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General characteristics of the liner shipping and analysis of turkish liners within turkish trade and shipping

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GENERAL CHARACTERISTICS OF THE LINER SHIPPING AND ANALYSIS OF TURKISH LINERS WITHIN TURKISH TRADE AND SHIPPING

by

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

Signature :

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Dedication

To my grandfather who was so fatherly
and full of living faith.
He would be very much pleased
if he had seen his grand children
grown up

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I would like to acknowledge and express my sincere thanks to Turkish government and to the management of the D.B.Turkish Cargo Lines, where I started my professional life, for granting me such a valuable training opportunity.

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PREFACE

Many developing countries have considered or taken steps to develop or expand their national shipping fleets to serve their foreign trade. International shipping is a capital intensive, risky and highly competitive industry. Therefore, the choice of technologies and limits of investments must be well determined. Removing service constraints in the transport sector and making the right choice in mode of transport and technology to be applied will no doubt enable developing countries to develop new trading volumes and expand related industries and have more effective transport system.

The liner shipping trade is nowadays predominantly in the hands of conferences and in these conferences the developed industrial states which possess fully developed fleets are the most influential.

Developing countries, specially those rapidly growing ones at the edge of the developed world are very much affected by the freight rate fixed by conferences ones in their international trades, through the sales of their goods overseas in order to gain a new status in international trade.

Turkey, as one of the countries within the latter group is actually in great need for well-managed, modern transport systems in her foreign trade. It is time to reorganise the transport system and go for the most suitable technologies and transport modes. In shipping, it is liner shipping that should be given much emphasis. Indeed, it is presently the least developed sector of shipping which is a very important issue for

Turkish trade and the general economy in the transition towards the industrial, high-valued products and rapidly growing exports and imports.

The study aims at giving an overview of Turkish trade and shipping, particularly liner shipping. The sources and causes of the problems are analysed; possible solutions are suggested to apply to the problems, evaluating the circumstances and suggesting some points which might be useful for future decision - making.

However, in order to analyse liner shipping , it is necessary to know about its characteristics and applications in the modern sense in the developed world.

Therefore, the study is divided into two parts.In part A, a brief analysis of liner shipping is made from the point of view of ships, cargoes, organisational structure and operating techniques point of view as well as other aspects of liner shipping such as costs and different pricing policies.

In this part of the study, the experience and valuable knowledge of well-known shipping economists and studies made by some related organisations such as UNCTAD and World Bank have been of great benefit.

In Part B, an introductory chapter with an overview of Turkey in general is given. This chapter is followed by an analysis of Turkish sea-borne trade and shipping in general.Both chapters may be found rather detailed and perhaps some information is duplicated. However, it is very difficult to analyse the liner shipping of a country without information

on its trade, present and potential capabilities and, of course its shipping fleet in detail.

Then, liner shipping in Turkey is surveyed. Realities and potentialities are explained as realistically as possible. Perhaps a much better study could have been made but unfortunately, contrary to the abundance of data on general shipping and trade, no special data on Turkish liner shipping, costs and freight rates and containerisation are available. Therefore, these issues are given less attention than the author would have prefered.

The study ends with a chapter of recommendations and conclusions where possible solutions to some problems are proposed in the hope of making a useful contribution to the development efforts in Turkish trade and shipping.

CHAPTER ONE

GENERAL CHARACTERISTICS OF THE LINER SHIPPING

Introduction

On the basis of service, structure and the competitive relationship between suppliers and users (due to relatively large ship capacities), the shipping market is divided into two main sectors; the liner shipping market and the tramp shipping market.

The liner shipping market is the market for sea transport of less than full shiploads served by shipping lines providing regular services between certain ports under fixed schedules and fixed freight rates in the form of tariffs.

The tramp shipping market is the market for sea transport for full shiploads where shippers usually rely on the charter market in order to get the advantages of spot market such as relatively lower freight rates and negotiable carriage terms and so on. In the tramp shipping market, vessels are operated whenever and wherever cargo is available to fill the ship.

Of course, this is not the only difference between the liner shipping market and the tramp shipping market. There are a number of other differences such as types of vessels operated, types of cargoes carried, routes on which vessels are operated, equipment fitted on board ships etc. However, the conversion of tramp ships into liners and liners into tramps is not unusual, although shipping services are getting more and more specialized and

vessels are designed to specialise in certain types of trade and transport. One reason for that is the possibility of a reduction of costs.

As the nature of the liner shipping market is scheduled services on fixed routes and almost fixed freight rates (at least for a certain period) there are relatively few service suppliers and a large number of buyers usually have quantities less than shipload. In most countries liner shipping is concentrated into relatively few large companies generally encouraged by governments or state owned shipping companies due to the huge amount of capital needed for service.

Much of liner shipping market has an internationally cartelised structure in the form of conferences. Since liner services entail relatively high costs and little competition between themselves or in some cases, competition from tramps and other transport modes like air transport, the main objectives of those conferences are to prevent competition on the same routes, to adjust the freight rates and to share the cargoes and revenues. The conference members are guaranteed a certain amount of trade to transport.

Liner companies generally have small marginal costs and therefore they can carry goods at a low freight rate and do not want to let the cargo go to another rival company on the same route. However, the marginal costs of other shipping modes, for example tramp shipping are not as low as liner shipping.

Operations in liner shipping require a considerably large organisation and a lot of documentaly work in order to provide regularity and efficiency which may

not be necessary in tramp or other forms of shipping. The most important document in liner shipping is the Bill of Lading whereas the charter parties are the essential documents in tramp shipping. Charter parties in tramp shipping are negotiated documents and the type of charter party to be used varies depending on the nature of the cargo. A bill of lading in liner shipping is not negotiated but is a negotiable document and is title of the document. Almost every particular liner shipping company has its own special bill of lading forms with special stipulations printed on the back page. However, there are also internationally used standard bills of lading issued by internationally recognized, independent shipping organizations like BIMCO.

1.1. SHIPS IN LINER SHIPPING

1.1.1. Conventional General Cargo Ships

As far as the ships employed in liner shipping are concerned, they are called " general cargo ships". These are both **conventional tween decked ships** and others carrying unitized cargoes, mainly container ships, ro-ro ships and barge carriers, etc. They have their own sophisticated cargo handling and maneouvering facilities, for example Ro-Ro ramps, container cells, insulated spaces for cargoes, bow thrustlers and side propellers for maneouvering etc. Liner vessels generally have a speed of over 15 knots up to 25 knots in some cases depending on the price of oil and the urgency of the goods to be traded, etc..

Grouping small cargo units in a single vessel is done by the use of multideck cargo liners which

generally have two tweendecks for mixed general cargo, tanks for carrying liquid and refrigerated cargoes and extensive cargo gears with heavy lift abilities. However the major problems with vessels is the large labour and time requirements for loading and unloading which causes a lot of time losses and considerably high handling and port costs.

1.1.2. Multipurpose Ships

Another type of liner ship is the multipurpose of generally has 4-5 holds\hatches and multidecks. The only difference from the previous type of conventional liner ship is that they are designed to be able to carry a full load of containers as well as general cargo. The dimensions of tweendecks are designed to be compatible with the container dimensions.

This type of ship is generally used in trade which is partly containerized and although they are not fitted with container cell guides, open holds and tween decks allow them to carry a mix of general cargo and containers. There are very well designed multipurpose ships for heavy bulk cargoes and reefer containers which are connected to the cooling plants through electrical points fitted on board.These ships also have ramps and side doors for wehicles in case of poor port facilities for stern-to-quay loading or unloading.

1.1.3. Container ships

Since the introduction of containers, there are three generations of this type of vessels. The first generation ships have a container capacity of about 750 TEU and a DWT of about 14-15000 and the second generation ships of a capacity of about 1500 TEU and a DWT of about 25 - 30000, while the third generation ships have a 2500-3000 TEU capacity with almost 40-50000 Dwt. When container vessels are compared to conventional cargo liners, it can easily be seen that a container vessel can carry almost 6 times the cargo deadweight and spend much less time in port.One container vessel is probably equal to 8 traditional cargo liners. This is the main advantage of container ships, which makes them very important in liner shipping.

There are wide hatches with cell guides in the holds and strengthened hatch covers allowing containers to be stacked above decks on these vessels instead of multidecks as in multipurpose vessels. The purpose is to convert loose cargo standard units which is resulted as containers. The design of container ship centres on container dimensions which are also standardized to allow the use of other transportation modes such as rail, road etc.

The advantage of this type of ship simply is that so much less time is spent in port because the cargo is unitized and easy to load and unload.

Another utility provided by container vessels is the ability to carry cargoes that need to be refrigerated. This is provided by fitting central refrigeration plants into the ships to blow cold air

through ducts into containers or by containers incorporating their power from electrical sockets fitted on board. and in either case, the refrigeration system is continuously supervised by the ships crew during the voyage.

1.1.4. Ro-Ro Ships

A ro-ro is a multideck cargo liner with through decks and roll-on access through a stern ramp rather than via hatches on the weather deck. Ro-ro transportation, like containerization, was one way of addressing the problems of increasing port and cargo handling costs and losses of time. The system is particularly suitable for carrying cargo that can be easily handled by a fork-lift truck (pallets, bales, containers, packaged timber etc.) and wheeled cargoes such as cars, trucks, trailers, etc.

The success of the Ro-ro ships at reducing port congestion problems, their propensity for carrying a wide variety of cargoes makes them very popular in both the charter and the sale and purchase market.They are very useful in cases where there is congestion, because they have nothing to do with conventional cargo berths. They are not affected by port congestion, trucks can easily pass through the port, cargoes do not have to be kept in port and can easily reach the receiver.

There is a series of ro-ro ships built for different purposes and for different areas and distances to be operated such as:

-Short sea ro-ro ships
-Deep sea ro-ro ships
-Driver - accompanied ro-ro ships
-Ro-Ro container ships
-Pure car carriers
Passenger and car ferries
-Ro-Ro bulk ferries
-Rail ferries
-Self propelled and dumb ro-ro barges.

Ro-Ro ships need specially designed berths for stern-to-quay berthing.. Therefore, the number of ports and/or berths can be limited in a country that limits the operational areas of ro-ro vessels. The requirement for highly skilled crew due to the automated design of the vessel can be a disadvantage for ro-ro vessel operators.

1.1.5. Barge Carrying Ships

Barge carrying ships are designed on the concept of grouping a number of floating holds (barges) within a ship. Generally up to 1000 Tons, these barges are suitable for filling with general cargo and small amounts of bulk cargoes. So they are quite flexible in terms of the number of cargoes carried. However, the only problem is to bring the barges into the ship, which is done by huge cranes fitted on board ship called the LASH system or by another system called the float-on system.

Barge carrying vessels are not widely used in the world except in the USSR, where this system is widely used in trade. It is very useful when the barges need to be transferred somewhere else through rivers or other inland areas where barges can easily be sent.

1.1.6. Other Types of Liners

Apart from the above mentioned ones, there are a number of other ship types used that can be accepted as liners serving particular trade and/on industrial plants due to the regularity of their operations in terms of certain ports and almost fixed freight rates. Cement carriers, chemical carriers and reefer ships can be given as examples

1.2 CARGOES IN LINER SHIPPING

1.2.1 Introduction

The variety of goods carried by sea is enormous. and along with relative quantities and modes of transport, presents a changing scene. Since the 1960's there has been intensive development in transportation systems whereby packaged goods, now in containers or on pallets, can be moved from one mode of transport to another mode of transport easily and without need for much time and high cost. This is referred to as unitisation. Huge quantities of goods are now carried in containers, which is regarded as a revolution in the transportation and trade world.

Before getting into the details of unitisation, it may be useful to define some technical terms which are important factors important in determination of the freight rates which can be charged, quantities which can be loaded and ultimately the whole fabric of sea-borne trade.

This is an important reason for distinction in shipping services between liners tramps etc.These terms are also quite important in relation to the

types of ships used like ro-ro ships, bulk carriers, container ships and conventional cargo carriers etc.

1.2.2. Some Important Terms Widely Used in Liner Shipping

A. Stowage Factor :

The stowage factor is used to determine the amount of space occupied by a given quantity of any dry commodity in any mode of transport. For example, grain in bags or in bulk is described as cubic feet per long ton or per metric ton.

B. Broken Stowage :

It is the space lost or wasted in a ship's holds, or in a container by stowage of an uneven cargo. Because awkward or squared shapes can not usually be fitted into every nook and cranny in a ship's hold. Moreover, many commodities need to be kept away from other cargoes or ship's sides, etc. in order to prevent damage, to provide ventilation and so on, depending on the nature of the cargo. Broken stowage is expressed in terms of a percentage.

C. Measurement Ton

Normally, freight is charged on the basis of $ or £/per ton (or any other unit of widely accepted convertible currency). If the goods involved are light and occupy a large amount of space, the carriers may lose income. Therefore, as a general rule, most operators levy carriage charges on a volume basis for some articles stowing at more than 40 cubic feet or more than one cubic metre. This results in the term " measurement ton", whereby operators charge freight rates on a tonnage basis.

This is mainly used in Liner shipping where the nature of goods transported varies a lot in relation to size and weight and shape.

Although there is not any definite distinction between what liner cargo is and what tramp cargo constitutes, the crucial aspects of liner cargo are that shipments are rather small and that they are associated with two kinds of commodities;

1\ Odd Commodities of which the annual quantity traded is not much and which will be shipped in small lots

2\ High - Value commodities which normally move in small quantities and need specialised shipping services Therefore, the shippers of high - value commodities need to have a fixed freight rate rather than a fluctuating freight rate.

According to UNCTAD's estimations in terms of tonnage carried, about 10-20 % of world trade is carried under liner agreements. However, owing to the types of cargoes carried, it's share in terms of value of cargoes is very high and this is itself enough to realize the importance of liner shipping.

Another way of defining what liner cargo is may be the method by which cargoes are shipped, for example packaging the goods or shipping them loose. However, package is not an inherent characteristic of the liner goods and does not lead to the smallness of shipment and packaged cargoes can be perfectly carried by bulk shipping.Large shipments of bagged cargoes can be given as an example of this. To ensure protection against damage and prevent mixing with other cargoes, they are packed and shipped by

Table 1

Commodities commonly shipped by liner service

C O M M O D I T Y	Trade M.Ton 1982	C O M M E N T
Steel products	99	Mainly bulk, some by liners
Timber (Logs & Lumber)	83	Mainly bulk, some by liners
Chemicals	74	Many different products, in bags, drums etc.
Cement	58	Mainly bulk, some by liners
Assorted food products	39	Bagged flour, non-perishables
Animal feedstuffs	39	Oilseed cake etc. Mainly bulk
Simple manufactures	39	Building material,plywood etc.
Manufac. fertilisers	37	Bagged fertilisers
Crude minerals	37	Various minerals
Sugar (Raw & Refined)	28	Refined sugar(7mton) by liners
Non-ferrous metal ores	26	If bagged, shipped by liners
Petroleum coke	25	Mainly bulk
Wheeled vehicles	24	Small quantities by liners
Paper	24	Mainly bulk, some by liners
Salt	18	Mainly bulk, some by liners
Woodpulp	17	Mainly bulk, some by liners
Machinery	16	Important liner cargo
Metal scrap	15	Mainly bulk, some by liners
Oils and fats	15	Mainly bulk, some by liners
Gypsum & plaster	14	Mainly bulk, some by liners
Non-ferrous metal	12	Mainly bulk, some by liners
Beverages & Tobacco	9	Important liner cargo
Textile fibres	8	Important liner cargo
Textiles	7	Important liner cargo
Rubber	6	Important liner cargo
Metal manufactures	5	Important liner cargo
Coffee & tea	3	Important liner cargo

Source : United Nations, "Maritime Transport Study 1984", Table 1 commodity Trade Statistics (By Sea)

liners. However, there are some articles usually shipped by liners often in an unpacked state like cars, logs etc.

Liner cargoes can not be defined operationally as a goods category that need to be shipped just by liners. Nevertheless, in the broadest sense, so-called general cargoes usually carried by liners have a number of sub - categories, produced goods like manufactures , textiles etc. being the most important group due to their high value.

The second category is the intermediate goods like steel products, chemicals etc., and the third category is primary products and processed goods such as wood-pulp, paper, cement, metals and so on. The third group is also carried by tramp ships in considerable amounts, depending on the level of freight rates in the market. Nevertheless, as it was mentioned above, after the unitisation of cargoes the widest definition of goods carried by liners can expressed in terms of containers, pallets, vehicles etc.

1.3. UNITISED CARGOES

Unitisation is the system evolved to expedite the loading , stowage and discharging of goods and to ease the transference of these commodities to and from storage areas and between the various modes of transport. Strapping, pre-slinging techniques, palletisation and eventually containerisation are the various forms of unitisation of goods to be transported.

Speeding the cargo handling operations, reducing the risk of damage to the goods, simplifying the

tallying , measurement, documentation and marking of goods and reducing the need for the labour force required are the main advantages of unitisation. Although it may increase the costs to some extend due to the need for some extra equipment required and cause considerable space losses due to unit shapes and sizes, it is much more favourable if the purpose built ships are used.The most important forms of unitisation are palletisation and containerisation.

1.3.1. Pallets

"Pallet is a device on which a quantity of goods can be assembled to form a unit load for the purpose of transporting it, or of handling or stacking it with the assistance of mechanical appliances" is the definition given by G. VAN DEN BURG in his book titled "Containerisation and Other Unit Transport".

Pallets are handled by various kinds of forklift equipment. There are three types of pallets: Flat pallets having superstructure; post pallets having a fixed or detachable structure of posts in order to allow stacking with or without rails; and finally box pallets having a superstructure of at least three walls, fixed or removable. Pallets can be made from solid, slatted or mesh materials.

The most profitable use of a pallet is achieved when its load has been built up in the manufacturer's factory and is not broken down till arrival at the receiver's address. Then all modes of transport can be employed without intermediate handling of the cargo itself, thus reducing overall costs.

The most important advantage of palletisation is that large quantities of small but uniform packages are transported over direct routes, without passing through third countries or other requiring modes of transport and with a very limited number of handling operations, which means less cost and quicker turn-round of the ship.

Bagged, cased and tinned articles , drums reels and baskets are all suitable for easy palletisation. For example, one ton of bagged cement requires a total of twenty separate movements considering that each bag of cement weighs 50 kg. However if it is palletised, this can be reduced to one cycle by using a forklift truck.

Standard sizes of pallets have been established by the International Standard Organisation (ISO) as follows:

1000 x 800 mm (40'' x 32'')
1200 x 800 mm (48'' x 32'')
1200 x 1000 mm (48'' x 40'')
1200 x 1600 mm (48'' x 64'')
1200 x 1800 mm (48'' x 72'')

Pallets represent the maximum economic units of a truck's capacity for inland transportation and for the mechanical movements and interchange. But they still do not allow a fully mechanised operation, regardless of whether it is automated or not, and still a large labour force is needed. Therefore, the use of pallets is limited to berth or shed operations in practice Despite the disadvantages of pallets in today's modern door-to-door transportation philosophy, they are still favourable for some developing countries where the labour force

is relatively cheap and ships are not as modern(eg. cellular container ships) and where its some social advantages such as more employment opportunuty in a port may be the among the reasons to keep using pallets

1.3.2. Containers

Containers which are said to have revolutionised transport entirely, are used to permit the storage and transport of goods and to protect and preserve them to ensure their efficient distribution.They were introduced into the market in early 60's and the use of containers spread very rapidly.

Nearly all goods, bulk and liquid as well as other commodities, are capable of being transported by containers whilst specialized types of containers and new fittings are frequently introduced to an already sophisticated market. Apart from purpose built cellular container ships, most general cargo ships are built to carry some containers and multi-purpose vessels are also able to carry a full cargo of containers efficiently.

The internationally accepted definition of a container recommended by ISO (Recommendation R-668 of January 1968) is as follows:

A freight container is an article of transport equipment of:
a) a permanent character and accordingly strong enough to be suitable for repeat use;
b) specially designed to facilitate the carriage of goods by one or more modes of transport without intermediate reloading;

c) fitted with devices permitting its ready handling, particularly its transfer from one mode of transport to another one;
d) so designed as to be easy to fill and empty; and
e) having minimum internal volume of 1 m3.

The term freight container includes neither vehicles nor conventional packing. Containers are articles of transport equipment, essential parts of a freight forwarding concept which permits door-to-door service, employing all means of transport, without intermediate handling of the cargo carried.

Like pallets, containers can be stacked several tiers high (taking the weight of containers into consideration). They are manufactured in a variety of sizes and efforts to standardise the sizes of containers have been made by ISO. The most popular sizes of containers are 20 and 40 feet lenghts referred to **TEU (twenty feet equivalent units) and FEU (forty feet equivalent units)**. A standard closed TEU container will weigh about 2 tonnes when empty.

Initially containerisation was aimed at premium general cargo. However, as the service became more extensive, new types of containers were introduced to facilitate transportation of non-standardised cargoes. Today some containers are fitted with reefer plug facilities for refrigeration purpose in order to carry perishable or frozen goods such as fruit and meat. Open top containers are used for heavy cargoes, flat containers are used for awkward cargoes, and tank containers are used for various bulk and liquid cargoes such as wine and chemicals. Experiences has shown that a steel container has a life of about nine (9) to twenty (20) years.

Containers can be made with various materials such as steel, aluminium alloy, plywood , reinforced plastic or wood, In spite of some advantages of aluminium containers like lightness , relatively superior corrosion resistance, low level of heat emission, non-toxic and high value when scrapped, It is known that only a small quantity of aluminium containers are employed in the market. However, in steel containers a certain amount of aluminium and zinc-chromate is still used for frames, corner castings, etc.

