THE ASIAN JOURNAL

Volume 7 **June 2000** **Number 2**

JOURNAL OF TRANSPORT AND INFRASTRUCTURE

INDIAN TRUCKING

Contents

THE ASIAN JOURNAL

ISSN 0971-8710

The views expressed in the publication are those of the authors and do not necessarily reflect the views of the Board of Governors of the Institute or its member countries.

Published by
Asian Institute of Transport Development
Aptt. E-5, Qutab Hotel, Shaheed Jeet Singh Marg
New Delhi 110 016
Phones : 6856117, 6856113
Telefax : +91 (11) 6856113
E-mail : aitd@vsnl.com

Indian Trucking

We have devoted this entire issue to the topic of trucking because of the importance it has assumed as the lifeline of our commodity delivery system. It has grown phenomenally in the last four decades; the number of trucks having gone up from under two lakh to nearly twenty-five lakh with road haulage of freight encroaching upon the monopoly of rail transport. Today, its share is about 70 per cent of the freight traffic.

This rapid growth has brought into focus several important lessons. One lesson is that market forces of supply and demand will find a way of balancing if the predominant vendor – in this case the Railways – fails to realise the needs and preferences of the customer. Another is that virtually unregulated growth may satisfy quantitative demands but seriously compromise qualitative aspects, such as safety, efficiency, resource costs and social overheads. The time has, therefore, come to pay adequate attention to the healthy growth of this mode.

There are many players in the field of trucking starting from the chassis-maker, usually a large automobile firm; the body-builder, normally the roadside garage; the truck owner, largely with a fleet of less than five trucks; the aggregator of demands or the booking agent, the principal beneficiary; the truck driver and his crew, mostly illiterate, learning on the job and exploited; the petrol pump dealer; the weigh-bridge owner; the financier – banks or NBFCs; and, of course, the government. The latter is not homogeneous either – the centre, the state governments and their various departments like finance, transport and the motor vehicles department; not to mention the police.

Unless the policy instruments, legislation and the enforcement agencies harmonise the aims and motivations of all these multifarious players towards the development of a healthy, modern, efficient and safe system, this industry will grow haphazardly and perform sub-optimally. We can ill-afford this as a developing country. The articles in this issue of the Journal discuss some of the more important aspects of trucking and the initiatives that have become imperative for its growth and regulation.

Trucking in India is more like a conglomeration of a large number of small-scale operators rather than an organised industry. In fact, the inclusion of truck-owning in the priority sector lending implied that this was a small-scale industry. While this may have encouraged the entry of a large number

of truckers in the field and, therefore, theoretically, promoted competition, it also restrained the industry from striving for the economies of scale. Consequently, the industry remained at the level of outdated sub-standard vehicles operating with least outlay on maintenance and none on technological improvements. The denial of working capital by banks only perpetuated this state of affairs. It was easier to overload and maximise income by taking the risk of an occasional breakdown than to invest in more expensive multi-axle vehicles.

So one has the familiar spectacle of ramshackle trucks with broken axles stranded on highways or overturned vehicles involved in accidents waiting for relief and succour to arrive from somewhere. Equally distressing are the long line of trucks at the checkposts or octroi collection points waiting indefinitely for hours on end unproductively. At a time the nation-states of Europe are removing all barriers to free movement within the continent, we in a unified federal state are keeping the many hindrances alive.

The approach of government departments to the trucking industry has not been very different from their approach to trading. They regard it merely as a source of revenue at every stage – excise duties; sales tax on purchase of vehicles; road tax on owning and using; licence fees and permits for operating; octroi or entry tax by local authorities; not to speak of taxes and duties on petrol, lubricants and spares. The present situation in which over 30% of the initial cost and about 57% of the operating costs are due to these multiple burdens, is hardly an incentive to invest in better vehicles, improved maintenance or well-trained and well-paid operating crew.

The fact that there is a major human element in this industry, is often overlooked. The sudden explosion in the fleet of heavy commercial vehicles over the years demanded the services of many drivers, cleaners and mechanics. The response has naturally been the liberal issue of driving licences to inadequately trained drivers, most of whom are illiterate and ignorant of traffic rules and civic duties and are an easy prey to unscrupulous traffic police. In an overwhelming unemployment situation, truck owners also minimise on employment costs. Driver training establishments are ridiculously few for such a large number. The cabins, not conforming to any standard design, are constricted, hot and unhygienic. There are hardly any wayside amenities for the drivers and other crew. The incidence of HIV and other such diseases is known to be high among professional truckers. Yet the employment generated by this industry is quite substantial – 45 lakh or so in direct operation and many times more in all the up-and-downstream activities.

The staffing of the concerned government departments and training of their staff have not kept pace with explosion in the volume of trucking activity with the result that important activities like inspection of vehicles for fitness are either done perfunctorily or just settled through negotiation. There is hardly any coordination between the transport departments who are concerned with licences and permits and the motor vehicles departments who are concerned with the enforcement of the Motor Vehicles Act.

These are the kinds of realities which the articles in this issue deal with. Shazia Malik focuses on the structure of the trucking industry and T.C.A. Srinivasa-Raghavan outlines the underlying issues in the financing of trucks. K. L. Thukral spotlights the need for reforming the taxation regime. This is followed by a delineation of the pattern of technology change and a succinct analysis by B. N. Puri of the problems besetting the regulatory regime. D. P. Gupta focuses on the vexed issue of pervasive overloading and John Moon discusses the significance of inter-country facilitation of trucking services to improve productivity of assets. A. K. Bhattacharya outlines the problems faced by truck drivers who are mostly illiterate, underpaid and of rural background.

In future, we plan to widen our perspective from the limited confines of Transport *per se* to other infrastructural constraints to our development, such as Water, Power, Communications, etc.

K. L. Thapar
Director

PHENOMENAL GROWTH : SKEWED STRUCTURE

Shazia Malik*

At present, trucking industry in India carries over 70% of the total freight traffic. While over 2 million trucks ply on our limited road space, this industry has remained invisible to the policy makers. As a result, it has grown in an unorganised manner and is beset with numerous problems which affect its viability. It is dominated by small operators; 77% of the truck operators own a small fleet of upto 5 trucks; of these, the majority are single truck operators. They are primarily engaged in the haulage function and are dependent on others such as brokers, booking agents, etc. for business. Only around 6% of the trucks are owned by companies with a fleet of 20 and more. Due to fragmented nature of the industry, the system output has suffered for want of economies of scale. The solution lies in fleet formation; the existing laws, however, stand in the way of achievement of the goal.

There is hardly any data available on trucking industry and very little published work on the industry and its problems. There is no institutionalised arrangement for collection of data on a regular basis. This is a big handicap for the transport planners. Numerous problems continue to beset the industry like inadequacy of finance, exploitation by middlemen like brokers who are unlicensed, lack of wayside amenities, lack of human resource development, problems relating to insurance, legislation and regulation, unviability of operation, high tax burden, etc. These problems need to be addressed on priority basis to facilitate healthy development of the industry. There is also an urgent need for restructuring of the industry which would help not only in effective regulation but also in optimising the output.

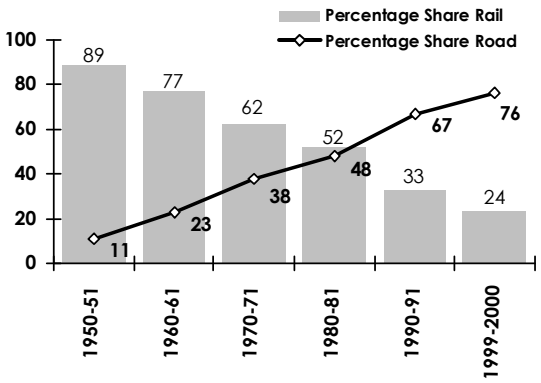
INTRODUCTION

The transport infrastructure in India mainly comprises rail, road transport and pipelines. Railways and road transport are the dominant modes. Over the years, the share of railways in the transport of passengers and goods has been declining and rail-dominant economy has now become road dominant. The share of freight traffic carried by road which was barely 11% in 1950-51 has increased

* *Research Fellow, Asian Institute of Transport Development, New Delhi.*

to over 70%. This share is likely to increase further having regard to expected increase in freight traffic due to socio-economic growth, capacity constraints on the railways and the marked preference of users for road transport. Figure I shows the growth of freight traffic.

Figure 1 : Growth of Freight Traffic



The growth of the trucking sector is evident from the increasing population of trucks over the years as indicated in table 1.

According to estimates made by the Asian Institute of Transport Development, the number of trucks is expected to rise to 2.87 million by 2005. Projections have also been made by the Working Group on Road Transport for the Ninth Five-Year Plan; their projections are based on the [redacted] and the assumption of differential growth rates (6%,6.5% and 7%). While the light commercial vehicles (LCVs) are projected to grow in the range of 1 to1.4 million by 2002 and further from 1.7 to 3.1 million by 2007, the corresponding growth of heavy commercial vehicles (HCVs) is estimated at 2 to 2.5 million and 2.8 to 4.2 million, respectively. These projections indicate the potential growth of road transport sector.

Table 1 : Total Registered Goods Vehicles in India

(in '000)

Year	Goods Vehicles	Annual Growth Rate (as on 31st March)
1951	82	–
1961	168	7.4
1971	343	7.4
1981	554	4.9
1991	1356	9.4
1992	1514	11.6
1993	1603	5.8
1994	1691	5.5
1995	1794	6.1
1996	2031	13.2
1997	2260	11.2
1998*	2390	5.8
1999*	2506	4.9
2000*	2647	5.6

** Estimated*
Source: Motor Transport Statistics (1997), Ministry of Surface Transport.

Trucking industry has vast opportunities for employment, both direct and indirect, in the area of haulage, manufacture of vehicles and their maintenance. It is estimated that over 20 million people are employed in various segments of the trucking industry. Further, the total revenue in the form of central taxes (custom and excise duty on motor vehicles and accessories, tyres and tubes, HSD and Motor Spirit) and state taxes (motor vehicle tax and fees, sales tax on motor spirit and lubricants,

passenger and goods tax) generated from road transport sector has been steadily increasing as shown in Table 2.

Table 2 : Tax Revenue from Road Transport Sector

(Rs. crore)

Year	Amount
1950-51	47.4
1960-61	166.9
1970-71	683.2
1980-81	2173.4
1990-91	7631.2
1996-97	18297.9

While the trucks plying on our roads are visible to the road users, the trucking industry has remained invisible to the policymakers. As a result, the growth of this sector has not been on planned lines. It has grown in an unorganised manner and is beset with numerous problems and inefficiencies. The problems include inadequacy of finance, dependence for business on unlicensed brokers and booking agencies, multiple checking of vehicles and detentions enroute, lack of wayside amenities, energy inefficiency, problems relating to insurance, legislation and regulation, unviability of operations, overloading, etc.

There is very little published work on the industry and its problems. Serious data gaps exist in goods transport industry in respect of ownership pattern and age profile of vehicles, nature of operations, fleet strength, fleet utilisation, the vehicle speed, steering duties of drivers, cost of operation, tax structure, etc. There is complete absence of data regar[redacted]s of tonnes carried, tonne-kms transported, proportion of empty trips, etc. It is not known which groups of operators are making investments and how these are financed. Lack of census of goods haulage is a serious gap in national statistics. The central issue is whether the trucking industry will be able to meet the mounting traffic demand and whether it is properly structured to face the emerging challenges.

STRUCTURE OF THE INDUSTRY

At present, there is no regular arrangement for the collection of data relating to trucking operations. A limited survey was conducted by Central Institute of Road Transport (CIRT) in 1994 to obtain requisite information about the industry. The information was recently updated through primary surveys by the same agency for the government-sponsored study on Trucking Operations in India. The data used in this paper is based on findings of these primary surveys. The structure of the trucking industry can be studied as a system comprising the truck operators, intermediaries and users. The structure is affected by factors, such as nature and cost of financing, vehicle technology, existence or absence of wayside amenities, road condition, detention of vehicles involving additional fuel cost, increase in turnround time leading to underutilisation of

vehicles, legal framework i.e. provisions of Motor Vehicle Act, Motor Transport Workers Act, Carriage of Goods Act, etc.

Truck Operators

There is ease of entry and exit from the trucking industry. There is no scheme for registration of transport operators. Large transport companies are registered under the Partnership Act or the Companies Act. The MV Act only mandates the registration of vehicles by the owners and obtaining of a permit for their operation. There are no provisions for qualitative aspects, such as professional competence, financial standing, good reputation, etc. as are obtaining in UK.

Ownership Pattern

With regard to ownership pattern of trucks, the important findings of the 1994 survey were :

- Majority of goods transporters in India are small operators owning one or two trucks. In some cases, however, these operators own between 5 to 10 trucks. The trucks are not registered in one name presumably to avoid income-tax, labour legislation, etc.
- The small operators are involved only in the physical movement of goods and depend on the booking agents and other fleet operators/ transporters for obtaining business. Some of them are attached to major transport companies, brokers and vehicle suppliers. They do not generally come in direct business contact with the users.

The 1998 survey reveals that the structure of the trucking industry is highly skewed. For example, about 77% of the truck owners own a fleet size of about 5 vehicles, 10% between 6 to 10 vehicles, 4% between 11 to 15 vehicles, 3% between 16 to 20 vehicles and the remaining 6% own more than 20 vehicles.

Fleet Size (vehicles)	Truck owners (%)
Upto 5	77
6-10	10
11-15	4
16-20	3
20 and above	6

This ownership pattern clearly confirms the fact that small operators continue to dominate this industry. However, an interesting feature observed during the surveys is that very few operators admit of owning even upto six trucks. While the same person may expand his fleet by acquiring additional trucks, he prefers buying these

additional vehicles and applying for loan in the name of some other person. This is mainly done to avoid the application of the Motor Transport Workers Act. Another reason for the dominance of small operators is that, most of the operators entered this industry because it was their family business – 56% of the truck owners surveyed are in this business from 1 to 10 years, 30% from 11 to 20 years and 15% from over 20 years.

Classification of Truck Operators

Truck operators can be classified on the basis of spread and extent of their operations into local, regional and national carriers. Another classification can be done on the basis of the fleet owned by them as indicated below :

- Small truck operators (owner-cum-operator) own one or more than one truck but up to the limit of 5 trucks.
- Medium-size fleet operators operate with a fleet size of about 40 to 50 trucks.
- Large-size fleet operators operate with more than 50 trucks.

