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A STRATEGIC STUDY OF THE TOP 20 LINERS DURING PERIOD 1980-2001

By

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DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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ABSTRACT

Title of Dissertation: A strategic study of the top 20 liners during period 1980-2001

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Since Malcom McLean started his business with the converted vessel ‘’The Ideal X’’, container shipping has been developed with double-digit average per annum growth. Containerised cargo is moving around the world as the result of globalisation, the lifting of trade barriers, the development of technology and so on.

Over the past 20 years, container shipping has been shown to be a high-risk business with a continuos changing of the list of the top 20 container service operators. The merging, acquisition and bankruptcy of some companies as well as the increase in capacity of the others have been witnessed.

This dissertation will studies: the changing in the ranking, capacity development of liners in the top 20 from 1980 to 2001; the factors and strategies that can lead to the success and failure of liners during this period; and the trends in the liner industry for the coming years.

This research shows the lists of ranking of liners from 1980 to 2001 based on the capacity deployed and the findings from the study of the top 20. It then comes to analyse a few selected liners, which the author thinks, outperformed others in offering container-shipping services. The trends, development in container shipping and the reactions of the top 20 liners to those trends are analysed in chapter 5. Finally, the last chapter summarizes the findings of this study.

Key Words: Liner, Strategy, Ranking, Capacity, Profitability, Top 20.

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LIST OF ABBREVIATIONS

ACL	Atlantic Container Lines
ACT	ABC Container Lines
APC	American President Companies (Parent company of APL)
APL	American President Lines
APM	Arnold Peter Moller
BBS	Baber Blue Sea
BSC	Baltic Shipping Company
CEO	Chief Executive Officer
CGM	Compagnie Generale Maritime
CI	Containerisation International
CMA	Compagnie Maritime de Affretement
CRM	Customer Relationship Management
COSCO	China Ocean Shipping Company
CSAV	Company SudAmericana de Vapores
CSCL	China Shipping Container Lines
EMC	Evergreen Marine Company
FEU	Forty Foot Equivalent Unit
HLCL	Hapag Lloyd Container Lines
KSC	Korean Shipping Corporation
MISC	Malaysia International Shipping Corporation
MOL	Mitsui O.S.K Lines
MSC	Mediterranean Shipping Company
MSL	Maersk- Sealand
NOL	Neptune Orient Lines
NYK	Nippon Yusen Kaisa
OCL	Oversea Container Lines
OECD	Organization for Economic and Co-operation Development.
OOCL	Orient Oversea Container Lines

POL	Polish Ocean Lines
PONL	P&O Nedlloyd Lines
TEU	Twenty Foot Equivalent Unit
UASC	United Arab Shipping Corporation
USL	United State Lines
VLC	Virtual Liner Company
WMU	World Maritime University
WSC	World Shipping Council

CHAPTER 1
INTRODUCTION

1.1 Background

Globalization is spreading all over the world, Mr. Ikuta, former senior managing director of MOL, emphasizes that ''International commerce is becoming increasingly global as more people throughout the world expect a better standard of living and availability of any merchandise they desire. Transportation is the key to serve that purpose'' (Damas,P. December 1991,cover story). Traders are becoming bigger and they trade on the global scale wanting long-term, stable contracts with carriers on the global scale.

In shipping, carriers are facing globalization in both supply and demand. The customer is more demanding and wants the carrier to be big enough to serve their business demands in the global perspective. As the consequence, carriers have to expand their operations. We can see the picture of the capacity increase and the carrier's ambition by examining the top 20 liners through the period 1980 to 2001.

In 1980, the top 20 liners shared around 40% of the total world's fleet capacity, it was 43% in 1993, and 50% in 1997. In 2001, they controlled nearly 59% of the world container fleet and 83% of the world cellular fleet. In fact, the top 20 liners created a big barrier for the new comers entering the league.

This research will try to discover and analyze data collected about those top 20 liners from 1980 to 2001 with the aim to achieve the objectives below:

- To trace the development of their fleets
- To find and analyse the strategies that can lead to the success and failure of liners
- To find and analyse what makes some liners outperform their rivals or their changing strategies as they respond to the changes in liner shipping
- To analyse the trends in liner shipping and the reactions of the top 20 liners to those trends

1.2 Dissertation outline

Chapter 1: In the introduction, the background and the purpose of the study are stated

Chapter 2: Containerisation and the main liner shipping strategies

Chapter 3: The top 20 liners during period 1980- 2001 and some findings from the study

Chapter 4: Analysis of some selected liners: Maersk-Sealand, MOL, Evergreen and MSC

Chapter 5: Some trends and developments in liner shipping

Chapter 6: The Conclusion

1.3 Research methodology:

All the collected data and reports were processed and analyzed in order to get the best picture of the top 20 liners. The ways of collecting data were as follows:

- ✓ Due to the fact that in container shipping carriers do not always inform and publish their fleet capacity, management, marketing strategies and financial

situation, therefore all the shipping research and consultant companies have different data. Even one single consultancy may have different statistics. Some reports (UNCTAD's Annual Maritime Review, OECD report, etc) were used statistics coming from several sources. Indeed, this creates conflicts where making comparisons for long periods of time. Therefore, in my research I tried to collect data from reliable sources as:

- Data for a liner's capacity and their ranking:
  - Containerization International (CI)
- Data for market report, all analyses:
  - Lloyd's List
  - Lloyd's Shipping Economist
  - Fairplay
  - American Shipper Magazine
  - Containerization International Magazine.
  - Drewry Shipping Consultant
  - Clarkson Shipping Research
  - Platou
  - UNCTAD Maritime Reviews
  - Carrier's report and their websites

- ✓ The statistics for the ranking and capacity of liners were based on the fleet capacity deployed in services (nominal capacity) but sometimes were quite approximate statistics due to:
  - The carrier's subsidiaries: whether or not to include their subsidiaries or affiliates in their total capacity (for example: MSL and Safmarine, Hanjin and Senator, Evergreen and Hatsu, Lloyd Trestino,Uniglory)

- Ship particulars (True vessel's capacity is controversial, the carriers and ship-yards did not disclose exactly the carrying capacity, like the case of Maersk- Sealand with its S- type vessel)

✓ Recently, due to the request from carriers, some research and consultant companies have revised their statistics. They have separated the capacity of the carrier with its subsidiaries (like CI). However, the author has kept CI's previous rankings and statistics as the main source for this research, as those truly reflect the carrier's capacity.

✓ The capacities were mainly figured as of a particular month of the year. Therefore the reader could find some small discrepancies between this research data and other publications as they used data figures at different times of the year.

Because of the difficulties in finding data, this research could not avoid errors. The author would appreciate having the understanding and comments of the reader.

CHAPTER 2

CONTAINERISATION AND THE MAIN LINER SHIPPING STRATEGIES

Although containerization was started in 1965 by Malcom McLean with the converted vessel '' the Ideal X'', it was during the period 1980-2001 that container shipping developed rapidly and has been ''the engine driving our global economy, a key factor in making today's economic globalization possible''(WSC 2001, p. 27)

Container shipping (liner shipping) is different from tramp shipping and is characterized by many economic and political factors (WSC, 2001, p17) that we can be seen below:

- Operational features:
  - Services are based on a commitment with fixed and regular schedules
  - Ships must sail even without cargo on board.
  - There is a high fixed cost to operate regular services. Most costs are fixed, cargo handling costs are variable costs,
  - Self-regulated industry. No regulatory barriers for new entries
  - Inelasticity of supply and demand.
  - Subsidization from governments for some liners in shipping and shipbuilding.

- Information and communication technology is more important than that of tramp shipping.
- The imbalance of trade causes the imbalance of equipments
- Service deployment or withdrawal is on large scale (network, capacity)
- An international business, therefore the liner business is subject to national, international law and regulation.

❖ Organizational features
- Liner companies are large and complex with a network of offices and agents

❖ Contractual features
- Sometimes, there is no contractual document signed between parties before shipment and the bill of lading is the transport document.

❖ Commercial features:
- The tariff system is too complicated which may combine both the FAK rate and the commodity rate.

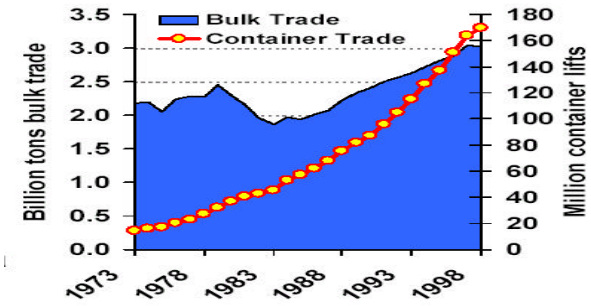
Like other shipping market segments, liner shipping is also governed by the rule of supply and demand. Since 1980, the world has been changing quickly and liner shipping has evolved into an international and complex industry. Liners have been struggling to maximize profits and minimize costs through many strategies and industrial trends.

2.1 Global container shipping:

Container shipping has proved to be a high efficient means of transport with a low cost, fast transit time and low risk. Thanks to the globalisation process, the lifting of trade barriers and the development of new technologies, the cost per TEU has decreased annually. This has paved the way for containerisation to come into other shipping

sectors, which used to be served by bulk shipping. During the period 1980-2001, container shipping has penetrated the bulk market The total world sea-bone trade increased on average at 2-3% per annum (Stopford.M, 2002a, p.2), in which the container traffic grew on average at 6-8% per annum while the bulk trade grew 1-2% per annum only (figure 1).

Figure 1: The growth of the container trade



Source: Clarkson (2002), http://www.clarksons.net/

According to the table 1, the world container traffic has increased steadily since 1980. In 1980, the world container traffic was only 37.2 million TEU. In 2001, it was 236.5 million TEU and 6.4 times larger than it used to be.

Table 1: The world container traffic 1980-2001

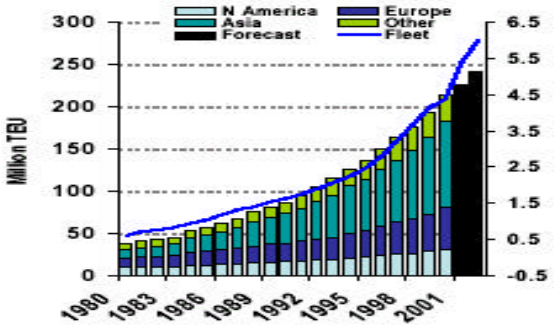
Year	*World Container Traffic (million TEU)*	*Percentage increase*	*Year*	*World container Traffic (million TEU)*	*Percentage increase*
1980	37.2	16.3%	1991	93.6	9.3%
1981	40.9	9.9%	1992	102.9	9.9%
1982	42.8	4.6%	1993	113.2	10%
1983	45.6	6.5%	1994	128.3	13.3%
1984	53.3	16.9%	1995	137.2	6.9%
1985	55.9	4.9%	1996	147.3	7.4%
1986	60.9	8.9%	1997	163.7	11.1%
1987	67.3	10.5%	1998	171.5	4.1%
1988	73.8	9.7%	1999	203.2	18.5%
1989	78.5	6.4%	2000	225.2	10.8%
1990	85.6	9.0%	2001	236.5	5.0%

Source: Combined from CI

The major markets of containerisation are North America, Asia and Europe. The health of those economies creates impacts on the development of container traffic. In the 1980s, the United States of America adopted a policy to stimulate the domestic consumption, so-called ''Reaganomics'' (Jamri, 1990, p.3) that increased the consumption expenditures and created more trade in the world. Especially, in Asian countries (Taiwan, Korean, Philippines, Singapore and Malaysia), trade grew tremendously because their economics are largely dependent on exports to the USA.

In the 1990s, the world changed faster than ever because of: the globalisation process, the emergence of Asian 'tigers', the policy developments of the USA, the EU countries and others. Trade agreements among countries or in the region have been adopted like GATT (WTO), EFTA, and AFTA. These agreements have facilitated the movement of cargo around the world. North America, Asia and Europe are the three biggest markets for containerisation (see figure 2). As the major trading partner of the USA and EU, Asia appeared as the area with the strongest growth and the Intra-Asia lifting increased all the time with hundreds of shipping companies operating services.

Figure 2: Regional container lift and world container fleet capacity



Source: Clarkson (2002), http://www.clarksons.net/

Ma (2001, p.14) emphasizes that ‘’the shipping industry has been the sector where probably the most significant in productivity has been experienced during the last 40 years’’. The developments of containerisation and new technology have been the main factors that contributed to the increase in the size of the containership.

Since the first generation of container ships deployed in service in 1964, containerships have passed to the 5th generation nowadays (table 2). The economics of scale forced carrier to pursue large ships and tonnage. People in the industry are now discussing the mega-ship of 10,000 TEU or 12,000 TEU. However, many people are wondering about this application, as it may turn out to be a ‘dis-economy of scale’ if the ship’s allocations are not fulfilled.

Table 2:The growth of the containership’s size

Time	Generation	Capacity (TEU)
1964-1967	1st generation	1000
1967-1972	2nd generation	1500
1972-1984	3rd generation	3000
1984-1995	4th generation	4500
1995- now	5th generation	6000 and over

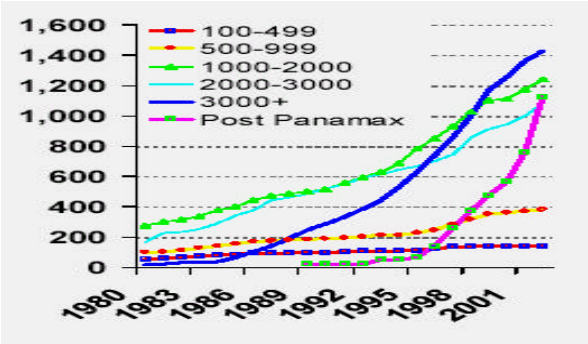
Source: Author compiled from Drewry

In the 1970s, liners preferred to use multipurpose ships or Ro-Ro ships for carrying containers. Thus, specialization in the shipping industry has made the carrier specialise their fleet to the fully cellular ship. The fleet of cellular ships increased by 144% between 1980 and 1990, while the total world fleet capacity increased by 111% (Drewry 1991, p.65). In 2001, most of the liner fleets were cellular containerships in which the top 20 liners held 83% of the total world cellular fleet (Willmington. R, 2002, p.7).

All the liners wanted to achieve a so-called ‘’economics of scale’’ by ordering new, bigger ships. The number of bigger ships increased tremendously as figure 3 illustrates. In 2001, according to the CI data bank, there were 155 ships (5,000 TEU plus capacity)

and 435 ships (3,000-4,999 TEU capacity). The post- panamax fleet is continuing to grow and the mega ship (over 10,000 TEU capacity) may be introduced into services in the coming years.

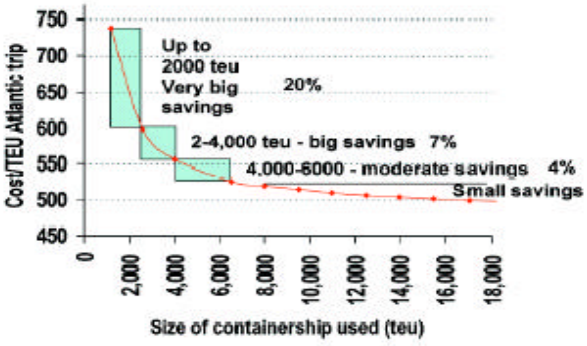
Figure 3: Container fleet by size



Source: Clarkson (2002)

However, Stopford (2002, p.4) revealed: ‘’the average ship size is not always increased’’, the average size being 2,200TEU in 1988, 1800 TEU in 1992, 2200 TEU in 1998 and 3300 TEU in 1999-2003 (order book included). At the CI conference in April 2002, Stopford emphasized that the unit cost could save 20% by increasing the ship size from 1000TEU to 2000 TEU, by 7% from 2000 TEU to 4000 TEU and only by 4% from 4000 TEU to 6000 TEU (see figure 4) (‘Size is not everything’, June 2002)

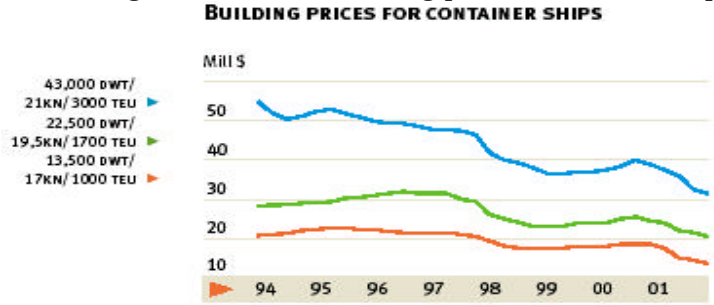
Figure 4: Economics of scale



Source: Clarkson (2002), http://www.clarksons.net/

In the new building market, the prices of new buildings have slightly decreased (see figure 4) as the result of the moving orders from European shipyards to the Asian shipyards in Japan, Korean and China.

Figure 5:The new building price of container ships



Source: The Platou (2002), www.platou.com

The main reasons for this shifting are: the reduction of EU subsidies to the shipbuilding sector, the labour relation problem in European shipyards during the 1980s and the high productivity, the lower cost of Asian Shipbuilders.

Despite the increase in the world container traffic and the low price of new buildings, the profitability in liner shipping was under expected. The freight rate has decreased over time, ocean freight now accounts for a small portion (around 2% or less) of the total cost of cargo transported. According to the analysis published on CI-online recently, between 1993-2001, the freight decreased at an annual rate of ‘’5% on the transpacific, 4% on the transatlantic, and 6% on the Europe/Asia’’ (Déjà vu, June 2002).

In the period 1980- 2001, container shipping has been underwent many changes on both the supply and demand sides and liners struggled for survival in the game by implementing many shipping strategies to adapt to the situations. Some failed and were out of the game while others continued to develop. In the next part, the main liner shipping strategies during 1980-2001 will be examined in order to reflect their response to the changes.

2.2 – Liner shipping strategy:

'Shipping is a highly volatile business'' (Wergeland.T 1992, p. 541). Indeed shipping is a high-risk industry, one can earn a lot of money in this month but he can lose all in the next month if the wrong decision on investment, strategy was chosen. The container shipping is even more risky, as Sir Yue-Kong Pao, former chairman of world wide shipping, once described as ''a poker game – you just have to keep putting more money on the table which you are about to lose'' (Drewry 1991,p.9)

Nowadays, liners have been seeking many ways in order to survive and to be profitable in the game. There are many individual strategies taken by liners, however there are some main areas of conceptual and organizational strategies where carriers have to make decision:

- Conference or non- conference
- Alliance/ consortium or solo
- The ownership or outsource
- Global carrier or niches carrier
- Total logistic provider or ocean carrier
- The routing option: RTW, Pendulum, End-to-end, Hub-spoke or direct call service.
- The yield management

2.2.1 Conference or non- conference:

As mentioned above, the liner services are based on the commitment of fixed schedules and regular services. In the past, there were some liners deployed on services when the trade was profitable and withdrawn when the trade was weak. This caused an unfair situation for other liners and of course to the traders. Beside, the fierce competition and

the lower ROI (return of investment) also pushed liners to cooperate in order to stabilize the market, to minimize cost.

During the period 1980-2001, shipping lines have much enjoyed the umbrella of the freight conference system, which helped them to maintain and stabilize the freight market. The conference and rate agreement was said to: ''have been about as effective in halting the drop [freight rate] as a parasol for a skydiving elephant'' ('Conference countdown', 1998, p.24)

Today, the number of freight conferences has been reduced in comparison with that of in the last decades, however they still remained and have impacts on the major trades. The reasons for this decrease are not only due to regulatory requirements but also from the strong growth of non- conference members. The period 1980-2001 witnessed the change in the freight conference system through the regulations: the 1984 Ocean Shipping Act (for the right of independent action), 1998 OSRA- Ocean Shipping Reform Act (individual contract), EC regulation 4056/86 (Block exemption in relation to the EU competition rules).

There were two types of conferences: open and closed conference, but the closed conference was abandoned by the EC and USA. In the 1980s and early 1990s, the choice to be a conference member was also based on the regulatory requirement of the different law system:

- US Trade: (open conference)

  A liner was entitled to join any conference provided it satisfied the membership's requirements.
- Europe trade: (close- conference)

The closed conferences controlled the admission of new liners by the various stringent requirements: market share, service quality, etc.

The conference system has both disadvantages and advantages in view of liners:

- Advantages:
  - Controlling, managing the capacity and facilitating corporation among members for minimizing cost and expanding services.
  - Providing a stable rate, regular service and efficient capacity to the traders
  - Creating one voice to authorities to protect member's interests.
  - Offering security to the carrier for capital investment.

- Disadvantages:
  - Strictly binding conference rules and arrangements (freight and capacity) thus not being flexible for a liner to change its strategies (operation, marketing, sale and pricing) when there was suddenly a change in demand or supply side or when the liner wanted to take independent action for any rate item.
  - Application for being a conference member was (sometimes) a long process
  - Costly, bureaucratic
  - Being the objects of some authorities and organizations like OECD, shipper councils, etc to claim for the antitrust exemption.

A liner decided to be a conference member or outsider based on its policies and the company's objectives.

2.2.2 Alliance/ Consortium or sole:

The need for co-operation among liners is more demanding than that in any other industry due to the liner shipping's characteristics and the changing of the global economy. In 1972, the first consortiums named TRIO (included OCL, BLC, Hapag Lloyd, MOL, NYK) and ScanDutch (East Asiatic, Tran-Atlantic, Wilhelmsen, Nedloyd and CGM) were formed and those lasted till the early 1990s. Two consortiums operated in the different philosophies. For TRIO, members had their own marketing policy and the neutral body- the TRIO Tonnage Center, controlled the ship schedule and allocation arrangement. For ScanDutch, consortium members created the new marketing organization and sold services under the consortium brand, in each country one member was nominated as the liner agent (Drewry 1991, p.25).

Passing over time, only TRIO 's philosophy remained and became the liner consortium's standard. In the 1996, the concept of strategic/global alliance was developed from the TRIO consortium philosophy with the new alliances in the industry- the Global alliance, the Grand Alliance, Tricon, Maersk- Sealand (see table 3).