Since the strength of a container is very important for a long life, and reuse of the container, for safety purposes and for some other advantages affanded by steel like the high staoking of several loaded containers etc., steel is found to be as the best basic material to build containers. Another advantage of building containers of steel material is simply its cheapness compared to other materials, while the most important disadvantage of steel containers is the heavy weight of steel and therefore losses in ship deadweight and susceptibility to corrosion.

Containers are mostly produced by major container manufacturers and leased to shipping companies or to the other users, for example shippers. The renting of containers makes provisions for both short- and long term hire and this business is mainly controlled by the major container producing companies. Container producing companies deliver containers to themselves in different places or countries and it is also possible to buy the containers after a certain period of use at a price agreed in advance.

CHAPTER TWO

2. MARKET ORGANISATION IN LINER SHIPPING AND CONFERENCES

Almost every trade route, specially the longer trade routes of the world is covered by a coalition of liner shipping operators in the form of a conference which is a kind of cartel as far as decentralisation is concerned. The primary objective of this type of organisation is to fix freight rates periodically and share the trade and revenue on the concerned route. Operating under an organised roof provides some advantages to it's members as well as some disadvantages because the behaviour of a member company within the market is restricted by the rules of the conference in terms of competition, expanding market share etc. This is significant if there is some competition from other operators who are not member of the conference and other modes of transportation such as rail-road or air freight companies, tramp shipping etc.

2.1.1. Activities of Conferences

Conferences are different in terms of organisation and scope of activities. However, in general, a conference may comprise:

"**informal gathering or intermittent, irregular meeting at which rates, sailing or other matters of mutual interest are arranged. These may be nothing but an informal understanding that the traffic official of one line will consult those of another whenever any rates changes are contemplated. In most cases however conferences are formal organisations with permanent officers, committees, regular of**

special meetings, rules and penalties". (Johnsson and Heubner. 1960).

Limits of industries are far from clear-cut in ocean transport and many shipowner can operate in both liner and other forms of shipping operations. A shipowner can be a member of conference in a trade and at the same time operate as an independent in another market.

2.1.2. Freight Rates in Conference System

Freight in liner shipping are mostly determined by conference members collectively and published as tariffs. These tariffs include all the rules specified by conferences to be applied in order to ensure regularity in the conference. Apart from the supply and demand, the volume of the trade, the number of ships intended to be used in operations, and the cost of members and competitors conditions are the main factors that influence freight rate determination by the conferences. Therefore, in some cases, there are open rates applied to some commodities or a whole trade in which there is a fever competition on the same route. This is a kind of policy of the conference so that when things go wrong in terms of the interests of the conference members, these open rates are applied in order to cope with external competition. However, the open rate policy is sometimes applied to some customers as a compromise or in some cases of internal competition. For example if one member of the conference grants some rebates on freight rates to some shippers (which often happens) then other members may declare rates open because of the unfairness despite the cartelised structure of the

conferences, especially with regard to freight rates.

When conferences intend to change freight rates, an advance notice must be given to shippers in order to prevent conflicts and damage to shippers' interests. The notice period is at least three months and in practise freight determination is made periodically in intervals of 6 to 12 months. It is worth noting that most conferences and even independent operators (simply known as outsiders) change freight rates almost at the same time.

2.1.3. Conferences and Competition

The most common type of conference is the closed conferences. Membership in a closed conference is restricted. It adjusts freight rates and market shares of members within the route, taking into consideration demand capacity, cost, competition etc.

Another type of conference organisation is the open conference which sets freight rates and does similar things as well but without restricting membership and trade sharing. Therefore, any shipowner can join an open conference and operate on the route taking advantage of non-controlled trade and absence of the limits on the number of ships in service. But freight rates are set in terms of unit revenue.

In the liner shipping market, there are independent companies that are not member of conferences. Simply known as outsiders, they are generally huge shipping companies operating round the world services or competing with conferences on some routes. Competitive functions of these independent companies

provide a balance in the market and their share in the market is increasing particularly in the Europe-Far East trade.

2.1.4. Monopolies and Liner conferences

The introduction of container services and high speed vessels not only created new financial pressures on the industry, but provided the basis for intermodal transport system that greatly increased the number of possible routings for intercontinental transport. The net result has been increased competition between conferences serving different ports.''(Gunnar K. Sletmo, Ernest W. William - Liner Conferences in the Container Age. Pg. 134).

Authors of the said book illustrate this point by giving the example of exporters located in the US Midwest that may choose a ship either froma US Gulf ports or from the ports on the Eastern coast depending on the freight rates charged by the respective conferences. According to the authors the answer to the question "Do steamship conferences constitute a monopoly" must be NO, the reason for that being that the conferences are by no means the sole sellers of international transport services. However It can be argued whether all shippers in different parts of the world have the same chance or not. The answer obviously is no, and it is clear that the geographical position of the USA enables US exporters to have that choice. Nevertheless, there might be competition between conferences but it is a competition on quality and stability of service in order to extend the life of the conferences Price competition is enough to convince someone that conferences compete each other on price It may be

possible on highly dense routes. When the structure of conferences is analysed, it is clear to see that they are formed by major liner operators of the same route. Since the number of liner companies serving different routes is limited due to the expensive nature of the service, therefore the number of conferences will surely be fewer and fewer so that competition among conferences will not be significant. However competition from independent operators and other forms of transport are worth noting, especially where the trade is not fully containerised.Since most of the commodities carried by liners can be easily carried by tramping ships, they are the most important source of competition for liners.

When the bulk market is bad, tramp operators enter the liner trade and operate as liners and when the bulk market improves then they go back to tramping. They have the advantage of also combining bulk cargoes with general cargoes.

Apart from competition from tramps, the actual competition, if any, must be the competition between the conferences and independently operating outside companies which have the same characteristics in terms of route, ship types, similarity of cargoes and operational ways. In spite of the fact that competition is competition, no matter wherever it comes from, it must be a direct and effective competition and must be realised under the same conditions. Air freight companies may be a source of competition to the liner shipping industry, but to what extent? Can they carry every type of cargo that ships are able to carry?

2.1.5. Self Regulation by Conferences

The measures taken by conferences in order to protect their interest against competitors are mainly loyalty rebates to secure a stable demand and membership restrictions to control the supply and market sharing arrangements. The rebates and membership restrictions were already mentioned. In order to rule out price competition all members are supposed to adhere to fixed freight rates. However, an individual operator may intend in practice to reduce the freight rate to increase the demand and therefore increase his profit. Conferences have some rules against that and apply heavy penalties. Depending on the structure and type of the conference, there are different policies for ensuring that the rules are obeyed by members. In open conferences this job is given to a neutral body. In closed conferences it is implemented by a self-control policy. However, it is not unusual for some closed conferences to employ policing bodies similar to the open conferences in order to establish relationships with shippers and others concerned and make rebate arrangements when necessary.

Market sharing agreements are done in two ways:

1. Quantity-pooling agreements

2. Revenue-pooling agreements

Quantity sharing agreements take several forms such as cargo quotas, allocation of sailing and port quotas etc.Depending on the volume of the trade within the interest of the members, conferences

limit the number of sailings for each line on the route as the essence of sharing.

In revenue sharing agreements, the revenue on a certain route is shared by conference members. It can be all the revenue or a certain percentage of the revenue to be allocated to a member.

Nevertheless, today allocation of a certain cargo quantity is the most popular policy applied by conferences as a way of sharing the trade. Every member line is allocated a certain number of sailings to certain ports and a certain amount of cargo to carry. In case of any violation, conferences enforce the concerned rules. This may mean the reduction of the share of the member who failed to adhere to the policy. Because providing a stable supply and service is the paramount aspect of the conference system.

2.2. SCHEDULED SERVICES IN LINER SHIPPING

Among the general characteristics of liner shipping, scheduled service is of paramount importance and shippers consider scheduling convenience (date of sailing and arrival) the most important criterion for carrier selection. This shows that shippers tend to choose the line which offers the most convenient dates for their shipments. In most cases freight rate, reputation, past dealings etc. have less significance then the schedules, mainly due to relatively low percentage of freight rate within the high value of the liner cargo. The economic significance of scheduled services is that the typical unit of demand is small relative to the technical unit of supply, which is the ship's carrying capacity for a given voyage. It is also worth noting that a vessel may be employed whenever she is available. According to Sletmo and Williams the five fundamental characteristics of the scheduled services are as following:

1) Fixed costs associated with a liner voyage are relative high and there are substantial differences between long and short runs which means distance is of more importance.

2) Because of the number of the clients served (shippers) on a voyage, the liner operator is faced with a problem of common cost.

3) Marginal cost is minimal for a given shipment compared to average total cost.

4) Broken stowage is unavoidable and therefore wasted or unused capacity will have to paid by the users of the service.

5) The relationship between prices and investments is not as close as in the other shipping modes.

According to the authors, the difference in pricing between liner shipping and tramp shipping is that the vessel's utilisation is a critical variable and therefore average cost may be high, which causes a reduction in demand and leads the liner operator to increase freight rates.

Liner shipping is generally engaged in the transportation of high-value manufactured goods which are susceptible to and damage and which are usually shipped in less then full ship loads. Therefore, in the case of the absence of scheduled liner services, storing them until to reaching a full ship load either in the ship's hold or somewhere else would be too expensive and impractical. This is itself a good reason for the existence of scheduled services to serve trade which requires a flexible transport system with a number of choices like different dates and ports of departure and destination.

The existence of the scheduled services enables manifacturers of goods shipped in small sizes to respond quickly to changes in demand in markets around the world and also enables them to avoid operating their own transport system, which could be highly uneconomical except for some bulk cargoes shipped in big lots.

However even some bulk commodities produced and traded at low costs is transported by liners and some manufactured goods shipped in big lots are transported by chartered vessels.

Liner operations are more expensive than the other operations in shipping because liner vessels are costly to built and because these operations require a certain frequency regardless of the amount of cargoe to be shipped. They also require reliability and speed (due to the nature of the goods) and an expensive infrastructure of terminals, reservation and communication systems, networks of agents etc.

2.2.1. Crucial Factors To be Considered in Planning Sailing Schedules

1) Number of the ships to be used in service

2) Types of ships and their specifications, ie. sizes, capacities, equipment, container fittings etc.

This is quite an important factor influencing scheduling. Because a large fleet of small vessels has more flexibility in terms of operations than the small fleet of large vessels restricted to a limited number of ports able to accommodate them.

3) The rules and sailing allocations and other conditions imposed by conferences.

4) The volume and characteristics of the traffic which requires a careful analysis.

5) Arrangements of time margins where services are connected to other services. Delays, bad weather conditions etc. are to be taken into consideration in order to provide accurate timing for the connected services.

6) Number and quality of the crew and change-over possibilities in the ports of call and communications etc.

7) Arrangements and precautions to be taken against emergencies. This could be done in several ways; for example, vessels may have the ability to increase speed when necessary or shipowners may have standby vessels to be used in case of an accident to meet the demand or carry out their obligations.

8) Climatic conditions and distance.

9) Competition and the necessity of being able to compete and play the game of competition according to the rules. For example, although it may not be necessary, providing additional services either to keep berths occupied or to break the desire of competitors and so on.

10) Port facilities, quality and availability of dock labour and some restrictions preventing access to ports such as tides, use of canals, pilotage etc., also priorities for loading and unloading,in case of congestion position.

11) Paper work and other formalities such as customs procedures, immigration etc.

12) Voyage time.

13) Bunkering arrangements and ports to provide bunkers

15) Dates and other plans for surveying and dry docking

16) Imbalance in trade and estimated voyage costs and expected traffic.

17) The need for and possibilities of feeder services.

18) Other social, political and economic considerations to be kept in mind to some extent.

The principle of economics of size at sea and diseconomies of size in port is still very important in the determination of liner routes and scheduling, in particular with today's third generation container ships operated in round the world services via feeder ports and services.

According to J. O. Jansson and D. Shneerson in their book "Liner Shipping Economics", the most fruitful approach is to treat the problem off liner service design as a problem of trading of shipping costs against costs of ship load consolidation in time and space, which largely constitute costs borne by the shipper. This is because to realize shipping cost economies of ship size, even in thin trades, full shiploads have to be gathered either by extending the cargo catchement areas or by increasing the frequency of sailings. An enlargement of the cargo catchement areas of the trade will result in higher feeder transport costs. When a number of ports are to be served the important problems of multi-port calling versus trans-shipment arises. (Jonsson and Shneerson) believe that sailing frequency is a determinant of certain costs which are borne by shippers. For example reducing the frequency of sailing will result to a large extent in an increase in storage costs for shippers. Nevertheless, in

planning sailing schedules, the most frequently mentioned factor is the availability of cargo. If the cargo traded is not much enough to establish a sailing frequency with large ships, then the ships have to be small. However, even on highly dense routes the sizes of liners vary.

2.2.2. Feeder Services

Feeder services is one of the most important considerations to be kept in mind when schedules are planned. A careful analysis of the trade on the route should be made and decision of whether to use feeder services and call at just main ports or to call at many ports at both legs of the voyage must be made carefully in connection with costs. For example, when there are a number of ports too small to call at each but together generating a sufficient amount of cargo, then the closest port where cargo is accumulated can be chosen as a base port and served by feeders

CHAPTER THREE

3. COSTS AND PRICING IN LINER SHIPPING

3.1. COSTS IN LINER SHIPPING

The only difference between liner and tramp operations is not the characteristics of the service but also the structure of the cost of operations. Because some requirements of the specialised services (e.g. special handling equipment, high speed, refrigeration fittings etc.) are the sources of additional costs in liner shipping.

It is clear that the supply of liner services is stable while the demand is open to fluctuation. That is to say, some cost items in liner services are unavoidable regardless what the demand is. For example, in case of a drop in demand and volume of the traffic, a tramp shipping operator can lay up all or at least some of his vessels and thereby reduce his costs considerably during such a bad period. This will also help to increase the demand by reducing supply. However, a liner shipping operator is not in such a position. He cannot lay up his vessels and can not avoid providing scheduled services. Otherwise it would be impossible for him to keep his clients and stay in the business to which entry is another difficulty. The liner shipping operator has to bear most costs (which in the case of tramping are variable and can be reduced).

3.1.1. Cost Determinants in Liner Services

- Volume of traffic
- Composition of freight
- Round-trip voyage distance
- Number of ports to be served
- Vessel design and other specifications
    a) Size and number of vessels
    b) Speed and consumption
    c) Crew size and automation
    d) Equipment, cranes and other fittings

All of the above mentioned factors are cost determinants in liner shipping.Among these, ship design is of paramount importance because a considerable percentage of general liner cost arises from the vessel itself. A fleet of small fast vessels will probably have lower capital and operating costs than a fleet of large and slow vessels. However, the former will have higher bunker costs due to higher speed of the vessels. Liner operations, even those operating on the same route, may have different cost structures due to the technical characteristics of the fleets.

3.1.2. Structure Of The Costs

In liner shipping vessels are committed to fixed sailing schedules. A number of costs, including operating cost, are fixed contrary to the concept of variability of some cost items. Scheduled transport is generally characterised by high fixed costs and a large number of separate shipments making use of vessel capacity jointly. Therefore, the problem of cost allocation between shipments arises as an important problem which leads to the pricing policy of charging what the traffic can bear.

In order to identify the components of the total costs of liner services; it is necessary to break down the total cost as much as possible.(Table 3.1)

As can be seen in the Table 3.1, compared to the costs in tramp operations, there are a number of additional costs such as containers and terminal costs, feeder services costs etc. which constitute a considerable percentage within the total cost of liner services. Although some of the costs theoretically appear as variable costs, this is mostly valid for tramp operation and not in fact for liners. In liner operations these variable costs are almost fixed due to the nature of the scheduled services. To some extent their variability depends on some factors such as traffic volume and fluctuations.

According to K. Sletmo, even variable costs should be divided into some categories and defined as variable, partially variable and fixed costs.

According to the author, while the variability of liner costs depends on some factors such as the level of traffic and so on, some variable cost items still remain fixed. For example, in case of a decrease in volume of traffic, the liner operator will probably reduce the feeder services and container costs. Although this is perfectly possible because these are variable with the traffic volume, some other expenses related to those costs such as the costs of terminal and feeder services and containers will remain as fixed costs that operator has to bear in order to keep business and the line secured.

Table 3.1
Cost Structure For North Atlantic Container Services in 1973

COST CATEGORY	% IN TOTAL	
COMMISSION ETC.		
Brokerage	2.4	
Agency Commission	6.7	
Cargo Claims	0.7	
SUB TOTAL		9.8
TERMINAL COSTS		
Operating FCL(Stevedoring)	15.7	
LCL(Stuffing)	5.0	
Depreciation (28 Years)	0.1	
Interests cost (8%)	0.2	
SUB TOTAL		21.4
PORT CHARGES		4.1
VESSELS COSTS		
Operating costs	8.3	
Charter monies	1.9	
Bunkers	4.7	
Depreciation (20 Years)	3.6	
Interests (8 %)	5.7	
SUB TOTAL		24.2
FEEDER SERVICES		
Line's own feeders	2.8	
Other feeders	9.3	
Depreciation (20 Years)	0.1	
Interests (8%)	0.1	
SUB TOTAL		12.3
CONTAINER & CHASIS		
Operating (Maint.& Repair)	4.7	
Leasing Costs	3.4	
Container positioning	3.6	
Depreciation (10 Years)	3.8	
Interests (8%)	2.9	
SUB TOTAL		18.4
GENERAL		
Promotion & Public relations	0.3	
Administration	9.7	
Others	0.2	
SUB TOTAL		10.2
T O T A L	100.0	100.0

Source : Proprietary data [Gunnar K. Sletmo, Ernest W.Williams, Jr.] Liner Conferences

Port charges, transshipment costs and commissions are variable but largely dependent on the traffic volume. Others such as terminal operations and container operating costs may be variable if the downward movement of the traffic takes a long time, say one year. Otherwise (for example, for a single voyage) any reduction in these costs is not possible. Despite the fact that they are theoretically variable this is no longer valid for liner services.

In summary, only one fifth of liner costs are variable in the short term. If the bad period in which a cost reduction is essential for some reasons is long (at least a year), then one third of liner costs become variable. However, It is very hard for a liner shipping operator to go for a cost reduction for short run, because keeping schedules in order not to lose clients and keeping competitiveness is more important than adjusting business to the demand. Therefore, maintaining regular schedules makes liner operators bear more fixed costs than the others. For example, as long as schedules are maintained and served ports are not changed bunker costs of liner operations are fixed. Since the bunker costs of liner vessels are very high, mainly due to the high speed of the vessels, it is quite a disadvantage to the liner operators compared to the tramp operators whose costs can easily be adjusted to the demand by applying economic speed and having the freedom of choosing cheap supply centres and so on.

3.1.3. The Effects of Ship Size and Speed on Cost

With the expansion in international trade, there has been a commensurate increase in ship sizes. An explosion in ship sizes in the general cargo trade occurred after the 1960's. The slow handling of general cargoes was the major constraints on the enlargement of sizes of general cargo ships until the arrival of containerisation.

Increases in ship sizes and therefore ship carrying capacities are based on a fundamental economic relationship. Irrespective of ship type, as ship sizes increases, ship costs at sea decrease.

If the detailed breakdown of liner costs given in Table 3.2 is analysed, the classification of costs is simplified into two main groups of cost sources :

a) ship related costs

b) cargo related costs

The effects of ship sizes and speed can be better understood. Ship related costs include feeder service costs, vessel costs (such as bunker costs, capital costs and other operating costs) and port charges and altogether constitute 40.6% of total costs. The reason for including port charges in ship related costs is that calculations of port charges for the services of aids to navigation, pilotage, towage, light dues, berth charges and so on generally are based on ship specifications such as size of ships, GRT/NRT etc.

Cargo related costs include terminal costs, containers, brokerage and commissions etc. which are

Table 3.2

SHIP COSTS AT SEA AND IN PORT

£ / TEU

SPEED	19	21	23	25
600 TEU SHIP				
COSTS AT SEA	42.8	45		
COSTS IN PORT	14.9	16.3		
TOTAL	57.7	61.3		
1000 TEU SHIP				
COSTS AT SEA	32.7	34.1	35.1	38.3
COSTS IN PORT	23.8	25.7	26.7	29.5
TOTAL	52.4	55.4	57.5	63.3
1500 TEU SHIP				
COSTS AT SEA	25.3	26.7	28.1	35.8
COSTS IN PORT	23.8	25.7	26.7	29.5
TOTAL	49.1	52.4	54.8	65.3
2500 TEU SHIP				
COSTS AT SEA	20	21.7	24.8	26.7
COSTS IN PORT	29	31	33.2	36.3
TOTAL	49	52.7	58	63
3000 TEU SHIP				
COSTS AT SEA	18.2	19.8	21.5	23
COSTS IN PORT	31.1	33.1	36	38.9
TOTAL	49.3	52.9	57.5	61.9

Source : Adopted from " Ship Choice In the Contain
Sidney Gilman, 1980

Note : 1000 TEU Mile Plus One Container Move

usually charged on the amount of the cargo and altogether these constitute 49 % of the total costs.

Taking the theory of the " Economies of ship size at sea - Diseconomies of ship size in port" into consideration, any increase in ship size will result in higher carriage capacity and therefore lower ship related cost per ton of cargo, while higher carriage capacity will result in higher cargo related costs due to more expensive handling operations and longer ship time in port. This is a very important factor if it affects the productivity of a ship and reduces the number of the round-voyages that ship can do in a year.