The medium and large size fleet operators charter trucks to the extent of 10 to 12 times of their own fleet. They get the supply either through lorry suppliers or directly from single truck owners. Some fleet operators encourage their own employees to become owners of trucks by providing financial assistance subject to the condition that the vehicles should be permanently attached to their companies. In terms of goods consignment notes (GCN), they currently account for as much as 87% of the business; their corresponding share of business in this category was 80% in 1994. Large fleet operators have a network of branches in various cities and, therefore, are able to account for a large market share. Survey has revealed that big fleet operators handle about 12% to 15% business in their own trucks and the balance by hiring trucks from small truck operators either on their own or through brokers. Though this finding gives a semblance of fleet operation, the fact remains that it is only in a specific sense of moving goods under the name of large transport companies; the negative aspects of small ownership still persist. These operators are not able to provide adequate and timely maintenance to their trucks. They do not enjoy the economies of scale either.

Transporters' Associations

The trucking industry has a large number of unions and associations of transport operators at local, district, state and national levels representing the

small operators, fleet owners, booking agents and others. These associations view the industry in their own micro perspective rather than have a macro perspective. At the apex is the All India Motor Transport Congress; its membership includes not only the vehicle operators but also brokers, booking agents and others. It acts as an interest group for influencing government policy on transport legislation and taxation. Its stand on the various issues appears well campaigned through various forms of representation including agitations and strikes. However, it has a limited role in promoting better management of the transport system or promoting viable transport companies, etc.

Productivity of Truck Operators

Given the fragmented nature of the industry, it is not able to enjoy the economies of scale. Majority of the truck operators being small, they lack the necessary manpower and other facilities to directly deal with the consignor/ consignee. The existing structure also makes it difficult to introduce new ideas to achieve the objectives of road safety, technology upgradation, professionalisation of management, etc.

With the objective of improving the productivity of the industry, various committees were set up by the government from time to time. These committees included the Study Group on Transport Planning (1955), the Committee on Transport Policy and Co-ordination (1966) and the Study Group on Viable Units (1967). These committees considered a single truck firm as not viable; they suggested that appropriate incentives be given to individual truck owners to organise themselves into registered associations or cooperative societies for availing of common facilities like servicing and repair of vehicles, booking and forwarding of goods, etc. to ensure efficient and economic operation as well as avoid exploitation by middlemen.

Intermediaries

The trucking industry has a number of intermediaries who play a significant role in facilitating the business of truck operators and the provision of efficient transport services. These include the booking agents (also called transport suppliers or transport contractors) and the brokers. These players basically perform the function of middlemen for the truck owners majority of whom are unorganised owning just one to two trucks. While broker is a person (or a group of persons) who takes commission from the truck owners and ensures the supply of trucks to the transport contractor, booking agent is a person engaged in the business of collecting, forwarding or distributing goods carried by trucks.

In addition, some of these agencies also provide finance and godown facility. They usually operate from ports, project sites and mega production centres. To cater to this type of road transport, many of the conventional transport companies have created a separate division, namely, 'contractor division'. Both the transport contractors and the contractor divisions compete among themselves to acquire contracts for transportation of cargo of major consignors. The survey conducted by CIRT in 1998 reveals that in certain cases (around 44%), the small operators themselves take up the multiple role of a transporter, broker and booking agent. This is done to save on the commission due to these agencies and reduce the cost of operation.

It may be noted that the booking agents, brokers etc. offer a number of services. They have some office and telephone facilities but infrastructure like storage facilities, loading/unloading and parking of vehicles are generally absent. Most of their functions are carried on the streets and roads near their offices. They employ few permanent staff and often hire unorganised labour. Their services extend to providing cash advance for wayside expenses to the small operators, discounting their freight bills, etc. They arrange immediate help to small operators in case of accidents and in dealing with the police. These intermediaries have become an integral part of the trucking industry.

Booking agents/transport contractors, and brokers are, at present, an unregulated lot. Generally, they are not registered even though there are provisions in the Act for their registration. No code of conduct has been stipulated for them. Considering that these players determine the freight rates and act as powerful agents of the trucking industry, it is important that the possibility of bringing them within the purview of legislation or under associated bodies is examined.

Freight Charges

The freight rate structure in goods road transport is determined at different levels. The transport contractors or the contractor or the booking agents quote and settle the freight rates with the consignors. These are negotiated rates and are valid for a given period of time. The truck owners depend on brokers, who have day-to-day arrangements with them, for obtaining goods for transportation. The brokers arrange the goods for the truck owners from the booking agents at the prevailing market rates for which they charge their brokerage which ranges from Rs.200 to Rs.400 per vehicle per trip. It has been observed that the freight charges paid to the truck owners have no relationship with the rate settled between the consignor and the booking agent. Also, since the freight is arranged

through brokers, the freight rate at which the truck owners operate is also settled by the brokers and the booking agents.

In certain cases, there is an agreement between a broker and a truck owner for a stipulated period during which the former arranges guaranteed freight at rates fixed in advance. The payment of freight charges to the truck owner is done in two parts : 20-30% of the gross freight charge is paid before the commencement of journey and 70-80% after the delivery of the cargo, called *pahunch* in common transport parlance. This is an acknowledgment of the receipt of goods by the consignee recorded on the document (bill/invoice) issued by the transport contractor at the originating point. The *pahunch* may be paid either at the destination or, in certain cases, at the originating point, on return. A recent study on truckers revealed that while in 10% of the cases payment of balance freight charges is made promptly to the owner on submission of *pahunch*, in 70% of the cases there are delays. It is also reported that at the destination points or nearby, some of the transport contractors have set up their own separate counters where they provide instant cash to the truck owners on payment of a certain amount as discount. The persons engaged in this business of discounting *pahunch* are called *Angarias*. It is reported that *Angarias* collect around Rs. 200/- to 600/- on a freight amount of Rs. 10,000 for 15 to 60 days, depending upon the credit rating enjoyed by the transport contractor.

Lorry Receipt

Lorry Receipt issued by transport companies or booking agents/brokers is not accepted by banks for making advance payments to the consignors. The Indian Banks Association (IBA) has, however, evolved a scheme of approving certain transport companies whose lorry receipt is negotiable. For granting such approval, the IBA requires that the transport companies should own at least seven heavy vehicles. It is proposed that negotiability of lorry receipt should be extended so that the lorry receipt issued by a duly constituted transport company or a booking agent/broker is made negotiable to remove the hardship of the consignors.

Users

The users of goods transport services are manufacturers, distributors, retailers and the general public. The user's choice of a particular truck operator is influenced by factors, such as transit time, availability warehousing facility, safety of cargo, freight rates and the extent of credit facility provided by transport companies. Some users prefer entering into contracts with large fleet operators. The limited capacity of small operators becomes a handicap in such cases. The users are aware that in actual practice their consignments are carried by small

operators as sub-contractors employed by large fleet operators. This matters little to them so long as the fleet operators assure them safe and timely delivery of their consignments.

FACTORS INFLUENCING THE STRUCTURE OF TRUCKING INDUSTRY

The important factors which affect the structure of the trucking industry are discussed in the following paragraphs :

The Carriers Act

The Carriers Act was passed in 1865. It lays down the liability for the loss of or damage to the goods caused by negligence of the carrier or fraud of his servants/agents. It is well known that highway safety and security has deteriorated due to poor law and order situation in the country. Besides, bandhs and civil disturbances have become frequent. Instances of vehicles being waylaid and robbed and manhandling of drivers have increased over the years. This has created insecurity among truck operators. This Act is causing hardship to the operators as they may not generally be responsible for such losses.

Outmoded Laws

The laws relating to the trucking industry, including the provisions of the Motor Vehicle Act, are outmoded and do not meet the demands of modern transport industry. The hours of work of any person engaged in operating a transport vehicle are regulated by the provisions in the Motor Transport Workers (MTW) Act, 1961. Based on this provision, Section 91 of the MV Act provides for 8 hours of work for the drivers. However, these provisions are not enforced strictly in the trucking industry; it is common knowledge that drivers work for long time beyond stipulated hours without rest endangering road safety. The hours of work are not enforced by the Motor Vehicles department. Lack of coordination between Labour Department, who have enacted MTW Act and Transport Departments of the states is responsible for poor implementation of both the Acts. Majority of the owners of goods carriages do not maintain any record of the duty hours of drivers and other employees. Further, *the MTW Act is applicable only when the undertaking employs 5 persons or more*. Considering the present ownership pattern, this is a major limitation.

The management practices of Motor Vehicles department are age-old. The skills of officials deployed in the MV department are not being upgraded

commensurate with the technology of vehicles being introduced from time to time. The technology in terms of use of sophisticated computers for information or communication is conspicuous by its absence. The infrastructure needed for driver testing and fitness testing and pollution control is hardly available. MV departments are seen mainly as revenue earning sources and contribute nearly 10% of the state's tax revenue. Thus, the focus of these departments is on collection of tax revenue from motor vehicles and not on enforcement of the various provisions of the Act.

Trucking Industry is a service industry; it serves the transport needs of the manufacturers and the trading community. As such, the working of the MV department has the potential to contribute towards either the success or the failure of the trucking industry. The present institutional focus being on 'revenue', important functions, such as mobility, safety, fuel conservation, environmental protection, etc., do not get adequate attention. In short, the regulatory mechanism has fallen far short of expectations.

High Cost of Financing

Funds are available to Small Road Transport Operators (SRTOs) under priority sector lending scheme of the commercial banks and public financial institutions. Under this scheme, truck operators owning less than 10 trucks can obtain finance, generally for purchase of chassis, at reasonable rate of interest. Apart from banks, non-banking finance companies (NBFCs) also finance purchase of trucks. At present, this is the dominant mode of finance for the trucking sector though the interest rates charged by the NBFCs are higher than those charged by commercial banks. To encourage bank lending to the trucking industry, the RBI has recently classified bank credit to NBFCs for on-lending to small transport operators as priority sector lending.

A number of problems are faced by the truck operators in obtaining finance. Banks are hesitant to lend because of the fear of default in repayment of loan; no loans are given for meeting the working capital requirement or financing used vehicles or even for body-building. The repayment period is short, ranging from three to five years. Margin money which is required to be provided by the transport operators themselves is between 25% to 40%. The effect is that bank finance benefits the relatively richer transport operators who are in a position a find margin money from their own resources. The small operator has necessarily to depend on private financiers who charge high rate of interest. This high interest cost adversely affects the operating cost of trucks.

Wayside Amenities and Truck Terminals

At present, in India, there are no organised wayside amenities, maintenance and repair facilities and parking spaces along the highways. The indiscriminate parking of trucks on the highways and on the carriageways of towns and cities encroaches upon the space reserved for pedestrians as well as for moving vehicles.

To address this problem, the government, sometime back, sponsored the Truck Operators Highway Amenities Society (TOHAS) and introduced Passenger Oriented Wayside Amenities Scheme. However, these initiatives had to be dropped due to lack of necessary support from the state administration and for want of enthusiasm on the part of truck operators.

Trucks also need a terminal where they can finally end their journey and prepare for the next assignment. Lack of well-planned truck terminals has given place to on-street handling of goods and parking resulting in avoidable congestion within the town.

Detention of Vehicles

The smooth flow of goods carriers is hampered by frequent stoppage of vehicles for one reason or the other at various check-points. Detention of vehicles causes loss of time, high fuel consumption, idling of vehicles leading to underutilisation of transport capacity of the trucking industry and adversely affects its viability. Broadly, the detention is due to one of the following reasons :

RTO checking

Vehicles are detained for checking the essential documents, such as registration book, driving licence, permit, etc. Such detentions take place either at specified RTO checkposts or on the way.

Checking for payment of commercial taxes

Vehicles are also detained for checking the payment of taxes, such as sales tax, octroi and other local taxes. These checks are generally conducted by the respective agencies at separate points resulting in more than one detention.

Police checking

Vehicles are also detained for booking the drivers for offences, such as violation of traffic rules and regulations.

Border-post checking

Vehicles are also detained at state borders before they are allowed entry from one state to another. There is normal checking of transport vehicles at border checkposts. There should be strict checking at state borders, but vehicles need not be detained at other checkposts within the state.

The truck operators are also affected by high incidence of motor vehicle taxes; these vary from state to state. The high burden of these taxes affects the competitiveness of our products in the context of growing globalisation of markets. Besides, our road network suffers from poor road geometrics, weak and narrow bridges, frequent access from side roads to main roads, congested city sections, poorly designed road intersections and existence of level crossings which pose problems for the transport operators. Bad roads result in accidents, frequent breakdown of vehicles, congestion, higher fuel consumption, greater wear and tear of tyres. The efficiency of the industry will improve with the expansion and strengthening of the road network. Further, in the absence of adoption of modern vehicle technology, the cost of operation of our trucks continues to be high; moreover, they are not environment-friendly. Most of the time the trucks are overloaded which is one of the main causes of accidents.

CONCLUSION

The basic structure of our trucking industry has generally remained unchanged over the years. Preponderance of small operators, their dependence on intermediaries for all or some of the functions (receiving, aggregating, handling and delivering of goods; marketing of services), invisibility of this sector to the transport planners and the policy-makers, detention of vehicles at checkposts, high cost of financing, high incidence of taxes, low productivity, lack of wayside amenities, etc. stare us in the face. Small changes however, are discernible in some of the structural components of the industry. For example, share of small truck operators in the total fleet declined from 85% in 1994 to 77% in 1998. Dependence of these operators on intermediaries declined from 63% to 56% during the same period.

It is hoped that the productivity of the system will substantially improve if efforts are made towards fleet formation and the operators are encouraged to take up as many functions as possible instead of confining themselves to the haulage function only. This will improve the viability of the industry. Besides, major issues of fuel conservation, promotion of safety, enforcement of the provisions of the MV Act can be better addressed if restructuring of industry takes place on the above lines.

REFERENCES

1. Report of the *Road Transport Re-organisation Committee (Masani Committee)*, 1959.
2. Report of the *Committee on Transport Policy and Co-ordination,* 1966.
3. Report of the *Study Group on Viable Units,* 1967.
4. Report of the *National Transport Policy Committee,* 1980.
5. *Perspective Planning for Transport Development* (Steering Committee Report), 1988.
6. *Road Goods Transport Industry in India* – A study by CIRT (Pune), 1993.
7. *India Transport Sector, Long Term Issues,* Document of the World Bank, 1995.
8. Report of the *Steering Committee on Trucking Operations in India,* 1999.
9. Five Year and Annual Plan Documents.