Table 3: The alliances in shipping from 1996-2001

Alliances	1996	2001
The Global Alliance (The New World Alliance)	APL, MOL, OOCL, Nedlloyd, MISC	APL (NOL), MOL, Hyundai
Grand Alliance	Hapag Lloyd, NOL, NYK, P&O	Hapag Lloyd, MISC, NYK, OOCL, P&O Nedlloyd
Maersk-Sealand	Maersk, Sealand	Maersk- Sealand, Safmarine
TRICON/HANJIN (United Alliance)	ChoYang, DRS-Senator, Hanjin	Senator, Hanjin, USAC
Cosco/K-line/Yangming		Cosco, K line, Yangming

Source: compiled from various sources

The parties in the alliance agreed on the full operational integration, employment and utilization of vessels in the global scale. The pros and cons of joining consortium/alliance can be summarized as below:

- Advantages:
  - Maximizing the use of capital investment
  - Achieving economies of scale in deploying bigger ships in service that an individual carrier alone could not fulfill her capacity and achieving bargaining power for operational costs and expenditures.
  - Offering more frequent, reliable services
  - Improving the quality of services
  - Sharing the use of other assets: vessel, port, terminal, equipment, etc
  - Taking other advantages to penetrate the new market
  - Being able to offer global services to global customers

- Disadvantages:
  - Causing problems in balancing member's interests
  - Holding dissimilar views as the gap of different cultures
  - Falling into the dilemma if a member was merged or took over by another or went bankrupt.
  - Binding by the alliance rule and requirements
  - Being in-flexible in changing liner strategies
  - Being a homogenous service, cargo booked to different liners will be loaded on the same ship, transit at the same hub and get the same service

Minimizing costs can be better achieved by joining an alliance Mr. C.C Tung, CEO of Orient Oversea (International) Ltd, revealed: ''carriers today are not only under pressure to achieve further cost reduction but also need to match the cost efficiency of the largest

existing carrier group'' (Damas.P, 2002 C). However, one of the biggest obstacles is to choose a consortium/alliance partner as Mr. Lim How Teck, NOL's chief executive officer, in the interview with Containerization International in 1990 emphasized: ''a consortium work best when all member are the same, preferably small size. Then they all need each other. If members are of different sizes, the thing will not work. The bigger will know they can live without smaller'' (Drewry, 1991, p.26)

2.2.3 The ownership or outsource:

During the period 1980-2001, many decisions on ownership or outsourcing, buying or leasing have been seen in the industry. These varied from company to company, and were based on various factors like: subsidiary of government, the cost of finance, the taxation system, cash flow considerations, off balance sheet financing, etc.

The assets, in which liners have to invest are the hardware and software (containership, containers, chassis, trailer, port, depot, wagon, computer, regional office, administrative office- ship management, etc). Wergeland (1997, p.565) remarks: ''to have success in shipping, timing is everything''. Indeed, to choose the right option ownership or outsourcing is dependent on the time and various situations and found ''through competitive advantage analysis'' (Shuo Ma, 2001b, p.14). We shall examine those two options as follows:

Ownership

- Advantages
  - Increasing liquidity if the assets acquisition was taken at the right time
  - Creating the image of being more committed to the market
  - Being more flexible in changing operations, management of assets
  - Creating synergy for overall activities

- Disadvantages
  - Increasing capital for investment and maintenance assets
  - Being less flexible to change

Outsource

- Advantages:
  - Reducing capital investment
  - Achieving economics of scale, expertise, know how from the third parties
  - Concentrating on the core business
  - Controlling costs more easily
  - Being more flexible in changing strategies
- Disadvantages:
  - Depending on the other's operations, less controlling over assets
  - Considering as being not service committed in the long run.

According to Mr. Poon, managing director of OOCL, ownership or outsource decisions are taken based on two fundamental criteria: "first, unless you can provide the same product or service at a cheaper cost, you must outsource it. The second criteria is not to over invest, because if the assets or service is not appreciated by the customer, they will not pay for it'' he also emphasizes that ''we have to build our capabilities not our capacities''('Poon aims…game', 1999, p.10).

Container shipping is asset based and a network industry. The unpredictable volatility of earnings and assets values reflects this high-risk shipping industry. Generally, in other shipping segments, the successful company is the one who has "maintained liquidity capacity by trading ahead of the market" (Drewry, 1983 page 25). This means, one can purchase a ship at the bottom price and sell it at the top of the market. If the ship is purchased at the bottom price, it will have a competitive advantage (lower fixed costs) in

comparison with that of a similar ship bought at a higher price. However, this effective/famous philosophy could hardly be applied to container shipping where liners have to keep vessels in the regular service and cannot withdraw a vessel for ‘‘asset play’’. So in container shipping, the question on the asset option: ‘Ownership or Outsource’ should be considered very carefully and is a strategic decision for the liner.

Liners operating on the main routes usually own a fleet. By doing so, they can enhance their image in the market as the long-term service provider and that is crucial in the marketing process. Some liners prefer acquiring new buildings (Maersk, APL, MOL, etc) others prefer second hand ships (MSC). There is a trend in the industry that a liner acquires a ship then sales it and leases it back. This method shows an effective way of combining the advantages of: asset play, owner ship and outsourcing. A ship owner can make a profit from the new acquisition when the market is low or there are favors from the tax regime, then sells the ship when the market is high and leases it back for its operation without interfering with its regular services.

Port, terminal activities and value added services could bring better ROI (Return on Investment) than that of sea transport. Therefore, liners are trying to own depots, terminals and other inland facilities in order to create a synergy for their business and ‘‘provide a very high quality end-to-end service’’ according to Mr. Kjaedegaard, senior vice president of MSL. (Beddow.M, 1999, p.46).

The liner service is required to have a network of offices. The question of establishing an in house office network or nominating agency is also quite important to decide. When the cargo volume and trade activity is sufficient enough, it is better to establish an in house office. However the ‘‘controlling’’ idea in selling, commercial and operational activities is privileged. More and more liners are setting up their in house offices instead of appointing an agency.

2.2.4 The status option: Global carrier or niches carrier

At a matter of fact, together with a liner's ambition, if the liner has good financial capacity, it may want to expand its service to all major trades of the world and to be global carrier. In case, if they have limited financial resources, they will satisfy themselves to be a niche carrier. However the questions of ''is big or small beautiful'' or ''is it necessary to be small in every market or big in a few?'' are really a pivotal matter of liner strategy. In the 1980s and early 1990s, people said that the North –South trade was for niche carriers as those trades were so ''specialized that was not suitable for global carrier'' (Damas.P, 1991, cover story) and the East-West trade was for global carrier. Actually, there is no firmly definition or concept about the global carriers, but its main characteristics are:

- ✓ Strong corporate branding
- ✓ Present in all major trades: East –West, North South
- ✓ Value added services
- ✓ Market share
- ✓ Financial capacity
- ✓ Global commercial orientation and ambition

For the niche carrier, its characteristics can be summarized as:

- ✓ Sufficient size to be profitable
- ✓ Potential growth
- ✓ Specialist market
- ✓ Regional commercial orientation and ambition.
- ✓ Strong market share

Shipping has changed to cope with the globalization process in both supply and demand. To trade with the global carrier, customers can ''be assured of high quality service world wide'' as Mr.Takashi.H, senior managing director of NYK stated and ''expect a more

long-term service from global carriers than from single trade operators'' as Mr.Ikuta, former senior managing director of MOL said (Damas.P, 1991, cover story). However, other liners did not support this argument, Mr. Mikolajczak, deputy chief executive of CMB, remarks: ''shipper, even those moving into the global markets, sooner or later will discover that no shipping company in the world is strong in every trade. Shippers will always find ways and means to best suit their needs, which are not necessarily through a one-stop-shopping global carrier''(Damas.P, 1991, cover story). While many liners want to be on the global scale like: Maersk-Sealand, MOL, NYK, HLCL, CMA, Evergreen, etc some liners prefer to be ''big fish in several small ponds'' and want to call themselves the niche carriers (ACL for Europe-American, Delmas for Europe-Africa trade). Recently the trend of M&A (Merge and Acquisition) continued on both the supply and demand sides, with the result that there will be few liners in the world but they operate on the global scale and are truly global carriers.

2.2.5 The service option: Multi-modal Transport Operator/Logistics Provider or Ocean Carrier?

Since 1980, there has been a strong demand for multi-modal transport and the United States of America became the flourishing land for multi-modal transport development. In that decade, most liners wanted to be involved in multi-modal transport with the hope of getting better revenues and offering more services to customers. In the early 1980s, liners were involved in inland transport (road, rail and water way). In the late 1980s they wanted to devote more value added services to customers by expanding their scope of business to cover all the supply chain management. Liners wanted to create 'one stop shopping', to offer total logistics from the production sites to the consumer sites. During this period, we can see the changes in the terminology concepts, liners claimed themselves to be Ocean carriers, Multi-modal Transport Operators, Container Service Providers, and now to the Total Logistic Providers.

Is it necessary to be in all the parts of the game 'Supply Chain Management?' Some liners say 'yes' and others say 'no'. The business philosophies of liners are more or less different. MSL, MOL, APL, NYK, PONL, etc re-branded themselves as the total logistic providers. They wanted to expand more in the supply management chain while other liners (Evergreen) wanted to concentrate on sea transport only. Still others are in the middle of the stream in this option. Liners found opportunities in the supply chain management as they could get higher profits from the logistics and value added services offered to customers (Thorby.C, 2001, April). Therefore, we could expect more diversification of liners into other transport modes.

2.2.6 The routing options

2.2.6.1: The round the world, end to end, pendulum, double dipping service:

One of the main problems of liners is how to increase the utilization of ships and improve the slot earning capability. Beside many other strategies, to choose the best suitable routing option can be the most effective way. There are four main routing options: end-to-end, pendulum, double dipping and round the world service. End-to-end is the traditional service in liner shipping, the pendulum operating as the end-to-end service but through the intermediate market. In 1985, Evergreen and USL debuted the round the world service (RTW) which covered the major trades with big capacity vessels. Through the RTW service, they hoped that the vessel could get high utilization as she carries cargo over from one leg of the service routes to another. Because of the imbalanced trade, the technical and operational problems, now there are few liners operating this type RTW service.

Choosing the right routing options should be based on the economic study of each liner in accordance with their capabilities.

2.2.6.2: Direct calling or hub-spoke service

The size of the ship has been increasing rapidly in order for the liner to achieve 'economic of scale'. There are many reasons that bigger ships could not call at some ports such as: insufficient cargo, draft restriction, minimizing the turn around time in the port and reducing the number of ports served. Therefore, liners have to make their clear decisions by choosing between two alternatives:

- The Direct calling
- The Hub-spoke service

When choosing one of them, various factors must be taken into consideration like:

- Cost comparison
- Cargo volume
- Political, technological reasons
- The ambition of liners
- The availability of feeder networks in the region
- Customer policy (transit or direct call)

Ma (2001a, p.89) remarks: ''in many case, transshipment or direct call is an economics decision'' and liners have to make a comparison for the ''total cost which includes ship related costs and cargo related costs.''

2.2.7: Yield management:

The liner business is a more sophisticated industry than that of others. People not only need to utilize the allocation of ships, they need to consider the total cost of the business (sales, customer service, vessel, terminal, inland transportation, equipment, overhead, etc.). Nowadays, all liners want to devote a " global service" to customers by deploying

more ships and equipment. However, trade imbalance caused liners in the dilemma of surplus or shortage of equipment. The equipment repositioning cost is a huge amount so they try to cut the cost of repositioning by:

- Using cheaper cost ships and terminals to move empty equipment,
- Using affordable containers
- Pooling information, direct interchange (DIR) among the alliance members
- Leasing or off hiring from the container leaser

However, in fact, these are negative ways of solving a problem when it has already occurred. “Prevention is better than cure”, liners should have strategies and contingency plans to reduce and avoid the imbalance of equipment rather than to pursue the above-mentioned methods. The way out for this headache, a costly matter, is the yield management strategy. Hapag Lloyd, MSL and others have implemented this yield management effectively and successfully. By doing so they are now considered as one of the most profitable liners in the world. The following are the key elements of yield management:

- ✓ All staff from the board of directors to simple staff are aware of the importance of equipment control, inland operation in determining company financial success
- ✓ To establish the yield management system for controlling the productive time of equipment
- ✓ To consider the “total cost “ of the business rather than isolated business
- ✓ To classify customers to different categories and use different strategies for each of them
- ✓ To categorize customers for selecting the most profitable cargo based on a ‘'win-win” situation

- ✓ To negotiate with the customer for the best utilization of equipment for their cargo; to have confidential negotiations of contract with customers.
- ✓ To control the cost of inland haulage
- ✓ To locate inland points (ICD, depot) for flexibility of shipment
- ✓ To introduce an effective IT system to support the yield management
- ✓ To have a database of the total cost structure of every point (inland and sea port)

Yield management is the best way that liners should implement for their operations. There are many other strategies and management ways that liners have applied in practice. Besides those above-mentioned strategies, liners also consider some strategies such as: decentralization or centralization, M&A, diversification or specialization.

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This chapter has gone through the development of containerization and some basic strategies that liners have to take for their operations. All those strategies could lead to the failure or success of a liner. ''A poker game - you just have to keep putting more money on the table which you are about to lose'' (Drewry 1991,p.9). Yes, that is container shipping where liners have to continue investing money into their operation and hope to get it back. But things do not always go as they expected, shipping markets are changing in circles. Some good years will be followed by bad years. Liners have to take prompt and proper strategic decisions to get enough profit to cover the bad years. All these things caused the ups and downs of the top 20 liners from 1980-2001 and the next chapter will investigate those changes.

CHAPTER 3
THE TOP 20 LINERS DURING PERIOD 1980-2001 AND SOME FINDINGS

3.1 The changing of the ranking and capacity development of carriers during 1980-2001

In the back issues of various maritime publications such as: CI, Lloyd list, American Shipper, Drewry reports, European Shipper Council, etc we can read the big titles about the top 20 such as ‘‘the bigger have got bigger’’, ‘‘the top 20’’, ‘‘top cat’’, ‘’ leader of the pack’’, ‘‘top 20 boost share’’, ‘‘top 20 tighten their grip’’, etc. By tracking the development in both capacity and ranking of the top 20-container shipping liners, the top 20 is really a powerful force in the whole world container shipping. The appearance and disappearance of liners in the list, besides external environmental conditions, could be caused by the successful or failed strategies which were taken by individual liners at a particular time as explained in chapter two. Below, the development of the world container, top 20 fleet capacity and world container traffic during the period 1980-2001 will be examined.

3.1.1 The period 1980-1985

After the peak period of 1979-1980, the world economy went into recession from 1980-1982 in which GDP growth fell from 2.2% in 1980 to 1.1% in 1982. The world container traffic growth decreased from 16.3% (1980) to 4.6% (1982), however the world container fleet continued to expand with a growth of up to 15% in 1982 (table

5). As a result, the supply was exceeded demand and many vessels had to be laid up as per research by the NYK research chamber revealed: '' the container ship sub-sector, too, reflected the slacking of cargo on many route. At the end of 1982,full and semi-container ship suspended from service on a long-term basis, or laid up, total some 1.5m GRT or 53,000TEU'' (Koike.Y, 1983, p.35). All liners faced the decrease in demand and the world container fleet growth was – 1% for 1983.

Table 4: The development of ranking and capacity of the top 20 from 1980-1985

SEPTEMBER 1980		SEPTEMBER 1981		SEPTEMBER 1982		SEPTEMBER 1983		SEPTEMBER 1984		JULY 1985	
Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU
Sealand	45,367	Sealand	47,000	Sealand	51,846	Sea-Land	60,302	Evergreen	74,132	Evergreen	85,714
Hapag Lloyd	42,208	Hapag Lloyd	46,098	Hapag Lloyd	48,817	Hapag-Lloyd	49,816	Sealand	60,302	US Lines	78,850
OCL	36,201	Maersk Lines	38,800	Maersk	45,500	Maersk	45,500	Maersk	56,100	Sea-Land	61,945
Maersk line	32,749	OCL	37,653	OCL	41,275	OCL	43,986	Hapag-Lloyd	53,817	Maersk	59,317
Nedlloyd	29,416	OOCL	34,178	MOL	36,673	Nedlloyd	43,446	OCL	49,480	Hapag-Lloyd	45,179
NYK	27,607	Nedlloyd	31,116	OOCL	36,130	OOCL	32,717	USL	42,610	OCL	44,899
MOL	27,223	MOL	29,584	Nedloyd	31,193	MOL	31,659	Nedlloyd	41,560	Nedlloyd	39,497
CGM	27,153	CGM	28,524	NYK	31,133	APL	30,523	MOL	40,885	NYK	37,975
Evergreen	27,125	NYK	28,497	APL	30,523	US Lines	29,956	OOCL	37,597	MOL	35,662
APL	23,585	Evergreen	27,664	Evergreen	28,998	Zim	29,570	CGM	34,383	Zim	35,194
OOCL	21,488	APL	23,585	CGM	27,974	NYK	29,509	Zim	33,283	CGM	35,088
USL	20,408	United State lines	23,124	USL	24,194	Evergreen	28,968	NYK	33,262	Cosco Shanghai	34,987
BBS	19,934	BBS	20,021	Zim	22,102	CGM	27,974	APL	30,523	UASC	34,964
Seatrain	19,897	ZIM	18,090	NOL	21,600	Wilhelmsen	22,633	NOL	28,334	OOCL	33,755
ZIM	17,304	K line	14,640	K Line	20,473	Yangming	20,728	K-Line	27,120	APL	32,481
Yangming	15,060	Yangming	14,573	BBS	20,021	K-Line	19,421	UASC	23,804	Yangming	23,409
ACT	14,748	ACT	14,536	Yang Ming	17,036	Star Shipping	18,998	Yang Ming	23,409	K-Line	22,787
K line	12,626	Safmarine	12,540	ACT	14,151	NOL	18,610	BBS	18,000	Star Shipping	21,998
Safmarine	11,149	Korea Shipping Corp.	11,720	CMB	12,956	POL	17,896	POL	17,896	POL	18,763
ACL	10,926	ACL	11,469	Safmarine	12,865	EAC	16,064	ACL	17,141	DSR	18,514
Top 20 Total	482,174	Top 20 Total	513,412	Top 20 Total	575,460	Top 20 Total	618,276	Top 20 Total	743,638	Top 20 Total	800,978
World Total	1,200,000	World Total	1,350,000	World Total	1,551,000	World Total	1,527,948	World Total	1,753,000	World Total	2,211,763
Top 20 Share	40.2%	Top 20 Share	38%	Top 20 Share	37.1%	Top 20 Share	40.5%	Top 20 Share	42.4%	Top 20 Share	36.2%

Source: compiled from CI

In the list of top 20 from 1980-1983 (table 4), we did not see many changes in the ranking of liners. Sealand was always the leader of the top 20 and Hapag Lloyd was the second ranked. Coming to 1984, the total top 20' s capacity increased tremendously by nearly 20% from 1,52 million TEU (1983) to 1,75 million TEU. Those increases in 1984 and 1985 were partly due to the new ships, which were ordered from previous years, deployed in the service and partly due to the new routing concept RTW- Round The World service introduced by United State Lines (USL) and Evergreen. With the RTW service, USL and Evergreen brought a massive capacity into the market. USL lines used 12 vessels of 4,258 TEU capacity while

Evergreen ran 22 vessels of 2,728-2,982 TEU capacity in services. (Drewry, 1986, p.61). The market had been already suffering with the over-tonnage situation but now evens became more serious. Carriers faced with the hard time of capacity surplus and fierce rate competition with those two RTW operators, were trying to fulfil their big hungry ships. Two big lines - Sealand and Happag Lloyd were pushed to give way the 1st and 2nd rank to Evergreen and USL. The surprise for 1985 was the jump of Chinese carrier COSCO, being the first time in the list in 1980 but ranked 12th.

In the USA market, the US Shipping Act 1984 gave exemption for the conference and recognized the benefit of the conferences system to the US sea-born trade. Thus, in 1985, most of the carriers in the top 20 had joined the conferences: Trans-pacific Westbound Rate Agreement–TWRA, Asia North America Eastbound Rate Agreement-ANERA like: Evergreen, USL, MOL, NYK, K Lines, OOCL, NOL, Hanjin, Zim, BBS, APL, Sealand, Lyke (Drewry, 1986, page 74-76). Between 1980-1985, the world container traffic increased by 50%, while the total world fleet capacity increased by 84% and the top 20 capacity increased by 66% (table 5).

