ROAD FREIGHT PRIVATISATION IN EGYPT
A COMPARATIVE ANALYSIS WITH
GREAT BRITAIN AND HUNGARY

by

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ABSTRACT

ROAD FREIGHT PRIVATISATION IN EGYPT
A COMPARATIVE ANALYSIS WITH GREAT BRITAIN AND HUNGARY

by: Nabil Mohamed Abdel Fattah.

Egypt, along with other countries in the world, is going through an economic transition from state control to a more market orientated economy. As part of this process, road freight transport is undergoing a process of privatisation and deregulation. There are many possible approaches which can be adopted, depending somewhat on the desired outcome of the process and economic philosophy of the country. Many countries have already gone through the processes of road freight privatisation and deregulation; some much more recently (Hungary) than others (the UK). At this early stage of road freight privatisation in Egypt, it is important and valuable to the policy maker to identify alternatives available for the privatisation process, problems it may be facing, as well as its impact on the road freight industry. Using a qualitative approach, this research attempts to explore the issues relating to privatisation of the road freight industry in Egypt, in terms of; the impact of privatisation, the role of freight management, the best method of privatisation, problems facing privatisation of the road freight industry, and finally treatment of external costs under privatisation. The overall objective of the research is to investigate and analyze the structure of the road freight industry, its cost, and how privatisation of the industry is approached under three different regulatory systems (the UK, Egypt, and Hungary). This should prove of value to countries in a transitional stage towards deregulation and privatisation and, in particular, to Egypt. The literature review is used to develop a conceptual model relating to economies in transition. This is then transformed into an operational model using the Delphi technique. The Delphi survey took place in both Egypt and Hungary, with panels comprising; academics, operators, and governmental officials. The results of the survey show that, unlike Hungary, there is no lack of available capital to achieve privatisation of road freight in Egypt, and that awareness of the road freight external cost is higher in Hungary than in Egypt. But in both countries the resulting increase in unemployment is one of the most important problem to face privatisation of road freight.
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Signed ........................................

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND.

The function of transport is to move people and freight from one place to another. In the case of freight transport, this function will be moving the freight from where it is produced to where the manufacturing processes may be carried out (in the case of producer goods) or where the goods will be purchased or consumed (in the case of consumer goods). The product of transport has been defined by Hibbs (1982) as a safe arrival, whether of passenger or goods, in accordance with the advertised schedule.

Transport services may be provided by both public and private sectors. The ownership and the relative importance of these sectors in the national transport system is subject to the economic philosophy of the society. In some societies, the infrastructure of the transport system is provided by the public sector, while the other transport facilities (such as terminal and depots), and the operating of the system itself is provided by the private sector. In other societies the entire national transport system (infrastructure, facilities and operating the system) are provided and owned by the public sector. In yet other societies, private ownership includes not only the facilities and operation of the system, but also the transport infrastructure. In terms of operating the transport system, the forms of ownership in the transport sector may vary between the sole
proprietor, the partnership, the limited liability company, the public trust, the public corporation, the municipality and the state department (Faulks, 1982).

Freight transport is an important function in modern societies. It is the instrument to bridge the geographical gap between the producers and the consumers since the producer and consumers are rarely in the same place (Benson and Whitehead, 1985). Road freight transport is the dominant freight transport mode in most societies, because of the advantages which road goods vehicles can offer to the customers, such as flexibility, speed, door to door delivery, low capital investment, and usually no need for special packing (Quayle, 1993). Furthermore, even where other modes of freight transport are used, at least some part of the journey is often done by road freight transport.

1.2 THE RESEARCH OBJECTIVES.

Egypt, along with many other countries in the world, is going through an economic transition from state control to a more market orientated economy. As part of this process, road freight transport is undergoing a process of privatisation and deregulation. It is important that the transition is made as smoothly as possible, and that the best method of transition is chosen. There are many possible approaches which can be adopted, depending somewhat on the desired outcome of the process and economic philosophy the country is seeking to adopt. Many countries have already gone through the processes of road freight privatisation and deregulation; some much more recently (Hungary) than others (the UK). It is important that the lessons learned
from other countries are not forgotten or ignored in the designing of Egypt's privatisation process. A problem during the transition phase is overcoming the fears and uncertainties of those involved in, and responsible for, the road freight industry.

At this early stage of the road freight sector privatisation process in Egypt, it is important and valuable to the policy maker to identify alternatives available for the privatisation process, problems it may be facing, as well as its impact on the road freight industry.

To achieve that, the objective of the research is to investigate and analyze the structure of the road freight industry, its cost, and how privatisation of the industry is approached under three different regulatory systems (the UK, Egypt and one former Eastern bloc country). This should prove of value to countries in a transitional stage towards deregulation and privatisation and, in particular, to Egypt. The selection of a former Eastern bloc country (Hungary) was made in the light of previous works about the East European road freight industry (e.g. Roe, 1992).

1.3 THE RESEARCH PROCESS.

The adopted process to achieving the research objective as described above is shown in Figure 1.1, which could be described as the following:

(1) Investigate the structure and costing procedures of the road freight industry in each country.

(2) Investigate the road freight privatisation programmes in each country.

(3) Develop a conceptual model of road freight privatisation relevant to transitional
economies, and in particular Egypt.

(4) Transform the conceptual model into an operational model.

(5) Undertaken an international comparative empirical study.

This process is outlined in Figure 1.1.

1.4 CHAPTER DEVELOPMENT.

In the light of the research objectives, and the resulting processes, as described above, the research starts (chapter two) with a literature review of privatisation, its definitions, objectives and techniques. Chapter two also examines the importance of internal and external costs of road freight in the context of privatisation. In chapter three there is an investigation of the privatisation process in Egypt and the structure of the road freight industry. Chapter four focuses on the privatisation processes and programmes for the UK and Hungary. There is also, for the purpose of comparison with Egypt, an investigation of the structure of the road freight industry in the UK and Hungary, in terms of the regulations controlling the industry, the physical components of the industry, and its performance.

International comparisons are often difficult, not least because of differing availability and presentation of the statistics. In Egypt, and to a lesser extent Hungary, there is a shortage of detailed and reliable statistics. In contrast, statistics and literature on road freight in the UK are reasonably available. In the latter case, the use of sources is restricted to areas directly relevant to the primary comparative study of Egyptian road freight privatisation. Another problem with studies of more than one country is that
information is not always directly comparable.

The literature reviews are used in chapter five to develop a conceptual model. In chapter six, there is an investigation of methods of data collection suitable for the research. A comparison between qualitative and quantitative research approaches, is also found in this chapter, leading to the selection of a qualitative approach for direct field studies in Egypt and Hungary. A review of the qualitative approach techniques then takes place, and the Delphi technique based on panels of experts (e.g., road freight operators, academics, and officials) is selected to apply in this research. It was considered that this was the most appropriate form of enquiry given the nature of the topic, and unlike the UK, the lack of tradition of industry-based external research in these countries. The empirical study (the Delphi survey) is described in chapter seven. A discussion of the findings and results of the survey are, also, given in chapter seven. Chapter eight contains conclusions and recommendations.
Figure 1.1: The Research Components and Process.

Privatisation

Identify Privatisation Objectives of Privatisation Process of Privatisation Techniques and Methods of Privatisation

In Market Economies

Britain

In Non-Market Economies

Egypt Hungary

Report A

Road Freight Industry

Britain Egypt Hungary

Structure of the Industry Costs of Road Freight

Physical Components Performance Internal Cost External Cost

Regulation

Fleet Population Fleet Composition Goods Lifted Goods Moved

Operating Cost Overhead Capital Cost

Associated with the Environment Associated with Social Consideration Associated with the Infrastructure

Report A

Continued ...
Figure 1.1 .. continue.
The Research Components and Process.

Source: The Author.
CHAPTER 2

OUTLINE OF PRIVATISATION

2.1 INTRODUCTION.

Privatisation, or the sale of state-owned assets to the private sector, has become a major trend worldwide. This trend, which began in the 1970's in Chile, gained international prominence with the British government's privatisation programme during the 1980's. The idea of reducing state involvement in industry and commerce is not new. What is new is the drive to reverse the intervention of government in the economic life of many countries on a large scale. The movement is already under way in many countries of the world, and the spread of privatisation is now very fast.

Following the Second World War most of the developing countries started developmental activities towards industrialization, which was considered at that time as synonymous with development. With limited domestic capital and previous often colonial capitalist development, state ownership seemed necessary to mobilise national resources to achieve development. The 1980's marked an end to this era, and saw its reversal. The reasons for this change seem partly due to dissatisfaction with the performance of state-owned enterprises and partly ideological (United Nations, 1992). The inefficiency and low output of the nationalized industries has been widely acknowledged (Adam Smith Institute, 1986), and it has been argued that private ownership provides the incentive to improve cost efficiency (Liu, 1995).
2.2 STATE SECTOR CREATION.

It is possible to make a distinction between the state sector created in developed countries, and the state sector created in developing countries (Ramanadham, 1991). The state sector created in the developed countries, such as the UK, resulted mainly from nationalisation of existing enterprises. In the developing countries, such as Egypt, the state sector resulted partly from nationalisation of existing enterprises, but mainly as a product of governmental sponsoring (Sabry, 1969). The active role of the state in the economy was justified in some countries, such as Egypt, by economic independence, while in some other countries, such as Hungary, it was justified ideologically. As a result, while the private sector had a role to play in the national economy of Egypt, the state sector took over all the major economic activities in Hungary, and the large-scale private sector was demolished.

Bouin and Michalet (1991) identified three degrees of state involvement in developing countries: state dominated, state promoted, and serving a special interest. However, the economic reasons for state ownership revolve around the issues of natural monopoly, the need for economic planning, the advantages of a stabilisation policy of direct industrial intervention, redistribution of income and/or wealth, and generally to achieve maximum output from the limited resources (Helm, 1986, Helm, 1989 and Lawson, 1994). It was also assumed that the state sector would seek to maximise welfare (Molyneux and Thompson, 1987). In all cases, nationalisation results in changes in the balance of power within the national economy, from private sector to the state, where decisions on prices and investment are taken out of the private sector.
and shifted to the state. Thus, nationalisation leads to a new balance between the private and the state sector (Bos, 1986). The extent of the state sector (public enterprises) could be measured by the proportion of public investments. In Egypt, public investment accounted for 89.6 per cent of total investment in the manufacturing sector during the period 1969/76 (United Nations Industrial Development Organisation, 1979).

Mention here should be made of the fact that the nationalisation process in the developed countries, such as the UK, took place within the same economic model (market economy model), while in the other countries, such as Egypt and Hungary, the nationalisation processes took place in combination with applying a centrally planned economy model. This point has implications for the privatisation processes. In the market economies, such as the UK, privatisation is just a transfer of ownership from the state sector to the private sector, within the same framework of society. In non-market economies, such as Egypt and Hungary, privatisation is a part of the whole operation of economic reform, which is more than transferring the ownership from the state sector to the private sector, it includes replacing the centrally planned economy model with a market-orientated economy model.

2.3 THE RELATIONSHIP BETWEEN OWNERSHIP AND PERFORMANCE.

The performance of the state-owned enterprises has been the subject of criticism. The criticisms were related to their lack of profitability and lack of efficiency, due to poor allocation of resources, and poor management. It has been suggested that the
productivity of the state sector enterprises is generally lower than that of private sector. Also, the state-owned enterprises were questioned about their contribution to the total government deficit (Bouin and Michalet, 1991), where in the developing countries, in particular, it was clear that the governments used the state sector to achieve some social objectives, through imposing constraints on the enterprises under their control. For example, they may supply goods and services at low prices, and provide opportunities to reduce unemployment, resulting in poor financial results. It is also argued that the nationalised industries served social objectives through their vast financial deficits (Elits, 1979). Liu (1995) mentioned that one obvious problem is that the state-owned enterprises are often given wider social objectives, which may well result in poor productive performance. On the other hand, changing and complex government priorities make it difficult for the management to follow consistent goals (Ferner and Colling, 1991 and Ramanadham, 1991).

Although Mayer (1989) argued that the empirical studies show little direct relationship between performance and ownership, Yarrow (1986) mentioned that the evidence suggests that privatisation led to improved performance. For example, in a study comparing the performance of two Australian airlines, Davies (1971) concluded that the private company was more efficient than the state-owned company. Also, in a study including 500 corporations in the USA, of which 419 were private enterprises, 58 state-owned, and 23 mixed enterprises, Boardman and Vining (1989) concluded that both mixed enterprises and state-owned enterprises performed worse than the private enterprises.
The way in which private ownership operates differently from state ownership is explained by Davies (1971) by the ability to transfer the ownership (exchange the property rights). Since ownership in the state sector is untransferable, the costs and/or rewards of a decision are less fully borne by the decision maker than under private ownership. Liu (1995) mentioned that the switch to private ownership will result in improved cost efficiency, by sharpening the managerial incentives, and replacing defective bureaucratic monitoring with the capital market. Domberger and Piggott (1994) say that private ownership relies on incentives provided by the market to encourage technical efficiency (or productive efficiency) within the firm. This efficiency is associated with cost minimization for a given level of output.

2.4 THE RELATIONSHIP BETWEEN OWNERSHIP AND MANAGEMENT.

The difference in performance between the state sector and the private enterprises may be a result of the difference in behaviour between the private and the state management. Consequently, a change in ownership would result in a change in management behaviour, and improved performance. The notion of the relationship between ownership and management found its origin in the theory of property rights of the classic firm (Alchain and Demsetz, 1972), where the manager and the shareholders are identical. According to this approach, privatisation entails the adoption of management objectives that respond to the wishes of the shareholders, which is maximising profits.

It has been argued that the separation of ownership and control, which characterizes
modern firms, may have behavioural implication on the performance of the firms, where a conflict may arise between the objectives of shareholders and the objectives of the managers of the firm, since the managers will pursue their own objectives at the expense of the maximization of the shareholders benefits (Short, 1994). Bouin and Michalet (1991) say that the threat of bankruptcy, the threat of takeover of the firm, the obligation on the part of the management to produce results, and the threat of being ousted are guarantees that the private management will maximise the shareholders' utility functions. For Parker (1994), efficiency of firms lies in the relationship between management and ownership, what may be called the agent-principal relationship, and the key to improved performance is the competition. Consequently the largest gains in efficiency are likely to be secured when privatisation is coupled with market liberalisation.

2.5 COMPETITION AND DEREGULATION.

The effect of privatisation, as a mean of increasing efficiency, depends on the introduction of competition, which may be introduced through deregulation. Liu (1995) says that the degree of competition and the extent of regulation may obscure the efficiency implication of ownership. On the other hand, Yarrow (1986) points out that competition and regulation are likely to be more important to determine economic performance than ownership. In their study of privatisation experience in ten developing countries, Bouin and Michalet (1991) found that the transfer of ownership rights results in improvements in efficiency, but these are limited by the uncertain effect of privatisation on market structure. They concluded that market competition
is the foundation of economic efficiency. Furthermore, competition is the most important mechanism for maximizing consumer benefits and also for limiting monopoly power (Beesley and Littlechild, 1994). Competition encourages efficiency by allowing consumers to purchase from lowest-cost suppliers, and it also achieves production efficiency by encouraging firms to minimize costs (Domberger and Piggott, 1994).

Even within the framework of state ownership, there is a difference in performance between firms operating in a competitive market and firms operating in a non-competitive market. Aylen (1987) gives an example of two state-owned enterprises, to emphasise that market environment, the organization of the firm, and managerial incentives determine the performance of the company rather than ownership. In steel making, the Pohang Steel Company in South Korea is highly entrepreneurial, technically up-to-date and arguably the world's lowest cost integrated steel producer. The Steel Authority of India has outdated plant, is slow to commission new projects, is heavily protected from imports, and has a labour productivity per worker lower than its South Korean rival. Aylen (1987) explains the different performances in terms of introduction of the competition. India has a "bureaucratic model" of state ownership, in which competition is restricted, whereas in Korea state firms operate in a competitive "market model". This emphasises the important role of competition in improving the performance of companies.

Bishop and Kay (1988) identified deregulation as the removal of the restrictions on competition. Bamford (1995) says deregulation is the removal of barriers to entry,
which normally protected the state sector. For Domberger and Piggott (1994),
deregulation is the removal of entry restrictions into the market. However,
deregulation could be seen as the removal of both the barriers on the entry to and the
exit from the market, and the restrictions on pricing, which will result in the
introduction of competition.

The objective of imposing regulations is usually to correct existing distortions, which
prevent the market forces from allocating resources optimally (Guria, 1989). In the
transport industry, the reasons for regulations, generally, revolve around the proper
role of the state sector and the private sector in the national economy, and the role of
the state in providing and maintaining a national transport system, which is accessible
to all who have need of it (Williamson et. al., 1983). In the road freight industry, the
main reason for regulation would appear to be the fear of competition with the
railways (OECD, 1990).

The regulations imposed could be placed under two categories: first, to maintain a
certain minimum quality of service, usually known as quality regulations; and second
to bring price stability to situations where competition results in price instability
(Williamson et. al., 1983 and Guria, 1989). It includes entry and price controls and
restrictions on operating such as the number of licenses issued, geographic areas
served, route restrictions, types of vehicles used, and types of commodities. These
regulations are known as quantity (or economic) regulations.

It has been suggested that the economic regulations in the road freight industry
resulted in higher cost for both operators and customers, inefficient management, and inefficient allocation of transport resources. In a study for the USA road freight industry, Winston (1985) shows that entry and exit regulations raise operators' costs substantially. Also, Adrangi et al. (1995) mentioned that route restrictions increased industry inefficiency and raised operating costs. Deregulation leads to relaxing and/or removing the second type of regulations, the quantity (economic) regulations.

It has been claimed that under deregulation the rates will fall for three reasons; first, the elimination of geographic and pricing restrictions is likely to increase the degree of competition. Second, the elimination of entry restrictions is likely to encourage new operators to enter the market. Such entry will increase supply, putting additional pressure on prices. Third, the cancellation of restrictions on operating is likely to increase the overall efficiency of the industry, reducing the cost of providing the service and encouraging price reductions (McClave et al., 1986). For these reasons, deregulation is expected to result in lower prices. On the other hand, the arguments against deregulation include that the relaxation of the regulatory controls will result in a reduced level of service, and/or abandonment of essential service to small shippers and communities, and that competition will result in large operators competing for business in such a manner as to drive smaller operators from the market (Williamson et al., 1985).

There is evidence that deregulation has positive effects on the road freight industry. According to OECD (1990), deregulation of the road freight industry has been beneficial for both operators and customers. The efficiency of the firms has increased,
and rates generally declined, due to an increase in the number of new entrants into the market, bringing greater competition. The range of services offered, also, has generally increased. On the other hand, free entry and liberalisation of charges should not have any adverse effects on safety, since strict regulations of safety aspects can be maintained apart from the economic regulations. In a study for the road freight industry in the USA, Winston et. al. (1990), concluded that the deregulation of the interstate road freight industry resulted in reduced rates, costs, and improved service. Ying (1990) found that deregulation has had a positive effect on costs, where it caused substantial productivity growth in the industry.

It has been argued that the USA experience showed that after the deregulation of the interstate road freight industry, the number of bankruptcies rose sharply, and there was a substantial fall in prices and therefore a reduction in profit margins. These market developments, in fact, were not exclusively due to deregulation. The general economic situation has been largely responsible for it, where the deregulation took place during a recession. The Interstate Commerce Commission reports that the higher level of bankruptcy following deregulation is not abnormal considering the depressed economy (Button and Chow, 1983 and Baum, 1991). In the UK experience, Baum (1991) found that the proportion of bankruptcies, following deregulation, is no higher in transport firms than other types of business.

The most undesirable effect of deregulation seems to be concentration of industry in the absence of a competitive environment. However, according to OECD (1990), there is no evidence of natural monopoly in the road freight industry, since there would
appear to be no significant economies of scale, and the economic barriers to entry are low.

In Egypt, the road freight industry is a regulated industry. The regulations include both quality and quantity regulations, where tariffs, imports of goods vehicles, conditions of registering, maximum haulage capacity of registered operators, and the number of goods vehicles to be registered are determined by the Ministry of Transport. Although the regulation concerning price tariffs is not enforced now (see section 3.3.2), the other economic regulations still exist.

2.6 PRIVATISATION.

During the 1970's, state intervention was questioned in both developed and developing countries. Most discussions focused on the role of state intervention in the allocation of resources, and in the promotion and distribution of economic welfare (Allsopp, 1989). The relationship between performance and ownership was subject to test and debate. In the developing countries, the crises of external debts, budget deficits, and low tax revenue, were evidence of the collapse of a development model based on a centrally planned economy. Privatisation was suggested, for both developed and developing countries, to reduce the government intervention by transferring some or all economic activities to the private sector, which would result in increasing the efficiency of the whole economy. For the developing countries, privatisation was suggested, combined with replacing the central planning model with a market-orientated model.
The key argument in favour of private ownership is that it is an integral aspect of a market economy, where the agents respond to market signals in the quickest possible way (Husain and Sahay, 1992). It has also been argued that privatisation presents significant opportunities for redistribution of income and wealth, where the groups affected by privatisation might include: consumers, employees, new shareholders, taxpayers, and suppliers of services like financial institutions responsible for handling sales (Vickers and Yarrow, 1991). It has also been claimed that private ownership restores incentives, promoting production efficiency, and it also frees enterprises from the political interference in managerial decision-making (Domberger and Piggott, 1994). On the other hand, Mayer (1989) mentioned that the most immediate benefit that the government derives from privatisation is the revenue from sales of state-owned assets, where there is a limitation on public sector borrowing.

Geographically, privatisation is taking place throughout the world. In the Americas, the United States has become the leading exporter of the idea. Canada has embarked upon substantial programmes of privatisation. In Central and South America, many countries are following the same route, such as Mexico and Chile (Letwin, 1988). In Western Europe, the UK was the pioneer; setting out a large privatisation programme. Other European countries have also undertaken major privatisation programmes, such as France, Italy, and Germany. More dramatic are the privatisation programmes which have been announced in Central and Eastern Europe. Former Czechoslovakia and Poland have announced their intention to privatise their state sectors, as has the former Soviet Union (United Nations, 1992). In Asia many countries adopted the privatisation path, including Sri-Lanka, Bangladesh, Thailand, and South Korea.
In Africa, economic reform, including the process of liberalising the economy and privatisation, is undertaken now in many countries (Lloyds Bank, 1988). In Egypt, a new public sector law was introduced in 1991 which established the holding companies to oversee the activities of various industry groupings among Egypt's approximately 550 state enterprises. The state sector in Egypt, in 1991, accounted for 70 per cent of gross fixed investment, 80 per cent of foreign trade and 90 per cent of banking and insurance (Central Bank of Egypt, 1992). These holding companies have been empowered to sell off assets, close loss-making divisions, raise traditional capital, trade in the financial market, reorder priorities and inject new talent into the boards of state corporations in place of management representatives from the companies themselves. In Libya, it has been reported that the government worked hard after the 1988 budget deficit to liberalise the economy. Businessmen were encouraged to import and export freely, small and medium sized enterprises were sold off to their employees, and by the end of 1990 about 272 businesses had taken this path (Africa Review, 1992).

Privatisation involves benefits for two sets of consumers: actual or potential consumers of the industry; and other consumers, who benefit from savings in resources which may accompany privatisation. Thus, if lower subsidies are paid, other consumers will benefit via lower taxation. Subsidies represent real resources which could be consumed elsewhere. Privatisation will generate benefits for consumers because privately owned companies are assumed to have a greater incentive to produce goods and services in the quantity and variety which consumers prefer. Companies which succeed in discovering and meeting consumers' needs make profit and grow. The motivation of
management is likely to change under privatisation towards profit making (Beesley and Littlechild, 1983 and Beesley, 1992).

2.6.1 Definition and Objectives of Privatisation.

Wiltshire (1988) says there is no universal definition of the concept of privatisation. The word has been used in many different senses. Wiltshire (1988) identifies four separate components grouped under the term privatisation:

(1) The privatisation of financing a service that continues to be produced by the state sector.

(2) The privatisation of the production of a service that continues to be financed by the state sector.

(3) Denationalization and load-shedding, meaning respectively selling of public enterprises and the transfer of state functions to the private sector.

(4) Liberalisation, meaning relaxation of any statutory monopoly or licensing arrangements that prevent private sector firms from entering markets previously exclusively supplied by the state sector.

Peacock (1984) defines privatisation as the transfer of state owned industries to the private sector. Beesley and Littlechild (1983) claim that privatisation generally means the sale of at least 50 per cent of the shares to private shareholders. Dunleavy (1986) states that privatisation means the transfer of the production of services or goods previously carried out by the state to private firms or to other forms of non-state organisation.
Clementi (1985) identifies four principal strands in the privatisation policy of the British government towards the state sector, they are:

1. To transfer the ownership to private ownership, wherever that is possible.
2. Introduction of competition, which has become known as liberalisation.
3. To eliminate certain functions carried out by the state sector altogether or to sub-contract them to the private sector where this can be achieved at lower cost.
4. To charge the public for public services currently provided free.

For Pirie (1985) the idea of privatisation involves transferring the production of goods and services from the public sector to the private sector. Kay and Thompson (1986) say privatisation is a term which is used to cover denationalization (the sale of state-owned assets), deregulation (the introduction of competition), and contracting out (the franchising to private firms of the production of state-financed goods and services). Shackleton (1984) pointed out that usages of the term "privatisation" vary considerably. Some use it simply to refer to transfers of ownership.

Haritos (1987) says that privatisation refers to the transfer of functions from the state sector to the private sector. For Dodgson and Topham (1988), privatisation is the sale of government assets, either through the sale of some or all of a government shareholding in a company or through the sale of specific assets. Clague and Rausser (1992) stated that the term "privatisation" has come to be applied both to the sale of state enterprises to private shareholders in Western economics and to the wholesale transformation of the state enterprise sector in East-Central Europe into private
ownership. The former involves changing the ownership of shares from the public treasury to private hands in an already existing market economy; the latter involves changing the rules of the game for all actors, or creating the institutions of a market economy.

Andreff (1992) defines privatisation as the legal transfer or sale of state-owned or collectively-owned physical and financial assets to private owners. He adds that this definition is neither sufficiently comprehensive nor precise. It is not comprehensive because privatisation may sometimes come about without the transfer or sale of state or collective assets; the share of private businesses in the economy may increase when new and already established private enterprises grow faster than enterprises in the non-private sector of the economy. The definition is also not precise because it "says nothing about the transfer of the prevailing property rights possibly involved in the transfer or sale of assets" (p136). In this respect, privatisation implies that new private owners acquire three decisive rights over assets, namely: the right to utilize assets, the right to appropriate any returns from assets, and the right to transfer assets and to dispose of property. Owners who cannot enforce all these rights on their assets enjoy only alleviated economic property. In the large joint stock companies (of today), these three property rights of shareholders have to be defined a little differently. Shareholders enjoy non-alleviated economic property if:

1. They have the right to proportional participation in that part of profit which is earmarked for dividends.

2. They have voting rights at the shareholders' meeting in proportion to their shares of total assets.
Thus privatisation is defined as any legal decision which enforces the above three rights for private owners of any assets (Andreff, 1992).

From these definitions, privatisation could be defined as a process of denationalization and transference of state-owned assets to the private sector, which leads to a change in the proportion of shares of both state and private sectors in the national economy. It includes, also, transfer some or all economic activities from the state to the private sector.

Concerning the objectives of privatisation, Letwin (1988) describes an explanation given by a French commentator, Jean Loy Rette (1985), drawn from the various statements of leaders of the Right in France about the objectives of privatisation. These are to reduce the burdens of the exchequer and reduce the state's budget deficit; to consolidate the social and political grip of capitalism by building up popular capitalism; to make the economy more competitive; to reduce the interference of politics in the working of commerce; to bring workers into share ownership, widespread share ownership, and to speed up the development of the capital market. Stevens (1992) says that privatisation would improve the efficiency of the economy, reduce government's financial burden, and contribute to the development of the domestic financial market. For Grosfeld (1991), and Lieberman (1994), many objectives are associated with privatisation. Direct objectives include reducing the government's deficit and raising cash from selling the state assets. Indirect objectives, include increasing efficiency and introducing new technology.
2.6.2 Privatisation in the Economies in Transition.

Privatisation in non-market economies, such as Egypt, should be seen within the wider context of economic reform. Consequently, in contrast with the developed countries, where the privatisation process is undertaken within the same framework of the economic model, privatisation in the developing countries is a more complex operation, where it includes the creation of a new economic model. This basic difference between privatisation in developed or market economy countries, such as the UK, and privatisation in non-market economies or economies in transition, such as Egypt and Hungary, means that in the latter, privatisation has two dimensions, quantitative and qualitative. The quantitative dimension implies a reduction of the state sector. The qualitative dimension, implies applying the market economy model, which includes creating a new legal framework and establishing the necessary agents and institutions. In the former, privatisation has only one dimension, which is the reduction of the state sector.

To a great extent, the drive towards privatisation in the economies in transition has the same basis as in market economies. In both types of economies, the objectives of privatisation have been reducing the state involvement in the economy, improving efficiency, creating a more flexible and dynamic economy, reducing the budget deficit, raising cash from selling the state assets, and creating popular capitalism (see section 2.6.1). The difference comes in terms of the nature of privatisation, where in non-market economies, privatisation includes reversing the economic model. This operation is known as the restructuring reform, which aims to stabilise the economy, as a
necessary step to achieve successful privatisation. It includes the liberalisation of prices, the removal of controls on imports, freeing the exchange rates, reducing the budget deficit, and cutting the subsidies (Myant, 1993). It also includes the introduction of private property rights, the construction of a legal system to support it, and the creation of the necessary financial institutions (Mullineux, 1992).

In this context, a distinction is made between two main strategies applicable to achieve the economic reform and privatisation: the shock therapy strategy and the gradualism strategy. The shock therapy strategy involves applying the stabilisation package at the same time as the privatisation process, applied for example in Poland (Myant, 1993). The gradualism strategy, relies on the introduction of the stabilisation package as a precondition of the process of privatisation, applied in Hungary (Mizsei, 1993), and also adopted in Egypt. Gomulka (1994), added two more strategies; they are: controlled shock and semi-gradualism. However, the shock therapy strategy is usually recommended on the grounds that it speeds up the privatisation process and at the same time achieves economic reform, where mass privatisation or large scale privatisation is a basic component of this strategy. In contrast, the gradualism strategy implies traditional or classical privatisation (case-by-case privatisation).

Despite the importance of a rapid transfer of ownership in enhancing the economic efficiency, the gradualism approach has the advantage of avoiding the social costs of privatisation and economic reform. In the case of Hungary, Har and Revesz (1992) point out that the economic reform which began in 1968 enabled the country to introduce slowly the institutions of a market economy during the 1980's which laid the
foundation for gradual transition to a market economy (see section 4.2.1.2). In the case of Egypt, the liberalisation process of the economy took place in the second half of the 1970's, enabling the country to introduce the economic restructuring of the 1980's (see section 3.2.1). In both cases, the social costs of the economic reform and privatisation process were less severe than in countries applying the shock therapy approach. According to 1994 World Bank data, average annual growth of GNP per capita during 1980/92 was in Poland (0.1 per cent), less than in Egypt (1.8 per cent) and in Hungary (0.2 per cent), and the average annual rate of inflation during the same period was in Poland (67.9 per cent), higher than in Egypt (13.2 per cent) and in Hungary (11.7 per cent).

2.6.3 Privatisation: Management and Scale.

A distinction should be made between spontaneous privatisation and central privatisation. Spontaneous privatisation, applied for example in Hungary, refers to the decentralised process by which the managers and employees of a state-owned enterprise transform the enterprise (as a whole or partly) into a private sector company. The transformation is usually initiated by the enterprise itself, and the terms of the deal reached by negotiation with the buyer (Mizsei, 1992). Central privatisation, which applied in Egypt and also in Hungary, refers to the allocation of the responsibility of privatising the state enterprises to some governmental agents (State Property Agency in Hungary and the Cabinet in Egypt).

Regarding the scale of privatisation, a distinction should be made between mass
privatisation and traditional (case-by-case) privatisation. Mass privatisation involves the grouping of firms to be privatised by means of a standard system. It requires a critical mass of firms to be privatised to create the supply side for the programme. On the demand side, the programme usually includes the wide distribution of shares, or vouchers to obtain shares, in state owned enterprises (OECD, 1995). Both Hungary and Egypt have applied the traditional method.

2.6.4 Methods of Privatisation.

A variety of methods of privatisation are available and applied in the economies in transition. These methods can be grouped under three headings; public flotation, direct sale, and vouchers. Public flotation can take two forms; fixed price offer for sale in the stock exchange, and sale by tender on the stock exchange. Both methods have been applied in both Egypt and Hungary. Direct sale can take two forms; direct sale for a third party, and employee buy-out. Also, these methods have been applied in both Egypt and Hungary. The public flotation approach is more suited to larger companies, and requires a well developed financial market, while the direct sale approach is more appropriate for companies too small to float, and where the financial market may not respond at a satisfactory price (Bradley and Nejad, 1989).

The voucher method of privatisation is usually associated with the mass privatisation approach. Since both Egypt and Hungary have applied the traditional privatisation approach, the voucher technique has not been applied in either country. Vouchers are certificates that are distributed to the citizens that they may convert into shares in
state-owned enterprises through some form of auction process (OECD, 1995). This method has been applied for example in Poland and Russia. It relies on the free distribution of state assets among the population (Mizsei, 1992). These vouchers entitle the holder to a share of all state-owned enterprises. They may confer the ownership rights directly to an individual or indirectly through a financial intermediary, which in turn has ownership rights in a particular enterprise (Ferguson, 1992).

Although voucher schemes have been promoted on the grounds of achieving a form of distributive equity through the distribution of shares to the general public, and quick privatisation of a large number of enterprises (OECD, 1995), they have been criticised in three ways. First, it requires a series of decisions by the government, all of which affect the cost and complexity of the system. Reasons for this include that it is necessary to determine who is eligible to receive vouchers, how the vouchers are to be issued, whether they should be assigned a monetary value, and who should issue the vouchers (OECD, 1995). Second, it may result in a budget crisis due to lost revenues from privatised state enterprises, which might threaten economic stability (Bolton and Roland, 1992 and Hyclak and King, 1994). Third, it has the risk that most coupon holders would sell them immediately for cash, resulting in the collapse of their price (Gomulka, 1994).

The last method of privatised state-owned enterprises is the management and/or employee buy-out, which is probably more desirable for promoting wider employee share ownership (Bos and Nett, 1991), a lower cost of transaction (Bogetic, 1993), and
being effective in improving firm performance (Wright et. al., 1994). This method of privatisation has been applied in Egypt, Hungary, and the UK. There is a difference between these three experiences in terms of risk financing of the buy-out. In the National Freight Corporation buy-out in the UK, it was financed by commercial banks, taking the risk. In Hungary, part of the risk was passed by the banks to the state (the Central Bank), through offering discount rates (Karsai and Wright, 1994). Taking into account that the banks are state-owned establishments, the whole risk in fact was passed to the state. In Egypt, the buy-out schemes are being financed by the state directly (not through the commercial banks), in return for a repayment from the annual dividends, which suggests a reduction in the immediate revenue of the privatisation.

One other issue relating to the methods of privatisation is the sale of state-owned loss-making enterprises. Loss-making enterprises are not attractive for private capital, thus there is a difficulty in selling such enterprises. However, if the losses are due to market regulations, with economic reform and deregulation they should become more profitable, and more attractive for private capital. If the losses are due to inappropriate management, restructuring these companies is necessary before privatisation, to avoid under-estimating their value. Carlin and Mayer (1992) mentioned that restructuring the state-owned enterprises may involve splitting up the enterprise to reduce vertical and horizontal integration, restating balance sheets and writing off the enterprise debt, and reorganization of production processes.
2.6.5 Problems of Privatisation.

Privatisation has been criticised for a number of reasons, in particular the underlying idea that performance is improved by transferring ownership to the private sector and increasing the role of market forces, since state sector enterprises are inefficient, unprofitable, and less productive than private enterprises (see sections 2.3 and 2.4). Beesly and Littelchild (1992) argue that deregulation and the introduction of competition with restructured nationalised industries would also result in an increase in the role of market forces and improved performance. Wiltshire (1988) claims that, due to the difficulty of measuring productivity and efficiency, it is difficult to assume that the efficiency of private enterprises will be measurably better than state-owned enterprises. Furthermore, he states that state enterprises could be as efficient as private enterprises "if they were subject to more competition and less political constraint" (p60). Beesly and Littelchild (1988) doubt the extent to which consumers benefit from privatisation, because private enterprises have an "incentive to exploit monopoly power commercially" (p14).

The current research is undertaken in the context of privatisation being an agreed policy in Egypt since 1990. Therefore, it is not a major objective of the research to attempt an overall evaluation of this policy and/or its implementation. Nevertheless, it is necessary to consider briefly some of the actual or potential problems associated with this policy, both in the introduction of privatisation and resulting from it. In the context of privatisation in economies in transition, there are two main problems facing the introduction of privatisation. First, there is the problem of obtaining the necessary
capital to finance privatisation due to the lack of domestic savings (Filatotchev et. al., 1992). Second, there is the problem of increased unemployment. The problem of necessary capital to finance privatisation could be overcome by allowing foreign capital to buy state-owned enterprises. Direct sale of state-owned enterprises to foreign companies is the alternative to sale through domestic buyers (Aylen, 1987). Foreign ownership is often ruled out on the grounds of protection of the strategic industries from foreign control. Foreign companies would however offer management skills, marketing and technical support, and capital for modernization often needed by firms in non-market economies. The fear of foreign control could be overcome by determining a maximum percentage for capital owned by foreigners in the enterprises. Indeed, both Egypt and Hungary introduced a law to encourage foreign capital. In 1989, a law on "Protection of Foreign Investment" passed in Hungary allowed foreigners to take shares in Hungarian companies up to 50 per cent without any official authorization, and later this percentage was raised (Riecke and Antal, 1993). In 1989, a law was also passed in Egypt (Investment Law) to encourage domestic and foreign capital by allowing some incentives.

The problem of increased unemployment arises from the fact that economies in transition operate with excess labour, due to the type of technology used and to achieve the social objective of full employment of the work force (see section 2.3). With the transition to a market economy, it would be expected that less labour would be used, and the result is often a rapid increase in unemployment (Bleaney, 1994). In Egypt, where there is no unemployment benefit, this problem is likely to have serious implications politically and socially. The state sector enterprises have over-
employment, which makes these enterprises less attractive for private capital, since the Egyptian labour law does not allow dismissal of employees. So, even with any governmental attempt to restructure these enterprises before privatisation, the government has to transfer the unwanted employees to other sectors, which are already over-employed, and/or compensate them. On the other hand, the government has a limited ability for compensation. It has been suggested that use be made of the revenue from selling state-owned enterprises to create new jobs, or use the companies' shares to encourage voluntary and early retirement.

The second type of privatisation problem is the potential outcome of the privatisation process. This type of problem includes: increased prices and therefore a decline in the real wages of employees; increased unemployment; and inequality of income distribution. Section 2.6.2 shows that privatisation in non-market economies or economies in transition such as Egypt, is normally undertaken in a wider framework of economic reform. Price adjustment and price liberalisation are two components in any structural reform programme in economies in transition, since most of the production in such economies is subsidised and the prices are regulated and controlled by the state. Even imports are also subsidised through state controlled exchange rates. Price adjustment refers to the reduction and elimination of subsidies, so that the price reflects the real and true cost of production, and the budget deficit is reduced or minimised. Price liberalisation refers to price deregulation and the withdrawal of the state from price control responsibilities. These two processes are likely to result in price increases. Furthermore, due to price deregulation, together with an increased cost of inputs and a profit-maximising objectives, the newly privatised enterprises are
likely to increase the price of their products. It would be expected that price increases during the transitional period would exceed the increase in wages and income of some groups of the population, due to the application of restricted government expenditure to control inflation and the budget deficit. This situation is likely to result in a decline in real wages and incomes of households during the transitional period. According to United Nations data, the annual growth rate of real earnings per employee 1980-92 in Egypt was -3.6 per cent (United Nations Development Programme, 1996).

Another problem associated with privatisation is increased unemployment due to the close of plants and a reduced work force in the privatised enterprises. This problem is one of the most visible and immediate impacts of privatisation. It is also, as mentioned earlier in this section, one of the most important problems facing the privatisation process. Section 2.3 shows that this problem arises because economies in transition, generally, operate with excess labour, due to the type of technology used. Furthermore, governments have used the state sector enterprises to achieve the social objective of full employment (see section 2.3). With the privatisation of state-owned enterprises it would be expected that a considerable number of the work force would lose their jobs, resulting in a general increase in unemployment and a need for a larger investment to absorb such unwanted workers.

It has also been claimed that privatisation leads to inequality of income distribution and property concentration (Jiyad, 1995). It is understandable that privatisation as a means of transferring the ownership from state to private ownership, combined with the introduction of property rights in former centrally planning economies, will result
in a new pattern of income distribution, although this new pattern may not necessarily be extreme. For example, the World Bank data for the UK suggested that privatisation resulted in redistribution of income in favour of the highest 20 per cent of the households, where the share of the richest 20 per cent of the households increased from 39.5 per cent in 1979 (World Bank, 1990) to 44.3 per cent in 1988 (World Bank, 1994). In contrast, the poorest 20 per cent of households declined from 5.8 per cent in 1979 (World Bank, 1990) to 4.6 per cent in 1988 (World Bank, 1994). However, privatisation in Hungary resulted in a different pattern of income distribution in favour of the poorest 20 per cent and the second quintile of the households. World Bank data shows that the share of the richest 20 per cent of Hungarian households declined from 35.8 per cent in 1982 (World Bank, 1987) to 34.4 per cent in 1989 (World Bank, 1994), and the share of the poorest 20 per cent of the households increased from 6.9 per cent in 1982 (World Bank, 1987) to 10.9 per cent in 1989 (World Bank, 1994). Thus, it would appear that, although privatisation has an impact on the pattern of income distribution, the extent of the pattern of inequality arising is debatable.

In the transport sector, the most undesirable impact of privatisation in passenger transport seems to be an increase in prices and a reduction in services. In the road freight sector, section 2.5 shows that the undesirable impacts of privatisation include a fall in the prices due to excessive competition and therefore a reduction in profits, increased bankruptcies, and a concentration of the industry in the absence of a competitive environment. In addition, there is the issue of externalities in both passenger and freight transport (see section 2.7), which is an important issue relating to road freight privatisation and economic reform, and is dealt with in detail in the
2.7 PRIVATISATION AND EXTERNALITIES.

As mentioned before (section 2.6.2), privatisation in a non-market economy, should be seen within the context of a whole process of transforming the economy to a market orientated economy, where the price mechanism should achieve the optimal resource allocation. In such an economy, the issue of externalities is an important one. In economic theory, the market is a meeting point where individuals maximise their benefits and firms maximise their profits. Given perfect competition, the pricing system will achieve the efficient distribution of all goods and services, and also of the production factors. To achieve optimum resource utilisation by the market, the pricing system should include all relevant costs. If it does not, this will result in distortions of the same kind as that which results from subsidies, where the consumption of subsidised goods and/or services becomes greater than optimal (Kageson, 1993).

A distinction is made between technological and pecuniary externalities. The latter result from a change in the prices of inputs and/or outputs in the economy, and which affect the other financially, but do not produce misallocation of resources, given perfect competition. The technological externalities include costs and benefits for which there is no market, for example the negative externalities of transport such as pollution (Baumol and Oates, 1988 and Worcester, 1969). Since pecuniary externalities do not affect resource allocation, the main concern of this work will be directed to technological externalities.
Kapp (1969) defined externalities as losses caused by productive activities and borne by third persons, or cost elements shifted to society as a whole. For Rothengatter (1994), externalities occur if the production and/or consumption function "contains independent variables which are not controlled by the decision maker" (p327). The existence of externalities leads to a deviation from the neoclassical economic theory, in which the optimal resource allocation is achieved by the price mechanism (Verhoef, 1994). In order to achieve optimal resource allocation all costs including externalities must be internalised. Pigou's formula to internalise externalities in order to correct market failure relies on imposing a tax on the production of external diseconomies, and subsidising the production of external economies (Dietz and Stratten, 1992). However, it is accepted that externalities may exist in the absence of property rights (Baumol and Oates, 1988). In this theory, Coase claims that where every asset is owned, the externalities would be internalised, but where there are some common goods, the payments would be arranged through the valuation and enforcement of the relevant property rights (Coase, 1960). The basic difference between the Pigou and Coase approaches lies in the mechanism of internalising the externalities. The Pigou approach relies on taxes, while the Coase approach relies on the market itself and/or the legal system (Demsetz, 1964 and Helm and Pearce, 1990).