Although big ships are more economic at sea, in practice it is dependent on the volume of the cargo, the characteristics of the route, the distance etc. A big ship may be too large to provide a reasonable load factor and in case of a low load factor it can easily be more expensive than a smaller ship which is able to provide a higher load factor.

3.2. PRICING IN LINER SHIPPING

Liner ships are designed in greater or less degree to meet the needs of the particular trade that they are intended to serve. The size, cargo handling gear, shape of ships hold, refrigerated spaces, < ratio of cubic weight to deadweight >, speed, labour, and automation are among the factors that can be varied to meet the requirements of the route.

The size and other characteristics of ships assigned to a route and frequency of service offered determine the total capacity for cargo that the liner company is obliged to provide.

Traffic on trade routes is characteristically imbalanced by direction. Moreover, unlike the cargo volume fluctuates not only seasonally but also cyclically with the level of economic activity, comparative exchange rates and other circumstances affecting the volume of international trade.

Since the liner shipping company has obliged itself to serve all reasonable demand, through its conference agreements or otherwise, the maintenance of capacity to accommodate peak flow necessarily generates unused capacity at other times.

Once a sailing has been scheduled, the voyage costs are for all practical purposes fixed. Few differences will occur in these costs if the vessel sails in ballast or full with cargo. Most of the costs are common for all cargo on board with the exception of loading and unloading expenses and the real problem is the distribution of common costs to the individual shipments. There are some allocation methods available for common costs such as by the

ton, or by the cubic feet or metre occupied or a combination of these or by the consideration of the importance of a shipment and/or its value and so on.

Whichever is selected, it will be a kind of averaging of costs among the lots of cargo. This may vary at each sailing because either the costs of each voyage or the demand for cargo will be different. Moreover apportioned costs in imbalanced trades will be higher in the direction of light movement.

3.2.1. Tariff Schedule

The rate charged on the shipper's cargo will be found in the tariff schedule, which represents an agreed set of rates between members of the conference.

Within the tariff schedule, rates are organised according to individual commodity descriptions, each of which has a unique "tariff item number"
Any given conference will probably have several schedules such as:
Port-to-port movement
Point-to-point movement
Port-to-point movement
Point-to-port movement

The rates for cargoes moving under service contracts may be arranged separately. The tariff schedule specifies different rates for contract and non contract clients. Contract users will generally obtain a loyalty discount, promising that all their cargo will move with the line. There are two forms of loyalty agreements;

1- Deferred rebates

2- Dual rate contracts.

A deferred rebates, as the term suggests that the shipper will obtain a rebate on the published tariff if all his cargo has been shipped via the conference lines for a certain period of time (generally six months).

In a dual rate contract system, the discount is made immediately so that shippers who have signed a loyalty contract will obtain a lower rate than the shippers who have refused to sign such a contract.

Each tariff schedule contains a number of sections. The first usually deals with the scope of the conference both geographically and specifies the port ranges that define the coverage of the conference as well as the nominated base ports.

Then there will be a complicated rules section. which gives specifications of surcharges, add-ons, other charges ancillary to the commodity freight rate itself like currency and bunker adjustment factors, terminal charges etc. The minimum revenue per shipment will be specified as will be expected minimum utilisation rates (in terms of weight or volume) per door-to-door container, maximum free time for stuffing and stripping container etc. and a general index will follow.

Certain rates on certain commodities may be declared as open. These are commodities on which there is no agreed price. They are generally bulk commodities over 1000 tonnes. This is done to enable members be able to compete with tramp operators.

In the tariffs there may be several ports specified for certain commodities. One rate may represent the agreed conference rate, while the others relate to carriage by a particular member. These are known as "Independent Action (IA)" rates.

The base on which rates are charged are;

-Rate per weight tonne (or other unit of weight)
-Rate per cubic metre (or other unit of volume)
-Rate per weight/measurement tonne (whichever produces
greater revenue)
-Rate per unit or piece (cartoon, bale, etc.)
-Rate per unit of length or diameter (timber, pipe)
-Rate per container (Lumpsum rates)
-Rate per unit of value (Ad volarem rates)
-Or any combination of the above charges may be structured on the commodity description, the value and the stowage factor.

When the rate is multiplied by the quantity, the result will be the freight to be paid. However, in addition to freight there are numerous other charges (sometime called add-ons)to be added. These are mainly;

-Terminal handling charge
-Container service charge
-Port congestion surcharge
-Bunker adjustment factor
-Currency adjustment factor
-Heavy lift charges
-Container allowance

When the above mentioned charges are included they constitute about 50% of the total freight payable. There are different formulas used as the basis for calculation of freight such as :

Total freight =(Basic freight +THC +CSC + CAF + BAF)
Total freight=(basic freight + THC+ CSC)* CAF + BAF)
Basic freight=(Basic freight + BAF)* CAF+(THC + CSC)

CAF and BAF are normally determined monthly or sometimes for each sailing. THC and CSC are charged on a lump sum basis or as a rate per weight or measurement tonne.

The above calculations are obvious proof of the complexity of liner tariffs. The use of complexity is perhaps symptomatic of the conference's exploitation of shippers via price discrimination according to Roy Pearson in his book of Container ships and Shipping.

3.2.2. FAK and CBRs(Freight All Kinds and Commodity Box Rates)

In the 1980's, the commodity Box rate was introduced in order to simplify the complex tariff system. CBRs are mainly based on the standard 20' and 40' containers. Conferences have attempted to limit the CBRs to a particular box type for any particular commodity. The expectations from CBRs was that they would reduce the number of tariff classes. According to Roy Pearson, in establishing CBRs, conferences have adopted a slow and cautious approach because their fear is that if established ''too prematurely'' on a wide scale, CBRs would hasten the arrival of FAK "Freight all kinds" rates.

FAK is a single rate to be charged per standard 20' or 40' container irrespective of its contents. Sletmo and Williams say that an average cost per TEU would become the basis for FAK rates and a gross figure per container, perhaps with a surcharge for

those beyond average weight, would be simplest and most appealing form. This is however nothing more than an average cost rate.

Authors are also say that FAK rates are not appropriate for break-bulk operations. Because, in the case of full container ship, if FAK rates are applied the break-bulk or partially containerised liner operators who obtain a considerable proportion of high-value goods will stand to gain the low grade traffic that can no longer afford to use container service.

3.2.3. MAJOR PRICING PRINCIPLES IN LINER SHIPPING

3.2.3.1. Value Based Pricing

The difference between the price of a commodity at destination and at origin is simply the value of the transport service with the reduction on other charges, for example those for paperwork etc. This is called freight. If freight is too high so as to absorb the exporter's entire profit margin the commodity will probably not move and then the market will look for substitutes or local products. In practice, sometimes the consequence of such a situation is that the transport service supplier will be charged if satisfactory rates can be provided from another location.

As the supply function includes the cost of transfer from origin, the effect of a freight - rate increase is to raise the supply price by the amount of the freight - rate increase at least. If demand for the commodity is inelastic in relation to price, little decline in volume will occur despite the high price.

The relative value of the service is used as a basis for rate-setting despite the difficulties in its measurements. From the shipowners' point of view measure of the value of the service would be that levels of the value of service would be that levels of freight rate at which the maximum revenue would be secured.

Cargo characteristics and more importantly it's value are very important factors in liner rate setting, in which the principle is to charge what the traffic can bear. According to this principle, higher rates can be charged on high-value cargoes.

Freight in general represents a larger part of low-value goods than of high - value goods which are generally manufactured goods. According to Jansson and Shneerson, the transport cost typically makes up 2-4% of the total value of output for high - valued goods while this rate is in the range of 20-30% of the total value for low-value products such as coal, iron, ore, timber etc. In case of doubling the freight rate, the effect on high - value goods will be just a few percent but can reach 30% on the low - value goods. Consequently It is said that price (freight - rate) elasticity of the demand for transport is much greater for low value commodities than those high valued goods.

There are other definitions of for pricing principles in liner shipping related to the value of goods such as charging what the traffic can bear, the value of service pricing principle or price discrimination.

According to (the explanations by) Roy Pearson there are three forms of price discrimination practiced;

1. Third degree price discrimination, which means each commodity is charged a different rate.

2. Second degree price discrimination, each shipper of a particular commodity is charged a different rate.

3. First degree price discrimination, which means each shipment by the shipper of a particular commodity is charged a different rate.

The practicality and fairness of the three forms of price discrimination is subject to the interests and costs of the parties involved in liner shipping and a matter that shipping economists have often been discussed. According to Roy Pearson the ideal one is the first degree price discrimination.

There is no distinction among the terms used for the value based pricing principle, according to Jansson and Sheenerson because the prices of different services correspon to the marginal costs, with each price exceeding the marginal cost by a mark up that depends on the elasticity of the demand.

3.2.3.2. Cost Based Pricing Principle

Another pricing principle in liner shipping is cost-based pricing. It consists in setting rates which will cover the carrier's own expenses and leave a reasonable profit. In practice, this method is found quite complicated. The main difficulty with cost-based pricing is how to allocate costs appropriately to separate shipments in different amounts.

Chrzanowski describes this difficulty as discriminatory as some commodities will have bear costs which could ideally be attributed to other cargoes.

Cost structures vary widely among both national flag fleets and private fleets."If cost is adopted as the acceptable basis for pricing what costs are appropriate costs to consider is the question to be considered" Sletmo - Williams.

There are two aspects of cost based pricing: marginal cost and average cost pricing. Marginal cost refers to the cost of supplying an additional unit and in the case of a full cargo it is roughly equivalent to the cost of loading and unloading. In theory, the attractiveness of marginal cost is that under perfect competition, prices will go down to the marginal cost level. However, the effects on business may mean that total cost may not be covered and this may force weaker firms out of the business.

If FAK rates are given as an example of the average cost pricing principle and since what is loaded or unloaded occupies a space on the ship is the standard container, the cost can appropriately be averaged over loaded containers. However, again effect on business will be that due to reduction made on freight by full container shipping lines, break bulk operators will have to leave the market and shippers of low - valued commodities may not be able to ship their cargoes at rates that they can afford to pay.

CHAPTER FOUR

INTRODUCTION TO TURKEY

4.1. Geography and Physical Features

Turkey is in a unique situation of being in both Europe and Asia with a land mass of 780,000 sq km of which 97% is in Asia (The Anantolian plateau) and 3 % is in Europe (Thrace), The European and Asian sides are divided by the Bosphorous, the Sea of Marmara and The Dardanelles straight.

Anatolia is a high plateau region rising progressively towards the east and broken by the Valleys of about fifteen (15) rivers, including the Dicle (Tigris) and the Firat (Euphrates). There are numerous lakes and some, such as Lake Van, are as large as inland seas. To the north of the country, the Eastern Black Sea Mountains chain runs parallel to the Black Sea: To the south, the Taurus Mountains sweep down almost to the narrow fertile coastal plain along the sea coast.

Turkey enjoys a variety of climates from the temperate climate of the Black Sea region, to the continental climate of the inner regions and Mediterranean coastal region.

The coast line is about 8000 km in length on four seas which makes the country a peninsula.

The neighbouring countries are Greece and Bulgaria on the European side to the northwest, Syria and Iraq to the southeast, Iran to the east and the USSR to the northeast.

The total population is 55 million (1988) of which 99% is Moslem. However, the fact is that the Country is a secular state which guarantees complete freedom of worship to non-Moslems. About 47% of the population live in the countryside. The Major cities are Istanbul (8 million), the capital city Ankara (4m), Izmir (3m), Adana (2m), Bursa (2m), Konya (1m) and Mersin(500.000).

Administratively it is divided into seven main regions with 72 main cities, each having it's own governer representing the state.

The official and commonly spoken language is Turkish. It is neither an Indo - European nor a Semitic language but belongs to the Ural - Altaic group and has an affinity to the Finno - Hungarians languages. Turkish has been written with Roman characters since 1928 following the establishment of Republic on 29 October, 1923. Before this date, it was written with Arabic characters. Turkish is natively spoken by some 170 million people in the world.

The Turkish Republic is a Nationalist democratic and secular state based on human rights, the rule of law and social justice. The people exercise sovereignty through the Grand National Assembly, elected by Universal suffrage. The executive power is exercised by the president of the Republic and the council of Ministers.The Country is an original member of the UN and also has membership in OECD, NATO, Council of Europe, and several UN specialised agencies such as IMO, GATT, UNCTAD, FAO, ILO. It is an associate member of the EEC

4.1.1. History

Turks originally come from around lake Baikal in central Asia. Nomadic tribesmen began emigrating as early as two millenia ago, spreading both west of The Black Sea and south to China. Empires rose and fell. In the 11th century, the Selchuks extracted tribute from an area encompassing Bulgaria to Afghanistan including Persia and Baghdad.

In the next century, squabbles among rival Sultans weakened the Empire and marauding Mongols hastened its demise. Then the Ottomans whose empire endured for 600 years, established the most powerful state of the last centuries in 1299 . Great traders with their caravans, crossed the Islamic world, carrying silk from China, spices from India and timber and furs from Caucussus.

In 1923, October 29, Mustafa Kemal Ataturk founded today's modern Republic of Turkey and launched a drive for modernisation.

4.2. Economy

The general outlook of the economy experienced a rapid change during the 1980s with a high rate of growth. The transformation from an agriculture - based economy to an export oriented industrial free-market economy has been successfully done.

After the establishment of the Republic in 1923 with a wide range of radical reforms, including the change of alphabet, Turkey enjoyed a mixed economy with both public and private sector participation until 1980.

However, the distruction of the 1 st World War was too great to allow the economic growth for quite a long time.

The reestablishment of infrastructure, the need for reeducation of the people and the lack of fundamental resources and necessary finance were among the factors which prevented Turkey from building up a healthy economy in the early 20th century.

While the country was busy with the reestablishment of a proper system the Second World War broke out. Although Turkey did not participate in the 2nd WW, it was impossible to avoid disruptive effects of the war as it had an impact on all countries in the world. The country suffered quite a lot from the economic crisis brought about by the war. After the world war, Turkey turned her face to Europe decisevely and joined international political and economic organisations as well as military pacts, to secure national security. In 1950 the political system was changed to a fully democratic multi - party system and opened to the west for economic development and industrialisation.

After all these tremendous changes, Turkey, like other war ravaged European nations, received the famous Marshall aid from America for economic development which made considerable changes in the country.

Unfortunately, the Turkish people have not always enjoyed a smooth political life. In 1960, 1971 and 1980 interventions by army delayed and left

considerable negative effects on the economic and social development of the country, in spite of the fact that successive military government did try to carry out development schemes as much as they could. In particular, the last army intervention was purely to stop terrorism which was so much ruptive to economic development and endangering the national security. This was proven by the return to the democratic system in 1983 after national security had been ensured.

As a matter of fact, although the military government took over in 1980, that year marked the actual commencement of liberalisation of the whole economy by civil officials, economists and ministers given the responsibility to carry out economic activities.

After the elections in 1983 the civil government that was in charge implemented a recovery programme which was infact prepared in 1980.

The civil government, blaming too much state control and crippling bureaucracy for the economic problems, proposed a shake-up of the state machinery, decentralisation and the encouragement of private enterprise especially in the export sector.

For such an export oriented western-style free market economy, a series of legislative changes and reforms were made. Policies were changed and by providing international reliability for foreign investment, financial sources could more easily be obtained. After all these developmets Turkey is now becoming a country often mentioned in international trade.

Nevertheless, this rapid and wide range of changes from a state controlled mixed economy to a liberal economic system unavoidably showed its side effects such as high inflation rates and negative effects on social justice, and rapid but crooked development, mainly due to the development of trade , industrialisation and the service sector simultaneously with the construction of infrastructure countrywide.

GDP (Gross domestic product) per capita was US$ 1300 in 1980; it showed stable growth and was about 2000 US$ in 1989. The sectoral contributions to GNP in percentage are; 50.2 % by the service sector and 31.8 % by industry, while the remaining 18% comes from the agricultural sector according to the reports by SIS in 1989.

Unfortunately, as it was mentioned earlier, it is said that some 20% of the population receives almost half of the national income while the poorest 20% receive about 10%.

For a country that suffered a lot from the international oil crisis in the early 70s having an economic turnround by 1980 was nothing short of dramatic. Some huge construction projects planned in the 1940s to solve the energy problem were speeded up. One such project, namely GAP (South East Anatolian Projects) composing several huge dams, tunnels and irrigation channels, electricity power plants, etc requires enormous sum of capital and therefore has a negative impact on rate of inflation.

The most significant part of the this project is the Ataturk Dam on the Euphrates. Turkey's largest and the world's 6th largest hydro-energy producing and irrigation project to date. It is being constructed by Turkish companies and is expected to be completed in the early 1990s. The dam is expected to irrigate 7.3 milion hectares of land and produce 8.1 billion kwh of electricity annually.

On completion of the whole project, the country, already self-sufficient in food and exporting electricity (to USSR, Syria, Bulgaria and Iraq), expects to become a major exporter either in energy or in agriculture. There was a time when total exports could not meet the oil bills and the country suffered accordingly. Domestic oil production meets about 20 % of the demand. However, research being carried out within the country and off-shore is hoped to bring fresh news.

There are three power stations using coal while others (more than 24) are using lignite. Coal reserves in the country are running down but fortunately there are plentiful reserves of lignite. It is estimated that coal production could cease altogether before many years, pass while lignite reserves have been put at 5000 million tonnes. Presently, lignite production stands at about 16 million tonnes per year and further increases are both possible and likely. However , since the lignite is a soft brown coal and has only 30 - 40 % of the calorific value of bitumnius coal, large quantities need to be mined to meet the demands of the power stations. Even taking this into account, it is planned that the electricity generated by lignite-powered stations will increase by 500 %.

Table 4.1

PRODUCTION OF MAJOR INDUSTRIAL PRODUCTS

	(Weight & Volume & Number)			
PRODUCTIS	ANNUAL			
	Unit	1986	1987	1988
MINING				
Hard Coal *	Th.Tons	7.008	7.084	6.688
Lignite *	TH.Tons	45.470	46.481	38.425
Crude Oil	Th.Tons	2.394	2.629	2.032
Crude Borates	Th.Tons	1.636	1.629	2.032
Natural Gas ***	Th.M3	456.715	297.124	99.166
MANUFACTURING				
Cotton Yarn ***	Ton	51.307	54.134	49.916
Wool Yarn	Ton	4.932	4.523	4.338
Filtered Cigarettes	Th.Tons	54	52	56
Raki & Beer	Mil.Lt.	237	293	322
NewsPrint	Th.Tons	152	159	107
Kraft Paper	Th.Tons	61	112	83
Sulfuric Acid **	Th.Tons	583	586	722
Nitro-Fertilisers	Th.Tons	3.639	4.042	4.018
Phosphate Fertilisers	Th.Tons	3.494	3.649	3.822
Polyethilen	Tons	151.506	202.722	232.515
PVC	Tons	59.922	108.721	130.829
LPG	Th.Tons	507	603	706
Naphta	Th.Tons	1.207	1.512	1.820
Gasoline	Th.Tons	2.240	2.607	2.504
Motorin	Th.Tons	5.684	6.584	6.559
Fuel Oil	Th.Tons	6.742	8.150	8.993
Glass Articles	Th.Tons	259	257	312
Crude Iron	Th.Tons	3.579	4.100	4.462
Steel Ingot	Th.Tons	5.947	7.044	8.009
Blistered Copper	Tons	35.460	19.445	12.910
Alumina	Tons	144.396	95.236	181.660
Cement	Th.Tons	20.004	21.980	22.675
Tractor	Number	27867	35095	31327
Automobile	Number	82032	107185	120796
Truck	Number	13182	13386	12766
Bus - Midibus	Number	10890	10597	8906
Electrical Energy	M.kwH	39665	44353	48009

* : Pithead Production
** : Public Sector
*** : January - March

Sources : SIS - SPO

Attempts by the government to build up nuclear power plant unfortunately confronted a powerful environmentalist reaction from people and several organisations with in the country and could not get a significant start yet. LPG (Liquid Petroleum Gas) is imported from the USSR via pipeline and the infrastructure in some major cities such as Ankara is almost complete and LPG is already in use.

Turkey is the second largest producer of chrome which is the country's only internationally significant mineral. A whole variety of deposits ranging from meerschaum of which Turkey is the leading producer to salt are known to exist and are exploited to some extent.

Mine and quarry exports in 1982 were valued at US $ 175 million and increased 377.2 million US $ in the 1988 while mining and quarry imports totalled 2861.3 million US $ in 1988 (including crude oil and coal).

4.2.1. Agriculture

Turkey exports agricultural products and until 1980, they accounted for 50% of total exports. After the deep changes in the economic structure, the share of agricultural exports decreased considerably in 1988. Agruculture exports accounted for 20.1% of overall exports valued at 2341.4 million US $ (source SIS).

However, one half of the cultivated land(about one third of the land area) is devoted to cereals. The main agricultural products are cotton, tobacco, hazelnuts, raisins and crops, pulser, fruits, oilseeds etc. Turkey produces two thirds of the world's hazelnuts.

The import of agriculture and livestock was valued as 499.3 million US $ in 1988 and comprises wheat, rice, merino and so on. If imported processed agricultural products are included (such as soybean, oil, other vegetable oil, cigarettes etc) a sum of 738 million US $ should be added to the above figure.