Table 5: The development of world fleet capacity, World container traffic 1980-1985

Year	World fleet ('000 TEU)	World cellular fleet ('000 TEU)	Top 20 fleet ('000 TEU)	World container traffic ('000 TEU)
1980	1,200	665	482	37,200
1981	1,350	702	513	40,900
1982	1,551	799	575	42,800
1983	1,527	883	618	45,600
1984	1,754	1,012	743	53,300
1985	2,211	1,160	801	55,900

Source: compiled from various issues of CI, Drewry

3.1.2: Period 1986-1990

In September 1986, the top 20 continued to increase their capacity by nearly 14% in comparison with that of July 1985 (table 7). There were three main reasons:

- The increase in demand

- The need to achieve economies of scale and reduce cost by new, bigger ships with new technology
- The ambition of liners to increase their market share

However, things did not happen as the liners expected, as the lower unit cost of bigger ships could be obtained only when most of the allocations were fulfilled. Those, with the imbalance of trade, were the main causes leading US lines into the bankruptcy at the end of 1986. In 1987, all US lines vessels were laid up or withdrawn from service. That was a hard time in the market; few new orders were placed and with an ageing fleet, the liner ‘‘had to sell operational expensive container tonnage’’ (‘Period of transition’, 1989, p.13). So the top 20 capacity was reduced from 910,894 TEU in 1986 to 873,042 TEU in 1987 and the growth rate decreased by 4% (table 7)

Table 6: The development of ranking and capacity of the top 20 from 1986-1990

SEPTEMBER 1986		JULY 1987		AUGUST 1988		SEPTEMBER 1989		SEPTEMBER 1990	
Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU
Evergreen	105,760	Evergreen	111,594	Evergreen	124,414	Evergreen	139,488	Evergreen	130,916
United State line	96,383	Maersk	73,602	Sea-Land	101,906	Sealand	117,380	Sea-Land	115,367
Maersk Line	66,731	Sea-Land	67,528	Maersk	83,771	Maersk Line	92,491	Maersk	94,703
Sealand	66,404	K-Line	51,507	NYK	69,882	APL	74,016	NYK	78,148
MOL	54,641	MOL	49,328	MOL	65,229	P&OCL	73,533	MOL	70,334
OCL	50,578	NYK	44,398	APL	54,059	OOCL	70,625	APL	66,380
Hapag Lloyd	50,465	P&OCL	42,821	OOCL	48,336	NYK	69,206	OOCL	58,117
NYK	45,262	Nedlloyd	42,658	K-Line	47,968	K Line	65,721	K-Line	55,462
OOCL	44,839	OOCL	42,457	Yangming	46,817	Nedlloyd	65,331	Cosco	54,505
K Line	42,286	APL	42,124	Zim	45,751	MOL	63,364	Hapag-Lloyd	53,178
Nedlloyd	39,585	Hapag-Lloyd	40,986	Hapag-Lloyd	44,054	Hapag Lloyd	55,886	Hanjin	49,621
Zim	35,813	Cosco	35,507	Cosco	43,313	Zim	48,217	P&O Containers	49,368
CGM	34,480	Yangming	34,821	P&OCL	41,202	Yang Ming	46,818	Yangming	46,817
Hyundai	31,120	Zim	34,728	CGM	38,987	Cosco	46,601	Zim	44,916
APL	30,900	CGM	33,375	Hanjin/KSC	38,788	CGM	43,137	Nedlloyd	40,335
Yang Ming	29,549	UASC	30,193	ScanDutch	34,937	NOL	37,284	BSC	36,760
NOL	27,346	Hanjin	26,374	BSC	32,318	CMB	30,832	NOL	35,294
CMB	22,337	DSR	25,997	Nedlloyd	29,995	Hyundai	25,691	ScanDutch	32,948
ACT	18,553	Hyundai	21,826	NOL	26,689	MSC	24,831	SNCDV	31,204
Baber Blue Sea	17,862	NOL	21,218	Blasco	26,188	Hamburg Sud	20,406	CGM	29,040
Top 20 Total	910,894	Top 20 Total	873,042	Top 20 Total	1,044,604	Top 20 Total	1,210,858	Top 20 Total	1,173,413
World Total	2,571,000	World Total	2,723,238	World Total	2,787,900	World Total	3,021,289	World Total	3,168,294
Top 20 Share	35.4%	Top 20 Share	32.1%	Top 20 Share	37.5%	Top 20 Share	40.1%	Top 20 Share	39.0%

Source: compiled from CI

Evergreen was always the first rank in the list from 1986 to 1990, with an average capacity growth of 9%. The highest growth rate of Evergreen was 23% in 1986 (111,594 TEU in service) and it became the biggest and youngest one of the

independent giants. By late 1986 OCL, ranked in 6th position (1985), was taken over by P&O and named P&OCL (see table 6).

The 20% growth in capacity of the top 20 liners was recorded at the end of 1988 (table 7). Sealand deployed a huge capacity, increased by 38% from 73,602 TEU in 1987 to 101,906 TEU in 1988 and overcame Maersk to the second position in the top 20. The Japanese liner MOL also increased by 32% of its capacity. However, the most impressive increase was NYK, nearly 57%, to 69,882 TEU in 1988 from 44,398 TEU in 1987. The time of the bigger ship had come as the study of CI showed that ''approximately 46% of the slot in operation or ordered by the world's 20 largest carries were on vessels of 2,500 TEU or over''('Period of transition', 1989, p.8). The first ultra- panamax containership APL C-10s, 4,300 TEU was introduced in the market in 1988 and even those vessels could carry more if six tiers were loaded on deck. Going further, the big lines Maersk Line deployed nine 3,900 TEU vessels (it could be 5000 TEU if the containers were stacked on desk). All other carriers pursued that way and ''the search for economic of scale with large vessels shows no signs of ending'' as this CI study concluded ('Period of transition', 1989, p.8). The huge tonnage put in service during 1987 and 1988 had caused a great imbalance between demand and supply. Major liners had increased their capacity at a faster rate than the growth rate of trade. In the following years, they suffered much from these impacts. The vessel 's utilization of most carriers was very low (on the east west trades, except APL and Sealand who got the advantage of carrying US military cargoes) and the imbalance of trade created more sinking costs for empty container repositioning.

Some years before liners believed that a higher market share with cheaper rates could bring more profits than that of the lower market share with higher rates and they could make profits up on the volume carried. This strategy together with the over-tonnage situation made the market collapsed and ''they just destroy the prices. They are not even covering the out of pocket costs'' (Drewry 1991, p.73). Freight dropped

and the question of profitability in container shipping was put on the table for discussion. Coming to 1990, the top 20 fleet capacity was reduced by 3% (table7)

Table 7: The development of world fleet capacity, world container traffic 1986-1990

Year	World fleet ('000 TEU)	World cellular fleet ('000 TEU)	Top 20 fleet ('000 TEU)	World container traffic ('000 TEU)
1986	2,571	133	910	60,900
1987	2,543	141	873	67,300
1988	2,788	151	1,044	73,800
1989	3,021	162	1,210	78,500
1990	3,168	146	1,173	85,600

Source: combined from various issues of CI, Drewry

Liners were forced to seek increasing utilization and profit. The ways out could be: the global network, cost effective control, information system, value added services, inter-modal services, large/efficient tonnage and corporation among them Participating consortia, joint service and slot charters could obtain the weekly regular services, economies of scale and market coverage. Major carriers in the top 20 had joined some forms of co-operation. Maersk Line, the most independently minded operator, joined service agreement: with P&OCL in the Europe- Far East Trade; with P&OCL and Sealand for Europe- WCNA service and with Sealand in the Trans-pacific trade. Even Evergreen had seen the benefit of chartering capacity in 1989. However at the end of 1990, they were still ''only one which did not appear to be turning away from a consistently isolationist approach'' (Phillips.F, 1991 p.5).
We can recognise the strong development and ambition of US carrier Sealand during this time by inaugurating more tonnages and implementing a highly centralized computer system. Sealand had invested heavily in capital for a computer system network, software, and provided EDI links with its customers and used it as a management tool (''Distribution revolution'', 1988, p.6). However, not all the liner in top 20 were able or agreed to invest in that.

Recognizing the business opportunities and the business trend of ''total distribution services'', in 1988, some of the top 20 liners continued to expand ''total distribution

services'' like: APL, Sealand, Maersk lines, P&O, Hapag Lloyd, ACL, ScanDutch and they had well–established distribution services (''Distribution revolution'', 1988, p.6). Entering to 1991, liners were in a bad mood about the uncertainties and changes with the threat of the Iraq war and its impact on the world's economy.

3.1.3: The period 1991-1995

During this period, the total world capacity, traffic and the top 20 capacity continued to increase (table 9). From 1990 to 1991, the world container traffic continued to grow at the rate of 9.3%, the total world fleet grew by 7%, while the top 20 capacity increased by nearly 16% (table 9). Cosco increased its fleet with the surprising rate of 64% from 54,505 TEU to 89,600 TEU, primarily through acquisitions on the second hand market and held 5th rank. This time P&O grew by 52%. The third fastest growth rate was 37% of NYK when it added its newly acquired Japanese shipping lines TSK line (see table 8). That year marked the disappearance of ScanDutch, the return of DSR and the first time appearance of French carrier CMA.

Table 8: The development of ranking and capacity of the top 20 from 1991-1995

SEPTEMBER 1991		SEPTEMBER 1992		SEPTEMBER 1993		SEPTEMBER 1994		SEPTEMBER 1995	
Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU
Evergreen/Uniglory	132,386	Sealand	136,729	Maersk Line	174,088	Maersk Line	185,805	Sealand	196,708
Sealand Service	118,376	Evergreen	132,386	Sealand	147,765	Evergreen/Uniglory	160,108	Maersk Line	186,040
NYK Line/TSK Line	109,540	Maersk	117,194	Evergreen/Uniglory	144,140	Sea-land	153,658	Evergreen/Uniglory	181,982
Maersk Line	102,260	NYK	110,198	NYK Line/TSK Line	122,130	Cosco	146,068	Cosco	169,795
Cosco	89,600	MOL	95,764	MOL	91,015	NYK Line/TSK line	123,930	NYK Line/TSK	137,018
MOL	88,600	Nedlloyd	78,781	P&O	80,984	P&O	99,977	Nedlloyd	119,599
P&O (OCL)	82,613	OOCL	67,536	K Line	80,168	MOL	88,238	MOL	118,208
APL	65,638	ZIM	66,010	Hanjin	77,398	DSR-Senator Lines	85,843	P&O	98,893
K Line	64,360	APL	65,638	Nedlloyd	75,938	Hanjin	85,466	Hanjin	92,332
Nedlloyd	64,200	K Line	65,589	Zim	71,397	Nedlloyd Lines	84,651	MSC	88,955
Hanjin	62,615	Hanjin	65,458	APL	69,527	K Line	80,375	APL	81,547
Zim	60,166	P&O	63,470	Hapag-Lloyd	63,222	Zim	70,675	Zim Israel Navigation	79,738
Hapag-Lloyd	58,600	Cosco	60,526	NOL	59,208	APL	69,985	K Line	75,528
OOCL	53,218	Hapag Lloyd	60,281	Cosco	58,576	MSC	67,649	DSR-Senator Linie	75,497
Yangming	52,005	Yang Minh	59,644	Yangming	56,330	Hapag-Lloyd	63,939	Hapag-Lloyd	71,688
CGM	39,615	CGM	42,133	OOCL	53,074	NOL	59,416	NOL	63,469
NOL	37,613	UASC	41,062	UASC	50,371	Yangming	57,534	Yangming	60,034
Baltic	37,000	Baltic	39,540	MSC	43,991	OOCL	55,596	Hyundai	59,195
CMA	29,600	NOL	39,188	Hyundai	40,359	Hyundai	55,031	OOCL	55,811
DSR	23,200	Scac Delmas	36,655	DSR	37,388	CMA	43,611	CMA	37,388
Top 20 Total	1,370,205	Top 20 Total	1,443,782	Top 20 Total	1,597,069	Top 20 Total	1,837,555	Top 20 Total	2,049,425
World Total	3,400,000	World Total	3,610,451	World Total	3,700,000	World Total	4,100,000	World Total	4,410,000
Top 20 Share	40.3%	Top 20 Share	40%	Top 20 Share	43.2%	Top 20 Share	44.8%	Top 20 Share	46.5%

Note: Cosco capacity included all the liner operating units of COSCO: Dalian Ocean Shipping co, Ghangzhou Ocean Shipping Co, Shang Hai Ocean Shipping Co and Tienjin Ocean Shipping Co

Source: compiled from CI

In 1992, the world economy was still in recession, the lower economic growths gave container shipping in the hard time and put more pressure on liners to controll costs and rationalize their operations. However, due to the purpose of securing the economies of scale and operating efficiencies, the top 20 still placed more orders for new ships. In July 1992, the top 20 ''accounted for nearly 50% of the total world order for containerships'' (Boyes.J, 1993, p.5).

Table 9: The development of world fleet capacity and world container traffic 1991-1995

Year	World fleet ('000 TEU)	World cellular fleet ('000 TEU)	Top 20 fleet ('000 TEU)	World container traffic ('000 TEU)
1991	3,400	1,979	1,370	93,600
1992	3,610	2,098	1,443	102,900
1993	3,700	2,217	1,597	113,200
1994	4,100	2,531	1,837	128,300
1995	4,410	2,761	2,049	137,200

Source: combined from various issues of CI and Drewry

In 1992, there was a little change in the structure of the league: CMA, DSR were out and gave way to UASC, Scan-Delmas. Sealand regained its position as the world's largest liner from Evergreen by increasing by 18% its capacity. Cosco fell from 5th rank to 13th, the main reason being scraping of old tonnage.

The top 20 operated the bigger container ships. In 1992, the total capacity of the top 20 liners, (ship was larger than 3000 TEU) occupied nearly 30% (399,316 TEU) of the total capacity deployed (1,443,782 TEU). They held 97.4% of all 3,500 TEU plus vessels deployed in the global services. (Damas.P ,December 1992, cover story).

Maersk lines boosted its fleet by taking over EAC Ben in April 1993 and went above Evergreen and Sealand to 1st place with a capacity increase of 49%. By deploying more than 27% of its fleet capacity in 1992 (63,470 TEU), P&O quickly held 6th rank and became the second largest European liner after Maersk Lines. Hanjin, the only Korean carrier in the top 20, jumped from 11th to 8th position by increasing its capacity by 18.2%. The first time appearance, MSC entered the league in position 18. Its capacity was mainly acquired from the second hand market with a shipload of less

than 1,500 TEU. The Chinese carrier- Cosco seemed to have a slow growth in those years, even the capacity was reduced from 60,526 TEU (1992) to 58,576 TEU (1993). APL dropped from 6th position to 9th position in 1993 (table 8).

Most trades were containerised and the world container traffic continued to grow rapidly with a rate of 13.3% from 113,2 million TEU in 1993 to 128.3 million TEU in 1994. The world fleet and top 20 capacity also increased by 11% and 15% respectively (table 9). Cosco, the China State-owned container line seemed to have deep pockets as they took deliveries of more than a dozen 2,500/ 3,800 TEU during 1993-1994 and acquired more tonnage from the second hand market (Fossey. J, 1995, p.11). Cosco's capacity was jumped to 146,066 TEU from 58,576 TEU in 1993, nearly by 149%. It kept 4th position after Maersk, Evergreen, Sealand and put NYK behind. An Asian carrier, Huyndai, entered in the league in 1993 at 19th position but showed strong ambition to be a mega-carrier with a capacity increase of 36%. With the merging of Senator and DSR, the new entity DSR-Senator comprised 85,843 TEU capacity in service and was ranked as 8th position. MSC, the Swiss based liner, had self-affirmed its position in the list by deploying more 23,658 TEU and increased by nearly 54% and was in 14th position

In 1995, the top 20 list changed in structure only, all the league's members still remained from the 1994 list. Liners had increased their capacity. Indeed, in order to be in that list, a liner had to have nearly half of a million TEU capacity in service. Sealand added more vessels and came back in the leader position. Nedlloyd and MSC increased capacity by 41% and 31% respectively and moved up to the higher ranks. 11.5 % and 7.6 % were the growth rates of the top 20 and world fleet capacity while the world container traffic went up by 6.9% only (table 8). This means the supply and demand was still imbalanced and most liners had to seek new strategies or cooperation in the next period.

3.1.4 The period 1996-2001

As a result of the increase in world trade and the penetration of containerisation into the bulk cargo market, the world container traffic continued to rise with an average rate of 9.6% from 1996 to 2001 (table 10). The world container fleet and the top 20 fleet capacity also increased on average by 8.7% and 13% respectively during this period.

Table 10: The development of world fleet capacity and world container traffic 1996-2001

Year	World fleet ('000 TEU)	World cellular fleet ('000 TEU)	Top 20 fleet ('000 TEU)	World container traffic ('000 TEU)
1996	4,800	3,718	2,297	147,300
1997	5,270	3,563	2,618	163,700
1998	5,874	4,159	3,113	169,600
1999	6,021	4,237	3,345	203,200
2000	6,536	4,716	3,524	225,200
2001	7,270	5,353	4,245	236,500

Source: compiled from CI, Drewry

In 1995-1996, being forced to adapt to the changing business environment, a carrier had to cooperate together through their newly established global alliances: Global alliance (APL, MOL, OOCL, Nedlloyd, MISC), Grand alliance (Hapag Lloyd, NOL, NYK,P&O), United alliance (Cho-Yang, Hanjin, DSR-Senator), Maersk- Sealand. By doing so, ''a massive concentration of power was in the hands of a few carriers'' (Boyes, J.R.C, 1996, p.V). While most of the lines in the top 20 looked for cooperation, even Evergreen had seen some benefits of cooperation, Cosco still operated in ''total isolation'' (Boyes, J.R.C, 1996, p. V).

By bringing an additional 23,242 TEU into service, Evergreen became the leader of the list. Sealand increased its capacity slightly and accepted the second position. Hyundai continued to deploy more capacity, climbing 7 ranks to 11th position and it ''has made no secret of its intention of becoming a top 10 carrier by the year 2000'' (Fossey, J, November 1996, p.42). MSC went over the traditional container liners:

P&O, Hapag Lloyd and APL, and took 9th position. APL fell to 15th position and DSR-Senator slumped to 19th (table 11).

Table 11: The development of ranking and capacity of the top 20 from 1996-2001

SEPTEMBER-96		SEPTEMBER-97		SEPTEMBER-98		SEPTEMBER-99		NOVEMBER-00		NOVEMBER-01	
Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU	Carrier	TEU
Evergreen	205,224	Maersk Line	232,257	Maersk	346,123	Maersk-Sealand	544,558	Maersk-Sealand	644,185	Maersk-Sealand	692,574
Sea-Land Service	203,244	Evergreen	228,248	Evergreen	280,237	Evergreen	311,951	Evergreen	345,726	P&O Nedlloyd	381,481
Maersk Line	200,919	P&O Nedlloyd	221,531	P&O Nedlloyd	250,858	P&O Nedlloyd	268,625	P&O Nedlloyd	306,755	Evergreen Group	355,100
Cosco	183,726	Sea-Land	215,114	MSC	220,745	MSC	225,636	Hanjin/ Senator	251,723	Hanjin/Senator	301,378
NYK Line/TSK	129,731	Cosco	201,593	Hanjin	213,081	Hanjin	217,804	MSC	237,782	MSC	300,543
MOL	126,415	Hanjin	174,526	Sea-Land	211,358	APL	199,881	APL	214,133	APL	244,934
Nedlloyd	117,114	MSC	154,185	Cosco	202,094	Cosco	189,016	Cosco	209,927	Cosco	239,958
Hanjin	115,815	MOL	115,763	APL	201,075	NYK Line/TSK	156,821	NYK /TSK	161,036	CMA-CGM	187,497
MSC	114,160	NYK Line/TSK	128,154	NYK Line/TSK	163,930	MOL	146,026	CP Ships	154,387	NYK/TSK	167,588
P&O	100,243	Hyundai	112,958	MOL	133,681	Zim	144,751	OOCL	130,406	CP Ships	160,206
Hyundai	97,652	Zim	98,086	Hyundai	116,644	CP Ships	133,006	CMACGM	129,545	K Lines	148,794
Zim	92,772	Yangming	96,145	Zim	111,293	CMA-CGM	127,147	ZIM	128,999	OOCL	147,204
Hapag-Lloyd	85,722	CMA-CGM	89,658	CP Ships	105,322	Hyundai	109,105	K Line	123,722	MOL	144,799
K Line	83,634	OOCL	85,940	CMA-CGM	91,600	Yangming	101,445	Yangming	121,030	Hyundai	140,979
APL	81,262	NOL	85,664	Hapag-Lloyd	90,879	OOCL	94,967	MOL	119,153	CSCL	115,570
Yangming	81,229	CP Ships	85,016	OOCL	90,063	K Line	90,228	Hyundai	109,520	Hapag-Lloyd	122,327
NOL	77,937	K Line	84,198	K Line	89,717	Hapag-Lloyd	88,283	Hapag-Lloyd	106,501	Yangming	121,323
OOCL	76,419	APL	79,918	Yangming	79,840	UASC	68,880	CSAV	87,060	Zim	114,217
DSR-Senator	70,908	Hapag-Lloyd	73,372	UASC	59,331	CSCL	65,535	CSCL	75,735	CSAV	91,803
CMA	53,229	Cho Yang	55,882	Safmarine/CMBT	55,584	CSAV	61,535	UASC	70,075	Hamburg Sud	90,757
Top 20 Total	2,297,355	Top 20 Total	2,618,208	Top 20 Total	3,113,455	Top 20 Total	3,345,200	Top 20 Total	3,727,400	Top 20 Total	4,269,032
World Total	4,834,198	World Total	5,270,000	World Total	5,874,443	World Total	6,021,107	World Total	6,536,841	World Total	7,270,000
Top 20 Share	48.5%	Top 20 Share	49.7%	Top 20 Share	53%	Top 20 Share	55.6%	Top 20 Share	57%	Top 20 Share	58.7%

Note: Evergreen Group included EMC, Uniglory, HATSU, and Lloyd Trestino

Source: compiled from CI

The consolidation trend continued in shipping as ‘‘companies seek to survive by wringing out more costs from their operation’’ (Boyes, J.R.C, 1998, p.5). This caused a changing in the position and structure of the top 20. The US carrier APL was taken over by Asia carrier NOL. CP Ships acquired Cast, Lykes lines and Contship Container lines. P&O and Nedlloyd merged. Hanjin held 70% share in DSR-Senator.

The new-comer to the league was Cho Yang (Korean carrier) with a capacity of 55,882 TEU. The Danish carrier, Maersk lines returned to first place and left far behind the second ranked carrier Evergreen (280,237 TEU) in 1998 by a massive capacity (346,123 TEU). Between 1998-1999, Maersk increased capacity by 72%. Further on, by acquiring another US carrier Sealand in 1999 and Safmarine in 2000,

Maersk- Sealand (MSL) has maintained its 1st place till now. There could hardly have any change in the coming years as in 2001 MSL's capacity was nearly twice the size of its nearest follower- Evergreen (see table 10) and it still ''has over 108,000 TEU capacity due for delivery in 2003'' (Willmington,R, 2002, p.7). Cosco kept steady growth and remained 7th position in the top 20 through period 1998-2001. The second and third positions during this period were always exchanged between P&O Nedlloyd and Evergreen.

With the rapid and steady advances, MSC continuously kept the 4th position in 1998,1999,2000 and lost that rank to Hanjin when this Korean carrier increased capacity by nearly 40% (84,676TEU) between 2000-2001. Japanese carriers (NYK, MOL, K lines), with the characteristic of careful thinking, had increased capacities at slower rates and accepted to be in the further down in the ranking. CSCL (China Shipping Container line) entered the list in 1999 in 19th position (65,535 TEU) and was the second Chinese carrier in the league. CSCL had strong ambition for market coverage, it jumped from that position to 15th position in 2001 (115,570 TEU) with a growth rate of 53% in comparison to its capacity in 2000 (75,735 TEU). While Cosco seemed to be satisfied with its smaller growth rate, its country mate, CSCL continued to place a massive order with the back log in 2001 being 105,000TEU (Willmington,R, 2002, p. 7) and is expected to raise its rank further. In 2001, the Korean carrier, Hanjin, overtook the position of APL, MSC and ranked in no. 4. This jump was mainly due to the increasing chartered capacity of its subsidiary Senator lines. (Heaney.S, 2001, p.25).