Road transport externalities may be seen under two main components; external costs and external benefits. The external costs include two elements; first, the impact of the transport sector on the stock of nonrenewable resources, which occurs because environmental resources are used to produce transport service without compensation, and second the interactions within the transport sector, resulting from the use of
transport networks. The most popular example of the latter is congestion on roads, where each user entering the system affects the other users and contributes to a suboptimal user pattern of the network (Verhoef, 1994 and Rothengatter, 1994). For road haulage external costs, see section 2.4.4.2. Rothengatter (1994) presents a number of external benefits of road transport referred to in Willeke (1991), Strabenliga (1992) and Basel (1992). They include:

1. Extension of consumption pattern and improvement of living standard.
2. Introduction of growth and structural effects, individualisation and flexibilisation of freight logistics to create new paths for industrial labour division and interaction, setting new quality standards such as "just-in-time" transport.
3. Remarkable increase of flexibility and innovation which creates a new quality of service and transport and strengthens the economy for international competition.
4. Cost reductions for packing, processing, and logistics.
5. Improvement of location quality.
6. Positive employment effects in peripheral regions.
8. Benefits from generating information for the communication industry.
9. Benefits from road emergency services.

These external benefits of road transport would, to some extent, compensate for the external costs and should, also, be examined. However, Kageson (1993) points out that serious analysis of the "external" benefits of road transport shows that they are almost
entirely internal benefits to the users or normal market effects of the type which occur in all markets, and that external benefits "which are not reflected in market processes and therefore theoretically call for government intervention are quantitatively of absolutely no importance" (Kageson, 1993, p39). For Verhoef (1994), the claimed external benefits of road transport are "actually pecuniary benefits", resulting from lower transport costs and/or greater efficiency of road transport in comparison with other modes of transport. Verhoef (1994) concluded that there are no significant external benefits of road transport activities, and those external benefits, mentioned earlier, do not compensate for the external costs of road transport.

2.8 COST AND COSTING IN THE ROAD FREIGHT INDUSTRY.

Privatisation is associated with the objective of greater efficiency, responsibility of the owners for their operations, hence, increased awareness of profits and costs. The ultimate objective for all businesses is to create profit, and the main target is to increase this profit. There are two ways of increasing profit; increase sales or reduce costs. With regard to sales increases, the limitations of the market and competition conditions must be faced. Money will be needed to fund marketing and promotion, and elasticity of demand for the product must be taken into account. For these reasons reducing costs is a more direct way to increase profit, since every saving in costs is likely to result in a direct improvement in profits. Cost plays a major role in transportation decision making for all carriers, users and governments. The carriers need to know the exact cost of operations to make pricing and investment decisions. Costing is the tool which provides essential information upon which transport
operators can base their operating decisions. This information includes, for example, what rates to charge, what vehicles to purchase, when to replace the vehicles etc. If any operation is not costed either before or after it is carried out, there is no way of knowing what price to charge (other than observing the prices of competitors), or whether the revenue received was sufficient to cover all costs of carrying out the operation and, at the same time, allow an additional amount of profit. Transport users consider costing in making the decisions relating to mode choice. Governments depend on costing to set levels of taxation, investment, pricing and subsidies.

2.8.1 The Cost Concept.

The dictionary (Longman, 1991) defines cost as an amount of money paid or needed for buying or producing something. Hussey (1989) says, cost used as a verb means to calculate the cost of a specified thing or activity, and cost used as a noun means the amount of actual or notional expenditure incurred on or attributed to a specified thing or activity. Chan (1987) used the Chartered Institute Of Management Accountants definition of cost, stating that cost can be defined as the amount of expenditure (actual or notional) incurred on, or attributable to, a specified thing or activity. Lowe (1983) says that all expenditure by a business in connection with its manufacturing and trading activities is a cost. Anthony and Welsch (1981) say it is a measurement in money terms of the amount of resources used for some purpose.
2.8.2 Cost Objective and Cost Centre.

A cost objective is achieved when costs are recorded in elementary form, and then grouped in required ways (Horngren, 1990). Drury (1987) says a cost objective is any activity for which a separate measurement of costs is desired. Examples of cost objectives include the cost of a product, a service, operating a department or anything for which one wants to measure the resources used. Anthony and Welsch (1981) define a cost centre as a cost objective for which costs of one or more related functions or activities are accumulated in a cost centre, then assigned to products. For this reason a cost centre is often called an intermediate cost objective to distinguish it from a product which is a final cost objective.

2.8.3 Cost Classifications.

Costs can be classified in a variety of ways depending on the purposes for which the information is intended. According to how different elements of costs behave as the level of activity or volume changes, Anthony and Welsch (1981) classified costs as variable, fixed and semi-variable.

(1) A variable cost is an element of cost that changes directly and proportionately with changes in volume.

(2) A fixed cost is an element of cost that does not change with change in volume.

(3) A semi-variable cost is an element of cost that changes in the same direction as, but less than proportionately, with changes in volume.

They added that in measuring the full cost (or total cost; that is all the resources used
for a cost objective) of a cost objective, the various items of cost are divided into two categories; direct cost and indirect cost. A direct cost is an item of cost that is specifically traceable to or directly caused by a cost objective. An indirect cost is an item of cost that is associated with or caused by two or more cost objectives jointly, but that is not directly traceable to each objective individually.

Hussey (1989) has a similar classification, but includes a further category of costs "by nature". The basis classification for costs according to their nature are; materials, labour and expenses. These broad categories can be further subdivided. Chan (1987) added the following cost classifications:

(1) For financial accounting conventions: A distinction is made between capital cost, those incurred in acquiring fixed assets intended to benefit future accounting periods, and revenue costs which are incurred in running the business and benefit a current period.

(2) According to function: Costs are allocated to the function they relate to: production, marketing, distribution and administration.

There are further classifications of costs; including Biggs and Benjamin (1990) who state that the main areas in which costs can be classified are stock valuation, decision making, and planning and control. Lowe (1983) states that, there are many sorts of cost, which can be described under the four headings of historical costs, replacement costs, standard costs, and marginal costs.

The classifications of cost can be summarised as the following:
(1) As changes of level of activity or volume, (variable, fixed, semi-variable and semi-fixed costs).

(2) According to nature, (materials, labour and expenses costs).

(3) According to functions, (production, marketing, distribution and administration costs).

(4) According to financial convention, (capital and revenue costs).

(5) Main categories for the full cost of the cost objective, (direct and indirect costs).

(6) For planning and control purposes, (historical, standard, controllable and uncontrollable costs).

2.8.4 Road Haulage Costs.

Kneafsy (1975) says the general cost elements that are discussed most widely in transport are; variable, joint, constant, full and unit costs.

(1) Variable cost is defined as the cost that changes as the quantity of output changes.

(2) Joint cost refers to the consumption of resources in a single operation where two or more products or services result and where resource consumption cannot be individually distinguished.

(3) Constant cost is generally synonymous with indirect, fixed, and overhead costs. They consist of those costs that are unaffected by an increase or decrease in production.

(4) Full cost is the sum of variable, joint and constant costs.
Ratcliffe (1987) says the total costs of transport include many hidden cost elements. These hidden costs include those incurred in providing and maintaining buildings, equipments and support services to the transport function. Total transport costs are divided into capital cost (including buildings, depot spaces, vehicles and equipment), and operational cost (including maintenance of buildings and equipments, vehicles' standing and running cost, and overheads).

Tally (1988) says transport costs may be classified as either objective or subjective costs, shared or non-shared costs and internal or external costs.

(1) Objective costs are costs that can be objectively measured by money outlays, incurred in the hiring of labour (drivers, dispatchers and management personnel), purchasing capital (vehicles and right-of-way) and purchasing fuel.

Subjective cost are costs related to individual choices. Tally gives Buchanan's (1969) definition of subjective costs as follow: "the decision maker sacrifices or gives up when he makes a choice. It consists of his own evaluation of the employment or utility that he anticipates having to forego as a result of selection among alternative courses of action" (Tally, 1988, p11).

(2) Shared or non-shared costs; Shared costs are costs that cannot be traced to a particular shipment or passenger, non-shared costs can be traced to a particular shipment or passenger.

(3) Internal or external costs; internal transport costs are those costs generated by
providers and users of transport services that enter into their transport decision-making processes. External transport costs are those costs generated by providers and users of transport service and which do not enter into their transport decision-making process (e.g. congestion, pollution and noise).

Lowe (1989) defines costing and road haulage costs as a process of identifying, calculating and recording every item of expenditure incurred in the purchase or hire of goods vehicles, in maintaining them, in supporting the administrative and management function necessary to control their use, followed by an analysis of total operating costs into cost per unit of load distance or time. He adds that as soon as a vehicle starts to run, whether it is loaded or empty, and whether or not it is earning revenue, it incurs running costs. Standing costs are incurred whether vehicles are working or standing idle. Wilson (1987) says that fleet costs are generally split into standing costs (fixed) and running costs (variable). Standing costs are those which within certain limits such as the fleet size being capable of dealing with workload imposed, do not vary with the level of activity, but rather with the passage of time. Examples are vehicle licences, vehicle insurance, depreciation, spare vehicles, drivers' wages, maintenance and overheads. Running costs are those which vary with the level of activity. In this case distance travelled is the measure most commonly deemed appropriate. Examples are fuel and oil, tyres, repair and maintenance, drivers' expenses and overtime payments, and sundries. Spurling (1985) divided road haulage costs into direct and indirect costs. Direct costs are costs directly related to vehicle operations. The most important are fuel, drivers' wages, repairs, maintenance, vehicle taxation and tyres (these costs are also called variable or running costs). Indirect costs are fixed.
costs or overheads. The chief overhead costs are occupancy costs, vehicle purchase or hire costs, supervisory costs, administrative costs and financial costs.

From these definitions, it can be seen that road haulage costs can be divided into two main groups consisting of internal costs and external costs.

(1) Internal costs are those costs which are needed to provide and maintain services. These costs include three main groups which are capital costs, overheads and operating costs which include standing and running costs.

(2) External costs are those costs which are caused by hauliers through running their operations, but which are not paid for by the operators. These costs contain three groups which are costs associated with the environment, costs associated with the infrastructure and costs associated with social considerations.

Figure 2.1 below shows the components of road freight costs which will be discussed in detail on the next pages.
Figure 2.1: Components of Road Freight Cost.

Source: The Author.
The most critical element to the survival and the success of the firm is the cash flow. In transport operations, it is required to establish the firm, and run and maintain its operations. The capital costs of road haulage can be defined as all expenditure on purchase or hire of vehicles, building, depots and equipment. There are many sources of business capital, ranging from short term to long term sources. The choice between these sources of finance depends on many factors such as financial strategy and planning of the firm, the current and future financial situation, and the purposes and time for which finance is needed.

From the point of view of repayment, sources of finance could be short, medium or long term. Puxtey and Dodds (1988) define these terms as follows, "short" to be less than three years, but generally less than one year, "medium" to be three to ten years and "long" to be over ten years. Short term finance includes bank finance, bill finance (there are two forms of bills; trade and bank bills), leasing, hire-purchase, and factoring and invoice discounting. For medium and long term finance, there are two primary sources of funds; internal (from the operations of the firm consisting of profits after tax and dividends, but plus depreciation provisions) and external (creditors and investors). Forms of medium term finance are bank loans, hire-purchase and lease (there are two forms of lease; financial lease and operating lease). For long term financing, an enterprise may use banks and other financial institutions or it may issue
company securities such as equity shares, preference shares and debentures. Shaw (1991) adds to long term finance two further forms; which are sale and lease back, and foreign currency loan.

2.8.4.1.2 Overheads.

Lowe (1989) says, the term overhead costs is used to describe collectively all those expenses incurred in running a transport business (or in operating a transport department within a business devoted to other activities for its main source of revenue) which can not be directly attributed to any individual vehicle. He adds, that overheads can be divided into the following categories:

1) Management.  2) Office and administration.  3) Workshop and stores.
4) Branch depots.  5) Sales and publicity.  6) Auxiliary fleet.
7) Professional services.

These sub-heading can be broken down into all the individual cost items likely to be incurred under each heading. Overhead costs could be described as invariable costs, because they can not readily be attributed to particular items of output and in general must be incurred irrespective of the level of production. In fact, overheads are in some cases only partly invariable, supervision, for example. Once output actually rises above a certain level either the present supervisor must work longer hours or an additional supervisor must be appointed. The expenditure can be regarded as fixed only within certain limits. Other examples are overtime and other premiums paid to staff. On the other hand, some types of expenditure are more clearly fixed. For example, rent and rates (Practical Financial Management, 1987).
The cost of the overhead items should be spread over the fleet in proportion to the expected useful life of each vehicle. To apportion the total annual overhead cost between individual vehicles, Lowe (1989) says two alternatives methods are possible:

(1) A direct and equal division of the total cost between the total number of vehicles in the fleet (where the fleet consists of vehicles of a similar type and capacity).

(2) A division of the total cost between total carrying capacity of fleet in terms of tonnage, cubic capacity or litres depending on the type of vehicle operated and multiplied by the capacity of each individual vehicle (where the fleet comprises a variety of vehicle types or carrying capacities).

2.8.4.1.3 Operating Cost.

Operating cost could be described as the costs required to keep the vehicles in a good condition and the costs which are incurred when the vehicles move. These costs split into standing costs and running costs.

(1) **Standing Cost.**

Certain costs have to be met by goods vehicle operators throughout the life of each vehicle irrespective of the amount of work it does, the number of miles it runs or the revenue earned. These costs must be met even if the vehicle spends a large proportion of its lifetime standing idle due to the need for excessive repairs or due to lack of work. These costs are called standing costs or fixed costs (Lowe, 1989). Wilson (1987) says standing costs are those which within certain limits, such as the fleet size
being capable of dealing with the workload imposed, do not vary with the level of activity, but rather with the passage of time. Ratcliffe (1987) says, standing costs represent the total cost in providing and maintaining vehicles and will be incurred irrespective of the amount the vehicle is used. They are usually computed on a monthly basis.

Six elements are associated with the standing costs: licences, vehicle insurance, driver's wages, rent and rates on premises, interest on capital employed and finally depreciation of the vehicle.

1. **Vehicle Licences.** Goods vehicles are subject to two forms of licensing, which are: vehicle excise licences and operator's licences. The rate of duty depends on a number of factors, which vary between countries.

2. **Vehicle Insurance.** Premiums for vehicle insurance are charged annually either on an individual price per vehicle basis in small fleets or on a blanket cover basis for the whole fleet, where large numbers of vehicles are operated. Insurance costs to be included under the standing costs are those which are incurred strictly in respect of individual vehicles. All other insurance such as goods in transit, premises and contents cover, life insurance on the proprietor or directors, insurance in respect of pension schemes are normally dealt with as overheads.

3. **Drivers' Wages.** If one accepts the fact that whether the vehicle works or stands the drivers still have to be paid, the drivers' wages should be looked upon as a standing cost item. Additional payments such as overtime may be dealt with as running cost.
4. **Rent and Rates.** The operator has to provide land for garaging or parking the vehicles when they are not working. The cost of the required parking space must be included in the cost of owning and operating the vehicles. Whether the land is owned freehold by the operator or rented, its cost or value should be set against the vehicles using it. Rent and rates for land and buildings occupied as offices, vehicle repair workshops or for warehousing are normally considered as overheads.

5. **Interest on Capital Employed.** One of the most expensive items is the cost of borrowing money, either in the form of loans or hire purchase for purchasing capital equipment or by way of bank overdrafts to maintain levels of working capital. The interest on capital borrowing should be dealt with as a standing cost item in vehicle costing.

6. **Depreciation of the Vehicle.** Benson (1992) defines depreciation as a gradual and permanent decrease in the value of an asset (the vehicle in this case). He says that there are many methods to calculate the depreciation, the two simpler ones being straight line or fixed instalment method and diminishing or reducing balance (fixed percentage) method.

(2) **Running Cost.**

Typical running costs are fuel, oil and lubricants, tyres, repair and maintenance, driver's expenses and overtime payments, sundries. Fuel, oil and Lubricants are the most directly variable of all vehicle operating costs, forming a very high cost item within the total cost of vehicle operation. Figure 2.2 shows the components and elements of internal costs of road haulage.
Figure 2.2: Components and Elements of Internal Cost of Road Freight.

Source: The Author.
2.8.4.2 External Cost of Road Haulage.

In terms of transport (as a whole), Button (1993a) says that the external costs of transport are generated by transport users and inflicted on the non-travelling public. In terms of road freight transport, Button and Pearman (1981) state that the external costs of road freight transport (or externalities) are those costs imposed, as a result of freight movements, on groups of people not directly involved with those movements. Talley (1988) defines the external costs as the costs which arise when the activities of one group affect the welfare of another group without any payments. He adds, "if payment is made, the externality has been internalised" (Tally, 1988, p15).

2.8.4.2.1 Elements of External costs.

Specific elements of external costs (for both transport as a whole and road freight transport in particular) cover many areas. Himanen et. al. (1992) state that the external costs include noise, air pollution and lack of safety. For Banister and Button (1993), and Button (1993), the environmental implications of transport are noise, vibration, accident risk, atmospheric pollution, excess depletion of natural resources, community severance, water pollution, congestion and visual intrusion and aesthetics. Sharp and Jennings (1976) give the main components of the environmental costs which are caused by lorries as noise, air pollution, road wear, accident involvement, effects on road side buildings (either by direct contact or through vibration), visual intrusion and delays caused to other road users. Button and Pearman (1981) say that there are two broad types of road freight external cost; congestion costs and pollution costs.
Pollution costs includes noise, air pollution, accidents, vibration, visual intrusion and community severance.

From this review, elements of the external costs of road freight transport, could be classified under three main headings, which are:

1. Elements of costs associated with the environment (noise and pollution).
2. Elements of costs associated with the infrastructure (vibration and road wear).
3. Elements of costs associated with social considerations (safety, congestion and visual intrusion).

A more detailed review of external cost elements is given in Appendix (A). Figure 2.3 summarises the components and the elements of the external costs of road freight transport.
Figure 2.3: Components and Elements of External Cost of Road Freight.

Source: The Author.
Given the existence of external costs, the subsequent problem is to place a value on them. As Quinet (1993) mentioned, "the economist often relies upon market prices when costs are difficult to calculate, the idea that in competitive market, prices stick to costs" (p192). Button (1993a) points out that "the economists have developed a number of procedures which, at least in the case of some externalities, do provide reasonable guidance to the value of these external effects" (p96). Banister and Button (1993) give four categories of methods usually used for setting up the value of environmental goods, which are hedonic price, cost of trip, stated preference and dose-response methods.

(1) **Hedonic Prices Method.**

This method is applicable for non-marketable goods when it is possible to find a substitute market. For instance, in the case of noise, house values may be used as a source of information about the cost of noise. The underlying idea is "that differences in environmental quality variables are reflected in housing sales prices" (Johansson, 1991, pp129-130). Quinet (1993) explained that the degree of exposure to noise is an important component in the price of houses or flats. Between two houses equivalent in all respects, except for their exposure to noise, the cheaper one will be the house which receives the large amount of noise, and from the prices differences, it is possible to get a valuation of noise (p201).
(2) **Cost of Trip Method.**

This method has been used for valuation of leisure resorts. Button (1993b) says that people travel to such locations to make use of the natural amenities, and thus incur a measurable travel cost, both in terms of time and money. This information could be used to get some idea about the value of these facilities. Quinet (1993) explains that people going to a leisure resort achieve a trade-off between the satisfaction they get from using the leisure resort and the cost of travel, which includes monetary and time costs. He adds that this trade-off depends on many variables, such as attitudes, family size, income, etc.

(3) **Stated Preference Method.**

This technique does not involve attempting to place values on environmental costs by observing actual trade-offs, but rather seeks to obtain information through questionnaires and surveys about how much people are willing to pay (Quinet, 1993). Button (1993b) says that in this approach "a relevant group of individuals are asked either what compensation they would need to keep them at their current level of welfare, if some pre-defined transport induced environmental degradation took place, or, alternatively, what amount would they be willing to pay to prevent this occurrence" (p57). This amount reflects not only the person's valuation of it, but should also reflect the individual's ability to pay (Jones-Lee, 1990).
This method tries to take into account all the consequences of environmental goods. The principle of this method is to take into account all the consequences of a certain amount of the environmental goods, by quantifying them in physical units (for example, the number of dead or injured people, in the case of safety and accidents) and then putting a value on each of the items surveyed. As Quinet (1993) mentioned, "this method leads to collective and not behavioural valuations". (p202). In the case of accidents, according to Button (1993a), and (Jones-Lee, 1990) the methods of valuating the external accident costs differ between countries. Some adopt cost avoidance calculations, other use lost production/consumption.

2.9 Implications for Egypt.

This chapter shows that since the poor performance and inefficiency of the state-owned enterprises is acknowledged, it is suggested that private ownership provides the incentive to improve performance and achieve efficiency. In non-market economies, such as Egypt, privatisation is one element in the process of transformation towards a market-orientated economy. In this case, externalities become an important issue, although there has to date been no published debate on the impact of privatisation on transport externalities in Egypt. However, the internal cost, in the state sector road freight companies in Egypt, was investigated in a study carried out by UN-ESCWA (1994). The study claimed that one of the most important problems facing road freight companies is an increase in cost without a parallel increase in freight rates. The study
suggested two reasons for increased costs. First, there was an increase in cost of fuel by 400 per cent, and wages by 40 per cent between 1988 and 1993. Second, the cost of purchasing both vehicles and spare parts has increased, as a result of liberalisation of the exchange rates, which has also resulted in an increased cost of some other operating elements, which are mainly produced domestically, such as tyres and batteries, since most of their components are imported.

For the cooperatives and the existing private sector, the study had expected a better performance, due to the lower number of employees and lower depreciation cost, where the average age of vehicle is higher than in the state sector companies. The study also pointed out three problems associated with costing in the state sector road freight companies, which are: inaccuracy of the annual reports, due to the absence of an advanced costing system; an absence of cost centre calculations, which would otherwise show the cost of different types of vehicles, goods, and functions; and an absence of information systems for use by different levels of management.

The study also pointed out that "there is no system for pricing road haulage services in Egypt, where rates are determined through negotiation between the operators and the client" (UN-ESCWA, 1994, p42). With increased competition from the cooperatives, the private sector, and other modes of freight transport (railways and inland water), rates have continued to fall since 1989. According to the study results, based on the financial statements of the state sector companies, in 1993 the charged rate covers only 63 per cent of the cost (p43). The study suggested the following reasons for the price collapsing:
(1) An increase in the supply of road freight as a result of decreased imports.
(2) An absence of a system for pricing road haulage services.
(3) An increased number of light goods vehicles.
(4) A change in the demand pattern resulting from deregulation of foreign trade.
(5) Strong competition from railways and inland water by offering lower subsidised rates.

The findings of the study give an indication of the difficulties facing the state sector road haulage companies during the transition period to privatisation. The study, which is considered in further detail in the following chapter, also, highlights the significance of the relationship between ownership and costing responsibility in the context of the Egyptian road haulage sector.

Section 2.6.5 shows that there are some problems that occur during the introduction of privatisation and result from it. These problems have been identified as increased prices, increased unemployment, and a sharp inequality in income distribution. Increased prices during the transitional period and as a result of privatisation have a serious implication in Egypt, since most of the basic needs of population are either free of charge, such as education and health care, or subsidised, such as food, energy, medicine and transport. Subsidisation takes the form of one or a combination of direct subsidy through the government's budget, or indirect subsidy through state controlled exchange rates. Food subsidy, in particular, occupies an important position in the Egyptian economy, since food amounted to 50 per cent of the Egyptian household's consumption in 1990 (World Bank, 1990). More pressure on food consumption comes
from the demographic factors of high population growth, where average annual growth of population 1980-92 was 2.4 per cent (World Bank, 1994), large family size, and a significant portion of the population not of working age. The labour force in Egypt amounted to 15 million in 1992, or about 27.3 per cent of the total population of 55 million (World Bank, 1994). These factors leads to a high dependency ratio (approximately 3.7), and higher demand for food. Therefore, it would be expected that a high portion of the population will suffer during the transitional period. According to the Central Bank of Egypt, subsidies went down from 12.2 per cent of total public expenditure in 1990 (Central Bank of Egypt, 1993 b) to 5.9 per cent in 1994 (Central Bank of Egypt, 1995).

A second problem associated with privatisation is the increase in unemployment due to the close of plants and a reduced work force in the privatised enterprises. In Egypt, in particular, the governments' policy of granting a job to all graduates results in over-employment in government employment, and a shortage in skilled workers, and consequently an unbalanced labour market. This problem has been made worse by the emigration of skilled workers to the oil rich Arab countries. For the state sector in Egypt, Todaro (1994) states that employment in most state sector enterprises in Egypt is "20 per cent to 25 per cent above actual needs" (p 242). Unfortunately, there is no appropriate official data available in Egypt about its labour market. However, with privatisation of state-owned enterprises it would be expected that a considerable number of the work force will lose their jobs, resulting in increased unemployment and a call for a large investment to absorb such unwanted workers. This problem presents a challenge to the government in Egypt as well as to its privatisation
programme, especially when the estimated average annual rate of growth 1992-2000 for the labour force is 2.7 per cent (World Bank, 1994). The Egyptian Secretary of State for Economic Affairs has announced that the total work force in the state sector enterprises at the end of 1995 amounted to 974,000 and the surplus (ie. unwanted employees) is 70,000 (Al-Ahram, 1996 b). The Egyptian approach to dealing with this problem relies on adopting two mechanisms. The first one is to increase investment to create more new jobs and absorb as many employees as possible. Total investment in Egypt (state sector, cooperatives, and private sector) increased by about 30 per cent in 1994 (LE 35,000 million) in comparison to LE 26,861 million in 1992 (National Bank of Egypt, 1995). The second mechanism has been the creation of the "Social Assistance Fund" in 1991, to include the unemployed of the privatised state sector enterprises. The fund is supported by the government and some foreign donors. The government's contribution to the fund amounted to LE 150 million in 1992, increased to LE 208 million in 1994 (Central Bank of Egypt, 1994). Increased unemployment as a result of privatisation has one particular further dimension in Egypt, relating to female employment. Egypt has had a high average annual rate of population growth (1980-92) of 2.4 per cent (World Bank, 1994), with the total fertility rate at 3.9 in 1992 (United Nations Development Programme, 1996). Evidence suggests a negative relationship between female employment and fertility (Abdel-Fattah, 1988). Therefore, increased female unemployment is likely to result in a higher population growth.

A third problem is inequality of income distribution. Section 2.6.5 shows that it is highly likely that privatisation will result in a new pattern of income distribution, but it will not necessarily be an extreme pattern. For example, section 2.6.5 shows that
privatisation in Hungary resulted in a pattern of income distribution different from the pattern in the UK. For Egypt, the latest data on household income is related to 1974, where the share of the lowest 20 per cent of the Egyptian households was 5.8 per cent and the share of the highest 20 per cent was 48.0 per cent (World Bank, 1987). 1974 was the year of the beginning of economic liberalisation, followed by economic reform in the 1980's, and privatisation in the 1990's (see sections 3.2.1 and 3.2.2). However, since there is no recent data available on Egypt, it is not yet possible to assess the impact of privatisation on income distribution.

However, by extending the discussion to include one other country, for example Poland, some expectations for the impact of privatisation on the pattern of income distribution in Egypt could be made. This can be done by comparing different models of privatisation (the UK, Hungary and Poland), and the patterns of income distribution resulting from these privatisation models. According to World Bank data, privatisation in Poland resulted in a pattern of income distribution similar to that in the UK, where the share of the fourth quintile and richest 20 per cent of Polish households increased from 22.9 per cent and 35.2 per cent in 1987 (World Bank, 1990) to 23.0 per cent and 36.1 per cent in 1989 respectively (World Bank, 1994), and the share of the poorest 20 per cent, second quintile, and third quintile declined from 9.7 per cent, 14.2 per cent, and 18.0 per cent in 1987 (World Bank, 1990) to 9.2 per cent, 13.8 per cent, and 17.9 per cent in 1989 respectively (World Bank, 1994).

This difference in income distribution patterns could be a result of a number of factors: the difference in the economic model under which privatisation took place
(market economy in the UK and non-market economy in both Poland and Hungary); or it could be a result of the difference in the adopted strategy and methods of privatisation; or it could be a combination of these three factors; or some other factors rather than privatisation. Let us consider each of these in turn. It is unlikely to be a result of the difference in the economic model under which privatisation took place, because of the similarity between the UK and Poland patterns. In other words, although privatisation in both Poland and Hungary took place within the framework of the economic reform, it resulted in different patterns of income distribution. But it could be a result of the adopted strategy of privatisation, where "gradualism" is the adopted strategy in Hungary and "shock therapy" is the adopted strategy in Poland (see section 4.4). Also, it is unlikely to be a result of the difference in privatisation methods, since both the UK and Hungary adopted a traditional privatisation approach, resulting in different patterns of income distribution, whereas Poland adopted a mass privatisation approach, resulting in a pattern of income distribution similar to the UK. However, it could be a combination of the gradualism strategy and the traditional approach applied in a non-market economy, resulting in an income distribution pattern in favour of the lower income of the households as seen in Hungary. Since a gradualism strategy and the traditional approach have been adopted in Egypt, it seems reasonably to predict that Egypt will not experience a sharp increase in inequality. However, in the absence of reliable data for previous years, it is difficult to make a firm prediction.
CHAPTER 3

PRIVATISATION AND ROAD HAULAGE IN EGYPT

3.1 INTRODUCTION.

The 1950's was a turning point in the recent history of Egypt. Following the revolution in July 1952, in January 1953 all political parties were dissolved and replaced by a new organisation called the Liberation Rally. In June the monarchy was abolished, and the Republic of Egypt established. The British troops were withdrawn from the Suez Base (in the Canal Zone) in October 1954. The new constitution was proclaimed in January 1956, and it was approved by a national plebiscite in June of the same year. It marked the end of the transitional period of government between the fall of the old system and establishment of the new one, and the end of any possibility of a return to the old one (as the National Charter mentioned). The new revolutionary regime announced the beginning of the socio-economic readjustment of Egypt. A nation-building project began to take shape, as a project for modernizing development focused on industrialization initiated by the state.

In terms of the economy, the project was to nationalize all major financial, industrial and commercial businesses, whether foreign or Egyptian, to become the foundation of a vast state sector, to act as the strategic motor of development (Mahjoub, 1990). The land reform of 9 September 1952 was the first adopted step by the Revolutionary
Command Council (RCC) to establish "social justice". The Revolutionary Command Council (RCC) wanted to achieve two main targets by this action. The first one was to break down the power of the large land owners. That is because under the old regime agricultural land was concentrated in the hand of a small number of large land owners who were the political and economic foundation of the monarchy. The second one was to redirect the land owners' capital into industrial development. The land reform would also expand the market for domestic industrial products, because the peasants who received lands would have more income to spend on consumer products (Beinin, 1989).

The early economic policy for the revolutionary regime was to encourage private capital to develop the national economy. As a result of the failure of private capital (domestic and foreign) to play its assumed role in developing the national economy, because of distrust and uncertainty concerning the new regime, the state became a critical factor in the economic life of the society, to achieve the tasks of developing and modernising the national economy. The first major nationalisation was of the Suez Canal Company in 1956. Before end of 1957, President Nasser announced that "Democratic Cooperative Socialism" was to be the path for the national economy. The largely private enterprise system, which had existed before 1952, was systematically transformed into a state-owned sector. This was achieved through nationalization of foreign assets as well as much of local-owned businesses (banks, insurance companies and larger enterprises were nationalised). In the same year (1957) the government embarked on a new economic policy of a centrally planned economy. Presidential decree No. 78 in 1957, set up the National Planning Commission (later the Ministry
of Planning), to formulate the first five year national plan for economic and social
development, which took place during the period 1959/60-1963/64, as the first part of
a ten year national plan. In addition, the Economic Organization was established to
manage the sequestered assets (both foreign and local).

In 1962, the National Charter, or "Charter for National Action" was introduced, as the
official version of the revolution. The Charter proclaimed that Egypt was to embark
on a course based on the principles of scientific socialism. By 1963, state ownership
had extended to all public utilities, transport, larger industries, construction and
haulage firms, department stores and hotels. The export-import trade and selling of
major crops were also taken over by the state. Small businesses, most retail trade,
residential property (except where sequestrated or confiscated) and much agricultural
land were left in private hand (Hopwood, 1982).

3.2 ECONOMIC REFORM AND PRIVATISATION.

3.2.1 - Liberalisation of the economy.

By the beginning of 1970's (when Sadat succeeded Nasser as President), a quite
different philosophy had been adopted for the Egyptian economy. While not wanting
to lose the gains of socialism and the revolution, the regime attempted to liberalise the
economy. The motivation for this attempt was because the Egyptian economy
appeared to be on the edge of collapsing, for a number of reasons. First, for political
and social purposes the government directed the state sector companies to employ
more workers than economic efficiency required, which made the state sector companies inefficient and unprofitable (Lloyds Bank, Egypt, 1986). Second, the Egyptian involvement in the Yemen war drained its foreign exchange reserves away from development projects. Third, the 1967 war resulted in the loss of two of the major foreign currency earners; the Suez Canal and the Sinai oil fields. Fourth, military expenditure, after the 1967 defeat, increased dramatically. Fifth, the governmental subsidy system, had increased very fast, because of the rapid increase in population growth and the use of unrealistically high official exchange rates.

After the October 1973 War, and the new environment which it created, a fresh economic strategy was introduced, with the aim of accelerating economic growth and modernising the society. The socialist centrist policies were reversed by an "open door" policy, with stress on the need for an effective state sector and the importance of a private sector working within the framework of the National Development Plan. The reversal was exemplified by the introduction of Law No. 43 in 1974, which encouraged private domestic and foreign investments in the economy (Lloyds Bank, Egypt, 1986). Egypt moved from being a tightly controlled economy to a more open one. Law No. 43 provided investment incentives, including guarantees against expropriation and nationalization, five year exemptions from tax on profits, exemption from some import duties, and allowances for repatriation of capital over a number of years. The government started its processes to adjust the exchange rate, by setting up "the parallel exchange rate", which was more realistic than the old official one. Also, a number of "free zones" were to be established, where the companies could bring in components and materials to be manufactured into goods for re-export and could
establish warehouses and other support facilities. The relaxation of investment regulations attracted large-scale investments from Saudi-Arabia and the Gulf states, then from the United States and Western Europe. The hope was that the investments would finance new industries that would utilize Egyptian raw materials, supply consumer goods for domestic use and exports and employ Egyptian workers, but conditions in Egypt and in the Middle East as a whole have countered some of these hopes.

Gillespie and Stoever (1988) suggest the following reasons for the poor foreign response to the open door policy. First, the shortages of certain skills due to workers' migration to the Arab countries. Second, the infrastructure (ie. telecommunication, water, electricity, gas, sewage and transport) was becoming overburdened and subject to frequent breakdowns. Third, there was overcrowding and land shortages in and near the major cities. Gillespie and Stoever (1988), also mentioned a study carried out by the Economic Studies Unit at the Ministry of Economy, Foreign Trade and Economic Cooperation (Cairo) on "Law No. 43 Investment Policies" (released in 1979). It highlighted the difficulties that investors had in finding suitable locations for their factories. Also, the study mentioned the difficulty concerning the negotiation of joint venture agreements between foreign companies and the state sector enterprises, because of the "very different mind-sets of the private and public corporation culture" (Gillespie and Stoever, 1988, p29). Instead of supporting new industries, Arab investments particularly involved financial activities, luxury construction, hotels and tourism, and consumerism. At the same time, many Egyptian manufacturers shifted their activities to the free zones to avoid taxation (Held, 1989). A minimal
contribution to the economic growth rates during the 1970's had been made by Arab and foreign investments, but a higher proportion was based principally on rising oil prices, emigrant remittances and supported by Suez Canal dues (Euromoney, 1990).

Egypt entered the 1980's facing a huge challenge to its economic and social policy. Although the economy had benefited significantly from the "open door" policy in terms of growth, it had become heavily dependent on foreign aid, as well as on oil exports, Suez Canal dues and workers' remittance. When foreign exchange earnings began to fall off, in particular after the oil prices collapse of 1986, the government found itself in serious financial difficulties (Kent V., 1993). Foreign exchange earnings from Egypt's staple sources (oil, Suez Canal dues, and remittances) fell by 6.3 per cent in the year 1987 (McDogall, 1988). On the other hand the foreign debt put Egypt in the front rank of Third World debtor nations. Its debt-service ratio (obligations on debt as a percentage of export earnings) was one of the highest among all developing countries. Government expenditure had risen faster than revenue, and the state sector had to borrow heavily from domestic banks to finance its deficits (Lloyds Bank, Egypt, 1986). The deficit in the Central Government Budget during first half of the 1980's increased from 6.3 per cent of Gross Domestic Product in 1981 to 9.5 per cent in 1984 (it was 17.5 per cent in 1982), see table (3.1). Another element adding more pressures to the economy was the rapid increase in imports, which jumped from US$4.7 billion in 1975 to US$9.0 billion in 1980 and remained steady at this level until 1985/86, as a result of rapid increase in local consumption combined with artificially low exchange rates (Carr, 1990).
Table 3.1: Central Government Budget, Egypt 1981/84.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expenditure</td>
<td>52.9</td>
<td>65.4</td>
<td>54.6</td>
<td>55.0</td>
</tr>
<tr>
<td>Revenue</td>
<td>46.6</td>
<td>47.9</td>
<td>45.0</td>
<td>45.5</td>
</tr>
<tr>
<td>Deficit</td>
<td>6.3</td>
<td>17.5</td>
<td>9.6</td>
<td>9.5</td>
</tr>
</tbody>
</table>


Meanwhile, the subsidy system became a major budgetary item, in 1983/84 subsidies cost the government LE 2,055 Million. In that year the inflation rate was 17.1 per cent and the debt service ratio was 15.8 per cent (Middle East Review, 1986). By the mid 1980's, the government started a programme for economic adjustment. The first step was the introduction by the government of a new exchange rate system on January 1985, where the exchange rates became dependent on market forces. In mid 1985, the budget for 1985-86 proposed cutting its gross and net deficit (the latter by a full 25 per cent), partly by increasing revenues by 16 per cent (with the state sector surplus rising 33 per cent), and partly by limiting growth in expenditure to just under 9 per cent. Subsidies were scheduled to stay almost exactly the same (Middle East Review, 1986).

Data for the year 1986/87 may reflect the economic structure as a result of the Five-Year plan 1982/83-1986/87 and at the same time introduces the plan 1987/88-1991/92. It also describes the economic structure immediately before privatisation. Data shown in table (3.2) demonstrates that the agriculture sector engaged 36.3 per cent of total employment and constituted 21.2 per cent of total local income. The industrial sector accounted for 16.9 per cent of total local income and 14.1 per cent of total income.
employment. Trade and finance sector held 10.1 per cent of total employment, with 24.6 per cent of total local income. Concerning investments, transport, communications and the Suez Canal sector were given priority with 20.2 per cent of total investments, followed by the industrial sector with 19.3 per cent, building sector (18.6 per cent), and agriculture (10.8 per cent). The agricultural sector remains the major economic sector, accounting for over one fifth of local income and employing about two fifths of the labour force.

Table 3.2: Employment, Investment & Local Income (Egypt 1986/87).

<table>
<thead>
<tr>
<th></th>
<th>Employment (1)</th>
<th>Investment (2)</th>
<th>Local Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Agriculture</td>
<td>4446.7</td>
<td>36.3</td>
<td>9,022</td>
</tr>
<tr>
<td>Industry</td>
<td>1731.5</td>
<td>14.1</td>
<td>16,228</td>
</tr>
<tr>
<td>Petroleum</td>
<td>32.6</td>
<td>0.3</td>
<td>2,521</td>
</tr>
<tr>
<td>Electricity</td>
<td>77.1</td>
<td>0.6</td>
<td>5,916</td>
</tr>
<tr>
<td>Construction</td>
<td>563.9</td>
<td>4.6</td>
<td>2,003</td>
</tr>
<tr>
<td>Transport, Communication and Suez Canal</td>
<td>545.8</td>
<td>4.5</td>
<td>16,992</td>
</tr>
<tr>
<td>Trade and Finance</td>
<td>1236.2</td>
<td>10.1</td>
<td>868</td>
</tr>
<tr>
<td>Buildings</td>
<td>208.6</td>
<td>1.7</td>
<td>15,598</td>
</tr>
<tr>
<td>Public Services</td>
<td>74.6</td>
<td>0.6</td>
<td>7,712</td>
</tr>
<tr>
<td>Other Services</td>
<td>3338.5</td>
<td>27.2</td>
<td>7,060</td>
</tr>
<tr>
<td>Total</td>
<td>12255.5</td>
<td>100</td>
<td>83,920</td>
</tr>
</tbody>
</table>

(…) Joint with Building Sector.
(1) Number of employment by thousands.
(2) Investments and local income by millions local currency and in market prices.

3.2.2 Privatisation Process.

By 1987, a new agreement with the International Monetary Fund was achieved,
including a package of measures designed to reform the economy (Laurie, 1989). With this agreement the Egyptian government started to push ahead the reform programme with reform of interest rates and a further cut in subsidies and the budget deficit. The government began talking about the need to privatise some of the state sector enterprises. According to Kent V. (1993), the aim of this reform programme was to create a "decentralised, market orientated economy" (p5), and the programme was designed to:

1. Encourage private sector activity.
2. Reduce the state sector size through privatisation.
3. End control over investment and eliminate most tariffs on imports.
4. Sell manufactures at market prices.
5. Raise energy and transport prices to realistic levels.
6. Reduce consumer subsidies and target them towards the poorest groups.
7. Deregulate private investment.

Due to the result of Law No. 43 in 1974 and the existing atmosphere which encouraged private sector and domestic and foreign investments, the private sector grew rapidly during the 1980's. According to data provided by the Central Bank of Egypt, the number of companies registered at the stock exchange was 529 in 1989 (Central Bank of Egypt, 1990). On December 1989, a new investment Law No. 230 was issued, which included the following:

1. Exemption from payment of taxes and charges for a period of five years from the first financial year following the commencement of production or activities.
2. The exemption period may be extended for a maximum of a further five years,
if the project is located in a depressed area, or contributes to an increase in exports, or provides substantial local employment and plays a major role in the economic and social development of the country.

(3) Projects relating to the reclamation of land in the new communities and the free zones are generally exempt for ten years. This period may be extended for a further five years.

(4) All investment projects, without any distinction, may benefit from a further period of tax exemption of two years, if more than 60 per cent of the raw materials, equipment and machinery used are local production.

(5) Five years' tax exemption is also granted in the case of expansion of projects already in progress, an increase in capital being understood to mean the amount allocated to obtain an increase in the production capacity.

At the same time, the state sector, previously protected during the 1960's, suffered from the new competition and the heavy losses (Central Bank of Egypt, 1992). By the start of 1990's, the Budget deficit was around 20 per cent of the Gross Domestic Product, reserves were just over three weeks of imports, the debt service ratio was 46 per cent of the export receipts, foreign interest payments were 10 per cent of the Gross Domestic Product, and total external debt around US $49 billion, of which US $35 billion was official debt (Timewell, 1991). Another round of negotiation with the International Monetary Fund took place in May 1990, which resulted in the International Monetary Fund approval of $ 372 million stand-by credit facility (Al-Ahram, 1991). In the mean time, a programme for structural reform was introduced.
The key elements for this programme were:

(1) State enterprises reform and phased privatisation.

(2) Price liberalisation and deregulation of state industrial and agricultural production.

(3) Adjustment of energy prices to reach international levels.

(4) Investment decontrol linked to price and import liberalisation.


The government met the seventeen main creditor governments, in Paris and successfully managed to rescheduled its foreign debts, with 50 per cent to be written off releasing some pressure from the economy. Combined with writing off long term debts to the USA (US $ 6.7 billion), and the Gulf states (US $ 7 billion), the government was able to start the structural reform programme (National Bank of Egypt, 1992).