TRUCKING FINANCE : HIGH RISK, LOW REWARD

T.C.A. Srinivasa-Raghavan*

The single truck owners make up as much as 50 per cent of the trucking firms; economists will consider the prevailing situation as one which comes close to perfect competition. That is, there are a large number of producers of trucking services and none of them is big enough to influence the price line. As a result, the industry today is essentially controlled by intermediaries, because a large number of truck-owners themselves are too small as firms to acquire critical market information.

Trucking is a service industry and in a service industry efficiency and size are not as closely related as they are in manufacturing industries. In fact, often, in service industries, micro-sized firms, such as the ones obtaining in the trucking industry lead to economically more efficient outcomes than their larger counterparts. There is, therefore, a need to understand the true economic nature of the service industry concerned before drawing the inference that larger firms will be automatically beneficial for the industry.

The currently fashionable approach, that the industry should be made to move in the direction of large fleet owning firms, is workable only up to a point. The very nature of the business is such that it depends on the efficiency of micro-firms which own less than five trucks. That aspect should not be tampered with by the adoption of policy instruments which discriminate against micro-firms.

For financing the purchase of commercial vehicles, two main sources of finance available to the operators are the banks and the NBFCs. But the former have not proved to be very effective at providing finance and the business is now dominated by the NBFCs, which are allowed refinance facilities from the banks. Basically, this system of financing is too inflexible and requires correction. Also, used vehicles play a key role, especially in providing secondary/feeder services to the primary long-distance national permit operations. This, it should be recognised, is conceptually no different from the practice in other industries which use second-hand machinery. In the circumstances, efforts need to be made to encourage financing of second-hand commercial vehicles. A mechanism also needs to be worked out to provide working capital through the same bank/ NBFC that has given loan for the purchase of vehicles.

* *Economist; Consulting Editor.*

INTRODUCTION

The number of trucks in India has increased from just under 2 lakh in 1961 to 22 lakh in 1996-97. The share of road transport in total freight traffic has increased from 23% in 1961 to about 70% now. The industry provides direct and indirect employment to well beyond a million and a half people. This might sound like a desirable outcome but the facts on the ground suggest a mixed picture. This sudden explosion of truckers, especially their near exponential growth since 1990, has resulted in an oversupply of operators who are usually under-capitalised, both financially and educationally. Nothing illustrates this better than the fact that single truck owners make up as much as 50 per cent of the total trucking firms, and over 60 per cent of them are barely literate.

This particular aspect has several implications, not the least of which is financial. It is not surprising considering the fact that there are virtually no entry barriers in the industry. In a large measure, this is due to the Motor Vehicle (MV) Act 1988, whose chief deficiency is that it places hardly any pre-qualifications for new entrants in the trucking business. Permits are liberally issued, almost on request. The result is that the small owners dominate the sector – 77 per cent of the truck owners own only upto 5 trucks and, as mentioned above, more than half of them own just one truck.

Economists will consider the prevailing situation as one which comes close to perfect competition since there are a large number of producers of trucking services and none of them is big enough to influence the price line. The trucking firms are, therefore, price takers in the classical sense – the demand curve that they face is practically horizontal. In fact, just as in the grain business which is the textbook case of perfect competition and where prices are determined by the big traders in grain, in trucking industry also the price line is determined by persons who are not the producers. As a matter of fact, it is the freight aggregators and their agents who influence prices the most because they alone have the financial resources and market information necessary to influence the price line.

This is not a happy situation as it comes in the way of orderly growth of the industry, especially because the profits accrue mostly to the aggregators and agents, leaving the operator hardly a margin of around 3 per cent over the rate at which he borrows funds to finance the truck. Typically, this works out to a net income of around Rs. 8,000-10,000 per month when the times are good. When times are bad, as, for example, during recession or in case the

truck meets with an accident, the incomes fall further, causing great hardship. The problem stems mainly from the fact that the industry today is essentially controlled by intermediaries as the truck owners themselves are too small as firms to acquire critical market information. To the extent the industry is characterised by heavily skewed information, there is a need to correct this situation.

Before proceeding with the financing issues in the trucking industry, it would be useful to discuss the size and scale issue related to the industry. Is scale really important? Should trucking firms be larger and should each firm own fleets, rather than just a few trucks? There is nothing in economic theory which suggests that large sizes and scales in the trucking industry are intrinsically better than small micro-firms. The key determinant of scale should be the amount of capital efficiently applied in order to produce a single unit of output. If the same output can be produced efficiently with less capital, there is no reason why more capital should be applied. This is particularly true of the trucking industry where, because of the presence of divisibilities, firm size and scale are largely irrelevant to efficient outcomes. A single-truck firm can ship goods at the same economic cost as a firm owning a large fleet. More trucks may increase a firm's ability to scale up, but it does nothing to improve unit efficiency. In fact, the opposite could happen because of financing and inventory problems. That is why more care needs to be taken while drawing a causal link between the difficulties in financing truckers and the size of the firm. These difficulties are reflective more of the poor understanding of the industry' s economics by public sector banks than of the presence of any deep and fundamental malaise.

It also needs to be appreciated that trucking is a service industry and in a service industry efficiency and size are not as closely related as they are in a manufacturing industry. In fact, often, in service industries, micro-sized firms, such as the ones obtaining in the trucking industry, lead to economically more efficient outcomes than in their larger counterparts. There is, therefore, the need to understand the true economic nature of a service industry before drawing the inference that larger firms will be automatically more beneficial for the industry.

TRUCKING FINANCE

World-wide, the extent of financing is a function of risk and in the trucking business, this has nothing to do with the firm size. Each truck is financed on its own expected revenue stream and not on the basis of the number of trucks owned by the firm. This was the case in India too until the early 1970s. However, in the spirit of the times, this was seen as a problem, and the government decided

to delink financing from risk. It did this by including trucking in the priority sector for lending by the newly nationalised banks. As a result, the flow of credit improved considerably to small road transport operators (SRTOs). Truck operators owning less than 10 trucks could obtain finance, generally for the purchase of chassis, at a reasonable rate of interest. Presently, the rates charged by the banks range from 14% to 15%. Banks have been asked to follow a flexible approach towards margin requirements. Generally, a margin of 20-25% is insisted upon by the banks. The loan is repaid over a period of three to five years in monthly/quarterly instalments.

Initially, the scheme worked well. But soon, it ran into a problem. The priority sector lending requires the firm size to be small and this has stood in the way of building up of larger fleets and realisation of economies of scale. Priority sector lending requires that the truck operator should not own more than ten trucks. This has militated against fleet formation. What started off as a means to help the industry has now become a major obstacle. Besides, banks have also been reluctant to provide working capital to truckers or to finance purchase of used vehicles. Indeed, even body-building is not financed which, in turn, has created its own problems, including the impossibility of imposing a formal standard on body-builders who are mostly small-to-medium fabricators.

ROLE OF NBFCs

Another problem arose from the growing reluctance of banks to finance trucks because of the delinking of the risk from the lending decision. This reluctance opened up an opportunity for the informal banking sector, namely, the non-banking finance companies (NBFCs). They also began to finance the purchase of trucks and, today, theirs is the dominant mode of finance, even though the interest charged by them is substantially higher. They give far better service, especially in regard to rolling over of loans which sometimes becomes unavoidable. To encourage bank lending to the trucking industry, the RBI has recently classified bank credit to NBFCs for on-lending to small transport operators as priority sector lending. This helps the banks in passing on their risk to NBFCs while getting a share of the business.

Since nationalised banks have proved unable to fully cater to the market needs, NBFCs have emerged as major financiers of trucks. The rate charged by the NBFCs ranges between 20% and 22% in the Northern Region and 28% in the North-Eastern states. The high rate of interest charged by NBFCs is to cover running cost, credit risk and profit. But in spite of the high lending rates charged by the NBFCs, studies conducted by TELCO for the Northern Region and by

the Industrial & Technical Consultancy Organisation of Tamil Nadu (ITCOT) for the Southern Region, coupled with the interviews held with the officials from the State Bank of India, TELCO, Ashok Leyland, Shriram Finance, reveal that non-banking financial sector has emerged as the dominant source of financing for the trucking industry. The share of different funding agencies in the Northern Region, based on a study by TELCO, is shown in the table below :

NBFCs	64%
Own Funds	8%
Banks	23%
Others	5%

ROLE OF BANKS

One important reason for the low percentage of banks' share is that the experience of banks with the truck operators has not been a happy one. Since the number of defaults has been increasing, bankers have become hesitant to lend to truckers. Also, banks lack clear operating guidelines and the complex procedures of processing a loan application cause considerable delays. This has given rise to the intermediaries 'assisting' truck operators to get bank finance thereby adding to the cost of borrowing by enhancing the transaction costs. Generally, the banks fund only the cost of chassis; the body-building cost and , which is around 40% of chassis cost, is required to be funded by the truck operator himself. This makes the operators prefer NBFC funding which covers both chassis and body-building cost and, in effect, means a single-stop shopping. Another inhibiting factor is that the bank funding schemes are inflexible in the sense that the maximum period of loan is fixed. There is no provision for changing the period of repayment of loan to meet the needs of the operator. The NBFCs, on the other hand, play it by ear as long as some payment keeps coming in to cover their cash-flow requirements.

It is also important to bear in mind that, at present, around 90% of the commercial vehicles sold are on the basis of hire-purchase/ lease-finance/ loans. So, interest payment becomes a critical component of the operating cost. It is essential, therefore, to devise ways and means of providing the truck operator with economical finance options to enable him to bear the fallout of lower freight earnings and increase in operational costs. A large section of borrowers/ operators resort to cutting corners in order to ensure a reasonable return as the financing cost goes up. In the past, bank funding as a percentage of total funding in commercial vehicle market, had not exceeded 25 to 30 per cent. Recoveries also did not match the expectations. In the circumstances, RBI's recent notification classifying bank credit to NBFCs against financing of trucks as priority sector lending is a welcome step. It will go a long way in making funds available to the transport sector at reasonable rates. Bank support to NBFCs will also provide substantial relief to the latter which have been facing a severe

funds crunch following restrictions on the mobilisation of public deposits. Besides, it will ensure availability of bank finance at reduced rates of interest which will ultimately be reflected in reduced operating cost of the truck operators and will enable banks to fulfil their targets under the scheme.

FINANCING USED VEHICLES

In any vehicle-based activity, used vehicles play a key role, especially in providing secondary/feeder services to the primary long-distance national permit operations. This, it should be recognised, is conceptually no different from the practice in other industries which use second-hand machinery. In the circumstances, efforts need to be made for encouraging financing of second-hand commercial vehicles. This will raise the demand for new vehicles by pushing the overall demand curve for all commercial vehicles upwards. In turn, this will have a beneficial effect on the economy. The general norm is that the first owner of the vehicle, on an average, uses the vehicle for 3 to 4 years. The second user purchases a second-hand vehicle which is used for secondary sector operations. Traditionally, commercial banks as well as NBFCs have been catering mainly to the new vehicle segment. The guidelines for priority sector lending issued by the RBI are silent on the provision of credit for used vehicles. In recent years, however, major NBFCs have started venturing into the used vehicle market. The rates charged by these NBFCs vary from 23% to 27%. Their inability to have a large presence in this sector is attributed to the non-availability of funds. Replacing an old vehicle by a new one by a small road transport operator may not be easy because of the large investment involved and the high interest cost. However, he can easily consider replacing the very old vehicle by a comparatively younger one, since, in that case, the investment involved would be moderate. If this is done, pollution level will decline and he would enjoy the benefits of better cash flow and better maintenance. The lender will also gain in terms of better debt recovery.

OVERALL FINANCING NEEDS

It is important to make an assessment of the overall financing needs of the trucking industry over the next decade. Broadly, it would seem that the industry will require around Rs 5,000 crore per annum. This is based on the assumption that about 2 lakh trucks which is about 10% of the total existing fleet would be traded. The Ninth Plan Working Group Report on Road Transport has provided forecasts of the demand for commercial vehicles till 2007; the projected numbers are given in Table 1.

BURDEN OF TAXES : NEED FOR REFORM

K. L. Thukral*

Motor vehicle taxation is widely used to control and regulate the motor vehicles as also to raise revenues for the government. The pattern of division of powers of motor vehicle taxation between the centre and the states is laid down in our Constitution. The major taxes which are levied on the road transport industry include (i) union custom duty, excise duty and central sales tax levied by the central government (ii) motor vehicle tax, passenger and goods tax, sales tax and entry tax levied by the state governments; and (iii) octroi and tolls levied by the local bodies.

The major problems in the area of taxation are the multiplicity of motor vehicle taxes, variations both in the basis and rates at which these are levied, high incidence of these taxes and the absence of guidelines for the tax authorities. An ideal tax system is one which is neutral, efficient in allocation of resources, administratively expedient and avoids cascading effect in the economy.

The article is divided into four parts. Part I introduces the subject; part II contains motor vehicle tax structure; part III deals with proposals for tax rationalisation; and part IV sums up the main conclusions. The article also identifies a number of areas which call for further in-depth study including the need for laying down principles of taxation for the guidance of the tax authorities.

INTRODUCTION

Taxation is a complex exercise because of the downstream effects it has on the behaviour of economic agents. The complexities increase manifold in a federal polity such as that of India where not only the powers of levying taxes but also the proceeds of taxation have to be shared between the centre and the states. The problem has become further accentuated as there has been no effort to harmonise the basis and the rates at which the different tax-entitled entities in the Indian federation should levy taxes on road transportation. Such harmonisation has, however, been achieved successfully in the European Union with the creation of the single market.

* *Economist; Former Director (Research), Ministry of Surface Transport, Government of India, New Delhi.*

In India, only the centre is empowered to legislate in respect of mechanically propelled vehicles. As regards their taxation, the Constitution of India lays down, in its Seventh Schedule, the pattern of division of powers of motor vehicle taxation between the centre and the states. The powers of the central government are enumerated in list I and those of the states in list II. List III is the concurrent list which gives powers of taxation to both the centre and the states and enjoins on the government to lay down the principles for levying taxes on motor vehicles. The major taxes levied on road transport sector are given below :

- Union custom duty, excise duty and central sales tax levied by the central government
- Motor vehicle tax, passengers and goods tax, sales tax and entry tax levied by the state governments; and
- Octroi and tolls levied by the local bodies

All these taxes can be studied with reference to three different aspects – those relating to purchase of vehicles, ownership of vehicles and operation of vehicles.