Agriculture in the country has occasionally been affected by climatic conditions such as insufficient rain and high temperature above seasonal levels. Growth for agricultural production was 2.1 % in 1987

4.2.2. Tourism and Invisibles

Since 1963, when a national tourist plan was conceived and put into effect by the Ministry of Tourism and Culture, Turkey has gradually become popular as a tourist country. The country is very rich in history and in artistic and archaeological treasures. It is relatively cheap for foreigners and has an excellent climate.

However, the growth of the tourism industry was insignificant up to 1985 despite the fact that the country as a whole is a paradise for tourists. What was missing was sufficient bed capacity and quality of service and organisation and, of course, marketing abroad.

The opportunity of obtaining considerable amounts of foreign exchange from tourism could have been used earlier if necessary legislative changes had been made. Fortunately, after 1980 as part of the changes in the national economy, a lot of incentives to both domestic and foreign investors were offered, the tourism budget was increased and a large - scale

Table 4.2

NUMBER OF TOURIST ARRIVALS & REVENUES

TOURIST	Unit	1984	1986	1988
Arrivals	Number	2117094	2391085	4172727
Revenues	Mil. $	1.094	950	2355,3

Source : Turkish Central Bank

Table 4.3

WORKER'S REMITTANCES

Million $

1983	1984	1985	1986	1987	1988	1989 **
1553,6	1881,3	1774,2	1696,0	2102,0	1844,0	(522,0
Change	% 21.1	% -5.7	% -4.4	% 23.9	% -12.3	(% 76.4

** : Provisional (first three months of the year)

Source : Central Bank

public relations and advertising campaign in Western Europe and the US was started.

Eventually despite the general recession in the Mediterranean tourism and the negative publicity by irresponsible European media mainly due to political reasons, leaving an image of horror, Turkish tourism development efforts started to bear fruit and the expected boom has come.

The number of tourists visiting Turkey increased from 2.3 million in 1986 to 4.17 million in 1988 while tourism revenues increased from 950 million US $ in 1986 to 2.35 billion US$ in 1988, easing the chronic deficit in the balance of payments and forming an important source to finance the projects under construction.

Remittances from workers in Europe and the Middle East used to be one of the main sources of foreign exchange and indeed helped the national economy a lot during the bad period. But, the improvement in the tourism and export sectors decreased the importance of worker's remittances. All the same. remittances of workers abroad, in particular those who are in W Germany and Middle East, mainly workers of Turkish contruction companies who have secured contracts there, have made a positive contribution to the balance of payments.

Workers remittances in 1983 accounted for 1.5 million US $, in 1987 2.1 million US $ and statistics from Central bank give evidence that worker's remittances are increasing month by month compared to the previous years. The increase in percentage in the first three months of 1989 as

compared to the corresponding period of the previous year 1988 is almost 100%.

4.2.3. Manufacturing Industry

Basic industries in Turkey are dominated by the public sector, although in recent years the private sector had become increasingly dynamic. State Economic Enterprises predominate industries such as steel, oil petrochemicals, fertilisers, sugar and paper. In cement and some others, both sectors are active. The clothing, furniture, car (significantly), printing, electric and electronic, scientific equipment industries are controlled by the private sector. Furthermore, the private also sector has a share in the chemical, steal and paper industries. 60% of mining is controlled by a state economic enterprise, namely ETIBANK.

4.2.4. Exports and Imports

As it was mentioned, Turkey's exports have recorded a constant increase since 1980. However, heavy dependency on oil is the main problem of the economy, as it takes a considerable share of national revenues. For example, total exports in 1982 amounted to US $ 5,746 million whereas imports cost the country US $ 8,700m of which nearly half was oil. As a result of the oil situation, other imports were constrained while the largest payments on invisibles were for interest on outstanding debt.

The chronic deficit in trade was reduced to 1.8 bn$ in 1988 by the increase in exports, despite the fact imports also increased as a result of policy changes towards liberalism.

4.2.4.1.Imports

In 1988 imports by sectors were: 17% crude oil, 27.8% investments 47.5% intermediary goods and 7.7% consumer goods.

Total imports in 1986 amounted to 11.8bn $ while this was 14.3bn $ in 1988 with a 29.1% increase.

From the commodity point of view, Agriculture and livestock imports were valued at 499.3 million $, mining and quarrying at 2.8bn $ of which 2434.3 were crude oil imports. Processed agricultural products were valued at 738.4 million $ while petroleum products and other industrial products were valued at 1.1 miilion $.Industrial products constituted a wide range of products such as cement, chemicals, rubber and plastics, metal products, machinery, motor vehicles and electrical appliances.

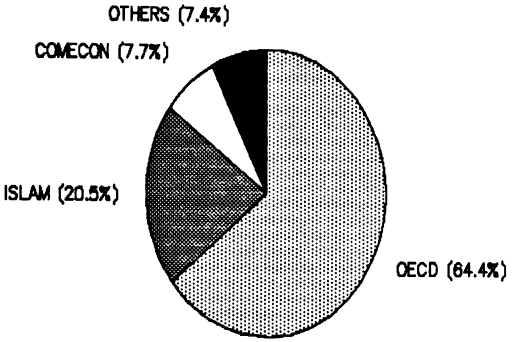
4.2.4.2. Imports by Country Groups

OECD countries lead the list with a share of 64.47% in overall imports West Germany alone accounts for 41.1% and other major member countries such as UK, Italy and France and the USA within the OECD group.

Second Country group is the Islamic countries with total imports of 2.9 bn $, having a share of 20.5%. Iraq and Iran are the countries having the largest shares among all.

Eastern Europe and USSR are in third place as the country group with a 7.7% share.

Imports By Country Groups
By Value In 1988



Imports By Commodity Groups
By Value

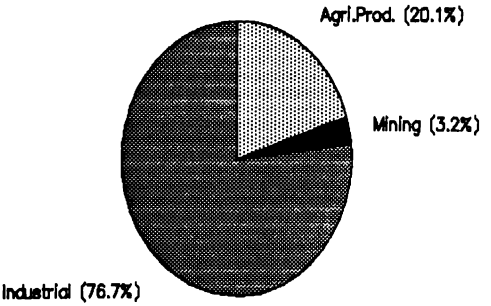


Table 4.4

IMPORTS BY COUNTRIES

COUNTRY	A N N U A L (Million $)			% Share in 1988
	1986	1987	1988	
I.OECD COUNTRIES	7303.0	9030.9	9237.2	64.4
A.EEC Countries	4564.9	5667.8	5894.2	41.4
- West Germany	1771.8	2108.8	2054.3	14.3
- Belgium-Luxemburg	310.0	402.7	477.4	3.3
- Denmark	38.7	48.8	48.5	0.3
- France	545.3	609.3	828.8	5.8
- Netherlands	264.4	366.8	384.9	2.7
- United Kingdom	518.9	697.4	739.1	5.2
- Italy	866.0	1076.2	1005.7	7.0
- Spain	147.1	199.2	242.3	1.7
- Others	52.9	158.6	113.2	0.8
B.OECD Countries	2738.1	3363.1	3343.0	23.3
- USA	1176.9	1365.4	1519.5	10.6
- Japan	684.2	859.9	554.8	3.9
- Switzerland	285.4	365.1	343.6	2.4
- Austria	139.2	192.5	214.9	1.5
- Others	452.4	580.2	710.2	5.0
II.ISLAMIC COUNTRIES	2139.0	3152.1	2935.2	20.5
A.Middle East	1598.9	2428.4	2468.5	17.2
B.North Africa	441.2	574.8	310.7	2.2
C.Others	98.8	148.9	156.0	1.1
III.SOCIAL.COUNT.	871.9	968.6	1102.2	7.7
IV. OTHERS	790.9	1006.2	1065.1	7.4
T O T A L	11104.8	14157.8	14339.7	100.0

Source : SIS (State Institute of Statistics) 1989
SPO (State Planning Organisation) 1989

4.2.5. Exports

When reviewing foreign economic relations as a whole, the exports of Turkey had showed a considerable increase in 1989 when compared to the 70s and early 80s. However, it was reported that frequent and sudden changes in the export legislation lead to uncertainty, that exporters were obliged to resort to medium term programmes, and that enthusiasm for diversity of destination of commodities was weakened. Moreover, failing to implement financial and monetary policies in time and in coordination with each other influenced the economy as well as social life in the country.(Quarterly Economic Report by Union of the Turkish Chamber of Commerce, 1990).

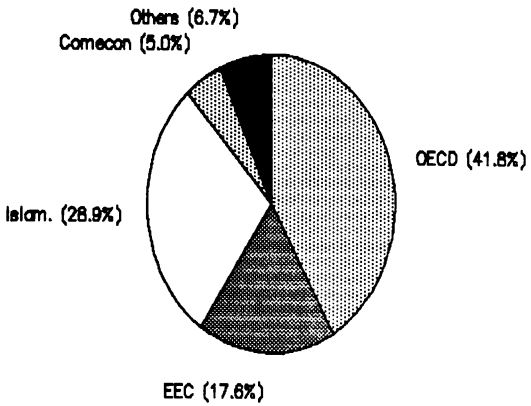
Exports of agricultural products, which represented 19.2% of overall exports for the first eleven months of 1988, declined by 5% during the corresponding period of 1989 down to 1.859 million $. This stems from decreasing production because of unfavourable climatic conditions.

Agricultural exports from the commodity point of view are mainly crops, cotton, tobacco, hazelnuts, raisins, livestock, fishery and forestry products.

Exports of mining and quarry products were about 3.6% of overall export and accounted for 377.22 million $ in 1988.

Industrial products in the 80's had the first place on Turkey's export list. Having a share of 76.7% of overall exports, they included cement, chemicals, rubber and plastic, textiles , glass and ceramics, iron and steel products, machinery, motor vehicles

Exports By Country Groups
By Value In 1988



Exports By Commodity Groups
By Value

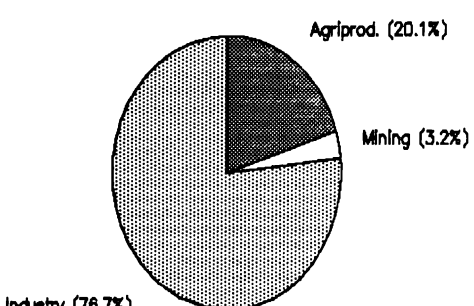


Table 4.5

COMMODITY COMPOSITION OF EXPORTS

	A N N U A L (Million $)			% Change
C O M M O D I T Y	1986	1987	1988	88/87
Agriculture & Livestock	1885.6	1852.5	2341.4	26.4
Crops	1546.8	1484.2	1988.9	34.0
Cotton	138.8	19.9	141.2	609.5
Tobacco	270.2	314.0	266.0	-15.3
Hazelnuts	378.0	314.0	266.0	- 8.0
Raisins	102.9	108.3	139.6	28.9
Others	656.9	651.3	1082.2	66.2
Livestock Products	285.3	310.9	286.0	- 8.0
Fishery Products	39.7	44.7	51.3	14.8
Forestry	13.7	12.7	15.2	19.7
Mining & Quarry Products	246.9	272.3	377.2	38.5
INDUSTRIAL PRODUCTS	5324.3	8056.2	8943.5	10.9
Processed Agri.Products	666.7	953.9	884.7	- 7.3
Petroleum Products	178.2	232.3	331.3	42.6
Other Industry Products	4479.4	6879.0	7727.5	12.3
Cement	26.9	7.0	6.5	- 7.1
Chemicals	350.2	526.5	734.5	39.5
Rubber & Plastic	140.5	257.5	351.7	36.6
Leader Products	345.2	721.9	514.1	-28.8
Forestry Products	51.7	31.9	21.6	-32.3
Textiles & Clothing	1850.7	2707.1	3201.4	18.3
Glass & Ceramics	157.9	204.7	233.3	14.0
Iron & Steel	803.6	851.8	1457.5	71.1
Non- Ferrous Metal	111.2	134.0	226.1	68.7
Machinery	202.5	680.5	333.0	-51.1
Metal Products	60.4	107.0	51.5	-51.9
Electrical Appliances	129.6	293.3	294.0	0.2
Motor Vehicles	82.4	110.2	118.0	7.1
Others	166.5	245.6	184.5	-24.9
T O T A L	7456.8	10190.0	11662.1	14.4

Source SIS (State Institute Of Statistics) 1989
SPO (State Planning Organisation) 1989

(e.g. cars, lorries etc.), electrical appliances etc. Industrial exports in 1988 accounted for 8943.5 miilion $ which is evidence of the development of Turkish industry.

4.2.5.1. Exports by country groups

Among the three main groups of countries (OECD, the Islamic world and the Socialist group) OECD countries constituted the highest share of exports (57.5%) in 1988, as was the case with imports.

The share of the EEC in this group was 43.7% in 1988, Germany, Italy, UK, France, Denmark sharing the first five places respectively.

Exports to Islamic countries were valued at 3529 million $ in 1988 with a percentage of 30.3% of overall export. Iraq, Iran, Saudi Arabia, Kuwait, Syria and North Cyprus Turkish Republic were the main countries in their respective order.

Exports to socialist countries, in particular to East European countries have been steadily increasing. The total share of the socialist block was 609.4 mil.$ with a 103% increase, while the exports to other countries constituted 7% of overall exports.Total exports of the country were 11.6bn$ in 1988, while they were just 7.5bn $ in 1986.

Concluding Turkey's export and import analysis, the trade deficit of 2.7bn $ in 1988 in fact could easily be covered if legislative changes, policies, incentives and allocation of funds could be better adjusted a stable internal and external political climate.

Table 4.6

EXPORTS BY COUNTRIES

	ANNUAL (Mil.$)			% Share
COUNTRY	1986	1987	1988	1988
I. OECD COUNTRIES	4292.2	6443.7	6707.0	57.5
A. EEC Countries	3263.1	4867.6	5098.2	43.7
W .Germany	1444.0	2183.6	2149.0	18.4
Belgium & Luxemburg	195.1	318.5	264.5	2.3
Denmark	27.5	43.6	56.9	0.5
France	298.7	499.6	498.5	4.3
Netherlands	222.4	280.2	351.1	3.0
United Kingdom	334.2	541.4	576.1	4.9
Italy	579.8	850.6	954.7	8.2
Spain	59.9	70.2	107.5	0.9
Others	101.5	79.9	139.9	1.2
B. OTHER OECD Countries	1029.1	1576.1	1608.8	13.8
USA	549.3	713.2	760.6	6.5
Japan	99.0	156.0	209.4	1.8
Switzerland	162.3	355.9	264.8	2.3
Austria	111.2	188.5	179.7	1.5
Others	107.3	162.5	194.3	1.7
II. ISLAMIC COUNTRIES	2607.1	3083.6	3529.5	30.3
A.MIDDLE EAST COUNTRIES	2095.3	2570.2	2687.8	23
Iran	564.4	439.7	545.6	4.7
Iraq	553.3	645.3	986.1	8.5
Saudi Arabia	357.4	408.4	359.2	3.1
Kuweyt	120.8	247.5	198.8	1.1
Lebanon	136.0	149.8	88.5	0.8
Syria	62.1	60.6	143	1.2
Jordan	169.0	171.7	129.9	1.1
North Cyprus T.R.	73.3	89.7	131.2	1.1
Others	59.1	57.5	105.5	1.9
B.NORTH AFRICA COUNTRIES	476.1	439.3	690.9	5.9
Libya	135.8	140.7	218.1	1.9
Egypt	145.2	138.8	184.6	1.6
Algeria	177.6	141.9	218.6	1.9
Tunusia	13.6	11.5	62.1	0.5
Morocco	4.0	6.4	7.5	0.1
C.OTHER ISLAMIC COUNTRIES	35.7	74.1	150.8	1.3
III. SOCIALIST COUNTRIES	310.5	334.3	609.4	5.2
IV . OTHERS	247.0	328.4	816.2	7.0
T O T A L	7546.8	10190.0	11662.1	100

Sources : SIS (State Institute Of Statistics) 1989
SPO (State Planning Organisation) 1989

CHAPTER FIVE

5. ANALYSIS OF TURKISH SHIPPING AND SEA-BORNE TRADE

5.1. Introduction

The Anatolian Peninsula has for centuries formed the basic channels for international trade.The well-known " Silk and Spice " route passed through Anatolia and was in its time the only open and safe route to conduct trading relations between East and West. Shipping was also a part of this trade and therefore one may easily say that shipping in Turkey is as old as the Anatolian Peninsula. Almost all civilisations that have inhabited this part of the world have had strong ties with the sea and have maintained their links with the rest of the world mainly through shipping.

During the period of the Ottoman empire, emphasis was laid on maintaining a great navy, though a sizeable merchant fleet was also considered important. After the foundation of the Republic in 1923 sea transport received partial attention and ship-owning as well as shipbuilding were encouraged.But the shipping policies were concentrated mainly on cabotage transportation and the Turkish shipping industry developed relatively slowly until the beginning of 1980's.

1980 marked an important turning point in Turkey's involvement in international maritime trade. In January 1980 , as part of the large economic reforms for switching to a liberal export oriented free-market economy, a new set of economic reform measures were introduced with stepped up reliance on

market forces rather than direct government intervention. These measures included a flexible exchange rate policy, payment regulations and the introduction of a new investment policy.

As a result of these new economic policies , important advances in the area of exports were observed, imports were liberalised to a large degree and Turkey assumed an economic aspect which step by step was opening up to the outside world. Recognizing the ample opportunities for international transport in general and for shipping in particular, the government offered various incentives to owners to facilitate ship purchases and operations under Turkish flag.

Consequently, with this support in the early 1980's, the Turkish merchant fleet expanded rapidly in terms of both the number of the vessels and the tonnage.

Table 5.1 indicates the growth of the Turkish merchant fleet after 1980. However, after 1987,the fleet remained constant with the bulk of the vessels controlled by a state shipping company with its origins dating back to the founding of the modern Turkish State.This new activity was entirely within the private sector as old established names, previously seemingly content with a few ships and newcomers alike started buying second hand tonnage at bargain prices. Unfortunately, due to lack of experience of today's complex financing not at all the deals went through but a lot did. The fleet climbed up to a tonnage of 7.5 million dwt from 2.5 million in a very short time span.

All these developments in increasing in tonnage were a generous package from the military government that set off the new shipping activity in 1980-1983. Many favourable alterations to the credit restrictions and the abolition of the tax on foreign credit deals encouraged the purchase of second hand vessels.

Expansion of the fleet, both state owned and private was intended to reduce Turkey's foreign exchange outflows by carrying the national imports and exports.

As 90 % of the country's trade moves by sea, government anxiety to secure a greater share for the national flag is understandable. The foreign exchange drains on reserves have been put as high as 1 Bn..$. However, despite the increase in tonnage under the Turkish flag, foreign vessels still have a higher share in transport of both import and export.

5.2. SEA-BORNE TRADE OF TURKEY

During the period of 1980-1988 , the share of Turkish fleet in transport of the foreign trade of Turkey notably increased parellel to the increase in its total exports and imports. The increasing amount of Turkish export and import goods and the sudden growth of transit cargoes on the northern and southern coast increased the traffic volume in Turkish ports substantially.

According to table , Turkey's sea- borne trade in 1980 was 22.8 million tons out of an overall foreign trade of 28.4 million ton, which were increased to 69 million tons of which 52.5 m tons were carried by sea in 1988.

Table 5.1

Total Seaborne Trade of Turkey
&
Share of the Turkish Fleet

Tons

YEARS	Total Foreign Trade	Sea-Borne Trade	Share of the Fleet	Share in %
1982	35,669,700	29,909,012	10,512,930	25.1
1983	38,154,321	33,322,851	16,592,207	49.8
1984	45,726,730	39,680,082	18,266,959	46.0
1985	47,118,285	41,171,602	18,276,881	44.4
1986	48,940,170	42,390,814	17,652,419	41.6
1987	59,813,512	48,528,681	21,018,494	43.3
1988	69,064,629	52,517,767	19,704,929	37.5
1989 *	47,168,793	41,126,772	15,339,375	37.3

* January - September Period

Source : Turkish Chamber of Shipping Publications

The share of the Turkish fleet was 31.4 % , representing 7.16 m Tons of overall sea- borne trade in 1980

Although according to the Table 5.1, this share was around 50 % in 1983 with an amount of 16.6 m Tons, the Turkish fleet was at its peak in terms of tonnage in this year and one of the reasons for decrease in the tonnage later on is the loss of traffic due to factors such as the War in the Persian Gulf.

The National fleet managed to receive a total of 19.7 M Tons of trade to carry and had a 37.5 % share of national transport. In comparison with the year 1982, the net increase in sea- borne trade was clear evidence of the growth of the economy, although the increases in total trade and share of national fleet were not proportional . This was mainly due to the fact that the boom in foreign trade was so sudden and the transport sector was not prepared for such an increase.

If the exports and imports of the country are individually analysed, it will be seen that the Turkish fleet is more active in the transport of imports rather than exports.

In overall sea- borne trade carried by the Turkish fleet in 1988, 5 million tons of export cargo with a percentage of 22.5 % and 14.6 Million Tons of import cargo with a percentage of 44.8 % were carried by sea, which totally represented a share of 37.5 % in overall sea- borne trade.The rest of sea- borne trade was carried by foreign flag vessels and represented 32.8 M Ton with 62.5 % in 1988.

5.2.1. Analysis of the Turkish Sea-Borne Trade by Country Groups

As it can be seen from the tables in the previous introductory chapter, main groups of Turkey's trading partners are OECD , the Islamic Countries, the COMECON countries and some other individual countries.