Egypt embarked on a process of privatisation to withdraw from the state sector and sell enterprises which the government now considered that it had no business being involved in. Three areas were announced to be open to privatisation: government equity in the 300 joint venture companies (with an estimated total capital of US $577 million), the 2,000 small firms owned by the governorates, and 380 non-strategic state sector enterprises (Banker, 1990). The Law No. 203 (June 1991) set up the holding companies to take over state sector firms, to find a foreign partner or to sell off the enterprises. The immediate purposes of Law No. 203 was to give full autonomy to the state sector companies, to promote the conduct of business along market principles and to expose those businesses which are inefficient. The first step towards privatising
these companies was the "removal of state enterprises from direct ministerial control" (Kent V., 1993, p22). The state sector companies, which were formerly responsible to ministries, such as Industry, Housing and New Communities, Electricity, Tourism, and Transport were grouped under twenty seven holding companies responsible for all the affiliates in a particular sector. Later in that year, the government named members of the boards of directors of those holding companies. The main features of the Law No.203 are the following:

(1) The holding company shall take the form of a joint stock company, and shall be considered as one of the special persons in law.

(2) Holding companies shall invest their funds through their affiliated companies and may undertake the investment themselves when needed.

(3) Holding companies shall contribute to the development of the national economy in their field of activity and through their subsidiary companies, within the framework of the public policy of the state.

(4) To accomplish its objectives a holding company may:

* Establish joint stock companies by itself (alone) or in participation with public or private artificial entities or individuals.

* Purchase or sell shares of joint stock companies or participate in their capital.

* Form and manage a portfolio of the company with its included shares, stocks, debentures and any other financial instruments or assets.

* Undertake all actions that would help achieve all or part of its objectives (Official Journal, 1991).
In October 1991, the executive regulations of "The Public Businesses Sector Companies Law" was issued by the Prime Minister's Decree No. 1590. It includes three main components as follows:

1. The Holding Companies: this component focuses on the incorporation, the board, the general assembly, and the financial system of the holding company.

2. Companies Affiliated to the Holding Companies: this component deals with the foundation, the board, the general assembly, and the financial system of affiliated companies.

3. General Provisions: this component concerns auditing the holding companies, affiliated companies' accounts and evaluating their performance, control on companies and the rights of access to registers and books, merging and dividing the holding companies and their affiliate' companies and, finally, the conditions and procedures for terminating the service of workers in companies governed by the law, by resignation of the workers or their unfitness medically for service (Official Journal, 1991).

Also, in October 1991, the government merged the foreign-exchange rates into one market-determined rate (Lofgren, 1993). The government started its privatisation programme in four model governorates (Garbia, Monfia, Asyut and Qena), with such enterprises as poultry farms, handicraft and furniture factories and plants for the manufacture of road-building materials. Figure 3.1 provides a general map of Egypt showing its location and main cities.
Figure 3.1: Egypt, Location and Main Cities.

The government announced that priority would be given to selling off hotels, cinemas, department stores and manufacturers of consumer items such as soft drinks, biscuits and chocolate (Middle East Review, 1992). In June 1992, the government introduced the Banking Law No. 37, giving more scope to foreign banks in their operations, and at the same time introducing more liberal foreign trade regulations (National Bank of Egypt, 1993 and Kent V., 1993).

Later in 1992, the government introduced a new law for the capital market and the stock exchange. In 1979, Law No. 520 had already established the Capital Market Authority and the Stock Exchange (in both Cairo and Alexandria). In the light of the fact that one of the key factors in developing a free market economy is a strong and effective capital market, the government introduced the Capital Market Law (Law No. 95) in 1992 (Central Bank of Egypt, 1993). The Capital Market Authority is the regulatory body, and any company wishing to issue a financial instrument is obliged to notify it. It is allowed three weeks to raise any objections. Also, the law allows the issue of nominal and/or bearer shares, and the establishment of special stock markets (Official Journal, 1992).

In 1994, a massive operation to privatise the business sector companies was launched. In August, the Minister of Business Sectors announced that the government made its decision to introduce some facilities, with the aim to help the workers of the state sector companies to buy, or obtain credit for their own companies' shares. This facility included a reduction in the interest rate from 12 per cent to 8 per cent, without deposit and allowing the prices of shares be charged from the annual profits of the workers.
(Al-Ahram, 1994). By the end of 1994, in a press conference the Minister of Businesses Sector announced that the government had started a financial and technical adjustment programme to restructure some of the loss-making companies as an introductory step towards putting them up for sale (Al-Mossawer, 1994), and a list of 23 state-owned companies to be privatised was announced (Euromoney, 1994).

3.2.3 The Private Sector Performance.

Since the mid 1970's, when the procedures to liberalise the national economy started with launching the open door policy in 1974, Egypt has tried to convert its centrally planned and controlled economy into a liberal economy, run according to market forces. A number of actions and decisions have been made with laws and regulations to be replaced or amended. The ultimate target is to replace the centrally planned and controlled economy by a market economy through increasing the proportion of shares held by the private sector and by encouraging and promoting private capital investment (both domestic and foreign), and by privatising the state-owned sector, wherever it is possible.

Twenty years have passed since the open door policy was launched. Sufficient time has passed to raise questions about the results of those two decades. As mentioned before, the government made clear that the aim of its policies was to attract and encourage private capital to play its role in the national economy, within the framework of the national development plan. In that respect, data provided by the Ministry of Planning, about the five years national plan for social and economic
development, could be used to give an idea of the share of the private sector in the national economy, and its performance. Since the Business Sector law (Law No. 203) was launched, all data is supplied by the Ministry of Planning, for private sector activities, including the Business Sector companies. According to the Ministry of Planning data, shares of the private sector in total investment increased from 39 per cent in 1986/87 to 46 per cent in 1991/92, and was estimated to be more than 50 per cent in 1992/93, see table (3.3). Table (3.4) shows the amount of private investment in some economic sectors, and its percentage of total investment.

<table>
<thead>
<tr>
<th>Table 3.3: Private Sector Investment .. Egypt 1986/92.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Years</strong></td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
</tr>
</tbody>
</table>

**Source:** Central Bank of Egypt, Quarterly Review, Vol.33, No.4, Cairo 1993.

<table>
<thead>
<tr>
<th>Table 3.4: Private Sector Investment in Some Economic Sectors .. Egypt 1993.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sectors</strong></td>
</tr>
<tr>
<td>Agriculture and Land Reclamation</td>
</tr>
<tr>
<td>Industry</td>
</tr>
<tr>
<td>Petroleum</td>
</tr>
<tr>
<td>Construction</td>
</tr>
<tr>
<td>Insurance and Finance</td>
</tr>
<tr>
<td>Tourism</td>
</tr>
<tr>
<td>Housing</td>
</tr>
</tbody>
</table>

**Source:** Central Bank of Egypt, Quarterly Review, Vol.33, No.4, Cairo 1993.

Concerning the contribution of the private sector to Gross Domestic Product (GDP), it has increased slightly from LE 31522 million (64 per cent) in 1986/87, to LE 39324 million (65 per cent) in 1992/93, (Central Bank of Egypt, 1993). But, as mentioned
before, business sector companies have been only classified as private sector since 1992. For accuracy, 1991/92 data should be adopted. According to the Central Bank of Egypt, Gross Domestic Product in 1991/92 was LE 131,057 million, of which the share of state sector was LE 50,799 million (38.7 per cent), and the private sector was LE 80,258 million (61.3 per cent). In terms of specific sectors, the contribution of the private capital to the production of the agriculture sector was the highest, amounting to LE 11405 million (99 per cent of total production of the sector), followed by the tourism sector (LE 775 million or 84 per cent), while the lowest contribution was in the industrial sector (LE 5930 million or 55 per cent), see table (3.5).

Table 3.5: Private Sector Contribution to the Gross Domestic Product, Egypt 1991/92.

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Million LE</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>11405</td>
<td>99</td>
</tr>
<tr>
<td>Industry</td>
<td>5930</td>
<td>55</td>
</tr>
<tr>
<td>Construction</td>
<td>2420</td>
<td>69</td>
</tr>
<tr>
<td>Commerce</td>
<td>8825</td>
<td>83</td>
</tr>
<tr>
<td>Finance</td>
<td>592</td>
<td>23</td>
</tr>
<tr>
<td>Insurance</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>Tourism</td>
<td>775</td>
<td>84</td>
</tr>
</tbody>
</table>


The number of employees in the private sector increased from 7.97 million in 1986/87 to 9.35 million in 1991/92 (9.5 million estimated for the year 1992/93). According to the Central Bank of Egypt, the private sector accounted for about 68 per cent of total employees during this period, see table (3.6).

<table>
<thead>
<tr>
<th>Years</th>
<th>Total Employee</th>
<th>Private Sector Employee</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986/87</td>
<td>11998</td>
<td>7971</td>
<td>66.4</td>
</tr>
<tr>
<td>1987/88</td>
<td>12337</td>
<td>8268</td>
<td>67.0</td>
</tr>
<tr>
<td>1988/89</td>
<td>12702</td>
<td>8543</td>
<td>67.2</td>
</tr>
<tr>
<td>1989/90</td>
<td>13041</td>
<td>8778</td>
<td>67.3</td>
</tr>
<tr>
<td>1990/91</td>
<td>13423</td>
<td>9061</td>
<td>67.5</td>
</tr>
<tr>
<td>1991/92</td>
<td>13812</td>
<td>9356</td>
<td>67.7</td>
</tr>
</tbody>
</table>


From this review, the following points are highlighted:

(1) Around 46 per cent of total annual investments is provided by the private sector.

(2) Contribution of the private sector to the GDP accounted for 65 per cent in 1992/93.

(3) Over the last six years, 1.4 million jobs have been created by the private sector, averaging about 0.2 million jobs per year.

These findings indicate that, although some progress has been achieved, more is to be expected during the following years when the new laws, such as those concerning the stock market and banking have an impact. Finally, although there is no announced or documented programme for privatisation in Egypt, the previous review helps to highlight the main characteristics of the Egyptian privatisation programme, which could be crystallised into the following points:

(1) A gradual approach is being used to reduce the side-effects which might be created during the transitional period.
(2) A change in the economy and businesses climate leading to the sale of state-owned assets.

(3) Privatisation has started with the profitable enterprises in the attractive sectors, such as petroleum and tourism.

(4) There will be a technical and financial restructuring for the loss-making companies before releasing their shares to the stock market.

(5) The aim is to create a popular capitalism among the workers by encouraging them to buy and own their companies' shares, through providing some facilities, such as low interest credit without deposit.

3.3 THE EGYPTIAN ROAD FREIGHT INDUSTRY.

3.3.1 Background.

Before 1962, all the Egyptian road freight services were run by the private sector. Law (117) in 1962 was the first step to nationalise the transport sector, followed by the Laws (77), (78) and (151) in 1963 which extended nationalisation to cover all the firms working in the transport sector. In April 1964, Law (140) came into force to exclude the firms which had less than five vehicles when the Laws (77) and (151) in 1963 came into being. Four companies had been held under the road haulage state sector, three of them specifically for road haulage, namely: General Nile Company for Road Transport, General Nile Company for Freight Transport and General Nile Company for Transport Businesses; the fourth company was for road building (Road Materials Company).
At that time, the idea of collecting the operators who were excluded from nationalisation in an association, under the cooperative sector, emerged (one association in each governorate). The first six associations established in 1964 were in the governorates Cairo, Alexandria, Port Said, Behara, Kalubia and Gharbia. Now there are 25 associations running their own services. The number of operators required to establish an association is a minimum of 11, irrespective of the number of vehicles owned by each. The association obtains the contracts, then distributes the work between the members, according to the capacity of their fleets. The association collects the revenue. 5 per cent is reserved to cover administration costs, the rest (95 per cent) is handed to the operators. The association provides many facilities for the members, such as buying tyres, batteries and spare parts with interest free credit.

In 1966 The General Authority For Roads And Bridges was established. All the companies working in that field had been held under the new authority, including "The Road Materials Company". In October 1966, two new companies were established, namely: General Nile Company for Express Transport and General Nile Company for Direct Transport. In March 1967 they became one company under the General Nile Company for Direct Transport. In 1974 Law (43) came into being to encourage private domestic and foreign investment. In the light of this law, the following companies were established, The Egyptian American Company for Freight Transport, Ismailia National Company for Freight Transport and Port Said National Company for Freight Transport. In 1991 with the process of privatisation in the economy in general, the holding companies were established to take over the public sector companies.
The purpose of establishing the holding companies is explained in the article (2) of the Law No. 203 in 1991 (Public Businesses Sector Law), which stated:

* Holding Companies shall invest their funds through their affiliated companies, and may undertake the investment themselves when needed.

* Holding Companies shall contribute to the development of the national economy in their field of activity and through their subsidiary companies within the framework of public policy of the state.

* To accomplish its objectives a holding company may:

1. Establish joint stock companies by itself (alone) or in participation with public or private artificial entities or individuals.

2. Purchase or sell shares of joint stock companies or participate in their capital.

3. Form and manage a portfolio of the company with its included shares, stocks, debentures and any other financial instruments or assets.

4. Undertake all actions that would help achieve all or part of its objectives (Official Journal, 1991).

The Holding Company for Inland and River Transport took over the state sector transport companies, which are:

(1) Four inter city coach Companies, namely: East Delta Bus Company, Middle Delta Bus Company, West Delta Bus Company and Upper Egypt Bus Company.

(2) Five road freight companies, namely: Direct Transport Company, Transport Businesses Company, Goods Transport Company, Heavy Transport Company
and Inland Transport Company, and a company for repairing vehicles.

(3) Two Water Transport Companies, namely: Water Transport Company and River Transport Company.

In 1993, the Egyptian cabinet decided to re-structure the holding companies (which are state owned under the business sector), to take advantage of mixed portfolios and, on the other hand to spread losses made by companies over more than one holding company. By the cabinet decree No.217 in 1993, five subsidiary companies of the Holding Company for Inland and River Transport moved to the Holding Company for Maritime Transport and the Holding Company for Materials Industries. Three of these five companies were road freight companies, which moved to the Holding Company for Maritime Transport, namely: Heavy Transport Company, Goods Transport Company and Inland Transport Company. The other two companies, which moved to The Holding Company for Materials Industries were: Water Transport Company and River Transport Company. These five companies were replaced by: Canal Company for Navigation Agents, Suez Company for Loading and Unloading, Port Said Company for Containers Handling, Damietta Company for Containers Handling and Freight and Egypt Company for Foreign Trade. The title "The Egyptian Holding Company for Transport, Services and Trade "replaced" The Holding Company for Inland and River Transport".

Thus, from 1993, Egyptian road haulage industry could be classified into:

(A) Hire and reward.

1. State sector, comprising five subsidiary companies under two holding
companies, namely:

* The Egyptian Holding Company for Transport, Services and Trade, the subsidiary road haulage companies are: Transport Businesses Company and Direct Transport Company.

* The Holding Company for Maritime Transport, the subsidiary road haulage companies are: Heavy Transport Company, Goods Transport Company and Inland Transport Company.

2. Cooperative sector, comprising 25 associations, one in each governorate.

3. Private sector, divided into:

* Companies established under the law (43) in 1974, which are: The Egyptian American Company for Freight Transport, Ismailia National Company for Freight Transport and Port Said National Company for Freight Transport.

* Some individual operators who did not join the road haulage associations.

(B) Own Account Operators.

1. State sector, this category covers Businesses Sector Companies (production and construction companies), and the government ministries.

2. Private Sector, this includes private industrial firms with their own fleets.

3.3.2 Regulations.

All road haulage operations in Egypt are regulated by Law No. (64) of 1970, which superseded Law No. (115) of 1957. The main features of Law No. (64) are:
(1) The Ministry of Transport is responsible for the organization and control of freight transport on all public routes.

(2) The Ministry of Transport shall determine suitable transport modes for freight and organize freight haulage by these modes.

(3) The Ministry of Transport, in consultation with the Ministries of Interior and Local Governments may determine the number of freight vehicles to be registered by governorates.

(4) The Ministry of Transport shall determine freight transport prices along public routes and ensure its enforcement by owners, users and operators.

(5) The importing of freight transport vehicles by public entities, private establishments and individuals shall be approved by the Ministry of Transport.

(6) Public entities shall use only freight operators registered at the Ministry of Transport. The Ministry shall determine conditions for registering and maximum haulage capacities of registered operators.

It should be mentioned here that the stipulation regarding pricing included in this law is not enforced (Study of the National Transport System in Egypt, Draft 1993), which means total freedom for the operators to price their service. In reality the announced price by the state owned companies is usually used as a guide. This bears some similarity to the use made of published cost tables (eg. Commercial Motor) in the UK, where operators also often refer to them as a guide-line, but may not actually use them. The importing of goods vehicles is also governed by decree No. (348) in 1971 issued by the Ministry of Transport. This decree determines which vehicle makes may be imported, maximum axle loading and maximum vehicle width etc.
3.3.3 Road Lengths.

The Egyptian road network comes under the responsibility of two authorities, the General Authority for Roads and Bridges, which is responsible for principal roads, and the Local Authority of the governorates, which is responsible for the roads within the area of the governorate (excluding roads under the General Authority for Roads and Bridges' responsibility). According to data provided by the Central Agency for Public Mobilization and Statistics (CAPMAS), the lengths of all roads (desert and highways) under local authorities' responsibility, increased by 28.5 per cent during 1960's. Most of this increase was in highway roads, which increased by 83.4 per cent. During the 1970's, the percentage increase fell to 3.3 per cent, a 3.7 per cent decrease in desert roads, and an 11.5 per cent increase in highway roads. This trend continued during the 1980's, when the desert roads decreased by 15.3 per cent, while the highway roads increased by 61.2 per cent, (that is because some of the desert roads were converted into highway roads). The percentage increase for all roads was 22.6 per cent, see table (3.7).

Table 3.7: Road Lengths under Local Authorities .. Egypt 1960/1990.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Desert Roads</td>
<td>13554</td>
<td>13889</td>
<td>14202</td>
<td>13377</td>
<td>9994</td>
<td>11332</td>
</tr>
<tr>
<td>Highways</td>
<td>6414</td>
<td>11764</td>
<td>12319</td>
<td>13115</td>
<td>13974</td>
<td>21136</td>
</tr>
<tr>
<td>All Roads</td>
<td>19968</td>
<td>25653</td>
<td>26521</td>
<td>26492</td>
<td>23968</td>
<td>32468</td>
</tr>
</tbody>
</table>

Source:
(1) CAPMAS, Statistical Year Book 1980, Cairo 1981.
(2) CAPMAS, Statistical Year Book 1990, Cairo 1991.

Data provided by the General Authority for Roads and Bridges shown in table (3.8), demonstrates that the total length of roads under their responsibility in 1992 was
18,327 km, while lengths of highway roads under the responsibility of the Local Authorities of Governorates decreased from 21,136 km in 1990 to 16,206 Km in 1992, whilst the desert road lengths increased to 12,854 km in 1992.

Table 3.8: Road Lengths -- Egypt 1992.

<table>
<thead>
<tr>
<th>Zones</th>
<th>Total</th>
<th>Kilometres</th>
<th>Roads &amp; Bridges</th>
<th>Auth.</th>
<th>Kilometres</th>
<th>Local</th>
<th>Auth.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total Km.</td>
<td></td>
<td></td>
<td>Highway</td>
<td>Desert Roads</td>
</tr>
<tr>
<td>Central</td>
<td>1819</td>
<td></td>
<td>570 Cairo</td>
<td>400</td>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>354 Kalubia</td>
<td>405</td>
<td>133</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>895 Giza</td>
<td>680</td>
<td>222</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suez</td>
<td>5408</td>
<td></td>
<td>958 Ismailia</td>
<td>641</td>
<td>334</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Canal and</td>
<td></td>
<td></td>
<td>97 Port Said</td>
<td>197</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sinai</td>
<td>2061</td>
<td></td>
<td>747 Suez</td>
<td>130</td>
<td>120</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1545 North Sinai</td>
<td>266</td>
<td>1188</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>895</td>
<td></td>
<td>1334</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>East</td>
<td>1340</td>
<td></td>
<td>601 Sharkia</td>
<td>1176</td>
<td>845</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delta</td>
<td></td>
<td></td>
<td>574 Dakhla</td>
<td>887</td>
<td>620</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>165 Damitta</td>
<td>432</td>
<td>62</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle Delta</td>
<td>958</td>
<td></td>
<td>230 Mnufia</td>
<td>715</td>
<td>388</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>313 Gharbia</td>
<td>478</td>
<td>961</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>415 Kafrelshakh</td>
<td>599</td>
<td>253</td>
<td></td>
<td></td>
</tr>
<tr>
<td>West Delta</td>
<td>2463</td>
<td></td>
<td>229 Alexandria</td>
<td>830</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>977 Behara</td>
<td>794</td>
<td>906</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1257 Matrouh</td>
<td>180</td>
<td>130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beny Suef</td>
<td>464</td>
<td></td>
<td>207 Beny Suef</td>
<td>715</td>
<td>361</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>257 Faum</td>
<td>488</td>
<td>738</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qena</td>
<td>1717</td>
<td></td>
<td>590 Qena</td>
<td>1040</td>
<td>135</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1127 Aswan</td>
<td>219</td>
<td>49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asuet</td>
<td>2518</td>
<td></td>
<td>575 Asuet</td>
<td>1732</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>412 Menia</td>
<td>819</td>
<td>812</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>241 Sohag</td>
<td>815</td>
<td>586</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1290 New Valley</td>
<td>1121</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red Sea</td>
<td>1640</td>
<td></td>
<td>1640 Red Sea</td>
<td>288</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>18327</td>
<td></td>
<td>18327 Total</td>
<td>16206</td>
<td>12854</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: General Authority for Roads and Bridges, Cairo 1993.
3.3.4 Goods Lifted and Moved.

In 1992 total goods lifted by all modes amounted to 49.1 million tonnes, 73.1 per cent of that amount was carried by road (35.9 million tonnes), 22.2 per cent carried by railways (10.9 million tonnes), and the rest (4.7 per cent) was carried by water (2.3 million tonnes). The cooperative sector dominates the market for road freight transport. In 1992, 70.2 per cent of total goods lifted by road was by the cooperative sector (25.2 million tonnes), 27.8 per cent (10.0 million tonnes) by the state sector operators, 2.0 per cent (0.7 million tonnes) by the private sector operators, see tables (3.9) and (3.10). It was only possible to obtain data for goods moved by the state sector operators, which was 2.5 billion tonnes/km in 1992. By using the average length of haul for state sector operators (which was 246 km), total goods moved in 1992 are assumed to have amounted to 10.5 billion tonnes/km. The assumed percentage shares of state sector operators was 23.8 per cent, cooperative sector operators was 60.8 per cent (6.2 billion tonnes/km), and private sector operators 17.1 per cent (1.8 billion tonnes/km).

Table 3.9: Goods Lifted by all modes -- Egypt 1992.

<table>
<thead>
<tr>
<th></th>
<th>Million Tonnes</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>35.9</td>
<td>73.1</td>
</tr>
<tr>
<td>Rail</td>
<td>10.9</td>
<td>22.2</td>
</tr>
<tr>
<td>Water</td>
<td>2.3</td>
<td>4.7</td>
</tr>
<tr>
<td>Total</td>
<td>49.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source:
### Table 3.10: Goods Lifted by Road in Egypt 1992.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Million Tonnes</th>
<th>Percentages(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Sector</td>
<td>10.0</td>
<td>27.8</td>
</tr>
<tr>
<td>Cooperative Sector</td>
<td>25.2</td>
<td>70.2</td>
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3.3.5 Goods Vehicle Population and Distribution.

Over a ten years period (1983-1992) total goods vehicle increased by 178,818 from 235,444 in 1983 to 414,262 in 1992 (75.9 per cent). Most of this increase was in the first five years (1983-1988), when the number of goods vehicles increased by 52.8 per cent (from 235,444 in 1983 to 359,723 in 1988, by 124,279). In the second five years the percentage increase was 15.2 per cent (from 359,723 in 1988 to 414,262 in 1992).

A big proportion of that later increase was in Lower Egypt governorates, which had 42.3 per cent of the total increase in the national goods vehicle fleet (23,068 out of 54,539). Urban governorates had 35.7 per cent (19,469 out of 54,539), whereas Upper Egypt and Frontier governorates recorded the lowest per cent of share in that increase (18.3 per cent and 3.7 per cent respectively), the possible explanation being that most of the economic activity has been concentrated in Lower and Central Egypt, see table (3.11). In 1992, the shares of both Lower Egypt and Urban governorates in the national goods vehicle fleet were nearly the same (37.6 per cent for the former and 37.7 per cent for the latter). The share of Upper Egypt governorates was 21.7 per cent, while the Frontier governorates recorded the lowest percentage share (2.9 per cent). The percentage shares were, almost the same as they were in 1986 (39.8 per cent for
Urban governorates, 36.1 per cent for Lower Egypt, 21.4 per cent for Upper Egypt and 2.7 per cent for the Frontier governorates). As stated earlier, the high proportion of the national fleet in Lower Egypt and Urban Governorates could be explained by the concentration of the economic activities in the Delta area.


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| TOTAL             | 235444| 326320| 359723| 390163| 414262|

Source: Central Traffic Department, Cairo 1993.
The annual growth rates (1991-92) in vehicle population in Urban governorates Cairo, Alexandria, and Port Said, and in Lower Egypt governorates Damitta and Gharbia were more or less uniform. The number of vehicles in 1992 for the four governorates Qalubia, Ismailia, Faum and Minya all showed a decrease compared to respective figures of previous years. The decrease was striking in Faum (-12.4 per cent). Given the substantial industrial and agricultural activities in these governorates, this drop in number of goods vehicles is doubtful. The reason for that could not identified. However, the study of the National Transport System in Egypt (1993) suggests that it is either a mistake in the data or there may have been some modifications in the governorate's administrative boundaries. Five Frontier governorates showed an increase in goods vehicle population, except for North Sinai which recorded a decline of 4.4 per cent, see table (3.12).

Information about the description of the national goods vehicle fleet characteristics in terms of ownership (by state and private sector) has been obtained from the Central Agency For Public Mobilization and Statistics (CAPMAS) publications. It is necessary to note here that the total figure for goods vehicles in operation in 1991 shown in the CAPMAS reports, of 298,659 is less than the corresponding figure obtained from the Central Traffic Department. According to CAPMAS data, goods vehicles classified under the state sector ranged between 13 per cent to 14 per cent of the total goods vehicles during last five years (1987-1991). The share of the state sector is comparatively high in the industrial governorates of Cairo, Alexandria, Port Said, Suez, Ismailia, and Aswan, which may be explained by own fleets of state sector industrial companies in operation there. Also, the Red Sea and South Sinai
governorates show high state sector shares, which may be explained by the goods vehicle fleet owned by the state sector of petroleum and mining companies there, see table (3.13).


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**Source:**
In terms of vehicle weight, during the ten year period (1981/1991), the number of goods vehicles over 3 tonnes gross vehicle weight (GVW) increased from 77,651 in 1981 to 82,456 in 1991 (by 6.2 per cent). Data provided by CAPMAS demonstrate that there was a movement towards using heavier goods vehicles during the 1980's. Goods vehicles over 3 tonnes and less than 10 tonnes GVW accounted for 87 per cent of the total national fleet in 1991, compared with 92.4 per cent in 1981, whereas goods vehicles of 15 tonnes and over increased from 7.6 per cent in 1981 to 13 per cent in 1991, see table (3.14).

Table 3.14: Registered Heavy Goods Vehicle by Ownership .. Egypt 1981/91.

| Tonnes | 1981 | | | 1991 | | |
|--------|------|------|------|------|------|------|------|
|        | No.  | %    | No.  | %    | No.  | %    | No.  | %    |
| 3-      | 2924 | 12.3 | 13706 | 25.5 | 16630 | 21.4 | 1657 | 8.6 |
| 5-      | 13536 | 56.5 | 31167 | 58.0 | 44703 | 57.6 | 11510 | 59.5 |
| 10-     | 4206 | 17.6 | 6212 | 11.6 | 10418 | 13.4 | 2683 | 13.9 |
| 15-     | 1557 | 6.5  | 1271 | 2.4  | 2828 | 3.6  | 1069 | 5.5 |
| 20+     | 1719 | 7.1  | 1353 | 2.5  | 3072 | 4.0  | 2430 | 12.5 |
| Total   | 23942 | 100  | 53709 | 100 | 77651 | 100 | 19349 | 100 |

Source:

By ownership, the proportion of goods vehicles 10 tonnes and over is higher in the state sector fleet (31.2 per cent in 1981 and 32.0 per cent in 1991) than in the private sector fleet (16.5 per cent in 1981 and 22.0 per cent in 1991). This could be explained both by the size of firms and the type of haul, since most of the private sector road freight firms are small, mainly driver-operators who do not carry heavy hauls over long distances. On the other hand, there has been a trend towards using the heaviest
goods vehicles during the last ten years or more. Goods vehicle of 20 tonnes and over accounted for 12.5 per cent of the state sector fleet in 1991 (7.1 per cent in 1981), which is much higher than the respective figure for the private sector (2.5 per cent in 1981 and 4.3 per cent in 1991).

3.3.6 Road Haulage Operators.

At present, road freight operators in Egypt could be classified under three categories; state sector, cooperative sector and private sector operators.

3.3.6.1 State Sector.

There are five state sector operators, described in section 3.3.1, which also described how the amount of goods lifted by the state sector fleet decreased by 13.8 per cent, between 1985/86 and 1991/92. During that period the Direct Transport Company and the Goods Transport Company carried more than half of the total tonnes lifted by state sector operators. El-Mazawy and Lashin (1994) suggest the following reasons for the decrease in the amount of goods lifted by state sector road freight companies:

(1) Deregulation of the foreign trade, specially imports of foods and wheat, which was a monopoly for the Ministry of Supply (the General Authority for Food).

(2) Deregulation of cement distribution, which was a monopoly for the Office of Cement Distribution.

(3) Reform of the Agriculture Bank, which was the monopoly of agriculture inputs and outputs.
As a result of these changes, the companies lost huge long term contracts. According to data provided by State Sector Information Centre (1995), between 1990/91 and 1992/93, the amount of food supply carried by the state sector road haulage companies decreased from 4587 thousands tonnes to 2566 thousands tonnes. Also the amount of fertilizer decreased from 769 thousands tonnes to 296 thousands tonnes.

Section 3.3.4 estimated that the state sector moved about 24 per cent of goods in 1991/1992, an increase of 3.7 per cent from 1985/1986. The Direct Transport Company had the highest proportion (29.7 per cent) of total goods moved by state sector operators in 1991/92, followed by the Inland Transport Company (21.5 per cent) and the Goods Transport Company (18.4 per cent), see tables (3.15) and (3.16).


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<td>Goods Transport Company</td>
<td>3.1</td>
<td>26.7</td>
<td>3.6</td>
<td>29.5</td>
<td>2.1</td>
<td>21.0</td>
</tr>
<tr>
<td>Transport Businesses Company</td>
<td>2.5</td>
<td>21.6</td>
<td>2.3</td>
<td>18.9</td>
<td>1.4</td>
<td>14.0</td>
</tr>
<tr>
<td>Heavy Transport Company</td>
<td>1.4</td>
<td>12.0</td>
<td>1.6</td>
<td>13.1</td>
<td>1.6</td>
<td>16.0</td>
</tr>
<tr>
<td>Inland Transport Company</td>
<td>1.4</td>
<td>14.7</td>
<td>2.0</td>
<td>16.4</td>
<td>1.6</td>
<td>16.0</td>
</tr>
<tr>
<td>Total</td>
<td>11.6</td>
<td>100</td>
<td>12.2</td>
<td>100</td>
<td>10.0</td>
<td>100</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tonnes</td>
<td>%</td>
<td>Tonnes</td>
<td>%</td>
<td>Tonnes</td>
<td>%</td>
</tr>
<tr>
<td>Direct Transport Company</td>
<td>547</td>
<td>23.1</td>
<td>675</td>
<td>27.6</td>
<td>732</td>
<td>29.7</td>
</tr>
<tr>
<td>Goods Transport Company</td>
<td>460</td>
<td>19.4</td>
<td>528</td>
<td>21.6</td>
<td>452</td>
<td>18.4</td>
</tr>
<tr>
<td>Tra. Businesses Company</td>
<td>592</td>
<td>24.9</td>
<td>475</td>
<td>19.5</td>
<td>382</td>
<td>15.5</td>
</tr>
<tr>
<td>Heavy Transport Company</td>
<td>364</td>
<td>15.3</td>
<td>316</td>
<td>12.9</td>
<td>366</td>
<td>14.9</td>
</tr>
<tr>
<td>Inland Transport Company</td>
<td>410</td>
<td>17.3</td>
<td>449</td>
<td>18.4</td>
<td>529</td>
<td>21.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2373</strong></td>
<td><strong>100</strong></td>
<td><strong>2443</strong></td>
<td><strong>100</strong></td>
<td><strong>2461</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>


The total number of vehicles (all state sector operators) in 1992 amounted to 2,320 vehicles, with about 23.4 per cent of them less than four years old, while 31.8 per cent were over 8 years old. The Heavy Transport Company had the highest proportion of vehicles less than 4 years old (55.9 per cent of its fleet). On the other hand, 35 per cent of the Direct Transport Company fleet was over 10 years old, see table (3.17). The reason for this is probably the availability of capital to modernise the fleet.

Table 3.17: State Sector Fleet by Age -- Egypt 1992.

<table>
<thead>
<tr>
<th></th>
<th>Direct Transport Company</th>
<th>Transport Businesses Company</th>
<th>Inland Transport Company</th>
<th>Heavy Transport Company</th>
<th>Goods Transport Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 2 Years</td>
<td>43</td>
<td>14</td>
<td>42</td>
<td>128</td>
<td>29</td>
</tr>
<tr>
<td>2-4 Years</td>
<td>93</td>
<td>44</td>
<td>16</td>
<td>87</td>
<td>48</td>
</tr>
<tr>
<td>4-6 Years</td>
<td>53</td>
<td>149</td>
<td>104</td>
<td>64</td>
<td>128</td>
</tr>
<tr>
<td>6-8 Years</td>
<td>141</td>
<td>67</td>
<td>102</td>
<td>80</td>
<td>148</td>
</tr>
<tr>
<td>8-10 Years</td>
<td>52</td>
<td>89</td>
<td>101</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>+10 Years</td>
<td>203</td>
<td>74</td>
<td>40</td>
<td>9</td>
<td>76</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>585</strong></td>
<td><strong>437</strong></td>
<td><strong>405</strong></td>
<td><strong>384</strong></td>
<td><strong>509</strong></td>
</tr>
</tbody>
</table>


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Table (3.18) shows vehicles of the state sector fleet in operational condition and in use. Of the total fleet, only 67.5 per cent of vehicles were in use. The Inland Transport Company had recorded a higher percentage of vehicles in operational condition (90.3 per cent of its fleet) and also vehicles in use (88.1 per cent of its fleet), while the lowest percentage for vehicles in operational condition was the Direct Transport Company (79.5 per cent) and for vehicles in use was the Transport Businesses Company (71.6 per cent of its fleet). The reason for these differences are probably because more than 43 per cent of the Direct Transport Company fleet is more than 8 years old, compared to 35 per cent of the Inland Transport Company fleet.

<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Direct Transport Company</td>
</tr>
<tr>
<td>Transport Businesses Company</td>
</tr>
<tr>
<td>Inland Transport Company</td>
</tr>
<tr>
<td>Heavy Transport Company</td>
</tr>
<tr>
<td>Goods Transport Company</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>


The average length of haul was obtained from data provided for goods lifted and moved by state sector companies (Holding Company for Transport, Annual Report 1992). During 1985/86-1991/92, the percentage increase in the average length of haul (all sectors) was 20 per cent (from 205 to 246 km). In terms of companies, all companies recorded an increase in average length of haul between 13 per cent
(Businesses Transport Company) and 41 per cent (Goods Transport Company), except for the Heavy Transport Company which recorded -12 per cent. This increase in average length of haul might be a reflection of the increase in demand for longer haul. In 1991/1992 total kilometres run by all state sector companies was 131,157,000 km, of which 32.0 per cent were unladen. The percentage of unladen or empty running ranged between 27 per cent for Direct Transport Company and 41 per cent for Businesses Transport Company. The reason for that is possibly because the main work for the state sector companies is to transport imports from ports, and it would be difficult to find a load during the return journey.

3.3.6.2 Cooperative Sector

In the early 1960's a number of cooperatives were set up in some cities of Egypt to gather the private road freight operators (excluded from nationalization processes) under one organization and more efficiently operate the road freight industry. These cooperatives were supervised by the Ministry of Industry. The importance of attaching cooperatives to the Ministry of Transport became evident, and in 1964 the cooperatives (seven at that time) were transferred to the control of that ministry. The Ministry of Transport continued to supervise the cooperatives through its Inland Transport Authority (which was established by Law No. 96 in 1960 and reorganized by Law No. 3143 in 1964), up to the year 1975. Law No. 100 in 1975, decreed the abolition of the Inland Transport Authority and the transfer of the supervision of the cooperatives to the Ministry of Local Administration. In 1978, this situation was once more reversed and the cooperatives were returned to the Ministry of Transport. One
year later, Law No. 43 in 1979 put each cooperative under the supervision of the governorate administration it is located within. This situation continues up to the present.

At present, there is one cooperative located in each of the 25 governorates (with the exception of South Sinai). The total number of members, in 1991, was 13,110 owning 15,204 vehicles, of which approximately 70 per cent were in operational condition. There are no restrictions for membership other than that the goods vehicle capacity should be 5 tonnes and over. A Board of Directors is elected for each cooperative from among its members and there is a central committee located in Cairo. The major clients of the cooperatives come from companies affiliated to the Ministry of Supply (cereal, milling industry products, fertilizers, etc.), and annual contracts are negotiated with the Ministry. In addition, the cooperatives receive haulage orders from the five state sector freight transport companies, as well as other sector producing companies. With a total 15,204 vehicles in 1991 the cooperatives sector carried 25,154,038 tonnes, earning a total revenue of LE 157 million, see table (3.19). As stated in section 3.3.4, in 1992 the cooperatives lifted 70.2 per cent of total road freight tonnages, and probably moved 60.8 per cent of total tonnes kilometres.

**Table 3.19: Road Freight Cooperative Sector .. Egypt 1987/91.**

<table>
<thead>
<tr>
<th></th>
<th>1987</th>
<th>1991</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members.</td>
<td>12,112</td>
<td>13,110</td>
</tr>
<tr>
<td>Vehicles.</td>
<td>13,626</td>
<td>15,204</td>
</tr>
<tr>
<td>Revenue. (LE)</td>
<td>149,173,440</td>
<td>157,212,735</td>
</tr>
<tr>
<td>Tonnes Carried.</td>
<td>23,110,900</td>
<td>25,154,038</td>
</tr>
</tbody>
</table>

**Source:**
3.3.6.3 Private Sector.

Three large scale private companies were established under the investment Law No.43 in 1974, they are: Ismailia National Company for Freight Transport, Port Said National Company for Freight Transport and Egyptian American Company for Freight Transport. Data relating to those companies is shown in table (3.20). The total fleet is 270 vehicles (Egyptian American Company has about 44.4 per cent or 120 vehicles). The number of vehicles in use (for the three companies) was 205 vehicles in 1990, accounting for 75.9 per cent of the total companies' fleets. The highest percentage of vehicles in use was in the Port Said National Company (80.2 per cent of its fleet), followed by Ismailia National Company (75.3 per cent), and Egyptian American Company (73.3 per cent). Total goods lifted by the three companies' fleets in 1991 amounted to 724 thousand tonnes, more than half of this amount (55.9 per cent) carried by Ismailia National Company (35.0 per cent by Egyptian American Company and 8.9 per cent by Port Said National Company). Total revenue for the three companies in 1991 amounted to more than LE 6 million. The overall percentage of the private sector in 1992 was 2.0 per cent of tonnage (goods lifted) and 17.1 per cent of tonnes/kilometres (goods moved), see section 3.3.4.

Table 3.20: Large Scale Private Sector Operators - Egypt 1991.

<table>
<thead>
<tr>
<th></th>
<th>Egyptian American Company</th>
<th>Port Said National Company</th>
<th>Ismailia National Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicles Fleet.</td>
<td>120</td>
<td>81</td>
<td>69</td>
</tr>
<tr>
<td>Vehicles in Use.</td>
<td>88</td>
<td>65</td>
<td>52</td>
</tr>
<tr>
<td>Goods Lifted(1000 Ton).</td>
<td>254</td>
<td>65</td>
<td>405</td>
</tr>
<tr>
<td>Revenue (1000 LE).</td>
<td>3030</td>
<td>900</td>
<td>2153</td>
</tr>
</tbody>
</table>

This chapter shows that the economic policy adopted in Egypt in the early 1950's aimed to encourage private capital to develop the national economy. As a result of the failure of private capital to play its assumed role in developing the national economy, the state became a critical factor to achieve the task of developing and modernising the national economy, through the adoption of the centrally planned economy model. Since the mid 1970's, when it became clear that the economy was inefficient under state ownership, and with the aim of accelerating economic growth, Egypt started to replace the centrally planned model by a market economy model through two main operations; by liberalising the economy, which is a necessary step to creating the suitable environment to carry out the second operation which is privatisation.

Egypt started the reform programme surrounded by economic difficulties; rapid population growth, inefficient bureaucracy in the state sector, a large system of subsidies, growing unemployment, budget deficits, imbalance in the current account and balance of trade, and huge external debts. In addition, the government was criticised in terms of misuse of foreign aid (Sullivan, 1990). These structural weaknesses were hidden in the decade after 1975 by the rise in foreign exchange earnings, particularly from the rise in oil prices (Abdallah and Brown, 1988). But in the second half of the 1980's, when oil prices collapsed, and remittances decreased (McDougall, 1988), it became clear that there was an urgent need to speed up economic reform and privatisation. The late 1980's showed a considerable effort towards economic reform and creating an environment for privatisation (see section
3.2.2). The privatisation programme in Egypt has been characterised by gradualism, to minimise the social effects of the restructure (Euromoney, 1996), and also due to Egypt's political environment (see Ajami, 1995). The government's worries about increasing unemployment, underemployment, and inflation is understandable, with an estimated unemployment rate ranging between 15 per cent and 20 per cent, and an inflation rate about 10 per cent in 1994 (Middle East Review, 1996). On the other hand, heavy external debts, amounting US $ 50 billion, with a debt service ratio of 28.5 per cent in 1989 (Africa Review, 1995) reduced the government's ability to accelerate the privatisation programme. Some relief has come through the writing off of debts. Following the Gulf War, the USA and Gulf states wrote off the sum of US $ 14 billion. Combined with the results of the Paris Club release from debt (15 per cent in July 1991, another 15 per cent in January 1993, and 20 per cent in July 1994) (Timewell, 1991), the total debt obligations have been nearly halved. Mention here should be made of the fact that these debt releases concern official debts, and the new debt profile is largely non-official. However, the reduction of the external debt helped to make debt servicing more manageable. With the reduction in the Budget deficit, prices adjustment, increase in tax revenue, and cutting subsidies, the government has managed to speed the privatisation programme since 1993.

Although the last three years have shown a serious effort towards economic reform and privatisation, there is more to be done, since the state sector still comprises 312 companies. For Egypt, economic reform applies to a number of different factors. It
refers to withdrawal of subsidies and making price adjustments (cost orientated prices); to increasing tax revenue through a new tax system; to unifying the exchange rates into a single market orientated one; and to reducing public expenditure and the budget deficit. Above all, it is a case of economic structural reform. Since the 1970's, Egypt has been dependent on external factors largely out of its control; these include oil exports, workers' remittances, Suez Canal dues, and foreign aid. Economic structural reform to build institutional capacity is needed, and without it the dependency will continue and little development will be achieved. Privatisation is the most suitable way to build this institutional capacity in a more efficient way than is apparently possible under state ownership, based on past Egyptian experience.

The review of the road freight industry (section 3.3), has show that since the industry was nationalised during the second half of the 1950's, the private sector, including the cooperatives, has had a role to play in the road freight market. This role grew to a peak during the early 1990's, with around 72 per cent of total goods lifted by road carried by the private sector in 1992 (section 3.3.6.2). The domination of the cooperatives in the road freight market is a result of the liberalisation of foreign trade, which resulted in increasing the demand for small firm operators rather than large operators.