Taxes on Purchase of Vehicles

These taxes are levied on the acquisition of vehicles and include union excise duties and different types of sales tax. The union excise duty is levied by the central government on manufacture of motor vehicles. Its rate varies according to the type of the vehicle; presently, the rate is 16% on commercial vehicles.

Central government levies a central sales tax (CST) on the inter-state transactions vehicles. Under this category, 4% tax is levied if the vehicle is sent by the manufacturer/dealer from one state to another.

State governments levy a tax on the sale of vehicles. Till recently, the rate of such sales tax varied from one state to another. At the initiative of the centre, the states have since agreed to levy uniform sales tax. Some of the states also levy an entry tax to compensate for the difference between the sales tax obtaining in the state and that prevailing in the state where the vehicle is registered and from where it is brought to the state concerned within a specified period.

Taxes on Ownership of Vehicles

These taxes include recurring charges on vehicles during the period of ownership and are usually in the form of an annual MV tax levied by the states under their respective MV Taxation Acts. In respect of cars and other personalised vehicles, this is charged as one-time tax. The tax rates vary according to the type of vehicle or laden weight or price of vehicles.

The passenger tax and goods tax are levied respectively on passengers and goods carried by road. Some of the states levy both these taxes while others merge the two and levy one single tax. Some of the states levy, in addition, a surcharge on this tax. The rates of the tax vary from state to state.

Tax on Operation of Vehicles

Taxes on the use of vehicles include union excise duty on motor spirit and HSD levied by the central government. Presently, the union excise duty on motor spirit is levied at the rate of 24%; the corresponding rate for HSD is 16% . In addition, a cess of Re 1 per litre on motor spirit and diesel is levied to raise funds for road construction. Sales tax on fuel (motor spirit) and lubricants is levied by the states. VAT or sales tax is also levied on spares or on general maintenance and running cost. Motorway charges or other road user tolls are also levied by the states.

Octroi is yet another tax that affects the road transport sector; it is generally based on quantity or weight (specific tax) or sometimes the value of the commodity (ad valorem tax) entering a local area. It is assessed and collected at the point of entry by stopping the vehicle. However, the tax being mostly specific, there are many rate categories. The point of assessment and collection being the entry point of a local area, it causes arbitrariness in assessment and delays in transportation. It also encourages corruption.

MOTOR VEHICLE TAX STRUCTURE

Taxes on motor vehicles are widely used to regulate and control the vehicles and to raise resources. The present tax structure related to commercial vehicles shows wide variations among the states.There are several bases for computation and different rates leading to differing incidence of taxes per vehicle in different states. Inter-state comparison of rates levied on various types of vehicles has become difficult since (i) there are different schemes for classification of vehicles; (ii) there is no uniformity in the basis of various

levies; (iii) there is an involved procedure for collection of taxes; (iv) there is a multiplicity of taxes– besides MV tax, there is passenger and goods tax, union excise duty, sales tax on vehicles and on components, taxes on fuel, octroi and fees of different types; and (v) for non-transport vehicles, there is a one-time levy in some states and, in others, there is an annual/quarterly tax.

Basis of MV Tax

In the case of passenger transport vehicles, the seating capacity forms the basis of levying tax. The basis has been extended to cover authorised standees as well. Some states, for example, Madhya Pradesh, Orissa and Rajasthan also include the distance which the vehicle is permitted to ply as an additional element for determining the quantum of tax. There is another system also – routes are divided into 3 categories, A,B & C; with a different rate of tax for each of them. This system is prevalent in Uttar Pradesh. The period of payment also varies : some states charge the tax quarterly while others charge it annually.

The tax on goods transport vehicles is primarily based on weight, registered laden weight (RLW) or unladen weight (ULW). Besides the difference in tax base, there are state-wise variations in the rates of MV tax as can be observed from Table 1. This has resulted in wide disparities in the incidence of MV tax per vehicle per annum, the highest being in Haryana (Rs. 48105). In the adjacent state of Punjab, it is Rs. 26383, Rajasthan Rs. 19186 and Madhya Pradesh Rs. 47091. In southern states, Tamil Nadu has a high of Rs. 32215 while in Kerala it is Rs. 29399. (see Table 2)

Entry Tax

In addition to motor vehicle tax, passenger and goods tax, the states also levy entry tax. It is usually levied on commodities brought into the state. However, some states also levy entry tax on motor vehicles entering the state. It is levied in Andhra Pradesh, Delhi, Karnataka, Madhya Pradesh and West Bengal. At present, the entry tax on motor vehicles ranges from 3% for trucks, bus chassis, jeeps and tractors to 14.5% for motorcycles, scooters and motor cars. Delhi also levies entry tax but its scope is limited to motor vehicles.

Passenger Tax

Passenger tax is levied by some states. While it is levied in the states of Assam, Bihar, Gujarat, Haryana, Maharashtra, Uttar Pradesh, it is not levied by Andhra Pradesh, Karnataka, Kerala, Nagaland and West Bengal. In some states,

Table 1 : Motor Vehicle Tax as on 31.03.97

State	Stage Carriage		Goods Vehicles	
Andhra Pradesh	Distance upto 100km	Rs.191 PS PQ	Trucks upto 15,000kg	Rs.2174 PQ
	101km - 160km	Rs.267 PS PQ		
	161km - 240km	Rs.342 PS PQ		
	241km - 320km	Rs.401 PS PQ		
	>320km	Rs.438 PS PQ		
Assam	Passenger Bus other than mini bus	Rs.100 PS PY	Upto 1000kg	Rs.840 PY
			Every Addl 500kg or part thereof	Rs.210 PY
Bihar	33 pass.	Rs.3485 PY	RLW Above 4001-8000kg	Rs.838.5-1662.5
	Every Addl pass.	Rs. 53 PY	8000kg	Rs.1662.5 plus
			Addl. 250 kgs or part thereof	Rs.136.5
Gujarat	Upto 20 pass.	Rs.540 PY	RLW 4501 - 6000kg	Rs.2490 PY
	Every Addl. pass.	Rs. 20 PY	6001 - 7500kg	Rs.3070 PY
			7500kg	Rs.3070 PY
			Every Addl. 250kg or part thereof	Rs.165 PY
Haryana		Rs.150 PS	ULW 1001kg to 4000kg	Rs.660-Rs.1200 PY
		Max tax is 35000PY	Above 4000kg	Rs.1500 PY
Himachal Pradesh		Rs.500 PS PY	ULW 601kg - 4000kg	Rs.444-1368PY
		Max. Rs.25000	4001kg and above	Rs.2000 PY
Karnataka	Above 12 Pass.	Rs.425 PS PQ	LW 3001 - 5500kg	Rs.3200 PY
			5501 - 15000kg	Rs.4800-7200
			Every Addl. 250 kg or part thereof	Rs. 75
Madhya Pradesh	Distance upo 80km	Rs.1380 PS PY	RW 4001 - 5000kg	Rs.3388 PY
	Addl. 10km or part thereof	Rs.120 PS PY	5001 - 17000kg	Rs.4048-Rs.11000 PY
			Addl. 1000kg or part thereof	Rs.660
Maharashtra		Rs.71 PY per permitted pass.	RLW 3001 - 4500kg	Rs.2190 PY
			4500 - 16500kg	Rs.3080 - Rs.9360
			Every Addl. 500kg or part thereof	Rs.410 PY
Orissa	Distance Upto 160km	Rs.143 PS PY	LW 2001kg - 5000kg	Rs.2038 PY
	161km - 240km	Rs.163 PS PY	5001kg - 10000kg	Rs.3144 PY
	241km - 320km	Rs.204 PS PY	10001 - 13000	Rs.4469 PY
	Above 320km	Rs.245 PS PY	13001 - 16200	Rs.6500 PY
	Addl.for every standee	Rs.152 PS PY	Addl.500kg or part thereof	Rs.213 PY
Punjab	Upto 52 seater	Rs.26000 PY	ULW upto 2000kg	Rs.660 PY
			2000 - 3000 kg	Rs.840 PY
			3001 and above	Rs.1210 PY
Rajasthan	More than 45 seats	As per cost of chassis	As per cost of vehicle Rs.1.75 lakh - 4 lakh	0.75%
	upto 80km	0.6%	>4 lakh	3.5%
	81-160km	1%		
	161-240km	1.6%		
	241 & above	2.0%		
Tamil Nadu		Rs.275 PS PQ	LW 3001 - 5500kg	Rs.885 PQ
			5501 - 9000kg	Rs.1355 PQ
			9001 - 12000kg	Rs.1775 PQ
			13001 - 15000kg	Rs.2300 PQ
			Every Addl. 250kg or part thereof	Rs.50 PQ
Uttar Pradesh		NA	ULW 3001 - 4000kg	Rs.1034 PY
			4001 - 5000kg	Rs.1210 PY
			Every Addl. 1000kg or part thereof	Rs.484 PY
West Bengal	33 seats	Rs.2475 PS PY	GVW 2000 - 4000Kg	Rs.625 PY
	Every Addl. seat	Rs.40 PY	4001 - 16250kg	Rs.1365-6500 PY
			Every Addl.250kg or part thereof	Rs.250 PY

PS : Per Seat, PQ: Per Quarter, PY: Per Year, Pass:Passenger, LW: Laden Weight, ULW: Unladen Weight

such as Madhya Pradesh, Orissa, Punjab and Rajasthan, it is merged with the MV tax. It is generally related to bus fare. There are state-wise variations in its rates as well as in the manner of its levy. For example, in Maharashtra and Gujarat, it is levied at the rate of 17.5% on basic fare. While in Uttar Pradesh it is 16% on basic fare with a surcharge of 23.72%, in Himachal Pradesh it is 40% on basic fare with a surcharge of 20%.

Table 2 : Annual Tax Burden on Commercial Vehicles in 1996-97

State	No. of Vehicles (Bus+Trucks)	Total Tax on Vehicles (MVT +PGT) (Rs.Crore)	Average Tax Paid (Rs.)
Andhra Pradesh	1,46,851	555.34	37,816
Arunachal Pradesh	2,988	1.09	3,648
Assam	70,679	72.52	10,260
Bihar	1,08,214	189.77	17,536
Goa	22,855	19.79	8,647
Gujarat	2,23,813	430.13	19,218
Haryana	66,776	321.23	48,105
Himachal Pradesh	23,869	79.73	33,403
Jammu & Kashmir	34,706	75.60	21,783
Karnataka	1,28,724	525.19	40,800
Kerala	84,217	247.59	29,399
Madhya Pradesh	1,34,916	635.33	47,091
Maharashtra	2,20,054	814.61	37,018
Manipur	6,484	1.72	2,653
Meghalaya	12,525	8.66	6,914
Mizoram	2,752	1.23	4,469
Nagaland	28,168	2.65	914
Orissa	62,609	128.26	20,486
Punjab	73,999	195.23	26,383
Rajasthan	1,44,342	276.94	19,186
Sikkim	1,185	1.22	10,295
Tamil Nadu	1,90,183	612.68	32,215
Tripura	6,141	1.40	2,280
Uttar Pradesh	1,23,617	360.97	29,201
West Bengal	1,90,776	134.33	7,041
Delhi	1,70,494	86.87	5,095
All States	22,93,364	5779.96	25,206

Source : 1. RBI Bulletin, 1996, 1997, 1998.
2. Motor Transport Statistics (1997).

Goods Tax

The goods tax is payable on goods carried by a truck. In its simplest form, the tax is levied on per kilometre basis. As a result, detailed information is generally required by the tax authorities on distances travelled and loads carried. This has led to serious administrative problems. To simplify the administration of the tax, some states have started levying the tax on an annual basis by relating it to the load-carrying capacity of the vehicle. Since the tax has to be paid separately in each state and for each trip (the collection being made at the border checkposts), it has become a major problem for the truckers.

Features of the Existing Tax System

The important features of our existing tax system are discussed in the following paragraphs:

Fiscal Importance and Buoyancy

The yield from the various taxes levied on road transport vehicles taken together as well as individually has increased considerably over the years as shown in Tables 3(a) and 3(b).

Table 3(a) : Revenue from Road Transport 1950-51 to 1996-97

(Rs. crores)

Year (Ending 31st March)	Central								Total
	Motor Vehicle & Accessories		Tyres & Tubes	High Speed Diesel Oil			Motor Spirit		
	Import Duty	Excise Durty	Import Duty	Excise Duty	Import Duty (A)	Excise Duty (A)	Import Duty	Excise Duty	
1950-51	9.4	-	0.1	4.0	19.4	1.9	(c)	-	34.8
1955-56	10.2	-	0.1	5.6	7.1	22.6	(c)	-	45.6
1960-61	14.8	10.5	0.9	13.4	7.5	64.6	(c)	-	111.7
1965-66	26.9	20.8	0.2	28.8	29.4	166.2	(c)	-	272.3
1970-71	14.3	28.0	1.0	54.9	4.3	349.3	(c)	-	451.8
1975-76	54.8	82.3	1.4	134.5	21.7	243.6	8.2	-	546.5
1980-81	52.7	250.4	1.6	288.3	106.7	223.2	8.0	-	930.9
1985-86	198.4	482.3	-	492.9	32.7	454.7	5.7	794.0	2460.7
1990-91	351.8	1510.9	-	803.4	-	727.6	-	1202.3	4596
1991-92	293.7	1803.7	-	810.7	-	743.0	-	1245.1	4896.2
1992-93	300.1	1591.5	-	836.6	-	776.9	-	1287.2	4792.3
1993-94	459.5	1423.1	-	1280.1	-	856.0	-	1358.5	5377.2
1994-95	706.3	1846.9	-	1553.4	-	1288.0	-	1523.6	6918.2
1995-96	1122.9	2446.1	-	1597.0	-	1235.2	-	1631.5	8032.7
1996-97	1463.1	3201.2	-	1754.8	-	2084.7	-	2116.8	10620.6

Table 3(b) : Revenue from Road Transport 1950-51 to 1996-97

(Rs.crore)

Year (Upto 31st March)	State			Total	Grand Total (Central & State) Revenue
	Motor Vehicle Taxes & Fees	Sales Tax on Motor Spirit & Lubricants (B)	Taxes on Passenger and Good Traffic		
1950-51	-	12.5	0.1	12.6	47.4
1955-56	13.9	8.9	3	25.8	71.4
1960-61	29.9	16.9	8.4	55.2	166.9
1965-66	61.8	31.5	33.4	126.7	399
1970-71	107.7	63.2	60.5	231.4	683.2
1975-76	209.7	92	160.5	462.2	1412.7
1980-81	356.3	154.5	239.6	750.4	2173.4
1985-86	835.5	322	395.7	1553.2	4013.9
1990-91	1374.3	631.5	884.9	3035.2	7631.2
1991-92	1849.5	1223.4	1128.8	4201.7	9097.9
1992-93	2162.9	1338.3	1262.6	4763.8	9556.1
1993-94	1526.7	1558.6	908	3993.3	9370.5
1994-95	1988.8	1474.5	961.4	4424.7	11342.9
1995-96	2554.5	1743.3	1536.2	5834	13866.7
1996-97	4117.34	1897.4	1662.62	7677.36	18297.96

Note : (a) Includes the figures for R.D. Oil and Diesel Oil (a) Excludes Union Territories (c) Includes in High Speed Diesel Oil.
Source : 1 Figures of Central Revenue are taken from Directorate of Statistics and Intelligence (Central Excise and Customs).
2 Figures on sales tax on Motor Spirit are taken from RBI Bulletin.