Among these, OECD have the greatest share in both export and imports according to a study made by Dr.Muzaffer Gunay (An analysis of Turkish Foreign Trade from the Realisation of Transport Viewpoint-1989),in 1987.The realisation of foreign trade with OECD countries is significantly to the favour of sea transport and the other shares are given in Table 5.2.

According to the report , in 1987 the increase in the transport of sea- borne trade compared to 1982 between the OECD group and Turkey was 35.0 % (In which transport of exports represented 26.65 % and imports 43.53 %, averaging 35.07 %).This sharp increase in sea transport was perhaps due to developments in fleet size and characteristics and to improvements in ports in addition to the great advantages of close distances to those countries which enabled savings in transport costs.

5.2.2. Sea-Borne Trade with The OECD Group By Commodities

The commodities, moved in significant amounts by sea, between the OECD group and Turkey during the period of 1982 - 1987 are given in Table 5.4. The commodities are mainly mining and quarry products, general cargo - containers, forestry products,

Table 5.2

Share of Transport Modes in Trade with OECD Countries
in 1987

1987	By Sea	By Rail	By Road	By Air	Total
Import %	92.01	1.00	5.29	0.19	100
Export %	87.83	0.41	11.44	0.31	100

Source : Turkish Chamber of Shipping Publications No:13

Table 5.3

Ton-Mile Realisation of Sea-borne Trade
To/From OECD Countries

Million Ton

Years	Import	Export
1982	23.276.10	5.704.36
1983	23.635.51	6.450.28
1984	39.092.66	9.257.35
1985	38.665.20	8.946.67
1986	40.804.79	13.228.80
1987	57.399.69	16.829.17
82/87 Increase	% 146.60	% 195.02

Source : Chamber Of Shipping Publications
No:13 1989

Table 5.4
Major Commodities Moved To/From OECD Countries
&
Amounts Carried By Sea

YEARS	1985		1986		1987	
Commodity Groups	Import	Export	Import	Export	Import	Export
Crude oil	0	0	0	0	0	0
Processed Oil	68619	150515	36213	190666	21392	240108
Asphalt	27649	7965	206449	4966	191698	8237
LPG - LNG	0	0	0	0	0	0
Acid	170404	661	90955	1883	80904	966
Ammoniac & Chemical	103432	17408	92597	34067	333101	71015
Lubricants	10933	138	949	151	8943	1250
Mining & Quarry	4312389	494399	4053834	626332	5320176	832541
Grain	527133	26181	537229	7536	351347	5804
Timber	206265	63405	236205	170099	563237	388143
General Cargo	512782	85278	428132	270735	595258	165470
Ro - Ro	72250	216	67898	536	58628	157
Container	30164	32727	38751	28587	32532	48639
Ventilated Cargoes	83730	96850	9413	100521	61162	125093
Livestock	0	0	0	0	1446	13
Refrigerated Cargo	34941	271	36913	1270	49804	1622
TOTAL	5260817	976014	5836685	1437299	7669628	1884070

Source : Chamber Of Shipping Publications No: 13

crops, chemicals in the import leg and petroleum products, mining and quarry products , general cargo/ containers, crops and refrigerated / ventilated commodities in the export leg.

Ton - mile realisations of sea transport to/from OECD Countries are given in Table 5.3.

As a result. the OECD countries (including EEC members) are the most developed, highly industrialised countries of the world and having increasing to-mile export transport to those countries is the most clear evidence of the growth in Turkish foreign trade, although the trade deficit is to the disadvantage of Turkey. One of the most important reasons for the trade deficit with the OECD group countries is the protectionist measures such as quotas (particularly for textiles and some other industrial productions) implemented against Turkey.

5.2.3. Sea-Borne Trade with The Islamic Countries

As mentioned earlier, Turkey has close trading relationships with Islamic Countries, general exports and imports being given in the previous chapter.

If this trade is analysed from the transport viewpoint according to the study made by Dr.Gunay, the share of sea transport compared to the year 1982 is getting smaller year by year and in 1987 its share was just 86.6 % of imports and 46.10 % of exports in the total trade with this group. It is worth noting that the rest of the exports to Islamic Countries were carried by road with a percentage of 46.2 % in 1982.

Table 5.5

SHARE OF TRANSPORT MODES IN TRADE WITH ISLAMIC COUNTRIES

1987	By Sea	By Rail	By Road	By Air	Total
Import %	86.66	0.04	13.21	0.09	100
Export %	46.10	7.46	46.27	0.17	100

Source : Chamber Of Shipping Publications

Table 5.6

Ton-Mile Realisation Of Sea-Borne Trade To/From Islamic Countries

Milion Ton

Years	Import	Export
1982	43.385.97	7.447.90
1983	47.180.39	5.713.26
1984	52.744.89	4.291.60
1985	50.496.28	4.626.70
1986	55.919.55	4.772.70
1987	58.840.71	5.713.58
82/87 Increase	% 35.62	% -23.29

Source : Chamber Of Shipping Publications

Table 5.7

Amounts of Major Commodities Carried To/From Islamic Countries

TON

Y E A R S	1985		1986		1987	
Commodity Groups	Import	Export	Import	Export	Import	Export
Crude Oil	14930798	000	15277389	000	16396273	000
Processed Oil	96071	277572	199150	136707	31409	86854
Asphalt	0	70839	20500	17992	00	32001
LPG - LNG	344700	0	348464	0	436259	0
Acid	346583	1293	392924	4413	566019	811
Ammoniac & Chemicals	107152	156843	103936	167038	205656	245371
Lubricants	57144	23299	38857	14258	43715	50184
Mining & Quarry	496869	2035234	846971	1666950	720283	988088
Grain	274	93416	95	233384	26078	474757
Timber	10455	348482	3003	487799	12324	399509
General Cargo	48235	128557	127729	178375	83452	166364
Container	47655	106076	64148	128256	59771	147528
Ro-Ro	64	6696	899	10932	93	12462
Ventilated Cargo	38	174068	14752	129236	37224	133707
Livestocks	00	16474	00	10534	00	9026
Refrigerated Cargo	3111	15100	49329	24265	37369	25462
T O T A L	16489149	3453967	17487714	3240139	18655925	277309

Source : Chamber Of Shipping Publications NO:13

This is perhaps because of the War in the Persian Gulf which made sea transport much more risky.Another point to be noted is the big difference between imports and exports which is obviously because of the crude oil carriages from the Middle East.

The sea-borne trade of Turkey with Islamic Countries from the ton-mile realisation viewpoint is given in Table 5.6.

Amounts of the major commodities moved in significant amounts between Turkey and Islamic Countries are given in Table 5.7 and the shares of different types of transport modes are given in Table 5.5 for a comparison. According to the table , the amounts of the exports showed a significant reduction in 1987 compared to the previous years, but when they are valued, it can be seen that the trend is to the advantage of Turkey. The only change is in fact the nature of the commodities from low value to high value.

Despite the chronic political problems in the Middle East and therefore fluctuations in the foreign trade of Turkey, there is a general increasing tendency and given political stability in the area and good conditions for sea transport. trade in this direction may increase considerably.

5.2.4. Sea-Borne Trade with COMECON Countries

The shares of transport modes used for carriage of foreign trade with COMECON Countries are given in Table 5.8.

Table 5.8

Share of Transport Modes in Trade to/from COMECON Countries

1987	By Sea	By Rail	By Road	By Air	Total
Import %	95.99	2.39	1.46	0.15	100
Export %	88.54	4.09	7.36	- - -	100

Source : Chamber Of Shipping Publications No : 13

Table 5.9

Ton-Mile Realisation of Sea-Borne Trade to/from COMECON Countries

Years	Import	Export
1982	220.30	268.01
1983	712.64	149.25
1984	878.75	190.12
1985	703.29	243.66
1986	845.28	327.53
1987	2.012.55	266.49
82/87 Incr	% 813.37	% -0.57

Source : Chamber Of Shipping Publications No :13

Table 5.10

Amounts of the Major Commodities Moved to/from COMECON Countries

TON

Y E A R S	1985		1986		1987	
Commodity Groups	Import	Export	Import	Export	Import	Export
Crude Oil	0	0	520545	0	418182	0
Processed Oil	310359	0	228643	0	282699	0
Asphalt	0	900	8551	730	64365	500
LPG - LNG	0	0	0	0	0	0
Acid	2308	0	4027	60	16662	0
Ammoniac & Chemicals	475631	160225	557761	291420	862544	172674
Lubricants	22596	2568	12975	0	15287	0
Mining & Quarry	282639	248041	452447	309252	1295351	374652
Grain	26854	2935	0	3080	5389	5300
Timber	190890	33376	150345	38633	256097	36770
General Cargo	364149	40625	399044	15942	968616	8258
Ro - Ro	1276	0	916	0	1471	0
Containers	242	26067	4116	419	6885	448
Ventilated Cargoes	0	97167	0	56755	0	62756
Livestock	232	0	6180	0	26027	0
Refrigerated Cargoes	6	0	32	0	0	2857
T O T A L	1778182	611904	2345582	716291	4219575	664215

Source : Chamber Of Shipping Publications No:13

According to the Table, the share of sea transport to and from COMECON Countries in 1987 was 95.99 % in imports and 88.54 % in exports. The share of sea transport to and from COMECON Countries in overall sea transport was 10 % in total imports and 6.55 % in total exports.

Amounts of the major commodities moved between Turkey and COMECON Countries and ton-mile realisations of sea-borne trade are given in Tables 5.9 and 5.10. Crude oil and processed oil, chemicals, some minerals and general cargo with an insignificant amount of containers are the major items in import carriages by sea while chemicals , mining products, crops and timber are the major ones carried as exported commodities by sea in relatively significant amounts to the COMECON Countries.

5.2.5. Sea-Borne Trade with Other Countries

Turkey's trade relationships with countries outside the three main groups actually commenced in the early 80's. This was either because of the relatively long distances or because of the limited production capacities of the country and similar reasons.

Nevertheless , when foreign trade of the country is analysed as a whole from the value point of view, a tremendous increase in a very short time, i.e. two years, will be seen both in imports and exports.

When analysed from the transport point of view, again the lion's share is received by sea transport with a percentage of 97.86 in imports and 97.98 in exports in 1987 the same as in previous years of the 80's.The share of sea transport to and from

Table 5.11

Share of the Transport Modes in Trade with Other Countries

1987	By Sea	By Rail	By Road	By Air	Total
Import %	97.86	0.32	0.31	0.31	100
Export %	97.98	0.16	1.84	0.01	100

Source : Chamber Of Shipping Publications No:13

Table 5.12

Ton-Mile Realisation of Sea-Borne Trade to/from Other Countries

Million Ton

Years	Import	Export
1982	6.342.98	2.477.90
1983	7.891.35	3.165.89
1984	13.618.33	2.770.32
1985	21.346.54	2.200.77
1986	31.813.53	6.764.06
1987	35.811.86	7.114.56
82/87 Inc	% 464.59	% 187.12

Source : Chamber Of Shipping Publications

Table 5.13

Amounts of the Major Commodities Moved to/ from Other Countries

TONS

Y E A R S	1985		1986		1987	
Commodity Groups	Import	Export	Import	Export	Import	Export
Crude Oil	270059	0	548134	0	672382	0
Processed Oil	31514	0	25949	0	12418	0
Asphalt	0	18	3994	216	0	15273
LPG - LNG	0	0	0	0	0	0
Acid	62327	67	119618	1500	159043	14433
Ammoniac & Chemicals	65585	14337	77011	60706	65556	15021B
Lubricants	63822	211	71628	816	31048	29
Mining & Quarry	398647	3669915	655270	4154755	591292	
Grain	335116	72674	427415	76508	11060	226885
Timber	172237	338	233631	286392	737693	105597
General Cargo	174613	37026	190751	47984	237752	83233
Ro-Ro	390	0	3479	133	1136	177
Container	13070	14749	23423	8128	20888	4762
Ventilated Cargoes	252	16245	8283	36815	40684	49741
Livestock	0	0	0	0	23490	0
Refrigerated Cargo	586	13	3498	611	6169	2033
T O T A L	3985642	554325	5406727	1175079	6174475	1243973

Source : Chamber Of Shipping Publications

countries in this group in total sea transport is 10.64 % in imports and 8.89 % in exports.

Ton-mile realisations of sea transport and the nature and amounts of the major commodities are given in Table 5.12. and Table 5.13, in which the leading roles of minerals, timber, general cargo and containers in relatively high amounts (compared to the other groups) are quite clear.

5.3. ANALYSIS OF THE TURKISH MERCHANT FLEET

According to the records of the Turkish Chamber of Shipping, as of December 1989 the Turkish merchant fleet consisted of 824 vessels and a total capacity of 5208759 Dwt. In numerical terms, general cargo ships accounted for the majority of the fleet while dry bulk carriers have the greatest share of overall tonnage.

Since 1982, one notices that there has been a steady increase in the number of general cargo vessels, though the rate of increase has slowed down considerably in recent years. A large number of general cargo vessels are of low tonnage and conventional types. There is a striking and substantial lack of container carriers in the fleet.

In the case of dry bulk carrier tonnage , steady growth may be observed until 1986. But this expansion ceased in 1987.

A reduction is also noticeable in petroleum tankers, which increased rapidly in terms of both numbers and tonnage until 1984, owing particularly to heavy losses sustained in the Persian Gulf during the Iran - Iraq war.LPG - LNG vessels accounted for a very low share of the Turkish fleet.

Until 1980, the structure of the Turkish shipping fleet was one in which public sector ownership predominated. After 1980, however, we see that this situation changed and the share of privately - owned vessels in the fleet has increased. By 1987, 77 % of the fleet was privately owned.

As of 1987, approximately 4.3 million dwt of Turkish fleet tonnage consisted of imported vessels, representing 81.6 % of the total fleet. Although the number of vessels built in the country is relatively high, the ships themselves are all below 20.000 dwt.

The majority of the vessels in the Turkish fleet are low tonnage vessels. 76 % of the total number of ships in the fleet are below 4000 Dwt. There are only 12 vessels with tonnages over 80.000 Dwt and their total tonnage amounts to around 1.5 m.DWT.

5.3.1.Analysis of Vessels Suitable for the Transport of the Foreign Trade

Assuming that only the vessels of above 1500 dwt are suitable for the transport of sea-borne trade, the Turkish merchant fleet is composed of 347 vessels of which 79 vessels are owned by public enterprises and 269 are owned by private enterprises. 42 of the public ships and 121 of the private ships are imported while the rest were built in the country.As a whole, the fleet assumed suitable for the international transport of the foreign trade represents a total tonnage of 4.867.293 dwt as records of the Chamber Of Shipping point out.

69 of the imported 163 vessels are general cargo vessels while the others are 44 bulkers, 25 tankers and various other types of ships

The 184 vessels built in the country consist of 157 general cargo vessels, 15 tankers and 12 other types of ships.

As a result , there are 226 general cargo ships, 49 bulkers, 40 tankers, 15 chemical carriers and 17 other types of ships suitable for the international transport of foreign trade.

5.3.2.Analysis of the Fleet by Deadweight in General

According to the Table (5.14), the total capacity of the Turkish fleet as of JUNE 1990 is 5,422,208 DWT, of which 25.8 % is publicly owned and 74.2 % privately owned. The share of the public sector in terms of the is 1,324,039 while the private sector owns 3,799,849 dwt of the total capacity.

81.3 % of the total capacity is imported and the rest is built in the country.If imported ships are analysed by type, 40.2 % are bulk carriers, 34.3 % are general cargo ships and 9.2 % are OBOs while 75.3 of the domestic built tonnage is consists of general cargo ships, 11 % of oil tankers and 9.5 % of the bulk carriers.

In general, the Turkish fleet as a whole is composed of general cargo ships 25.8 %, oil tankers 29.9%, bulk carriers 34.4 % and OBOs 7.5 %) and other types of ships with a percentage of 2.3 %.

5.3.3. Analysis of the Fleet by Age

If the fleet is analysed as a whole , it can be seen that the average age of the 855 vessels above 150 GRT is 19.7 years. Simple arithmetical age averages of particular types are given in Table (5.15)

If the fleet is separated into public and private ownership, the public sector owns 265 ships of which 96 are imported and have an arithmetical average age

of 16.4, while the 196 public owned ships built in the country have an age average of 10.1.

The private sector owns 590 ships of which 195 are imported and have an average age of 17.2 while the rest built in the country have an average age of 9.9.

5.3.4. Age Analysis of the Fleet Assumed Suitable for the International Transport

A Breakdown of the age analysis of that certain part of the Turkish tonnage accepted as suitable for international transport is as follows ;

Public Sector Vessels : There are 78 vessels of which the imported 42 have an average age of 15.6 and the rest built in the country are of the average age of 9.1.

Private Sector vessels : There are 269 vessels of which 121 are imported and have the average age of 16.3, while the other 148 ships built in the country are of the average age of 7.9.

When age analysis of this particular group within the whole fleet is made by ship type, it can be seen that there are 226 general cargo ships with an average age of 13.9. This is followed by 49 dry bulk carriers aged 15.8 and the oil tankers take the third place on the list with an average age of 14.0. The 15 chemical ships have an average age of 15.1 followed by 4 OBOs with an age of 17.6.

COMPOSITION OF TURKISH FLEET BY TONNAGE & AGE GROUPS

25th July 1990

	0 - 4		5 - 9		10 - 14		15 - 19		20 - 24		25 >	
Tonnage Groups	Num.	DWT	Num.	DWT	Num.	DWT	Num.	DWT	Num.	DWT	Num.	DWT
0-499	44	920	42	1940	23	250	20	2030	14	4253	84	8352
500-999	3	2200	8	5070	22	16685	26	19653	42	31695	50	34285
1000-1499	4	4450	16	17980	30	33551	20	22335	21	24049	27	30635
1500-1999	1	1700	8	14100	14	23621	9	14872	4	6702	3	5010
2000-3999	8	26393	34	107604	37	110884	32	92131	3	8873	8	23163
4000-5999	2	11203	13	65500	8	35597	4	21210	6	32746	6	31606
6000-6999	0	0	7	45090	3	19477	5	31641	7	44163	4	25433
8000-9999	1	8219	2	19000	1	8070	1	9857	3	26496	2	17180
10000-14999	1	10300	1	14800	0	0	6	70778	12	154006	1	12883
15000-19999	0	0	3	54816	4	74473	6	102864	4	67258	1	17406
20000-29999	0	0	0	0	4	104797	14	365254	5	109309	2	45856
30000-39999	0	0	0	0	1	34681	7	229573	3	100334	1	36415
40000-49999	0	0	0	0	0	0	1	45472	0	0	1	42340
50000-59000	0	0	0	0	0	0	3	163473	0	0	0	0
60000-69999	0	0	0	0	0	0	5	315354	1	69739	0	0
70000-79999	0	0	0	0	0	0	2	152105	1	71556	0	0
80000-89999	0	0	0	0	0	0	1	86480	0	0	0	0
90000-99999	0	0	0	0	0	0	0	0	1	97947	0	0
100000-109999	0	0	0	0	0	0	2	207250	1	102816	0	0
110000-119999	0	0	0	0	0	0	0	0	0	0	0	0
120000-129999	0	0	0	0	1	124817	0	0	0	0	0	0
130000-139999	0	0	0	0	0	0	1	132250	0	0	0	0
140000 >	0	0	0	0	4	617177	2	298990	0	0	0	0
T O T A L	64	65485	142	404715	154	1121680	174	2437002	130	965850	191	330476
GRAND TOTAL	NUMBER : 855				DWT : 5422208							

Table 5.15

AGE ANALYSIS OF THE TURKISH FLEET
BY SHIP TYPES

25th,july, 1990

SHIP TYPES	Number of Ships	D W T		
		Tonnage (dwt)	Weighted Av.Age	Simple Av.Age
Dry Cargo Ships	456	1349724	16.2	20.7
Bulk Carriers	55	1924635	16.5	16.3
OBO ships	5	486091	18.3	18.3
Oil Tankers	87	1554591	15.1	19.8
Chemical Tankers	17	47831	15.9	16.3
LPG Tankers	3	6598	12.8	13.8
Asphaly Tankers	3	4408	22.5	21.1
Water Tankers	6	3200	33.9	34.8
Ro-Ro Ships	7	13622	16.1	20.4
Container Ships	1	3500	3.1	3.1
Ferry Boats	9	7806	11.5	14.1
Train Ferries	7	6811	20.0	18.7
Livestock Ships	0	0	0.0	0.0
Fishing/Process Ships	8	3600	11.4	7.2
Passenger&Cargo Ships	19	4586	33.6	35.4
Research Ships	4	0	0.0	26.6
Harbour Ferries	72	0	0.0	16.9
Harbour Car Ferries	29	0	0.0	15.2
Tugs & Service Ships	67	5205	23.3	18.0
T O T A L	855	5422208	16.2	19.7

Source : Turkish Chamber of Shipping

Table 5.16

TURKISH FLEET BY SHIP TYPES

(150 GRT & Above)

June 1990

	NUMBER			D.W.T.		
Ship Type	Import	Built	Total	Import	Built	Total
Dry Cargo	117	339	456	605125	744599	1349724
Bulk Carrier	50	5	55	1833275	91360	1924635
OBO Carrier	5	0	5	487621	0	487621
Oil Tanker	34	53	87	1448678	104513	1553191
Chemical Tanker	10	7	17	31881	15950	47831
LPG Tanker	2	1	3	5018	1580	5898
Asphalt Tanker	0	3	3	0	4408	4408
Water Tanker	4	2	6	2050	1150	3200
Ro - Ro	7	0	7	13622	0	13622
Container Ship	0	1	1	0	3500	3500
Ferry Boat	4	5	9	4780	3026	7806
Livestock Carrier	0	0	0	0	0	0
Train Ferry	0	7	7	0	6811	6811
Refrigerated Ship	0	0	0	0	0	0
Fish.Process Ship	1	7	8	800	2530	3330
Passgr/Cargo Ship	9	10	19	4168	418	4586
Research Ship	3	1	4	0	0	0
Harbour Ferry	30	42	72	0	0	0
Harbour Car Ferry	5	24	29	0	0	0
Tugs & Service S.	18	49	67	3733	1472	5205
TOTAL	299	556	855	4440621	981587	5422208

Source : Turkish Chamber of Shipping

CHAPTER SIX

SURVEY OF THE TURKISH LINER SHIPPING

6.1. Introduction

Although the rapid expansion of the Turkish fleet in the early 80 s has substantially increased the share of the national flag in the transportation of rapidly increasing foreign trade of the country, the growth in the fleet's share is not proportional to the growth in trade which also has been facing a structural change from agriculture based exports to industrial production in relatively considerable amounts.