The privatisation of the state sector road freight companies in Egypt presents a different option. One approach could be to dissolve them and sell off their assets. These could be sold in a number of ways. The result could be an increase in the number of small operators. It would, also, be likely to result in an increase in the
number of unemployed. The ability of the government to transfer the employees to other state sectors is limited, since one of the main features of the state sector companies is over-employment (Afefy, 1993). Another approach is to privatise them as large entities. This could be through sale offer, flotation in the stock market, and management/employees' buy out. In all cases, there is a threat of underestimating the real value of the companies, due to poor financial performance, over-employment, and an unbalanced financial structure (El-Abd, 1994). Furthermore, there is the problem of the companies' debt, which accounted for LE 165 million in 1995 (Al-Ahram, 1996). It would be suggested that restructuring these companies is needed before privatisation.

Section 3.3.6.2 shows that the cooperatives were set up in the 1960's to gather the small and individual private operators under one organisation. Therefore, this sector could be seen as a collection of private small firms with a degree of state support. The number of changes in the control of the cooperatives; Ministry of Industry (1964), Ministry of Transport (1964-75), Ministry of Local Administration (1975-78), Ministry of Transport (1978-79), and governorate administration (1979 until now), no doubt reflect the wider uncertainty within the central government regarding the changing nature of the relationship between the state and the industry sectors.

Before liberalisation of the economy, which started in mid 1970's, the major client for the cooperatives was the group of companies affiliated to the Ministry of Supply. The cooperatives also used to receive haulage orders from the state road haulage companies (see section 3.3.6.2). The outcome of the economic reform of deregulation
of the foreign trade and cement distribution and reform of the Agriculture bank (see section 3.3.6.1) resulted in a new pattern of demand for road freight services, where the demand for small rather than large operators increased. Due to the locational and vehicle size flexibility advantageous of the cooperatives over the state sector companies, which operate centrally, the cooperatives were able to meet the new pattern of demand efficiently. Section 3.3.4 shows that the cooperatives lifted 70.2 per cent of total road freight tonnage in 1992. Furthermore, in the present competitive environment in the road freight market in Egypt, resulting from the existence of three road freight sectors (state sector companies, cooperatives, and private sector companies) combined with economic reform, the cooperatives were exposed to market forces and they were able to offer lower prices than both the state sector operators and private sector companies. This was possible for the following reasons:

1. Lower overheads, as a collection of small and individual (owner-driver) operators (see section 3.3.6.2).
2. Lower number of employees (see section 2.9).
3. Lower depreciation costs, where the average age of vehicles in the cooperative sector is higher than in the state sector (see section 2.9).
4. Lower maintenance costs, where part of the maintenance work is done by the vehicle owners.

From personal observation during the course of this work, the researcher has doubts about the accuracy of the prices offered by the cooperative operators, since the majority of the operators are owner-drivers without recorded costing systems and/or documentation. However, the domination by the cooperatives of the road freight
market in Egypt is likely to continue as long as this new pattern exists and there is no change in the way that the state sector operates.

Privatisation of the state sector companies would be expected to have an impact on the road freight market. This impact depends on the method of privatisation. Dissolving these companies and selling off their assets may give a chance for some operators in the cooperatives to expand outside the cooperative sector, but also it may result in an increase in the number of small operators, which is probably not favourable to the development of the industry. Privatising these companies as large entities may provide a chance for development of the industry, such as towards contract distribution (see sections 4.2.2.7 and 8.2) but it requires decentralisation of operations to meet the new pattern in demand.

In order to gain a better understanding of the options, the following chapter makes a study of the road haulage industry in two other countries, Britain and Hungary. Britain is selected because it has a long term deregulated road haulage industry, with a long and well-documented history of privatisation. Hungary is selected because, although it is different from Egypt in many aspects, it has a recent record of road freight privatisation, following a period of socialism and state ownership.
CHAPTER 4

PRIVATISATION AND ROAD HAULAGE
IN BRITAIN AND HUNGARY

4.1 INTRODUCTION.

This chapter examines privatisation and road haulage in Britain and Hungary, in order to provide a case against which to compare Egypt. It is based on literature reviews undertaken in both countries. Because there are many similarities between Egypt and Hungary, the latter country is also used as a comparison in the empirical study described in later chapters.

4.2 PRIVATISATION AND ROAD HAULAGE IN BRITAIN.

4.2.1 Privatisation Programme.

In 1979 the proportion of British industry owned and controlled by the state was at a high level. State-owned industries accounted for over one-seventh of total investment in the UK and were responsible for over 10 per cent of the country's gross domestic product (Richardson, 1990). These industries dominated the transport, energy, communications, steel and shipbuilding sectors of the British economy. The state owned industry sector in Britain was largely created about fifty years ago under a Labour government. The motivation was political (bringing the commanding heights
of the economy into state ownership), and economic (the industries in question needed rationalization and reconstruction) (Richardson, 1990). The performance of British nationalised industries was generally disappointing. Criticisms were continually voiced about their low return on capital employed, their record on prices, productivity and manpower costs and about the low level of customer satisfaction that they provided (Richardson, 1990).

In 1979, with a new Conservative government, Britain started its privatisation programme with a reduction of the government holding shares in state owned enterprises. Sale of shares took two forms; public offering, such as British Aerospace, Cable and Wireless and Amersham International, and private sale such as British Rail Hotels (by British Railways) and International Aeradio (by British Airways). The aims of the privatisation programme in Britain changed as the programme proceeded (Richardson, 1990). The objectives of the programme had been extended to cover both the increase of efficiency and productivity through the introduction and promotion of competition, and the reduction of the role of the state sector and the creating of popular capitalism (Richardson, 1990).

4.2.1.1 The Programme Objectives.

According to Wiltshire (1988) the concept of privatisation was not contained in the Conservative Party manifesto for the 1979 election, and it was not an issue in the 1983 election. Even by 1988 there was no distinct policy document from the British government or the Conservative Party defining privatisation, justifying it, outlining its
objectives or spelling out its future applications. In 1983, the government stated that privatisation was a key element of the government's economic strategy, and that it would lead to a fundamental shift in the balance between the state and private sectors, bring about a profound change in attitudes within state industries, open up exciting possibilities for the consumer, better pay and conditions for employees, and a new freedom for the managers of the industries concerned. The privatisation programme has also two main aims: to promote competition, and to increase efficiency.

Another major objective of the privatisation programme is the promotion of wider share ownership among both employees and the public. It is the Conservative government's stated policy to extend the ownership of wealth more widely in the economy, giving people a direct stake in the success of British industry and removing the old distinction between owners and workers (Wiltshire, 1988). The theory is that pressures from shareholders looking for a return on their investments, especially when these shareholders are also customers and include managers and employees, gives privatised companies incentives to pursue maximum efficiency and seek maximum competitive terms from their suppliers. This latter factor is claimed to benefit the UK economy as a whole and encourage suppliers to seek overseas markets and pursue technical innovation. In July 1984, the government showed some changes of emphasis in the direction of the programme, in that privatisation was one of a range of policies whose aim was to reduce the size of the state-controlled sectors of the economy and to increase the proportion of assets owned privately. By 1985, the government was emphasising another major objective of privatisation: putting a permanent stop to the "meddling" of ministers and politicians in general (Wiltshire, 1988).
By 1986, the government was talking in terms of "further and faster", with an emphasis on increasing business and economic efficiency by competition, by rationalisation and restructuring and by carefully designed regulatory regimes. Wiltshire (1988) concluded that it is most important to note that the emphasis on different objectives of the privatisation programme has changed as time has passed and as the programme has gathered momentum.

Richardson (1990) says the British privatisation programme has the following key objectives:

(1) To increase efficiency through competition, deregulation or other means.
(2) To raise finance which can be used to fund other expenditure priorities, to reduce borrowing, to reduce taxation or any combination of these.
(3) To encourage employees to own shares in the company in which they work.
(4) To boost the level of share ownership in the general economy.
(5) To strengthen the capital market.

4.2.1.2 The Process of the Privatisation Programme.

An historical description of the British privatisation programme made by Hyman can be found in Veljanovski (1989), who says that the Conservative Government's drift toward a privatisation programme started slowly in 1979 with the sale of 5 per cent of its share in British Petroleum for £290 Million. This was the first reduction of the government's holding in a major state-owned enterprise to under 50 per cent of the equity. It was followed by sales of several significant investments of the National
Enterprise Board (NEB), ICL, Fairey and Ferranti (the NEB was a holding company established by the previous Labour government to own new and/or ailing companies which required financial assistance). With the change of government in 1979, and the subsequent Industry Act 1980, the NEB's function was altered to that of a catalyst for investment in high technology industries and in partnership with the private sector. It was encouraged to dispose of its investments wherever possible in order to increase private sector involvement. By February 1981 the next public offering took place, 51 per cent of British Aerospace. Several more public offerings followed, Cable and Wireless (40 per cent), Amersham International (100 per cent). Britoil was the first issue in the privatisation programme to exceed £500 million, the first to use a tender offer (27 per cent of the shares were bought by the public). 1983 ended with the sales of British Rail Hotels (by British Railways) and International Aeradio (by British Airways) to private investors.

The second term of the government's privatisation programme began with the sale of a further 7 per cent of British Petroleum by tender in 1984. Within the next year four more public and three major trade sales occurred. They consisted of 22 per cent of Cable and Wireless (a tender offer), the remaining 48.5 per cent of Associated British Ports, all of Enterprise Oil and Jaguar, the trade sale of British Gas's onshore oil assets, Sealink and Inmos (owned by the NEB). A significant change in the privatisation programme occurred with the sale of 51 per cent of British Telecom to the public. At the time this was the largest equity offering ever made anywhere in the world. It has subsequently been exceeded by privatisation offers such as British Gas (1986) and British Petroleum (1987).
British Telecom was the government's first sale of a public utility and raised concerns over privatising a monopoly (Veljanovski, 1989). The result was the creation of a regulatory regime, supervised by a new regulatory Office Of Telecommunications (OFTEL). There was also a fear that the capital markets would be unable to absorb such a large issue (Veljanovski, 1989). 14 per cent of the shares were allocated to investors outside the UK and payment for the shares was in three instalments, extending over almost two years. The government also linked this sale with the objective of wider share ownership, the general public applying for four times the shares available to them, leading to over 2.3 million shareholders.

In 1985 and 1986 the remaining government holdings in British Aerospace, Britoil, Cable and Wireless, British Shipbuilders Warship Yards (by British Shipbuilders) and BA Helicopters (by British Airways) were sold. The privatisation of the National Bus Company took place in 1986. The objective of this privatisation was to promote competition. In 1987 there were further sales of three companies to the public, British Airways, Rolls-Royce and British Airports Authority (BAA), (100 per cent in each case), and five private sales, Unipart, Leyland Bus, DAB and Istel (all by Rover Group), and Royal Ardency. In October 1987, the government sold its remaining holding in British Petroleum. During the last two years of the 1980's, Water and Electricity were privatised (Water Act in 1989 and Electricity Act in 1990). At the time of writing (1996) the privatisation process is continuing with the sale of British rail operating companies and the railway infrastructure (Railtrack).
4.2.1.3 **Road Freight Privatisation.**

This section is restricted to road freight privatisation issues. The general structure of the UK road freight industry is considered in section 4.2.2. Deregulation often precedes privatisation, and the two processes are often combined. Therefore the two processes are considered together in this section. Deregulation of the freight sector is an issue of major importance in many countries over the world. Agreement was reached in 1988 amongst member states of the European Community (now European Union) to deregulate the international freight sector. During the late 1980's a number of European countries (eg. the Netherlands, Belgium and France) were in the process of deregulation of their freight sectors, in anticipation of the completion of the single market in 1992 (Cooper, 1991). The UK formally deregulated road freight transport in the Transport Act of 1968, before that road freight transport was regulated under the 1933 Road and Rail Traffic Act. Between 1933 and 1968, the 1947 Transport Act brought long distance hauliers (hire and reward) into state ownership, and the 1953 Transport Act instructed the British Transport Commission to sell off the nationally owned public fleet (Foster, 1978). It can therefore be seen that there is not necessarily always an obvious relationship between deregulation and privatisation.

In the report of the Independent Committee of Inquiry (Road Haulage Operator's Licensing), Foster (1978) gives an historical summary of the licensing system in Britain. He says that before the 1968 Transport Act, operators of commercial goods vehicles had been regulated under the carriers' licensing system, established by the 1933 Road and Rail Traffic Act. The origins of the carriers' licensing system lay in
the rapidly changing transport market of the 1920's and early 1930's. At that time, the railways were the major carriers of goods. They were subject to common carrier obligations and other strict controls which were designed to offset their monopoly, while road transport carried goods virtually free of constraint. By the late 1920's, there was a widespread feeling that some control of road haulage was necessary and that an inequitable and uneconomic distribution of goods between rail and road resulted from restrictions on one and the freedom of the other. In 1928, The Royal Commission on Transport took place. The recommendations of the commission were:

(1) For the protection of the railways from more loss of traffic and to discourage the use of heavy vehicles, a progressive duty for the extra ton weight should be payed for lorries over 4 tons unladen weight.

(2) The introduction of a licensing system to road haulage on an organised basis and to meet the requirement of coordinating the transport system.

(3) The licensing authorities should consider the fitness of vehicle and wages and conditions of employees of the applicant for a licence (Foster, 1978).

In 1932, a conference of representatives of railways and road haulage interests was held. The conference concluded that the handicap the railways suffered because of their charging principles was due to their being organised in large and inflexible units rather than because of statutory regulation. It recommended against the railways adopting cost-based or competitive pricing because it considered that would have had disastrous consequences for the large number of firms who had chosen their locations in the expectation that their rail transport would continue to be cheap. Instead, to discourage the greater use of heavy road vehicles and to protect the railways from
further loss of traffic, the conference produced a scheme of taxation for road vehicles which, with fuel tax, would cover the costs of using and maintaining the roads. Further recommendations were that an applicant for a licence should specify the carrying capacity, the registration number and the unladen weight of the vehicle to be licensed (Foster, 1978 and Button and Chow, 1983).

Nearly all the conference's recommendations were put into effect; those on excise tax by the 1933 Finance Act and the remainder in the 1933 Road and Rail Traffic Act. The 1933 Act was therefore a deliberate attempt to regulate road/rail competition and thus the distribution of goods carried by road and rail. Under the 1933 Road and Rail Traffic Act, hauliers were issued with one of five types of licence:

1. The public carrier's or (A) licence, for the carriage of goods for hire and reward.
2. The contract (A) licence, for the carriage of goods under contract to one customer for at least one year.
3. The limited carrier's or (B) licence, which allowed the operator to use the vehicles for carriage of his own goods. Also, it allowed use the vehicle for hire and reward subject to conditions about the type of goods carried, the clients and operating area.
4. The private carrier or (C) licence, for own account operations.
5. The (C) hiring licence, the holder of a private carrier licence could use the vehicles, in an emergency, for the carriage of others goods, provided that there were no sources to meet their needs.

In addition, there was also the "Farmer's Goods" or (F) licence.
During the period of the Second World War, the Road Haulage Organization was established, comprising most of the major long distance operators. The government controlled the road haulage industry through its control of this organization, and this situation remained unchanged until the second half of the 1940's. The 1947 Transport Act brought long distance hire or reward into public ownership under the new British Transport Commission. Wistrich (1983) says that the clear aim for establishing the British Transport Commission was to provide an efficient, adequate, economical and properly integrated system of public inland transport and port facilities within Britain. Road haulage was nationalised and the long-distance lorries were operated as a public monopoly by British Road Services (BRS). Within the structure public and contract carriers operated by private enterprise were licensed and restricted to operations within 25 miles of their bases, but firms which ran lorries solely to transport their own goods were left entirely free of restrictions. The aim of road haulage regulation was to prevent open competition between road and rail over the long-distance hauls and to regulate it over the shorter distances. The 1953 Transport Act empowered the British Transport Commission to sell off its fleet of 41,000 vehicles. In the event, they were unable to find buyers for all the vehicles and were allowed to retain and operate a fleet of 7,000 vehicles.

Under the 1962 Transport Act, British Road Services (BRS) and the other nationalised fleet were transferred to the Transport Holding Company (Maltby and White, 1982). The 1962 Transport Act set up the British Railways Board, the London Transport Board, the British Transport Docks Board, the British Waterways Board and the Transport Holding Company as successor authorities to the British Transport
Commission. All public haulage goods vehicles remaining in public ownership were transferred to the Transport Holding Company. In 1967, the Labour government published a White Paper on the Transport of Freight. The main features proposed were:

(1) The complete exemption from any form of carrier licensing of goods vehicles not exceeding 1.5 tonnes unladen weight.

(2) A system of quality licensing applicable to all goods vehicles over 1.5 tonnes and designed solely to improve road safety.

(3) A system of quantity licensing limited to goods vehicles over 16 tonnes gross weight, engaged in hauls either of over 100 miles or over any distance of various extracted and other bulk materials.

The 1968 Transport Act removed quantity constraints on entry into the road haulage industry which had existed since 1933, and replaced them with quality constraints. The removal of quantity constraints entailed:

(1) The freeing of operators of vehicles under 3.5 tonnes gross weight from the obligation of obtaining an operator's licence.

(2) The removal of the distinction between operations for hire or reward and on own account introduced under the 1933 Act. Every holder of an operator's licence or owner of vehicles less than 3.5 tonnes gross weight is free to carry goods for others for payment and/or his own goods as he wishes.

(3) Complete freedom of entry into the industry for any operator of vehicles under 3.5 tonnes gross weight, and for operators of vehicles over 3.5 tonnes gross weight who could convince the licensing authorities that they were fit persons
to hold a licence, that satisfactory arrangements could be made for complying with road transport laws and that they had sufficient financial resources and facilities at their disposal to maintain the number of vehicles they wished to operate.

(4) Complete freedom of operation with respect to goods carried and area served (Bayliss, 1973).

Also, under the 1968 Act, the National Freight Corporation was established to take over all the nationalised fleet (under the Transport Holding Company). The 1980 Transport Act legislated for the sale of the National Freight Corporation assets to the private sector and its abolition (Maltby and White, 1982). The privatisation of the National Freight Corporation is a landmark in recent British road freight privatisation history, and is therefore reviewed in some detail.

The 1968 Act aimed to integrate freight services throughout the country. To achieve that, the National Freight Corporation was set up to take over all state-owned road freight units. Various nationalised road freight companies, including the British Rail road fleet were integrated into the corporation, which took over a workforce of about 66,000 and a fleet of about 30,000 vehicles. Some of these integrated companies were loss making, such as the renamed National Carriers, with losses of about £20 million on a turnover of £25 million in 1968. With the government recognition that the new National Freight Corporation inherited considerable losses as a result of the transfer of the British Rail road freight activities, the National Freight Corporation received five years subsidy to help with these losses of the former rail-road freight company.
The Corporation started a reorganisation operation, by which the workforce was cut from 66,000 to 34,000 and the number of vehicles from 29,000 to 18,000 between 1968 and 1979. By the time the buy-out (discussed later) was under consideration, the workforce was down to around 28,000 and number of vehicles to around 16,000 (McLachlan, 1983).

Regarding British Road Services (a subsidiary of the National Freight Corporation), most of its loss-making depots had closed, mainly through redundancies. By 1972, reform was undertaken towards decentralisation. Seven regional companies were set up, to take over the responsibility of dealing with customers, to sell the services, motivate the employees, and ensure the efficiency of the operations (Thompson, 1990). Concerning the number of new companies, Thompson, a manager in the company and subsequently chief executive of the privatised NFC (see later), stated that it happened because the company had seven managers who had the skills to lead the new companies. The role of the headquarters was reduced with more focus on the development of the production and services, formulation of the future plans, agreeing targets with the new companies, allocation of capital, and monitoring performance. British Road Services improved its businesses over the following two years, and new services were introduced (truck rental and warehousing), which resulted in profit growth. But as a result of the 1968 Transport Act, which liberalised the entry to the road freight industry, the competition from new private sector companies, which took the form of price-cutting, was tough, and resulted in reduced profits. The National Freight Corporation had a difficult time, and the improvements achieved were not maintained during the recession of 1974/75. In 1975 losses from two subsidiaries of
the Corporation, namely British Road Services and Pickfords, drove the Corporation into operating losses of over £31 million (Thompson, 1990).

McLachlan (1983) says that due to the financial difficulties of the National Freight Corporation, the government appointed in 1975 a financial consultant to examine the Corporation's finances, resulting in a top management reorganisation. The National Freight Corporation was under pressure of heavy capital debt to the government, and in 1978 some help was given by the government, when £53 million of the Corporation's capital debt was written off (leaving £100 million), in addition to some other forms of relief. This assistance enabled the Corporation to achieve profits of £20.8 million in 1978.

In the summer of 1979, the Conservative Party published its election manifesto, specifically naming the National Freight Corporation, among others, as a candidate for sale of shares to the public. The objective was "to achieve substantial private investment in it" (McLachan, 1983, p68). The National Freight Corporation board advocated privatisation by selling its shares in the stock market as a single entity, including National Carriers. This was first to take advantage of National Carriers' mainly city-centre properties, and second, to avoid creating a subsidised competitor. Furthermore, the National Freight Corporation considered that the government should fund the pension schemes, and write off the debt from the balance sheet. In July 1979, the Corporation introduced a paper titled "Introduction of Private Investment into the National Freight Corporation", which gave its assessment of the implications of an offer for sale of the Corporation's shares to the public through the stock market.
As a result of recession, the volume of goods carried by the Corporation fell, leading to a fall in profits. The fact that the Corporation had no hope of a successful flotation in the stock market, at least for some time, led to the beginning of development of the concept of a management buy-out. This resulted in a proposal by Barclays Bank to lend the Corporation employees £55 million to buy the company, and provide a further £70 million for working capital.

Under the 1980 Transport Act, the National Freight Company Limited replaced the Corporation. The government wrote off the remaining capital debt of the company (£100 million). In order to allow company employees to use company assets as a security, the 1981 Companies Act was passed. The government agreed to sell the company to its employees for £53.5 million, conditional upon raising at least about £4.2 million, of which about £2.2 million had to be in cash, and the remainder through the employees' loan scheme (Thompson, 1990).

In the history of road freight privatisation in Britain, the employee buy-out of the National Freight Corporation is a remarkable experience, where the employees and the pensioners of the corporation were able to raise the necessary fund to buy the company from the government, instead of putting its shares in the stock market. An employee buy-out has been defined by Nejad (1986) as a transaction by which a company (or one of its subsidiaries) is sold to people involved in running the company. Nejad (1986) says that the employee buy-out rests on two assumptions, that the employees are willing to be used as a source of investment capital, and the employee ownership changes the employment relationship leading to a closer link.
between the employee and the organisation, which results in increasing the flexibility and the quality of labour's input. Three economic expectations emerge from these two assumptions; that the employee equity participation will increase wage flexibility, employee ownership will have positive effects on employment levels, and employee ownership will harmonise workplace relations, resulting in improving labour productivity and performance (Nejad, 1986).

In 1985 a research project took place to study the employee buy-out of the National Freight Company, and came to two main conclusions: the employees in an employee-owned firm are likely to be more cooperative than in a conventional business, and given the opportunity to participate in a management led employee buy-out, the response of the employees is likely to be a function of their access to relevant information (Nejad, 1986). By 1986, the company introduced a new profit-sharing scheme to improve performance. Some 80 per cent of the workforce were participating in this scheme (Key Note Report, 1991). According to Key Note Report (1993), the company at that time was one of the most successful international groups, specialising in the provision of logistics and transport systems, operating in about twenty countries around the world, under three main divisions (transport, logistics and home delivery services). However, immediately prior to the time of writing (1996), it has experienced some difficulties due to the recession (Key Note Report, 1996).
4.2.2 Structure of the UK Road Freight Industry.

4.2.2.1 Background.

Lorries were first used in great number at the beginning of the twentieth century. In 1904 there were already 4,000 goods vehicles in use (Armitage Report, 1980), but before the First World War lorries carried only a small proportion of freight. The growth of lorry traffic was fast in the period between the two world wars. For the first time the lorry became a major mode of freight transport in its own right and in some respects a serious competitor to other modes. There was a rapid increase in the number of goods vehicles in commercial use immediately after the First World War, their number more than doubling between 1919 and 1921 (Armitage Report, 1980). During the Second World War, the road haulage industry was structured and operated in relation to the need of the war effort. In the late 1940's, the number of goods vehicles rose rapidly and continued to rise steadily until the mid 1960's when they fell from 584,000 in 1965 to 506,000 in 1980 and to 449,000 in 1991 (Department of Transport, 1992). This results partly from the switch to the use of heavier goods vehicles seen during the last twenty years or so. The percentage of goods vehicles over 33 tonnes gross vehicle weight increased from 4.9 per cent in 1985 to 9.2 per cent in 1989 (British Road Federation, 1991).

This switch was a result of increasing maximum vehicle weight to 38 tonnes, which took place in May 1983. In 1980, the Armitage inquiry found that an increase in maximum vehicle weight to 34 tonnes on 4 axles, 38 tonnes on 5 axles and 44 tonnes
on 6 axles would permit a reduction in the size of the heavy articulated vehicle fleet of some 13 per cent (Mackie and Harding, 1982). The Armitage report said: "Heavier lorries offer large and continuing economic benefits particularly in the form of reduced transport costs. Heavier lorries would also offer economic benefits in the form of reduced road damage and the opportunity for our manufacturers to produce similar lorries for both home and foreign markets" (Armitage, 1980, p151). The government accepted this point of view. On 1 May 1983, the maximum weight limit for articulated vehicles increased from 32.5 tonnes to 38 tonnes gross vehicle weight. At the end of 1985 there were 26,300 vehicles licensed to operate at 38 tonnes. By the end of 1986 this figure had risen to 33,900. In 1986, 80 per cent of these vehicles were engaged in third party haulage work, rather than own account operation. All 38 tonnes vehicles accounted for 34 per cent of all goods moved by road. They had longer lengths of haul; more miles on the road and less empty running than other articulated vehicles (Freight Transport Association, 1987).

Road haulage accounted for more than three quarters of all goods tonnage lifted in Britain in 1993 (1,978 million tonnes, 81.6 per cent lifted by road, 5.3 per cent railways, 6.9 per cent water and 6.2 per cent by pipelines), reflecting the increase in importance of road haulage for the national economy. During the second half of the 1980's, road investment increased by 62 per cent, from £16,137 million in 1985/86 to £26,150 million in 1990/91. In 1992 it amounted £23,176 million, divided between road infrastructure (16.7 per cent or £3,876 million) and road rolling stock (83.3 per cent or £19,300 million), (Department of Transport, 1992).
The range of tasks now undertaken by goods vehicles is vast, ranging from long distances trunk haulage including international transport operations to local deliveries of small parcels to the home. Goods vehicles provide the great majority of the general day-to-day haulage on which industry and commerce depend. The main division in the road haulage industry is between operators who carry for hire or reward, that is public or third party hauliers, and those who carry on their own account. The hire or reward operators are responsible for about two thirds of road haulage in Great Britain. The percentage share of hire or reward in road haulage was around 51 per cent of total goods lifted by road in 1981 (Department of Transport, 1992). In 1993 it accounted for 59.8 per cent (Department of Transport, 1994).

The main characteristics of British road freight industry during the last twenty years can be summarised as the following:

(1) The number of goods vehicles has been falling since 1980.
(2) There is a progressive movement to using heavier vehicles.
(3) The demand for longer hauls has been increasing.
(4) A greater focus on logistics, which includes all the activities relating to the movement, storage and distribution of goods between manufacturer, wholesaler retailer and customers (Quayle, 1993 and Cooper et. al., 1993).

4.2.2.2 Road Lengths.

The Key Note Report (1993) on road haulage points out that Britain is highly dependent on the dual carriageways and single carriageway trunk roads, accounting
for 4.2 per cent of the total road network in 1993, yet carrying about 15 per cent of
total road traffic and 15 per cent of heavy lorry traffic. As a result, congestion has
become a major problem in recent years. Congestion cost the British Industry £3
billion a year, according to the Confederation of British Industry estimations (Key
Note Report, 1993), see table 4.1.

Table 4.1: Road Lengths .. Great Britain (1955/1993).

<table>
<thead>
<tr>
<th>Year</th>
<th>Trunk Roads</th>
<th>Principal Roads</th>
<th>Class 2 or B</th>
<th>Class 3 or C</th>
<th>Unclassified</th>
<th>All Roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>1955</td>
<td>13,309</td>
<td>31,553</td>
<td>28,479</td>
<td>78,505</td>
<td>150,863</td>
<td>302,710</td>
</tr>
<tr>
<td>1965</td>
<td>13,993</td>
<td>31,971</td>
<td>28,392</td>
<td>78,855</td>
<td>170,357</td>
<td>323,568</td>
</tr>
<tr>
<td>1970</td>
<td>14,463</td>
<td>32,584</td>
<td>107,285</td>
<td>168,152</td>
<td>322,484</td>
<td></td>
</tr>
<tr>
<td>1975</td>
<td>15,240</td>
<td>33,088</td>
<td>27,606</td>
<td>80,156</td>
<td>173,949</td>
<td>330,039</td>
</tr>
<tr>
<td>1980</td>
<td>14,949</td>
<td>34,187</td>
<td>28,151</td>
<td>80,736</td>
<td>181,610</td>
<td>339,633</td>
</tr>
<tr>
<td>1985</td>
<td>15,014</td>
<td>34,908</td>
<td>29,042</td>
<td>80,460</td>
<td>189,276</td>
<td>348,699</td>
</tr>
<tr>
<td>1990</td>
<td>15,667</td>
<td>35,226</td>
<td>29,838</td>
<td>80,717</td>
<td>196,588</td>
<td>358,034</td>
</tr>
<tr>
<td>1991</td>
<td>15,388</td>
<td>35,697</td>
<td>30,106</td>
<td>81,073</td>
<td>197,783</td>
<td>360,047</td>
</tr>
<tr>
<td>1992</td>
<td>15,384</td>
<td>35,845</td>
<td>30,227</td>
<td>81,334</td>
<td>199,679</td>
<td>362,470</td>
</tr>
<tr>
<td>1993</td>
<td>15,292</td>
<td>35,981</td>
<td>30,320</td>
<td>81,713</td>
<td>201,172</td>
<td>364,477</td>
</tr>
</tbody>
</table>

* 1970 data for class (2), includes class (3) roads.

Source:
(1) Department of Transport, Transport Statistics ... 1992, Table (9.15).
(2) Department of Transport, Transport Statistics ... 1994, Table (9.12).

4.2.2.3 Goods Vehicle Population.

The number of goods vehicles rose rapidly during the first three decades in this
century. It increased from 30,000 in 1909 to 101,000 in 1920 and continued to rise to
349,000 in 1930 and 488,000 in 1939. An increase in the number of goods vehicles can, also, be seen during the first half of 1940's, which was the period of the Second World War, (560,000 in 1946). This trend continued from the mid 1940's to mid 1960's (584,000 in 1965). During the second half of 1960's and 1970's the number of goods vehicles fell to 561,000 by 1979 (Department of Transport, 1992). Data for the period starting 1980 until 1993 shows that since 1980 the number of goods vehicles decreased by 15.6 per cent from 507,000 in 1980 to 428,000 in 1993, which could be explained by the move towards using larger and heavier vehicles, as mentioned earlier, see table 4.2.

Table 4.2: Heavy Goods Vehicles Currently Licensed... Great Britain (1980/1993).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>507</td>
<td>485</td>
<td>482</td>
<td>449</td>
<td>437</td>
<td>428</td>
</tr>
</tbody>
</table>

Source: Department of Transport, Transport Statistics 1994, Table (9.5).

4.2.2.4 Weight of Vehicles.

As a result of the recognition that by operating vehicles with 20 per cent greater payload, economies of scale and greater productivity could be achieved (Key Note Report, 1993), articulated vehicles have become more important in the road freight industry over recent years. Between 1985 and 1989, the number of articulated vehicles increased by 22.2 per cent, from 90,000 in 1985 to 110,000 in 1989, while the number of rigid vehicles increased by 7.9 per cent, from 341,000 in 1985 to 368,000 in 1989. Even during the last five years, when the number of goods vehicles fell, the percentage of decrease in the number of rigid vehicles was higher than that for
articulated vehicles (11.3 per cent for rigid vehicles and 7.5 per cent for articulated vehicles), see table 4.3.


<table>
<thead>
<tr>
<th>Year</th>
<th>Rigid Vehicles</th>
<th>Articulated Vehicles</th>
<th>All Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Not Over 28 Tonnes</td>
<td>Over 28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Tonnes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>All</td>
</tr>
<tr>
<td>1985</td>
<td>341</td>
<td>12</td>
<td>78</td>
</tr>
<tr>
<td>1986</td>
<td>341</td>
<td>13</td>
<td>80</td>
</tr>
<tr>
<td>1987</td>
<td>346</td>
<td>14</td>
<td>84</td>
</tr>
<tr>
<td>1988</td>
<td>357</td>
<td>14</td>
<td>91</td>
</tr>
<tr>
<td>1989</td>
<td>368</td>
<td>14</td>
<td>96</td>
</tr>
<tr>
<td>1990</td>
<td>353</td>
<td>14</td>
<td>93</td>
</tr>
<tr>
<td>1991</td>
<td>330</td>
<td>13</td>
<td>87</td>
</tr>
<tr>
<td>1992</td>
<td>316</td>
<td>13</td>
<td>86</td>
</tr>
<tr>
<td>1993</td>
<td>313</td>
<td>12</td>
<td>85</td>
</tr>
</tbody>
</table>

Source: Department of Transport, Transport Statistics 1994, Table (3.6), p 76.

4.2.2.5 Goods Lifted and Moved.

The amount of freight transport can be expressed either in terms of the weight of goods carried (tonnage or goods lifted), or in terms of the weight of goods multiplied by the average distance they are carried (tonne-kilometres or goods moved). Tables 4.4 and 4.5 demonstrate that road freight is the dominant mode of freight transport in Britain, although the choice of mode is to some extent determined by the characteristics of the goods being transported and the distance which they should be transported. The dominance of road freight results from its advantages over other types
of freight transport, which are: flexibility, price competitiveness and door-to-door services. The expanding motorway network has enabled road freight to be even more cost effective and helped it to establish a competitive advantage over other modes. A survey of 1,500 manufacturers carried out in 1992 by Coopers and Lybrand showed that 70 per cent of transport customers sent more than 60 per cent of their goods by road (Key Note Report, 1993).

Table 4.4: Freight Transport by Mode, Goods Lifted .. Great Britain (1980/1993).

<table>
<thead>
<tr>
<th>Year</th>
<th>Road</th>
<th>Rail</th>
<th>Water</th>
<th>Pipe</th>
<th>All Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1980</td>
<td>1395</td>
<td>78.9</td>
<td>154</td>
<td>8.7</td>
<td>137</td>
</tr>
<tr>
<td>1985</td>
<td>1452</td>
<td>80.4</td>
<td>122</td>
<td>6.8</td>
<td>142</td>
</tr>
<tr>
<td>1990</td>
<td>1749</td>
<td>80.9</td>
<td>141</td>
<td>6.5</td>
<td>152</td>
</tr>
<tr>
<td>1991</td>
<td>1600</td>
<td>80.6</td>
<td>135</td>
<td>6.8</td>
<td>144</td>
</tr>
<tr>
<td>1992</td>
<td>1555</td>
<td>80.9</td>
<td>122</td>
<td>6.3</td>
<td>140</td>
</tr>
<tr>
<td>1993</td>
<td>1615</td>
<td>81.6</td>
<td>103</td>
<td>5.3</td>
<td>135</td>
</tr>
</tbody>
</table>


Table 4.5: Freight Transport by Mode, Goods Moved .. Great Britain (1980/1993).

<table>
<thead>
<tr>
<th>Year</th>
<th>Road</th>
<th>Rail</th>
<th>Water</th>
<th>Pipe</th>
<th>All Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1980</td>
<td>93</td>
<td>53.1</td>
<td>18</td>
<td>10.2</td>
<td>54</td>
</tr>
<tr>
<td>1985</td>
<td>103</td>
<td>55.0</td>
<td>15</td>
<td>8.0</td>
<td>58</td>
</tr>
<tr>
<td>1990</td>
<td>136</td>
<td>62.1</td>
<td>16</td>
<td>7.3</td>
<td>56</td>
</tr>
<tr>
<td>1991</td>
<td>130</td>
<td>61.3</td>
<td>15</td>
<td>7.1</td>
<td>56</td>
</tr>
<tr>
<td>1992</td>
<td>127</td>
<td>61.1</td>
<td>15</td>
<td>7.2</td>
<td>55</td>
</tr>
<tr>
<td>1993</td>
<td>135</td>
<td>63.7</td>
<td>14</td>
<td>6.6</td>
<td>52</td>
</tr>
</tbody>
</table>

4.2.2.6 **Length of Haul.**

Road tends to be used for shorter hauls of 100 kilometres or less. Data provided for the period 1981/1993 demonstrate that around three quarters of goods lifted by roads was carried over distances of 100 km or less. According to Department of Transport, the average length of haul has increased from 74 km in 1981 to 84 km in 1993. For rigid vehicles, it has decreased from 45 km in 1981 to 44 km in 1993, and for articulated vehicles, it has increased by 7.1 per cent, from 126 km in 1981 to 135 km in 1993. This is mainly attributed to improvements in the motorways network and the development of larger and more powerful vehicles (Key Note Report, 1993), see tables 4.6 and 4.7.

**Table 4.6: Road Haulage by Length of Haul, Goods Lifted -- Great Britain (1981/93).**

<table>
<thead>
<tr>
<th>Year</th>
<th>Not Over 100 Km</th>
<th>Over 100 Km</th>
<th>All Distances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>1981</td>
<td>950</td>
<td>77.6</td>
<td>274</td>
</tr>
<tr>
<td>1985</td>
<td>1,069</td>
<td>78.2</td>
<td>298</td>
</tr>
<tr>
<td>1990</td>
<td>1,239</td>
<td>75.3</td>
<td>407</td>
</tr>
<tr>
<td>1991</td>
<td>1,118</td>
<td>74.3</td>
<td>387</td>
</tr>
<tr>
<td>1992</td>
<td>1,081</td>
<td>73.9</td>
<td>383</td>
</tr>
<tr>
<td>1993</td>
<td>1,112</td>
<td>73.0</td>
<td>410</td>
</tr>
</tbody>
</table>

**Source:**
1. Department of Transport; Transport Statistics 1992, Table (4.3), p 68.
Table 4.7: Average Length of Haul By Gross Vehicle Weight, Great Britain (1981/1993).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rigid Vehicles</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 3.5 Tonnes</td>
<td>49</td>
<td>48</td>
<td>58</td>
<td>61</td>
<td>60</td>
<td>57</td>
</tr>
<tr>
<td>Not Over 3.5 Tonnes</td>
<td>37</td>
<td>31</td>
<td>29</td>
<td>30</td>
<td>30</td>
<td>31</td>
</tr>
<tr>
<td>Over 17 Tonnes</td>
<td>41</td>
<td>42</td>
<td>38</td>
<td>39</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Not Over 17 Tonnes</td>
<td>45</td>
<td>42</td>
<td>43</td>
<td>45</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Over 25 Tonnes</td>
<td>41</td>
<td>42</td>
<td>38</td>
<td>39</td>
<td>38</td>
<td>37</td>
</tr>
<tr>
<td>Not Over 25 Tonnes</td>
<td>45</td>
<td>42</td>
<td>43</td>
<td>45</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Articulated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over 3.5 Tonnes</td>
<td>126</td>
<td>109</td>
<td>113</td>
<td>113</td>
<td>118</td>
<td>115</td>
</tr>
<tr>
<td>Not Over 3.5 Tonnes</td>
<td>...</td>
<td>142</td>
<td>135</td>
<td>140</td>
<td>135</td>
<td>140</td>
</tr>
<tr>
<td>Over 33 Tonnes</td>
<td>126</td>
<td>122</td>
<td>129</td>
<td>133</td>
<td>132</td>
<td>135</td>
</tr>
<tr>
<td>Not Over 33 Tonnes</td>
<td>74</td>
<td>72</td>
<td>83</td>
<td>83</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>All Articulated</td>
<td>74</td>
<td>72</td>
<td>83</td>
<td>83</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>All Rigid</td>
<td>45</td>
<td>42</td>
<td>43</td>
<td>45</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>All Articulated</td>
<td>126</td>
<td>122</td>
<td>129</td>
<td>133</td>
<td>132</td>
<td>135</td>
</tr>
<tr>
<td>All Vehicles</td>
<td>74</td>
<td>72</td>
<td>83</td>
<td>83</td>
<td>84</td>
<td></td>
</tr>
</tbody>
</table>

Source:
(1) Department of Transport, Transport Statistics 1992, Table (4.3), p 68.
(2) Department of Transport, Transport Statistics 1994, Table (4.3), p 90.

4.2.2.7 Types of Operations.

The road freight industry is split between own account operators and public hauliers. The range of tasks now undertaken by goods vehicles is vast, ranging from long distance trunk haulage, including international transport operations, to local deliveries of small parcels to the home. At the beginning of the 1980's, the hire and reward operators were responsible for about two thirds of the road haulage in terms of tonne-kilometres (61.8 per cent in 1981). Between 1981 and 1993, the hire and reward sector expanded more rapidly than the own account sector. 72.5 per cent of total tonne-kilometres in 1993 were accounted for by hire and reward operators. In terms of
volume, the amount of goods lifted by public hauliers has increased from about 52 per cent of total goods lifted in 1981, to about 60 per cent in 1993, see tables 4.8 and 4.9.

Table 4.8: Freight Transport By Road, Goods Moved By Goods Vehicles Over 3.5 Tonnes, Gross Vehicle Weight by Mode of Working .. Great Britain (1981/1993).

| Year | Mainly Public Haulage | | | Mainly Own Account | | | Total |
|------|-----------------------|------------------|------------------|------------------|------------------|------------------|
|      | No. | %   | No. | %   | No. | %   | Total |
| 1981 | 55.8 | 61.8 | 34.4 | 38.2 | 90.2 |
| 1985 | 66.6 | 67.2 | 32.5 | 32.8 | 99.1 |
| 1990 | 94.7 | 72.5 | 36.0 | 27.5 | 130.6 |
| 1991 | 85.8 | 68.9 | 38.8 | 31.1 | 124.6 |
| 1992 | 86.4 | 71.2 | 34.9 | 28.8 | 121.3 |
| 1993 | 93.2 | 72.5 | 35.4 | 27.5 | 128.6 |

Source:
(2) Department of Transport, Transport Statistics 1994, Table (4.1), p 88.

Table 4.9: Freight Transport By Road, Goods Lifted By Goods Vehicles Over 3.5 Tonnes Gross Vehicle Weight by Mode of Working .. Great Britain (1981/1993).

| Year | Mainly Public Haulage | | | Mainly Own Account | | | Total |
|------|-----------------------|------------------|------------------|------------------|------------------|------------------|
|      | No. | %   | No. | %   | No. | %   | Total |
| 1981 | 635 | 51.8 | 591 | 48.2 | 1,225 |
| 1985 | 748 | 54.7 | 619 | 45.3 | 1,367 |
| 1990 | 978 | 59.5 | 667 | 40.5 | 1,645 |
| 1991 | 862 | 57.3 | 643 | 42.7 | 1,505 |
| 1992 | 843 | 57.6 | 620 | 42.4 | 1,463 |
| 1993 | 911 | 59.8 | 612 | 40.2 | 1,523 |

Source:
(2) Department of Transport, Transport Statistics 1994, Table (4.2), p 89.
This increase in the public haulage share could be attributed to a number of factors, stated in Key Note Report (1993) as the following:

(1) The 1984 Budget changes, which allowed the cost of vehicle purchases to be written off against company profits.

(2) Following greater acceptance of the logistics approach, the development of integrated third-party distribution operations, which offered a range of services including stock control, storage and warehousing.

(3) The contracting out or privatisation of many transport related services, traditionally provided by local authorities, has given the public haulage sector a major boost.

(4) The operation of larger, powerful vehicles, enabling the transport of heavier loads over longer distances, has increased the productivity of the public hauliers.