Carriers in the top league continued to increase capacity with the modern and bigger capacity vessels. Most of the Post-panamax vessels have been deployed by the top 20 and ''control of the world containership's fleet is now increasing in the hands of the top 20 carries'' (Willmington,R 2001, p.6). In 2001,except for CP ship, CSAV, Hamburg Sud and Zim ''all top 20 carriers are now operating post-panamax tonnage in their vessel fleets'' (Willmington.R, 2002, p.6). In 2001, Hapag Lloyd introduced

to the market the world's largest container vessel the 7,500 TEU- Hamburg Express. Other carriers have followed with such types of ships. Even, larger ships of 10,000-12,000 TEU are expected to sail on deep sea in the years to come.

Coming to the end of the period, liners were faced with a very bad situation after a short period of prosperity in 2000. A number of modern, large vessels had been laid up ''for the first time in the history of containerisation'' as the result of the trade imbalance and the drop in volume and freight rates on the Asia- Europe Route. However, the top 20 placed ''almost 75% of the [world] tonnage on order (1,544,462 TEU) to be delivered in the coming years'' (Willmington.R, 2002, p.6). This year marked the bankruptcy of Cho Yang; it had gone because of its outstanding accumulative debts.

In 2001, most liners claimed al loss or their profitability decreased in spite of the increase in the volume of cargo transported. Mr. Chris Bourne, managing director of MOL (Europe) admitted ''2001 was a disaster''(Damas. P, 2002 July, p.24). The world container port traffic increased by only 5% in 2001 (table 10) compared with 10.8% in 2000 and 19.8% in 1999. The World trade is still slowly recovering after its recession and the event of September 11 in the USA. The growth of demand did not go along with the growth of supply.

The short prosperity in 2000 did not last long enough for carriers to accumulate money for coming to the worst year 2002. Thus, carriers have been continuously placing more new orders. This may cause the situation where ''some companies which are largely dependent on liner shipping out of the market altogether, either though bankruptcy, or merge/acquisition by stronger players'' (Boyes, J.R.C, 2002, page 5).

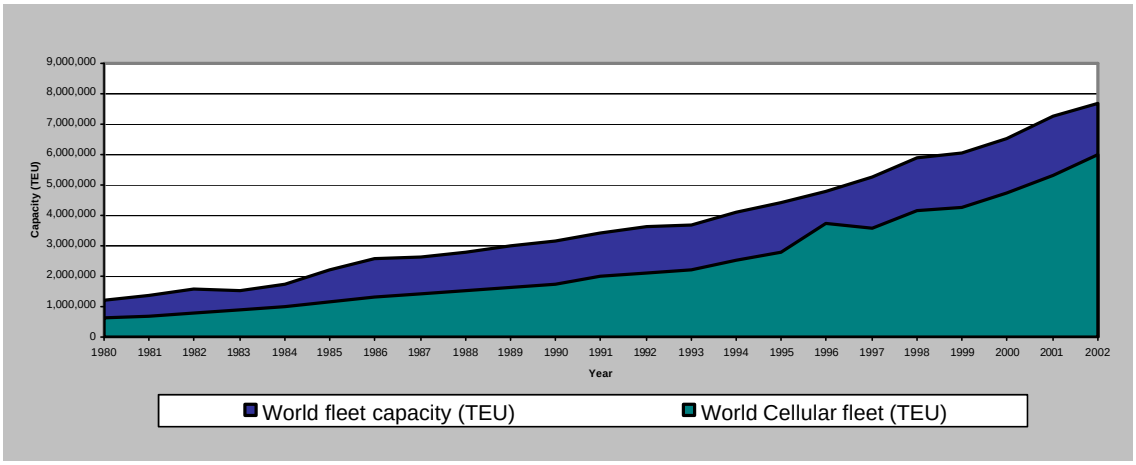
3.2: Some findings from the study on the top 20

3.2.1: The top 20 is controlling more world fleet capacity

The development of top 20 container liners has been reflected in the main picture of the world containerisation in the last 20 years. All liners have regenerated their fleets to cellular fleets, the workhorse of the liner industry, while other ship types ‘‘have only a marginal supporting or niche role to play’’ (Fossey. J, 1995, p.11). Some authors compared the top 20 fleet capacity with the total world cellular fleet and voiced their concerns for the massive share of the top 20 liners over the world cellular fleet. However from the author’s point of view, that share was shown in the specialization trend in the liner industry (figure 6). Until now, in the fleet of some top 20 liners, they are still operating other types of containership like: multipurpose vessel, Ro-Ro, Semi-container, Bulk-Container ship and barge carriers.

According to the survey of CI for 2001 (Beddow.M, 2001, November, p.63), the top 20 controlled around 83% of the world cellular fleet. It showed the high specialization of the top 20 and the modern, efficient fleet that they are deploying in services.

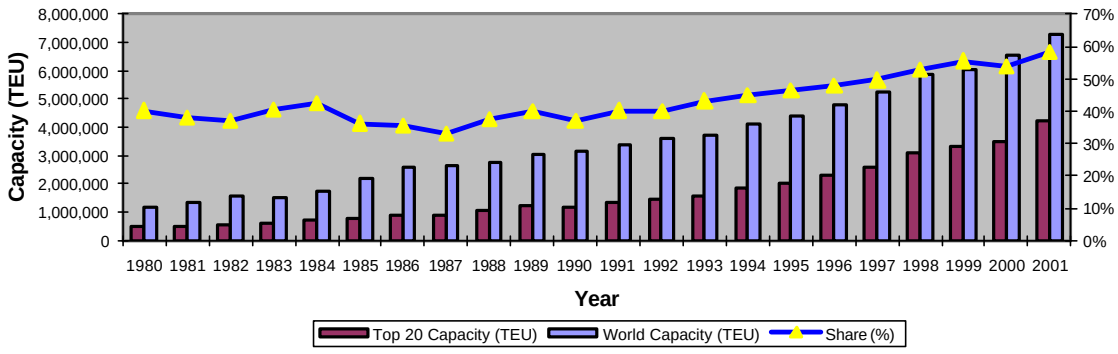
Figure 6: World container fleet and world cellular fleet



Source: compiled from CI

Over the past 20 years, the top 20 liners have gradually increased their capacity share in the world container fleet capacity from 40% in 1980 to 59% in 2001 (figure 7). Those shares are not so high, but in consideration of the fact that there are hundreds of shipping companies operating liner services in the world today, we can say that the top 20 has been controlling more of the world fleet capacity. Thus, MSL with its biggest capacity could occupy only 9.6% (as of year 2001) of the world total container fleet so ‘‘the liner shipping industry is still fragmented’’ as Mr. Hansen, global sales director of MSL, remarked in the liner seminar at WMU in March 2002.

Figure 7: World Fleet Capacity and the top 20 fleet capacity.



Source: compiled from CI

3.2.2: Big is bigger

Coming back to 1980, the total world capacity was 1,2 million TEU and 7,3 million TEU in 2001. After 20 years, the world’s fleet and top 20 fleet capacity was 6.1 times and 8.9 times respectively larger than it was in 1980. However if we take a look at the capacity of the 1st rank in those lists we can recognize that in order to be number one in 2001, a liners’ capacity was 15.2 times larger than it was in 1980 (see table 12). The gap between the 1st rank and the 20th rank became bigger, being 4, 6 and 7.6 times in 1980, 1991 and 2001 respectively.

Table 12: Comparison: World, the top 20 fleet capacity from 1980-2001

Year	*World Fleet '000 TEU*	*Top 20 fleet '000 TEU*	*1st rank '000 TEU*	*20th rank '000 TEU*
1980	1,200	482	45 (Sealand)	11 (ACL)
1991	3,400	1,370	132 (Evergreen)	23 (DSR)
2001	7,270	4,269	692 (MSL)	90 (Hamburg Sud)

Source: compiled from CI

For the individual liner, after 20 years, the big guy MSL increased capacity by 21 times, Evergreen's was 13 times, Hapag Lloyd's was 3 times and MOL 's was 5.3 times (table 13)

Table 13: The capacity development of some liners from 1980-2001

Year	*MSL '000 TEU*	*K line '000 TEU*	*MOL '000 TEU*	*HLCL '000 TEU*	*Yang Ming '000 TEU*
1980	33	13	27	42	15
1991	104	69	83	57	51
2001	692	148	145	122	121

Source: compiled from CI

Some carriers wanted to be BIG and they showed their determination to be in ''top five'' within few years like CSCL (Fossey. J, November 1999, p. 43). Being in the top 5 or top 10 global container operators, a liner has to increase capacity at a higher growth rate than its rivals and a massive capacity must be added to the service. Pursuing ranking may lead liners to forget their profitability. Not all liners agreed that way, Dr. Maves, executive board chairman of Hamburg Sud, emphasized: ''the position is, of course, interesting to us, but form no part in our strategy. What is more important for us is to make money, and be able to offer our customers a better service than anyone else'' (Beddow, M 2001, November, p.65). However, the ambition ''to be big'' could not be easily controlled by a carrier itself. Like the case of Evergreen, it had to stand position no. 2 after P&O Nedlloyd in 2001. This was due to the political sensitivities in establishing direct services to China for this Taiwanese

carrier. Even, Evergreen has had to sell their services under other brand names: Lloyd Trestino or HATSU.

Taking the average growth rate of all liners in the top 20 since 1980-2001, we can recognize that in order to cement a position in the list, a carrier has to increase capacity at the annual rate of over 12%. The increasing modern fleet capacity on a global scale, the implementation of IT in operations together with the value added services of the top 20 liners have been creating the polarization between them and the rest of the world.

3.2.3: Merger and acquisition help a carrier to jump to a higher rank

In the 1980's, there were no major changes in the ownership of the top 20 liners. Some liners in the top 20 acquired or held the main share of smaller size companies like P&O and OCL in 1986, Evergreen and Uniglory in 1989. In the 1990's the major changes in the ownership among the top 20 were seen as a new trend in liner shipping.

The need to be a global carrier as explained in the chapter two, has lead the top 20 carriers to consolidate through merging or acquisition. By doing so, they could achieve economies of scale, an increase market share and create a global presence in a quick way. In 1996, P&O and Nedlloyd held rank no. 10 and 7 respectively. By merging together, they jumped to position no.3 in 1997. Maersk took over Sealand in 1999 and one plus one is two that made Maesrk-Sealand no. 1 in the market. For the years to come, we could hardly see any other carrier who can overcome this big guy.

Merge and acquisition will continue to develop as carriers have to ''cement their position and safeguard their existence'' (Heaney,S 2001, August, p.25). Baasch.H emphasized that ''the next wave is likely to bring together major liner carriers that are already alliance partners'' (Baasch. H, 1999 June, p.35). If this trend continues in

the top 20, we will see more changes in the structure of the top 20 in which the power will be in the hands of a few carriers and there will be a big gap between the 1st five ranking carrier and the rest in that list.

Table 14: Merge and acquisition in the top 20 liners

NYK	Acquired	TSK Lines
CMA	Acquired	CGM, ANL
CP ships	Acquired	Lykes, Contship, Ivaran and ANZDL, Cast
Evergreen	Acquired	Lloyd Triestino, Uniglory
Hamburg Sud	Acquired	Alliance, South Seas Steamship
Hanjin	Acquired	DSR-Senator
Maersk	Acquired	EAC, Safmarine, CMB, Sealand
NOL	Acquired	APL
P&O	Merged	Nedlloyd
P&O Nedlloyd	Acquired	Blue Star, Tasman Express, Harrison, Farrell
CSAV	Acquired	Montenmar

Source: Author compiled from various sources

3.2.4: The top 20 carriers have been increasing their chartered fleet

As explained in chapter two, one of the main strategies that liners have to decide is ‘‘ownership or outsource’’. The answer quite depends on the business philosophy of each liner. Since the 1990s, we have seen the trend of increasing the chartered tonnage fleet. In 1999, the charter portion of the global container fleet was 42% and it would be around 60% in 2001 as some brokers expected (Fossey. J, 2000, p. 6).

Shipping has been long seen as a low remunerative industry because of its high investment in assets (ship). This prevents the shareholders investing more in their activities. Therefore, carriers have to make a healthy balance sheet and according to Mr. Wakabayashi, senior managing director of K Lines: ‘‘it is very important that we maintain a healthy balance sheet as financial analysts look at this as closely as they do the profit/loss account’’ (Fossey.J May 1999, p.44).

By operating more vessels off-balance sheet on long term charter, as explained in chapter two, carrier could concentrate its limited capital on other investments.

Captain Sardis, managing director of COSTAMARE, the largest containership non-liner owner in the world, emphasized that ''the operator that once invested in their own ships now have huge capital requirements to support their move into logistics ventures and terminals''(Fossey. J, June 1999, cover story). Moreover, liners could sell ships to their non-rivals and charter back at a good rate or they could order new buildings against long time charter agreement with those third party owners. This trend has created the soil for German and Greek owners to grow and now all the top 20 carriers are regular customers of those Greek and German shipowners. During the author's visit to COSTAMARE's head office in March 2002, Captain Sardis and Captain Fanis said that they believed more and more liners would find many benefits from long-term charter deals with non- operating containership owners like COSTAMARE.

Now in 2002, according to the table 15, all the liners in the league have chartered-in capacity. Even some liners have high portion of chartered-in tonnage like: CSCL (83%), CMA-CGM (64%).

Table 15: The share of chartered-in capacity on the total of individual liners' fleet capacity (as of June 26th 2002)

	MSL	PONL	EMC	Hanjin	MSC	APL	Cosco	CMA-CGM	NYK	K line
Share	37%	48%	12%	57%	41%	46%	4%	64%	33%	41%

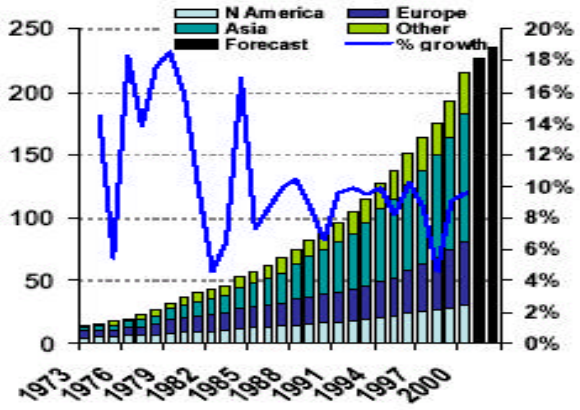
	OOCL	MOL	CSCL	HLCL	Yang-ming	ZIM	CSAV	Hamburg Sud	UASC
Share	48%	45%	83%	24%	21%	58%	98%	69%	2%

Source: compiled from CI.

3.2.5: The Asian carriers have dominated the top 20

Asia has been emerging as the centre for containerisation, not only by the number of containers moved through the Asian ports but also by the number of Asian ship-owners in the industry. We can see below the increase in container lifts in Asia, increased every year at a stronger rate than that of other regions.

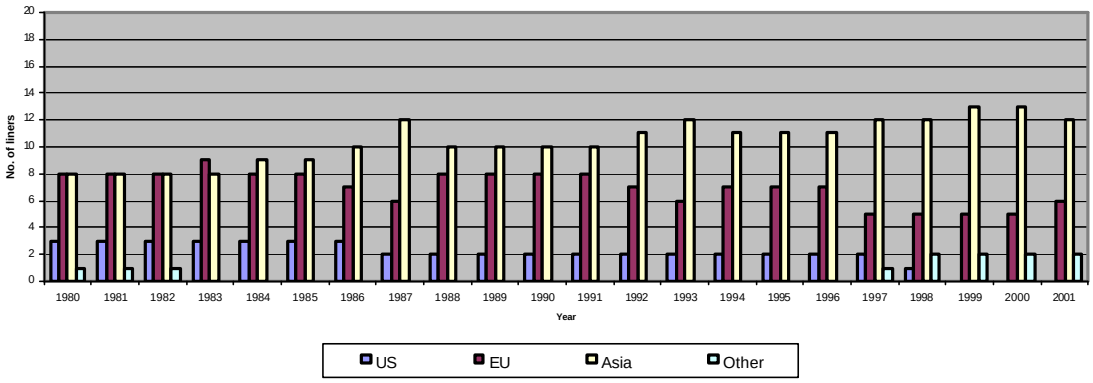
Figure 8: Container lift by regions and percentage growth



Source: Clarkson (2002), www.clarkson.net

In the top 20 list from 1980 to 2001, the Asian carriers have been gradually occupying the list and hold numerous shares in the top 20 capacity fleet. In 1980, there were only eight Asian carriers but in 1990 there was 10 and in 2001 there was 12 (figure 9).

Figure 9: Regional breakdown of the top 20, based on the number of liners



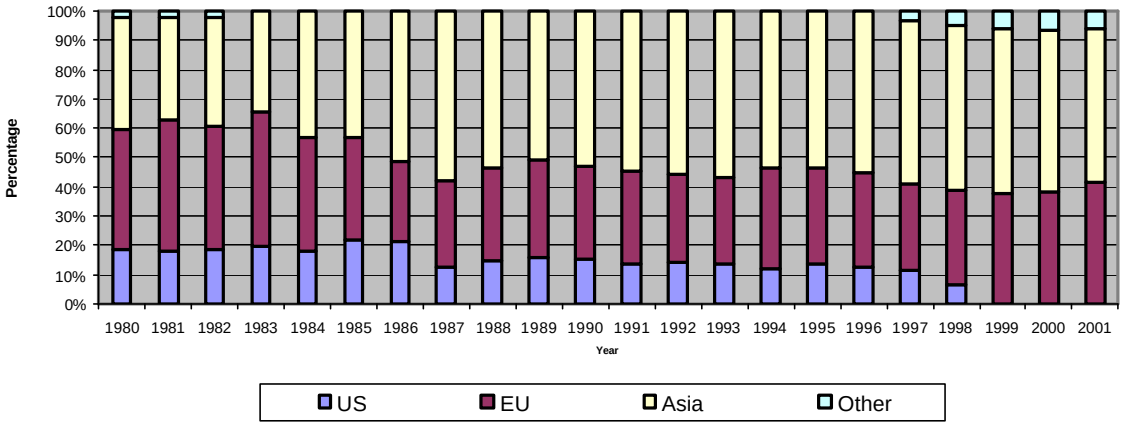
Source: compiled from CI

As a risky, un-healthy industry, container shipping seemed not to be of America's interest, in spite of the fact that it was born in America and invented by an American. During this period, America had three carriers in the league but the US lines went bankrupt in 1986 and the others were eaten up by European and Asian liners in 1998 and 1999. Americans are famous for their practical thinking, if a company does not

make profit as expected, they will sell it or even terminate its operation. In the case of APL and Sea-land, those liners brought less profits than that of other sectors. But they were seen by NOL and APM as the gate to access to the US domestic service protected by the John Act of 1924, and to the US military cargoes. Which were claimed to be the most profitable segment of APL and Sealand.

The merging and acquisition of APL- NOL, P&O – Nedlloyd, Maersk-Seland created opportunities for smaller Asian carriers to enter the league. Asian carriers have been gradually swallowed up the top 20's fleet capacity. They occupied 38% share of the top 20 fleet capacity in 1980, 51% in 1989 and 53% in 2001 (see figure 10). With the trend of M&A (merge and acquisition) and the advantages of chartered tonnage, more Asian carriers will push themselves forward into the venture in container shipping. We may see more Asian carriers entering in the list in the coming years and they will compete with other traditional liner shipping companies.

Figure 10: Regional breakdown of top 20 fleet capacity 1980-2001 (% share)



Source: compiled from CI

3.2.6: Maintaining rank means increasing capacity, even unprofitably. Capacity has increased as a result of the short prosperous periods in shipping

The capacity of the 20 liners continued to growth through 1980-2001 with the average rate at around 13%, albeit a low ROI (return on investment) during this

period. The battles for market shares made liners invest continuously in larger capacity and services. Not like the other shipping sectors, liners are mainly dependent on the actual operating for their profits rather than asset play and the prosperity periods in liner shipping are ‘‘always forecast to be just around the corner’’(Drewry 1991, p.61). The industry had witnessed the financial disaster after the collapse of US lines in 1986, partly because of its optimistic forecast about trade.

During 1980-1990, the profitability of the major liners (APC, Sealand, CGM, CMB, Delmas, Hapag Lloyd, K- Line. Nedlloyd, NOL and Zim) were very low and ‘‘the return on assets for the full ten year period was only 0.9%’’(Drewry 1991, p.63). In 1992, CI conducted a study for the top 20 container carriers from 1987-1991 (see more in the appendix A) and they found that the average net profit per total revenue was 0.4% and the average net profit/total assets was only 0.4%. (Damas.P, 1992, December- Cover story)

After a very short period in the early 1990s, very few carriers enjoyed a good time of prosperity in increasing their profits (Bonney. J 1993, April, p. 48-M). However those good times also attracted other liners to joint the game. To stay in this ‘’poker game’’, carriers had to put more and more stakes on the table. More capacity had been added into services and carriers expected anxiously for the good time to come again. From 1995 to 1998, the market continued to suffer the capacity surplus, imbalance of trade, the Asia economic crisis and a freight rate drop. In 1998 major carriers in the top 20 had ROI (operating income/ assets) at the low rates like Hyundai: 7.8%; MOL: 4.6%; NYK: 3.2%; Sealand: 5.4%; K Line: 1.1%; P&O Nedlloyd: 3.47%; NOL: minus 2.04% and Yangming: minus 5.4% (Fossey, J, 1999, October, p.39). Mr. C.C Tung, chairman and CEO of OOIL described the situation: ‘the combined effects of substantial new capacity being delivered in 1996 through 1998 and efficiency gains, by the re-structured alliances have, as expected, placed great pressure on freight rates, driving down profit levels despite an increase in volume carried’’ (Damas. P, July 1998, p.60).