There are several reasons for the lower share of national fleet. First of all, the characteristics of the fleet,-age and type and capacity of the vessels- are neither suitable nor adequate for the transport demands of the trade.Since the majority of the tonnage consisted of vessels either under 4000 dwt with a large number of very large bulkers and tankers few in number but constituting a large portion of the tonnage, one may doubt how long this fleet can continue to serve the foreign trade of the country.

What are the reasons for the unhealthy growth of the fleet which can no longer meet all expectations from it ? The answer simply could be that the incentives given to the shipping sector were designed to protect the domestic shipbuilding industry and were not limited to certain ship types ,sizes, age or any other characteristics of the vessels to be built or bought from the second hand market.

Therefore, in order to benefit from the incentives given , many newcomers entered into the shipping industry and made decisions to build ships either at domestic shipyards which were not able to build ships bigger than 10.000 dwt (Private ones) or 20.000 dwt (Public ones) at that time or bought second hand tonnage of old ages in order to operate in cross - trades mainly in the Mediterranean. Most of the newly established shipping enterprises wanted to start with small size ships and companies and hesitated to enter into ocean-going shipping because of the shortage of expertise, financial resources and other similar constraints.Moreover, perhaps they could not rely on small dimensions of Turkish trade.

Nevertheless, when the cross-trading in the Mediterranean lost its attractiveness by 1986-87, the situation was understand and the necessary restrictions and stipulations to shipbuildings and imports were applied by the authorities.

All the same, that does not mean that the fleet of small vessels under 4000 dwt is not beneficial. Indeed, they have made a great contribution to the national economy by adding to foreign exchange reserves and facilitating the cabotage transportation which is very important for Turkey with its 8000 Km coast line.

This simple analysis is itself enough to prove the need for modern, purpose built and well-equipped ships at suitable tonnages to provide efficient and profitable services and stability , reliability, regularity and so on. These functions are the main advantages of foreign flag lines enjoying a

tremendous amount of a market without facing an actual competition.

Of course, while the inadequacy of the National fleet with its relatively high tonnage which cannot be underestimated, this is not the only reason for its lower share. There are several factors that have contributed to. For example, it is the principles of sales contracts who determine the party to choose the carrier in international trade. Another factor is the cost-increasing regulations and bureaucracy which is to be analysed later on. Non-protectionist liberal policies and cut- down state aids, financial and operational constraints, difficulties in replacement of ships etc. are some further reasons for inadequacy and unhealthy growth and, as a result, the low share of the fleet in the transportation of the foreign trade.

Since the largest part of the foreign trade is carried by foreign flag ships, then the question arises of where the Turkish fleet is employed.The answer is simply in cross-trades. Some groups of experts in the country are in favour of employing the fleet in cross-trades and paying freight to foreign flag vessels, claiming that shipping sector revenues have reached 1 billion US$ and that this is a great contribution to the balance of payments and foreign exchange reserves.But it is a matter of preference whether a) employing ships in cross-trades and pay freight to others b) employing the fleet in the service of both national and foreign trade is more beneficial in terms of foreign exchange.

The author personally believes in the latter. Because employing the fleet at the disposal of the foreign trade will not only provide foreign exchange savings and cheaper transport costs, but also enable the traders to reach every corner of the World and introduce their products.

In view of the 40-40-20 principles of UNCTAD and the 50-50 shared trades by bilateral agreements, it is too difficult to gain a delicious share from cross-trading any more.

6.2. Organisational Structure of the Shippers, Liner operators and Conferences in Turkey

The Turkish economy has a different organisational structure to the Western economies where trading enterprises are generally large, internationally expanded organisations and apply modern management techniques. In Turkey, although that sort of organisations whose number is increasing in number rapidly, there are a large number of small enterprises in form of family companies, each having its own small production workshop or perhaps small factories and employing a small number of laboures. They carry on the in the traditional business area of former family members.

These companies constitute a great production potentiality, especially in the textile and clothing industries and other similar fields which do not require very high technology or investments .Thanks to new economic policies for the boom in foreign trade and opening to the world. Most of these small companies are now waking up to the importance and advantages of the export business for either

individual or national development as the best way to improve living standards.

However, most of these people are short of experience in international business and the general shortage of modern organisational structure in business prevents the better use of these potential capacities,as well as the use of transport facilities in order to reach further foreign markets. Most of these companies are now enjoying in domestic market having a low but relatively satisfactory capacity utilisation for themselves. But, if they could have been organised appropriately for an export oriented business in modern sense and offered suitable transport facilities for their small shipments through a shippers council or a similar organisation the benefits to the national economy could tremendously be increased.

In Turkey, there are no shippers council and actually shippers who make use of maritime transport can be divided into three main groups.

1. Shippers who own goods ; these are large , well organised organisations and shippers of this group either own their own ships depending on the nature of the business they are in or they directly contact national or foreign carriers and port authorities in order to settle their transport problems as freight, routing, loading and discharging.

2. Shippers who own goods but do not have the abilities as above ones. They are mainly very small companies as mentioned earlier. Their export efforts are concentrated through the Union of Turkish Exporters and Importers which implements all necessary procedure on their behalf as

intermediaries to maintain relations with foreign partners.

3. Intermediary Firms ; These firms do not own good and ships but enter into relations with carriers and harbour authorities as agents acting on behalf of the cargo owners. The role of these firms which can be defined as freight forwarders (but not exactly because they do not offer all services offered by forwarders as in Europe) is very important. Their organistaions are continuously growing as trade and therefore demand for transport is growing. They offer importers and exporters some facilities for transport, customs, and warehousing, their interests being linked with the successful operation of transport. They act as intermediaries between carriers and cargo owners, supervise the loading of cargo and try to eliminate technical difficulties , thereby helping to increase the volume of goods carried.

The reason why a shippers council has not been formed in Turkey may be that Turkish exporters generally sell their goods at FOB prices. Where that is the case, the buyers enter into relations with the carrier, usually a liner conference in their own country. As a result of this practice, Turkish exporters have no contact with conferences. As for Turkish importers, when they buy at FOB prices , they get in touch individually with a Turkish shipping company or the representative of foreign shipping companies in Turkey, which makes it unnecessary for them to have recourse to liner conferences.

6.3. Existing Liner Services and Conferences

Liner shipping is unfortunately not attractive for Turkish shipowners for several reasons, for example high capital intens, low profit in short-run, and organisational and operational difficulties.

Apart from industrial organisations that export and import regularly and have their own ships to carry their products and raw materials, there are just two companies-of which one is state owned and the other private, really engaged in liner operations.

This is perhaps the reason behind ship ownership of some industrial organisations who definitely have to have regular and reliable transport services, facilities etc. They are generally engaged in the chemical industry, construction and similar diversified companies that operate abroad.

Leaving the reasons for the non-attractiveness of the liner shipping to further analysis : although some tramping companies enter the liner business in peak export seasons , they usually go back to tramp shipping as soon as the traffic shows a downward trend. For example in autumn, during the tobacco export period to US and Europe, it is not unusual to see tramp ships advertised for scheduled liner services departing from Izmir.It may be useful to meet the demand in time but the issue discussed here is whether they are liner operators or not.

Apart from the above there are a few companies who used to operate as liners but have been leaving the market because their ships are not operational in the liner market in any sense and it is impossible

for them to remain in the market and compete with powerful high-tech foreign operators.

Some of the maritime shipping companies operating permanent services in Turkey outside the conference system are as follows;

-East German Shipping Company
-Polish Shipping Company
-Bulgarian Shipping Company
-Soviet Shipping Companies
-Koctug Line of Turkey
-Geden Line of Turkey

Geden line is apparently serving one industrial plant exclusively and seems to have left the general liner market, while Koctug line, an experienced liner company has been operating two lines to Europe and the USA with a few container friendly ships. This company is in touch with and has some feeder agreements with major liner companies doing round the world services. In fact, it is making an effort to renew its fleet and extend operations.

The state owned company is called D.B. Turkish Cargo Lines, and it is the biggest shipowning company in the country. It has been dealing primarily with all kinds of cargoes and livestock and secondarily with passengers and all sorts of combined transportation. This state owned but operationally autonomous company operates 64 ships of which 39 are general cargo ships within the dwt range of 2600-12500dwt. The others consist of 15 bulk carriers up to Panamax size, 7 tankers and 3 Ro-Ro ships.

The company has provided worldwide liner services since its establishment in 1955. However, the services offered by this particular company have

become insufficient and outdated as technological and operational developments in liner shipping take place continuously, in particular in the Western world.

The lines on which the liner operations of D.B. Turkish Cargo Lines are realised are as followings ;

USA line (East Coast) : 1 sailing every 25 days ; To Houston , New Orleans, Baltimore , New York, Richmond as the ports of call. The type of operation on this line is still break bulk with conventional multi-deck vessels of 12500 dwt built in the early 70's. When the degree of containerisation and the operational and technological level of US liner shipping and ports are taken into consideration, it is not too hard to realise how costly such operations can be. Labour is needed for loading and unloading operations in port as well as on board ships , time is spent in ports (Talks are generally about weeks when time in ports is calculated), and uneconomic engines whose economic lives are already completed and still in use. Therefore, in spite of good maintenance, frequent engine breakdown is one of the factors which make operations much costlier.

The nature of the trade between the USA and Turkey generally consists of high value commodities such as machinery , etc in imports and textiles , tobacco, iron steel products in addition to the bagged agricultural in exports from Turkey. Taking into consideration the rapidly increasing container traffic from the USA, it can easily be said that these type of break bulk operations on US the line is certainly non - profitable and non -compatible .

Continental Line : 5 sailings every month ; To Bremen , Hamburg, Rotterdam,and Antwerp

UK Line : 2 sailings every month ; To Felixtowe and Heysham

The UK and Continental are the busiest lines on which the majority of the Turkish trade flows. As with the US line, most of the commodities on these lines are high value exports and imports from either side, mostly moved by liner vessels. There is also a considerable amount of bagged agricultural exports of Turkey moved on these lines.Container traffic or perhaps it is better to say pressure for containerisation in Turkish shipping and Ports mainly coming from partners on these lines is another difficulty in break bulk operations on these lines.

However, vessels operated on the UK and Continental Lines are not as bad as on the US line , or at least not all of the vessels are non-operational in terms of ship type , capacity and other characteristics.

D.B. Turkish Cargo Lines has been operating two groups of sister ships on these lines. One is a group of conventional general cargo vessels, many of which were built in 60's .The other group of vessels is a series of container friendly 8 sister ships of 6000 Dwt , built in the 80's and having an operational speed of 14-17 knots.

These vessels are relatively suitable for UK - Continent trade. They are well equipped, and fitted to carry 2 tiers of containers on deck. The hatch openings are wide and suitable to stow containers in holds as well and since the shipments on these lines

are made in small but frequent lots, the tonnage of 6000 dwt ton is quite adequate for full shiploads from both ends of these lines.

Mediterranean Line : 2 sailings every month ; To North African ports and Genoa, Barcelona, Marseille

Adriatic Line : 2 sailing every month ;To Trieste, Venice, Rijeka

Vessels on these lines are purpose built (to carry small lots of bulk ore) 2600 dwt conventional cargo ships. As a matter of fact, the concept of carrying small shipments of bulk ore (like for example 1000 tons of chrome ore or collemanite or barite etc. which are some of the main mining exports of Turkey) in lower holds and general cargoes in tween decks was an ideal ship design for Turkish trade in the Mediterranean in the 60's and 70's.

If the tables in previous chapters relating to Turkish trade to/from North African Countries are analysed , it can be seen that Turkish exports to north African Countries are greater than imports from them and that the opposite is true of Southern European Countries both in terms of value and volume. Therefore, the round trip line in which a vessel departs from Istanbul, Izmir, Mersin and calls at Tunis and Algiers,carrying outward bound cargoes and then sail to Barcelona, Marseille and Genoa and back to Turkish ports is actually very important for Turkish trade in the Mediterranean.

However, the economics of this line in terms of ship type and characteristics, number of ports of call, and waiting time in North African ports requires a

careful cost calculation and therefore pricing policies.

Because the majority of Turkish vessels are under 4000 dwt and engaged in the Mediterranean business, and if one adds the foreign flag fleets to them, it is not too hard to realise the intensity of competition in the Mediterrenean. Therefore , for a successful operation, specialisation and high technology are essential. Otherwise it is too difficult to steal bulk ore cargo from purpose built single deck vessels in suitable tonnages and containers from vessels of 150-200 TEU capacity feeders. Bagged cargoes like semolina, lentils, onions etc moving to North African Countries require a good ventilation system Otherwise because of very long anchorage times in those ports, the risk of having the cargo damaged on board the ship is high.It is not unusual to see cargoes being rejected in these ports by consignees because of deteriorating conditions and vessels subsequently sent back to the port of loading.

Red Sea-Persian Gulf-Bombay-Bengal Bay Line : One sailing every month ; To Jeddah, Kuwait, Dubai, Karachi, Calcutta, Chittagong

Far East Line : One sailing every month ; To Kobe , Yokohama, Busan, Hong Kong, Port Kelang, Penang, Singapore.

The Red Sea- Persian Gulf and Far East line are not different from the US line in terms of ship types and characteristics and nature of the trade. Especially, Arab states that are also served by modern Western companies are too reluctant to accept

break bulk services and cargoes moving in the older-genaration liners.

The Far East line, which is the newest line established in 1985, has special characteristics and significance. In spite of negative feasibility studies and all expectations that the line would fail ,D.B. Turkish cargo lines established the line and within a short time span, contrary to all expectations, the line showed a rapid growth in cargo movement and made indeed a lot of profit, despite all disadvantages. It has accelerated the growth of trade with Far East countries, which was very weak when the line was established. It is evident that if that line had been established earlier, trade in this direction would have been much bigger today.

However, the need for specialised container vessels is valid for this line as well as others. Because the Far East trade and ports are intensively containerised and therefore break bulk operations in these areas has become more expensive and inefficient.For that reason D.B. Turkish cargo lines has converted two of its 18000 dwt bulk carriers to bulk-container type and ordered two new 1000 TEU capacity new buildings from the Turkish shipyards in order to meet the requirements of trade in this direction and phasing in container shipping.

6.4. Liner Conferences Serving Turkish Trade

Apart from the non-existence of a shippers' council or any similar organisation to protect shippers rights and negotiate with conferences and /or shipping lines, the Turkish government does not negotiate with liner conferences where necessary

negotiations with the conferences are carried out through Turkish agents abroad or through the agents of maritime shipping companies in Turkey (generally through the D.B. Turkish Cargo Lines as the only and the biggest liner shipping operator engaged in the conference system).

Turkey has not ratified the UNCTAD Convention on the Code of Conduct for Liner Conferences, but has entered into bilateral agreements related to Maritime transport based on 50-50 principle with some countries such as USA. In Turkey, no cargo reservation measures are taken and no flag preferences are given. All cargoes are subject to free competition.

After the reforms in economic structure , some protectionist measures as an obligation of the state economic enterprises to carry their cargoes by National flag ships giving priority to the state owned companies were totally cancelled. All shipping and other economic enterprises, whether state owned or not, are now free in their operations and have the right to choose the carrier that is more beneficial for them.

Turkish liner operators, particularly the D.B. Turkish Cargo Lines which used to enjoy a similar monopolistic position are now facing intense competition coming either from independent low- cost and price shipping companies of the Socialist block or Western companies coming with higher quality services.

In order to protect itself against intense competition, D.B. Turkish Cargo Lines has entered into several conferences and established some new

conferences with some Far East based companies in addition to the conferences of which the company is an original member.

6.4.1. Major Liner Conferences serving the Turkish trade are as followings ;

Continent Near East Conference
US North of Cape Hatteras/ Mediterranean Conference
North Anatolian Coast Conference
Levant Continent Conference
Ametile (Accordo Merci Tirreno-Levante) Conference
Conturcon Conference
Banturfcon (Bangladesh-Turkey Freight) Conference
Far East Freight Conference
Alfa Conference

Since 1969, D.B. Turkish Cargo Lines has been an original member of the Conturcon Conference serving the Turkish trade between W.Germany, The Netherlands, Belgium and Turkey.

But in operations to and from UK ports the case is a bit different. The Company has been applying the tariffs and other conditions of the Conturcon conference for carriages from Turkish ports to Uk ports while for the opposite direction the tariffs of the Levant conference are applied, although the company is not a member of that conference.

Ametile Conference, of which the company was a member from 1951 till 1988, has been serving the Mediterranean trade, particularly from French and Spanish ports to Turkey. However, because of intense competition in the area due to rebates granted and other breeches of the conference rules and conditions, this confence became impractical and the company left the conference in 1988.

After the establishment of the Far East line and to avoid heavy competition on this line, which is one of the busiest lines in the world, the company applied for membership in the Far East Conference in 1986.

Alfa Conference, of which the company is a member since 1977, has been serving trade between Yugoslavian and Italian ports in the Adriatic Sea and the Eastern Mediterranean ports of Lebanon, Syria, Cyprus, Greece and Turkey.Tariffs of the Alfa conference are applied in Yugoslavian ports.

6.4.2. Stevedoring and Tally Agreements : In order to improve the quality of services, despite the many disadvantages of ships and inefficient Turkish ports, D.B. Turkish Cargo lines have made some stevedoring and tallying agreements with some European companies in the ports of Bremen, Hamburg, Antwerp and Rotterdam as well as some towage and berth allocation agreements in Hamburg and Rotterdam.

As an outsider company, Koctug Line has no relations with Liner conferences so far and has been carrying out its activities often entering into similar operation improving agreements with European ports.

6.5. PROBLEMS OF LINER SHIPPING OPERATIONS

There are several reasons for the underdevelopment of liner shipping in Turkey .These are mainly financial, technical, operational and organisational problems.

Financial problems are typical of every developing country, particularly for the private sector

entering liner shipping and surviving in the business.

Technical problems are mainly those related to the ports and ships, their equipment and abilities, elements which are to be analysed in the recommendations chapter for the rationalisation of the ports.

Operational problems are presently the most important issues that prevent development of liner shipping and containerisation in Turkey.Typical of many places in the world, customs regulations and their strict implementation are the main source of problems. Because the customs regulations are fairly old regulations and are not compatible with today's modern transportation systems in the sense of containerisation and door-to-door transportation concept.Therefore, as the main source of operational problems in the ports and shipping sector in Turkey, customs regulations certainly need to be revised and a logical customs system with an understanding of the importance of the facilitation of transportation system should be developed.

If a couple of examples are to be given from the management point of view ;

1. Perhaps the most persistent and illogical problem shipping and port operators face is the continuing regulations which restrict the movement of containers outside the port area. Exceptions may exist, but only on payment of a very large guarantee equal to a certain percentage of the value of the content of the container.(It was about 100 % but is said to be reduced to 25 % recently).

In order to get a container out of the port, an agent has to go to eight different services of the customs. This is together with above issue quite an important obstruction to the development of the door-to-door concept and very harmful to port operations, which already suffer from congestion in limited container storage areas that prevents efficiency.

2. All Turkish ships either liner or other heading to Turkish ports in the Black Sea and ports of the Sea of Marmara like Istanbul are being stopped by customs at the Dardanelles Strait, where there are insufficient and unsafe anchorage places and traffic is very busy. Checking of one ship by customs may take 12 hours. This is also a very illogical operation because the ship is going to be checked again at the actual destination. This is not applied to foreign flag ships but only to Turkish ships.

3. All loading and unloading operations according to the customs regulations must be done under the supervision of a customs official. However shipping lines have to apply in advance and reserve customs officials for the operations to be held after official working hours and moreover they have to pay in advance the overtime costs of official based on the duration of loading / unloading operation. It may cost sometimes up to 10 US $ per container handled. Furthermore, these overtime charges are said to be different in every port in Turkey.

4. Paperwork is unnecessarily heavy and the procedure for the approval of documents is too long.In case of any mistake in a document, say for example in a cargo manifest if a cargo of machinery

is indicated on the cargo manifest but its set of tools is not indicated, the cargo may not be released to the receiver by customs officials.

Another problem of the liner shipping sector is that it is very difficult to keep the schedules reliable, which is the main characteristic of the liner business. Shippers value reliability of service above all even more than freight, because they can make plans and keep to them if the service is predictable.