4.3 PRIVATISATION AND ROAD HAULAGE IN HUNGARY.

Hungary is a landlocked state located in East-Central Europe at the cross roads of major trade routes both North-South (Baltic/Mediterranean) and East/West (Russia/European Union). As such it has always played a major role in transit traffic by road and rail (Roe, 1992). The area of the country is 35,911 square miles. It is bounded in the north by former Czechoslovakia, in the north-east by Russia, in the east by Romania, in the south by former Yugoslavia and in the west by Austria. The terrain is predominantly flat; 70 per cent is cultivated, 18 per cent is covered by forests and 12 per cent used for non-agricultural purposes. With the exception of its Bauxite
deposits, Hungary is not well endowed with natural resources, although it has some deposits of copper, iron, natural gas and oil (Lloyds Bank, Hungary, 1986). Hungary has been more dependent on imports and exports than almost any other country in the world. Foreign trade is crucial to the wellbeing of the Hungarian economy, with merchandise exports equivalent to 39.8 per cent of Gross Domestic Product in 1984 and 36.4 per cent in 1989. This can be compared with some other exporting countries such as Sweden (28 per cent), the UK (19 per cent), Denmark (25 per cent) and France (16 per cent) in 1987. Until 1989, trade was fairly equally divided between socialist countries and the West, but the collapse in rouble trade in 1989-90 has seen a major shift in trade towards the West. Hungary's main exports are agricultural products, machinery and semi-finished manufactures. The major imports are fuels, semi-finished products and machinery (Economist Intelligence Unit, 1991).

4.3.1 Economic Reform and Privatisation.

4.3.1.1 Background.

As stated earlier, Hungary is used as a comparison with Egypt, because it is a country which is going through the processes of privatisation and deregulation, and in addition has a promising road freight industry. As such, it appears to have many similarities with Egypt, but also apparent significant differences. After the Second World War, the command economy of the USSR was imposed in various forms in other Eastern European countries, resulting in rapid industrialisation. In socialist Eastern Europe, there was some apparent success in catching up with the West, namely in the sense
that East European economies played a growing international role in heavy industry production in the 1950's and 1960's. When the core fields of innovation and production moved to electronics, software development and the service industries, the centrally planned economies showed a growing weakness, since they could not achieve the rate of technological progress and the type of innovations that were realized in Western market economies and Japan (Welfens, 1992). In 1991, the former council of Mutual Economic Assistance (CMEA) was dissolved, and in 1991 the USSR's history ended with the reemergence of Russia and other former Soviet states, and the creation of the Commonwealth of Independent States. After more than four decades of a socialist economy model, countries in Eastern Europe have embarked upon a transformation process to market economy systems (Welfens, 1992).

Hungary was traditionally centrally planned, the main features of the central planning being as follows:

(1) Dominance of socialist state and cooperative ownership.

(2) Enterprises working as part of a chain of a central hierarchy and implementing instructions according to a plan.

(3) Most resources needed for the fulfilment of plans distributed to enterprises by the state.

Additional elements of economic management were the insistence on forced savings, the determination of tight planning targets, a push toward quantitative growth and insulation of the economy from the outside world (United Nations, 1992).

The reform in agriculture antedates the general economic reform from 1968 in
Hungary. Starting in the late fifties, obligatory plan targets and compulsory deliveries were abolished and the prices of agricultural products raised, with a number of products being sold in farm markets at freely determined prices. These reforms were supplemented by additional actions in 1968 (World Bank, 1982). During the 1970's and 1980's, the process of the economic adjustment took place. After the general election in early 1990, the task of drawing up a comprehensive programme for the transition to a market economy began. The plans envisaged simultaneous progress on privatisation, macroeconomic stabilisation and economic reform (Frydman et. al., 1993).

4.3.1.2 Economic Reform.

The end of the Second World War opened a new era in European history in general and in East-Central European history in particular. In some of these countries, including Hungary, for the first time in their history, free elections were held. In Hungary, the transformation of the broad democratic coalition into a one-party soviet-system took place between 1944/45 and 1948/49. A socio-political transformation took place which penetrated the whole socio-economic system (Berend and Ranki, 1985). The campaign to nationalise industrial and commercial companies began in March 1948, with the nationalisation of industrial companies with over a hundred employees. A year and half later, in December 1949, companies with over ten employees were nationalised too. Next, it was the turn of wholesale trading companies; they were nationalised in January 1950. The capital market and free capital flows were liquidated between September 1947 and March 1948. The banks were nationalised in September
1947. The stock exchange stopped its activities in March 1948 and was formally dissolved in May 1949. State farms were created and farmers were forced into collective farms. After some experimentation immediately after the war, the process was speeded up in 1948, and overcoming a serious set-back between 1953 and 1956 including the Hungarian uprising, it was completed between 1959 and 1962 (Hankiss, 1990).

Following the uprising, radical steps had to be taken to improve the economy after 1956; this was done with the aim of increasing production by applying new machinery and decreasing production costs. The command structure was decentralised and plant managers became independent and were encouraged to operate profitably, and to draw up realistic plans which could be achieved (Narkiewicz, 1986). The principal instrument of economic management was the plan; five-year plans determined the broad framework of economic development in each period, while annual (and often quarterly) plans were disseminated down to enterprise level, providing the basis for operational management. Enterprises received sales or output targets and allocations of the major material inputs; in addition the plan specified cost reduction targets and the permitted wages fund for each enterprise. All sought to satisfy a large number of economic balances, taking into account the results achieved in the previous plan period (Hare et. al., 1981).

The mid-1960's became a turning point for the Hungarian economy. The need for reforms became imperative because of the economic tensions and errors that reappeared in that time. One of the most visible troubles was the emergence and
increasing disequilibrium in the balance of trade and payments. Reform measures were made from the mid-1960's but the major step was connected with the new price system under the New Economic Mechanism in 1968 (Berend and Ranki, 1985). The reform aimed at replacing plan directives by market relations among firms; limiting the scope of central price determination; linking the domestic prices of exports and imports to prices in the world market and decentralising a major part of investment decisions (World Bank, 1982 b). Although the basic tenet of the reform was to shift economic management from central plan directives to market forces, the central plan continued to determine overall economic policy, but enterprises were given greater independence to make employment, production and investment decisions. The government used indirect controls such as prices, the exchange rate, credit availability and monetary and fiscal policy to harmonize the objectives of the central plan and individual enterprises (Lloyds Bank, Hungary, 1986).

During the 1970's there was a significant modification. The world recession, inflation and the rise in price of oil and other raw materials brought a sharp deterioration to Hungary's economy. There was an increase in central government direction and intervention to insulate Hungary from the impact of world events, so some measures of recentralisation took place during the 1970's. A change in direction came after a record deficit on the current account of the balance of payments was registered in 1978. The authorities reacted by making the improvements of the external balance the first economic priority. To achieve this it became necessary to resume the process of decentralising decision making to correct distortions in the pricing system. The reform measures were introduced in January 1980, and the domestic producer prices were
adjusted with world market prices (Lloyds Bank, Hungary, 1986).

Two of the main objectives of the sixth five-year plan which ran for the period 1981/1985 were:

1. Continuing emphasis to be placed on export and import substitution industries. Foreign trade with the west to increase by 25-30 per cent, trade with Comecon countries to remain around 50 per cent of the total.

2. Greater independence of enterprises, with more use of the profit motive and less state support for ineffective enterprises.

The plan gave more responsibility to individual managers and encouraged them to use their initiative in running their enterprises and to increase worker participation. The profitability of an enterprise was to be reflected in wage levels (Euromonitor, 1985).

In 1988 Hungary introduced the foundations of a Western style tax system, including value added tax (Frydman et. al., 1993). In 1989 the Company Act was introduced. The most important features of 1988 draft legislation were that state-owned companies were to be allowed to form joint stock companies; private persons were to be allowed to form limited liability companies and foreigners were to be enabled to buy shares in Hungarian companies. Privately owned firms might employ up to 30 persons, cooperatively owned firms (small scale entrepreneurships) up to 60 persons. These changes were designed to foster the flow of capital among sectors as well as within the state sector (Clarke, 1989 and Bokros, 1992).

By the 1990's, unemployment, the budget deficit, subsidies and inflation were at a
high level. The number of registered unemployed has been steadily rising since the beginning of 1990 (10 per cent in June 1992), with high levels of unemployment benefits. The state budget, plus local spending and social security transfers accounted for 62 per cent of Gross Domestic Product in 1991, with a budget deficit about 4.5 per cent of Gross Domestic Product. The main reason for that large deficit was that tax revenues from industry were below target. Consumer price inflation averaged 35 per cent in 1991. In February 1991, Hungary signed a three-year agreement with the International Monetary Fund, for around $1.6 billion. In March, a new five year programme of conversion and development of the Hungarian economy was introduced, including measures to accelerate trade liberalisation and rapid redirection of trade away from the former Comecon region to Western markets. The programme also envisaged increasing the pace of privatisation and aimed to reduce state ownership in the economy to less than 50 per cent by 1994. Based on Hungary's 1991 results and 1992 targets, the International Monetary Fund approved a second tranche of the credit programme in March 1992 (Frydman et. al., 1993). In May 1993, the International Monetary Fund published its "World Economic Outlook" report, where it refers to Hungary as one of three formerly centrally planned economies that had made the greatest progress in structural reform. The other countries were Poland and the Czech Republic (IMF, 1993).

4.3.1.3 Privatisation Process.

After the May 1990 general election, the Hungarian government started its privatisation programme. It had the aim of reducing the share of state-owned assets
in the competitive sector (which excludes those large enterprises expected to remain under direct state control) to about 50 per cent, and to facilitate simultaneously the emergence of the institutional framework of a market economy. Achieving the 50 per cent target will necessitate both accelerating the privatisation of state-owned assets and encouraging the rapid development of the private sector (Frydman et. al., 1993).

The first step towards privatisation was the so-called "Pre-Privatisation Programme", known as "spontaneous" and/or "self-privatisation", which came as a result of management decisions. In this mode of privatisation, the responsibility of privatising the enterprises is given to the companies' directors, to negotiate the sale of their companies to domestic and/or foreign buyers (Lieberman, 1994). This programme aimed to privatise retail trade, catering and service activities. The programme had a chance of being carried out quickly and successfully, because a great number of the units involved in this programme had already been leased or hired by their managers under the liberalisation measures introduced during the 1980's (Lindsay, 1992).

Since allegations of profiteering on state property surfaced (Euromoney, 1994b), and claims that this form of privatisation in-effect meant handing over state properties to former Communist officials (Lieberman, 1994), a strong opposition arose to reject this form of privatisation. As a result, the government created, by the end of 1990, the State Property Agency (SPA), which is supervised by the government and a minister without portfolio, and assigned the responsibility for privatisation. The State Property Agency's duties include overseeing the sale of state property and approving any sales of assets. A full description for the State Property Agency, and its tasks, formation and
The State Property Agency introduced, in September 1990, the first privatisation programme. According to Lindsay (1992) the objectives of that programme were to:

1. Facilitate the smooth and rapid transfer of enterprises to the private sector.
2. Improve markets and competition.
3. Extend capital and stock markets.
5. Encourage small investors.
6. Facilitate the growth, profitability and efficiency of the privatised companies.
7. Enhance technological and management skills.

This programme comprised twenty of the larger and generally better performing state enterprises with a book value of Ft 70 billion, and their annual 1989 turnover Ft 100 billion (approximately). To evaluate and sell these enterprises, the State Property Agency sought international consultants, including auditing firms and investment banks (Simonetti, 1993). The twenty selected companies operated in a wide range of activities, including tourism, drugs and chemicals, glass making, wholesale and retail trade, hotel and catering, machinery production, porcelain ware production, exhibition organization, foreign trade, transport, book printing, housing, scrap processing, plastic production, and building material production (Bolton and Roland, 1992). The privatisation process had two main stages. First, the state-owned enterprises are transformed into legal companies (limited liability and/or limited by shares). Second, a tendering process takes place (Euromoney, 1994b). According to Frydman et. al.
(1993), the programme is characterised by the following:

1) The State Property Agency has attempted to obtain unrealistically high prices, higher than any investor would be willing to pay.

2) Many of the enterprises have significantly lost value due either to the collapse of Comecon trade or to the Hungarian recession.

3) The consultants were slow in valuing the enterprises and learning about the Hungarian economy.

In February 1991, the State Property Agency announced the second privatisation programme, the so-called "investor-initiated privatisation programme", where any foreign investor could buy part or all of an enterprise (Lindsay, 1992). The aim of this programme was to speed up privatisation and extend the range of participants. Offers for the purchase of state enterprises or state-owned stocks could be made directly to the State Property Agency. In the first few months after the announcement, nearly 250 offers were made, predominantly from foreign investors. After receiving the offer, the State Property Agency usually called an open or closed tender. By end of 1991, there were twenty completed cases and seventy to eighty still underway (Frydman et. al., 1993). According to data provided by the Hungarian National Bank, and the Hungarian Chamber of Commerce, described in Murray (1994), by December 1992, the State Property Agency approved the privatisation of 679 companies, representing a property value of approximately US$14.5 billion. Independent of the State Property Agency, 299 enterprises succeeded in self-privatisation, and 298 companies privatised in the form of joint ventures (Murray, 1994).
Also, by the end of 1992, a second organisation was set up to assist the State Property Agency. The Hungarian State Holding Company was set up to take over 184 of Hungary's strategic industries, such as power generators, railways, steel, and telecommunications (Euromoney, 1995). The key difference between the two institutions is that the State Holding Company is charged with management of those companies in which the state will retain a stake, while the State Property Agency is responsible for the companies which are to be fully privatised (Euromoney, 1994b).

To encourage wider participation, the government introduced, in 1993, some facilities, such as loans at low interest rates for a term of 15 years; compensation coupons, which are certificates issued by the government to those who lost property and/or suffered physically under the communist regime and which can be used in several kinds of transactions; and employee share ownership, which gives preferential terms to the employees (Euromoney, 1994c).

In 1994, the Europe Review 1993/94 reported that since mid 1993 complaints have arisen about the government-run State Property Agency losing its momentum after an initial burst of activity, during which many of most famous companies in the country were sold off. The State Property Agency became the main target for the press, in terms of its large staff turnover and poor performance (Europe Review, 1994). Europe Review also criticised it in terms of its responsibility for the poor performance of the Budapest Stock Market, where there were only 25 traded stocks after three years of operation (Europe Review, 1994). In May 1995, the Hungarian Parliament approved a new privatisation law. Under this law, responsibility for selling state assets was placed under the control of the Privatisation Minister, who became the head of the
newly formed privatisation agency called "Ministry of Privatisation". The law allows the Minister to intervene in deals and to involve the parliament in negotiations (Budapest Sun, 1995).

From this review of the privatisation programmes and processes in Hungary, the following points can be highlighted:

(1) To achieve the privatisation of the state-owned assets a centralised approach to privatisation was used, when the State Property Agency was the seller. A decentralised approach was used when the State Property Agency delegated the sale of enterprises and used some consultant organisations to achieve the privatisation programmes.

(2) Various techniques have been used, such as small privatisation, auctions and tenders, sectoral privatisation, licensing for consultancy organisations, and workers' shares.

(3) Open privatisation has been applied where the purchase of state-owned assets was open to domestic capital as well as foreign capital.

4.3.2 The Hungarian Road Freight Industry.

4.3.2.1 Transport System.

The transport system, both road and rail, radiates from Budapest, linking the capital with the other major cities. The Hungarian State Railways (MAV) carried about 48 per cent of the total mass transit of passengers (in passenger kilometres) in 1990
(Hungarian Statistical Year Book, 1991), and about 30 per cent of total goods moved in 1993 (Hungarian Ministry of Transport, 1994). At the beginning of the 1980's, the following transport objectives were approved by the Hungarian Parliament:

1. To harmonize technologies of goods transport and to advance up-to-date transport methods to increase the capacities and capacity use of the transport system.

2. To guarantee priority for public transport in developing passenger traffic and at the same time to develop private transport in harmony with technical and economic possibilities.

3. To emphasize development of transport infrastructure (principally roads and traffic junctions).

4. To take advantage of the transport-geography position of the country to guarantee the smooth development of international traffic.

5. To improve the energy economy and pattern in harmony with the principles of the protection of the environment (Mackett, 1992).

Since these objectives were adopted, the major problem has been the shortage of government funds for investment to modernize the infrastructure, and this, as well as the change in political philosophy, has been the driving force for moving to a market economy. Legislation has been passed to permit share-holding companies to be set up and to let foreign companies be involved to an unlimited extent, so that new technology can be transferred. The role of the Ministry of Transport has moved from detailed planning and management to overseeing the actions of the various companies that are being set up in the transport field. With the processes of liberalisation and
economic reform, the number of small goods and public transport companies has been increased. The growth in the number of goods vehicle operators occurred after the dissolution in 1983 of the state owned trust of which "Volan" was part. Before that Volan, the largest road freight operator, worked mainly domestically, owned 30 per cent of the lorries and had over 50 per cent of the weight capacity. After 1983, Volan had only 9 per cent of lorries and 30 per cent of the capacity (Mackett, 1992).

4.3.2.2 Road Lengths.

Hungary had nearly 30,000 Kilometres of road in 1993, of which about two thirds are class B (59.5 per cent). Trunk roads amounted to 7.9 per cent, 14.6 per cent were class A, and 17.9 per cent were other roads (unclassified roads). Between 1970 and 1993, the total roads network increased by 1.4 per cent (trunk roads by 17.0 per cent, class A roads 7.4 per cent, class B 3.0 per cent, and unclassified roads declined by 12.3 per cent). This suggests that the increase in trunk roads, and in class A, and class B roads was by converting unclassified roads, see table 4.10.


<table>
<thead>
<tr>
<th></th>
<th>Kilometres</th>
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<tr>
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</tr>
<tr>
<td>1970</td>
<td>2,033</td>
</tr>
<tr>
<td>1980</td>
<td>2,136</td>
</tr>
<tr>
<td>1990</td>
<td>2,237</td>
</tr>
<tr>
<td>1991</td>
<td>2,348</td>
</tr>
<tr>
<td>1992</td>
<td>2,386</td>
</tr>
<tr>
<td>1993</td>
<td>2,379</td>
</tr>
</tbody>
</table>

Source:
Road freight is becoming more dominant in Hungary. A significant shift towards using roads could be seen during the 1980's, and in particular the early 1990's. In terms of tonnes/kilometres, road freight accounted for 48.7 per cent in 1993, compared with 23.7 per cent in 1980, and 29.3 per cent in 1990. On the other hand, rail freight decreased from 50.7 per cent in 1980 to 29.3 per cent in 1993, see table 4.11. By 1993, the number of goods vehicles (in use) had doubled since 1985, and had increased by 130 per cent since 1970, see table 4.12.

**Table 4.11: Freight Transport, Goods Moved - Hungary (1980/1993).**

<table>
<thead>
<tr>
<th>Year</th>
<th>Rail</th>
<th>Road</th>
<th>Water</th>
<th>Pipe</th>
<th>All</th>
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<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>80</td>
<td>24.4</td>
<td>50.7</td>
<td>11.4</td>
<td>23.7</td>
<td>7.9</td>
</tr>
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<td>12.7</td>
<td>25.9</td>
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<td>15.2</td>
<td>29.3</td>
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<tr>
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<td>11.9</td>
<td>32.1</td>
<td>14.1</td>
<td>38.0</td>
<td>6.2</td>
</tr>
<tr>
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<td>10.0</td>
<td>30.9</td>
<td>12.8</td>
<td>39.6</td>
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<td>93</td>
<td>7.7</td>
<td>29.3</td>
<td>12.8</td>
<td>48.7</td>
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</tr>
</tbody>
</table>


**Table 4.12: Goods Vehicle in Use - Hungary (1970/1993).**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
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<td>224048</td>
<td>227818</td>
<td>229191</td>
<td>237580</td>
</tr>
</tbody>
</table>

Source:

Owners, other than the state, are now growing rapidly in number and significance in the road freight industry. The main classes of private owner are:
Cooperatives, of any size from one person upwards, based upon the capital of the owners invested in the trucking company, and not that of the state.

Private ownership, formed from the private capital of individuals, but legally different from cooperatives. Any size company is permitted up to a maximum of five hundred persons, but in the trucking industry the majority are small concerns, commonly only one person and one vehicle. This sector has grown very quickly since 1988.

Own account consisting of industrial transport specifically for the carriage of its own industrial products. This remains a very small sector (Roe, 1992).

Tables 4.13 and 4.14 show the growth of the private road freight sector in recent years. Although total goods lifted by road decreased from 570 million tonnes in 1990 to 511 million tonnes in 1993, the private sector share increased from 28.2 per cent in 1990 to 31.4 per cent in 1993, (the state sector share decreased by 14.2 per cent during the same period). Also, the private sector share of goods moved (tonne/km) increased from 17.5 per cent in 1990 to 25.2 per cent in 1993, (the state sector share decreased from 82.5 per cent in 1990 to 74.8 per cent in 1993). Regarding the average length of haul, data could not be obtained for the private sector, but for the state sector, it increased from 25.9 kilometres in 1980 to 53.1 kilometres in 1990 (Hungarian Statistical Year Book, 1991). For the own account sector, state-owned haulage declined by 25.9 per cent in tonnes, and 23.4 per cent in tonnes/km between 1990 and 1993, leaving its share of this sector in 1993 at 34.6 per cent tonnes, and 53.8 per cent tonnes/km (Hungarian Ministry of Transport, 1994). This of course, reflects the decline of the state sector in this area of the industry.
Hungarocamion and Volan are the largest road freight operators in Hungary. Hungarocamion was formed in 1966 to specialise in international road freight for both domestic and foreign customers. In 1990, with the privatisation process, the company was formed as a holding company with a number of subsidiaries. As part of the development of the company, Hungarocamion established a number of affiliated companies, including three companies in Western Europe (Italy, Luxembourg and Austria). Volan works mainly domestically, where each county region in Hungary has a Volan branch to provide freight transport. In 1988 each Volan company became a legally separate body operated as a profit centre. There is a central Volan council which consists of representatives from each Volan company (Roe, 1992).
4.4 EGYPT COMPARED WITH BRITAIN AND HUNGARY.

This section compares both the privatisation programmes, and the road freight industry under three different regulation systems; Britain, Hungary and Egypt. Regarding the privatisation programmes, comparison is made in terms of the nature of privatisation; objectives of privatisation programmes; methods of privatisation; and strategies applied to achieve privatisation. Regarding the road freight industry, comparison is made in terms of structure of the industry and types of operations.

(1) Nature of Privatisation.

As mentioned before (section 2.2), a distinction should be made between two types of privatisation; privatisation in a market economy, and privatisation in a non-market economy. In the market economy, privatisation means transfer of the ownership of some or all enterprises (public utilities could be included) from state ownership to private ownership, within the same socio-economic framework, and without a change in the economic model. Britain is the example for this type of privatisation. In non-market economies, privatisation is one part of a large operation aiming to change the socio-economic framework of the society, by changing the existing economic model, and replacing it with a market economy model. Hungary and Egypt are examples of this type of privatisation.

The latter type of privatisation is more complicated, since it requires the creation of new economic agents and environment, and a change in the legal and institutional
framework. Consequently, privatisation programmes in non-market economies tend to be slower than privatisation programmes in the market economies. While privatisation in Egypt and Hungary is associated mainly with production activities, privatisation in Britain has already progressed to the public utilities.

(2) Objectives of privatisation.

The idea behind privatisation, in both market economies and non-market economies, is to reduce the state involvement in the industry and commerce, with the aim of increasing the efficiency of the economy, since private ownership provides the incentive to improve cost efficiency (Liu, 1995), and private companies emphasise cost reduction and a high level of productivity (Ghosh, 1994). Bos (1993) identified the objective of privatisation in Western economies as a re-balancing of the power between the state and the private sector. This idea is the ultimate objective for the privatisation programmes all over the world.

In Britain, Egypt and Hungary increased efficiency is found in the objectives of their privatisation programmes. Other objectives include fund-raising for the treasury, encouraging employees to own shares in their companies, and strengthening the capital market. They are also found in the privatisation programmes of the three countries. The only difference between Egypt and Hungary is that while the privatisation programme in Hungary aims to reduce the share of the state in non-strategic sectors by 50 per cent, with the strategic sector remaining under direct control of the state, the objective of the privatisation programme in Egypt is to privatise 100 per cent of
the non-strategic sectors (see sections 3.2.2 and 4.3.1.3).

(3) Methods of Privatisation.

The privatisation process has not yet been completed in both Egypt and Hungary, which means other methods of privatisation could be applied in the future. However, a comparison between methods already applied and/or undertaken can still be made. Britain experienced many methods of privatisation: employees' buy-out (National Freight Corporation in 1982); direct sale, (Sealink sold to Sea Containers in 1984), and the sale of shares (British Petroleum in 1979 and British Gas in 1986), (Ghosh, 1994).

In Hungary, public auctions took place for the first stage of the privatisation programme, when in 1990/91 more than 700 retail shops and small enterprises were sold through public auctions (Simoneti, 1993). Also, direct sale has been experienced, such as the case of Tungsram, which was sold to General Electric in 1992 (Euromoney, 1994c). Also in 1992 the Employee Share Ownership Law was introduced, which resulted in 200 (out of 700) companies being sold off in this programme by the end of 1993 (Karsai and Wright, 1994).

Egypt has applied a variety of methods since the beginning of its privatisation programme, including direct sale, auction sale, sale by tender, workers' shares, and flotation (see section 3.2.2). In December 1994, the government announced that the only methods to be used in future would be flotation and workers' shares, since one
of the aims of the privatisation programme in Egypt is to create a wider base of
capitalism (Al-Ahram, 1995).

(4) Strategies of Privatisation.

In the market economies, privatisation takes place within the same socio-economic
framework (market economy model) and in this case, privatisation is just transferring
the ownership from state to private sector (see section 2.2). What is different about
the privatisation experience in such countries is the speed with which this process is
undertaken. In non-market economies, where privatisation is a part of the wider
operation of economic reform (see section 2.2), a distinction is usually made between
two strategies or scenarios. One is shock therapy, and the other is gradual transition
(see Myant, 1993 and Mizsei, 1993). The shock therapy approach, which was adopted
for example by Poland, the Czech Republic, and Russia, maintains that market forces
should be totally liberalised, with the application of restrictive monetary control. The
market forces will activate themselves, inflation will be under control, and the
economy will overcome the crisis. In the second scenario, gradual transition, elements
of the market economy are gradually created first, then privatisation takes place
(Bakos, 1994). In this case, the gradually created market economy will prepare the
socio-economic system for transition, and as a result the transition will progress
smoothly. It is claimed that the social cost associated with the gradual transition
scenario is less severe than those associated with the shock therapy approach. The
gradual transition approach has been adopted by both Egypt and Hungary, where the
process of setting up the framework of the market economy, both agents and legal
framework, took place during the 1980's prior to the privatisation process (see sections 3.2 and 4.3.1).

In comparing these two strategies, the shock therapy and/or the gradual transition, within the Eastern Europe block, Sach and Woo (1994) claim that Poland applied the shock therapy approach, and the growth has returned to its economy, while Hungary, with its gradual transition approach, may see economic decline by the mid 1990's. Adam (1995) argued that output and unemployment should not be the only measures, and other social costs should also be taken into account. For example, real wages and real savings declined in Hungary less than in Poland, and the strategy contributed to political stability, whereas in Poland the deep recession destabilised the political system to some extent. Adam (1995) concluded that the gradual strategy helped Hungary to avoid great social tensions. This is the reason for application of this approach in Egypt, where the government has tried to minimise the social cost of transition (see section 3.2.2).

(5) Structure of the Road Freight Industry.

The road freight industry in Britain, Egypt and Hungary is highly fragmented, dominated by large numbers of small firms, with a small number of large firms. In contrast to Britain, where there is now no state sector or cooperatives in the road freight industry, in both Egypt and Hungary the road freight industry comprises state sector companies, private sector companies, and cooperatives. Mention here should be made of the fact that there is a difference in practice between the cooperatives in
Egypt and in Hungary, since in contrast to Hungary, the cooperatives in Egypt do not own the capital of the cooperative, instead the capital is owned privately by the members. Consequently, the cooperative sector in Egypt could be seen as a collection of private small firms (see sections 3.3.6.2 and 4.3.2.3).

The cooperative sector dominates the road freight market in Egypt, with 70.2 per cent of total goods lifted by road in 1992. This domination is a result of the liberalisation of foreign trade, resulting in an increase in the demand for small rather than large operators (see section 3.3.6.2). In Hungary, in contrast with Egypt, the state sector dominates the road freight market, with 68.6 per cent of total goods lifted in 1993 (see section 4.3.2.4).

(6) Types of Operations.

Section 4.2.2.7 shows that hire and reward dominates the road freight market in Britain, accounting for 57.6 per cent of total goods lifted and 72.5 per cent of total goods moved in 1993. In contrast with Britain, own account dominates the road freight market in Hungary. The hire and reward haulage sector in Hungary lost nearly one quarter of its market during the last five years, mainly because of low quality of service. According to Hungarian Ministry of Transport data, shares of hire and reward haulage declined between 1990 and 1993 by 25.9 per cent in terms of freight amount, and by 23.4 per cent in terms of freight volume (see section 4.3.2.4). Unfortunately, equivalent data is not available about Egypt. However, the Study of the National Transport System in Egypt (1993, unpublished), estimated that in 1990 about 60 per
cent of total haulage capacity was carried by own account operators, with about 35 per cent by the state sector, including productive and construction companies, and by government ministries, and about 25 per cent by the private sector (Study of the National Transport System in Egypt, 1993).

This move towards hire and reward haulage in Britain, and towards own account operators in both Hungary and Egypt could be explained by the quality of service introduced by the industry. In Britain the growing share of hire and reward haulage, at the expense of the own account operators, occurred during the 1980's as a result of the growing number of manufacturers and retailers choosing to contract out their transport requirements to operators in the hire and reward sector, taking advantages not only of transporting their goods but also warehousing facilities, where own account operators could not provide such facilities. In Hungary, with the tide of privatisation and foreign investment, the quality of service provided by the domestic road freight industry could not meet the requirement of the customers satisfactorily, particularly with more western investment in the country, which requires a high standard of service. In Egypt, the high share of the own account operators could also be explained by the quality of service. The survey undertaken by the Study of the National Transport System (1993), showed that the priority for companies was the safe and speedy transport of their raw materials and products. So, they rely on their own fleet due to the fear that the hire and reward companies could not be completely depended on.

In order to improve the quality of the road freight industry, the Hungarian government
passed a new law in May 1995. One of the major components of this law is that all owners, drivers and management of road freight companies have to take businesses courses, and also demonstrate competence. Previously, goods vehicle drivers needed only a drivers' licence, and there are no specific qualifications required for the owners and management. According to the new regulation, both owners and management must be qualified to run road freight businesses. The law also favours large and modern road freight companies, by demanding a 50,000 Ft (approximately US$ 400) as a minimum capital needed for establishing a road freight company. According to the secretary-general of the National Association of Transport, the minimum capital regulation will force a lot of small companies out of the market (Budapest Sun, 1995). This compares with various British education programmes, in particular the Certificate of Professional Competence and the requirements for an Operators' Licence (Lowe, 1991).

In Egypt there are no particular qualifications required to establish and/or run a road freight company, as well as no minimum capital regulation. Such regulation may be needed to produce a better quality of road freight service, as well for the development of the industry. With the privatisation of the road freight industry, the government in Egypt may need to consider and put into effect such regulations.
5.1 INTRODUCTION.

A model is an abstracted representation of reality, or a simplification of some aspect of the world (Cvitkovic, 1993 and King et. al., 1994). Models can be physical, pictorial, verbal, or algebraic (King et. al., 1994). A concept is an "idea expressed as a symbol or words" (Neuman, 1994, p35). Conceptualization refers to process of specifying "what we mean when we use particular terms" (Babbie, 1995, p114). Miles and Huberman (1994) define a conceptual model framework, as explaining "either graphically or in narrative form, the main things to be studied" (p18). It should include the key factors, constructs or variables, and the relations between them in a format which can subsequently be transformed into an empirical study. In this chapter, the findings of the previous chapters are presented in a diagram (Figure 5.1). These findings are used to develop the conceptual model, presented later in Figure 5.2.

5.2 THE CONCEPTUAL MODEL.

This section consists of a discussion of the key points of the previous chapters, leading to a set of assumptions of the conceptual model. These, in turn, are converted into a presentation of the conceptual model in the form of a diagram (Figure 5.2).
Figure 5.1: Structure of the literature review findings.

Source: The Author.
5.2.1 Concept of Privatisation.

Privatisation or the sale of state-owned assets has become an important instrument for improving economic performance in the developed market economies, such as the UK, as well as implementing transitional policies in non-market economies, such as Egypt and Hungary. The concept of privatisation refers to the transfer of ownership of some or all of the state-owned assets to the private sector. It requires first, in non-market economies, the creation of property rights. Section 2.2, and elsewhere show that the creation of the state sector could be attributed, in the market economies such as the UK, to the nationalisation of existing enterprises, while in non-market economies, such as Egypt and Hungary, it has resulted partly from nationalisation of existing enterprises, but mainly as a product of a large governmental programme.

In contrast with the market economies, where nationalisation and the creation of the state sector took place within the framework of a market economy, nationalisation and creation of the state sector in non-market economies took place within the framework of applying a centrally planned economy model. As a result, privatisation in non-market economies is considered to be a part of the whole operation of the economic reform. Therefore, in contrast to the one dimensional privatisation in the market economies (quantitative reduction of the state sector shares in the national economy), privatisation in non-market economies has two dimensions; in addition to the quantitative dimension, it has a qualitative dimension, of replacing the economic model, and creating the environment for the private sector to work in, see section 2.6.1.
5.2.2 Reasons for privatisation.

Apart from reducing the budget deficit, building up popular capitalism, making the economy more competitive, and reducing the involvement of politics in the working of commerce, the ultimate stated reason for privatisation, in both developed and developing countries, is to increase economic efficiency and create a more flexible and dynamic economy (see section 2.6.2). Section 2.3 shows that the state sector enterprises have been criticised in terms of lack of profitability and efficiency, due to poor management and inefficient operation (see also Rondinelli D., 1995). It was shown that privatisation led to improved performance (Yarrow, 1986) and cost efficiency (Liu, 1995), through the ability to transfer ownership (Davies, 1971), where private ownership provides market incentives to encourage technical efficiency within the firm, which is associated with cost minimisation (Domberger and Piggott, 1994), (see section 2.3).

The difference in performance between the state sector and the private sector enterprises is a result of the difference in behaviour between the private and the state sector management. The theory of property rights (see Alchain and Demsetz, 1972) suggests that privatisation entails the adoption of management objectives that respond to the wishes of shareholders, which is maximizing profits. Although it has been claimed that the separation of ownership and management in modern firms may result in a conflict between the objectives of shareholders and the objectives of managers (see Short, 1994), Bouin and Michalet (1991) suggest that the threat of bankruptcy, takeover of the firm, and being ousted, are guarantees that the management will
maximize the shareholders' utility function, see section 2.4.

5.2.3 Privatisation and Deregulation.

The effect of privatisation as a means of increasing efficiency depends on the introduction of competition (Liu, 1995). It was suggested that competition and deregulation are likely to be more important in determining the economic performance (Yarrow, 1986), and the degree of competition and the extent of regulation may obscure the efficiency implication of private ownership (Liu, 1995). Deregulation has been defined in section 2.5 as the removal of both barriers to entry and exit from the market, and the restrictions on pricing, which will result in the introduction of competition. As mentioned in section 4.2.1.3 deregulation often proceeds privatisation, and the two processes are often combined.

In Egypt all road freight operations have been regulated since 1957. The study of the National Transport System in Egypt (1993) points out that the stipulation regarding pricing included in the law is not enforced, which means total freedom for the operators to price their service (see section 3.3.2). As a result, the state sector road freight companies face excessive competition from the cooperatives, private sector companies, and other subsidised modes of freight transport (the railways and the inland water companies). This competition, in the absence of a pricing system, has resulted in a sharp fall in rates. The UN-ESCWA study (1994) shows that in 1993 the rates charged by the state sector road haulage companies covered only 63 per cent of costs (see section 2.9). The USA experience with deregulation of inter-state road
freight industry, also showed a fall in prices following deregulation, and therefore reduction in the profit margins, which was explained by the general economic situation at that time, since deregulation took place during a recession (see section 2.5).

In Egypt the fall in prices could possibly be attributed to two reasons. First, the subsidy of the railways and the inland water companies enable them to offer lower prices. Second, the cooperatives used to get their contracts from the state sector road freight companies for 5 per cent administration fees, increased to 8 per cent and 10 per cent by 1988. Since the establishment of holding companies in 1991, the cooperatives have become able to tender directly, and save this 10 per cent fee. As a result the cooperatives have become able to offer price at least 10 per cent lower than the state sector companies. These two reasons, in the absence of a pricing system, resulted in excessive competition in the road freight market in Egypt. It would suggest that a form of regulation of competition, to save the operators' profitability, is needed, which could be applied by the government, or voluntarily through self-regulation.

5.2.4 Methods of Privatisation.

As mentioned in section 1.1.1.6, the drive towards privatisation in transitional economies is based on the market economies. The difference comes in terms of the nature of the privatisation process, where a distinction should be made between two main strategies; the shock therapy, and the gradual approach. Both Egypt and Hungary have adopted the gradualist strategy (see sections 3.4, 4.3.1.3, and 4.4).
Various privatisation methods are available for the economies in transition. These methods were shown in section 2.6.4 as; public flotation (through the stock market by fixed price offer or sale by tenders); direct sale to a third party or through management/employees buy-out; and vouchers. As mentioned in section 3.4, the privatisation of the state sector road freight companies in Egypt presents different options. One approach is to dissolve the companies and sell off their assets. The result could be an increase in the number of the small operators. In Hungary, the application of this method resulted in many small operators working at a low quality of service. In order to improve the quality of the road freight industry, the Hungarian government passed a law, in 1995, to favour large and modern road freight companies (see section 4.4). Another approach is to privatise the companies as large entities. It could be done through a sale offer or flotation in the stock market, or a management/employees buy-out (see the UK experience with privatisation of the NFC presented in section 4.2.1.3). There is another alternative available, which is to privatise the management only.

5.2.5 Problems of Privatisation.

As mentioned in section 2.6, privatisation in the non-market economies is much more complicated than a change of ownership within a market economy. This complexity comes from the fact that this type of privatisation includes creating new economic agents, establishing a new economic environment, and transforming the political system. Although in both Egypt and Hungary the processes of setting up the framework of the market economy took place during the 1980's, prior to the privatisation processes (see sections 3.2 and 4.2.1), both countries have been criticised
in terms of speed of privatisation, where progress is slower than expected, resulting from implementation problems.

Rondinelli (1995) points out that the slow speed of implementing privatisation in many countries could be attributed to the national economic uncertainty and instability, a weak financial market, bureaucratic complexity, incomplete property rights, and weaknesses in market-economy management skills. Section 2.6.5 shows that there are two main problems, in particular, facing privatisation in the economies in transition: the problem of necessary capital to privatise the state sector enterprises, and the problem of increased unemployment as a result of privatisation.

The problem of the lack of the necessary capital to finance the privatisation, due to a lack of domestic savings, could be overcome by allowing foreigners to participate in privatisation. Although foreign ownership is often ruled out on grounds of protecting the industry from being controlled by foreigners, it would offer the needed management and marketing skills, and technical support. Both Egypt and Hungary have introduced laws allowing foreigners to buy the state-owned assets offered for privatisation (see sections 3.2.2 and 4.3.1.3). It has been suggested that to protect strategic industries from being controlled by foreigners, the maximum percentage to be owned by foreigners in such industries should be determined. Alternatively, management/employees buy-outs should be used wherever possible.

The problem of increased unemployment, as a result of privatisation, comes from the fact that the economies in transition operate with an excessive use of labour, due to
the type of technology used, and to achieve the social objective of full employment (see sections 2.3 and 2.6.5). In Egypt, in particular, where there are no unemployment benefits, this problem is likely to have serious implications. Zaalouk (1989) mentioned that one of the major problems with the state sector companies in Egypt is associated with the workforce, where it does not "fit with the basic technical requirements" (p39), see also Sabry (1969). For the state sector road freight companies, the UN-ESCWA study (1994) highlighted that the companies are "over employed, and the workforce is inefficient, particularly in the technical divisions" (p47), see also El-Mazawy and Lashin (1994).

Over-employment makes the state sector companies less attractive for private capital. It would therefore suggest that a re-structuring of these companies is needed before privatising them (see the UK experience with privatisation of the NFC in section 4.2.1.3). Since the ability of the government to retrain unwanted employees, and transfer them to other sectors, or compensate them is limited (see section 2.6.5), it would suggest that the revenue from selling the companies should be used to create new jobs, or to encourage small businesses. The companies' shares could also be used to encourage early and voluntary retirement.

5.2.6 Externalities.

The increasing awareness of the external costs of transport, generally, and road transport, in particular, is one of the main developments which have taken place over the last two decades in transport businesses. Since privatisation in non-market
economies is associated with economic reform and replacing the centrally planned model with the market economy model, or what is referred to as the qualitative dimension of privatisation (see section 2.6), the problem of social costs, or externalities arises. That is because the market economy model relies on the price system to achieve the optimal resource allocation, which should include all costs, including externalities. If not, it will result in distortions as subsidies (see section 2.7).

A distinction is made between technological and pecuniary externalities. The pecuniary externalities do not produce mis-allocation of resources, because they result from a change in the prices of inputs and/or outputs, and affect other parties financially. The main concern are the technological externalities, where losses are caused by productive activities and borne by third parties (Kapp, 1969), (see section 2.7).

Road transport externalities can be seen under two main components; the impact of transport on the stock of non-renewable resources, and the interaction within the transport sector, which results from the use of transport networks (see section 2.7). For the road freight industry, the external cost has been defined in section 2.8.4. as those costs which are caused by hauliers through running their operations, and which are not paid for by the operators. Section 2.8.4.2, shows that elements of the external costs of road freight transport could be classified under three main headings; elements of costs associated with the environment (noise and pollution); with the infrastructure (vibration and road wear); and with social considerations (safety, congestions, and visual intrusion).
Under privatisation there is a need to internalise the externalities of road freight. Two approaches to this have been defined in section 2.7. First, the Pigou approach, which relies on imposing a tax on the production of externalities. Second, the Coase approach, which relies on the market itself and/or the legal system. It would be expected that making the operators pay for external costs will result in a price increase, but since the market is competitive, and the operators seek efficiency to maintain a better position in the market through cost reduction (provided that the safety regulations are maintained), the cost increase should be absorbed by the industry, and the price will not be too high (for a more detailed discussion see sections 2.4 and 2.5).

5.3 The Assumptions of the Conceptual Model.

The assumptions of the conceptual model are best classified under five conceptual categories, which present the main five issues of privatisation of the road freight industry identified in the preceding chapters. They are: impact of privatisation on the road freight industry; the role of freight management under privatisation; the best method of achieving privatisation of the state sector road freight companies; problems facing privatisation of the state sector road freight companies; and the external costs of road freight under privatisation. Each of these conceptual categories leads to a set of conceptual assumptions, also identified in the preceding chapters. Each of these conceptual assumptions, then, leads to a set of statements, which form the basis for the empirical work introduced in the following chapters.
Conceptual Category (1).

Impact of privatisation on the road freight industry.

Conceptual Assumption (1.1).

The productivity of the state sector enterprises is lower than that of the private sector, and privatisation leads to improved performance through the ability to transfer ownership.

Statements:
* Under the privatisation of road haulage, the size of the state sector should be minimized as much as possible.
* Privatisation will inevitably create a more efficient, flexible and dynamic road freight industry.
* By privatising the road freight industry, there will be an opportunity to release more governmental money for spending on transport infrastructure (especially roads).
* Privatisation should not mean withdrawing the subsidies totally from the transport industry. Some parts of the transport system need to be supported.

Conceptual Assumption (1.2)

The effect of privatisation, as a means of increasing efficiency, depends on the introduction of competition, which could be introduced by deregulation. Evidence suggests that deregulation of the road freight industry results in reduced rates, costs, and improved services.
Statements:
* Competition is the most important element for a high quality road freight industry.
* Road freight customers will benefit from privatising the industry in terms of lower charges.
* Road freight customers will benefit from privatising the industry in terms of a better quality of service.

Conceptual Assumption (1.3).
Deregulation may result in excessive competition. Evidence suggests that following deregulation, rates fall sharply, as a result of excessive competition. It would suggest that a form of regulating competition is needed to save the operators' profitability, which could be applied by the government or through self-regulation.