The good times had returned for carrier in 1999 and 2000, they had a golden year in 2000 and ‘’this time, it was hard NOT to make money’’ (Damas. P, July 2001,p.30). Most carriers in the top 20 reported the high profits for their operation, except Yang Ming, whose profit was down nearly 30%. The characteristic ‘‘a risky business’’ of liner shipping had been proved this time, this prosperity lasting only around 12 months. In 2001, most of the carriers claimed a loss or decreased rapidly their profits (Profits fell: APL- 93%, APM’s tanker and liner: 63%). ‘Market collapsed’, ‘freight rate down’, ‘capacity surplus’, ‘utilization down’, ‘trades imbalanced’ were the main issues at this time. For the fiscal year 2001, many liners reported a loss. (See appendixes B, C). However, more capacities have been deployed. Only in the top 20, the capacity increased by 15% between 2000 and 2001 and they have nearly 1,157300 TEU tonnage on order to be deployed from 2002 (Willmington.R, 2002, p.6). The situation, as Mr. Jacobs, CEO of NOL, analysed: ‘‘Due to the double-digit increase in container vessel capacity that was to be added globally, freight rates were already beginning to soften in late 2000, but they deteriorated significantly during the year, reaching unprecedented and unsustainable levels in some trades" (Damas. P, 2002).

Despite very bad financial results, some carriers still pursued a capacity increase. Mr. Kelin.L, president of the China Shipping Group once stated that "despite the difficult market situation, CSCL has established itself as one of the top 20 carriers in the world", albeit CSCL ‘‘made a heavy pre-tax loss of 1.1 billion Renmibi ($136 million) in 2001’’ (Damas. P, 2002). In 2001 CSCL had a backlog of 105,000 TEU to be delivered from 2002 (Willmington.R, 2002, p.6)

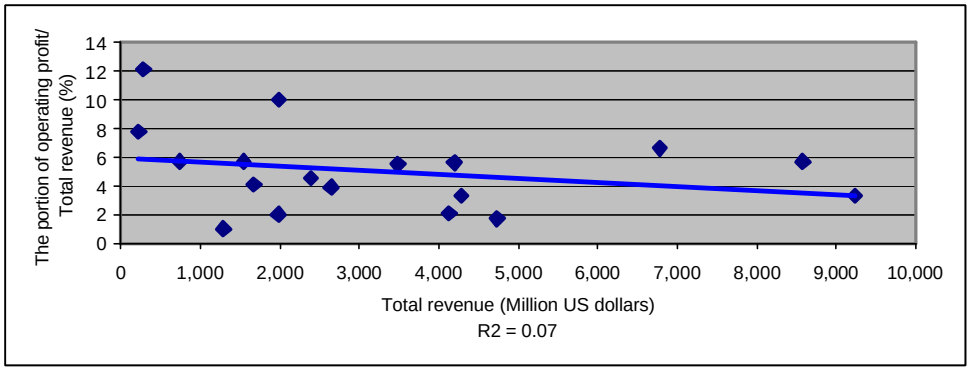
Appendix D shows the growth of world container traffic. This growth evolved in a cycle and made capacity increase be the name of the game. Usually, if nobody orders any new ship, supply and demand will be balanced. If one places new orders, its rivals will try to order too. Finally, the market will soon be flooded with new tonnage and carriers will suffer from those decisions.

3.2.7: Profitability is not correlated with a company's size

When considering the correlation coefficient between the total revenue (could be present for a company's size) and the portion of operating profit per total revenues (profit margin), for example the financial result for 2001 (figure 11), it is revealed that there is no correlation coefficient between the size and the profit. The bigger shipping companies are not always able to make greater profits than other smaller companies.

The capacity expansions offer both risks and rewards to liners. ''The big or small is beautiful'' could not be always answered from the theory. We can recognize that the ''small'' company, ACL, is one of the most profitable shipping company. Recently, while other big guys claimed losses, they are still making money. For Hapag Lloyd, they used to be No.2 in the world, they accepted the slow growth in capacity and lower ranking they are also one of the most profitable carriers in the top 20.

Figure 11: Carrier size and profit margins in 2001- No correlation



Note: All figures are adapted appendix 3. See that appendix for further notes.
Source: Author, compiled from American Shipper (2002), www.americanshipper.com

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Through the period 1980-2001, the industry has seen the ups and downs of shipping companies in the lists and changes the business environment. Twenty years is not a long time and the liners have strived to implement their own strategies for survival.

The top 20 liners are the driving forces of the industry and they present the development of containerisation. If an outsider of the industry sees the annual revenues of one of the carriers in the top 20 and the carrier's appearance of ''good order and conditions'', they may think that container shipping should have been profitable and carriers are making a lot of money. But sometimes, ''container shipping is, in fact, a lot less healthy than it should be, than it could be, and than it usually gives the appearance of being'' (Drewry 1991, p. 61).

CHAPTER FOUR
ANALYSIS OF SOME SELECTED CARRIERS

In chapter two and chapter three, we examined the general situation of container shipping, some main liner shipping strategies and the development of the top 20 from 1980 to 2001. During this period, some carriers were very healthy, self-affirming their positions in the market and others went bankrupt or gradually slipped behind. Those ups and downs of liners in the league are continuing to happen and expected to evolve more in the future.

Besides the external conditions, the company management style and leaders with their strategic decisions at a particular time also contribute to the success or failure of a shipping company. Ma, in his lecture at the World Maritime University (Ma.S, 2002), analyzed that in the competitive environments, companies have to find their competitive position whether to be a Market Leader or Market Challenger or Market Follower or Market Nicher and apply their strategies respectively. According to Professor Porter (1996, p.61) of the Harvard Business School, a company should implement Operational Effectiveness ('means performing similar activities better than rivals perform them') and strategic positioning ('means performing different activities from rivals' or performing similar activities in different ways').

Shipping lines may have different position in the markets but their services do not have many differences than that of others. In the game of survival, liners have to reorganize their operations in order to minimize cost, and try to perform better than others.

There are many shipping companies, which have special and successful strategies but due to the limits of this dissertation, the author will analyze only some selected carriers from the top 20 lists. The author will try to find out their management, operational ways and their strategies. In which, those liners could make themselves different from others or they are changing their strategies to respond to the market trends.

- MSL: the biggest and a European liner
- MOL: the biggest Japanese shipping giant
- EMC: the Taiwanese liner and the biggest conference's outsider
- MSC: The emerging liners, an exclusive approach to liner shipping.

4.1: MAERSK- SEALAND

''No loss should hit us which can be avoided with constant care''

(A.P. Moller in a letter to Maersk Mc-Kinney Moller)

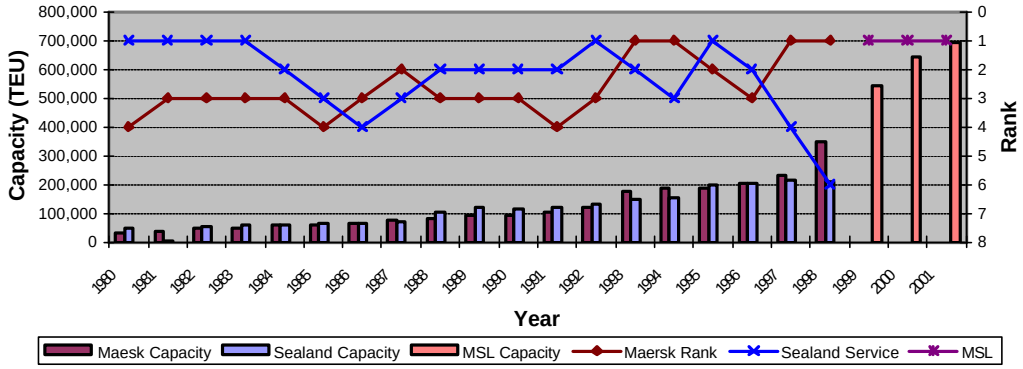
4.1.1 – Historical background and general information

In 1904, Mr. Arnold Peter Moller and his father Peter Maersk Moller founded the Steamship Company Svendborg with other shareholders to operate their first steam ship the ''Svendborg'' (Hornby.O, 1988, p.20). After overcoming many obstacles in operating tramp service during the First World War, Mr. AP Moller decided to spread the economic risks to the new shipping operation- Liner Shipping. Under the brand name Maersk Lines in 1928, this new company operated in the main trading areas: USA- Far East, Red sea- Mid East and the US East coast-Gulf coast.

In 1968, Maersk lines joined the container shipping in the Europe- Asia trades. With the acquisition of EAC, Safmarine, Sealand in the 1990s, the new entity Maersk-Sealand became the biggest shipping lines in the world. Now MSL is part of the AP Moller group. This conglomerate is engaged in shipping activities, aviation, oil/gas production and exploitation, retail activities, IT, and industrial activities. The development of Maersk Lines and Maersk-Sealand during the period 1980-200 could

be partly reflected in their capacity and rank as illustrated in figure 12. In 1980, MSL held 4th position in the list and Sealand held 1st position. Those two shipping liners co-operated their services for quite a long time. Finally in 1999, Maersk took over Sealand and became the biggest shipping liner in the world.

Figure 12: The development of MSL fleet capacity from 1980-2001



Source: compiled from CI

Container shipping is indifferent so MSL differentiated their services with others and implemented both what are called 'operational effectiveness' and 'strategic positioning'. This is reflected in their mission statement as below:

Maersk- Sealand will:

- In active cooperation with our customers deliver second to none, cost effective containerised transport solutions in all significant international trades of the world
- Be a profitable leading global container carrier

All to be propelled by a continuous drive to assure a truly low cost operation, highest service standard and active E-Commerce engagement

(Source: Nilesen.J.A.S, 2002)

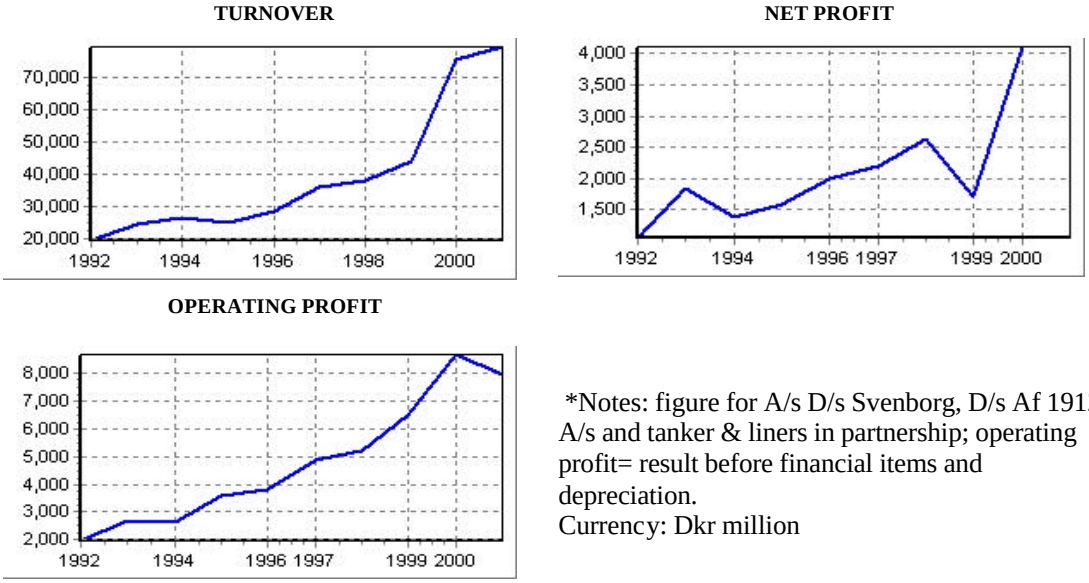
4.1.2: A diversified shipping company

Shipping is a risky business. The profitability of the tramp and liner segments may not go together at the same time. Therefore, it is better to spread the risks by

operating both those shipping segments. For the AP Moller group, they operate many shipping services: container, bulker, gas, tanker, car carrier, ship supply, drilling. However, A.P Moller combined the P&L (profit & loss) account of two shipping segments (tanker and liner) into one balance sheet. The ‘‘enigmatic’’ MSL did not disclose separate balance sheets of the liner business with its tanker business, so the outsider could only assess them from a distance.

Figure 13 are the financial results of MSL from 1992 to 2000. They made money and the two shipping segments balanced each other. Mr. Steven Brooker, analyst for Alfred Berg Bank, commented: ‘MSL has never yet produced a negative result’’ (Mitchell. D, 2002) and has the ‘’lowest unit costs in the industry’’.

Figure 13: MSL - Financial performance



*Notes: figure for A/s D/s Svenborg, D/s Af 1912 A/s and tanker & liners in partnership; operating profit= result before financial items and depreciation.
Currency: Dkr million

Source: Adapted from CI

Beside tanker and tramp shipping, the AP Moller Empire runs many other related-shipping companies:

- Odense Steel Shipyard
- Maersk Container Industrial AS (Container manufacture)
- APM Terminals (the third largest termi nal operator in the world)

- Maesrk Logistics
- Maersk Broker, Maesrk supply service, Maesrk Data, and others

All these activities have created synergy and cross subsidiary for this conglomerate and for liner shipping in particular.

4.1.3: Decentralised organization and effective network

Nowadays, MSL is present in nearly 100 countries with 325 offices worldwide and has over 10,000 employees. MSL's headquarters is located in Copenhagen but its operation is decentralized into six regional line management centres: Europe, Asia, North & Central American. South America, Africa, and West coast Africa. By doing so, each region has its authority to undertake their business activities. As Mr. Kjaedegaard.J, senior vice president of MSL said that "they are able to expand the business locally'' (Damas. P & Gillis .C ,2000).

Engaging in liner shipping on a global scale, liners need to have a very efficient and sophisticated network. Basically, if the volume of cargo is high enough, a liner should establish its in house agent, otherwise it should appoint one party to be an agent at that place. However, totally relying on an agent's operation cannot meet the high demands of the international customer or global customer. For MSL, they prefer operating their own office in every place they are present and use an agent only where the law of the local countries does not permit them to do so. In this case, besides the agent's activities, MSL sets up its own office and employs its own staff to run daily business. As usual, the agency commission is calculated based on a fixed percentage of freight rate and fixed amount of handling fees. For MSL, the agency commission is based on the monthly lump-sum basis or fixed cap.

According to the author's personal study conducted three years ago when making comparisons between Maersk and other liners having an annual lifting of 15,000-20,000 TEU in the Vietnamese market, Maersk lines could save at least USD

100,000 per year from their exclusive agency arrangements. Sometimes, this way costs more than that of the traditional agency authorization, however the most important thing gained is to ensure the quality, reliable services, market commitment and the global presence of MSL.

4.1.4: Building corporate culture

While there are thousands of academic centres for other industries, there are really few centres for the shipping industry. It was believed for quite a long time that the shipping man could only acquire his acknowledge from practice and there is no need to train him in school. Yes, this was true, but for today's competitive, global business environment, this turned out to reveal some disadvantages. For MSL, ''staff training in all levels is clearly a high priority'' (Beddow.M 1999, November, p.47) therefore they established their own education system called: MISE- Maesrk International Shipping Education, in Copenhagen. MISE has produced many skilful staff members for the company and a shipping man, who is well trained, is not only a sales man but also a consultant for customers when they are needed. MSL is proud of that and takes this as the company's competitive advantage. For that, Mr. Kjaedegaard- senior vice president of Maersl said ((Beddow.M ,1999, November, p.48).

> What you have to bear in mind that many of our sale representatives and sale management staff today have come up through the company's international training programme, which requires two years at the Maersk International school, followed by a defined career path through the organization's various department.

By training and employing very fresh, young people (usually under 25 years old of age), MSL could make a 'perfect machine' in which staff will think in Maersk way, do in Maersk way and MSL can create a corporate culture amongst staff. However, from the author's point of view, in the changing world today, MSL should also take in more 'diversified' staff who may bring a new way of thinking and create ''the work of a mad-man'' in view of ''people who go only by the rule of book'' as Mr.

AP Moller commented on his successful action at the foundation of The Steamship company of 1912 (Hornby.O, 1988, p. 56)

4.1.5: The industry influence and new technology application

As the biggest carriers, MSL has the bargaining power to leave its influence to the industry. For that, a CEO of one of the top 20 carriers revealed: ‘‘when it [MSL] comes to the terminals alone. All kind of vendors will have to ask what Maersk wants before they ask everybody else’’ (Boyes, J.R.C 1993, September, p.37). The move of MSL from PSA (Port of Singapore Authority) to PTP (Port of Tanjung Pelapas - Malaysia) in 2000 proved this assessment. This action is a lesson for any vendor who did not meet MSL’s requirement. By the way, this influence of MSL has brought benefits to other liners somehow, because they can obtain lower costs from the conservative terminal operator like PSA after this port lost MSL to PTP. Moreover, if MSL enters the new trade, the market will be more competitive among liners as MSL can offer lower freight rates with high quality service. No one can deny the fact that now Maersk- Sealand is the leader of the industry and ‘‘wherever Maersk line has a presence, it has a profound effect on how other lines behave’’(Beddow.M December, 1999. p.45).

MSL runs ahead of its rivals in applying new technology on ships and ashore. The modern equipment and latest designs make MSL’s ships C,M,L ,K class to be one of the most modern fleets in the world. MSL is one of the pioneers in implementing IT in shipping and now is a shareholder of the emerging portal- INTTRA.

4.1.6: Expansion

In the last decade, Maersk line acquired EAC and Sealand and APM too over Safmarine. By horizontal acquisition, Maersk could expand the market’s coverage, enhance the service quality and take the full advantages of other company’s strengths. In the case of Sealand, Maersk took over Sealand with one of the main aims of

accessing to the US domestic services and US military logistics, where foreign shipping companies are prohibited by the US Johns Act. The acquisition of Safmarine paved the way for Maersk to gain a market share, and a specialist in Africa.

The AP Moller group has also seen a vertical expansion to the non-shipping segments as the way of maximizing its profits. A.P Moller invested in ports, terminals, logistics, and other value added services supporting transport activities.

Figure 14: World coverage of major container terminal groups in 2001

Port group	Global port volume handled (in TEUs)	World # of ports/ terminals	Presence of groups by region: U.S./ Canada	Mexico/ Central America/ Caribbean	South America	Asia & Mideast	Europe	Africa	Oceania
Hutchison (Hong Kong)	25.3 million	29	No	6 ports	1 port	17 ports	4 ports	1 port	No
PSA (Singapore)	19.8 million	11	No	No	No	7 ports	4 ports	No	No
APM Terminals (Denmark)	13 million	28	11 ports	No	2 ports	9 ports	5 ports	1 port	No
P&O Ports (U.K.)	8.3 million	27	6 ports	No	1 port	11 ports	4 ports	1 port	1 port
Eurogate (Germany)	7.7 million	9	No	No	No	No	9 ports	No	No
Stevedoring Services Of America (U.S.)	6 million	14	9 ports	3 ports	2 ports	No	No	No	No
CSX World Terminals (U.S.)	3.5 million	9	No	1 port	1 port	5 ports	1 port	No	1 port
Total of 7 major groups	84 million 37% of world volume	127	26 ports	10 ports	7 ports	49 ports	27 ports	3 ports	5 ports
World TEU port volume	230 million								

Notes: In addition to the container terminal activities shown in the table, port operators may also provide container-handling stevedoring services on shared or common-user terminals, and breakbulk port activities in ports not counted above.

Source: Adapted from American Shipper (2002). www.americanshipper.com

At present the APM terminal is the third largest container operator in the world (see figure 14). It operates 28 terminals and ports worldwide. This is really a cross subsidy for the MSL business. Vertical acquisition and expansion enhanced MSL to provide ‘‘high quality end-to-end services’’. Those expansions complement the core shipping business and provide ‘’value for money deal’’ to the customer.

4.1.7: Branding campaign

It is said that ‘‘in the 21st century, branding will ultimately be the only unique differentiator between companies’’ (Szatkowsky.M 2002). In the shipping, many

companies consider money spent on branding campaigns and advertisements are expenses. However for MSL, they considered it as an investment. MSL invested in many campaigns in the media (TV, magazines) to build its brand and targeted the trading company's senior level decision makers for their selecting MSL as their business partner (Szatkowsky.M 2002).

It is hard to measure the impacts of those campaigns but nobody in the market has never heard of the Maersk-Sealand brand.

4.1.8: A solo, independent player

Having experienced difficulties in obtaining a unanimous business opinion of other partners since the operation of the Steamship Company Svendborg (Hornby.O, 1988, p.15), Mr. A.P Moller and his followers preferred to be independent in their business. MSL is a solo player on main routes and Mr Kjaedegaard, CEO of Maersk Line once stated that: "we are not handcuffed by vessel-sharing partners in the major trades" (Damas. P & Gillis .C, 2000)

However, recently MSL has seemed to have little change in its policy. MSL has slot exchange agreements: with Evergreen on the transpacific service; with MSC and the new world alliance 's members on the Tran Atlantic; and with MSC, K-line, NYK on the Asia-Australia service.

4.1.9 Yield management

Shipping companies have been tirelessly striving for a cost reduction in order to survive in the game and one way out for survival is to implement Yield Management. In the industry, MSL is one of the few companies who have implemented yield management successfully. Besides other ingredients to implement Yield Management, as explained in chapter two, MSL has made use of CRM (Customer

Relationship Management) in container shipping. CRM, ‘’a marketing philosophy that includes treating customers as partners and continually working to satisfy customers’’ (Ma.S, 2002, p.2), has long been used by other industries but in shipping, MSL is the pioneer. With CRM, MSL could understand the needs of existing, potential customers by analysing a database about them, then in turn to help them to assign staff to deliver a better service to the customers. MSL segmented customers into four categories: Platinum (Strategic Customers), Gold (Medium Customers), Silver (Small Customers) and Exit (not using MSL service or just go shopping price). For the Platinum customers, they will assign skilful staff (even management level) to take care of them, to pay regular visits and can be a logistics consultant for the customer if they need. The ‘gold’ customer will be taken care of by the sale staff. The customer service staff will be in charge of ‘Silver’ customers. The website and portal will be directed to the ‘Exit’ customer. Container shipping has diversified customers and is fragmented, therefore MSL has tried to direct those one-time or just- for-shopping customers (‘exit’ customers) to the low cost sale channel by electronic booking in its own web site or INTTRA portal. By implementing CRM, MSL could save USD 60.5 million annually and they can ‘’sell the right service to the right customer, at the right price with the right use of sale resource’’ (MSL, 2001)

Perhaps there are many other things that should be mentioned, but from the author’s point of view those mentioned above are the aspects and strategies that MSL has implemented successfully. The business philosophy of ‘‘independent’’, ‘’cost effective’’, ‘‘controlling’’ and ‘’own presence in all important part of business’’ go through MSL’s activities. MSL does things in their own way and tries to keep the company in a low profile. Mr. Kjaedegaard, CEO of Maersk, once admitted, "We have a very different philosophy from other lines that go out and say what they plan to do. We say what we have done." (Damas. P & Gillis .C, 2000). 2001 was the bad year for container shipping and year 2002 is expected to be worse. MSL reported a loss last year and Mr. Kolding, chief financial officer of A.P. Moller said “It’s the top task for our organization to get unit costs down.” and MSL will has ‘’a quite

substantial program'' to cut cost (Damas. P, 2002, July). We may expect some new strategies to be implemented by MSL and hope that those could be the innovative managements for container shipping. In the recent interview with CI-online, Mr. Jess Soderbeg, CEO of the AP Moller group revealed that he is in favour of further consolidation (''MSL.... consolidation'', 2001) so we may see this biggest guy become bigger in the near future.