Revenues from MV tax increased from Rs. 107.7 crore in 1970-71 to Rs.356.3 crore in 1980-81 and further to Rs. 4117.34 crore in 1996-97. The growth of revenue from passenger and goods tax shows that the yield went up from Rs. 60.5 crore in 1970-71 to Rs. 239.6 crore in 1980-81 and to Rs. 1662.62 crore in 1996-97. The annual growth rate of this tax is quite high in most of the states; it ranges from 14% to 22%.

The fiscal significance of the above two taxes viz. motor vehicle tax and passenger and goods tax is presented in Table 4. It would be observed that the

Table 4 : State-wise Revenue Significance of Tax on Vehicles 1997-98 (RE)

(Rs. Crore)

State	Tax on Vehicles		Total Tax on Vehicles	Own Tax Revenue	Share of Total MVT in Own Tax Rev. (%)
	MVT	PGT			
Andhra Pradesh	618.20	40.01	658.21	7345.95	8.96
Arunachal Pradesh	1.17	-	1.17	9.21	12.70
Assam	68.04	16.81	84.85	965.03	8.79
Bihar	193.90	70.24	264.14	3103.79	8.51
Goa	28.00	5.40	33.40	347.11	9.62
Gujarat	393.00	62.00	465.00	6804.57	6.83
Haryana	72.00	298.80	370.80	2413.42	15.36
Himachal Pradesh	22.39	78.00	100.39	436.52	23.00
Jammu & Kashmir	13.50	81.12	94.62	367.41	25.75
Karnataka	460.00	213.00	673.00	6709.50	10.03
Kerala	363.00	0.03	363.03	4821.28	15.29
Madhya Pradesh	405.00	332.00	737.00	4641.00	15.88
Maharashtra	700.00	360.00	1060.00	14078.77	7.52
Manipur	1.70	0.47	2.17	38.84	5.59
Meghalaya	3.90	1.55	5.45	83.45	6.53
Mizoram	1.56	0.38	1.94	7.34	26.43
Nagaland	2.90	-	2.90	33.50	47.76
Orissa	160.00	-	160.00	1615.42	9.90
Punjab	227.15	-	227.15	3147.73	7.22
Rajasthan	345.00	-	345.00	3768.78	9.15
Sikkim	1.00	-	1.00	26.01	3.84
Tamil Nadu	460.00	223.00	683.00	8999.50	7.59
Tripura	1.83	-	1.83	71.65	2.55
Uttar Pradesh	157.00	292.13	449.13	7021.05	6.40
West Bengal	145.00	0.05	145.05	5052.95	2.87
Delhi	100.00	-	100.00	3049.10	3.28
All States	4945.24	2074.99	7020.23	84958.88	8.26

Source : RBI Bulletin, 1996, 1997, 1998

share of these taxes in the states' own tax revenue varied across states. During 1997-98, the lowest share (2.55%) was observed in the state of Tripura. In the case of Mizoram, the contribution of these taxes was 26.43%, the highest among the states. In most of the states, their proportion in the own tax revenue was less than 10%. It was, however, more than 10% in Arunachal Pradesh (12.70%),

TECHNOLOGY CHANGE : SLOW AND UNSTEADY

Contribution by AITD

The Indian trucking industry is characterised by very low levels of technology. This is in spite of the fact that both truck manufacturers and trucking firms are in the private sector. This suggests that the main reason for the low level of technology is market failure – the market is not transmitting the signals required for technology upgradation.

The duopoly on the supply side and the peculiarities of the cost structure on the demand side seem responsible for this. Unless these distortions are rectified, it may not be possible to speedily raise the level of technology in this industry.

Overall, it will be necessary for policy-makers to forge a stronger link between profitability and technology because at present this link is quite weak. The thrust of the policy should be to alter the structure of costs so that fixed costs play a less important role in determining the profitability of trucking operations. This can be done by making available finance more liberally.

INTRODUCTION

Few people who have driven on Indian highways could have missed noticing the low levels at which the technology is embedded in Indian trucks. Nor would their visual impressions be mistaken. The fact is that Indian trucks use the technology of the late 1940s and, in some cases, that of the early 1950s. Whereas the rest of the world has moved ahead, the Indian trucking industry has lagged behind. Due to poor vehicle design and use of poor quality material and spurious parts in body construction, there are a large number of fatal accidents. The body building industry is totally unorganised and does not come under any regulatory control. There is no uniformity in design features which vary from state to state. The driver's cabin and seats have cramped designs which do not provide safety and comfort to the driver. The cabin and the load body are not on separate platforms, and in most of the cases they have a common wall. The engine is placed inside the cabin resulting in extreme heat, vibration, noise, poor comfort and poor protection to the driver. Worst of all, about 95% of the trucks in India are two-axle rigid trucks where overloading is a common phenomenon.

REASONS FOR LACK OF TECHNOLOGY UPGRADATION

The purpose of this paper is to ask why this has happened, and to determine whether the problem has been on the demand side or supply side or both. In particular, the paper will ask how this has happened in spite of the fact that both the truckers and the truck manufacturers are in the private sector and, as such, ought to have shown a greater sensitivity to the technological aspects of the industry. In section two, this paper also stresses the need for technology upgradation through the introduction of power steering, synchromesh gears with power-assisted clutches, a higher power-to-weight ratio for engines, air suspension/intelligent suspension systems, electronic engine management systems, radial tyres, retarders, antilock braking systems, use of compressed natural gas vehicles and the promotion of multi-axle vehicles.

As stated above, the trucking industry is predominantly in the private sector. Indeed, on the supply side, that is, truck manufacturing, there are no public sector firms. In the public sector, the government owns only those trucks which are used by the armed forces. The rest, an overwhelming 99 per cent, is in private hands. Under these circumstances, it would have been reasonable to expect constant upgradation of trucking technology, as firms fought for market share and truckers demanded higher capacities and handling capabilities. This has, however, not happened and the reason for this has to be sought in the economics of the business.

As far as the supply side is concerned, it may be pointed out that the initial 40-odd years of industrial licensing played a major role in this area. Licensing created an insurmountable entry barrier, thus creating a virtual monopoly for the incumbent firm. It had no incentive to innovate, except by way of tinkering with axle-loads. Even when another manufacturer was given licence in the 1980s, there was only marginal improvement in design. Thanks to the size of the country, the two producers quickly – if informally – divided among them the country into two zones. As such, there has hardly been any change in the situation.

The more interesting story, however, is on the demand side: why have the truckers not demanded better trucks? The answer perhaps lies in the nature of the cost curves which face the truckers. These are too flat, that is, they do not rise sharply when the number of trips increases.

Total cost can be broken down into fixed costs and variable costs. Fixed costs are unaffected by any production decisions, while variable costs are incurred

on items like production labour or materials which increase as production levels rise. Marginal cost is the extra total cost resulting from one extra unit of output. Average total cost is the sum of ever-declining average fixed cost and average variable cost.

Trends of cost and of productivity are like mirror images. When the law of diminishing returns ultimately operates, the marginal productivity falls and the marginal cost curve rises. When there is an initial stage of increasing returns, marginal cost initially falls. If all factors of production could be bought at unchanged prices and output were to show constant returns to scale, long-run marginal costs would be horizontal forever. In the long run, when all fixed commitments expire and a firm is free to plan to operate any number of plants, the long-run cost curve must be the lower envelope frontier of best choice of plant for each level of output. If potential plant sizes are smoothly continuous, this frontier will be a smooth envelope, containing at any point a tangential short-run curve.

We can apply cost and production concepts to understand a firm's choice of the best combination of factors of production. Firms that desire to maximise profits will want to minimise the cost of producing a given level of output. In this case, the firm will follow the least-cost rule: different factors will be chosen so that the marginal product per rupee of input is equalised for all inputs. This rule has the important corollary that when the price of an input falls (or rises) relative to other inputs, the employment of that factor will rise (or fall) relative to other factors of production.

With this background in mind, it is now possible to examine the trucking industry. Total cost can be broken up into two parts, fixed and variable. Fixed cost for the Indian trucking firms is mainly the loan repayment instalment. The rest, by and large, is the variable cost, and consists of items like fuel, wages, maintenance and, of course, bribes to highway officials.

Total costs rise sharply with increases in output. In contrast, for Indian trucking firms, the rise is far more gradual, largely because both fuel costs and wage costs are stable. An extra trip, therefore, does not raise costs substantially and given the standard per kilometre markup pricing over cost, the rate of return remains largely unaffected. This means that there is no real pressure on the Indian trucking firms to look for technological solutions for increasing profitability. Indeed, for a typical firm, since new trucking technology would increase the cost of acquisition and, therefore, the loan amount and, consequently, the monthly instalment, it is the fixed element in the total cost that would

increase. This is in sharp contrast to other businesses where increases in variable costs tend to be sharper than in fixed costs. The result is that the typical Indian trucking firm prefers to stick to the existing technology, regardless of the effect this has on the drivers, about whom no one cares anyway, and the roads, which in any case are public property.

The foregoing discussion suggests that if there is to be meaningful technology upgradation in the trucking industry, two pre-conditions will have to be met. First, the existing duopoly/oligopoly will have to give way to a more competitive industry in which there are at least half a dozen producers of trucks. Second, on the demand side, the cost structure of the industry will have to change in such a way that trucking firms begin to look for technological solutions for raising profitability. Of course, the significance of the role of the state in laying down proper standards also cannot be overemphasised.

TECHNOLOGICAL IMPROVEMENTS NEEDED

This section discusses in some detail the kind of technological changes that are required in the trucking industry. It is intended to serve as a preliminary guide to the laying down of appropriate industrial standards for the industry.

Power Steering

To reduce accidents and improve road safety, it is essential that operational fatigue for the driver is reduced to the minimum. Existing practice of providing manual steering results in tremendous fatigue due to long driving and frequent turnings encountered in hill, metro or town operations. The fatigue, in turn, affects the response time of the driver. Power-assisted steering which has become the order of the day in commercial vehicles all over the world, results in better manoeuvrability, reduced response time and negligent fatigue. Power steering should, therefore, be made mandatory in all commercial vehicles above 16.2 tons GVW.

Synchromesh Gears with Power-assisted Clutch

Synchromesh gear boxes have replaced the constant mesh gears and have become a standard fitment in commercial vehicles. It is understood that in a single shift operation the driver has to make as many as 600 to 900 gear shifts and the same number of clutch operations. As such, the life of the clutch and transmission system is very important in trucking industry. It is, therefore, necessary to move towards automatic transmission by introducing synchromesh gears with power-assisted clutch.

REGULATORY REGIME : NEGATIVE EXTERNALITIES

B. N. Puri*

Usually, it is possible to strike a balance between the demand and the supply side of any activity. But in the case of trucking, the fiduciary nature of the activity, inasmuch as the buyer of trucking services entrusts his property to the seller, has to be kept in mind. This suggests an important approach to regulating trucking, namely, that the thrust of regulation has to be on the seller of trucking services.

The provisions of the Motor Vehicles Act, the legislation by which trucking is regulated, are fairly comprehensive, barring certain areas. However, it suffers from two problems : one, it has failed to keep pace, as far as its details are concerned, with the changes in economic and technological parameters; and two, its overall design makes enforcement difficult owing to internal contradictions. These contradictions relate both to the clauses within the act as well as to the other transport related legislation.

Regulation can be effective only if the regulator makes a clear distinction between bilateral contracts between buyers and sellers, on the one hand, and the larger unwritten contract between the service providers and the public interest, on the other. It is then necessary to make rules that are compatible with both these objectives. Bilateral contracts are easier to devise and enforce than the implicit contracts involving the public interest..

The inability of poorly capitalised firms to gather information about consignments has resulted in the growing domination of brokers who need to be brought under the purview of regulation keeping in mind the fact that while trucking firms will have to pay for information about consignments, this asymmetry must not be allowed to become the fulcrum around which the industry revolves.

The regulation of trucking also needs to be reoriented in the new perspective of globalisation and liberalisation, keeping in view the fact that the maximisation of private utilities may not lead to socially optimal outcomes. In a liberalised environment, freight rate regulation is passé. Entry regulation is a knotty problem,

* *Adviser, Transport, Planning Commission, Government of India, New Delhi. The views expressed by him are in his personal capacity.*

especially in India where it involves determining important economic trade-offs and severe negative externalities. Achieving the right balance has to be an important goal of regulation in trucking.

INTRODUCTION

In varying degrees, all countries have sought to regulate the trucking industry. In Great Britain, the Road and Rail Traffic Act of 1933 stipulated certain controls over entry into the trucking industry. Imposition of these controls was a direct result of the Depression and the increased competition with railroads, which found it increasingly difficult to compete with the new mode. Germany established comprehensive rate controls over its motor carrier industry in 1931 that tied truck rates to rail rates. The main objective was the protection of rail traffic. In most countries, the road haulage industry was taking the most profitable traffic, leaving the railroads with uneconomic goods, much of which the government required the railroads to carry at a loss. Also, bus transport was eating into the lucrative rail passenger market. New Zealand, which deregulated its road freight transport industry in 1983 had introduced controls over road haulage in 1936 primarily to protect the government-owned railways' revenue and to establish price stability in the freight transport industry. Prior to the 1983 Act deregulating the industry, trucking firms were subject to price controls, route restrictions and distance limitations.