Statements:
* Negative results might result from excessive competition in the transport sector. Therefore, a form of regulation of competition should be applied by the government to save the operators' profitability.
* It is not necessary to regulate competition in road freight through the government, because the freight operators can do it voluntarily through self-regulation.
* A privatised, deregulated road haulage industry requires a legal distinction to be made by the government between own account operators and professional operators.
Conceptual Category (2).

Role of freight management under privatisation.

Conceptual Assumption (2.1).

The transfer to private ownership may result in improved cost efficiency by sharpening managerial incentives. Privatisation, may also entail the adoption of management objectives that respond to the wishes of the shareholders, which is maximizing profits.

Statements:

* Under privatisation, identifying areas where cost reduction could be made is the main task for road freight management.
* To maximize profits should be the main objective for road freight management under privatisation.

Conceptual Category (3).

Best method of achieving privatisation.

Conceptual Assumption (3.1).

The privatisation of the state sector road freight companies presents different options. One approach is to dissolve the companies and sell off their assets. Another approach is to privatise them as a large entities, or to privatise the management only.

Statements:

* A good way to achieve privatisation of the road haulage industry is to dissolve the existing companies and sell off all their assets.
* A good way to achieve privatisation of the road haulage industry is to sell off the companies, in their existing form, through tenders.

* A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, which could be sold through the stock exchange.

* A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and use the remaining shares as workers' shares.

* Different state sector road haulage companies require different forms of privatisation (eg. privatising management only or privatising both management and ownership).

* A wider base of popular capitalism is an important element to achieve successful privatisation of the road haulage industry, and requires low priced shares.

Conceptual Category (4).

Macroeconomic problems facing privatisation of the road freight industry.

Conceptual Assumption (4.1).

The problem of required capital to finance privatisation, due to the lack of domestic savings, could be overcome by allowing foreign capital to participate in the privatisation process. The fear of foreign control over industries could be overcome by determining the maximum percentage of foreign capital in the companies, or by
using employee buy-outs.

Statements:

* The lack of available capital is one of the most important problem facing the privatisation process of the road freight industry in developing countries.

* The problem of the lack of available capital could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage).

* Foreign control over the road freight industry will result if foreign capital is allowed to buy state assets in the road freight industry.

* The problem of foreign capital control over the road freight industry could be avoided by determining a maximum percentage for the capital owned by a foreigner in the road haulage companies.

* To avoid the problem of foreign capital control over the road freight industry, the government should sell the shares of the state-owned road haulage companies to their existing employees with interest free credit.

Conceptual Assumption (4.2).

The problem of increased unemployment arises from the fact that the economies in transition operate with excess labour, due to the type of technology used and to achieve the social objective of full employment of the work force. On the other hand, the government ability to pay for the dismissed employees, or re-training them, or transferring them to other sectors is limited. The revenue from privatisation could be employed to encourage new small businesses.

Statements:

* Increased unemployment is one of the most important problems facing the
privatisation of the road freight industry.

* The ability of the government to pay for dismissed employees (as a result of privatisation), or re-training them, or transferring them to other activities is one of the problems facing the privatisation processes.

* The problem of increased unemployment could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses.

Conceptual Category (5).

The external cost of road freight under privatisation.

Conceptual Assumption (5.1).

When applying the market economy model and price system, the operators should pay for the externalities. It might result in price increases, but through cost reductions, any cost increase would be absorbed by the industry, and as a result the price will not be too high.

Statements:

* Under privatisation, road freight operators should pay for the damage to the environment resulting from running their operations.

* A tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations.

* Making private road haulage pay for social and environment costs will result in price increases in the short term.

* In the medium and long terms, cost increases, resulting from private road
haulage paying for social and environment costs, will be absorbed by the industry and prices will not be too high.
Figure 5.2: The Conceptual Model.

Reduction of the State Sector Road Freight

Quantitative Dimension

Qualitative Dimension

Economic Reform

Market Economy Model

Price System

Includes Road Freight Externalities

Deregulation of the Road Freight Industry

Introduction of Competition

Problems Facing Road Freight Privatisation

Lack of Capital

Increased Unemployment

Behaviour of the Private Firm

Efficiency

Improved Performance of the Road Freight Firm

Road Freight Externalities

Associated with the Environment

Associated with Social Considerations

Associated with the Infrastructure

Dissolving

Tenders

Flotation

Workers' Shares

Transfer Ownership

Shareholders Influence

Change Firm Objectives

Profit Maximization

Cost Minimization

Source: The Author.
CHAPTER 6

THE EMPIRICAL RESEARCH METHOD

6.1 INTRODUCTION.

Producing an accumulating body of reliable knowledge is the ultimate goal of the social sciences. Such knowledge should enable us to "explain, predict and understand empirical phenomena that interest us" (Nachmias and Nachmias, 1992, p9). Social and behavioural sciences aim to produce principles which help to explain and provide new insights into human behaviour. Evaluating what appear to be principles could be done by examining their consistency with carefully controlled observations of human behaviour. Cramer (1994) mentioned that conducting empirical research should, wherever possible, test the validity of principles. Bailey (1978) points out that the difference between the physical sciences and the social sciences centres around the methodology not around the methods. The method means the "research technique or tool used to gather data" (p32). The methodology means the "philosophy of the research process" (p32).

6.2 DATA COLLECTION METHODS.

There are many methods that could be used to obtain needed data and information. Data already published by governmental bodies or private organisations or enterprises could be used, experiments might be designed to obtain the necessary data and
information, or surveys could be conducted. By consolidating the various references reviewed in sections 6.2.1 to 6.2.5, it appears that there are five main methods by which data and information could be collected, they are: desk research, observation, survey research, experimental research and continuous research, see Figure 6.1.

6.2.1 Desk Research.

Usually this is carried out in an exploratory phase of the research. Desk research relies on secondary data and includes many activities, such as library research, searching records and information systems of companies or organisations, using a database, and buying data and reports from commercial sources. The key uses of desk research are in providing background material for primary research and providing an alternative to doing primary research (Kent, 1993). Chapters two to four have made extensive use of desk research.

6.2.2 Observation.

Chadwick et. al. (1984) point out that observation is the "basis of laboratory experiments, field studies, participant observation, interviews, and the ultimate source of all secondary data" (Chadwick et. al., 1984, p74). The subject of the study could be observed directly, the researcher might rely on the reported experiences of others, and in some cases the researcher can use materials, such as studies, census reports or directories (Chadwick et. al., 1984). Kent (1993) says that except where observation is being used for exploratory research "in order to get the feel for some situation"
(p106), the observation is usually structured. This means that "observations are recorded into predetermined categories so that the frequency of behavioural occurrences or duration of time can be noted" (Kent, 1993, p106). A distinction between "scanning" and "observation" has been made by Baker (1991) as the following; scanning is "partly structured and is intended to maintain an awareness of information, actions and events which may have a bearing upon the decision maker's judgement and/or action", while observation consists of the "systematic gathering, recording and analysis of data" (p78).

The main advantage of the observation technique lies in the broad applications in the social sciences (Chadwick et. al., 1984). Another advantage, which has been referred to by Kent (1993) is that no reliance is placed on people's memories, guesses or honesty. The main disadvantages are:

1. Senses are poor instruments for making comparisons because they adjust to conditions (Chadwick et. al., 1984).

2. The senses do not operate independently of personal experiences. Consequently, both what we observe and the interpretations we attach to what is observed are influenced by what we have previously seen, heard, felt and done (Chadwick et. al., 1984).

3. Observation can be only "of behaviour", it is not possible to observe attitudes, opinion, or what people think (Kent, 1993).

Methods of observation have been defined by Churchill and Nielsen (1992) as; structured and unstructured observation, disguised and undisguised observation, natural and contrived setting, and human and mechanical observations.
Figure 6.1: Methods of Data Collection.

Data Collection Methods

- Desk Research
- Personal Observation
- Experimental Research
- Continuous Research

Survey Research

- Interview Survey
- Questionnaire Survey

- Face To Face Interview
- Telephone Interview
- Postal Questionnaire
- Personal Interview
- Telephone Survey

Source: The Author.
6.2.3 Experimental Research.

Instead of relying on answers to questions to individuals in a survey, in the experimental research the researcher tries to observe and measure the results. Baker (1991) maintained that in the experimental research, the researcher usually seeks to control all the variables, so that, by varying one while holding the other constant, the researcher can determine the effect of the independent variables on the other variables.

Three main characteristics of the experimental research have been identified by Kent (1993) as:

(1) The manipulation of one or more independent variables that the researcher wishes to test the effects of.

(2) A comparison of at least two measures of a dependent variable.

(3) The control of extraneous factors that may affect the results.

The key advantage of experimental research is that the researcher chooses which factors or variables he/she is going to try out (Kent, 1993).

6.2.4 Continuous Research.

In continuous research, the measurements are taken on a regular basis in order to monitor the changes that are taking place. The continuity of data collection may be achieved in one of two ways; either obtaining data from the same source on a continuous or regular basis, or picking a sample of respondents every measurement period (Kent, 1993).
6.2.5 Survey Research.

Chadwick et. al. (1984) refers to survey research as the "most widely used method of data collection in the social sciences" (p100). Survey research has been identified by Kent (1993) as a collection of data based on addressing questions to respondents "in a formal manner and taking a systematic record of their responses" (p127). According to Baker (1991), there are three kinds of survey research; factual, opinions and interpretive surveys. A factual survey is concerned with securing hard quantitative data which is related to actual behaviours. In the opinion survey, the objective is to get respondents' views upon the topic under consideration. Interpretive surveys are used in circumstances "where the respondent is asked to explain why a particular belief or behaviour is holding in a particular way" (p86).

The main advantages of survey research have been listed by Chadwick et. al. (1984) as the following:

1. The attitudes and beliefs of large numbers of respondents are difficult to obtain by any other means.
2. Survey research can be used to obtain information about events that have occurred previously and now exist primarily in the memories of those to be studied.
3. Survey research permits the collection of data from a large number of respondents in a relatively short period and at a relatively low cost.
4. Because of the pervasiveness of surveys, it is generally relatively easy to get people to participate.
According to Vaus (1991), the main disadvantages of survey research are:

1. Surveys cannot adequately establish causal connections between the variables.
2. Surveys just look at particular aspects of people's beliefs and actions, without looking at the context in which they occur.
3. Surveys seem to assume that human action is determined by external forces and neglect the role of human consciousness, goals, intentions and values as important sources of action.
4. Surveys are too restricted, because they rely on highly structured questionnaires which are necessarily limited.
5. Surveys are too statistical and reduce interesting questions to incomprehensible numbers.

There are two types of survey research; interviews and questionnaires. The interview survey could be conducted through a face-to-face interview or through a telephone interview, while the questionnaire survey could be applied by personal interview, telephone, mail, or self-administered.

6.2.5.1 Interview Survey.

It is one of the most basic forms of data collection. It has been defined by Cannell and Kahen (1968) in Chadwick et. al. (1984) as a two person conversation, initiated by the interviewer for the specific purpose of obtaining research relevant information and focused by him (the interviewer) on content specified by the research objectives of systematic description, prediction or explanation. The interview survey could be
conducted through a face-to-face interview or through a telephone interview. Each of these two ways has its own advantages. The advantages of face-to-face interview have been highlighted by Kent (1993) as the following:

(1) The interviewer can check and ensure respondent eligibility before the interview is started.

(2) Personally administrated questionnaires ensure that all questions are asked in the required order, and that all applicable questions are asked.

(3) The interviewer can encourage respondents to answer as fully as possible and check that the question is correctly understood.

(4) Materials that need to be shown to the respondents can be presented.

(5) Response rates are consistently higher than for other methods of questionnaire administration.

(6) Interviewers can usually persuade respondents to complete the interview.

On the other hand, instead of face-to-face interviews, the telephone could be used to achieve the interview. Kent (1993) points out that telephone interviewing has two main advantages over face-to-face interviewing. It is not necessary to cluster the interviewing in sampling points; this has the effect of reducing sampling errors, and it produces faster results. Hague (1993) maintains that "the greatest advantages of the telephone are its speed and low cost" (p47). Telephone surveying is not appropriate to all kinds of surveys, and should be restricted to those situations where it offers significant advantages over other interviewing methods in the light of the usual time and budgetary constraints (Baker, 1991). Hague (1993) states that it is "better suited to shorter interviewing and 10/15 minutes or so is probably the ideal length" (p51).
6.2.5.2 Questionnaire Survey.

The second type of survey research method is the questionnaire survey. Chisnall (1992) points out that the survey may be applied in several different ways: by personal interview, by telephone, by mail or self-administered.

The main advantages of the questionnaire survey are:

1. It is completed at the respondent's convenience (Baker, 1991).
2. It is economical, in terms of its cost (Chisnall, 1992).
3. There is no interview bias (Kent, 1993).
4. Central control of the survey is facilitated (Kent, 1993).
5. The respondent may consult with others, review records, think about the question before answering (Chadwick et al., 1984).

The main disadvantages of questionnaire surveys are:

1. There is no assistance and encouragement from an interviewer (Kent, 1993).
2. Responses usually take longer than for telephone or face to face interview surveys (Kent, 1993).
3. The questionnaires must be relatively brief or most respondents will not take the time to complete them (Chadwick et al., 1984).
4. The risk that someone other than the selected respondent will complete the questionnaire (Chadwick et al., 1984).

Regarding forms of the questionnaire, Chisnall (1992) states that the general form of
questionnaire lies between two extremes. There are structured questionnaires, which consist of a series of formal questions designed to "attract answers of limited response" (p109). Unstructured questionnaires, are where formal questions are replaced by a free style of investigation, and "the interviewer encourages conversation to develop, during which respondents are invited to answer in their own words a series of open-ended questions, often phrased by the interviewer to suit individual respondents" (p109).

The foundation of all questionnaires is the question. Nachmias and Nachmias (1992) say that the questionnaire "must translate the objectives of the research into specific questions" (p239) and answers to such questions will "provide the data for hypothesis testing" (p239). Chisnall (1992) maintains that there are three conditions necessary for ensuring a true response to a question:

(1) Respondents must be able to understand the questions.
(2) Respondents must be able to provide the information requested.
(3) Respondents must be willing to provide the information.

The major considerations involved in formulating questions are their content, structure, format, and sequence. According to Nachmias and Nachmias (1992), most questions can be classified in either of two general categories: factual questions, which are designed to observe objective information from the respondents, and questions about subjective experiences which involve the respondent's attitude, feelings and opinions.

For the purpose of questionnaire formulation, three types of questions could be used;
open-ended, closed-ended, and contingency questions. Open-ended questions can be used when all of the possible answer categories are not known. Bailey (1978) mentioned that they are preferable for complex issues that cannot be condensed into a few small categories, or when the researcher wishes to know the respondents' views as the appropriate answer categories. This type of question allows the respondent to answer adequately in all the detail. On the other hand, the advantages of closed-ended (fixed alternative) questions are that the answer are standard, so that they can be compared (easily) from one respondent to another. Also, the respondent is often clearer about the meaning of the questions, the answers are relatively complete, and often easier for the respondent to answer (Bailey, 1978).

Some questions that are relevant to some respondents may be irrelevant to others, so it is often necessary to include questions that might apply to some respondents and not to others. This type of question is called a contingency question. Nachmias and Nachmias (1992) point out that the contingency question is a special case of a closed-ended question. The relevance of the question to the respondent is determined by the answer of all the respondents to a filter question. The format of the filter question varies.

There are two patterns of question sequence: funnel sequence and inverted funnel sequence. Nachmias and Nachmias (1992), say that in the funnel sequence "each successive question is related to the previous question and has a progressively narrower scope" (p250). This approach is suitable when the survey aims to obtain detailed information. In the inverted funnel sequence, narrower questions are followed
by broader ones. This approach is helpful when "the topic of the survey does not strongly motivate the respondents to communicate" (p.251). Some rules for the orders of questions have been determined by Bailey (1978) as the following:

(1) Easy to answer questions and information needed for subsequent interviewing should come first in the questionnaire.

(2) Sensitive questions and open-ended questions should come late.

(3) Place questions in logical order.

(4) Vary questions by length and type.

Due to its main advantages, the postal questionnaire was selected as the method of applying the questionnaires used in the current research. The specific nature of the questionnaires is discussed later in chapter seven. According to Moser and Kalton (1993), the advantages of a postal questionnaire are:

(1) Generally cheaper than other methods.

(2) Being able to have a widely spread sample.

(3) Quick method of conducting a survey.

(4) Avoiding the problem of non-contacts.

In addition, a postal questionnaire appeared the best way to overcome the problem of language and distance, since the survey needed to apply in Hungary and Egypt. It was easier to formulate the questionnaire, and then translate it into Arabic and Hungarian. On the other hand, it would have been extremely difficult to give personal interviews or to use the telephone particularly in the case of Hungary, since the researcher does not speak Hungarian.
The following limitations of the use of mail questionnaire have been highlighted by Moser and Kalton (1993):

(1) Questions must be sufficiently simple and straightforward to be understood with the help of the printed instructions and definitions.

(2) The answers have to be accepted as final, unless re-checking or collection of the questionnaires by interviewers can be offered.

(3) The postal questionnaire is inappropriate where spontaneous answers are wanted.

(4) The respondent can see all the questions before answering any one of them, and the different answers cannot therefore be treated as independent.

(5) With a postal questionnaire the surveyor cannot be sure that the right person completes the questionnaire.

(6) With a postal questionnaire there is no opportunity to supplement the respondents answers by observational data.

6.3 QUALITATIVE AND QUANTITATIVE RESEARCH APPROACHES.

The distinction between qualitative and quantitative research approaches is often applied in terms of the process of data collection and the form of data recording and analysis. Variables defined as "a concept that varies" (Neuman, 1994, p97), and the relationships between them are at the core of the quantitative approach. In this approach, variables are linked together to "form hypotheses, which are then tested upon data" (Brannen, 1992, p4). Since the focus in this approach is "directly on the relationships among variables" (Ragin, 1994, p5), it is efficient at getting to the
structural features of the issue (Brannen, 1992). The quantitative approach implies gathering specific information on many cases, then looking for a "pattern in the variables in these cases" (Neuman, 1994, p321). The idea is to examine the issue across many cases in order to understand the patterns and relationships between variables (Ragin, 1994). This aspect allows confidence in accepting reliability (generalisability) of the research findings (Hart, 1987). It also makes this approach well suited for "identifying general patterns and relations, testing theories, and making predictions" (Ragin, 1994, p132). The numerical form of the quantitative data makes comparison easy and data are standardised (Hart, 1987).

The qualitative research approach, in contrast, emphasizes the importance of the context in understanding the issue (Neuman, 1994). In this approach, the aspects of the issue are often viewed in the context of the case (Bullock et. al., 1992 and Ragin, 1994), and information on a number of cases is needed at such a depth as to "get more detail on the examined case" (Neuman, 1994, p321). Therefore, qualitative research is usually associated with "depth and richness of the data provided" (Hart, 1987, p27). This aspect makes the qualitative approach preferable for exploring and uncovering features of an issue and highlighting the key relations between these features (Ragin, 1994). Qualitative research is, also, stronger in terms of "processual aspects" (Bryman, 1992, p60). For Gordon and Langmaid (1988) qualitative research is best used where the results will "increase understanding, clarify issues, generate hypotheses, and expand knowledge" (p3).

Strauss and Corbin (1991) defined qualitative research as the research where the
findings are "not arrived at by means of statistical procedures or other means of quantification" (p17). Thus, qualitative analysis is "self-generated and controlled" (Hart, 1987, p28). The three main characteristics of the qualitative approach are; using small samples, employing a wide variety of techniques to collect data, and being time consuming because the data is unstructured (Chadwick et. al., 1984 and Dickens, 1987). Mention here should be made of the fact that although the two approaches (quantitative and qualitative) are distinctly different, they are complementary, and most sophisticated research designs contain elements of both (Baker, 1991 and Brannen, 1992).

The current research is a study of privatisation of the road freight industry in Egypt, in the context of the transformation to the market economy, and the European experience of road freight privatisation, in particular in the UK and Hungary. Since this study seeks the opinion of people on ideological issues, as well as obtaining attitudes concerning the application of this ideology to the road freight industry, it was deemed likely that a quantitative survey would give invalid results, since the respondent may not understand the full meaning behind the questions. A more qualitative approach would enable a depth of response not possible in a quantitative survey, but desirable in a topic with such limited previous research.

6.4 QUALITATIVE RESEARCH TECHNIQUES.

The three main techniques for the applications of qualitative research, are: group discussion, depth interviews and the Delphi technique, see Figure 6.2.
Figure 6.2: Techniques and Types of the Qualitative Research.

Qualitative Research Approach

Depth Interview

Limited Response

Free Response

Defensive Response

Delphi Technique

Delphi to Estimate Unknown Parameters

Policy Delphi

Decision Delphi

Group Discussion

Mini Groups

Extended Group

Reconvened Group

Sensitivity Group

Creativity Group

Source: The Author.
6.4.1 Group Discussion.

This is where a number of people meet to perform a task or tasks. According to Hague (1993), group discussions "are a meeting of a small number of respondents, typically six to twelve" (p103). Dickens (1987) describes group discussion as "an effective tool for generating a wide range of attitude and behaviour pattern examples" (p34). A number of factors influencing group discussion have been identified by Kent (1993). They include size of group, its composition, the personalities of the members, the task they are asked to perform, the physical conditions of the meeting place and the chemistry between interviewer and respondents. The main advantages of the group discussion technique are the following:

(1) Spontaneity of response is encouraged in a group setting (Gordon and Langmaid, 1988).

(2) The social and cultural influences on attitudes and behaviour are highlighted (Gordon and Langmaid, 1988).

(3) What respondents say in a group often sparks experiences or ideas on the part of others (Kent, 1993).

(4) It is easier to observe groups (Kent, 1993).

(5) Groups tend to be dynamic and often more creative (Kent, 1993).

The main disadvantages of the group discussion technique are the following:

(1) The group may react negatively to the moderator, subject matter or the environment and freeze (Gordon and Langmaid, 1988).

(2) A strong personality may overawe the other members who either withdraw or
simply agree (Gordon and Langmaid, 1988).

(3) Group processes may inhibit some people from making a full contribution and may encourage others to play to the audience (Kent, 1993).

(4) It is not usually possible to identify which group members said what, unless it has been videoed (Kent, 1993).

Five types of group discussion have been identified by Kent (1993), and Gordon and Langmaid (1988), they are:

(1) Mini-groups: which are used when there is need to explore individual behaviour.

(2) Extended groups: which are used for complex tasks or in-depth explorations.

(3) Reconvened groups: which are used for setting up experimented experiences between discussions.

(4) Sensitivity panel; which are used for exploration, invention and diagnosis.

(5) Creativity groups; which use brainstorming for problem-solving in an innovative manner.

Group discussion has not been selected for this research because of its disadvantages, where a strong personality might dominate discussions and others "may withdraw or simply agree" (Gordon and Langmaid, 1988, p11). This is particularly relevant in a society such as Egypt, where the social structure or ranking within a group is likely to have a strong impact on the participation of group members. Furthermore in this context, the lack of anonymity will be particularly inhibiting. For Hungary there is a language barrier, since the researcher does not speak Hungarian.
6.4.2 Depth Interviews.

Depth interviews have been identified by Chisnall (1992) as "purposeful exchange of meanings" (p139). Kent (1993) states that the difference between depth interviews and group discussion comes in terms of main lines of communication. In the case of depth interviews, the main lines of communication are between the interviewer and the respondent (or respondents), rather than between the respondents themselves. Chisnall (1992) points out that three forms of interviews are commonly used:

1. Limited response; where information is expected to respond to a series of questions, administered in a predetermined order.
2. Free response; where the respondent has a greater freedom in answering questions arising from some general points of discussion by the interviewer.
3. Defensive response; where the interviewer attempts to put pressure on the respondent over a range of topics and the respondent is expected to defend himself by refusing to be forced into any situation not agreeable by him.

Dickens (1987) says that the interviews are often more appropriate in the cases of private behaviour and attitudes, to explore relationships between attitudes and behaviour at an individual level, and where the research seeks to understand the sequence of events which leads towards a complex decision process. The main advantages of the depth interview technique are the following:

1. Very intimate and personal material can be discussed (Gordon and Langmaid, 1988).
2. Interviewing expertise can overcome the tendency to express socially
acceptable norms of attitude and behaviour (Gordon and Langmaid, 1988).

(3) Recruitment difficulties can be overcome (Gordon and Langmaid, 1988).

(4) It is possible to identify exactly who said what (Kent, 1993).

(5) Both majority and minority opinions can be captured irrespective of personalities and group processes (Kent, 1993).

The main disadvantages of the depth interview technique are the following:

(1) It is very time-consuming both in terms of conducting the interview and analysing the tapes (Gordon and Langmaid, 1988).

(2) Relatively more costly than group interviews (Kent, 1993).

(3) There is less opportunity for creativity (Kent, 1993).

The depth interview is a suitable method to collect opinions and judgements, but on the other hand, it gives a wide range of opinions and judgements, "without any attempt to obtain consensus" (Mckenna, 1989, p767). Furthermore, this method is costly (Kent, 1993) and time consuming (Gordon and Langmaid, 1988), and there is a limitation in terms of time and cost in this research. In addition, it would not be possible to conduct interviews in Hungary due to the language barriers. For these reasons the depth interview has not been selected for this research.

6.4.3 Delphi Technique.

This technique consists of a number of rounds and series of questionnaires, where in each round, a panel of experts is asked to make judgements or supply opinions about
a specific subject (or subjects). The Delphi technique has been selected for this research because it appeared a suitable method for collecting opinions, which are necessary to achieve the research objectives as described before. It has the advantages of both group communication and individuality, by overcoming the problems of committee systems (which shall be described on the next pages).

The Delphi technique provides some elements which help to eliminate the problems associated with group discussion discussed earlier. First, it provides feedback to the individual contributors of information and knowledge, assessment of a group judgement or view, the opportunity to revise individual views, and a degree of anonymity for the individual responses (Turoff, 1975). Second; it enables the collection of all the opinions, both majority and minority, irrespective of personalities, identifying exactly who said what (Kent, 1993), and recruitment difficulties can be overcome (Gordon and Langmaid, 1988). There are three types of Delphi technique; they are: Delphi to estimate unknown parameters, decision Delphi, and policy Delphi. Policy Delphi is adopted for application in this work, because it appeared a suitable method for collecting opinion of experts, which is necessary to achieve the objectives of this research.

6.5 THE RESEARCH METHOD (DELPHI TECHNIQUE).

6.5.1 The Origins and Use of the Technique.

The technique relies on the judgement of an expert panel (or what is called general
consensus). The name Delphi originates from the oracle at Delphi, where the ancient Greeks were said to be able to forecast future events (Williams and Webb, 1994). Woudenberg (1991) says that the first experiment using the Delphi methodology was performed in 1948 to improve "betting scores at a horse race" (p132). In the early 1950's, the Delphi technique was used in the USA in defence research carried out by the RAND Corporation, as a forecasting technique. Since a series of publications were published by the RAND researchers in the early 1960's, the Delphi technique has been fairly widely applied. The RAND Corporation was an organisation working under contract for the United States Air Forces, which undertook a Delphi study to obtain the expert opinions of a group of hypothetical Soviet strategic planners in the selection of an optimal industrial target in the United States and in estimating the number of atomic bombs of given yield required to reduce munitions output by a prescribed amount (Ludlow, 1985).

The late 1960's showed a new departure for the Delphi technique, when in 1969, the "Policy Delphi" was first introduced, and reported on in 1970 (Turoff, 1975). The distinction between the Policy Delphi and the original technique is that Delphi as it originally was introduced and practised tended to deal with technical topics and seek a consensus among a homogeneous group of experts. The policy Delphi seeks to generate the strongest possible opposing views on the potential resolutions of major policy issue, since it is a tool for the analysis of policy issues and not a mechanism for making a decision (Turoff, 1970). Thus, in policy Delphi "generating consensus is not the prime objective" (Turoff, 1975, p84). Woudenberg (1991) mentioned two other types of Delphi technique derived from the original method, which are: Delphi
to estimate unknown parameters and decision Delphi. Gradually the technique was
developed and has been increasingly used.

The 1970's and 1980's showed a considerable number of applications of the Delphi
technique, particularly in the medical and nursing field. For example, in 1975
Matthews et. al. used the Delphi technique for planning educational courses for
dietitians (Williams and Webb, 1994). In 1980, a study set out by Bond and Bond to
establish the clinical nursing research priorities of nurses in the North of England
(Bond and Bond, 1982). In 1983, Lawrence et. al. used the Delphi technique for
determining curriculum content, by using a series of panels which covered all the
medical schools in the USA (Williams and Webb, 1994). In 1987, and in the field of
Maritime studies, Kapoor used the Delphi technique to examine the system of
international trade in terms of flow between institutions and to develop a model of the
system to identify areas of system failures in terms of actual or potential maritime
frauds (Kapoor, 1987).

In 1991, Beech adopted the Delphi technique for nursing students in order to evaluate
their most recent clinical allocation. Students were asked to identify changes they
would make if returning to these clinical areas (Williams and Webb, 1994). In 1992,
Crotty used the Delphi technique to identify the change in the role of the nurse teacher
in the UK (Crotty, 1993). Also in 1992, Cranfield Centre for Logistics and
Transportation (Cranfield University, England), carried out a Delphi study, of two
rounds, to study the future of logistics in Europe. In the first round, experts were
asked to answer a set of questions. In the second round, they asked whether, after
seeing the collective view of the experts, they wished to modify any of their own responses. The panel consisted of 200 logistics experts in six countries (Cranfield University, 1994). Technology Foresight carried out a Delphi study to examine modes and aspects of transport in the UK. The panel consisted of 21 members, from industry, academic institutions, and government (Technology Foresight, 1995).

6.5.2 The Technique Defined.

The Delphi technique has been defined by Linstone and Turoff (1975) as a method for structuring a group communication process, so it is effective in allowing a group of individuals, as a whole, to deal with a complex problem. The traditional way of gathering together the views of experts is through the committee system. But the committee system has a number of disadvantages, similar to those described earlier for group discussion, which Turoff (1975) has defined as the five psychological characteristics of the committee process which dominate in large committees. They are:

1. The domineering personality takes over the committee process.
2. The unwillingness of individuals to take a position on an issue before all the facts are in or before it is known which way the majority is headed.
3. The difficulty of publicly contradicting individuals in higher positions.
4. The unwillingness to abandon a position once it is publicly taken.
5. The fear of bringing up an idea that might turn out to be idiotic and result in a loss of face.
The Delphi technique aims to structure group communication while eliminating these disadvantages by providing:

(1) Feedback to the individual contributors of information and knowledge.
(2) Assessment of the group judgment or view.
(3) Opportunity to revise the individual views.
(4) A degree of anonymity for the individual responses.

Crotty (1993) mentions the description by Reid (1988) of the Delphi survey as a means of systematically collecting and aggregating the informed judgements of a group of experts on specific questions or issues.

Whitman (1990) pointed out that the Delphi process would have advantages over a committee meeting in the following circumstances:

(1) When face to face discussions are impractical because of constraints of time or the large number of individuals involved.
(2) When individuals to be involved have no history of adequate communication and/or represent diverse backgrounds with respect to experience or expertise.
(3) When disagreements among individuals are so severe or politically unpalatable that the communication process must be referred and/or anonymity preserved.
(4) When group thinking or group domination by certain individuals needs to be avoided.
(5) When there is a potential for evaluating ideas before all ideas have been considered.
6.5.3 The Characteristics of the Technique.

The four main characteristics of the Delphi technique are:

1. **Anonymity:** By posting the questionnaire, the identity of the panel members by each other will be avoided. This enables them to express their opinion and change it freely (Woudenberg, 1991 and Hakim and Weinblatt, 1993). In addition, unlike the face-to-face discussion of a committee meeting, where some members may dominate discussion by their personalities or through formal or informal power, the Delphi technique gives all members of the panel an equal opportunity to express their views (Whitman, 1990).

2. **Iteration:** The technique consists of a number of rounds. The number of rounds can be fixed in advance or determined according to a criterion of consensus in the group (Woudenberg, 1991).

3. **Controlled feedback:** On the second and, possibly, subsequent rounds, panel members are asked to reconsider their answers and make judgments. The feedback procedure assures that only directly relevant information is asked of the panel (Woudenberg, 1991 and Hakim and Weinblatt, 1993).

4. **Statistical group consensus:** The members may receive statistical measures of agreement, which help to screen out the biases produced by the group thinking of committees (Hakim and Weinblatt, 1993).

6.5.4 Reasons for Choosing Delphi Technique.

Linstone and Turoff (1975) outline four main reasons for choosing the Delphi
technique, which are:

(1) The research problem does not lend itself to precise analytical techniques, but it benefits from subjective judgements on a collective basis.

(2) The research population may represent different backgrounds with respect to experience or expertise.

(3) More subjects are needed than can effectively interact in a face to face exchange.

(4) Time, cost and logistics would make frequent meetings of all the subjects unfeasible.

Mckenna (1994) quotes Farrell and Scherer's (1983) comment that the Delphi technique is suitable for areas where there is a lack of empirical data.

In this research, the Delphi technique has been chosen for three main reasons. The first one is its nature as an appropriate method to collect opinions and judgements, in particular in areas where there is a lack of empirical data, such as privatisation of the road freight industry in Egypt. The second reason for using the Delphi Technique in this research is the element of cost and time, where there is a limitation on both. The third reason is that the Delphi technique has the advantages of both group discussions and depth interview, and also overcomes their disadvantages. Figure 6.3 shows both advantages and disadvantages of group discussions and depth interview in comparison with the Delphi technique, as identified by Gordon and Langmaid (1988) and Kent (1993). Finally, there was the problem of language barriers, in the case of Hungary, which makes it extremely difficult to use group discussions and/or interviews.
Figure 6.3: Delphi Technique vs Other Techniques.

(A) **Advantages of other techniques.**

**Group Discussion.**
- Response is encouraged in a group setting.
- All influences on attitude and behaviour are highlighted.
- Responses in a group often spark experiences.
- It is easy to observe groups.
- Dynamic and more creative.

**Depth Interview.**
- Personal material can be discussed.
- Overcomes recruitment difficulties.
- Easy to identify who said what.
- All opinions can be captured.

(B) **Disadvantages of other techniques.**

**Group Discussions.**
- The panel may react negatively to the moderator.
- Strong personality may overawe the other members.
- Some people do not make full contribution in a group.
- Not easy to identify who said what.

**Depth Interview.**
- Time consuming.
- Costly.
- Gives wide range of opinions.
- Less opportunity for creativity.

**Delphi Technique.**
- Using postal questionnaire helps to overcome this problem.
- The technique maintains anonymity by using postal questionnaire.
- The technique allows individual treatment of each panellist.
- Easy to identify who said what.
- Less time consuming.
- Cheaper.
- Obtain consensus.
- More opportunity for creativity.

**Source:**
(2) Kent, 1993.
6.5.5 The Processes of the Technique.

Hakim and Weinblatt (1993) highlight the stages of the Delphi procedure which include:

(1) The identification of the problem.
(2) The determination of the type of information required.
(3) The identification of the variables that must be assessed and rated.
(4) The design of the questionnaire which is the research instrument of the Delphi procedure.

The technique consists of a number of rounds and series of questionnaires. In each round a panel of experts is questioned on specific issues, and asked to make judgments or supply comments on the items presented. The technique does not require the panel to meet, and the information concerning the issue could be posted individually to each expert. The responses are collected and analyzed to formulate the second questionnaire for the second round. In the second round the experts are asked to reconsider the items or issues in the questionnaire indicating their agreement or disagreement with these items. The replies are collected once more and the process may be repeated again until consensus is reached (Duffield, 1993 and Williams and Webb, 1994). The criteria used to decide when to terminate the Delphi process are stability, which refers to the "similarity of the panellists responses to each question across rounds" (Hakim and Weinblatt, 1993, p27), and "amount of additional information being sought or obtained" (Delbecq et. al., 1975, p103).
Turoff (1975) says, that the Delphi processes require five rounds, but three or four rounds could be maintained by utilizing the following procedures:

(1) The monitor team devoting a considerable amount of time to carefully preformulating the obvious issues.

(2) Sending the list with an initial range of options, but allowing for the respondents to add to the lists.

(3) Asking for positions or an item and underlying assumptions in the first round.

Brockhoff (1975) says that the "best results are known in the third round" (p320), and any further rounds "may impair the results" (p320).

In the study set out by Bond and Bond (1982), to establish clinical nursing research priorities, three rounds of a Delphi survey were carried out on a sample of 214 nurses working in the North of England. In the first round, the questionnaire was semi-structured and formulated in two parts. In the first part, the panel was asked to list not more than five questions or problems regarding clinical research, which arise because insufficient knowledge or information has been developed or because there are uncertainties about the value or outcome of a particular nursing practice. The second part of the questionnaire included questions about the respondent's gender, age, qualifications, grade and specialty. The first round responses were used to develop the second questionnaire, which was used (essentially) in the third round. The questionnaire consisted of 102 research topics. In the second round, the respondent was asked, for each topic, to say whether nursing should take research leadership and to rate on two seven-point scales the value of the topic to both nurses and patients. In the third round, with the same questionnaire as that used in the second round, the
respondents were provided with differential feedback for both personal and group responses to the items in round two (Bond and Bond, 1982).

In a study carried out between 1989 and 1991 (Crotty, 1993) to investigate the changes in the role of nursing teachers in England, three rounds of the Delphi survey were utilized. The panel comprised 201 persons, of whom 151 continued to the end of third round (75 per cent). For formulating the first questionnaire, 10 nursing teachers were invited to give their views about the activities within their current role. Five main groups of activities had been obtained from that information, and used to formulate the first questionnaire, which also included questions for general information regarding the respondents, their college and the preparation they had received for the activities within their current role. In the second round, a list of activities was developed by collecting and analysing the first round information, and respondents were asked to rate the importance of such activities. In the third round, respondents were presented with the responses they made in the second round. They were asked to agree or disagree with the consensus view of the importance of the activities within their current and future role (Crotty, 1993).

In this work, two rounds were conducted. Many of the Delphi studies utilized three rounds, such as Ventura and Waligore-Serafin (1981), Hich and Smden (1983), Kapoor (1987), and Crotty (1993), while others, such as Duffield (1993) and Cranfield University (1994), maintained two rounds. In many Delphi studies the first round questionnaire requires the participants to respond to a broad issue, in which they "create subcategories and variables themselves" (Delbecq et, al., 1975, p90), which are
then used to formulate the questionnaires. All the studies mentioned earlier started the first round with a broad question to identify groups of issues or variables related to the issues being examined, which were then used to formulate the second round questionnaire, in which the panel members were asked to supply opinions and judgements. In the current research five main conceptual categories relating to the privatisation of the road freight industry, based on the literature review presented in chapters two to four, were identified in chapter five, leading to a number of conceptual assumptions, which were used to formulate a list of statements. This list of statements is used directly to formulate the first round questionnaire. Therefore two rounds were considered sufficient to obtain opinions of the panel members.

Regarding panel composition, the choice of panel members is crucial in the Delphi surveys, for the success of the survey, as well as for the findings to be accepted. Delbecq et. al. (1975) state that in the Delphi survey participants "must have a deep interest in the problem and experience to share" (p88). Duffield (1993) points out that in the Delphi survey, and for the findings to be accepted, panel members should be "representative of their profession or professional organisation" (p228). Therefore, it was decided that the panel should include all parties concerned with privatisation of the road freight industry. They were identified as; operators, governmental officials, and academics. In the light of the review of the road freight industry in Egypt, the panel includes representative of all the state sector road freight companies, private sector companies, the cooperative sector, academics, and governmental officials. In the case of Hungary, representatives of the same categories were contacted, but only the academic and private sector operators agreed to take part in the survey.
Regarding the panel size, it was noticed that in previous Delphi surveys, reported in the literature, the size of panels is highly variable. Drockhoff (1975) points out that a positive relationship between group size and group performance in the Delphi studies "cannot be recognized" (p320). Delbecq et. al. (1975) recommended "ten to fifteen participants" (p89). Williams and Webb (1994) point out that in thirteen studies using the Delphi technique, the size of the panel varied from 10 to 1685. In their study they used a panel consisting of 24 members. Hitch and Srnden (1983) used 30 members, Kapoor (1987) used 39, Whitman (1990) used 75, and Technology Foresight (1995) used 21 members. Turoff (1975) mentioned one of the first Delphi studies, carried out in 1968 by the National Industrial Conference Board (the USA) which used 70 members. In the current work two panels were formed, with an overall total of 35 members. The Egyptian panel consisted of 23 members, and the Hungarian panel of 12 members.

6.5.6 Means of Consensus.

In the Delphi survey, the means of consensus is one of the important issues in the application of both Delphi to estimate unknown parameters and Decision Delphi. That is because, as mentioned before, the Delphi technique relies on the judgement of a panel achieving general consensus. Woudenberq (1991) reported that the Delphi technique is "extremely efficient in achieving consensus" (p145). Several studies report stronger consensus with a Delphi than with unstructured, direct interaction (Woudenberq, 1991). So, it is important for successful application of the Delphi technique to find out what consensus means exactly. In other words, at which level
the panel agreement becomes consensus. A review by William and Webb (1994) on the meaning of consensus, covers four studies using the Delphi technique. They concluded that in many research studies no attempt is made to set a level for consensus before the start of the inquiry, the decision being made after the data have been analyzed. They point out "it is evident that when using the Delphi technique, the meaning of consensus is uncertain" (p184). Various dictionaries define consensus as "general agreement, of opinion etc., collective opinions" (Oxford Advanced Dictionary, 1974). "General agreement; the opinion of most of the people in group" (Dictionary of Contemporary English, 1991). "General agreement...the judgment arrived at by most of those concerned" (Webster's Dictionary, 1991). "Agreement or unity of opinion, etc.; the majority view, a collective opinion (an agreement by different parties to) a shared body of views" (The New Shorter Oxford English Dictionary, 1993).

Kapoor (1987) mentioned, in his Delphi study that any arbitrary figure could be used to "determine whether or not the consensus has been achieved" (p248), see also Williams and Webb (1994, pp183-184). On the other hand, Kapoor (1987) mentioned that the choice of an arbitrary figure "can never be fully justified, but some justification of the choice can be achieved". (p258). This justification was carried out through calculation of "the average percentage of the majority opinions", as the following:

Average Percent of Majority Opinions =

\[
\frac{\text{Majority Agreements} + \text{Majority Disagreements}}{\text{Total Opinions Expressed}}
\]
Since the objective of this work is to research the issue of privatisation of the road freight industry, in particular in Egypt, but not to make a practical executive decision, the Policy Delphi seems to be the most suitable type of the Delphi techniques to apply in this research, since it is an "organized method for correlating views and information" (Turoff, 1975, p87). In the Policy Delphi "generating a consensus is not the prime objective" (p84), that is because, in contrast with other types of the Delphi technique, the Policy Delphi is a "tool for analysing issues and not a mechanism for making a decision" (p84). Some form of structured response is applied in Delphi. This may be a seven points scale (Bond and Bond, 1982), a five points scale (Whitman, 1990), or a three points scale (Crotty, 1993).

In the current work, the first round of Delphi sought the panellists opinion in terms of agree, disagree, and unable to comment, for the statements identified in chapter five. The results were collected and analyzed. Statements without a majority opinion (measured by Average Percent of Majority Opinion) were included in the second round questionnaire, with comments received from the panellists. The panellists were then asked to reconsider the original statements and the comments (sub-statements) and supply opinions regarding the validity of the sub-statements. The results were collected and analyzed. The difference between the Average Percent of Majority Opinion and Majority Opinion were used to rank the sub-statements (details of this process are given in chapter seven).
6.5.7 Criticism of the Technique.

The Delphi Technique has been criticised in three main ways.

