange of information and will be used by both the OECD Members and China as an opportunity to raise and address any problems which may exist in their maritime relations.

Relations among Member countries

The Committee, although recognising that a number of the 1987 Common Principles of Shipping Policy for Member countries no longer fully responded to present circumstances, decided that it was not appropriate to undertake a comprehensive review of the Principles, principally because of the concern expressed by some delegations that reopening the contents of the Principles may result in a significantly less liberal overall package than the one presently in force.

However, the Committee did endorse the proposal to add additional Principles to cover recent maritime developments such as multimodal transport and safety and environmental issues. The Committee agreed to complete discussions on these additional proposals by about mid-1999.

Safety and the environment

The Committee agreed to the public release of a discussion paper; Possible Action to Combat Substandard Shipping by Involving Players Other than the Shipowner in the Shipping Market ; This paper, which will be made available over the Internet, will be backed up by a series of discussions with industry players (e.g. financial institutions, marine underwriters, protection and indemnity clubs, classification societies, cargo generators, ship brokers) for action and will culminate in a roundtable later in 1998 between governments and industry players. It is expected that such a roundtable will develop proposals for actions contributing to the elimination of substandard shipping.

Programme of Work 1999-2000

The Committee endorsed a Programme of Work for the period 1999-2000. In approving this Programme, the Committee noted the resource constraints which the Organisation was facing, and requested that a thorough appraisal of progress on the Programme be undertaken at the end of the first year. The highest work priorities were given to: dialogue with non-Members; support measures; competition policy issues; shipping policy developments and non-compliance with environmental regulations.

Officers for 1998

The Committee elected: Mr. Ryoichi Sonoda (Director, Maritime Transport Bureau, Japan) as its Chairman for 1998. Mr. Ok-In Baek (Assistant Minister, Ministry of Maritime Affairs and Fisheries, Korea) Mr. Leif Nygaard (Director-General, Ministry of Trade and Industry, Norway) and Mr. Christoph Hinz (Director-General for Shipping, Federal Ministry of Transport, Germany) were elected Vice-Chairmen.

Appendix 12 : : Source : Reference [10]

Shipbuilding

Objectives

In the area of shipbuilding, the OECD seeks to encourage transparency, exchange of information, monitoring, peer review and moral persuasion.

It provides a forum for the exchange of information among governments on world shipbuilding policies and conditions. As the only international body charged with influencing and guiding government policies for shipbuilding, one of its objectives is to contain and progressively eliminate government assistance, which has been a characteristic feature of shipbuilding in many countries and has distorted competitive conditions in the industry.

Countries participating in this work are: Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Korea (since 1990), the Netherlands, Norway, Spain, Sweden, the United Kingdom, the United States (since 1989) and the Commission of the European Communities.

Observers are: Canada, Poland (since 1992), Portugal, the Russian Federation (since 1996) and Turkey.

Appendix 13 : : Source : Reference [11]

Shipbuilding

Activities

To contain the subsidiation provided by OECD countries to their shipbuilding industries, the OECD has in the past negotiated three agreements which subsequently became "Resolutions" of the Council of the OECD. They concern export credits for ships, special subsidies to shipbuilding, and government policy regarding the restructuring of the shipbuilding industry. Since 1989, the OECD Council Working Party has been the forum for negotiating the international "Agreement Respecting Normal Competitive Conditions in the Commercial Shipbuilding and Repair Industry".

At present, priority is given to expanding the policy dialogue in this area to emerging shipbuilding nations in the new independent states of the former Soviet Union, central and eastern Europe, and China. A workshop with these emerging markets covering shipbuilding policies was held in Paris on 8-9 December 1997.

In its technical and statistical work, the OECD is assisted by shipbuilders' associations in Member countries. Work covers a wide range of factors that shape the evolution of the shipbuilding industry in OECD countries and in the world; particular emphasis has recently been put on forecasts of longer-term demand and supply of ships.

Appendix 14 : Source : Reference [12]

Other Statistical Methods

(i) The Kolmogorov-Smirnov test

An alternative goodness-of-fit test is the Kolmogorov-Smirnov one-sample test, named after A.Kolmogorov and N.V.Smirnov, two Russian mathematicians who provided the theoretical foundations for this test. This test compares the observed cumulative frequency distribution for the sample to that expected for the population specified by the null hypothesis. The test statistic obtained is the maximum deviation between the observed and the expected distributions.

(ii) Wald-Wolfowitz run test

In statistical inference it is usually assumed that the collected data constitute a random sample. Such an assumption, however, may be test by the employment of a nonparametric procedure called the Wald-Wolfowitz one-sample run test for randomness. The null hypothesis of randomness may be tested by observing the order of sequence in which the items are obtained. If each item is assigned one of two symbols, such as S and F (for success and failure), depending either on whether the item possessed a particular property or on the amount or magnitude in which the property is possessed, the randomness of the sequence may be investigated.

If sequence is randomly generated, the item will be independent and identically distributed. This means that the value of an item will be independent both of its position in the sequence and of the value of the items that precede it and follow it. On the other hand, if an item in the sequence is affected by the items that precede it or succeed it so that probability of its occurrence varies from one position to another, the process is not considered random. In such cases either similar items would tend to cluster together (such as when a trend in the data is present) or the similar items would alternately mix so that some systematic periodic effect would exist.

(iii) Regression

Regression analysis tell us how one variable is related to another by providing an equation that allows us to use the known value of one or more variables to estimate the unknown value of the remaining variable. For instance, an economist may use regression analysis to show how one variable, such as percentage unemployment, can be used to predict the percentage inflation rate. The resulting mathematical relationship provides a graphical display called the Phillips curve. More the one variable can be used to estimate an unknown variable. When several variables are used to make a prediction, the technique is called multiple regression.

(iv) Spearman's rank-correlation and Pearson (product-moment) correlation

Among the various statistical methods based on ranks, the Spearman's rank-correlation procedure was the earliest to be developed. For more than three-quarters of a century this procedure has continued to be widely used for studying the association between two variables - primarily because of its simplicity and its power. That is the Spearman rank-correlation procedure is simple to use and easy to apply. Moreover, it has proven to be almost as powerful as its classical counterpart - the Pearson (product-moment) correlation method - under conditions favourable to the latter and even more powerful than the parametric method when its assumptions are violated.

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