The Indian experience has not been any different. However, times have changed. There is the realization that it may not be always possible or desirable to regulate the trucking industry with the sole objective of protecting the railways. Also, new issues have emerged which require attention. These include technology, environment, safety. A deeper examination reveals that, in the final analysis, all regulators have to answer the following questions :

- On whose behalf and for whose benefit are we regulating?
- Having determined the above, what guiding principles should be adopted?
- How do we reconcile the needs of bilateral contracts with the exigencies of non-bilateral obligations i.e., the public interest, on the one hand, and the players in the market, on the other?

In the case of trucking, if we divide the activity into its demand and supply sides, Question 1 above seeks to determine whether regulation is to be on behalf of the buyers of the trucking services or the sellers of these services. Usually, it

is possible to strike a balance between the two. But in the case of trucking, there is a particular feature which has to be kept in mind. This is the fiduciary nature of the activity, inasmuch as the buyer of trucking services entrusts his property to the seller who then assumes a fiduciary role because he has to safeguard someone else's property while it is in his custody. This is because once the consignment is loaded, the buyer loses all control over it and it becomes the seller's responsibility. It is not often recognised that regulators have to act to promote this fiduciary role and protect the buyers' interests. This suggests an important approach to regulating trucking, namely, that the thrust of regulation has to be on the supply side, that is, on the seller of trucking services. The buyer, by and large, is not a subject of the regulatory regime except insofar as he has to ensure that he is not clandestinely shipping hazardous substances.

In view of the fact that the fiduciary role requires the seller to take care of the safe delivery of someone else's property, the regulatory emphasis has to be on the following :

- Capital adequacy;
- Professionalism, e.g. training, etc.; and
- Standards, both industrial and for levels of service.

These three requirements virtually cover the whole gamut of regulatory objectives and, in fact, this appears to be what the Motor Vehicle Act seeks to achieve. If it fails, it is more on account of poor enforcement than due to any inherent shortcomings of the Act.

INCOMPLETE LEGISLATION OR POOR ENFORCEMENT?

This becomes obvious when we look at the preamble to the Act, which states the objects and reasons for it. The increase in the number of vehicles, the need for encouraging the adoption of superior technology, the avoidance of supply patterns which create islands of isolation, the concern for road safety standards, the use of non-polluting fuels, the enforcement of industrial standards and many more such objectives are a part of the statement of objectives and reasons. As such, the regulatory ambit is quite comprehensive.

The question which needs to be asked, therefore, is why regulation in this area has been so lackadaisical and, further, if it is indeed because of poor enforcement of the Act, is there something in the Act itself which makes enforcement difficult. In other words, could it be that there is an element of

incompatibility between the different sections of the Act itself on the one hand, and the Act and government policy which governs the road transport sector, on the other? Often, government departments tend to act solo and even if this is done for good reasons, the impact at the ground level can lead to perverse and unintended outcomes.

There is need for examining the above-mentioned three basic concerns of regulators for the supply side – capital adequacy of the trucking firms; standards and their enforcement; and professionalism of service providers. Each has its own consequences and if the provisions of the Act are not properly synchronized with each other or with the rest of the transport-related policy, enforcement problems can, and do, arise.

CAPITAL ADEQUACY

The issue of capital adequacy becomes relevant in two ways. One is where entry norms are concerned and the other is in the context of operational capabilities. A certain minimum amount of capital is necessary for any business and trucking is no different. Yet, it is commonplace that persons with just about Rs.3 lakhs, which is what a 20 year old truck costs, can enter the business at the lower end. The mere ability to acquire a cheap second-hand asset is enough to become a trucking firm and, as the second-hand market has grown over the years, the number of micro-firms with gross capital inadequacy and having just one truck has grown. A recent study by the Asian Institute of Transport Development (AITD) shows that nearly half the trucks are owned by firms which have just one truck.

Why has this happened? The answer lies in a set of policy decisions taken elsewhere in the government. These have sought to leverage the small-business-cum-employment-multiplier aspect of trucking which is indeed beneficial; what is disturbing, however, is that in the absence of capital adequacy norms even for single truck firms, enforcement has become virtually impossible. Clearly, there is a need to calibrate these differing strands of government policy more closely.

Perhaps the best instance of this lack of calibration, to which regulation must pay special attention, can be found in the manner in which trucks are financed. Financing of trucks was a major problem until the early 1970s. But the flow of credit improved considerably after small road transport operators (SRTOs) were made eligible for funding under the priority sector lending schemes of the commercial banks and public financial institutions. Under this scheme, truck operators owning less than 10 trucks can obtain finance, generally for

purchase of chassis, at a reasonable rate of interest, usually around 12 per cent per annum. To encourage bank lending to the trucking industry, the RBI has recently classified bank credit to NBFCs for on-lending to small transport operators as priority sector lending. In spite of a 10-truck stipulation, micro-firms have emerged exacerbating the difficulties of enforcement. This aspect needs urgent review.

FINANCING

The small asset base, which also meets a small revenue stream, has also led to the reluctance of banks to provide working capital or to finance used vehicles. Indeed, even body-building is not financed and this has its own consequences on the enforcement of standards.

Taken together, this mushrooming of micro-firms with small assets bases has resulted in a peculiar industry structure. Information about consignments is critical to the trucking business and it is here that the large number of poorly capitalised firms has created a problem. Their inability to gather information about consignments has resulted in the growing domination of brokers. While there is nothing intrinsically wrong with brokers, who earn commissions for gathering and disseminating information which is in itself an important economic function, in the trucking industry it has led to a disproportionate rewards being wrested by brokers at the expense of the operators. That is, the brokers cream the profits while the returns to the trucking firms remain low, sometimes as low as 3 per cent.

INTERMEDIARIES

As mentioned earlier, there are a large number of producers of trucking services and none of them is big enough to influence the price line. The trucking firms are, therefore, price-takers in the classical sense. Just as in the grain business, which is a text-book case of perfect competition and where prices are determined by the big traders in grain, in trucking also the price line is determined by persons who are not producers. This is because they alone have the market information necessary to influence the price line. To the extent the industry is characterized by heavily skewed information, there is need to correct this distortion.

Regulation needs to address this aspect as well, keeping in view the fact that while trucking firms will have to pay some price for information about consignments, this asymmetry must not be allowed to become the fulcrum around

which the industry revolves. The answer may lie in the establishment of information exchanges. Initially, this will have to be done by the government as it will result in the removal of the premium on scarce information but, later on, the function can be privatised. Indeed, it is amazing that in spite of the huge business opportunity here for dot com firms, no existing freight aggregator has spotted it.

Furthermore, because the industry is characterized with this twin-skews – large number of micro-firms on the one hand and domination by brokers on the other – the contractual element of the industry takes on another dimension. This is that while there is a bilateral agreement between the buyer and the seller and an implicit one with the seller and the public interest, there also needs to be one between the seller and the broker. At present, it is an informal arrangement which is highly iniquitous as a direct consequence of the brokers' access to information. The power the intermediaries exert over the industry is not, however, matched by the capital employed by them. This suggests that there is an imbalance here in the way the revenue is being shared by the various players in the industry. Clearly, there is a need to bring the intermediaries under the purview of regulation.

There are standard methods for doing this and one could be the use of Section 93 of the Motor Vehicles Act which provides for licensing, inter alia, of agents or canvassers engaged in the business of collecting, forwarding or distributing goods by trucks. At present, it is not clear whether this section covers brokers/booking agents as well. A clarification, and, if necessary an amendment, would be of great assistance, especially since there has lately been mushrooming of unscrupulous brokers/booking agents who need to be brought under the purview of this section.

TAXATION

Another irritant, which is also a consequence of inadequate calibration can be found in the way the business is taxed. The trucking industry has always attracted the attention of the taxman in his various guises, be it the infamous octroi or its successor, the entry tax. However, since the focus of those who design taxation regimes is on revenue and not on either the efficiency or the inter se resource allocation within an industry, several problems have crept in. One of the issue, however, is the multiplicity of taxes. There are as many as three levels of taxes levied on road transport :

- Customs, excise duty and central sales tax (CST), which are levied by the central government;

- The motor vehicle tax, passenger and goods tax, sales tax, and entry tax, which are levied by the state governments; and,
- Octroi and tolls which are levied by the local bodies.

Some of the other problems are : variations in the basis and level of taxation among states, rates of taxes in relation to size of trucks, taxation of trucking industry and the social costs caused by it, etc.

These taxes are not coordinated in any manner. The result is a series of distortions which can be removed only by a unified and integrated tax structure, at least at the level of the central and state governments. Sensible regulation needs to look at this aspect as well. Besides, a regulator would also have to take cognizance of the internal inconsistency of the tax regime as it adversely affects the trucking business.

INSURANCE

In recent years, insurance has especially emerged as an important issue. Basically, the problem is that the premia structure does not reflect the high on-road risk. Besides, there is also tremendous scope for fraud. An attempt to revise premia was countered by a strike in the trucking industry in 1997 and the matter has been hanging fire since then. The MV Act requires the owner of a motor vehicle or any other person using it in a public place to effect insurance against third-party risks. Third-party insurance is mandatory. But it is optional to cover the risk of damage due to various other perils. This is called 'own-damage' cover. These two policies together form the 'comprehensive cover'. Neither policy covers the risk to cargo carried in the insured vehicle. There is a formula giving the mode of calculation of compensation for third-party claims. But there are various anomalies in this formula which need to be removed. The 'Carrier's Liability Insurance' is also available in India to cover the liability of transport operators. However, since premium rates for such insurance are high, it has not become popular. Other problems relate to tardy settlement of insurance claims, bogus claims, frequent increase in insurance premium rates for motor vehicles, uncertainty about claim liability of insurance companies since there is no time limit on filing of claims, etc.

PUBLIC INTEREST ISSUES

Where the larger public interest, as it is affected by the impact of increasing trucking on the environment, is concerned, it is worth noting that the transport sector is the second largest consumer of energy next to industry. There have

been two major structural shifts that have occurred in the transportation sector. One, there has been a shift from railways to roads in terms of both passenger and goods movement. Two, the inadequate public transport system has led to an increase in the use of personalized transport resulting in an extensive growth of vehicle population.

The quality of fuel and its adulteration at retail outlets, vehicle technology, road condition and traffic conditions are important in this context. Between the railways and road transport, energy consumption by the Railways is relatively small, accounting for just 4.3 per cent of the country's commercial energy consumption. This means that about 18 per cent of the consumption of commercial energy takes place in urban and inter-city road transport. Considerable fuel wastage takes place in this sector because of the use of old technology vehicles, poor condition of roads, and severe levels of traffic congestion.

For trucking regulation, the key aspect is emission norms. These were first prescribed in 1992 and further tightened in 1996. But these do not apply to vehicles built prior to 1996. Also, there is no system of inspection, maintenance and certification of these vehicles. These norms need to be tightened substantially. The rules and requirements in the case of other related areas are also outdated. For instance, there are no standard guidelines for building truck bodies. As a result, these are not built according to any specifications, nor are the designs vetted by a recognised agency. The existing vehicle manufacturers produce the bare chassis and the cabin and the load-bearing body is constructed by various wayside builders. There are no standards prescribed for the cabin fixtures provided by the body builders. Engine placement is inside the cabin resulting in extreme heat, vibration and noise. The designs of the body builders are also not vetted by any recognised agency. The technology of commercial vehicles needs to be modernized with provision for power steering, retarders, radial tyres, etc.

Truck operators also indulge in persistent overloading of vehicles, which is another example of poor synchronization. At present, maximum permissible single axle load is 10.2 tonnes and for tandem axle it is 19 tonnes. The 2-axle rigid trucks are continuing to transport oversized high-density cargo. The container revolution has added to the problem. Often, large containers are moved on two-axle trucks, resulting in overloading. Since the consequences of overloading are serious in terms of damage to the pavements, threat to traffic safety and life of the vehicles, the operators and drivers of the overloaded vehicles are fined. In this scenario, there is a need to introduce Multi-axle

Vehicles (MAVs) which are more productive in terms of load carried and cause less damage to roads. In spite of several demands from the transport authorities and the truck operators to increase the permissible axle loads, highway authorities have resisted the demand fearing accelerated distress to roads. They contend that only 10-20% road network is suitable even for the existing prescribed axle loads. Clearly, there is a need to examine this aspect and work out a via media.

This has a direct bearing on another aspect of public importance, i.e. road safety. In India, nearly 70,000 persons are reported to be killed and over 3 lakh injured due to accidents on roads in a year. According to a recent survey, the heavy commercial vehicles which comprise only 7% of the total vehicles are involved in 50% of the road accidents. About half of the truck accidents occur during the night. The matters of concern here include inadequate driver training, poor infrastructure, ease of obtaining driver licence, lack of knowledge of traffic rules, fatigue due to long working hours, consumption of alcohol by drivers, etc. This area needs to be tackled on an urgent basis to minimize human distress.

This also brings up the issue of professionalism. Driving skills are much below standard and most drivers are illiterate. They drive for long hours without adequate rest and do not have proper training. This is a consequence of the conflict between employment generation objectives on the one hand and the needs of the industry on the other.

CONCLUSION

To sum up, it is clear that there is a strong case for reorienting the regulatory policies and practices for the trucking industry. This would have to be done keeping in view the new perspective of globalisation and liberalisation. It is also necessary to bear in mind that, notwithstanding the meshing and maximising of private interests, which is implicit in the process of liberalisation, there is also a strong element of public interest where transport is concerned. A mere maximisation of private utilities may leave the social utilities minimised and this has to be guarded against by devising appropriate regulatory mechanisms. This calls for a very strong blending of legal, technological and economic imperatives. The movement towards greater reliance on market forces has implicit in it the assumption that contracts are easily enforceable. But while bilateral contracts between buyer and seller can be enforced, there has to be some mechanism which will allow implicit socially oriented contracts to be enforced. A great deal of research has been done by economists into this aspect. The results of that research needs to be integrated into trucking regulation.

Another important area is economic regulation, comprising fare regulation, entry regulation, quality regulation and tax regulation. In a liberalised environment, fare regulation is *passé* and, in fact, the state governments, although empowered to do so, have refrained from regulating freight rates. But the other three aspects cannot be ignored and require action along the lines suggested above.