(1) **Reliability**: the possible influence of person-specific and situation-specific biases hamper the reliability of the Delphi technique as a judgement method. Williams and Webb (1994) argue that there is no evidence that the Delphi technique is reliable. Woudenberg (1991) maintains that, the two studies carried out by Welty (1971) reported a high reliability of the Delphi technique. Also, Woudenberg (1991) mentioned that Helmer (1968) puts median results of three experiments next to each other. One experiment was conducted in 1963 with a traditional Delphi method. The second was a pretest conducted in 1966 with 23 RAND corporation employees. The third was done at a conference using 100 conference delegates, of which 23 were selected to finish the exercise. Although the variances were not considered, it suggested that the Delphi technique is reliable. Kastein et. al. (1993) in their study to evaluate the result obtained by applying the Delphi technique, reported that "our findings indicate a high level of reliability" (p321). In their study of primary health care in the Netherlands (which took place during 1990 and 1991), they minimized the effects of situation-specific influences by standardizing the recruitment procedure, the group size, the background information, the number of rounds, the design of questionnaires, and the contents of the first round questionnaire. Woudenberg (1991) maintained that the "person-specific biases can be removed by random selection of participants to groups" (p145).
(2) **Time consuming**: Whitman (1990) reported that the commitment of participants to completing the Delphi process is often related to their interest and involvement with the question being examined" (p35). Of course this applies to any postal questionnaire. In the Delphi technique, it could be seen as a trade-off with the high level of anonymity which the technique provides and maintains.

(3) **The meaning of consensus**: Although the achievement of consensus is one of the important elements in the Delphi Technique (as mentioned before), Williams and Webb (1994) maintain that consensus is "poorly explained in the studies which use Delphi technique" (p182). An arbitrary figure is usually used, with justification provided (Kapoor, 1987).

A comparison between six pieces of research has been done using the Delphi technique, in terms of panel size and composition and response rates, as shown in Figure 6.4. A diagram for the Delphi process is presented in Figure 6.5.
### Figure 6.4: Panel Size and Compositions in six Delphi Studies.

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Subject</th>
<th>Panel Size</th>
<th>Response Rate</th>
<th>Panel Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bond S. and Bond J.</td>
<td>Clinical Nursing Priority.</td>
<td>214</td>
<td>79%</td>
<td>Representatives of different specialities and grade of nurse.</td>
</tr>
<tr>
<td>Duffield C. (1993)</td>
<td>Identify the competencies expected of first line nurse managers.</td>
<td>156</td>
<td>91.2%</td>
<td>Registered nurse who were nurse managers or involved in management education.</td>
</tr>
<tr>
<td>Williams P. and Webb C. (1994)</td>
<td>Identifying the aspects of supervisor behaviour which are likely to help or hinder student learning.</td>
<td>24</td>
<td>--</td>
<td>Panel members were expected to meet the following requirements:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- To have a proven track record in professional practice.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- To have considerable experience (+2 years).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- To demonstrate continuing professional interest in the field of the work.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- To make an active contribution to the educational needs of the students.</td>
</tr>
</tbody>
</table>

**Source:** The Author.
Figure 6.5: The Delphi Processes.

Identifying Criteria for the Panel Selection

Applying the Panel Selection Criteria

Panel Selection

Post the Questionnaire

Collect the Responses

Next Round Questionnaire Design

Formulate List of Statements

Questionnaire Design

Pre-Test

Report the Result

Report the Result

Not Approved Design

Re-formulate the Questionnaire

Approved Design

Testing

Analysis Processes

Report the Results

Consensus Not Achieved

Consensus Achieved

End

Final Report

Source: The Author.
Quality assessment is an important issue in all scientific research, in particular, in social sciences, where the used "measure is often indirect" (Nachmias and Nachmias, 1996, p165). To assess the quality of a research exercise, validity and reliability are the central issues. Both concern "how concrete indicators are developed for constructs" (Neuman, 1994, p127). Validity is synonymous with "appropriateness", and reliability is synonymous with "stability" (Ellis, 1994, p89). Until recent years, qualitative researchers used to import terminology from quantitative methods, and find "analogues which are applicable to qualitative work" (Andrews et. al., 1996, p442). During the last two decades, there has been increasing recognition that qualitative research, with its own characteristics requires its own distinct framework for quality assessment (Guba, 1981 and Sandelowski, 1986).

For quantitative research validity refers to the extent to which a specific "measurement provides data that relate to commonly accepted meanings of a particular concept" (Babbie, 1995, p127). It concerns the "relationship between concept and indicator" (Carmines and Zeller, 1979, p12). There are three kinds of validity, each one is concerned with a specific aspect of the measurement situation: content validity, construct validity, and criterion-related validity.

Content validity "depends on the extent to which an empirical measurement reflects a specific domain of content" (Carmines and Zeller, 1979, p20). It is a "judgement by the scientific community" (Neuman, 1994, p131) that the measure "covers the range
of meanings included within the concept" (Babbie, 1995, p128). There are two kinds of content validity; face validity, which refers to the appropriateness of the research instrument, and sampling validity, which refers to the adequateness of the instrument to "represent the quality measured" (Nachmias and Nachmias, 1996, p170).

Construct validity is based on the "logical relationship among variables" (Babbie, 1995, p127). This validity is established by "relating the measuring instrument to a general theoretical framework" (Nachmias and Nachmias, 1996, p170). According to Carmines and Zeller (1979), construct validity involves three steps:

* To specify the relationship between concepts.
* To examine the empirical relationship between the measures and the concepts.
* To interpret the empirical evidence in terms of how it clarifies the construct validity of the measure.

Criterion-related validity (or predictive validity) is based on "some external criterion" (Babbie, 1995, p127). It is an indicator to predict "future events that are logically related to a construct" (Neuman, 1994, p133). Sykes (1990) mentioned that it involves comparisons between "carefully matched samples" (p294). Comparing the outcomes of measuring instrument against outcomes "obtained by other measuring instrument" (Nachmias and Nachmias, 1996, p167) is the way to estimate predictive validity. Carmines and Zeller (1979) mentioned that in the social sciences criterion validation has limited usefulness, because "there are no criteria against which the measure can be reasonably evaluated" (p20).
In qualitative research the term validity is often used to refer to the "kind and accuracy of the information obtained from individual sample units" (Sykes, 1990, p292). Qualitative methods have a validity when respondents "provide the kind of information which is expected or wanted" (p293). The capability of the research method to produce valid results does not mean "it can be relied on to do so" (Sykes, 1990, p309).

Reliability concerns the extent to which any "measuring procedure yields the same results on repeated trials" (Carmines and Zeller, 1979, p11). In the context of quantitative research, reliability is a matter of whether a particular technique "applied repeatedly to the same objective would yield the same result each time" (Babbie, 1995, p124). In other words, it is the "tendency for the measurement of a variable to remain stable over time" (Ellis, 1994, p91). There are three types of reliability; stability, representative, and equivalence reliability.

Stability reliability is a reliability across time. It concerns whether the indicator delivers the same result when applied at different time (Neuman, 1994). The indicator's degree of stability reliability could be examined by the test-retest method. In this method, the measuring instrument is applied to the same group of people at different times, the correlation between the two sets of results then calculated, and the obtained coefficient is the reliability estimation, which could be defined as "a ratio of the true variance to the observed variance" (Nachmias and Nachmias, 1996, p172). This method has two limitations. First; the indicator once used may influence measurements in the second test. Second; based on the fact that some issues are
constantly changing, some changes may occur in the variables being measured during the time between the two tests (Nachmias and Nachmias, 1996).

Representative reliability is reliability "across a subpopulation or group of people" (Neuman, 1994, p124). It concerns whether the indicator delivers the same answer when applied to different groups. The parallel-forms technique is used to determine whether an indicator has representative reliability. In this technique two parallel versions of a measuring instrument must be developed, and administered to the same group of people. By correlating the two sets of measurers, the researcher will be able to obtain an estimate of representative reliability (Nachmias and Nachmias, 1996).

Equivalence reliability applies where multiple indicators are used. It concerns whether "the measure yields consistent results across different indicators" (Neuman, 1994, p129). The method used to examine the equivalence reliability is split-half (or inter-item) method, which involves random dividing of the indicator of the same construct into two groups, and determining whether both groups give the same results. In other words, it compares the results of one part of a measure with the results of the other part of the same measure (Ellis, 1994).

In the context of qualitative research, the concern with reliability often comes in two terms; if two different researchers carried out the same study, would they produce the same results; and if the same researcher repeated the same study using the same respondents, would the findings be the same (Sykes, 1990). Griggs (1987) states that the qualitative findings are reliable if another researcher presented with the same set
of data, follows the same analysis, and arrive at the same conclusions. If these two researchers arrive at different conclusions, then a third researcher would be able to see how and why this difference exists, and "use his or her judgement to decide which interpretation to accept" (p15).

Miles and Huberman (1994) identified five main issues to judge the quality of a qualitative research, under each of them, "some practical guidelines" (p277), which they stated "are not rules to be stiffly applied" (p278), but queries helpful to judge the work. These five issues are: objectivity / confirmability, reliability / dependability / auditability, internal validity / credibility / authenticity, external validity / transferability / fittingness, and utilization / application / action orientation.

6.6.1 Objectivity / Confirmability.

Le Compte and Goetz (1982) refer to this domain as "external reliability", which concerns the replicability of the research by others. The question under this issue is; does the research conclusion depend on the subject and the inquiry rather than the inquirer. Miles and Huberman (1994) mentioned the following aspects under this issue:

* Detailed description for the study method and procedures.
* Easy to follow sequence of data collection, process, transformation, and display.
* The conclusions must be linked to the data.
* Having a detailed record of the study's method and procedure.
Availablity of the research data for analysis by others.

In this work, chapter one includes a detailed description of the research process. Also, data collection and process are reported in detail. The study method (Delphi technique) is recorded in detail. All the research data is reported with its sources clearly identified and available for analysis by others.

6.6.2 Reliability / Dependability / Auditability.

This concerns consistency of the study process over time and across methods (Miles and Huberman, 1994). Kirk and Miller (1986) distinguished two kinds of reliabilities; diachronic reliability, which refers to stability over time, and synchronic reliability, which refers to stability in the same time. Miles and Huberman (1994) mentioned the following aspects under this issue:

* The research questions must be clear, and the features of the study design congruent with them.
* Clear description of the role of the researcher.
* The findings should be meaningful.
* Clear specification of the basic paradigms and analytic constructs.

In this work, the findings of the literature review are used to develop the conceptual model, where five main conceptual categories were identified, leading to sets of the conceptual assumptions, which are then used to formulate a list of statements in the first round questionnaire (see chapter five). The research instrument is the Delphi
technique. The reliability of the survey findings depend on the reliability of the Delphi technique, and its appropriateness for the research. As mentioned in section 6.5.7, previous studies reported a high reliability of the Delphi technique. Section 6.5.4 shows that the Delphi technique is the most suitable method for this particular research.

6.6.3 Internal validity / Credibility / Authenticity.

This refers to the "snugness of the fit between the data and the findings or conclusions" (Sykes, 1991, p10). Miles and Huberman (1994) mentioned the following queries relevant to this issue:

* How context-rich and meaningful are the descriptions?
* Are the presented data well linked to the categories of prior theory?
* Do the measures reflect the constructs in play?
* Are the findings internally coherent; are concepts systematically related?
* Were any predictions made in the study, and how accurate were they?

In this work the issue of road freight-privatisation in Egypt is investigated within the context of general privatisation and economic reform, and in the light of other road freight privatisation experiences (the UK and Hungary), which provided a rich and meaningful description of the examined issue. The findings of the literature review were used to develop five conceptual categories linked together logically to sets of the conceptual assumptions, linked to the general background founded in the literature review. To develop a list of statements, which were used to formulate the first round
questionnaire, experts from the UK, Hungary, and Egypt were consulted. There were no predictions in the study.

6.6.4 External Validity / Transferability / Fittingness.

This concerns whether the conclusions of a study have any larger import, and whether they are transferable to other contexts (Miles and Huberman, 1994). Moss (1992) emphasises the importance of considering the generalizability of the research. Miles and Huberman (1994) mentioned the following queries relevant to this issue:

* Are the characteristics of the original sample fully described enough to permit adequate comparisons with other samples?

* Is the sampling theoretically diverse enough to encourage broader applicability?

* Does the researcher define the scope and boundaries of reasonable generalization from the study?

* Do the findings include enough description for readers to assess the potential transferability?

* Are the findings congruent with, connected to, prior theory?

In this work the characteristics of the panel are identified in section 6.5.5. The panel includes operators, academics, and governmental officials. The research defined the scope of the work as relating to economies in transition. In reporting the findings, the researcher referred back to the findings of the literature review.
6.6.5 Utilization / Application / Action Orientation.

If a study's findings are valid, there is a need to know "what the study does for its participants" (Miles and Huberman, 1994, p280). The question here is about utilization / application of the research. In other words, the "pragmatic validity of the research, which is an essential addition to more traditional views of goodness" (p280). Appleton (1995) mentioned that applicability in qualitative research is related to external validity in quantitative research. Miles and Huberman (1994) mentioned the following queries as relevant to this issue:

* Are the findings intellectually and physically accessible to potential users?
* Do the findings stimulate working hypotheses on the part of the reader as guidance for future action?
* What is the level of usable knowledge offered?
* Have users of findings learned or developed new capacities?

In this work, the researcher explores the issue of privatisation of the road freight industry in Egypt in the context of the economic reform, highlighting the difference between privatisation strategies and methods, the necessary steps prior to privatisation of the road freight industry. The results of the study and the survey, are then translated into recommendations and guidelines for the policy maker.

6.7 Discussion.

In section 6.3, a quantitative approach has been discussed and rejected as suitable
approach for this research; it is more suitable for identifying patterns and the relation between variables, for testing theories, and making predictions. Section 6.3 states that a qualitative approach, where it is important to understand the context of the issue, seems to be more appropriate for this research, which is an exploratory study of the privatisation of the road freight industry in Egypt, in the context of the transformation to a market economy. Research is practically unknown in this area, and data neither exists nor is currently collectable in a form suitable for a quantitative approach.

As discussed in section 6.4, there are three main techniques for the application of a qualitative research approach. These are group discussion, depth interview, and the Delphi technique. Group discussion has been addressed in section 6.4.1 and rejected, mainly because of the language barrier in the case of Hungary, and because of its disadvantages in terms of the potential for a strong personality to dominate the discussion, forcing the others to agree. This is particularly relevant in a society such as Egypt, where the social structure or ranking within a group is likely to have a strong impact on the participation of group members. Other disadvantages of group discussion are highlighted in section 6.4.1. Depth interviews were discussed in section 6.4.2 and rejected partly for reason of cost, and partly because they would not be possible to conduct in Hungary due to the language barrier. The Delphi technique was discussed in section 6.4.3 and chosen mainly due to its nature as an established method for collecting opinions, in particular in areas where there is a lack of empirical data, such as the privatisation of the road freight industry in Egypt. Other reasons for choosing the Delphi technique are the elements of cost and time, where there is a limitation on both, and whilst it has the advantages of both group discussions and
depth interviews, it also overcomes their disadvantages. These reasons are discussed in detail in section 6.5.4.

The Delphi technique was identified in section 6.4.3 as a number of rounds and series of questionnaires, where in each round, a panel of experts is asked to make judgements or supply opinions about a specific subject or subjects. There are different methods of contacting the expert, particularly by postal questionnaire, telephone survey and personal interview. The latter two methods were rejected because of the cost and difficulty of contact in both countries, and because of the language barrier in the case of Hungary. Thus, the postal questionnaire was chosen because of its advantages (see section 6.2.5.2), and also because it provides anonymity for the respondent which is one of the main features of the Delphi technique (see section 6.5.3).

The highly structured questionnaire approach of the Delphi technique appeared to be most appropriate in this research. The original Delphi statements included in the questionnaire are developed from an extensive literature review (see section 7.2.3), and are presented and answered in a standard format and therefore can be compared easily (see section 6.2.5.2). The Delphi approach also enables the experts to share their views anonymously and, in particular, to appreciate their role in the further development of the results after the first stage of the survey. The Delphi approach explicitly involves the respondents as experts and (as far as practically possible) participants in the design of the questions asked in the second and subsequent stages of the survey. This should encourage a high and serious level of participation. The objective of the approach is
to arrive at a state of expert agreement (or disagreement) among the panel members in a form which can be easily analyzed and applied to further research or reviewed by policy makers. For this reason a standard measure of consensus (which also, of course, measures lack of consensus) is applied (discussed in section 6.5.6). Although the Delphi approach has its limitations (discussed in section 6.5.7) it seems appropriate in the context of this study as a tool for collecting opinions in a qualitative yet structured form.
CHAPTER 7

THE EMPIRICAL STUDY

7.1 INTRODUCTION.

As mentioned in chapter six, the Delphi technique has been selected from the methods of qualitative research to apply the conceptual model to an empirical study. Furthermore, the postal questionnaire has been selected as a suitable method to apply the Delphi technique to achieve this task. The assumptions of the conceptual model are used to structure a list of statements (as given in chapter five), which are used to formulate the first Delphi round questionnaire.

7.2 FIRST ROUND OF DELPHI.

7.2.1 Formulation of the Questionnaire.

The list of thirty statements, developed in chapter five were used to formulate the first round Delphi questionnaire. Appendix (C) shows the English, Arabic, and Hungarian versions. It was a very sensitive task to translate the questionnaire into Arabic and Hungarian, since there is a difference between languages in terms of emphasis and expressions. The assumptions of the original English version were reviewed and discussed with various transport experts at the University of Plymouth. Meanwhile, the researcher had established links with experts in both Egypt and Hungary. Because
of his background and origin, the Egyptian links were easier to establish, and finally, the researcher was able to obtain the assistance of Dr. Ali El-Mazawy, consultant to the Minister of Business Sector in Egypt, who is fluent in both Arabic and English. Establishing links with Hungary proved more difficult, but eventually through the University of Huddersfield a link was established with Professor B. Heriko of the Institute of Logistics and Transport in Gyor, who is fluent in Hungarian and English. The researcher made a visit to Egypt (in January 1995), and to Hungary (in May 1995) to establish the Delphi panels with the assistance of the above collaborators and others, and to discuss the translation of the survey. The original translations were made in England (the Hungarian translation by a student from that country), and proved acceptable to the collaborators.

7.2.2 Structure of the panels.

Section 6.5.5 shows that the choice of the panel members is crucial in the Delphi survey. Since participants in the Delphi survey "must have a deep interest in the problem and experience to share" (Delbecq, 1975, p88), it was decided that the panel should include the major parties concerned with privatisation of the road freight industry, which are academics, operators, and governmental officials. The review of the road freight industry in Egypt and Hungary has shown that the road freight market in both countries comprises the state sector, cooperatives, and private sector operators. Therefore, these three sectors were contacted in both countries. It proved difficult to have all the desired participants in the survey. In Hungary, out of 35 contacts, only 15 agreed to participate in the survey, and none of them were governmental officials.
Therefore, the panel composition was limited to the academics and operators. The responses to the first round were 12, where three of the panel members returned the questionnaire uncompleted, because they could not supply the required information. As a result, the panel size reduced to 12, four of them academics, and eight operators.

In Egypt the same categories were contacted. As in Hungary, the governmental officials and the state sector companies were unwilling to take part in the survey. But in contrast with Hungary, the researcher due to his background and origin, successfully obtained support of the consultant to the Minister of Business Sector in Egypt (see above). Subsequently, it was possible to post the questionnaire through the Ministry of Business Sector to both governmental officials and state sector companies. As a result, the Egyptian panel included the 23 contacted members. Table 7.1 shows the structure and size of the panel.

Table 7.1: Delphi Technique - Structure and Size of the Panels.

<table>
<thead>
<tr>
<th>Categories</th>
<th>Egypt</th>
<th>Hungary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>%</td>
<td>Number</td>
</tr>
<tr>
<td>Academics</td>
<td>6</td>
<td>26.0</td>
<td>4</td>
</tr>
<tr>
<td>Operators</td>
<td>10</td>
<td>43.6</td>
<td>8</td>
</tr>
<tr>
<td>Governmental Officials</td>
<td>7</td>
<td>30.4</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>100</td>
<td>12</td>
</tr>
</tbody>
</table>

As mentioned in section 6.2.5.2 the postal questionnaire was selected for this research for two reasons. First, to overcome the problem of obtaining permission from the authorities, which takes a long time and may include requirements to change the questionnaire. Second, to overcome the problem of language, where it would have
been difficult to give personal interviews and/or use a telephone survey, in particular in Hungary, since the researcher does not speak Hungarian, and some of the panellists do not speak English.

7.2.3 Process of the first round survey.

The list of statements identified in chapter five was developed from an extensive literature review, and used to formulate the first round questionnaire. Given the nature of the survey and the extensive literature review, it was considered that a formal pilot survey was not essential to test the questionnaire. Instead, expert review was undertaken, initially by academics at the University of Plymouth. Then a covering letter was made, to explain the aim of the survey and the way in which the questionnaire should be completed. The researcher then translated the covering letter and the questionnaire into Arabic. A copy of both the Arabic and English versions were then sent to Dr. Ali El-Mazawy (see above), who reviewed and agreed the translation. For Hungary, a Hungarian translator translated the questionnaire and the covering letter into Hungarian. A copy of both English and Hungarian versions were then sent to Professor B. Heriko, who reviewed and agreed the translation, see appendix (C). The questionnaire with its covering letter were then posted to the panel members, with stamped self addressed envelopes to return the completed questionnaire.

The first round of the survey, in Egypt, took place between December 1994 and February 1995. The questionnaire was posted in early December 1994, and by mid
January 1995 the completed questionnaires for the academics and private sector operators were returned. The researcher made a visit to Cairo late January 1995, during which the researcher with assistance of Dr. Ali El-Mazawy (consultant of Minister of Business Sector-Egypt) obtained support of the Minister of Business Sector to carry out the survey with the state sector road freight companies and other governmental bodies identified by the researcher. The researcher supplied the Ministry of Business Sector with a list of participants, with a minor change to the questionnaire title, where "Delphi Exercise" replaced "Delphi Survey", since a survey needs formal permission of the authorities in Egypt. The questionnaire was then posted to the panellists in the state sector companies and other governmental bodies through the Ministry of Business Sector. The collaborator collected the responses and posted them back to the researcher.

In Hungary the first round survey took place between March and June 1995. The Hungarian collaborator supplied the researcher with a list of names and addresses for 35 candidates to participate in the survey. The initial contact, using the telephone, took place between March and April 1995. Due to the language barriers, and since some of the candidates do not speak English, the researcher contacted English speaking candidates, while the collaborator contacted the Hungarian speakers. Out of 35 contacts, only 15 agreed to participate in the survey. The researcher made a visit to Hungary in May 1995 to establish a personal link with the panellists and to introduce in detail the survey and what was expected from the panellists. The questionnaire was then posted, with its covering letter. Unfortunately, three of the questionnaires were returned uncompleted, the panel size was therefore reduced to 12.
7.2.4 Analysis of the responses to the first round.

The first round responses were analyzed, see appendix (D), and the average percentage of majority opinions was calculated. As mentioned in section 6.5.6, in order to determine whether consensus has been achieved or not, any arbitrary figure could be used (Kapoor, 1987 and Williams and Webb, 1994). Since any arbitrary figure "can never be fully justified" (Kapoor, 1987, p285), and to overcome the effects of the difference in the two panel sizes on the results, it was decided to use the "average percent of majority opinions", to determine whether the response supports the statements or not. The similarity of the calculated average percent of majority opinions between the two panels proved that the difference in the panel sizes was unlikely to affect the results. Table 7.2 shows calculations of the average percent of majority opinions for both Egypt and Hungary. Figure 7.1 shows the process of the first round analysis and the formulation of the second round questionnaire. Section 6.5.6 has already explained the rationale behind this approach.

Table 7.2: Delphi Technique .. First Round, Average Percent of Majority Opinions.

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majority Agreements</td>
<td>407</td>
<td>200</td>
</tr>
<tr>
<td>Majority Disagreements</td>
<td>105</td>
<td>61</td>
</tr>
<tr>
<td>Total Opinion Expressed</td>
<td>654</td>
<td>329</td>
</tr>
<tr>
<td>Average Percent of Majority Opinions (*)</td>
<td>78.3 %</td>
<td>79.3 %</td>
</tr>
</tbody>
</table>

(*) Average percent of majority opinions = Majority agreement + majority disagreement / Total opinions expressed x 100.
Figure 7.1: Delphi Technique - First Round Analysis and Formulation of the Second Round Questionnaire.

- Statements
  - Agree
  - Disagree
    - Less than Average Percent of Majority Opinions
    - Average Percent of Majority Opinion or more
    - Average Percent of Majority Opinion or more
    - Less than Average Percent of Majority Opinions
      - Statement has been Supported.
      - Statement has not been Supported.
        - End

Clarification

Collect the Received Comments

Using the Comments to Formulate the Second Round Questionnaire

End

Source: The Author.
7.2.5 Results of the first round.

Analysis of the first round responses show that eight statements were agreed, two were disagreed, and eight did not achieve consensus in both panels, while twelve statements were different between the panels. A preliminary discussion is made of the results under the five main categories introduced in section 5.3. This is followed by a quantitative analysis of the first round. A more substantial analysis of the findings, incorporating other finding from the literature review, is reserved until after the second round results. Full results of the first round are given in Appendix D.

(1) Impact of privatisation on the road freight industry.

Both panels agreed that privatisation will inevitably create a more efficient, flexible and dynamic road freight industry, and freight customers will benefit from privatising the industry in terms of a better quality of service. Regarding the benefit to customers from privatising the industry in terms of lower charges, the Egyptian panel agreed, while the Hungarian panel could not achieve consensus. The survey considered the impact of privatisation on the size of the state sector, subsidies, and public spending on transport infrastructure. In this context, the Egyptian panel agreed that under privatisation of road haulage, the size of the state sector should be minimized as much as possible, while the Hungarian panel could not achieve consensus. This result could be related to the Hungarian panel's agreement that privatisation should not mean withdrawing subsidies totally from the transport industry, since some parts of the transport system need to be supported. The Egyptian panel could not achieve
consensus on this point. Both panels could not achieve consensus that by privatising the road freight industry, there will be an opportunity to release more governmental money for spending on transport infrastructure (especially roads).

Both panels agreed that competition is the most important element for a high quality road freight industry, and a privatised, deregulated road haulage industry requires a legal distinction to be made by the government between own account operators and professional operators. Both panels could not achieve consensus regarding the regulation of competition by the government to avoid the negative results of excessive competition, and both panels disagreed that competition should be self-regulating.

(2) Role of freight management under privatisation.

Both panels agreed that under privatisation, identifying areas where cost reduction could be made is the main task for road freight management. However, there was no consensus that maximising profits should be the main objective for road freight management under privatisation.

(3) Best method of achieving privatisation.

Four methods for privatisation of the road freight companies were introduced. Both panels disagreed with dissolving the companies and selling off all their assets. The Egyptian panel agreed on selling off the companies through tenders, while the Hungarian panel could not achieve consensus. Both panels could not achieve
consensus regarding transferring the companies' assets to shares, which could be sold through the stock exchange and transferring the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and using the remaining shares as workers' shares. Both panels agreed that different state sector road haulage companies require different forms of privatisation (eg. privatising management only or privatising management and ownership). The Egyptian panel agreed that a wider base of popular capitalism is an important element to achieve successful privatisation of the road haulage industry and requires low priced shares.

(4) Macroeconomic problems facing privatisation.

The Hungarian panel agreed that the lack of available capital is one of the most important problems facing the privatisation process of the road freight industry in the developing countries, and this problem could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage), while the Egyptian panel could not achieve consensus. The Egyptian panel agreed that foreign control over the road freight industry will result if foreign capital is allowed to buy state assets in the road freight industry, while the Hungarian panel could not achieve consensus. The Hungarian panel agreed that foreign control over the road freight industry should be avoided by determining a maximum percentage for the capital owned by a foreigner in the road haulage companies. The Egyptian panel could not achieve consensus on this point. In contrast, the Egyptian panel agreed to selling the companies to their existing employees with interest free credit, whereas the Hungarian panel could not achieve consensus.
The Egyptian panel agreed that increased unemployment is one of the most important problems to face the privatisation of the road freight industry, while the Hungarian panel could not achieve consensus, but both panels agreed that the ability of the government to pay for the dismissed employees (as a result of privatisation), or re-training them, or transferring them to other activities is one of the problems facing the privatisation process. Both panels could not achieve consensus that the problem of increased unemployment could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses.

(5) The external cost of road freight under privatisation.

The Hungarian panel agreed that under privatisation, road freight operators should pay for the damage to the environment resulting from running their operations, while the Egyptian panel could not achieve consensus. Both panels could not achieve consensus that a tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations. Both panels agreed that making private road haulage pay for social and environment costs will result in price increases in the short term. Both panels could not achieve consensus that in the medium and long terms, cost increases, resulting from private road haulage paying for social and environment costs, will be absorbed by the industry and prices will not be too high.

The degree of consensus for the five conceptual categories (described in section 7.2.4) was similar in both countries for the category of macroeconomic problems facing privatisation (Egypt 69.8 per cent, and Hungary 69.3 per cent), and for the category
of the external cost of road freight under privatisation (Egypt 69.6 per cent, and Hungary 70.2 per cent), while for the other three categories the degree of consensus for the Hungarian panel was slightly higher (77.5 per cent) than the Egyptian panel (73.5 per cent) for the category of impact of privatisation on the road freight industry, and degree of consensus among the Egyptian panel was slightly higher than the Hungarian panel for the category of role of freight management under privatisation (Egypt 80.4 per cent, and Hungary 72.3 per cent), and the category of best method of achieving privatisation (Egypt 53.1 per cent, and Hungary 47.5 per cent). Table 7.3 shows the details.

Table 7.3: Delphi Technique... First Round.
Degree of Consensus for the Conceptual Categories.

<table>
<thead>
<tr>
<th>Conceptual Categories</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>Impact of privatisation on the road freight industry.</td>
<td>166</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>73.5%</td>
<td>26.5%</td>
</tr>
<tr>
<td>Role of freight management under privatisation.</td>
<td>37</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>80.4%</td>
<td>19.6%</td>
</tr>
<tr>
<td>Best method of achieving privatisation.</td>
<td>69</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>53.1%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Macroeconomic problems facing privatisation.</td>
<td>120</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>69.8%</td>
<td>30.2%</td>
</tr>
<tr>
<td>The external cost of road freight under privatisation.</td>
<td>55</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>69.6%</td>
<td>30.4%</td>
</tr>
</tbody>
</table>

N.B: The numbers in the table refer to the number of votes. They vary within the categories according to the number of statements asked in that category.

A lower degree of consensus for a category means less certainty and more debate about this category (or issue), and a higher degree of consensus means the reverse. Among these five conceptual categories (or issues of privatisation), the lowest degree of consensus related to the best method of achieving privatisation, and the highest degree of consensus related to role of freight management under privatisation (for
Egypt), and the impact of privatisation on the road freight industry (for Hungary). These two last mentioned categories had most consensus for both panels. A possible explanation is that the issue of best method of achieving privatisation is a more open issue than the others, and is closely linked to other problems facing economies in transition, in particular the problems of increased unemployment and availability of capital needed for privatisation of the road freight industry. On the other hand, there is probably less doubt and therefore less debate about the impact of privatisation on the road freight industry, as well as the role of freight management under privatisation. Possibly the experience of other countries, such as the UK, has shown a clear positive impact of privatisation on the road freight industry. But the method of privatising the road freight industry in those countries is not necessary applicable for Egypt and Hungary. Using the degree of consensus as a base for ranking these five conceptual categories, the category of best method of achieving privatisation comes last for both panels, while the other four categories differ between the two panels. Table 7.4 shows the rank order of these categories at the end of first round.

Table 7.4: Delphi Technique - First Round.
Ranking of the Conceptual Categories According to Degree of Consensus.

<table>
<thead>
<tr>
<th>Conceptual Categories</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact of privatisation on the road freight industry.</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Role of freight management under privatisation.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Best method of achieving privatisation of the road freight industry.</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Macroeconomic problems facing privatisation of the road freight industry.</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>The external cost of road freight under privatisation.</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

The similarity of the rank order of these five categories in both countries may indicate the clarity of these issues for the panellists, who are experts of various types. Both the impact of privatisation on the road freight industry, and the role of freight
management under privatisation are the clearest issues for both panels, followed by macroeconomic problems facing privatisation of the road freight industry, and the external costs of road freight under privatisation. The difference in rank for these two issues between the two panels could be explained by a greater awareness of the external cost of transport in Hungary than in Egypt. Table 7.5 shows the results of this round in detail.

**Table 7.5: Delphi Technique .. Results of the first round.**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Privatisation will inevitably create a more efficient, flexible and dynamic road freight industry.</td>
<td>Agree 95.6%</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>2</td>
<td>Competition is the most important element for a high quality road freight industry.</td>
<td>Agree 91.3%</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>3</td>
<td>To maximize profits should be the main objective for road freight management under privatisation.</td>
<td>No Consensus</td>
<td>No Consensus</td>
</tr>
<tr>
<td>4</td>
<td>Under privatisation of road haulage, the size of the state sector should be minimized as much as possible.</td>
<td>Agree 90.5%</td>
<td>No Consensus</td>
</tr>
<tr>
<td>5</td>
<td>By privatising the road freight industry, there will be an opportunity to release more governmental money for spending on transport infrastructure (especially roads).</td>
<td>No Consensus</td>
<td>No Consensus</td>
</tr>
<tr>
<td>6</td>
<td>Road freight customers will benefit from privatising the industry in terms of lower charges.</td>
<td>Agree 78.3%</td>
<td>No Consensus</td>
</tr>
<tr>
<td>7</td>
<td>Road freight customers will benefit from privatising the industry in terms of a better quality of service.</td>
<td>Agree 100%</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>8</td>
<td>Negative results might result from excessive competition in the transport sector. Therefore, a form of regulation of the competition should applied by the government to save the operators' profitability.</td>
<td>No Consensus</td>
<td>No Consensus</td>
</tr>
<tr>
<td>9</td>
<td>It is not necessary to regulate competition in road freight through the government, because the freight operators can do it voluntarily through self-regulation.</td>
<td>Disagree 82.6%</td>
<td>Disagree 81.8%</td>
</tr>
<tr>
<td>10</td>
<td>A privatised, deregulated road haulage industry requires a legal distinction to be made by the government between own account operators and professional operators.</td>
<td>Agree 81.8%</td>
<td>Agree 80.0%</td>
</tr>
<tr>
<td>11</td>
<td>Under privatisation, identifying areas where cost reduction could be made is the main task for road freight management.</td>
<td>Agree 95.6%</td>
<td>Agree 90.0%</td>
</tr>
</tbody>
</table>

Continued ...
Table 7.5: Continued.
Delphi Technique: Results of the first round.

<table>
<thead>
<tr>
<th>No</th>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Under privatisation, road freight operators should pay for the damage to the environment resulting from running their operations.</td>
<td>No Consensus.</td>
<td>Agree 83.3%</td>
</tr>
<tr>
<td>13</td>
<td>A tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations.</td>
<td>No Consensus.</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>14</td>
<td>A good way to achieve privatisation of the road haulage industry is to dissolve the existing companies and sell off all their assets.</td>
<td>Disagree 81.0%</td>
<td>Disagree 100%</td>
</tr>
<tr>
<td>15</td>
<td>A good way to achieve privatisation of the road haulage industry is to sell off the companies, in their existing form through tenders.</td>
<td>Agree 85.0%</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>16</td>
<td>A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, which could be sold through the stock exchange.</td>
<td>No Consensus.</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>17</td>
<td>A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and use the remaining shares as workers' shares.</td>
<td>No Consensus.</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>18</td>
<td>Increased unemployment is one of the most important problems to face the privatisation of the road freight industry.</td>
<td>Agree 81.0%</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>19</td>
<td>The ability of the government to pay for the dismissed employees (as a result of privatisation), or re-training them, or transfer them to other activities is one of the problems facing the privatisation processes.</td>
<td>Agree 95.6%</td>
<td>Agree 81.8%</td>
</tr>
<tr>
<td>20</td>
<td>The problem of increased unemployment could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses.</td>
<td>No Consensus.</td>
<td>No Consensus.</td>
</tr>
<tr>
<td>21</td>
<td>The lack of available capital is one of the most important problems facing the privatisation process of the road freight industry in the developing countries.</td>
<td>No Consensus.</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>22</td>
<td>The problem of the lack of available capital could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage).</td>
<td>No Consensus.</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>23</td>
<td>Foreign control over the road freight industry will result if foreign capital is allowed to buy state assets in the road freight industry.</td>
<td>Agree 81.0%</td>
<td>No Consensus.</td>
</tr>
</tbody>
</table>

Continued ...
### Table 7.5: Continued.
**Delphi Technique: Results of the first round.**

<table>
<thead>
<tr>
<th>No</th>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>The problem of foreign capital control over the road freight industry could be avoided by determining a maximum percentage of the capital owned by a foreigner in the road haulage companies.</td>
<td>No Consensus</td>
<td>Agree 90.9%</td>
</tr>
<tr>
<td>25</td>
<td>To avoid the problem of foreign capital control over the road freight industry, the government should sell the shares of the state-owned road haulage companies to their existing employees with interest free credit.</td>
<td>Agree 82.6%</td>
<td>No Consensus</td>
</tr>
<tr>
<td>26</td>
<td>Different state sector road haulage companies require different forms of privatisation (e.g. privatising management only or privatising both management and ownership).</td>
<td>Agree 82.6%</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>27</td>
<td>A wider base of popular capitalism is an important element to achieve successful privatisation of the road haulage industry, and requires low priced shares.</td>
<td>Agree 78.3%</td>
<td>No Consensus</td>
</tr>
<tr>
<td>28</td>
<td>Privatisation should not mean withdrawing the subsidies totally from the transport industry. Some parts of the transport system need to be supported.</td>
<td>No Consensus</td>
<td>Agree 100%</td>
</tr>
<tr>
<td>29</td>
<td>Making private road haulage pay for social and environment costs will result in price increase in the short term.</td>
<td>Agree 90.0%</td>
<td>Agree 91.7%</td>
</tr>
<tr>
<td>30</td>
<td>In the medium and long terms, cost increases, resulting from private road haulage paying for social and environment costs, will be absorbed by the industry and prices will not be too high.</td>
<td>No Consensus</td>
<td>No Consensus</td>
</tr>
</tbody>
</table>

### 7.3 SECOND ROUND OF DELPHI.

After analysing the first round questionnaire, those statements without a majority opinion (agreement or disagreement), combined with the comments received from the panellists were used to formulate the second round questionnaire, see appendix (E). The second round survey aims to re-test those statements without a majority opinion in the first round survey, by clarifying the reasons for disagreement, provided by the panellists in the first round survey. So, the second round questionnaire includes the original statements, each of them followed by a number of sub-statements, which are
the comments received from the panellists in the first round as a reasons for disagreement with the original statements. The panellists then were asked to reconsider both the original statements and the sub-statements, and supply opinions regarding these sub-statements. The second round of the survey took place in Egypt between May and July 1995, and the response rate was 100 per cent (23 responses out of 23 contacted). In Hungary, it took place between July and September 1995. A reminder was needed before the response rate reach 83.3 per cent (10 responses out of 12 contacted). At the beginning of October 1995, another reminder was posted for the remaining two panellists, but no response was received. Appendix (E) shows the second round questionnaire.

As mentioned before, this round aims to re-present statements which did not have consensus in the first round, by clarifying the reasons for disagreement (presented as sub-statements) received from the panellists in the first round survey. The replies were analyzed using the average percent of majority opinion as applied for the first round in the sequence shown in Figure 7.2. Appendix (F) provides full details of the results of the second round, and appendix (G) of the degree of consensus. Where sub-statements have a majority agreement, it was considered as a reason for disagreement with the original statement. Where the sub-statements had a majority disagreement or did not achieve consensus, it is out of consideration, not being a reason for disagreement with the original statement. The sub-statements, which have majority opinions are ranked by the difference between the percentage of majority opinion and the average percentage of majority opinion. The biggest positive difference is ranked first, and so on.
Figure 7.2: Delphi Technique - Second Round Analysis.

Analysis of the Responses.

Analysis of Opinion Expressed.

Average Percent of Majority Opinion Application.

- Statements have Majority Opinion.
  - Consensus Achieved.
    - Average Percent of Majority Opinion or more.
      - Comments Supported.
        - Majority Agreement.
          - The Sub-statement is valid as a reason for disagreement with the original statement.
            - Calculate the difference between Average Percent of Majority Opinion and Percent of Majority Opinion of the Sub-statement.

- Statements have not Majority Opinion.
  - Consensus Not Achieved.
    - Less than Average Percent of Majority Opinion.
      - Comments Not Supported.
        - Majority Disagreement.
          - The Sub-statement is not valid as a reason for disagreement with the original statement.

End

Ranking

Source: The Author.
7.4 RESULTS OF THE SURVEY.

This section considers the entire survey (both rounds). As with the analysis of the first round in section 7.2.5, the results are considered according to the five categories introduced in section 5.3.

(1) Impact of privatisation on the road freight industry.

The survey examined impact of privatisation on the road freight industry in terms of performance of the industry, introduction of competition, customer benefits, public expenditure, size of the state sector, and the need for a legal distinction between own account and professional operators. Both panels agreed that privatisation will inevitably create a more efficient, flexible and dynamic road freight industry, and competition is the most important element for a high quality road freight industry. Regarding the need to regulate competition, in the transport sector in particular, excessive competition could result in negative results relating to operators' profitability. The survey suggested regulation of competition by the government or through self-regulation by the operators themselves. The Hungarian panel disagreed with both (governmental regulation and/or self-regulation). The Egyptian panel disagreed with self-regulation, while no consensus was achieved regarding governmental regulation. Both panels also agreed that road freight customers will benefit from privatising the industry in terms of a better quality of service. The Egyptian panel agreed that privatisation would lead to lower prices, while the Hungarian panel disagreed.
The survey also examined the impact of privatisation on public expenditure, in terms of allowing an opportunity to release more government money for spending on transport infrastructure (especially roads), and in terms of withdrawing subsidies totally from the transport sector. The Egyptian panel disagreed with both, while the Hungarian panel disagreed with the former and agreed with the latter. Concerning the size of the state sector under privatisation, the Egyptian panel agreed that it should be minimized as much as possible, while the Hungarian panel could not achieve consensus. Both panels agreed that a privatised, deregulated road freight industry requires a legal distinction to be made by the government between own account and professional operators, see table 7.6.

Table 7.6: Impact of privatisation on the road freight industry.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privatisation will inevitably create a more efficient, flexible, and</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>dynamic road freight industry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competition is the most important element for a high quality road freight</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>industry.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under the privatisation of road haulage, the size of the state sector</td>
<td>Agree</td>
<td>No Consensus</td>
</tr>
<tr>
<td>should be minimized as much as possible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By privatising the road freight industry, there will be an opportunity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to release more governmental money for spending on transport infrastructure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(especially roads).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The statement is not valid, because:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* It depends on the government approach to public spending.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>* No one can be sure about it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road freight customers will benefit from privatising the industry in terms</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>of a better quality of service.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continued ...
### Table 7.6: continued.  
**Impact of privatisation on the road freight industry.**

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
</table>
| Road freight customers will benefit from privatising the industry in terms of lower charges. | Agree   | The statement is not valid, because:  
* Current domestic over capacity has resulted in below replacement cost pricing. This limits the pace at which larger operators can invest and upgrade their fleets.  
* The price will not be necessarily lower, but the services level will be higher. |
| Negative results might result from excessive competition in the transport sector. Therefore, a form of regulation of competition should applied by the government to save the operators' profitability. | No Consensus | The statement is not valid, because:  
* Price control is counter-active to free competition.  
* Although negative results may occur in the short term, the long term will lead to the best companies ousting the poor quality companies. |
| It is not necessary to regulate competition in road freight through the government, because the freight operators can do it voluntarily through self-regulation. | Disagree | Disagree                                                                 |
| A privatised, deregulated road haulage industry requires a legal distinction to be made by the government between own account operators and professional operators. | Agree   | Agree                                                                 |
| Privatisation should not mean withdrawing the subsidies totally from the transport industry. Some parts of the transport system need to be supported. | The statement is not valid, because:  
* The subsidies have negative results on the performance.  
* There should be subsidies only in the case of passenger transport, to support some social categories and/or achieve some targets, e.g provide services to remote areas. | Agree   |
(2) Role of freight management under privatisation.

Both panels disagreed with the statement that to maximize profits should be the main objective for the road freight management under privatisation. From the point of view of the Egyptian panel, the main target for road freight management under privatisation should be to improve service and reduce cost, which results in maximizing profit. For the Hungarian panel it is more important to improve the quality of service, particularly regarding the quality of vehicles. Both panels agreed that under privatisation, identifying areas where cost reduction can be made is the main task for road freight management, see table 7.7.