4.2 – MOL

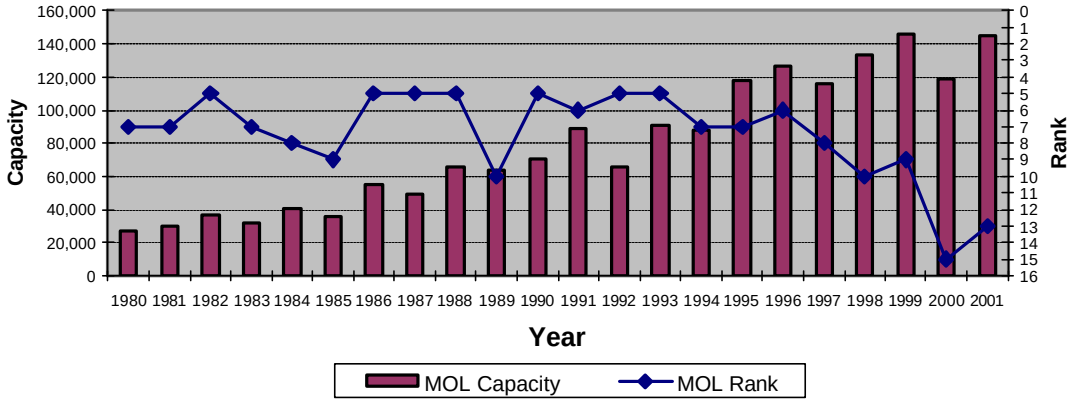
4.2.1- Historical background and general information

MOL has a long history since its initiating company, Osaka Shosen Kaisha (OSK lines), which was founded in 1884. The name Mitsui O.S. K Lines was given as the result of a merge between OSK lines and Mitsui Steamship Co., Ltd in 1964. At the same time Maersk lines joined container shipping in 1968, Mitsui O.S. K lines began its container service on the transpacific route. In 1999, the second merger with NAVIX made MOL today the biggest shipping giant in the world in term of deadweight.

Since 1964, with rapid and steady advances, MOL has become the global container player and is known today as the one of the most profitable shipping companies in the world. The development of MOL 's capacity (container shipping) from 1980-2001 is illustrated in figure 15 below. The ranking of MOL was changed over time, it accepted to stand behind others in the game of capacity increase. Recently, MOL placed orders for 16 new containerships with a total capacity of 85,500 TEU to be deployed in 2002-2003, which is nearly a 40% increase in capacity. So in the 2003, MOL could jump to 6^{th} or 7^{th} position.

Japan is really a shipping nation, it has had three shipping lines in the list since 1980. Among them, in terms of container fleet capacity, MOL used to be the biggest one but in recent years it satisfied profitability with the low ranks (see figure 15).

Figure 15: The development of MOL fleet capacity and ranking 1980-2001



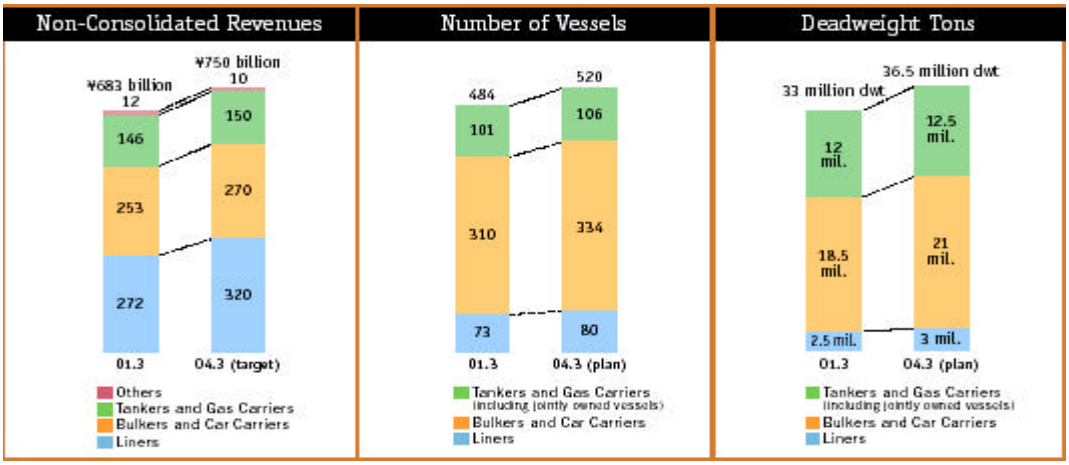
Source: compiled from CI

4.2.2: A diversified shipping company

MOL group consists of 337 companies covering the liners, tanker &gas carrier, bulkers & car carriers, ferries, cruise ship, logistics, terminal and other related activities, in which the liner business contributed around 40% (272 billion Yen) of its total non-consolidated revenue (683 billion Yen, statistics of fiscal year 2001- see figure 15).

In liner shipping, MOL is slipping behind, keeping lower ranks than its rivals but for the other shipping segments, MOL is really the big one. AS can be seen in the figure 14, in 2001, the MOL group operated only 73 containerships but 310 bulkers/car carriers and 101 tankers / Gas carriers. In 2001, MOL held 13th rank in the liner, 1st rank in the bulk shipping (in term of deadweight), 3rd rank in the car carrier shipping (in term of number of vessel), 2nd rank in tanker shipping (in term of deadweight), 1st rank in LNG shipping (in terms of numbers of vessels) in the world shipping markets.

Figure 16: MOL – Growth and expansion in 2001-2002



Source: Adapted from MOL annual report 2001, www.molpower.com

As a diversified shipping company, MOL could balance and keep the financial results of all shipping segments in a healthy condition. Since 1994, MOL group has transformed into the higher development by various management strategies. By doing so, the financial result of MOL has been a steady growth since 1994 (see figure 17).

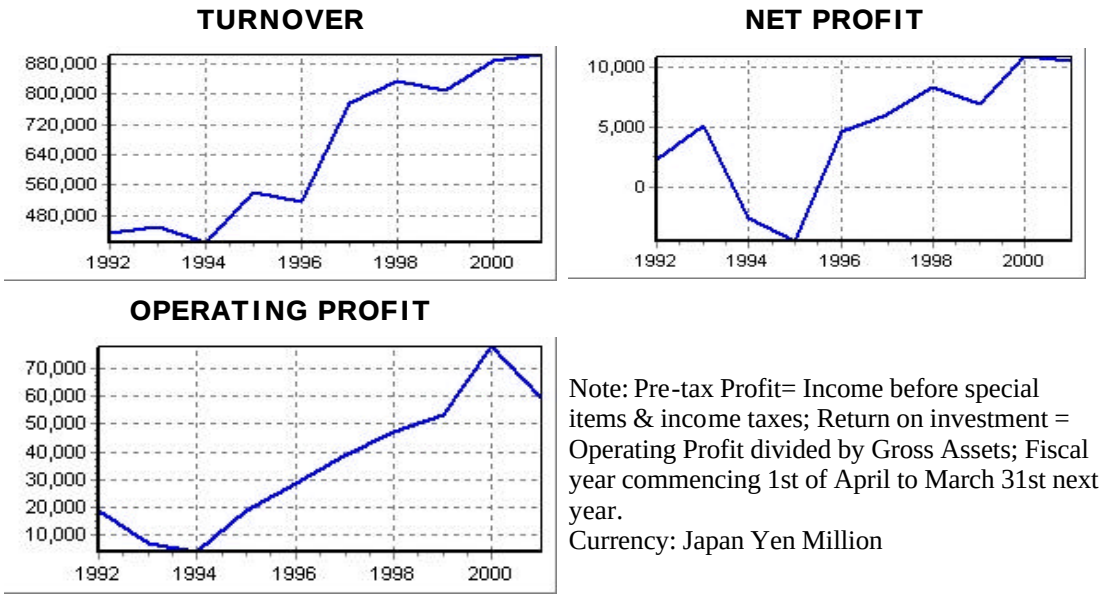
Coming to the 21st century, MOL has a strong ambition and Mr. Suzuki, president of MOL, says ‘‘my dream is for MOL to be no.1 in the shipping industry and to contribute to society at large’’ (‘‘New year...with President Suzuki’’, 2002, p.2). They will continue to invest more in the liners and the energy transport business. The company has set up new group corporate principles as below.

> 1. As a multi-modal transport group, we will actively seize opportunities that contribute to global economic growth and development by meeting and responding to our customers’ needs and to this new era.
> 2. We will strive to maximize corporate value by always being creative, continually pursuing higher operating efficiency and promoting an open and visible management style that is guided by the highest ethical and social standards

3. We will promote and protect our environment by maintaining strict, sale operation and navigation standards‘’

(Source: MOL 2002, p.1)

Figure 17: MOL- The financial performance chart



Note: Pre-tax Profit= Income before special items & income taxes; Return on investment = Operating Profit divided by Gross Assets; Fiscal year commencing 1st of April to March 31st next year.
Currency: Japan Yen Million

Source: Adapted from CI

4.2.3: Management style and strategies

In the traditional Japanese Management style, there were some aspects which contrary with that of the European and American management style (Thurly K & Widerius. H 1989, pp. 20-21)

(a) Work security versus individual freedom

(b) Organisation loyalty versus job competence

(c) Consultation and involvement versus management authority

(d) Work group innovation versus specialist know-how

Besides, Japanese lines had the ingrained service tradition of trying to satisfy any need a customer expressed that sometimes prevented them from selecting the most

profitable customers and cargo. Therefore, a report conducted by the Industrial Bank of Japan (IBJ) in 1996 concluded that:

> ‘’Japanese shipping lines must abandon their peculiarly Japanese practices, or face a grim future. In short, they must ‘de-Japanise’…A departure from everything peculiarly Japanese, from marketing strategy to mentality and practices, will lead Japanese liner operators to a new stage when they can compete as a truly international shipping company’’ Source: (Japanese lines must ‘de-Japanise, 1996, December p.20)

Recognizing the problem earlier, since 1994 MOL has implemented the strategies lasting for three phases called ‘’MOCAR’’ (MOL’s Creative and Aggressive Redesigning), MORE21 (Mitsui O.S.K Lines Redesigning for 21) and MOST21 (Mitsui O.S.K Lines ‘s Strategies Toward 21) where the restructuring of the MOL liner business and its profitability are the key targets. The organization of the liner division was decentralized and made up into new three regional operating units: MOL (Europe), MOL (Asia) and MOL (America). Those organizations were formed under MOL’s innovative concept VLC (Virtual Liner Company) where ‘’all of the surrounding affiliate companies are treated as a single company (a virtual company)’’ (Sato.H, 2002).

Continuing to improve MOL’s profitable growth, for the medium-term from 2001-2004, MOL has set up its new strategy named ‘MOL next’. That will bring a new role to MOL’s liner shipping in the market. In this strategic plan, MOL emphasizes to following points in the liner business:

- ✓ Growth and expansion
- ✓ Expansion of non-Japanese trade (Intra-Asia, Tran-Atlantic)
- ✓ Seizing new business activities
- ✓ Promotion of IT
- ✓ Improvement of competitive edge
- ✓ Improvement of financial structures

- ✓ Management reform
- ✓ Training human resource

The human resource management is playing an important role in the MOL next and as Mr.Suzuki, president of MOL, emphasized ‘‘the driving force behind our company, of course, is our people’’ (New year..with President Suzuki ,January 2002, p.2). Training and procurement plans have been established, in which MOL will renew efforts ‘’ to tap the full potential’’ of its ‘’globalization of human resource’’ (Ikuta.M & Suzuki, K. 2002, p. 5). The ‘MOL next’ will be a revolution and create a big jump for MOL if it is implemented successfully.

4.2.4: Partnership and long-term corporation.

While MSL has the business philosophy ‘‘independent and controlling’’, MOL seemed to have‘’ partnership and cooperation’’. From the author’s view, there are two main reasons that made MOL follow that philosophy:

- ➢ MOL is a listed company owned by a numerous number of shareholders (136,705 shareholders, in which the majors are Japanese Banks- Source: MOL);
- ➢ MOL is a Japanese company with the characteristics of being very careful in thinking and making decision.

MOL ventured into new businesses where they could create a partnership, corporate and spread the risk with others. That philosophy can be seen throughout MOL’s operation:

- ➢ Joining vessel sharing agreements, slot exchange, alliance, conferences;
- ➢ Making joint venture with local partner for agency activities;
- ➢ Making joint venture with local partner or trading companies for port, terminal, logistics operation.

Making joint venture or cooperation with others could be a good way of spreading risk and taking others advantages. However, in some cases, the cultural differences and the conflict of interests could turn that joint venture into being a burden and put company into a dilemma situation.

Over the last 20 years, MOL has been always an active, initiative carrier in the shipping corporations like TRIO consortium and the TNWA alliances. By doing so, MOL has improved its service quality and expanded global gradually. According to Professor Porter of the Havard Business school (Porter. E.M. 1996, November-December, p.66), Japanese companies had been known as the pioneers in practices of: total quality management and continuous improvement. What the rival did successfully, they could quickly match, emulate and could do better. Container shipping has been developed rapidly and tremendously in the last 20 years, most of the innovations and strategies have been examined in practices. The latter may be the one who can enjoy the experiences, lessons from the previous one. MOL, after years standing behind and accumulating its healthy finances, is showing its goal '' to become one of the world's best managed and most respected companies in any industry'' (Ikuta. M & Suzuki. K. 2002, p 3). MOL has integrated in all major transport chains: logistics, terminal, port, sea/air transport, and value added services. However, the vertical and horizontal expansions of MOL are likely seen in the near future. The bad year 2002 make MOL considered to cut operating costs in the liner division by nearly 83 million US dollars (''MOL…fat'', Fairplay, 2002) and MOL will continue to perfect their organization and operation.

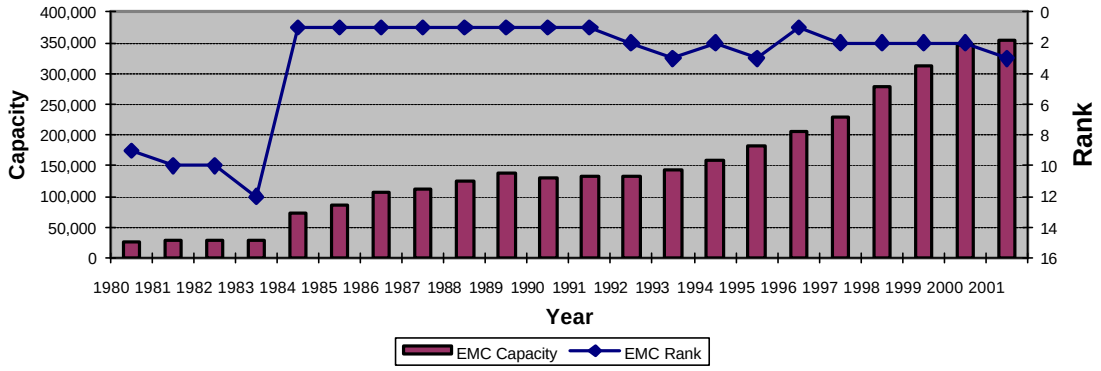
4.3: Evergreen

4.3.1: Historical background and general information

Unlike AP Moller or MOL, Evergreen Marine Corp (EMC) is quite a newly established shipping company. Mr. Chang Yung-Fa placed the first stone for the Evergreen group by a second-hand tramp ship in 1968. In 1972, Evergreen launched

its liner service between Asia and USEC and really joined container shipping in 1975 with the transpacific service by its fully cellular containerships. This newly established carrier had made a successful independent service between Asia and Europe in 1979 and was the first carrier to operate RTW (Round The World Service) linking Asia, Europe and USA in 1984. During the period 1980-2001, EMC occupied 8 times first positions in the top 20 leagues (see figure 18). After steady growth from 1984-1991 with the introduction of the new RTW services, EMC had a pause in 1992-1995. Recently, it was positioned behind MSL and PONCL. In its life, Evergreen has taken over Uniglory, Lloyd Trestino and in 2001 it was ranked in third position in the league. EMC nowadays is a listed company of the Evergreen group, which is active in many fields like aviation, shipping, port operation, container manufacture, road transport, hotels, and other activities.

Figure 18: The development of MSC fleet capacity and ranking, 1980-2001



Source: Compiled from CI

The changing of business environment made EMC, an independent minded carrier, to revise its strategies to respond to those changes.

4.3.2 Changing strategies: from independence to cooperation

In the 1980s, Evergreen wanted to be an independent carrier and was reluctant to joint corporation with other carriers, especially with 'global carriers' (Evergreen's show of strength, 1997, February, p.19). Having acknowledged the benefits of co-

operation, EMC had deals with some smaller-scale carriers in the early 1990s. In 2000 to now, one interesting point in the EMC group's strategies is that they tried to make cooperation with the different carriers for their affiliates. Finally, the whole Evergreen group will be able to offer various schedule options to customers. They have slot exchange agreements with:

- The New World Alliance's members (APL, MOL, Hyundai) for transpacific
- MSL for East Asia-North American
- CMA-CGM for transpacific.
- CMA-CGM for Asia -Europe route
- COSCO, NYK and others for Asia/South Africa/East Coast of Shout America
- COSCO, Yangming and others for Europe/India Sub continental route.

Cooperation will be a new strategy for the Evergreen group according to Mr. An, Arnold Wang, executive vice president of the corporate business division at Evergreen, who admitted ''the efficient use of ocean-borne tonnage and cooperation between carriers will provide built-in economies that will best serve our customers'' (MSL and Evergreen…. cooperative pact. 2002). 2002 also marked the important change in EMC. EMC and its affiliates HATSU, Lloyd Trestino has a ''carriers group agreement'' with 14 members of TSA (Tran-Pacific Stabilization Agreement) which permitted those companies "to discuss, share information, and reach voluntary agreements with the TSA and its members'' (Lloyd Trestino…TSA lines, 2002).

4.3.3 Changing strategy: expanding services to logistics

Unlike other carriers: APL, MSL, MOL, PONCL, which have already integrated in logistics and other shipping related services, EMC used to say that they wanted to be concerned the core shipping business only. Now, things have changed. In the statement for the plan of 2002, Evergreen announced that it would ''respond to the trend towards total logistics by targeting areas such as China, South East Asia, the

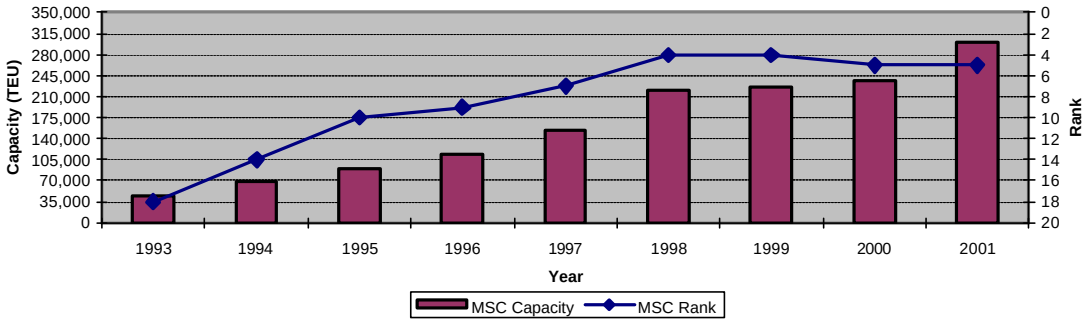
Indian Subcontinent and South America for investment in forwarding operations, container depots, warehousing and trucking''(''Evergreen.. .. logistics'', 2002). The Taiwanese carrier has faced up to many difficulties in penetrating the Chinese market due to the political sensitivities. According to the Chinese rules, Taiwanese ships, Taiwan-flagged ships cannot make direct voyages or call at any port in China as other foreign carriers can do. That is the reason why consolidation in shipping is a trend but EMC had to split up its organization and operation and tries to sell services to the Chinese market under its affiliated company's brand Lloyd Trestino or under the newly established company HATSU based in London. This year, 2002, EMC, together with 60 other lines, was granted 'International Liner Operating Permits' by China's Ministry of Communications. However, it will not be easy for EMC as they are struggling in many ways to find a gateway to the potential mainland market. EMC, the market challenger, will continue to challenge the traditional shipping liners and to expand its business.

4.4: MSC

4.4.1: Historical background and general information

''To perform similar activities in different ways'' that is MSC, a company with a low profile but it has got intentions from the industry because of its meteoric rise. Mr. Aponte founded MSC in 1970 with only one 11-year-old ship M/S Patricia 2,800dwt. The Company inaugurated its liner service in 1973 and started to carry containers on board general cargo ships in 1977. Gradually, MSC has emerged in the industry, entering the top 20 league in 1993 in 18th position and holding 5th position in 2001 (see figure 19). MSC is going global and has some secrets and exclusive strategies in approaching to container shipping.

Figure 19: The development of MSC fleet capacity and ranking 1993-2001



Source: compiled from CI

4.4.2 Organization and management

MSC does not disclose its financial result, because Mr. Aponte is the sole owner of the company. He is closely controlling the company with the roles ‘’that a president, chairman and chief executive would hold in more conventionally structured liner shipping companies’’ as the Lloyd Shipping Economist analysed (‘’Captain Aponte’s secret’’, 2001, January, p.31).