Liner ships in Turkey have no priority in having a berth or even if such a priority exists it is not applied by ports.Furthermore , if a liner ship is lucky enough to get a berth, it may not be able to announce a certain departure time because daily the loading and unloading rates in ports are not reliable and one cannot predict that ship will be ready for sailing at certain time time.

Everywhere in the world, or at least in many ports in the world, the liner shipping sector is granted some reductions in port tariffs and dues subject to negotiations between ship and port operators and they are guaranteed certain fundamental services and facilities.

In Turkish ports such a policy is not usual. Therefore, Turkish ports are not attractive for liner shipping operators even for Turkish ones.

Port rules related to towage, mooring etc are not flexible in terms of the technical abilities of ships for manouevering etc.

The most important issue regarding port charges etc is the quay due of 5 % over the value of the

imported commodity brought to Turkish ports.That quay due can reach astronomical figures.

Therefore ,what importers are doing was that they bring their cargoes to a close distant port, generally Pireaus of Greece, unload it from the ship and carry on by road which was free from that quay due of 5 %.

Nevertheless, after long lobbying activity by major shipowners and organisations, those dues were reduced to 4 % rather than totally cancelled and 3 % is applied to the other modes of transport like rail and road in order to provide a balance between the modes.

6.6. RO-RO LINES

As the only Turkish shipping company engaged in Ro-Ro shipping, D.B.Turkish cargo lines has been operating three Ro-Ro ships on three lines, one of which is carried out jointly with the Romanian Shipping Company.

Turkey's geographical position, linking continents and providing an important access from Europe to the Middle East and having famous European transit E roads passing through the country, obliges it improve the road transport system not only for her truck fleet but also for all European and Middle East registered truck fleets.

However, being a rapidly developing country facing a lot of financial problems, Turkey cannot easily build sufficent roads as desired and meet all demands perfectly.Therefore, as an alternative way of lightening the demand on roads and increasing the number of accesses to Europe, development of Ro-Ro

shipping is of paramount importance and indeed much emphasis has been given to Ro-Ro shipping by the governments since 1985.

Another reason for developing Ro-Ro shipping in Turkey is that the Turkish truck fleet is unfortunately not allowed to access Europe freely to cope with the demands for road transport to European countries. Because Yugoslavia, Bulgaria, Greece and Austria have been limiting the number of Turkish trucks that can make transit passages making use of their roads by applying yearly quotas.

Those yearly transit passage quotas are really endangering Turkish trade and the development of road transport, and in addition to that these countries sometimes enjoy monopolistic opportunity which is often used in political platforms as a campain strategy.

Therefore decreasing dependency of the National transport system on the transit passages and increasing the number of accesses to Europe by Ro-Ro shipping lines is very important for Turkey .

As a solution ,Ro-Ro lines are operationally the cheapest, quickest and easiest mode of shipping in particularly for a country with a 8000 Km. coast line and multiports as well as a very suitable transport system. Ro-Ro lines do not require expensive port infrastructure or superstructure or service , manpower and so on.

Without repeating the theoretical aspect of Ro-Ro shipping since that it is given in first chapter concerning the general characteristics of the liner shipping, it is necessary to look at the benefits

that Turkey can gain from the development of Ro-Ro shipping, taking into consideration the characteristics and realities of the country inorder to analyse how much beneficial it is.

The benefits that can be gained from Ro-Ro shipping can be divided into two parts: direct benefits and indirect benefits.

Direct Benefits of Ro Ro lines :

1. Foreign exchange savings (According to the feasibility studies ,it is 6.86 times cheaper than road transport)

2. Lower transport cost

3. Longer life of the road network and lower maintenance costs for roads

4. Extends the economic lives of vehicles

5. Time savings and independent access to various markets

Indirect benefits of Ro-Ro lines :

1. Decreasing the traffic volume on roads and therefore less accidents.

2. Stability in transport costs and prices of commodities in international market.

3. Less investments in roads and the possibility to use the money somewhere else.

4. Especially in Turkey it can decrease the time to get to some cities in the industrialised area of Istanbul and its environs.

5. Environmental protection

Ro-Ro shipping is presently not attractive for the private sector because it is a fairly new concept in the country and not developed as much as in Scandinavia. Leaving the financial problems of buying expensive Ro-Ro ships to one side, the shortage of experience in this business, non-profitability,(at least for the time being) the lack of prepared ports and road connections to ease the traffic etc are among the reasons for its nonattractiveness for the private sector.

For these reasons and due to the expensive investments in buying ships to start, this job has been primarily undertaken by the D.B. Turkish Cargo Lines as a first step or as a prelude to larger-scale Ro-Ro operations. The company started with four ships but unfortunately lost one of them because of a fire on board in the Adriatic Sea. For the time being , operations are being carried out on three lines with three ships.

These lines and ports of call are as follows;

1. Istanbul---Constanza--Istanbul : 1 sailing every day

2. Mersin / Izmir -- Venice/Trieste -- Mersin /Izmir: 1 sailing every 15 days .

3. Derince -- Trieste -- Derince : 1 sailing every week

In additional to the services given by the D.B.Turkish Cargo lines, Turkish Maritime Lines, a sister company, has been dealing with passenger and car ferries and providing services between major Turkish ports and inland waters (within the Sea of Marmara) and form major Turkish ports to Italian ports such as Ancona and Venice, indeed facilitating the road traffic considerably especially in the summer season when the holiday traffic from Europe to Turkey is quite intensive.Otherwise the situation on the roads could be catastrophic.

6.6.1. Problems and Difficulties in Ro-Ro Shipping in Turkey :

Ro-Ro shipping in Turkey has a lot of problems which actually prevent its development and do not allow successful operations as desired.

First of all the, vessels are not of sufficient capacity to meet demand and are not suitable for an efficient Ro-Ro operation in the modern sense. They are short sea Ro-Ro vessels built in 1977-78 in German shipyards with 14-17 knots of operational speed and have a dwt capacity of 2700 - 3295. They can accommodate vehicles (up to 60 TIR) stowed on the main deck and upper decks, which enables entry and exit from both stern and bow ramps.

As a matter of fact, those vessels were built for short- sea operations and therefore cannot accommodate drivers more than 12 truck drivers, which is definitely not sufficient.Although some additional cabins were built on these vessels, the truck drivers do not desire to stay in these over-night built cabins and complain a lot. They avoid

using ro-ro ships as much as possible, taking the risk and difficulties of driving on transit roads.

Due to the shortage of capacity, and congestion, and long waits for next ro-ro, lost time is another constraint on ro-ro operations. Truck companies complain a lot about their losses for that reason.

Ports are not well prepared for ro-ro operations. Although it is not as complicated as other port operations , many problems surface when a ship comes to port.First of all, the infrastructure and manoeuvering area for trucks is not sufficiently wide and conditions of roads outside the port is a catastrophy. For example, in the port of Istanbul when a truck leaves the port the driver finds himself in the middle of the city traffic, which is another bleeding wound.

Customs formalities take too much time and unfortunately customs officials are not co-operative with the port and shipping sector and their work causes a lot of delays.

Since the truck drivers are not seamen and not trained in that way, the ro-ro safety image becomes very important. No truck driver or truck company believes that those vessels are really safe and can resist bad weather conditions.This is perhaps due to an accident where 6 trucks went down while a vessel was in the Black Sea coming from Romania a few years ago.This accident frightened many people and no matter how wrong it is and how strange it is to have such an impression, they need to be convinced that these ships are safe enough. Moreover, it is not only truck drivers that are frightened by that accident but also insurance companies who charge

higher premiums for vehicles and cargoes carried on ro-ro ships.

Another reason for the avoidance of ro-ro ships by truck companies is that any truck which leaves the country by ro-ro has to come back again by ro-ro, perhaps to prevent confusion in customs formalities But, all the same it is not logical and companies can easily loose business because of the compulsory route that they have to follow. When this is added to the bad roads and formalities required in the Eastern European countries, the ro-ro trip really becomes an intimidating adventure for truck companies and drivers.

Nevertheless, despite many difficulties and inefficiencies etc. ro-ro shipping lines, especially those presently operating to Italy and in the Black Sea, are of paramount importance to the country. Trade with southern European countries, especially Italy which is one of the most important trading partners, is largely based on ro-ro shipping as a transport mode.

Therefore the five-year national economic development plans, a lot of emphasis is given to the development of ro-ro shipping and the rehabilitation of ports towards containerisation. Two ro-ro ships with higher capacities and capabilities were ordered by D.B. Turkish Cargo Lines from Swedish and Norwegian Shipyards and are expected to be delivered in 1991.

6.7. COST OF SHIPPING SERVICES IN TURKEY

If an analysis of losses due to the inefficiency of ships is made, it can be seen that time lost for repairs and maintenance constitutes 27 % of the total operational time in a year (According to a report made by a shipping line).

Again when an analysis of liner services in Turkey is made, it will be seen that the cost structure is quite different from a similar size Western liner company. According to the annual report of one shipping line, the distribution of costs as percentages, which more or less represents the costs for general Turkish shipping in general was as follows.

PORT COSTS	28.0 %
CREW COSTS	17.2 %
BUNKER COSTS	15.0 %
REPAIR & MAINTENANCE COSTS	10.0 %
INSURANCE & AMORTISATION COSTS	12.0 %
ADMINISTRATION COST	7.5 %
OTHERS (CHARTER MONIES ETC.)	10.3 %
TOTAL	100.0 %

This analysis shows us that the highest cost item is port costs which is the enemy of liner operations. This is because ships spend so much time in ports and operations require so much labour, which is very expensive in the US and European ports. There is no container cost specifically indicated mainly due to the lack of data, which itself is an indication of under developed containerisation in the country.

CHAPTER SEVEN

7. SUITABILITY AND ADOPTION OF CONTAINERISATION TO TURKISH TRADE AND TRANSPORTATION SYSTEM

7.1. Restructuring the Liner Shipping Sector

The greater part of the general cargo trade is carried by liner ships because they provide frequent, scheduled , advertised services between specified ports at each end of the route. However, the growth in the general cargo sector has not set shipowners' fortunes alight, according to the UN's sea-borne maritime trade statistics over the period of 1972-1980. The traditional components of the general cargo sector have shown very little growth ((e.g. tea, coffee, textiles, fibres, crude material etc.). The greatest growth in these components has been shown by commodities whose fortunes depend on increasing economic development and rising real incomes, such as foods and beverages, manufactures and finished products).

As a matter of fact, the case in Turkey does not differ from the above statement made for world trade.It's trade has been showing a dramatic change in the nature of the commodities and now covers a very wide range of commodities -from hazelnuts to motor vehicles- both in exports and imports.

But unfortunately, for the time being , the transportation system in Turkey, particularly the transportation of general cargoes has not kept pace with changing and rapidly adopted new innovations in the world such as containerisation.

A very small, insignificant portion of its trade has already been containerised and the remaining part

containerised. The concept of the container is still accepted as a kind of cargo rather than a new transport system. In many places, in the statistical information - container movements are expressed in weight, not in number of TEUs or anything else.

Presently, there are a number of containers moving around but the cargoes are being carried in those containers for the sake of safety, protection etc. rather than because of any particular saving in transport cost.

Since most of the trading partners of Turkey have fully containerised their trade or at least to a certain degree, Turkey can no longer stay outside of that development. Increasingly imports today are coming in containers and that pressure on the ports and shipping sector makes Turkey obliged to develop container ports and step into container shipping.

Furthermore, there is an advantage for Turkey in being late.It can hopefully make use of the experiences of others and avoid the mistakes made by them during the development of containerisation. For example, in building container ports, choosing ship technology is a very important issue for a developing country that cannot afford to adjust to rapidly changing ship sizes and therefore port equipment (gantry cranes etc.).

7.2. CONTAINER POTENTIAL IN TURKEY

As mentioned earlier the total foreign trade of Turkey is about 60 Million tons by weight and according to statistical information from the General Directorate of Ports and Shipping Affairs, a broad range of commodities is classified as general cargo such as agricultural products (Bagged), industrial products and some others. It accounts for some 33.3 million tons of cargo handled in Turkish ports in 1989.

Excluded cargoes in that classification are dry bulk cargoes like grain, ores, coal and liquid bulk cargoes like crude oil, liquid petroleum products etc.

Container throughput at all Turkish ports in 1987 was unfortunately given in tons rather than by number of TEU etc, mainly due to the lack of accurate data prepared by ports.(Dr. Muzaffer Gunay). It accounted for 1,430,677 tons and when an average weight of 14 tons per container - empty, TEU-FEU - is applied, corresponds approximately to 100,000 TEU container in 1987.

The import boom, resulting from reduced customs duties and a freeing of import restrictions has meant an increase in the number of containers coming into ports and therefore, container throughput at the port of Izmir only reached 106,809 TEU in 1989. (Source : Llyod's List, July 27, 1990).

Another point worth noting is that only 10 % of those containers were moved by Turkish liners, which indicates the degree of container shipping in Turkey to some extent.

indicates the degree of container shipping in Turkey to some extent.

7.2.1. Container Potential in the Country

Before going into an analysis of commodities to assess the container traffic potential of Turkey , it is better to define what the term container potential and container penetration mean.

According to Roy Pearson in his book Container Ships and Shipping, container potential is the best estimate that can be made of the amount of cargo that will be carried in containers once the transition is fully complete.

Container penetration rate is defined as the ratio between actual containerised tonnage , at any given moment in time and the maximum potential container tonnage assuming the containerisation transition were fully complete. The ratio is expressed as a percentage.

In order to estimate the maximum containerisable trade of Turkey in the year of 1987, the model used by Roy Pearson to estimate the container potential of SE Asian Countries and W.Africa could be used. The model is based on pragmatic experience of the container penetration rates achieved by the UK with its highly developed trading partners.

However, the best information that is presently available about Turkey's sea-borne trade does not cover the volume of each individual commodity exported and imported, but is given as a volume for certain commodity groups containing a number of cargoes of similar characteristics in compliance

with the cargoes in the UN's commodity group classification.

Therefore , even if it may not be a true estimation, averaging container penetration rates given on Pearson's list for certain goods under the group name that we have and estimating an approximate penetration rate for each group title could perhaps give an idea about the container potential of Turkey.

The commodity groups of which traded volumes are given in the available statistics related to Turkish trade and their contents by commodity names are as follows.

Commodity group name :

1.Crude Oil
2.Processed Oil - Naphta, ether, solvent, gasoline, motorine, .marine diesel etc.
3.Asphalt
4.LPG - LNG
5.Chemicals
6.Oils - Soya oil, Palm oil, coco oil, sunflower oil, etc.
7.Acids
8.Ores and other raw materials ;
Pyrites, sand, sulphur,calcium phosphate, cement, aluminium, zinc, bauxite, copper ore, pig iron, ferro chrome, manganese, coal, scrap metal etc.
9. Grains ;
Wheat and beans and seeds
10.Timbers
11.General Cargo ;
Dry fruits, peanuts, cacao and chocolates, tea, coffee, spices, fruit juices, medicines and medical equipment, vegetable products in cans, candles,

manufactured fertilisers, textile and clothings, fibres, wool, cotton, articles of papers, juts, carpets, leather products, furniture, electric machinery, agricultural machinery, wheeled equipment, cars and trucks, plastic material, TV-music sets, cycles, special machinery, sugar ,miscellaneous metal and wood products, misc manufactures etc.

12.Vantilated Dry Cargoes ;

Potatoes, onion, oranges and tangerines, semolina, flour, lentills, broad beans, dry beans, chickpeas etc.

13. Livestocks

14. Reefer Cargoes ;

Meat, fish, fruits and vegetables, margarine and fats, milk and yoghurt, some fresh semi-finished leathers etc.

Then, assuming that those cargoes were moved more or less in similar quantities which is the case, and averaging the penetration rates according to the quantities below the penetration rate for each group can be found as follows ;

Commodity group	**Estimated Penetr. rate**	**Potential Quantity**
Crude Oil		Nil
Processed Oil		Nil
Acids	10 %	155.544 Tons
Asphalt		Nil
Oils	10 %	35.978 Tons
Ores		Nil
Grains		Nil
Timbers	10 %	448.125 Tons
General Cargo	90 %	9.864.505 Tons
Ventilated Cargo	60 %	692.012 Tons
Reefer Cargo	70 %	525.509 Tons

Livestock	90 %	211.772	Tons
TOTAL		11.937.445	Tons

Actual Containerised Tonnage in 1987 : 1.430.677 T.
Max.Potential Cont. Tonnage in 1987 :11.937.445 T.
Container Penetration Rate in 1987 : 11.9 %

According to that rough but very pessimistic approach (against containerisation) the total containerisable tonnage in Turkey is 11.9 million ton in 1987. Applying the averaged TEU weight of 14 ton, that corresponds to about 852675 TEUs in 1987 if the transition were fully complete.

However , that was the case in 1987 and according to Lloyd's List, the container throughput at the port of Izmir only reached 106,809 TEU in 1989. Taking into consideration that the other major ports of Turkey handled more or less similar numbers of TEUs (in fact both Istanbul and Mersin handles more cargo than Izmir in general and both ports are equipped for containers with higher capacities than Izmir), the total number of containers handled in Turkey would be something around 300.000 TEUs in 1989. That represents about a 100 % increase in TEU numbers in two years' time compared to the container throughput in 1987, a sign that there are major developments in container shipping in Turkey.

7.3. ESTIMATED TRANSPORT COST OF TURKEY AND POTENTIAL FREIGHT FOR LINER SHIPPING SECTOR

7.3.1. Trade Volume Carried by D.B. Turkish Cargo Lines by Weight and Capacity Utilisation :

The total amount of cargo carried by that company in 1988 was 12.5 million tons (including oil, dry bulk and general cargoes) and characteristics of the carriages are as following :

8.1 Mil.Tons were carried between Turkish Ports

2.2 Mil.Tons were carried as import cargo

1.0 Mil.Tons were carried as export cargo

1.2 Mil.Tons were carried as cross-trades cargo

12.5 Mil.Tons TOTAL CARGO IN 1988

The share of its liner fleet in this amount of 12.5 million tons and its breakdown according to lines is as follows

Line	No Of Voy.	%	Cargo Volume	
USA	15	16.8	158.054	Tons
Continent-UK	80	40.2	377.718	Tons
Mediterranean	43	7.2	68.235	Tons
Adriatic	20	3.1	29.318	Tons
Red Sea-Bengal	26	19.4	182.459	Tons
Far East	11	13.1	123.445	Tons
T O T A L	**195**	**100**	**939.229**	**Tons**

7.3.2.Capacity Utilisation of D.B.Turkish Cargo Lines

Total Dwt of the liner fleet	=	282.384 Ton
Number of ships	=	38
Average dwt of one ship	=	7431 dwt.
Number of voyages done	=	195
Total potential dwt capacity	=	1.449.045 dwt
Total capacity used	=	939.229 dwt
Difference	=	509.816 dwt
Capacity utilised %	=	**64.8 %**

7.4.ESTIMATED POTENTIAL FREIGHT FOR LINERS IN TURKEY

According to the data available for 1988 ;

A. Total seaborne trade of Turkey was about 60 M.Ton

B. Total value of the trade was about 26 Billion $

If freight rate as a percentage of the value of the commodity is about 2-6 % for high-value goods and 10-30 % for low-value goods.(**Johnsson and Sheneerson**) Averaging them as 4 % for high-value and 20 % for low-value goods, then a general average rate of 12 % can be obtained as the percentage for freight within C.I.F prices of commodities.

In that case Turkey's sea transport cost is :

26 Billion $ X 12 % = 3.12 Billion $

C. Freight and Insurance revenues of Turkey in 1988 were about 0,9 Billion $ (900 Million $)

Hence : **3.12 - 0.9 = 2.22 Billion $** is the sum paid as freight to foreign flag ships.

7.4.1. Potential Freight for Liner Shipping

In order to estimate the potential freight for liners, the trade shoud be seperated into low-value and high-value commodities (even if not necessary). According to the containerisable cargo estimations based on UK penetration rates and UN cargo classifications, Turkey's liner trade volume in terms of containerisable cargo was found to be 11.9 million tons as containerisable cargo volume. When valued according to the statistics this represented 5.834 Billion $ as exports and 6.587 Billion $ as imports and together this accounted for 12.421 Billion $ as the value of the cargo available for liner shipping in Turkey.

If 5 % of the value of the exports is applied 12421.5 * 4 % = 496.86 Million $ is found to be as the potential freight for liners in Turkey.

7.4.2. Share of Turkish Liners

It is very hard to calculate the actual amount of the liner cargoes carried by Turkish liners mainly due to missing data on the volume and the value of the commodities carried, especially those carried by private companies. Therefore an estimated volume of liner cargo is going to be added to the volume carried by D.B. Turkish Cargo lines (for private company carriages) in order to find the total volume of liner cargo .

The volume carried by D.B.Turkish

Cargo Lines liner fleet **939229 Tons**

30 % of the above volume estimated

as cargo carried by private liners: **281768 Tons**

T O T A L : 1220997 Tons

The weight of the liner cargoes estimated according to the statistics is about 7.5 Million tons within the total 52 Million tons of sea-borne trade.

It corresponds to a percentage of 13.3 % which means 13.3 percent of the total seaborne trade is liner cargo.

If that percentage, although it is given in weight, is applied to the potential freight volume of 496.86 million $;

496.86 $ * 13.3 % = 66 Million $

is found to be as the revenue received by Turkish liners within the total liner cake. This is quite a similar figure that is consistent with the actual figures confidentially indicated by a liner company.

However, the losses are enormous, that is:

496.86 M$ - 66 M$ = 430.86 M$

paid to the foreign liner companies.