Entry regulation is a knotty problem, especially in India where it involves determining a trade-off between its potential of generating high volumes of employment and causing an entire set of negative externalities, such as pollution and accidents. The absolute ease of entry in India has so far resulted in both and no attempt has been made to find the right balance. Also, easy entry fosters competition and, therefore, benefits the buyers of trucking services who can avail of lower prices. However, there can be no gainsaying the fact that easy entry should not mean lax standards. Achieving the right balance has to become an important goal of regulation in trucking. One way is to encourage the formation of larger firms, either through their organic growth or via takeovers or by actively discriminating against firms of a minimum size. But while doing so, it has to be taken into account that enhancement of scale also leads to the necessary economies via higher productivity. It is wrong to assume that this will happen automatically.

As far as quality regulation is concerned, the best thing is to lay down standards for which the operator can be held responsible by the buyer of the services. Enforcement of quality in a service industry is best achieved by market reputation, and trucking is no exception. If the market is willing to pay for quality, e.g. through better trained staff, greater professionalism etc., superior quality of service will result. The role of the regulator should be mainly to lay down the minimum standards. But there is another aspect, i.e. ensuring the quality of service as it impinges on the public interest. This is chiefly a policing-cum-enforcement issue which requires absolute, not relative, adherence to standards of road behaviour. This means that while inter-firm quality of service for the buyer of trucking services is a matter of relative performance, provision of overall quality of service where the public interest is concerned is a matter of enforcing absolute standards.

There has been a tendency in India not to make a very strong effort at the implementation of absolute standards which require strict policing and supervision. This aspect has to be addressed vigourously by the state governments under whose purview it chiefly falls. In this context, illegal gratification

demanded by the implementing authorities in order to overlook minor and major transgressions of the law has become a serious problem.

The trucking industry has become altogether too important both to the economic and personal lives of the people, not to mention its criticality to financial and other firms. It has therefore become imperative to take a holistic view of the industry and synchronise the regulation of the various parts that comprise it.

SHORT TERM BENEFITS : LONG TERM COSTS

D. P. Gupta*

The rapid expansion of trucking has resulted in several negative externalities which the regulatory regime has not been able to offset. Overloading is an important example of this. Overloading causes huge damage to the road network of which only about 20% is suitable even for the existing prescribed axle loads.

It is estimated that pavement that can last for 10 years will last only for 6.5 years if there is 10 per cent overloading on an average. With 30 per cent overload, it would last for only 3.5 years.

There are two aspects to overloading – economic and policing. The former yields profits to truckers and, therefore, it is necessary to tackle this aspect by making it unprofitable to overload. However, in the short and medium term only effective policing will prevent pervasive overloading.

The technological solution lies in promoting the use of multi-axle vehicles, since these cause less damage to the roads. But even here, effective enforcement is essential.

INTRODUCTION

India's transport infrastructure has grown and expanded manifold over the last five decades. The fastest expansion has been in road transport as can be seen from the fact that the number of trucks has increased from just under 2 lakh in 1961 to 22 lakh in 1996-97. The share of road transport in total freight traffic has, *pari passu*, increased from 23% in 1961 to about 70% now. The trucking business has thus become a major source of employment.

Had the main economic issue arising from this explosive growth been of only the inter-modal imbalance which has developed between road and rail, a set of appropriate pricing strategies could have restored the desired balance. But the problem goes well beyond that. The sudden explosion of freight vehicles,

* *Former Director General (Roads), Ministry of Surface Transport, Government of India, New Delhi.*

especially the near exponential growth since 1990, has resulted in an entire range of negative externalities which the regulatory regime has not been able to offset. This article discusses one such negative externality, the phenomenon of overloading.

Thus, while at present the maximum permissible single axle load is 10.2 tonnes and for tandem axle 19 tonnes, it is the rare trucker who adheres to these norms. Carrying one-and-a-half times the permissible load is commonplace and, sometimes, some daring souls even carry twice the permissible load. The container revolution has further added to the problem because often large containers are moved on two-axle trucks, regardless of the load.

The main negative externality arising from this is the huge damage to the road network, of which only 10-20% is suitable even for the existing prescribed axle loads. There is also the threat to traffic safety, not to mention the life of the vehicles. Basically, overloading takes place because of two reasons: it is profitable to do so and no one effectively prevents the truckers from overloading. The first is an economic-cum-technological problem, the second is a policing-cum-enforcement problem. Clearly, if the problem of overloading is to be resolved, both aspects will have to be addressed. This article attempts some answers in that direction.

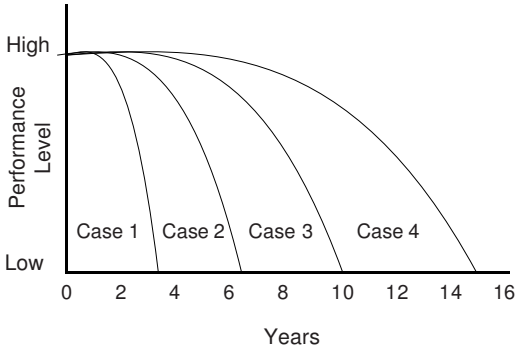
ROAD CONDITION AND FEASIBILITY OF HIGHER AXLE LOADS

Overloading has been responsible for premature failure of several road stretches. For instance, the recently strengthened Jaipur-Kotputli road is showing signs of distress in several kilometres. It cannot be attributed solely to poor construction. Indeed, it is a combination of construction inadequacies and vehicle overloading. Empirical evidence of heavy overloading suggests that, more often than not, it has an overbearing influence on pavement damage. There is a strong correlation between the design of the pavement and the loadability of the vehicles plying on it. The Road Damage Formula given in the Appendix expresses the number of repetitions to failure in terms of pavement stiffness value, load characteristics and terminal level of serviceability as the pavement failure point.

On this basis, it is obvious that the pavement that can last for 10 years without overloading will last only for 6.5 years if there is 10 per cent overloading on an average. With 30 per cent overload, it would last for only 3.5 years. Figure 1 represents the deterioration of pavement over time.

At present, about 80% to 90% of the network of national highways and state highways is suitable only for standard axle load of 8.16 tonnes. Just 10% to 20% network can be said to be sufficient for the presently prescribed permissible axle loads of 10.2 tonnes.

Figure 1 : Pavement Deterioration over Time



Case 1 – Axle Loads 30% higher than legal loads
Case 2 – Axle Loads 10% higher than legal loads
Case 3 – Legal Loads
Case 4 – Axle Loads 10% lower than legal loads

Here it may be pointed out that substantial investment is required for strengthening road pavements to match the higher permissible axle load limits. For instance, strengthening of pavement for Delhi-Mumbai stretch (1400 km), to meet the needs of 10.2 tonnes axle load, requires an investment of Rs.700 crore for a design life of 10 years. As mentioned above, with 10 per cent overload (1.6 tonnes more pay-load) the same pavement would last for 6.5 years and with 30 per cent overload (5 tonnes more pay-load), it would last for only 3.5 years, implying further investments of the order of Rs.700 crore (at current prices) at accelerated intervals. Resources of this magnitude are just not available nor does it make any economic sense to do so.

The country is also encouraging private sector participation for financing and managing the main road network. From that point of view also, it would be unthinkable to permit higher axle loads which would compel the investors to pump in larger investments during the operations and maintenance period, particularly when these are not part of the tender conditions.

THE ECONOMIC ASPECT

As stated earlier, overloading takes place because truck operators find it profitable to overload their trucks. The extra cost incurred on diesel, not to mention the shortened life of the engine, is more than offset by the revenues generated. Any economic solution, therefore, has to be aimed at making overloading unprofitable. At present, there is no mechanism which seeks to do this. Offenders, when caught, are fined from time to time. But more often than not, the fine is in the form of a compounding fee which, in effect, means that once it is paid it acts as a licence to continue with the trip with the full overload. Thus, while it imposes a cost on the trucker, it does nothing to prevent the

negative externality from arising. Obviously, this is not a satisfactory state of affairs because the private cost does not turn into a social benefit. It doesn't act as a deterrent, which would be the case if the trucker caught overloading were forced to immediately offload the excess baggage.

Fining and offloading are, however, punitive solutions. The effort should be to find solutions which eliminate the profits from overloading. This is, however, a more complex issue. The simple fact is that over half of the trucking firms are single-truck firms to whom a 20 per cent overload can be a pure bonus. But this (as is evident from the other articles in this issue) is a structural problem which requires a comprehensive overhauling of the financing and regulatory regimes. Overloading could be greatly reduced if there is a movement away from single truck firms to larger ones owning at least 10-12 trucks because in such a case, there would be incentive at the firm level to keep all the assets in use rather than overload a few. This is true of other means of transport, such as rail, ships and aircraft and would be true of trucks as well, even if in a lesser degree. However, it is unlikely that single truck firms can be eliminated quickly. As such, the only way of making overloading unprofitable for them is to impose punitive fines and do away with the current system of compounding fees. In other words, there is no escaping a policing solution in the short and medium term.

POLICING-CUM-ENFORCEMENT

As mentioned above, in the short and medium terms this may be the only way of controlling overloading. The problem is well known to economists, inasmuch as it involves the phenomenon called 'non-contribution'. Basically, what happens is that each individual trucker operates under two perfectly rational assumptions; one, that he alone cheats and, as such, overall road damage is negligible; and, two, that if everyone else is cheating, he would be a fool not to cheat. Together, these add up to a powerful combination leading to overloading by everyone. It is a phenomenon well known to tax authorities also who continuously have to deal with persons calculating that if they alone cheat on taxes, overall revenues will not suffer and that if everyone else is cheating on taxes, why should they alone pay. The only thing that works when non-contribution is in play is deterrent punishment. There is, of course, the underlying issue of corruption. But that, in any case, is not within our purview.

The Motor Vehicles Act empowers the Union Ministry of Surface Transport (MOST) to specify maximum gross vehicles weight (GVW) and maximum safe axle weight of all transport vehicles. In exercise of these powers, Government of

India had laid down in the early fifties that maximum safe laden weight and safe axle weight of each axle of the vehicle shall be as per the rating fixed by the manufacturers. In 1959, the MOST had permitted an ad hoc increase of 25 per cent over the axle weight and gross vehicle weight of commercial vehicles certified by the vehicle manufacturers. Many of the trucks plying on the roads then had a certified GVW of about 10 tonnes.

For design of roads, an axle load of 18000 lb or 8 tonnes was the internationally accepted norm at that time. Even with ad hoc overload of 25 per cent, GVW of the commercial vehicles worked out to 12.5 tonnes and on a two-axle vehicle, rear-axle load came to around 8 tonnes, a situation still within the road design standards. Subsequently, as the economy grew, vehicles of higher capacity started to be manufactured and this led to a demand for further increase in the axle load limits. The situation became chaotic when the individual state governments started prescribing axle load limits on their own, taking into account the weights certified by the vehicle manufacturers.

In 1982, the government set up a Committee to deal with the whole question of axle load policy for commercial vehicles in the country. The Committee recommended that the maximum allowable axle load and GVW of vehicles should be uniform throughout the country and that while fixing the maximum allowable limits, the 25% overload permitted should be taken into account. Further, the road design parameters should be based on the maximum allowable axle loads so as to restore the much-desired consonance between the vehicles plying and the road pavement strength.

Maximum Allowable Axle Load Limits

1950	As per rating of safe axle weight of each axle fixed by the vehicle manufacturer.				
	Most of the trucks had a GVW of about 10 tonnes (Rear axle load of 6.5 tonnes).				
1959	1.25 times the axle weight and GVW of commercial vehicles certified by the vehicle manufacturer.				
	Most trucks had certified GVW of 10 tonnes. As such, the allowable limit became 12.5 tonnes (Rear axle load of 8 tonnes).				
1983	Front Axle :	Single Axle	– one tyre	– 3 tonnes	
		Single Axle	– two tyres	– 6 tonnes	
	Rear Axle :	Single Axle	– two tyres	– 6 tonnes	
		Single Axle	– four tyres	– 10.2 tonnes	
		Tandem Axle	– eight tyres	– 19 tonnes	
		Triple Axle	– twelve tyres	– 24 tonnes	

Note : Limits notified in 1983 were reconfirmed in 1996 and are presently in force.

Majority of the heavy goods vehicles are two-axle rigid. These are overloaded beyond the prescribed GVW by adding extra leafsprings in suspension system or by welding extra joints beyond the long members of the chassis. Fitment of oversized tyres has further added to the problem.

Studies carried out recently (1997) by the NHAI and the MOST on certain stretches of national highways have revealed that a vast majority of 2-axle trucks carried loads exceeding the prescribed limit of 10.2 tonnes. The proportion of such vehicles is 40% to 80%. The consequences of overloading are :

- Accelerated deterioration of roads and increased damage to the pavements resulting in premature vehicle failures and breakdowns.
- Threat to traffic safety since overloaded vehicles cannot be controlled effectively by the drivers. Excessive overloading increases accident hazards and weakens the in-built safety margin of the vehicles.
- Reduction in the life of the vehicles and increase in their breakdowns and requirements for repairs.

STATUTORY POSITION

The statutory provisions dealing with overloading are set out in sections 113, 114, 194 and 200 of the Motor Vehicles Act 1988. The provisions are briefly given below :

- Section 113 limits the driving of any transport vehicle in any public place (a) the unladen weight of which exceeds the unladen weight specified in the certificate of registration of the vehicle, or (b) the laden weight of which exceeds the GVW specified in the certificate of registration.
- Section 114 provides that authorised officers of the Motor Vehicle department have powers to get weighed the goods vehicle or trailer, which is believed to be operating in violation of Section 113, and require the driver of the vehicle to off-load the excess weight at his own risk and not to remove the vehicle till the laden weight of the vehicle has been reduced to satisfy the requirement of Section 113.
- Section 194 punishes the violation of Section 114 (i.e. overloading of vehicles) with a minimum fine of Rs.2,000 and an additional amount of Rs.1,000 per tonne of excess load together with the liability to pay charges for off-loading. Further, it provides that any driver who refuses

to stop for weighment or removes part of the load prior to weighing shall be punishable with fine which may extend to Rs.3,000.

- Section 200 deals with the compounding of offences. The offence of overloading under Section 194 may be compounded by the prescribed authority for such amount as may be specified by the state government. After compounding, the offender shall be discharged and no further action shall be taken against him in respect of such offence.