The ideas of ‘‘controlling’’ and ‘‘independent’’ seem to be attached to company’s operation. Since the first liner services in the North Europe- Africa, MSC established its own agency network: MSC (SA), Medite Shipping (UK), MSC France, MSC Espana, MSC (Australia), etc. MSC is an independent-minded carrier. They saw vessel sharing as purely pragmatic and Mr. Aponte once stated that ‘‘I hate that… hope that we will never have to do it’’ (‘’Gradualist…brings rewards’’, 1995,Setember, p.23). According to Mr. Aponte, alliances are anathema and he has to do so where there is no sensible alternative (‘’Captain Aponte’s secret’’, 2001, January, p.31).

4.4.3: Tonnage policy

MSC’s approach to container shipping is the unorthodox success. They tried to play assets by buying second hand ships when the market is low and selling ships when

the second hand ship market or scrapping market is high. They buy ships that were aging or surplus to the needs of its rivals. While other liners pursued the modern, faster ship, MSC used aging, slower ships for the lower cost. In some trades like the Africa market, freight rates are more important than transit time. MSC got support from those trades by offering lower rates and longer transit time service than others.

In liner shipping, it is not easy to withdraw ships from regular services for asset play but MSC is successful in doing that. Looking at the MSC fleet composition in 2002, they owned most of the vessels aged between 20-30 years which occupied one third of the fleet; for the younger fleet from 1-10 years old, they owned only 33% (25 ships) and chartered 67% (50 ships) (see table 16).

Until now, MSC has started with its new building programmes but it has not given up the second hand tonnage policy. For the new building tonnage, MSC paid close attention to the new building market. They will place orders when that market is low and it could take full advantage of the precious capital. MSC's new building backlog for 2001 is 14 ships, which are to be delivered at the end of 2002 and in 2003. The portion of chartered tonnage in the whole MSC fleet is relatively high (41% in 2001), in which MSC has also implemented a strategy to charter tonnage when the charter market is weak and they can enjoy the benefits when the charter market goes up.

Table 16: MSC- Fleet composition profile

Year build	**1968-1980**	**1981-1990**	**1991-2002**	**Total**
No. of ship, Owned /Chartered in	44 /13	29/13	25/50	98/76
Sub total no. of ship	57	42	75	174
Percentage on total MSC fleet	33%	24%	43%	100%

Source: Compiled from CI

Besides, MSC has a policy of maximizing the ship's utilization; if one market is unprofitable they will withdraw or switch ship to other service for better utilization (Captain Aponte's, 2001, January, p.32). This flexible policy has made MSC being

profitable while other liners have to struggle to maintain their committed services. All the exclusive tonnage policies could only be performed by carriers with the ‘‘going alone’’ policy like MSC.

4.4.4: Service expansion

MSC took very carefully steps in its service expansion. They set up offices in a new region, started services on a small scale, and then expanded services when MSC saw the profitability (‘‘Captain Aponte’s secret’’, 2001, January, p.31). MSC offered only one sailing per week with limited port coverage and slowly penetrated the market. However, this kind of service cannot always meet the requirements of global customers.

MSC used to be stuck to container shipping but recently they decided to diversify business and are developing their cruise-shipping segment under the brand name Mediterranean Shipping Cruise.

MSC is performing a liner shipping service in a different way, especially by the tonnage policy. It has got very successful results in the past years. Recently with the expansion programmes, MSC has placed more new bigger ships in its fleet. So, from the author’s point of view, in order to fulfil the allocation of those ships, they will have to ‘‘love’’ the alliance or slot sharing with other liners. They may change their ‘‘going alone policy’’ and management style to adapt to the new situation. The approaches of MSC to container shipping are exclusive and have shown some ‘’food for thought’’ to other liners.

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This chapter has analysed some of the main strategies and management ways that have been implemented by MSL, MOL, Evergreen, MSC to outperform, perfect their

operations and their responses to the market changes. It seems that in the previous times, for family shipping companies like MSC, MSL, EMC they preferred to be independent and for other listed companies or companies having numerous share holders like MOL, NYK, etc, they preferred spreading the risks and wanted to have business co-operation. Now the situation has changed, all of them have seen the benefits of co-operation. They are co-operating to live in this risky container shipping industry. The two big independent-minded shipping companies, MSL and EMC, have recently tightened their cooperation; firstly, by moving the Asian transhipment hub to the PTP (Port of Tanjung Pelapas- Malaysia) where APM has its share, and then by cooperating through the slot exchange agreements. The cooperation among big, independent carriers will continue and perhaps there will be more consolidations among them.

Not only are the four liners mentioned in this chapter diversified shipping companies, but also most of the liners in the leagues in recent years are diversified shipping companies too. Diversified shipping and horizontal, vertical expansion will complement the core container shipping business. In some cases, those create a cross-subsidy for the whole group's business.

Through the study in chapters two and three, container shipping in the past 20 years is seemed to be a low profitable industry. However, there are many shipping companies remaining in this industry. It is said the reasons behind this were due to: that was the company's traditional business, optimism about the market and the inertia about the operation and management of shipping companies.

The world is changing and Mr. Ikuta, former president of MOL remarked: ''successful companies are the ones quickest to adapt to the changes'' (Ikuta, 1998). In the next chapter, the author examines the major developments, trends in container shipping and the expected reactions of the top 20 to adapt to those changes.

CHAPTER 5

SOME TRENDS AND DEVELOPMENTS IN LINER SHIPPING

Sailing into the 21st century, there are many trends happening, which could offer both opportunities and threats to liner shipping, and to the top 20 liners in particular. In a time of uncertainty, for some carriers, that is a good opportunity and for others is a disaster. Carriers will have to think globally but at the same time they have to act locally, to devote services that can be meet more demanding of both international and local customers. The top 20 liners have been the driving forces of the container shipping industry and their reactions to the trends will determine the future of container shipping. Below, the author would like to examine those trends and the reaction of top 20 in particular.

5.1 Tonnage policy

Pursuing 'economics of scale', the top 20 liners will continue to order Panamax or Post-Panamax containerships. Those ships will not be obsolete and could have acceptable residual value in the future market. Even liners are planning to order mega –ships with a capacity of over 10,000 TEU. There have been some studies to show that such a mega ship could create more problems than it could bring benefits to liners and society and these ships could fit for Equatorial Round The World Service. For carriers, the problems will be: the imbalance of equipment; the possibility of fulfilling a ship's allocation. For

the ports and society, they will be: the new investment for handling equipment, dredging; the bottlenecks caused by a massive number of containers to be handled at the same time; the environmental impacts caused by dredging ports and channels and other problems. More over, in the current business environment, the author predicted that those mega ship will not likely be introduced until the next four or five years. Stopford concluded in his study that carriers should concentrate on the capacity increase of medium sized vessels (2000-4000 TEU) rather than bigger ship (''Size is not everything'', June 2002)

Off-balance sheet and charter in tonnage will be an increasing trend in the top 20 liner. Under the market condition of uncertainty nowadays, liners will spread the risks of investment to non-operating owners. There will be a situation where non-traditional liners with limited capital could expand services and operate their fleets mainly with chartered tonnage. They will enter the market during the peak times and withdraw services during the weak periods. In some cases, they can enter the league and come over other traditional liners in terms of capacity deployment.

5.2 Consolidation

Container shipping is still fragmented, because there are many shipping companies operating liner services. The low profitability, as the author explained in the chapter three, is one of the main reasons that lead to more consolidations in container shipping. In 2002, the wave of consolidation in the top 20 did not happen as people expected. The uncertainties made liners become concerned about its growth organically and paid keen attention to the cash flow and liquidity. The conflict in cultural and management style between two liners could also be a barrier. Moreover, any merger and acquisition among liners in the top 20, may have to get anti-trust approval from the relevant authorities. All are barriers that prevent consolidation in the top 20. However, this trend will be more likely to happen because one of the most effective ways to cut administration costs, to

reduce the fierce competition among the same size liners is merging or acquisition. According to the study of WestLB Panmure, the investment analysts in 2002 the possible consolidation candidates in the top 20 are: PONL, ZIM, HANJIN, OOCL, HLCL, OOCL (Damas. P, 2002, July, p. 29).

5.3 Diversification

Most of the liners in the league are diversified shipping companies. The low profitability together and the heavy investments have made carriers diversify their business. By doing so, they can spread risks to other shipping segments like: bulker, tanker, LPG, passenger shipping, ferry, etc. They will also integrate other activities like: terminals, ports, logistics and value added services. As a result, liners will belong to one group, or shipping giant, that is involved in various activities.

5.4 E-commerce and shipping portals

In the game of survival, liners have to maximize profit and minimize cost. One method is to introduce a low-cost sale channel to the customer. E-commerce is that channel. Liners are encouraging customers to do transactions online as they wanted to emulate the passenger air transport. Besides a carrier's own web sites for e-commerce, they are also offering the customer 'real time booking' via neutral shipping portals like: GT Nexus, INTTRA, CargoSmart. Carriers see those portals as a facility rather than different services. As Mr. Thomas Eskesen, director of the e-commerce line department at Maersk Sealand said ''we don't believe it's a competitive factor" (Damas. P & Gillis .C, 2000).

In shipping personal contacts play a very important role in every part of the transaction and one factor that can make a difference between liners is people. Supporting this

argument, Mr. Sanguinetti, former sales and marketing manager of MOL (Europe), stated: ‘‘despite everything one reads about internet… shipping is still very much a people’s business, and our sales reps play an important role in this area’’ (Beddow. M 2000, September, p.40). Therefore, in spite of the rapid implementation of E-commerce and portals in shipping, people are still playing a pivotal role in every part of the shipping business. Capable and skilful staff will contribute much to the success of liners.

5.5 Alliance and conference

In a recent report, OECD voiced their concerns for the anti-trust exemption given to liners for freight conferences, pricing stabilization agreements and recommended governments to abolish this system (OECD, 2001). This report used many data in order to draw a picture of container shipping as a profitable industry. They argued that the conference, pricing stabilization agreements were barriers for trade facilitation. Through this study from 1980-2001, the picture that OECD has drawn was not truly reflected the container shipping industry because the data they used came from various sources. In the response of WSC to OECD’s report, WSC also remarked that ‘‘the report’s data has significant problems and is often presented in a biased and misleading fashion’’ (WSC, 2001, p.2).

There is a fact that conferences and pricing stabilization agreements have less power than they had in the past, but those systems proved effective and efficient somehow. Table 17 shows the number of conferences and alliances that the top 20 carriers are joining in 2002. Not only traditional shipping companies are members of major conferences like: PONL (65 conferences and 8 alliances), MSL (49 conferences) but also some ‘new’ shipping companies like CSCL is a member of 1 conference and 1 alliance (table 17).

Now, the world is busy in recovering from the economic recession, the war against terrorism and liners are struggling for survival. Therefore, there it is unlikely to have any change in the regulatory system for the anti-trust exemption of liners in the coming years. However, in the author's view, liners should not abuse their anti-trust exemption by imposing surcharges or increasing freight rate to the too high levels that the market could hardly bear within the short time notice.

Table 17: The conference and alliance membership of the top 20 liners

	MSL	PONL	EMC	Hanjin	MSC	APL	Cosco	CMA	NYK	CP ship
No.of Conferences Joined	49	65	9	6	8	18	6	35	49	NA
No. of Alliances Joined		8	1	5	1	2	1	6	5	NA

	K Line	OOCL	MOL	Huyndai	CSCL	HLCL	Yang-ming	Zim	CSAV	Hamburg Sud
No. of Conferences joined	37	23	18	17	1	27	16	14	8	8
No. of Alliances joined	4	3	3	1	1	3	1	3	4	2

Note: Statistics as of July 2002 Source: compiled from CI

The alliances, with many advantages as explained in chapter two, have been the wave of the future for the container shipping industry. Sooner or later, few independent- minded carriers would have to change their policy and joint or create new alliances with the partners having the same capacities and management style. Recently, we see many cooperative agreements among the big lines in the leagues like: MSL and Evergreen for 12 months slot exchange agreement in Tran-Pacific from 2002-2003, MSC, K-Line and NYK in Asia- Europe route. This means the power and market share have been in the hand of some major, global carriers and there will be little room for small carriers to enter the major routes.

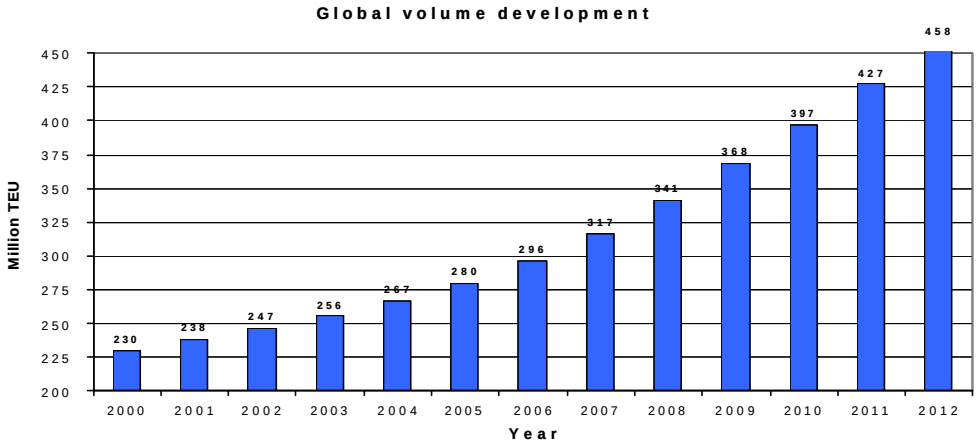
5.6 The growth trend of demand and supply

In 2001, the world container traffic increased only by 5%, this was the lowest level in the last few years and the world economy is still recovering slowly. However, many new building ships have been introduced into the market ‘‘at a stage in the cycle at which the rate of delivery of new containerships was approaching an all time high’’ according to Mr. Tung, chairman of OOIL (Damas. P, 2002, July, p. 25). The surplus of tonnage is inevitable which result in low freight rate and deterioration profit margin. Therefore, many carriers in the top 20 have redefined their plan to fill this gap such as: cost cuttings, expanding uses of IT for booking, decreasing new orders and others method. The delivery of new buildings in the 2004 was expected to be low as Mr. Bourne, managing director of MOL (Europe) says: ‘’new buildings in 2004 will be at a record low. With the current return on capital, no one is going to order new ships’’(Damas. P, 2002, July, p. 27).

According to the figure 20, the world container traffic is forecasted to be 280 million TEU in 2005 and 427 million TEU in 2010, an increase by 18% and 80% in comparison with that of 2001 respectively. Stopford analyzed that the major markets, which will contribute to the future growth, will be ‘’largely outside the major east-west axis and will occur in South America, Eastern Europe and also China’’(‘‘Size is not everything’’, June 2002).

Of course, a forecast is a forecast and no one can be sure of the figures. Thus, how can the supply side cope with this demand in growth? The big will get bigger, but how big is enough, are those big entities capable of managing the huge network and how can they can deal with the imbalance of trade. Those will be the real challenges for the whole industry and for the top 20 liners themselves.

Figure 20: The forecast of world container traffic



Source: APM Terminal (2001)

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In brief, this chapter has examined some developments and shipping trends in the industry: tonnage policy, diversification, alliances/conferences, consolidation, shipping portals and demand, supply. The development of container shipping in the last 20 years is really the story of the ups and downs of the shipping companies. Those ups and downs will continue to happen and shipping lines have to be proactive to those developments, shipping trends for their survival and development.

CHAPTER 6

CONCLUSION

The liner shipping business has changed dramatically. The changes in demand have made the supply to renovate itself continuously to cope with such changes. The average annual growth rate of 9.6% of the world container traffic during period 1980-2001 has facilitated the expansion of the world container fleet capacity by 8.7% per annum and the top 20 liners to grow by 11.1% respectively in this period. As can be seen from those figures and from the appendix D, the demand grew faster than the supply. The growth of the world container traffic, the world fleet capacity and the top 20 fleet capacity evolved in a cycle and those lines rarely went together. All those indications show: the fluctuations of liner shipping; the problems in shipping forecast, in capacity planning of the carriers; and the improvement of the containership fleet's productivity during this period.

''The law of survival of the fittest applies to container shipping'' (Damas. P, 2000, July, p.47) and carriers have to consider some main strategies for their survival as mentioned in chapter two:

- Conference or non- conference
- Alliance/ consortium or solo
- Ownership or outsource
- Global carrier or niche carrier
- Total logistic provider or ocean carrier

- The routing option: RTW, Pendulum, End-to-end, Hub-spoke or direct call service.
- The yield management

From the study of the top 20 leagues from 1980-2001, there are some main findings as the author explains in chapter three:

- The top 20 liners are controlling more world fleet capacity
- Big is bigger
- Merger and acquisition help a carrier to jump to a higher rank
- The top 20 carriers have been increasing their chartered tonnage fleet
- The Asian carriers have dominated the top 20
- Maintaining rank means increasing capacity even unprofitable. Capacity increased as a result of the short prosperity periods in shipping
- Profitability is not correlated with a company's size.

Through the period 1980-2001, container shipping is known as a risky, low profitability industry with relatively short booming periods as author explained in chapter three. Liners have been continuously placing stakes on the table for their poker game. Hence, there is a paradox that many shipping companies are being engaged in the liner business and the top 20 liners are increasing continuously their capacity in the coming years. It is said that there are three main reasons that some liners remaining in the container shipping, in spite of the low profitability:

- Container shipping is the company's traditional business,
- They are too optimistic about market; they always expect that the profit is about the corner

- They are too inertia in changing company's operation and management

Some carriers in the league outperformed others by applying their own strategies or redefining and renovating themselves in the game. These showed some food for thought to the industry as the author analyses in chapter four. In the league, it is clearly indicated that some carriers have been overstretching themselves to pursue market shares and market coverage. This will really damage the health of the container shipping industry. Those carriers should avoid the trap of growth by increasing market coverage or capacity regardless to profitability.

Entering to the 21st century, liners have to be proactive to the shipping trends and developments such as: tonnage policy, alliance /conference, diversification, consolidation, IT. Because the top 20 liner are the main force of the industry therefore their reaction to those trends and development will determine the future of the container shipping industry as the author explains in chapter five.

In chapter three, the author explains the structures of the top 20 in period 1980-2001. Therefore, in the author's opinion, the container shipping will be the playground mainly for the European and Asian lines. In the top 20, the number of the European liners may be reduced, as their parent group could find no longer interest in liner shipping. This decrease in number will give way for more the Asian liners entering the league. However, the European carriers have many advantages in capital, technology and infrastructure. So, if they merger together, in case it may be, the number of them could be reduced but the individual carrier's size could much bigger than that of the individual Asian carriers.

In the way of development and cementing a position in the industry, liners should make use of their assets through tonnage policy, alliance, and co-operation. They should also need to renovate their operation, management and to reduce the heavy

costs caused from administrative works and from the imbalance of equipment through yield management.

Among liners, their services do not have many differences and Ma (2002, p.3) writes that ‘‘service innovations can not be patented and are easily copied’’. Therefore, what a liner has done successfully in ‘cost leadership’ and ‘differentiation’ strategies, its rival could quickly copy, match and may do better. In the game of survival, liners having the same sizes try to outperform and match each other. Even, a liner will take over other smaller-size company to increase its size to come over its rival somehow. If that liner has no clear strategies or wants to reduce the competition with its rival, it has no better idea than to merge with or take over others, like the cases of: Maersk and Sealand, P&O and Nedlloyd.

Porter (1980, p.4-6) emphasizes: ‘‘the state of competition in an industry depends on five basic competitive forces [the entry of new competitors, the threat of substitutes, the bargaining power of buyer, the bargaining power of suppliers, the rivalry among the existing competitors]… and that competition in an industry goes well beyond the established players’’. He argued that there are three ‘‘potential successful generic strategic approaches’’ to cope with these five competitive forces. The generic strategies are: overall cost leadership, differentiation, and focus (Porter 1980, p.35). According to Porter (1980, p. 41) a firm should avoid being stuck in the middle of these three strategies and it should select the strategy ‘‘best suited to the firm strength and once least replicable by competitors’’ (Porter, 1980, p.44). He also says: ‘‘rarely is a firm suited for all three’’ (Porter, 1980, p.42).

Nowadays, there is a question that which strategies a liner could choose if its service has no much difference than others and its service patterns could be easily copied? In the business environment today, liners have to think globally but act locally and the multidimensional strategic approach must be better than a monotonous strategy. Therefore, the author believes that liners in the top 20 should implement ‘cost leader

ship' and 'differentiation' strategies in the broad, global scale and implement 'focus' strategy locally because:

- With the cost leadership strategy, they could offer service at lower cost (by bigger ship, in-house agency, tonnage policy, EDI, VLC and others)
- With the differentiation strategy, they could differ themselves with other liners (manning, valued added services, logistics, branding)
- With the focus strategy
  - They could select and target segments, markets and customer group and choose the most profitable segments to serve
  - They can achieve competitive advantages by optimising strategies to these segments, markets, and customer groups (cost leader ship or differentiation strategies). Consequently, its rival could hardly copy and match whole its focus strategies to these targets
- And if liners pursue only the cost leader ship strategy by imitating each other's performance, the profitability will drop and no one can win.

It is not easy to forecast how the picture of the top 20 liners will be in the next period. The author believes the future will belong to the successful management shipping companies having the right strategic approach that can identify, quantify and anticipate to the needs and changes of the markets. Perhaps there will be more consolidations, bankruptcies, more new-comers to the leagues and the ups and downs of liners is likely to happen, just like the earth evolves on its axis.

References:

Baasch, H (1999, June). More mergers and takeovers. *American Shipper,* 41(6), 34-35.

Beddow, M (1999, November). Enigmatic Maersk Line. *Containerisation International*, 32(11), 45-49.

Beddow, M (2000, September). The death of a sale man. *Containerisation International*. 33(9), 39-41

Beddow, M (2001, November). The big have got bigger. *Containerisation International*, 34(11), p. 63

Beth, H, L (2002). *Maritime and port policy*. Unpublished lecture handout, World Maritime University, Malmo, Sweden.

Bonney, J (1993, April). Will the good times last? *American Shipper.* 35(4), page 48M-48R.