The percentage of 13.3 % is also quite compatible with UNCTAD's estimations for the volume of world trade carried by liners.

CHAPTER EIGHT

8. RECOMMENDATIONS AND CONCLUSIONS

8.1.Implications and Requirements of the Liner Shipping

The development of a sufficient liner fleet with high quality requires financial support and its deployment requires cargo support.

However, liner services should not be left to only the National shipping company, which presently is doing its best with its limited capacity, but also the private sector should be invited into liner business in Turkey. They may remain outside the conference system and can form a strong competitive power against conferences and non-conference foreign lines already enjoying the lack of competition from the Turkish liner trade or they can form a consortium together with the state owned company and other liner operators presently in the market.

8.2. Cargo Support

Turkish ports are free and open to all foreign vessels for business, and they continue to provide an attractive avenue of employment for foreign flag ships. Obviously Turkish shippers have become their valued customers. In fact they never had it so good in terms of services, freight rates and other benefits.

Nevertheless, one of the objectives in developing Turkish liner shipping is that it is expected to serve Turkish trade so that even the smallest

production capacities (mentioned as a potential capacity earlier) could be better utilised.

Foreign trade regulations from the transport point of view should be revised and a new system of cargo reservation for a fair allocation of liner cargo is urgently needed.

One may wonder wheter it is contrary to the liberalisation efforts of the government, but today even in the ultra-liberal economies there are a number of similar, direct or indirect protectionist measures (for example 50-50 bilateral agreements made by the USA to protect US Shipping). Shipping industries are provided government funds and substantial freight subsides are given by many countries.

Otherwise, without sufficient tonnage and modernisation of the fleet,it would a financial disaster. Since Turkish liners do not have comparable frequency and quality of services, especially container services, a cargo reservation may lead to serious delays and un desirable practices, ultimately affecting the exports adversely. The costs of shippers could go up and their competitiveness eroded.

The primary objective of the new legislations should be to help Turkish flag ships to carry more export cargo, and to be more specialized, which is desirable and can be achieved perhaps by bringing the private sector into liner shipping. The legislation is supposed to help not only the state owned company but also the private lines which are not part of the scene of liner cargo yet.

The cargo sharing principle among the members of a shipping conference would work on a 40:40:20 basis. However the cargo carried and revenue received by Turkish liners is evidence (given earlier) that this principle is not working presently in Turkey's liner trade, either because of the lack of capacity or because of quality.

Although Turkey has already been receiving about a 40 percent share in its overall sea transports, the code applies to liner conferences only; other traffic, including dry and liquid cargoes carried by non-conference vessels, is not covered by the code.As long as a substantial part of Turkish exports move in FOB terms, the efforts to establish a cargo base for Turkish liners may not be effective. Therefore, they have to be directed towards either selling at CIF or CF prices or they should be given some other incentives to use Turkish flag liners.

One may say that it is a matter of power to be able to sell at CIF prices. That is true but it may not be valid for all sorts of goods.Nevertheless, at least for exports of some commodities like cotton, tobacco, and hazelnuts, this can definitely be done and moreover, as long as the rapid growth of Turkish trade continues exporters will come to such a power some day.

On the other hand, this is essential for the establishment of proper liner shipping at least for a certain period of its infancy.

8.3. Participation of Private Sector

The engagement of private companies in liner shipping in Turkey can cope with that problem. Because they will not be restricted in their trade routes, schedules or frequency of sailings. That means they can move their operations to certain areas to meet peak demands as well as charter vessels as they wish.

However, doing this is not as easy as to talking about it, there are barriers to entry into liner shipping of two basic kinds: one economic and the other institutional.

The economic barrier refers to the cost of investment which has gone up substantially with the advent of modern container vessels. Liner shipping requires not only expensive vessels but also quite a high investment in containers and shore side facilities. The most important institutional barrier to entry into liner shipping is the conferences, particularly the closed conferences. Even for entry into open conferences as in the USA, the newcomer is required to prove his ability to provide regular services in the trade he seeks to enter . Product differentiation as a theoretical barrier in the liner shipping market may not be significant in Turkey because the number of special commodities in significant amounts in Turkish exports is not high. Product differentiation could be valid for tobacco, cotton, and perhaps hazelnuts. Other commodities are spread over a wide range in terms of type.

Another solution could be that cooperation may occur between new National flag and old established liner companies on the collective conference lines.

Small Turkish firms could gain the benefit of economies of scale by joining together with other firms in terminal facilities, container pools, and joint sailing agreements, -for example, creating conditions where the number of sailings yearly by the new line may be fixed in accordance with the limited tonnage initially available.

The booking of cargo may also be done by common agents and mutual head offices.

Newcomers need to be protected from the adverse effects of the possibly poor services offered by cargo and freight pooling arrangements through the allocation of a progressively increasing share of the market.

In considering the trade route choice, attention should be given to the potentialities of new and smaller trades and entry to existing ones could be realised after progressive improvements and completion of the structuring process.

The question is whether newcomers should apply to join a conference or should operate as independents in direct competition with conference members. The answer is that the purpose of increasing the number of National participants in liner shipping is to create competition and therefore bring the liner freight rates down to the benefit of Turkish exporters inparticular, so that small enterprises (potential exporters) could enter the export business.

Since full container ships offer better services at lower freight rates (assuming a working competitive system composed of conference lines, foreign independent lines and national independent lines) shippers can differentiate between various liner services making use of having competitive independent liners against conference systems that charge the same freight rates.

This will most effectively benefit the interests of the country's trade. To increase the Turkish liners share in the market, they will offer lower rates and quality services. Because the existing liner charges are high and there is a lack of competition due to an already shared market, it is unnecessary to retaliate by starting a rate war.

Furthermore, even if they do, the new lines will be able to operate at lower rates if they receive some preferential treatment and perhaps subsidies for a certain time.

8.4. Choice of ship technology ;

One of the important factors is the technology to be applied, particularly in terms of ship type. There is no doubt the modern technologies have been applied in container shipping and further developments are expected.

However, these developments have been applied only to the modernly structured trades, which itself is the reason for the further development of transport technology.

The advantages of gearless container ships cannot be underestimated, because taking the cranes off the

ship increases its carrying capacity and dockside cranes can be designed to operate faster than shipboard cranes.Nevertheless, today Turkish trade does not require the application of the latest technologies because it is still at the beginning of a transition to containerisation.

Consequently, designing the wrong ship can be a serious mistake of the line, so that the importance of proper analysis should be taken into consideration.

Therefore, the initial strategy should be to replace the fleet gradually and use containers to reduce the cost of cargo movements from origin to destination by using full container ships with shipboard cranes in order to be self-sustaining by the time Turkish ports reach a higher level of development.

Government interventions in the acquisition of new vessels can be harmful and even the state owned company that has to follow strict bureaucratic procedures to replace ships during the period of transitions should be allowed to invest freely. On the other hand, private organisations can get quick delivery of their vessels by using foreign shipyards for their new buildings or by conversions, which in the short run is a logical solution for a better utilisation of the existing fleet.

Productivity can be greatly increased with container ships. While a break bulk ship spends about one half of its time in port, the full container ship would spend as little as one fifth of its time in port.

With this increase in productivity fewer container ships would be needed to replace a fleet of break

bulk vessels. Reduced turnaround time, as a result of rapid cargo handling, would mean substantial savings with containerisation. Carrying the same amount of cargo by applying economies of ship size, the need for increasing tonnage will be less significant than the modernisation of the fleet.

The use of conference agreements and various pooling agreements may also affect ship size and speed.If a line cannot charge lower prices to attract more cargo for a large economical ship, there is less advantage of economies of scale in the size of vessels. Also if a company cannot compete on price, there is an incentive to build faster ships than would otherwise be economically optimal. In this way , a firm can have an advantage by providing faster service at the same price.

According to K. Sletmo a whole fleet must be replaced , not just one vessel. Liner system differ in this respect from other forms of ocean transportation where it is possible to enter the tramp or tanker market with a single vessel. Liner services require a fleet of vessels in order to provide adequate service in the market, and the fleet has to be coordinated in terms of vessel speed and size. The tendency is therefore, to replace the entire fleet on the trade route rather than a single vessel at a time."

If the fleet's cargo share of 40% could be shifted to the high - value commodities the economy would benefit much more, although the tonnage would remain constant.

8.5. Use of Feeder Services and Choice of Ports of Call

Flexibility in operations and sailing requirements (if not to a large extent, at least not refusing any small shipment which easily can be carried by providing feeder arrangements with other liners at certain transshipment ports) may improve the quality and reliability of services. Relying on liner services in their trade relations, shippers of small cargoes can feel confident, and make long term plans..

For example any small shipment destined to Indonesia which is not on the Far East route should not be refused by liner companies and service can be given through a transshipment from Singapore as a regular port of call on that line.

Since Turkey is a multi-port country, the use of feeder services and the choice of ports of call in liner services need to be carefully analysed.

Presently, liner services are provided on the multi-port basis at home and abroad on some routes like the US,Far East and Middle East lines.

This is mainly due to having a large number of trading partners as sufficient cargo can only be provided in that way.

Although the number of main ports to call theoretically depends on the volume and types of cargo generated , shippers in Turkey tend to use and insist on the closest port in order to reduce additional transport cost. Many shippers in the

country wish to use the piers within their production plants.

Another reason for that is that wide range of commodities in terms of type, shape ,size and other characteristics does not allow the use of feeder services so that ships have to go the closest port if the cargo can not be brought to a main port.

Industry in Turkey is located intensively in three main areas.The majority of the developed industries are concentrated in the Aegean region where Izmir is the main and biggest port and in the Marmara region where almost every port has significance, including Istanbul , Bandirma and Derince and many other small ports of industrial plants. In the Marmara region services are provided to the paper, leather, electronics, chemical, pharmaceutical, and plastic industries as well as many others like the construction material industry and manufacturing industry.

Exporters of cotton tobacco and agricultural products are concentrated in the Aegean and Mediterranean regions.

Therefore, the practice of using and insisting on the closest port regardless of its capabilities forces liner operations to apply multi-port calling policy. Consequently, this practice has been caused considerable increases in port costs and time losses. Shipowners naturally avoid paying unnecessary high port costs even for small size shipments.

In the consideration of liner shipping development efforts in Turkey, a careful analysis of the optimal extent of the service range needs to be made for a simultaneous minimisation of shipping , port and shippers' costs.

Which ports are to be included in liner services as base ports and how should the required feeder transport be organised for cargo generated in the other large number of Turkish ports on it's 8000 km. coast line?

This issue also will have an effect on:

1) ship types in terms of gear and speed,

2) port facilities,

3) container services, and

4) the question of which ports are to be consentrated and constructed as container ports.

Destinations of import cargoes cover a large area (perhaps the whole country). Transit cargoes tow Iran and Iraq also play an important role here and three ports mainly Mersin, Iskenderun and Trabzon, have inevitable become the liner ports of call.

Because of all these reasons , it is very difficult to establishe a few main ports of call for liner services in Turkey.

However, the advantage of calling at the minimum number of main ports and going for time saving and low port costs by providing feeder services are subject to certain conditions. This may be a question of profitability. Moreover, what mode of

feeder is to be used also is a question of the capabilities of the country.

In Turkey, the rail freight liner system is not at a desirable level but since the majority of the Turkish fleet consists of small vessels of lower than 4000 Dwt and the road transport in the country is not actually bad, a combination of road and sea feeder transport system can be established.

For example the three main ports of the country Istanbul, Izmir and Mersin where industries are concentrated can serve as main ports and all cargoes generated in other ports can be brought to these ports by feeders.

Such an application may help to increase the quality of port services in these ports by concentrating the investments there. It also will enable liner operators to save time and reduce costs, and to the increase turna round of ships. A better fore planned stowage and therefore better utilisation of ship capacity is another advantage of the feeder system.

8.6. Future of Ro-Ro Shipping

Development of Ro-Ro shipping in Turkey is of paramount importance because of the reason pointed earlier. Operation must be the improved and problem already known must urgently be solved.

As a matter of fact, since all problem are known, it is just a matter of paying more attention to different voices from interested parties particularly road transport sector and shippers of transit cargoes, Agents and so on .

Operations must extended although the number of ships presently available is few, new investments on ships although already planned must be speeded up as well as establishing new lines.

The load of presently operated Istanbul - Constanza line should be decreased. Because the traffic with in city already makes the city suffer should be moved to another area. For example most of the trucks making one of that line goes to inland Anatolian cities through Istanbul. If a new line between Constanza and Samsun one of the (Black Sea ports) is established an important portion of the traffic will move to that line which will help a lot to decrease driving time where as the additional sailing time will much less than it. Distance between Istanbul - Constanza is 190 miles and takes about 12 hours with present vessel operated on route, with 16 knots speed. Distance between Constanza - Samsun is about 330 miles for the same ship, it takes about 21 hours.

So the trucks destined to Eastern Anatolian cities departing from Europe can save hundreds kilometres by heading to Samsun instead of Istanbul.

However, Ro-Ro operator must study the cost and pricing of the service. It's price always must be less than the cost of driving for a truck to be more attractive.

Furthermore services, and accommodation to be provided to drivers should be improved to a higher standard of the vessel. No need to say about safety image but much need to be done on renewal of regulation regarding customs and ports service

facilitations, In order to decrease delays which may make services more reliable.

A cooperation between Operators - Port authorities and customers will be useful .

8.7. Role of the Government

In a developing country, any desirable radical change in the structure of liner shipping towards modernisation and development cannot easily be achieved just by shipping enterprises without state intervention and aid not only to the state owned enterprises but also to the private enterprises.

Therefore, as it was in the early 80's, Turkish shipping certainly needs the guidance and encouragement of the state for a higher quality, modern and purpose functioning liner fleet as well as for ports and other fields of shipping.This is quite an important issue for the continuation of a stable export industry which is highly dependent on the transport sector in terms of competitiveness and entering new markets.

The most urgent things to do are to facilitate existing services from the operations point of view through the renewal of existing customs regulations and procedure documentation requirements and the rationalisation of ports in order to increase efficiency for a better utilisation of available capacities.

The Extensive use of management techniques and information systems, a reasonable pricing policy and some other basic but essential needs for efficient liner services such as priority for berthing are of paramount importance. Also, certain facilities are

necessary to offer further services like door-to-door transportation including the improvements of the inland transport system and so on.

This is what can be done in the short run by the government. But it is definitely undesirable if a proper implementation of updated regulations and transport policy is not guaranteed with sufficient understanding of its importance ensured through an intensive training programme.

In the long-run , much needs to be done by the government in a well prepared calendar. Apart from the completion of all necessary infrastructure there are two broad areas of state assistance to the shipping sector in order to achieve a higher share in the transport of foreign trade not only to serve it but also to form a considerable source of foreign exchange revenue for the national economy.

These areas financial assistance and the granting of some preferences to the national flag carriers.What is important here is that since the foreign trade of the country is considerably dependent on liner shipping, particularly in exports where the Turkish liner sector is not active yet , all state assistance and preferences should primarily aim at the technological and operational development of liner shipping and ports.

Financial assistance can take the form of construction and operation subsidies and special financial privileges like tax exemptions or reductions , low interests rates etc.

However, shipowners should have a freedom to purchase vessels in any country they choose.Because

expecting to feed the national shipbuilding industry may not be effective because its inefficient and limited capacity which results in long delivery times and so on may form an obstacle to such an ambitious move in the shipping sector.

According to the experiences with the last incentives given in the early 80's , those already in the shipping sector who have a some experience, particularly in the liner business, should be given priority rather than total newcomers. Incentives should be restricted to the foreign trade and exclude coastal shipping and cabotage transport on the Turkish coasts.

Construction subsidies can be effective to lower the total costs of a liner operator by reducing the capital cost which is very important in liner shipping.

Operating subsidies can be useful for deviating tramping companies into the liner sector with some conversions in ship types and chartering ships for a while.That may have an effect on the total supply or suitable tonnage and enable quick establishment of new lines.For example, these subsides could be applied on certain rotes where the trade volume is not sufficient or where the competitors are too strong. So, providing some reductions on port dues, docking fees, wharfage rates, pilotage etc. or some tax reductions on crew wages, which are already lower than ingeneral practice, could enable shipowners to offer lower prices and get sufficient cargo for survival.Tax free crew wages may solve the crewing problems of Turkish shipowners who nowadays really face many problems to man ships.Because most

of the qualified Turkish officers do not want to work at sea, claiming that it does not pay well.

Allowing shipowners to employ foreign crew is not a recommended way and not fair because there is already a considerable percentage of unemployment in the country.

Preferences, as another form of state aid, can hcontribute a lot to the survival of the reorganised liner shipping sector. The easiest practice is the 50:50 shared trade by bilateral agreement. There should not be any discrimination between state owned lines and private lines in the transport of exports and imports of the state economic enterprises and military cargoes.Liner operators should be given priority unless there is a surplus in supply of tonnage.

Eventually, the use of Turkish liners should be awarded in one way or another which will force exporters and importers to insist on selling at C.I.F and buying at F.O.B prices in order to have the right to choose the carrier.

8.8. Organisation of a Shippers' Council

The capacity of shippers to manage their ocean transport arrangements will no doubt be constrained if they deal on a one by one basis with shipowners.

As, said earlier, there are a large number of small enterprises with different production capacities in Turkey and it is not too hard to understand the imbalanced negotiation power between shipowners and that group of shippers in Turkey. This is just because of the non-existence of a shippers council adding the officialy non recognised and uncertain

representation concept through the forwarding system, shippersis Turkey are left to cope their problem themselves.

They have no influence on national policies, regulations, industiral relations and other non-commercial matters which would otherwise be beyond the capacity of the individual shipper. There are some exceptional organisation formed by private sector and actually influence above mentioned policies. But they are mostly related to the other subjects rather than transport sector.

Establishment of a succesful Shippers Council is necessary anymore in Turkey. It will have a broad acceptance in the community and will encourage small enterpreneours towards export industry and they will have the moral if not physical support of the government.

Increasing the general awareness of shippers on their own problems and possible solution to them can also be achieved by the organising of seminars, workshops etc. on detailed matters of legal, economic, commercial, technical or practical. Younger stuff in exporting and importing companies can be encouraged in these activities.

8.9. Development of Freight Forwarding Works

Indigenous freight forwarders have a significant role to play in promoting the economy of developing countries. They promote trade, particularly export trade, by procuring economic and efficient means of transport. By supporting the national carriers and insurers, they effect savings in foreign exchange. They also make contributions in the field of trade

facilitation by simplifying trade procedures including documentation, in order to effect saving in the total cost of transport. There are a number of firms in Turkey, acting as intermediaries in shipping and road transport fields. They are infact companies, private in status and apply modern management techniques but unfortunately can not help development of door-to-door transport system mainly due to strict regulations and negative image in related society as the commissioner people who exploit shipper without doing nothing.

Therefore, representation concept must be purely accepted and those companies must be given the opportunity to use port facilities like in Western ports to improve the quality of transport services. These will also help unemployment problem. Because if they enlarge their activities and business to warehousing, packing, container trucking which is an important issue to make maximum use of containers and so on they will need a number of personnel to be employed in these areas.

They will ease the customs work if they are recognised officially and given opportunity by customs authorities.

Presently, they are asked some kinds of guaranties etc. when they are intended to act on behalf of shippers or shipowners etc. and there are still uncertainities in their status and rights and responsibilities in case of legal problems like smuggling or any other dispute etc.

Concluding the question of government assistance, one important issue in Turkey is that, the merchant marine although presently under the supervision of

the Ministry of Transport has in fact been subject to intervention by many ministries. Therefore, all activities related to the merchant marine should be governed by one hand in order to create new policies and solve problems more effectively.

It could also help to improve co-ordination in the practical sense between related industries and associations, for example between potential shippers' councils and shipowners' associations and so on.

8.10. Managerial Recommendations and Conclusions

Container shipping is a capital intensive business and good management is no doubt the most essential issue in its operations and planning.

Therefore, before entering the liner business a company must study the cost structure of competitors as well as its own. Because for a company already in the liner business with break - bulk operations, changing to containers will produce only a marginal operation.However, for a new company it is different.

All the same, it is not only newcomer who face difficulties. Break-bulk operators changing to container shipping may also suffer from many disadvantage. For example, a larger foreign operator of container ships can reschedule its operations, add new services and routes and perhaps handle cargo at very little incremental cost, as containerisation is subject to economies of scale.

Therefore, shipowners intending to enter liner shipping are recommended either to go for consortiums with other firms or to go for joint -

ventures in order to avoid financial and operational problems by making use of a brader base of experience.

The management of liner companies should pursue the cargo potential and growth that can physically and economically be carried by their fleet of specialised ships.

For probitable and succesful operations, necessary analysis must be made regarding the pricing policies, scheduling, using feeders, applying techniques of economies of size of ships, consolidation of cargoes. In any case, the consultation mechanism must be used without any hesitation because the cost of consulting will never be higher than the cost of losses due to any wrong decision made in the shipping business.

Container shipping as the most modern transport system in a sense, requires development of skills, new knowledge and qualified personnel.Therefore, training, particularly in a country where shipping is the only field where there is a shortage of specialized training, is essential and should be given a lot of emphasis.

In order to make best the use of available financial resources, equipment, ships and all other items should be chosen with care in accordance with the realities of the country and not just for the sake of having them.

Applying computer-aided techniques in daily operations and evaluations of those operations as much as possible will provide the advantage of being able to handle a great number of variables, such as

speed, accuracy etc, while its only significant disadvantage may be the cost, which actually is no longer frightening.

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