Table 7.7: Role of freight management under privatisation.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>To maximize profits should be the main objective for road freight management under privatisation.</td>
<td>The statement is not valid, because the main target for the management should be to improve the services and reduce cost, then maximising profit could be achieved.</td>
<td>The statement is not valid, because, it is most important is to get new vehicles to replace the old ones, and to improve the quality of services.</td>
</tr>
<tr>
<td>Under privatisation, identifying areas where cost reduction could be made is the main task for road freight management.</td>
<td>Agree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

(3) Best method of achieving privatisation of the road freight industry.

The questionnaire includes six statements, four of them presenting four different ways of achieving privatisation of the road freight industry. Both panels disagreed with dissolving the companies and selling off their assets, and transferring the companies' assets to shares, which could be sold through the stock exchange. The Egyptian panel
agreed with selling off the companies in their existing form through tenders, while the Hungarian panel disagreed. The Egyptian panel disagreed with transferring the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and using the remaining shares as workers' shares, while the Hungarian panel could not achieve consensus. Explanation of this could be found in the fifth statement result, where both panels agreed that different state sector road freight companies require different forms of privatisation. Concerning the sixth statement, about a wider base of capitalism needed to achieve successful privatisation, which requires low priced shares, the Egyptian panel agreed, while the Hungarian panel disagreed. The explanation of that could be found in analysis of other statements of the questionnaire, where the Egyptian panel agreed that there is no lack of the available capital (potential buyers exist) and lower priced shares would attract them, see table 7.8.

Table 7.8: Best method of achieving privatisation.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>A good way to achieve privatisation of the road haulage industry is to</td>
<td>Disagree</td>
<td>Disagree</td>
</tr>
<tr>
<td>dissolve the existing companies and sell off all their assets.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A good way to achieve privatisation of the road haulage industry is to</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>sell off the companies, in their existing form, through tenders.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statement is not valid, because:
* The solution may be different for each firm.
* This is not the only solution. Methods should be combined.
* The companies are too large to attract investment. Breakdown to smaller specialised units for sale is preferable.

Continued ...
Table 7.8: continued.

Best method of achieving privatisation.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, which could be sold through the stock exchange.</td>
<td>The statement is not valid, because: * It depends on the financial and technical situation of the company. * It could be a good way to privatiser the industry, but it first requires financial restructuring for the companies.</td>
<td>The statement is not valid, because: * There is no particular method. One must be found for each company separately. * The situation in the road haulage market is not clear enough to put shares in the stock exchange.</td>
</tr>
<tr>
<td>A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and use the remaining shares as workers' shares.</td>
<td>The statement is not valid, because: * It could be a way to privatiser the industry, but it is not the best way. * There should be a solution for all the companies' debt problems first, and then the assets should be transferred.</td>
<td>No Consensus</td>
</tr>
<tr>
<td>Different state sector road haulage companies require different forms of privatisation (eg. privatising management only or privatising both management and ownership).</td>
<td>Agree</td>
<td>Agree</td>
</tr>
<tr>
<td>A wider base of popular capitalism is an important element to achieve successful privatisation of the road haulage industry, and requires low priced shares.</td>
<td>Agree</td>
<td>The statement is not valid, because: * Given current economic environment in Hungary, investing in shares is unpopular and risky. * It is most important that the owners provide the right conditions for success with a view to long term profitable investment.</td>
</tr>
</tbody>
</table>

(4) Macroeconomic problems facing privatisation of the road freight industry.

The survey examined the four problems areas, which are: increased unemployment as
a result of privatisation, the ability of the government to pay for the dismissed employees as a result of privatisation or re-training or transferring them to other activities, the lack of available capital, and foreign control over the road freight industry as a result of allowing foreign capital to buy the state assets of the road freight industry. The Egyptian panel agreed that increased unemployment is one of the most important problems facing the privatisation of the road freight industry. The Hungarian panel disagreed, as they see the problem is associated with the whole economy, not only the privatisation of the transport sector. On the other hand, both panels disagreed that the problem of increased unemployment as a result of privatisation could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses.

This disagreement comes from different points of view. From the point of view of the Egyptian panel, the revenue should be used to re-pay the companies' debts, and the remaining could be used to encourage small businesses, not necessary in the road freight sector. From the point of view of the Hungarian panel, past policy has resulted in too many small firms (owner-driver firms), working without efficiency and safety. It should be mentioned here that this situation forced the Hungarian government to issue a new law (passed in May 1995) for the road freight industry. According to The Budapest Sun, the rule is aimed at forcing old and unsafe trucks off the market. Some 59,000 of Hungary's 61,000 road freight firms were expected to be eliminated by this regulation (The Budapest Sun, May 1995). According to the Hungarian Department of Transport, 37 per cent of goods vehicle in Hungary in 1993 were more than ten years old (Transport Database 1993). Both panels agreed that the ability of the
government to pay for the dismissed employees, as a result of privatisation, or re-training them, or transferring them to other activities is one of the problems facing the privatisation process.

The Egyptian panel disagreed that the lack of available capital is one of the most important problems facing the privatisation process, while the Hungarian panel agreed. It suggests that in contrast with Hungary, there is no shortage of local capital necessary to privatise the road freight industry in Egypt. Consequently, the Egyptian panel disagreed that the problem of a lack of available capital could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage), while the Hungarian panel agreed.

The Egyptian panel agreed that foreign control over the road freight industry could result if foreign capital is allowed to buy state assets in the road freight industry, while the Hungarian panel disagreed. Regarding avoiding problems of foreign capital control over the road freight industry by determining a maximum percentage for the capital owned by a foreigner in road freight companies, the Hungarian panel agreed. The Egyptian panel disagreed, probably because the investment law (passed in 1989) in Egypt already determined this percentage, see table 7.9.
Table 7.9: Macroeconomic problems facing privatisation of the road freight industry.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>The lack of available capital is one of the most important problems facing the privatisation process of the road freight industry in the developing countries.</td>
<td>The statement is not valid, because:</td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>* Companies' debts and unavailability of data about these companies are the most important problems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Total savings in banks is more than the estimated value of these companies, but the people trust bank savings more than investment in companies' shares.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* There is no shortage of local savings and capital.</td>
<td></td>
</tr>
<tr>
<td>The problem of the lack of available capital could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage).</td>
<td>The statement is not valid, because:</td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>* The investment law, passed in 1989, already allows foreign capital to invest in Egypt.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* There is no shortage of local savings and capital.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* It could be better if it comes in the form of joint venture companies.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Road freight sector is a strategic sector, so the foreign capital shares in the company should be less than 50% to avoid foreign capital control.</td>
<td></td>
</tr>
<tr>
<td>Foreign control over the road freight industry will result if foreign capital is allowed to buy state assets in the road freight industry.</td>
<td>Agree</td>
<td></td>
</tr>
<tr>
<td>The problem of foreign capital control over the road freight industry could be avoided by determining a maximum percentage for the capital owned by a foreigner in the road haulage companies.</td>
<td>The statement is not valid, because:</td>
<td>Agree</td>
</tr>
<tr>
<td></td>
<td>* The ownership should be free to anyone. There is a law and regulations to avoid foreign capital control over the national economy, not only the road freight industry.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* The investment law already determines this percentage.</td>
<td></td>
</tr>
</tbody>
</table>

Continued ...
Table 7.9: continued.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
</table>
| To avoid the problem of foreign capital control over the road freight industry, the government should sell the shares of the state-owned road haulage companies to their existing employees with interest free credit. | Agree | The statement is not valid, because:  
  * The sale should be open to both employees and others.  
  * It could only be applicable in certain cases. |
| Increased unemployment is one of the most important problems to face the privatisation of the road freight industry. | Agree | The statement is not valid, because unemployment cannot be blamed on privatisation of transport only. It is in connection with the whole economy. |
| The ability of the government to pay for dismissed employees (as a result of privatisation), or re-training them, or transferring them to other activities is one of the problems facing the privatisation processes. | Agree | Agree |
| The problem of increased unemployment could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses. | The statement is not valid, because it does not have to be small road haulage businesses. | The statement is not valid, because:  
  * Past policy results in too many firms consisting of owner-drivers operating below cost, forcing profitability, quality and safety to a minimal level.  
  * It is only a very small part of the unemployment problem.  
  * It depends on the transport market situation. |

(5) The external cost of road freight under privatisation.

The Hungarian panel agreed that under privatisation of the road freight industry, the operators should pay for the damage to the environment resulting from running their
operations, while the Egyptian panel disagreed. This result is quite understandable, since awareness of road freight external costs appears to be higher in Hungary. In addition, a review of the Egyptian panel replies shows that for most of the panellists, the principle is acceptable, subject to gradual application. On the other hand, both panels disagreed that the current tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations. The disagreement of the Egyptian panel regarding tax on fuel supports the point of view presented earlier. This was about acceptance of operators paying for external cost with gradual application. Both panels considered that the external cost of road freight operations is more than just air pollution, consequently there is a need for other types of taxes, for example on tyres.

The survey assumed that making private road haulage pay for social and environment costs will result in price increases in the short term, but in the medium and long term, cost increases will be absorbed by the industry and prices will not be too high. Both panels agreed that prices will increase in the short term, and disagreed that the cost increases will be absorbed by the industry in the medium and long term, and prices will not be too high, see table 7.10.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under privatisation, road freight operators should pay for the damage to the environment resulting from running their operations.</td>
<td>The statement is not valid, because as a principle it is acceptable, but the application should be gradually.</td>
<td>Agree</td>
</tr>
</tbody>
</table>
Table 7.10: continued.
The external cost of road freight under privatisation.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Egypt</th>
<th>Hungary</th>
</tr>
</thead>
</table>
| A tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations. | The statement is not valid, because:  
* It depends on the amount of this tax and whether it covers the cost or not.  
* Some research is needed to determine the cost of damage to the environment caused by lorries. External taxes might be needed. | The statement is not valid, because:  
* Much more money should be devoted to environment protection.  
* Environmental damage is more considerable.  
* Although tax on fuel should be used, other factors such as vehicle weight and axle numbers should be considered as well.  
* Taxes will not prevent the environmental damage. |
| Making private road haulage pay for social and environment costs will result in price increases in the short term. | Agree                                                                | Agree                                                                  |
| In the medium and long terms, cost increases, resulting from private road haulage paying for social and environment costs, will be absorbed by the industry and prices will not be too high. | The statement is not valid, because:  
* Any increase in the operational cost, will result directly in price increases.  
* It could be on the long term, when the number of firms is increased and competition works at its best, but even in the medium term the prices will be too high. | The statement is not valid, because participants in the market will push the increased costs as much as possible. |

Figure 7.3 presents an overview of the survey results in the form of a diagram.
Role of freight management under privatisation.

To maximize profits should be the main objective for road freight management under privatisation.

Under privatisation, identifying areas where cost reduction could be made is the main task for road freight management.

Egypt. Disagree.

Hungary. Agree.

Best method of achieving privatisation of the road freight industry.

A wider base of popular capitalism is an important element to achieve successful privatisation of the road haulage industry, and requires low priced shares.

Egypt. Agree.

Hungary. Disagree.

Different state sector road haulage companies require different forms of privatisation (eg. privatising management only or privatising management and ownership).

Egypt. Agree.

Hungary. 

A good way to achieve privatisation of the road haulage industry is to dissolve the existing companies and sell off all their assets.

Egypt. Disagree.

Hungary.

A good way to achieve privatisation of the road haulage industry is to sell off the companies in their existing form through tenders.

A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares which could be sold through the stock exchange.

A good way to achieve privatisation of the road haulage industry is to transfer the companies' assets to shares, using part of these shares to encourage early and voluntary retirement of the employees and use the remaining shares as workers' shares.

Continued ...
Privatisation of the road freight industry in Egypt and Hungary. Results of a Delphi Survey.

Impact of privatisation on the road freight industry.

Privatisation will inevitably create a more efficient, flexible and dynamic road freight industry.

- **Agree**
  - **Egypt**
  - **Hungary**

Competition is the most important element for a high quality road freight industry.

- **Egypt**
- **Hungary**
- **No Consensus Achieved**

Negative results might result from excessive competition in the transport sector. Therefore, a form of regulation of the competition should be applied by the government to save the operators' profitability.

- **Egypt**
- **Hungary**
- **Disagree**

It is not necessary to regulate competition in road freight through the government, because the freight operators can do it voluntarily through self-regulation.

- **Egypt**

Under the privatisation of road haulage, the size of the state sector should be minimized as much as possible.

- **Egypt**
- **Hungary**
- **No Consensus Achieved**

A privatised, deregulated road haulage industry requires a legal distinction to be made by the government between own account and professional operators.

- **Egypt**
- **Agree**

Road freight customers will benefit from privatising the industry in terms of a better quality of service.

- **Egypt**
- **Agree**
- **Hungary**
- **Hungary**

Road freight customers will benefit from privatising the industry in terms of lower charges.

- **Egypt**
- **Agree**
- **Hungary**
- **Disagree**

By privatising the road freight industry, there will be an opportunity to release more governmental money for spending on transport infrastructure (especially roads).

- **Egypt**
- **Hungary**
- **Disagree**

Privatisation should not mean withdrawing the subsidies totally from the transport industry. Some parts of the transport system need to be supported.

- **Egypt**
- **Agree**
- **Hungary**

Continued ...
Macroeconomic problems facing privatisation of the road freight industry

- Increased unemployment is one of the most important problems to face the privatisation of the road freight industry.
  - Egypt: Agree
  - Hungary: Disagree

- The problem of increased unemployment could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses.
  - Egypt: Agree
  - Hungary: Disagree

- The ability of the government to pay for the dismissed employees (as a result of privatisation), or retraining them, or transfer them to other activities is one of the problems facing the privatisation processes.
  - Egypt: Agree
  - Hungary: Agree

- The lack of available capital is one of the most important problems facing the privatisation process of the road freight industry in the developing countries.
  - Egypt: Disagree
  - Hungary: Agree

- The problem of the lack of available capital could be avoided by allowing foreign capital to buy the assets of the state sector (particularly road haulage).
  - Egypt: Agree
  - Hungary: Disagree

- Foreign control over the road freight industry will result if foreign capital is allowed to buy state assets in the road freight industry.
  - Egypt: Agree
  - Hungary: Disagree

- The problem of foreign capital control over the road freight industry could be avoided by determining a maximum percentage for the capital owned by a foreigner in the road haulage companies.
  - Egypt: Disagree
  - Hungary: Agree

- To avoid the problem of foreign capital control over the road freight industry, the government should sell the shares of the state-owned road haulage companies to their existing employees with interest free credit.
  - Egypt: Agree
  - Hungary: Disagree

Continued ...
Figure 7.3 ... continue.
Privatisation of the road freight industry in Egypt and Hungary. Results of a Delphi Survey.

The external cost of road freight under privatisation

Under privatisation road freight operators should pay for the damage to the environment resulting from running their operations.

- Egypt: Disagree
- Hungary: Agree

A tax on fuel is adequate to cover the social and environmental costs resulting from road freight operations.

- Egypt: Agree
- Hungary: Disagree

Making private road haulage pay for social and environment costs will result in price increases in the short term.

- Egypt: Agree
- Hungary: Disagree

In the medium and long terms, cost increases, resulting from private road haulage paying for social and environmental costs will be absorbed by the industry and prices will not be too high.

- Egypt: Disagree
- Hungary: Agree

Source: The Author.
7.5 THE REVISED MODEL.

The results of the survey are used to revise the model presented earlier in chapter five. The assumptions included in the original model (see section 5.3) are reviewed in the light of the panellists' opinions and the results of the two rounds, and new assumptions are formulated. The revised assumptions are presented in this section under the main five conceptual categories (or issues) of privatisation of the road freight industry used throughout this work.

Category (1):
Impact of privatisation on the road freight industry.

Original Assumption (1.1): The productivity of the state sector enterprises is lower than that of the private sector, and privatisation leads to improved performance through the ability to transfer ownership.

Revised Assumption (1.1): The productivity of the state sector enterprises is lower than that of the private sector, and privatisation leads to improved performance through the ability to transfer ownership. Therefore, under privatisation of the road freight industry, the size of the state sector should be minimized as much as possible, and subsidies should be withdrawn. In Hungary, some parts of the transport system need to be supported. In Egypt, passenger transport only needs to be supported for some social categories and/or achieve some targets, e.g. provide services to remote areas.
Original Assumption (1.2): The effect of privatisation, as a means of increasing efficiency, depends on the introduction of competition, which could be introduced by deregulation. Evidence suggests that deregulation of the road freight industry results in reduced rates, costs, and improved services.

Revised Assumption (1.2): The effect of privatisation, as a means of increasing efficiency, depends on the introduction of competition, which could be introduced by deregulation. Road freight customers will benefit from privatising the industry in terms of a better quality of service at lower charges.

Original Assumption (1.3): Deregulation may result in excessive competition. Evidence suggests that following deregulation, rates fall sharply, as a result of excessive competition. It would suggest that a form of regulating competition is needed to save the operators' profitability, which could be applied by the government or through self-regulation.

Revised Assumption (1.3): Deregulation may result in excessive competition. To regulate competition by the government and/or through self-regulation may also have negative results, where competition should be free. A legal distinction between own account operators and professional operators, and price guidelines may eliminate the negative results of excessive competition.

Category (2):
Role of freight management under privatisation.

Original Assumption (2.1): The transfer to private ownership may result in improved
cost efficiency by sharpening managerial incentives. Privatisation may entail the adoption of management objectives that respond to the wishes of the shareholders, which is maximising profits.

Revised Assumption (2.1): The transfer to private ownership will result in improved cost efficiency by sharpening managerial incentives. Although privatisation may entail the adoption of management objectives that respond to the wishes of the shareholders, which is maximising profits, the main target for freight management under privatisation should be to improve quality of service.

Category (3):
Best method of achieving privatisation of the road freight industry.

Original Assumption (3.1): The privatisation of the state sector road freight companies presents different options. One approach is to dissolve the companies and sell off their assets. Another approach is to privatise them as a large entities, or to privatise the management only.

Revised Assumption (3.1): The privatisation of the state sector road freight companies presents different options. Different state sector road haulage companies require different forms of privatisation. Dissolving the companies and selling off their assets is not one of the desirable approaches, where it presents a loss of the national wealth. To put companies' shares in the stock exchange, selling the companies through tenders, and employee buy-outs are preferable.
Category (4):

The external cost of road freight under privatisation.

Original Assumption (4.1): When applying the market economy model and price system, the operators should pay for the externalities. It might result in price increases, but through cost reductions any cost increase would be absorbed by the industry, and as a result the price will not be too high.

Revised Assumption (4.1): When applying the market economy model and price system, the operators should pay for the externalities. It will result in price increases, but in the long term, when the number of firms is increased and competition works at its best, and through cost reductions, any cost increase would be absorbed by the industry, and as a result the price will not be too high.

Category (5):

Macroeconomic problems facing privatisation of the road freight industry.

Original Assumption (5.1): The problem of required capital to finance privatisation, due to the lack of domestic savings, could be overcome by allowing foreign capital to participate in the privatisation process. The fear of foreign control over industries could be overcome by determining the maximum percentage of foreign capital in the companies, or by using employee buy-outs.

Revised Assumption (5.1): The original assumption is not revised for Egypt. However, in Hungary, the problem of required capital to finance privatisation, due to the lack of domestic savings, could be overcome by allowing foreign capital to
participate in the privatisation process. The fear of foreign control over industries could be overcome by determining the maximum percentage of foreign capital in the companies.

**Original Assumption (5.2):** The problem of increased unemployment arises from the fact that the economies in transition operate with excess demand for labour, due to the type of technology used and to achieve the social objective of full employment of the work force. On the other hand, the government ability to pay for the dismissed employees; or re-training them, or transferring them to other sectors is limited. The revenue from privatisation could be employed to encourage new small businesses.

**Revised Assumption (5.2):** The problem of increased unemployment arises from the fact that the economies in transition operate with excess demand for labour, due to the type of technology used and to achieve the social objective of full employment of the work force. On the other hand, the government ability to pay for the dismissed employees, or re-training them, or transferring them to other sectors is limited. The revenue from privatisation could be employed to create new opportunities.

(NB. No change to assumption 5.2).
CHAPTER 8

DISCUSSION AND CONCLUSIONS

8.1 INTRODUCTION.

Using the main five conceptual categories identified earlier in chapter five and used throughout this work, this chapter is a discussion of the main findings of both the literature review and the empirical study (the Delphi survey). The discussion, and consequently the conclusions arrived at, focuses mainly on Egypt, using the UK and Hungary as a comparison where needed.

8.2 IMPACT OF PRIVATISATION ON THE ROAD FREIGHT INDUSTRY.

Chapter two points out the distinction between the state sector created in developed countries, such as the UK, which resulted mainly from nationalisation of existing enterprises (Ramanadham, 1991), and the state sector created in developing countries, such as Egypt, which resulted partly from nationalisation of existing enterprises, but mainly as a product of governmental sponsoring (Sabry, 1969), (see section 2.2). In both cases the state sector proved unprofitable and economically inefficient, due to poor management, serving social objectives at the expense of economic considerations, and political intervention in the management and decision making (Elits, 1979, Bouin and Michalet, 1991 and Liu, 1995). On the other hand, evidence suggests that
privatisation leads to improved performance (Yarrow, 1986), and the switch to private ownership will result in improving cost efficiency (Liu, 1995), since private ownership relies on incentives (provided by the market) to encourage technical efficiency within the firm, which is associated with cost reduction (Domberger and Piggott, 1994). In a study comparing the performance of two companies in Australia, Davies (1970) found that the private company was more efficient than the state-owned company. In the USA, Boardman and Vining (1989) found that private companies were more efficient. The way in which private ownership operates differently from state ownership is the ability to transfer ownership or exchange property rights (Davies, 1971), where the costs and/or rewards in the state sector are not fully borne by the decision maker (see section 2.3).

In the context of the road freight industry, chapter four shows the development of the UK road freight industry following privatisation and deregulation. Section 4.2.2.7 shows the rapid expansion of the hire and reward sector, following acceptance of the logistics approach, and the development of integrated third-party distribution operations, offering a range of services including stock control, storage, and warehousing (Key Note Report, 1993). In contrast, own account dominates the road freight market in both Egypt (see section 4.4) and Hungary (see section 4.3.2.3). The domination of the hire and reward sector in the UK and the own account sector in Egypt and Hungary is explained in section 4.4 by the quality of service. In Hungary with more western investment in the country, the quality of service provided by the domestic road freight industry could not meet the requirement of the customers. In Egypt, the survey of the Study of the National Transport System (1993) showed that
for safe and speedy transport the companies rely on their own fleets.

Thus, the research argued that the productivity of the state sector enterprises is lower than that of the private sector, and privatisation leads to improved performance through the ability to transfer ownership. Therefore, under the privatisation of the road freight industry, the size of the state sector should be minimized as much as possible, and privatisation will inevitably create a more efficient, flexible, and dynamic road freight industry. The results of the Delphi survey in this work supported these two assumptions showing agreement of both panels that under privatisation of the road freight industry, the state sector should be minimized as much as possible, and subsidies should be withdrawn, except for passenger transport where some parts of the system need to be supported. There was also agreement that privatisation will inevitably create a more efficient, flexible, and dynamic road freight industry.

The literature review shows that between 1970 and 1990 the road network in Britain increased by 11.02 per cent (see section 4.2.2.2), in Hungary by 0.7 per cent (see section 4.3.2.2), and in Egypt by 26.6 per cent (see section 3.3.3). There is some doubt about the accuracy of the Egyptian figure, which could be a result of the increase in public expenditure on roads, but the researcher could not obtain the official figure for public expenditure on roads. The research assumed that under privatisation of the road freight industry, there will be an opportunity to release more government money for spending on transport infrastructure (especially roads). However, the results of the Delphi survey suggest that there is no connection between privatisation and increased public spending on roads. It should be noted that at the time of writing
private capital participation in building and running roads is now to be undertaken in Egypt, where the government has agreed that the private sector may build and run some roads in Upper Egypt (Al-Ahram, 2/9/1996).

Section 2.5 shows that the effect of privatisation, as a means of increasing efficiency, depends on the introduction of competition, through deregulation, where competition and deregulation are likely to be more important determinants of economic performance than ownership (Yarrow, 1986 and Bouin and Michalet, 1991). Competition encourages efficiency by allowing consumers to purchase from lowest-cost suppliers, and it achieves production efficiency by encouraging firms to minimize costs (Domberger and Piggott, 1994). It has been argued that the degree of competition and the extent of regulation may obscure the efficiency implications of ownership (Liu, 1995). Deregulation of the road freight industry results in increased efficiency of the firms, reduced rates, increased range of services offered, and improved service (OECD, 1990). The research argued that competition is the most important element for a high quality road freight industry, and road freight customers will benefit from privatising the industry in terms of lower charges and a better quality of service. This view was supported by both panels in the Delphi survey.

The main reason to regulate the road freight industry would appear to be the fear of competition with the railways (OECD, 1990), such as in the UK (see section 4.2.1.3), and the proper role of the state sector in the national economy (Williamson et. al., 1983), such as in Egypt (see section 3.3.2). Regulations can take two forms; quality regulations, and quantity (or economic) regulations. Imposing economic (quantity)
regulations results in higher costs for both operators and customers, inefficient management, and inefficient allocation of resources. In the USA experience, Winston (1985) concluded that entry and exit regulations raise operators' costs, and Adrangi et. al. (1995) found that route restrictions increase industry inefficiency and raise operating costs (see section 2.5). Therefore, deregulation entails relaxing and/or removal of the quantity or economic regulations, which constrains entry, operation, and price (Bishop and Kay, 1988, Domberger and Piggott, 1994, and Bamford, 1995), (see section 2.5).

Deregulation often proceeds privatisation, and the two processes are often combined. In the UK, road freight transport was deregulated by the Transport Act of 1968, which removed quantity constraints on entry which existed since 1933 and replaced them with quality constraints, much earlier than the privatisation of the NFC in 1982 (see section 4.2.1.3). In Egypt, road freight has been a regulated industry since 1957. Both quantity and quality regulations are applied. Although there are no route restrictions, the regulations include restrictions on the number of goods vehicles to be licensed, the import of goods vehicles, and prices. The stipulations regarding pricing included in the law in Egypt are not enforced, and the announced price by the state sector companies is usually used as a guide (see section 3.3.2). With the privatisation process, and the transfer to a market economy, and since competition has proved to be the important element in determining performance, it is necessary to deregulate the road freight industry in Egypt, by removing economic regulations to allow the introduction of competition.
It has been argued that after deregulation the number of bankruptcies is likely to rise, and prices seem to fall sharply resulting in a reduction in profit margins. Evidence suggests that in the UK the proportion of bankruptcies in the transport sector following deregulation was not higher than in other sectors (Baum, 1991). However, deregulation seems to be followed, in the transport sector, by excessive competition. This was the case in the USA after deregulation of the interstate road freight industry (see section 2.5). In Egypt too since 1989, with increased competition within the road freight sector (state sector companies, the cooperatives, and private sector companies), and from other modes of freight transport (the railways and inland water companies), rates continue to fall, resulting in reduction in profit margins. For the state sector companies, the UN-ESCWA study (1994) estimated that the charged rates in 1993 covered only 63 per cent of the cost, which partly results from the absence of a system for pricing road freight services (see section 2.9).

Therefore, the research argues that with privatisation and deregulation of the road freight industry a form of regulation of competition should be applied either by the government or through self-regulation to save the operators' profitability. The results of the Delphi survey show that the Hungarian panel disagreed with both governmental regulation and self-regulation for competition. The Egyptian panel disagreed with self-regulation, while no consensus was achieved regarding the governmental regulation. As mentioned in section 7.4, both panels show that competition should be free.

During the course of this work, a number of consultations were conducted. The Secretary General of the Egyptian Association for Road Freight Transport mentioned
that before nationalisation of the road freight industry, road freight law made a
distinction between own account operators and professional operators, and own
account operators were not allowed to carry goods for others. The nationalisation law
did not include this article. Therefore, with deregulation of foreign trade and cement
distribution, and reform of the Agriculture Bank, which was the monopoly of
agriculture inputs and outputs (see section 3.3.6.1), own account operators with
relatively small fleets are now able to compete for tenders with professional operators.

This point was raised for discussion in an interview with Dr. El-Mazawy (consultant
to Minister of Businesses Sector), who confirmed the above view stating that it
resulted in an increase on the supply side, and consequently a fall in tariffs. Also, in
an interview, Dr. Lashine (former Head of General Authority for Transport Planning)
made reference to the findings of the Study of the National Transport System in Egypt
(1993), mentioned earlier in this work, that transport costs in the own account sector
are in general not treated independently, but as a part of production costs, thus
enabling cross subsidisation to take place. The UN-ESCWA study (1994) stated that
one of the problems associated with the road freight industry in Egypt is an absence
of an advanced costing system and cost centre calculations, which would otherwise
show the cost of the different types of vehicles, goods, and functions (see sections 2.9,
3.3.6, and 3.4). The outcome of the current Egyptian system is that cross subsidisation
enables own account operators to compete in tenders at low prices, sometimes
unreasonably low, probably at the expense of quality of service, and thus against the
long term future development of the industry. The research argued that a privatised
deregulated road freight industry requires a legal distinction to be made by the
government between own account operators and professional operators, such that own account operators could not compete for tenders with hire or reward operators. The results of the Delphi survey showed that both panels agreed.

Possibly, the most undesirable effect of deregulation seems to be the concentration of industry in the absence of a competitive environment. According to OECD (1990) there is no evidence of natural monopoly in the road freight industry, since there would appear to be no significant economies of scale, and the economic barriers to entry are low. In Egypt, in particular, there is no fear of concentration in the road freight industry, since the cooperative sector exists (see section 3.3.1) and dominates the market, with 70.2 per cent of total goods lifted by road in 1992 (see section 3.3.4).

Conclusions.

(1) Since the productivity of the state sector enterprises is lower than that of the private sector, under privatisation of the road freight industry the size of the state sector should be minimized as much as possible.

(2) Privatisation leads to improved performance through the ability to transfer ownership. Therefore, privatisation should create a more efficient, flexible, and dynamic road freight industry.

(3) Competition is the most important element for a high quality road freight industry.

(4) Road freight customers will benefit from privatising the industry in terms of a better quality of service at a lower price.
(5) A legal distinction should be made between own account operators and professional operators.

8.3 ROLE OF FREIGHT MANAGEMENT UNDER PRIVATISATION.

The difference in performance between the state sector and the private sector firms is a result of the difference in behaviour between the private and the state management. Since ownership in the state sector is untransferable, the cost and/or reward of a decision are less directly borne by the decision maker than in the private sector (see section 2.3). Privatisation should entail the adoption of management objectives that respond to the wishes of the shareholders, which is maximizing profits (Alchain and Demsetz, 1972), (see section 2.4).

Although it has been argued that in modern firms the separation of ownership and control may result in conflict between the objectives of shareholders and managers (Short, 1994), the threat of bankruptcy, takeover of the firm, and being ousted should be guarantees that management will maximise the shareholders' utility function (Bouin and Michalet, 1991), (see section 2.4). The switch to private ownership should result in improved cost efficiency, by sharpening managerial incentives (Liu, 1995) to encourage the technical efficiency which is associated with cost minimization (Domberger and Piggott, 1994).
Conclusions.

(1) Under privatisation, identifying areas where cost reductions could be made is the main task for road freight management.

(2) Although privatisation entails the adoption of management objectives that respond to the wishes of the shareholders, which is maximising profits, the main objective for road freight management under privatisation should be to improve the quality of service.

8.4 BEST METHOD OF ACHIEVING PRIVATISATION OF THE ROAD FREIGHT INDUSTRY.

Section 2.6.2 shows that privatisation in non-market economies, such as Egypt and Hungary, should be seen within the wider framework of economic reform. In this context, a distinction is made between the two main privatisation strategies, shock therapy and gradualism. The gradualism strategy relies on the introduction of elements of a market economy prior to privatisation (Mizsei, 1993). This strategy has been applied in both Egypt and Hungary, where liberalisation of the economy has taken place prior to the privatisation process (see sections 3.2.1 and 4.3.1.2), and it implies traditional or classical privatisation (case-by-case privatisation).

Regarding the management of privatisation, section 2.6.3 made a distinction between spontaneous (or decentralized) privatisation and central privatisation. In the former, applied in Hungary, the managers and employees of the state-owned enterprises transfer the enterprise as a whole or partly into the private sector (Mizsei, 1992). In
the latter, the responsibility of privatisation is allocated to a government body (applied in the UK, Egypt, and Hungary). Three broad methods of privatisation were identified in section 2.6.4; they are: public flotation (fixed price offer and/or sale by tenders); direct sale (for a third party and/or management/employees buy-out); and vouchers. Public flotation, employee buy-out (workers' shares), and direct sale have been applied in both Egypt and Hungary (see sections 2.6.4, 3.2.2, 4.3.1.3, and 4.4).

In this context, privatisation of the state-owned road freight companies in Egypt presents different options. One approach is to dissolve them and sell off their assets. Another approach is to privatise them as large entities (see section 3.4). The latter approach has been applied in the UK, where the NFC was privatised as a large entity through an employee buy-out in 1982 (see section 4.2.1.3). The former approach has been applied in Hungary, where VOLAN, the largest domestic road freight operator, was privatised in 1983 (see section 4.3.2.3), resulting in an increased number of small operators (owner-driver firms). In order to improve the quality of the industry, the Hungarian government passed a law in 1995 to favour large and modern road freight companies (see section 4.4). In Egypt, the cooperative sector is a collective of small operators (mainly owner-driver firms), comprising 13,110 firms owning 15,204 vehicles in 1991 (see section 3.3.6.2). Based on the Hungarian experience, dissolving the state-owned companies and selling off their assets would not be a good way to privatise them. The results of the Delphi survey showed disagreement with this way of privatisation.

Furthermore, the UK experience shows that the development of the road freight
industry is in the direction of contract distribution since the 1980's. This move towards a logistics approach is suitable mainly for large operators. From the hauliers' point of view, contract distribution provides a guaranteed level of income, at least for the duration of the contract. From the manufacturers' point of view, capital previously locked in vehicle fleets, warehousing facilities, and staff to manage distribution activities will be released and reallocated to core activities. The introduction of such logistical activities requires a heavy programme of investment by hauliers in vehicle fleets, warehousing facilities, and market information systems. Small operators, with relatively little capital, are unlikely to be able to meet such investment.

If Egypt is to adopt modern services based on efficient logistics, the best approach to privatising the state sector road freight companies in Egypt is as large scale entities, by transferring the companies' assets to shares sold through the stock exchange (or workers' shares), or selling off the companies in their existing form through tenders. The results of the Delphi survey suggest that a wider base of popular capitalism is an important element to achieve successful privatisation of the road freight industry, which requires low priced shares. Successful privatisation of these companies depends on restructuring them. Poor financial performance, over-employment, and large debt are the main threats to privatisation (section 3.4). The companies are loss-making, and section 2.6.4 shows that if the losses are due to market regulation, the companies will become more profitable with economic reform and deregulation.

This dissertation has identified the following features suitable for a restructuring programme:
* Reducing empty running, which accounted for 32 per cent of total kilometres run in 1992 (see section 3.3.6.1), by re-scheduling routes and cutting services in unprofitable areas and/or activities.

* Reducing running costs, by close monitoring and investigation of the cost elements (section 2.8.4.1.3), and identifying areas where cost reduction could be made.

* Selling off unwanted vehicles, where only 67.5 per cent of the state sector companies' fleet was in use in 1992 (see section 3.3.6.1).

* Modernising the fleet would help to reduce running costs, 32 per cent of the state sector fleet was over 8 years old in 1993 (see section 3.3.6.1).

* The government should consider writing off some or all the companies' debts to facilitate their privatisation (see NFC experience in section 4.2.1.3).

Selling off unwanted vehicles and modernising the fleet should result in increasing freight transport supply, since the buyer will use the vehicles to enter the market. It will therefore increase the level of competition, for the benefit of the customers. In such situation the marketing function has an important role to play in maintaining the position in the market of the companies selling off the vehicles (as well as achieving efficiency through cost reduction). Under deregulation and privatisation, there is a need to establish this function, and to introduce the variety of services required by the customers. The point here is that the companies should serve the customers' needs to meet their own need for achieving profits.
Conclusions.

(1) There is no single ideal method for privatisation of the state sector road freight companies.

(2) Since there are many small road freight firms (the cooperative sector), it is likely to be more appropriate to privatise the state sector companies as large scale entities, to provide a chance for developing the industry. The UK experience shows that the large companies lead the development of the industry in terms of the introduction of new logistics services.

(3) To privatise the state sector road freight companies through the stock exchange (sale by tenders and/or shares) seems to be the most appropriate method.

(4) A wider base of popular capitalism is an important element to achieve successful privatisation of the road freight industry, and requires low priced shares.

(5) Organizational restructuring by reducing the number of employees and limiting activities to profitable areas is needed before privatisation to ensure successful sale of the companies.

(6) Financial and technical restructuring of the companies is also needed before privatisation. Companies should minimise assets (inventory, depots, buildings, workshops, and vehicles). The revenue from the sale of such assets could be used to re-pay the companies' debts and/or provide working capital.

(7) Commercial banks and insurance companies may take over part of the companies for their debts, as a primary step towards privatisation.

(8) In the context of privatisation and economic reform, there is a need to
emphasis the role of marketing. Active and professional marketing plays a major role in the success of a business.

8.5 MACROECONOMIC PROBLEMS FACING PRIVATISATION OF THE ROAD FREIGHT INDUSTRY.

In the context of privatisation in economies in transition (specifically Egypt), two main problems facing state enterprises have been defined; they are increased unemployment as a result of privatisation, and the need for capital to finance privatisation (see section 2.6.5).

The problem of increased unemployment arises due to the type of technology used (excess demand for labour), and because the government has used state sector enterprises to achieve the social objective of full employment (Elits, 1979 and Liu, 1995). Therefore, the transition to a market economy would be expected to result in rapid unemployment (Bleaney, 1994), (see section 2.3). Enterprises characteristically showing over-employment are less attractive for private capital. In Egypt, in particular, this problem has serious implications, since there is no unemployment benefit. Furthermore, with limited resources, low productivity, and foreign debt, the ability of the government to compensate unwanted employees, or to retrain them and transfer them to other sectors, is limited (see section 2.6.5). Therefore, this research argued that this problem could be overcome by employing revenue from selling state sector road haulage companies to encourage new small road haulage businesses. The results of the Delphi survey showed agreement that increased unemployment is one of the most important problems to face the privatisation process, but there was disagreement.
about using revenue from selling state sector road haulage companies to encourage new small road haulage businesses. For the Egyptian panel, the revenue should be used to repay companies' debts, and any remaining could be used to encourage small businesses but not necessarily road haulage business.

The problem of the lack of necessary capital to finance privatisation arises from the lack of domestic savings. It has been suggested that foreign capital participation in the privatisation process could overcome this problem, besides offering management skills, marketing and technical support, and capital for modernization of the enterprises. The fear of foreign control over national industries could be overcome by determining a maximum percentage for capital owned by foreigners (see section 2.6.5). The results of the Delphi survey showed that, in contrast with Hungary, there is no lack of necessary capital to finance privatisation of the state sector road freight companies in Egypt, possibly as a result of liberalisation of the economy since mid 1970's, and through adopting the gradualism strategy of privatisation.

The use of the revenue of privatised state sector enterprises to create new job opportunities depends on the capacity of the economy. It would be expected that import substitution would be the priority, but with deregulation and liberalisation of the economy, the national industries are expected to face tough competition and strong competitors, and require higher standards and new skills. Therefore, foreign participation in the privatisation process seems to be needed to provide the required skills, knowledge, as well as technology. Indeed, the Egyptian Delphi panel agreed with foreign capital participation in the privatisation process, but foreign capital
control over the road freight industry should be avoided by determining a maximum percentage for the capital owned by foreigners in road freight companies.

Conclusions.

(1) Increased unemployment is one of the most important problems to face the privatisation of state-owned road freight companies, as well as the associated issues of payments to the dismissed employees, re-training them, and transferring them to other activities.

(2) The problem of increased unemployment as a result of privatisation of the state-owned road freight companies could be overcome by using revenue from selling the companies to encourage new small business, not necessarily in the road freight sector.

(3) There is no lack of capital needed for privatisation of the state sector road freight companies in Egypt.

(4) Although there is no lack of capital needed for privatisation of the state sector road freight companies in Egypt, foreign capital participation should be considered as it will provide the needed skills and technology for development of the industry.

8.6 EXTERNAL COST OF ROAD FREIGHT UNDER PRIVATISATION.

Chapter three shows that following the failure of private capital to play its full role in developing the national economy in Egypt, the state became a critical factor in the
attempt to develop and modernise the economy, through the adoption of the centrally planned economy model. By the mid 1970's, when it became clear that the economy was inefficient under state ownership, Egypt embarked on a process of economic reform and privatisation, to replace the centrally planned model with the market economy model. The reform programme, including privatisation, has been undertaken surrounded by economic difficulties; rapid population growth, inefficient state sector, a large system of subsidies, growing unemployment, budget deficits, imbalance in the current account and balance of trade, and huge external debts (see sections 3.2.1 and 3.2.2).

Since privatisation in non-market economies is associated with a reversal of the economic model, the issue of externalities becomes an important issue. For the market economy model, the pricing system is the mechanism to achieve the efficient allocation of resources. Therefore, the pricing system should include all costs, including external costs (see section 2.7). The Delphi survey produced some interesting contrasts between the Egyptian and Hungarian panels, regarding social and environmental costs (see section 7.4). In general, in contrast with Egypt, it was accepted by the Hungarian panel that the operators must pay for the external costs resulting from running their operations, possibly because the awareness of the external costs in Hungary is higher than in Egypt. For the Egyptian panel the principle is accepted, but the application should be gradual. But there was agreement between the two panels that the current tax on fuel in both countries is not adequate to cover the social and environmental costs resulting from road freight operations, and internalising the external cost of road freight operations will result in price increases.
Conclusions.

(1) For the road freight industry, there is a need to identify the exact cost of the externalities, and a suitable way to charge the operators.

(3) Internalising the external cost of road freight operations will result in a price increase.

8.7 FURTHER RESEARCH.

Apart from this current research and the other two studies mentioned earlier in this work (UN-ESCWA, 1994 and El-Mazawy and Lashin, 1994, but published after the start of this research), there is no established literature for the road freight industry in Egypt. During the course of this work, the researcher found that many areas, covering many aspects of the road freight industry, need to be researched. First of all, there is a need to establish a data base for the road freight industry, which would be useful for both researchers and decision makers. The CAPMAS, which is the only official agency for collecting, processing, and publishing of the data in Egypt contains little about transport in general, and road freight in particular. For example; data about road lengths is limited to the roads under local authorities (see section 3.3.3). The number of goods vehicles is not accurate, as shown in section 3.3.5 where the figure obtained from CAPMAS is less than that obtained from Central Traffic Department. There is no data about the goods moved, nor about the own account sector (see section 4.4). There is no doubt that availability of data would ease the decision making process, as well as encourage research, as seen in Britain.
Second, the research would suggested that there is a need to establish an institutional body for road freight research. Indeed the Egyptian National Institute of Transport has a role and some activities in this field, but it would be better if there was a specialised agency, in particular at this early stage of privatisation and economic reform. In replacing the centrally planned economy with a market economy there is no more need for a National Development Plan. The decision maker at the national level has therefore to rely on other agencies to provide alternative paths for the future, as well as data and information. For example, section 2.9 shows that the drop in tariffs since the beginning of the 1990's results in the state sector companies working at a loss, while the study of UN-ESCWA (1994) expected that the cooperative sector may make small profits with such tariffs. There is no research to determine reasons for this. Also section 2.9 shows that there is a change in the demand pattern in the road freight in Egypt as a result of economic reform. There is also a likely increase in the supply side. These changes in demand and supply need to be investigated, with a view to seeking opportunities in both the domestic and international market.

Section 2.7 shows that applying the market economy model leads to a need to include the external cost in the price system. The result of the Delphi survey presented in section 7.5 shows that the current tax on fuel is not adequate to cover the external cost of road freight operations in Egypt. There is therefore a need to identify and valuate the external cost of road freight in Egypt. In the context of privatisation, the results of the Delphi survey show that different state sector road freight companies need different methods of privatisation. There is a need to investigate and discover examples of best practice in privatisation in Egypt. There is also a need to investigate
costs and costing. In particular, research should examine the expected difference in the costing approach and treatment between the three sectors of the road freight industry in Egypt (state, cooperative, and private sector).


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