Boyes, J.R.C (1993, September). An age of giants. *Containerisation International* ,26(9), 37-39

Boyes, J.R.C (1993). Uncertain times. In Containerisation International, C*ontainerisation International Year book 1993 (* p. 5). London: CI

Boyes, J (1996). The balance of power. In Containerisation International, *Containerisation International Year book 1996 (* p. V). London: CI

Boyes, J (1998). One more ahead. *Containerisation Internationa*.34(10), 46-47

Boyes, J.R.C (1998). Consolidation continues. In Containerisation International, *Containerisation International Year book 1998 (* pp. 5-6). London: CI

Boyes, J.R.C (2002). Ocean carriers aim to ride out of the storm. In Containerisation International, *Containerisation International Year book 2002 (*p.5-6). London: CI

Captain Aponte's secret (2001, January). *Lloyd Shipping Economist.* 23(1), 30-34

Conference countdown (1998, December). *Lloyd's Shipping Economist*, 24-27.

Coto-Milllan, P(1999). Maritime transport applied economics. Madrid: Civitas.

Crainer,C & Dearlove,D (Eds. 2001). *Finanicial Times- Handbook of Management. 2nd ed*. London: Prentice Hall

Damas. P (1991, January). Cash and carry. *Containerisation International*. 24(1) cover story.

Damas, P (1991, December). Quest for the global carrier. *Containerisation International*. 24(12),cover story.

Damas, P (1992, December). Top carriers feel the pitch. *Containerisation International*, 25(12), cover story.

Damas, P (1998, July). Container carrier's margins disappear. *American Shipper*, 40(7), 60-62

Damas, P & Gillis .C (2000) Inside Maesrk Machine. *American Shipper*, 43 (3). Retrieved on June 06,2002 from www.americanshipper.com.

Damas, P (2000, July). Who is making money. *American Shipper*, 42(7), 47-54

Damas, P(2001, June). Transit or direct. A real choice? *American shipper*. Retrieved on 01 April 2002 from www.americanshipper.com

Damas, P (2001, July). Who is making money. *American Shipper*, 43(7), 30- 39.

Damas, P (2001, August). Big ship. Big problems. *American Shipper*, 43(8), 12-22.

Damas, P (2002, A). APL's 93% fall in profit put NOL into red. *American Shipper*. Retrieved on 22 June 2002 from www.american shipper.com

Damas, P (2002 B). China shipping predicts trade rebound, disclosures container loss. *American Shipper* . Retrieved on 22June 2002 from www.americanshipper.com

Damas, P (2002C). OOCL resist 'commoditization' of shipping. *American Shipper* Retrieved on 10 June 2002 from www.americanshipper.com

Damas, P (2002, July). Who is making money. *American Shipper*, 44(7) pape 24-30.

Damas, P(2002, January). Too many ships too litter cargo. *American shipper* Retrieved on 01 April 2002 from www.americanshipper.com

Déjà vu (2002, June). *CI-online*. Retrieved on 10th July 2002 from www.ci-online.co.uk.

Distribution revolution takes hold (1988). In Containerisation International, *Containerisation International Year book 1988 (* pp. 5-8). London: CI

Drewry (1991). *Strategy and profitability in global container shipping*. London: Author.

Drewry (1983). *Ship Finance and investment*. London. Author.

Drewry (1986). *Traffic and competition on the round the world container route*. London: Author.

Drewry (1999). *Containership charter market: A positive course for the new millennium?* London: Author.

Drucker, P, F (1988). Management. Task. Responsibility. Practices. London: Butterworth-Heineman.

Drucker, P, F (1996). Managing for results. London: Butterworth-Heineman.

Evergreen's show of strength (1997, February). *Lloyd shipping Economist*, 19 (2), 19-22

Evergreen to invest in forwarding and logistics (2002). *American shipper*. Retrieved on June 25, 2002 from www.americanshipper.com

Francou, B (2001). *Macroeconomics and impact of ports and shipping on the economy*. Unpublished lecture handout, World Maritime University, Malmo, Sweden.

Fossey, J (1995). Container ship fleet reaches new heights. In Containerisation International, *Containerisation International Year book 1995 (* p. 11-12. London: CI.

Fossey, J (1996, November). Leader of the pack. *Containerisation International*. 29(11), 42-45.

Fossey, J (1999, November). Top cat. *Containerisation International .32(11)*, p.43

Fossey, J (2000). The six million TEU fleet. In Containerisation International, *Containerisation International Year book 2000 (* p. 6-7). London: CI.

Fossey, J (1999, June). Calmer water. *Containerisation International*. 32(6), Cover story.

Fossey, J (1999, May). Single-minded. *Containerisation International. 35(5),* 44-47.

Fossey, J (1999, October). Heaven or hell. *Containerisation International.* 32(10), p.39

Gillist, C & Damas.P (2002, June). Global shift on anti trust issue. *American Shipper*. 44(6), 15-19.

Gradualist approach brings rewards. *Lloyd Shipping Economist.* 17 (9), 22-25

Global terminal operator rule (2002, January). *American Shipper.* 44 (2), 67-74

Heaney, S (2001, August). The top 20. *American Shipper*. 43(8), p.25

Heaver, T., Meersman,H., Moglia,F., & Voorde, E.V.D (2000). Do mergers and alliances influence European shipping and port competition? *Maritime Policy and Management*, 27(4), 363-373.

Hornby, O (1988). *With constant care- AP Moller: shipowner 1876-1965*. Copenhagen: J.H Schultz.

Imai, A (2002). *Shipping Management Strategy*. Unpublished lecture handout, World Maritime University, Malmö, Sweden.

Ikuta, M & Suzuki, K (2002). Letter to our shareholders. In MOL, *Annual Report 2001* (pp. 3-5).Tokyo: Author

Ikuta, M (1998). Letter to the employees. In MOL, *Open sea January 1998*. Tokyo: Author.

JAMRI (1990).*Medium to long term analysis of the shipping market, 1990-2005*. Tokyo:Author

Jansson & Shneerson (1987). *Liner Shipping economics*. London: Chapman &Hall

Japanese lines must 'de-Japanise (1996, February). *Containerization International. 29(2), p.8*

Keith, N & Petter.W (2002). *Background paper to freight conferences.* Unpublished lecture handout, World Maritime University, Malmö, Sweden.

Koike, Y (1983). Global policies for survivor. In Containerisation Asia Conference. p.35. Surrey: C S Publications.

Lloyd Trestino, HATSU to discuss pacific rate with TSA lines (2002). *American Shipper* . Retrieved on June 25, 2002 from www.americanshipper.com

Ma, S. (2001a). *Maritime Economics*. Unpublished lecture handout, World Maritime University, Malmö, Sweden.

Ma, S. (2001b). *Logistics*. Unpublished lecture handout, World Maritime University, Malmo, Sweden.

Ma, S. (2002). *Shipping and port marketing*. Unpublished lecture handout, World Maritime University, Malmo, Sweden.

Midoro, R & Pitto,A (2000). A critical evaluation of strategic alliances in liners shipping. *Maritime Policy and Management*, 27(1), 31-40.

Mitchell, D (2002). Maersk -Sealand predicts loss for this year. *CI-online*. Retrieved on June 26, 2002 from www.ci-online.co.uk

Michell, D (2002). Evergreen joints MSL in transpacific slot exchange. *CI-online*. Retrieved on May 15 2002 from www.ci-online.co.uk

MOL (2001). Shipping research. Retrieved on 28th October, 2001 from http://www.mol.co.jp/menu-e.shtml

MOL to trim more liner fat (2002). *Fair Play*. Retrieved on July 10, 2002 from www.fairplay.co.uk

MOL (2002). MOL Group Corporate Principle in MOL annual report 2001. Tokyo:Author.

MSL (2001). *CRM*. Unpublished lecture handout, World Maritime University, Malmö, Sweden.

MSL and evergreen enter first transpacific cooperative pact (2002). *American Shipper*. Retrieved on June 25, 2002 from www.americanshipper.com

MSL in favour of further consolidation (2001). *CI-online*. Retrieved on June 25, 2002 from www.ci-online.co.uk

New year interview with President Suzuki (2002, January).In MOL, *Open sea No 178*, page 2-4

Nilesen, J.A.S (2002). *Marketing Intelligent.* Unpublished lecture handout, World Maritime University, Malmo, Sweden.

OECD (2001). *Liner shipping competition report*. Retrieved June 06,2002 from www.oecd.org

Order back log reflects replacement needs (1989). In Containerisation International, *Containerisation International Year book 1989 (* pp. 13-15). London: Author.

Period of transition (1989). In Containerisation International, *Containerisation International Year book 1989 (* p. 6). London: CI.

Phillips, F (1991). Much change and rationalisation. In Containerisation International, *Containerisation International Year book 1991 (*p.5). London: CI.

Poon aims to make… the game (1999, December). *Lloyd's Shipping Economist*, 15

Platou (2002). Report 2002. Oslo: Author. Retrieved from web: www.platou.co.uk

Porter, M.E (1980). *Competitive strategy*. New York: The Free Press

Porter, M.E (1996, November-December). What is strategy? *Harvard Business Review*, November-December 1996, pp.61-78

Porter, M.E (1998). *Competitive advantage*. New York: The Free Press

Ryoo, D.K & Thanopoulou,H.A (1999). Liner alliances in the globalization era: a strategic tool for Asian carriers. *Maritime Policy Management*, 26(4),349-367

Sato, H (2002). *Management strategies of container shipping in the age of globalization.* Retrieved on June 20, 2002 from www.mol.co.jp

Samuelson,P & Nordhaus,W.D (1983). *Economics (12th ed)*.London: McGraw Hill

Size is not everything (2002, June). *CI-online*. Retrieved on 10th July 2002 from www.ci-online.co.uk.

Slack, B., Comtois.C, & McCalla.R (2002). Strategic alliance in the container shipping: a global perspective. *Maritime Policy Management*, 29(1), 65-76.

Stopford, M (1997). *Maritime Economics (2nd Ed.)*. London: Routledge

Stopford, M (2002a). Is the drive for ever bigger containerships irresistible. Retrieved on 10th May 2002 from www.clarkson.co.uk

Storford, M(2001a).Forecasting the dry bulk, tanker and container. Retrieved on 10th May 2002 from www.clarkson.co.uk

Szatkowsky, M (2002). *Branding*. Unpublished lecture handout, World Maritime University, Malmö, Sweden.

Thorby, C (2001, April).Value added carriers. Containerization International, April 2001, page 52.

Thurley, K and Wirdenius, H (1989). *Toward European Management*. London: Pitman Publishing

UNCTAD (2000). *Report of the United Nations conference on trade and development on its tenth session*. Author. Retrieved on November 3, 2001 from http://www.unctad-10.org/doclist/main.en.htm

UNCTAD (2002). *Review of Maritime Transport 2001*. Geneva: Author

Wergenland, T & Wijnolst,N (1997). *Shipping (2nd Ed.)*Delft: Delft University Press

Westwood, J. (1990). The marketing plan. London: Kogan Page Ltd.

Wijnolst, N , Waals. F, Bello, F , Gendronneau,Y & Kempen, D.V (2000). *Malacca Max – Container shipping network economy*. Delft: Delft University Press.

Willmington, R (2002). Lemming syndrome fuels rates slide. In Containerisation International, *Containerisation International Year book 2002* (p.7). London: CI.

Willmington, R (2001). Post- Panamax prevails. In Containerisation International, *Containerisation International Year book 2001 (* p. 6-7). London: CI.

Willmington, R (2002, January). The bigger the better? *Containerisation International*, 32(02), 6-7.

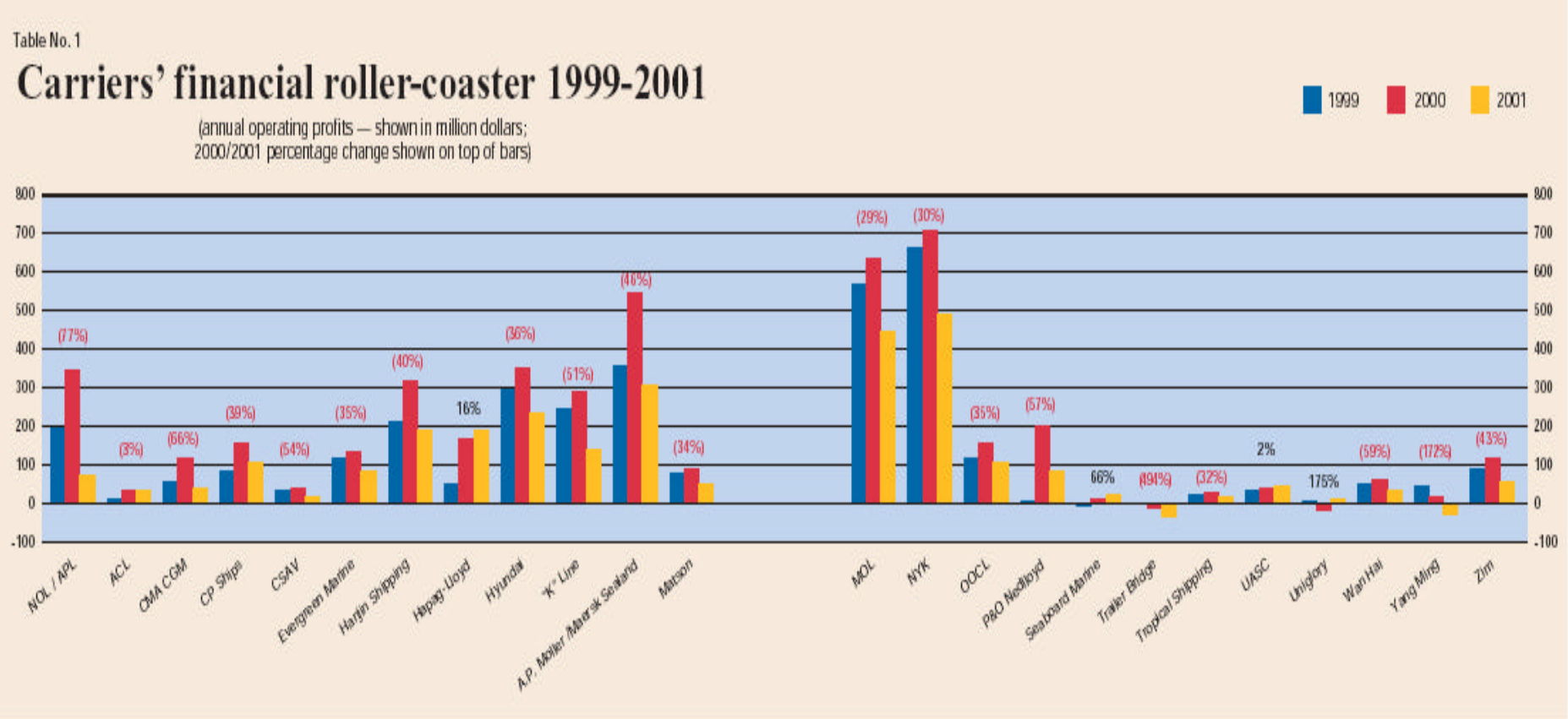
WSC (2001). *WSC's analysis and comments on the OECD secretariat's paper ' Liner shipping competition policy report'*. Retrieved on June 06, 2002 from www.worldshipping.org

Appendix A: The financial result of some liners from 1980-1989
Source: CI

Company	Financial data in US $ Million	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Sealand	Assets	1,739	1,670	1,716	1,692	1,811	1,966	1,554	1,807	1,961	2,118
	Revenues	1,414	1,623	1,583	1,586	1,759	1,634	1,553	1,788	2,105	2,343
	Operating profit	64	100	131	64	132	-22	-105	84	68	38
	Net Profit	41	15	76	43	81	14	-60	-109	44	21
APC/APL	Assets	586	677	712	790	987	1,060	1,343	1,599	1,711	1,661
	Revenues	578	655	679	757	911	1,171	1,440	1,825	2,131	2,234
	Operating profit	43	44	53	33	116	52	41	149	136	22
	Net Profit	43	42	48	26	104	39	18	79	81	11
NOL	Assets	409	488	636	660	684	838	877	1,004	1,072	1,279
	Revenues	306	339	350	376	379	378	422	510	598	678
	Operating profit	14	14	6	4	5	-7	-27	12	25	42
	Net Profit	13	15	6	6	5	-4	-27	11	24	38
K Line	Assets	1,116	1,288	1,295	1,401	1,344	1,419	2,080	2,286	2,369	2,114
	Revenues	1,638	1,734	1,509	1,548	1,661	1,675	1,926	2,297	2,444	2,486
	Operating profit	24	25	7	3	29	21	-38	-15	14	36
	Net Profit	9	10	12	6	13	-5	-42	-42	-15	21
Hapag Lloyd	Assets	1,012	842	778	566	567	524	643	757	926	779
	Revenues	1,148	1,313	1,174	1,022	1,087	999	936	983	1,064	1,076
	Operating profit	5	14	-7	-47	9	45	29	39	30	18
	Net Profit	-11	-3	-23	-56	21	26	11	16	11	10
Nedlloyd	Assets	1,787	1,710	1,692	1,602	1,793	1,689	2,491	2,547	2,587	2,575
	Revenues	1,521	1,794	1,584	1,462	1,525	1,412	1,607	2,337	2,501	2,834
	Operating profit	105	94	42	9	67	43	32	-540	74	99
	Net Profit	64	59	22	-32	48	43	29	-497	78	119
CGM	Assets	711	600	535	494	670	578	736	790	770	704
	Revenues	818	786	780	758	705	755	906	1,079	1,107	1,092
	Operating profit	-82	-33	-78	-48	-23	-25	-28	-31	8	-15
	Net Profit	-57	-46	-89	-9	2	0	0	2	13	10
CMB	Assets	453	390	520	460	427	661	1,052	1,174	1,478	2,150
	Revenues	332	345	534	389	362	528	773	919	1,026	1,250
	Operating profit	9	9	8	-1	2	9	0	8	60	74
	Net Profit	6	9	10	2	9	12	13	16	54	70

Appendix B: Carrier's financial roller-coaster 1999-2001

Source: American Shipper



Appendix C: Shipping Lines ranked by 2001 operating profit

Shipping lines ranked by 2001 operating profit

All figures are in million U.S. dollars / *million local currency when specified*

Rank/Carrier	TOTAL REVENUES	OPERATING PROFIT Amount	OPERATING PROFIT as % of revenues	NET PROFIT / LOSS Amount	NET PROFIT / LOSS as % of revenues
1. Atlantic Container Line	$289	$35	12.1%	$21	7.3%
SKr	*3,062*	*370*		*223*	
2. Hapag-Lloyd Container Line	$1,978	$197	10.0%	n/a	n/a
euro	*2,235*	*223*		*n/a*	
3. Tropical Shipping	$230	$18	7.8%	n/a	n/a
4. Matson	$797	$62	7.8%	n/a	n/a
5. Mitsui O.S.K. Lines group (1)	$6,784	$449	6.6%	$79	1.2%
Yen	*903,943*	*59,772*		*10,544*	
6. Seaboard Marine	$385	$24	6.2%	n/a	n/a
7. Hyundai Merchant Marine group (1)	$4,196	$234	5.6%	($242)	(5.8%)
Won	*5,551,823*	*309,214*		*(319, 605)*	
8. NYK group (1)	$8,577	$492	5.7%	$132	1.5%
Yen	*1,142,934*	*65,558*		*17,538*	
9. Evergreen Marine Corp. (2)	$1,551	$89	5.7%	$48	3.1%
NT$	*54,431*	*3,116*		*1,695*	
10. United Arab Shipping Co. (3)	$743	$42	5.7%	$42	5.7%
11. Hanjin Shipping group (1)	$3,486	$192	5.5%	($59)	(1.7%)
Won	*4,612,000*	*254,000*		*(78,300)*	
12. CSX Lines	$681	$32	4.7%	n/a	n/a
13. OOIL (parent of OOCL)	$2,379	$107	4.5%	$60	2.5%
14. Zim Israel Navigation	$1,677	$68	4.1%	$13	0.8%
Shekel	*7,378*	*298*		*56*	
15. CP Ships (4)	$2,646	$103	3.9%	$76	2.9%
16. Wan Hai	$855	$30	3.5%	$18	2.1%
NT$	*30,021*	*1,059*		*638*	
17. "K" Line group (1)	$4,285	$143	3.3%	$36	0.8%
Yen	*571,014*	*19,049*		*4,768*	
18. A.P. Moller / Maersk Sealand (5)	$9,237	$303	3.3%	($39)	(0.4%)
DKr	*77,868*	*2,553*		*(329)*	
19. P&O Nedlloyd Container Line (6)	$4,132	$87	2.1%	$31	0.8%
20. CMA CGM	$1,981	$40	2.0%	$25	1.3%
euro	*2,238*	*45*		*28*	
21. NOL/APL (1)	$4,737	$79	1.7%	($57)	(1.2%)
22. Uniglory Marine Corp.	$642	$9	1.4%	$6	0.9%
NT$	*22,537*	*331*		*201*	
23. Cia. Sud Americana de Vapores	$1,735	$19	1.1%	$26	1.5%
24. Yang Ming Marine Transport	$1,294	($13)	(1.0%)	($19)	(1.5%)
NT$	*45,412*	*(449)*		*(675)*	
25. China Shipping Container Lines (6)	$940	n/a	n/a	($136)	(14%)
Rmb	*7,782*	*n/a*	*n/a*	*(1,123)*	
26. Trailer Bridge	$82	($26)	(31.7%)	($29)	(35.4%)

Notes:
The operating profit is defined as profit from normal activities before finance (earnings before interest and tax). The results for "K" Line, MOL and NYK are for their financial year ended March 31, 2002.
(1) Denotes a diversified shipping group with substantial maritime transport activities other than liner shipping.
(2) The results are those of Evergreen Marine Corp., the listed arm of the group, not those of the entire group.
(3) The results for United Arab Shipping Co. are preliminary.
(4) CP Ships is the parent company of Canada Maritime, Cast, Lykes, Contship, TMM Lines and ANZDL.
(5) The results for A.P. Moller / Maersk Sealand are those of the group's Tankers and Liners in Partnership unit. The figure shown under operating profit is the company's result before interest and depreciation, less depreciation and write-downs. Separate figures for Maersk Sealand are not published. A.P. Moller is also the parent company of Safmarine.
(6) The figure shown as net profit for P&O Nedlloyd and China Shipping are before tax.

Source: Global liner shipping database ComPairData at www.compairdata.com and carriers.

Appendix D:

The growth of the world container traffic, the world container fleet capacity and the top 20 fleet capacity, 1980-2001

Source: Author, combined from CI, Drewry