In exercise of the powers conferred by Section 200, the states have prescribed the compounding fees against overloading. It is seen that compounding fees vary from state to state. Some states levy this fee on both the driver and the owner of the vehicle. The practice in Tamil Nadu differentiates between the vehicles registered in the state and vehicles registered outside the state. The state has prescribed a nominal fee of Rs.50/- for overloaded vehicles plying in the state but registered in other states. In addition, the state sends check reports in respect of such vehicles to the primary authority of the concerned state to take action against the permit-holder for overloading.

Different states have interpreted the various provisions of the Act dealing with overloading in their own way. While some are imposing fine as per Section 194 and are also charging compounding fee under Section 200, others are levying either fine or compounding fees only. Further, Motor Vehicle Rules of different states vary. As a result, trucks plying on inter-state routes on national permit, or counter-signature permit are exposed to varying degrees of load restrictions by the enforcement agencies on way from origin to destination. Thus, there is no uniformity in the approach of the states in dealing with the offence of overloading and its compounding.

TACKLING OVERLOADING

The government may issue guidelines specifying the design and dimensions of truck bodies and specifications for the chassis manufacturers and body builders to facilitate their compliance with the legal provisions. In addition, the following suggestions may help in tackling the problem of overloading.

Strict Enforcement of Law

Manufacturers of commercial vehicles should comply with the provisions of the MV Act and the notification issued by the Ministry of Surface Transport (MOST) with regard to safe axle load and maximum GVW while designing and constructing the vehicles. They should ensure that tyres of the appropriate size are fitted and its ply-rating corresponds to the weights certified by them.

Provision of Weigh Stations on Highways

To facilitate enforcement, a number of weigh-in-motion (WIM) and static weighing stations should be set up on the highways. A beginning should be made on the national highways where the NHAI/BOT entrepreneurs should set up WIM and static weighing stations together with suitable space for removal of excess cargo at the risk and cost of transport operators. Enforcement agencies can also be provided with portable weigh pads for checking overloading.

The government should entrust the responsibility for managing the weigh bridge stations to the highways authorities. Since they have the greatest interest in minimizing damage, they are more likely to enforce the axle load limits. A pilot project could be taken up in respect of two corridors of, say, 500 km each. If found successful, it can be spread further.

Authorising BOT Entrepreneurs to Enforce the Provisions of the MV Act

To supplement the budgetary resources, the government have decided to undertake road projects on build, operate and transfer (BOT) basis. Under this scheme, the BOT operator is responsible for operation and maintenance of the highway built by him. Considering that overloading of the vehicles would cause accelerated damage and deterioration of the road pavement, he would need to be vested with powers to enforce the provisions of the Motor Vehicle Act and authorised to offload the cargo in excess of the axle load limits prescribed by the government. If enforcement of the provisions against overloading is lax, the very basis of private sector participation in this area would fall flat.

Abolition of Compounding Fees

Section 200 of the MV Act deals with compounding fees. This provision encourages overloading. If overloading is to be stopped, it is necessary to amend the MV Act to abolish compounding of overloading.

Until such time the law is amended, the government should impose deterrent penalties to discourage excessive loading. Penalties for violating axle load limits should be determined having regard to the extent of overloading, and it should have some relation to the amount of damage caused to the roads. The penalty level for the offence should be uniform in all the states. In respect of BOT projects, the proceeds of the penalty should be credited in favour of the concessionaire as he is responsible for operation and maintenance during the concession period.

Promotion of Multi-axle Vehicles

The use of multi-axle vehicles should be promoted since these cause less damage to roads. The benefits will accrue only if care is taken to enforce the axle load limits in their case also since there are reports that even these high capacity vehicles are prone to overloading.

Norms for Pavement Design

The road authorities should be advised to continue the present practice of carrying out axle-load spectrum studies on major roads and take the actual loadings into consideration for design of new pavement and overlays. Continuous R&D efforts are necessary in this direction to find out the latest trends and to provide the feedback to the transport authorities. A minimum axle load of 10 per cent over the prescribed axle loads should be adopted for design of new pavements and strengthening overlays where it is not possible to carry out axle-load spectrum studies. Necessary guidelines on these aspects should be finalised by the Indian Roads Congress after giving a fresh look to the pavement design policy.

APPENDIX

Road Damage Formula

One of the most widely used forms of equivalency factors for highway analysis developed from the AASHO road test equation. In this design method, the number of repetitions to failure are expressed in terms of pavement stiffness value, load characteristics, and terminal level of serviceability as the pavement failure point. The general equation for equivalent damage factor is :

$$F_j = \frac{N_{f18}}{N_{fj}}$$

$$= \left[\frac{L_1 + L_2}{18 + \frac{1}{\ell})^a}\right] \left[\frac{10^{G/\beta}}{10^{G/\beta} L_2^b}\right]$$

$$G = \beta\ (\text{Log}W_t - \text{Log}\,\ell\,)$$

$$\beta = 0.40 + \frac{0.081(L_1 + L_2)^{3.23}}{(\overline{SN} + 1)^{5.19} L_2^{3.23}}$$

$$\text{Log}\ell = 5.93 + 9.36\ \text{Log}(\overline{SN} + 1) - 4.79\ \text{Log}(L_1 + L_2) + 4.33\text{Log}\ L_2$$

N_{f18} = Number of repetitions to failure of the 18 kip (8.16 tonnes) standard single axle load

N_{fj} = Number of repetitions to failure of the j^{th} vehicle

a = 4.79

b = 4.33

L_1 = 18

L_2 = 1 if single axle

= 2 if tandem axle

G = a function of the ratio of loss in serviceability at time *t* to the potential loss taken to a point where p_t = 1.5

β = a function of design and load variables that influence the shape of the *p* versus *w* serviceability curve.

ℓ = a function of design and load variables that denotes the expected number of axle load applications to a p = 1.5

W_t = Axle load applications at the end of time *t*
P_t = Serviceability at end of time *t*
$\overline{SN}$ = Structural number of pavement

Based on the above equation, equivalent standard axle factors have been computed by Yoder and Witczak and these are graphically shown in Figure 2 in terms of standard axles of 8.16 tonnes (18000 lb).

Figure 2 : Relation between ESA and Axle Loads

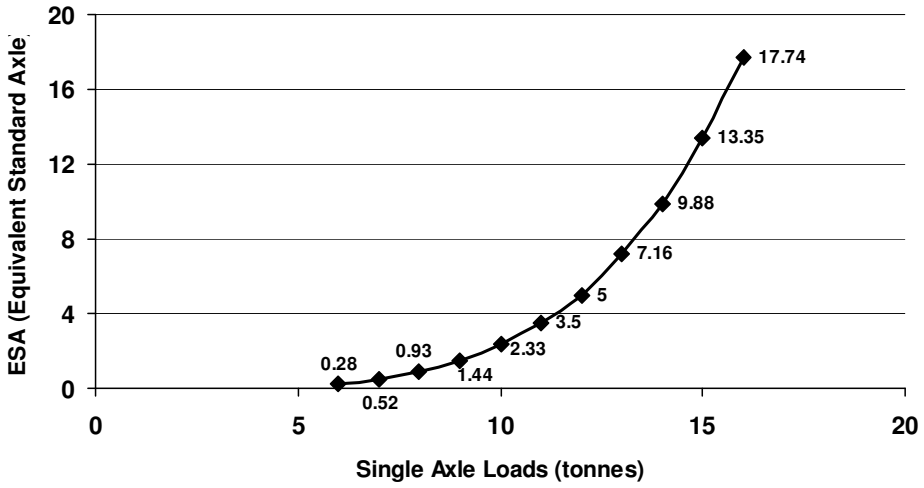


Figure 2 : Relation between ESA and Axle Loads. This approximates to fourth power law. To put in simple terms ESA, where L_j = Single axle load of the vehicle moving. Thus a 12 tonne axle is equivalent of 5.0 standard axle.

ESA =

It will be seen from the graph (Figure 1) that the damaging power of an axle with 10 per cent overload is 1.5, with 30 per cent overload, it becomes 3.0 and with 50 per cent overload it is as high as 5.0. In other words, a pavement that can last for 10 years without overloading will last for only 3.5 years with 30 per cent overload and for only 2 years with 50 per cent overload. As the overload increases, there is sharp decline in the life of the pavement.

INTER-COUNTRY FACILITATION : PRODUCTIVITY OPTIMISATION

Dr. John R. Moon*

For various historical, political, economic and topographical reasons, inter-country transport of goods and people between and through the countries of Asia by land has been insignificant in relation to the levels of movement by sea.

Since the late 1980s, however, there have been major political and economic changes whereby more outward-looking and cooperative policies have been adopted. These changes have created an environment that is more conducive to the development and promotion of international land transport.

Under the auspices of ESCAP, routes have been formulated and standards established for the Asian Highway. Domestic road infrastructure is being upgraded and plans for new inter-country bridges and roads are beginning to be implemented.

Infrastructure alone, however, is not sufficient to ensure that traffic will flow. There is also a need for countries to adopt measures to remove various non-physical barriers to the movement of inter-country road transport. In this respect, there already exists a set of international conventions specifically designed to address the issues causing these barriers.

This paper deals with some of the typical impediments to unhindered movement of vehicles and goods; seven of the international conventions designed to minimize these impediments; the advantages of accession and implementation of these conventions; and the measures which policy-makers may wish to initiate in order to accelerate the facilitation of inter-country road transport.

INTRODUCTION

In recent times, inter-country transport of goods and people by land on the Asian continent has been negligible. This relative absence contrasts markedly with Europe where road transport constitutes the most important mode of transport for intra-regional trade. One particular example of intra-European freight

* *Chief, General Transport, Coordination and Communications Section, United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP), Bangkok.*

traffic volumes is that of the 11.7 kilometre Mont Blanc Tunnel, through which around 750,000 trucks per annum pass between France and Italy.

Drawing upon the European case, the immediate questions that come to mind are : firstly, why hasn't inter-country road transport developed in Asia?; secondly, could the development of inter-country road transport assist Asia in the development process and in meeting the challenges of globalization? and, if so, what measures are required to develop this mode of transport. A fourth question, which, however, is not the subject of this paper, is : given the concerns expressed in Europe and other developed countries regarding the sustainability of road transport, should Asia even consider emulating what is happening in these countries?

In addressing these questions, an observation, which is of relevance, is that the use of motorized road transport is a phenomenon that was largely introduced in the early part of the twentieth century and only accelerated after the Second World War. Prior to the War, road construction in Europe, North America and other developed countries was mainly by local authorities; toll roads were constructed by the private sector. After the War, there was an initial period when development was focused on reconstruction. However, shortly after that, national governments took over a large part of the financing and construction of national highways. By way of contrast, many developing countries were gaining their independence and had neither the traffic volumes to warrant nor the resources available to build extensive highway systems.

Geopolitical factors have also contributed to negligible levels of land transport obtaining in Asia. Prior to independence, the principal route for trade of most developing countries was from hinterland or coastal locations to a national seaport, followed by sea transport to its destination and vice versa. This arose because the colonial powers came from a seaward direction and developed transport systems outwards from seaports. Land transport linkages with neighbouring and other countries were generally not constructed. Consequently, land borders acted as watersheds with national transport systems flowing away from them and towards the sea. Even countries that had their borders redrawn at the time of independence, developed or built their own seaports, thereby retaining a similar pattern in their national transport networks.

Following independence, many developing countries adopted inward-looking policies that focused on import substitution. Some countries aligned themselves with the protagonists of the Cold War, and, in other cases, civil wars and strifes occurred. To the extent that trade did occur, it was with pre-independence partners or the former Soviet Union. Consequently, the

predominance of the maritime mode of transport in international trade was retained: borders were actually or effectively closed and land transport linkages were not developed.

Since the late 1980s, however, there have been major political and economic changes in the economies of Asia whereby more outward-looking and cooperative policies have been adopted. These changes have created an atmosphere that is more conducive to the development and promotion of international land transport.

Global Experience

- Improved transport integration leads to increased total volume of trade as well as inter-regional trade, allowing for effective exploitation of comparative advantages among countries.
- Efficient supply chain networks require development of high-performance transport services, improvements in customs stations and in-transit warehousing facilities.
- Removal of impediments on nodes and links of transport logistics chain are ways of achieving seamless movement of goods across the borders.
- Investment in transportation systems alone is not enough. There is also need for policy reform, accompanied by improved procedural and operational efficiency.

One of the attractions of increased cooperation is the possibility to replicate the growth experiences of East and Southeast Asia in the decades leading up to July 1997. Much of that growth was derived from inter-industry trade. In other words, those countries were processing raw materials and semi-manufactures for export and further processing in other countries, thereby increasing intra-regional trade in not only final but also intermediate commodities.

A second attraction is grounded in the view that through subregional cooperation, country groupings are better placed to compete in an increasingly globalizing world (thereby coining the word *coopetition*). In order to compete in an increasingly global economy, efficient and reliable transport systems that are capable of meeting the exacting demands of modern management systems, such as "Materials Requirements Planning" and "Just-in-Time" are required.

The provision of adequate land transport linkages is, however, a necessary, but not sufficient condition for the movement of transport along highways, railways and waterways of international importance. In addition to providing adequate transportation infrastructure, it is also necessary to ensure that vehicles and goods can move freely across international borders and through countries.

In Asia, relatively little attention has been paid to the facilitation of land transport and, as a result, there are many non-physical barriers to the movement of vehicles and goods. These barriers are having major impacts on the development potential of countries and are directly influencing the welfare of their citizens.

The next section of this paper (Section 1) highlights some of the impediments to the unhindered movement of vehicles and goods. In order to address many of these issues, there exist various international conventions. Section 2 of the paper briefly outlines seven such conventions that the Economic and Social Commission for Asia and the Pacific (ESCAP) has requested member and associate members to accede to. Section 3 highlights the advantages of the international conventions outlined in Section 2. The final section (Section 4) provides a summary of the steps which countries may wish to consider in facilitating international traffic.

1. SELECTED BORDER CROSSING AND TRANSIT ISSUES

There is a range of issues arising in the Asian region which, if not adequately addressed, will impede the flow of goods and vehicles in international trade. Some of the more important issues include the following:

Infrastructure (Hardware) related Issues

Network Formulation, Design Standards and Vehicle Dimensions

The movement of land transport is predicated upon the availability of adequate infrastructure, including a road and rail network which is well-connected and meets minimum design standards and requirements. If, for example, one of the policy objectives is to realize the inherent intermodal and other advantages of containers, then roads, bridges and tunnels have to be designed and constructed to standards which allow their transport. Closely linked to the design standards of roads and bridges are domestic regulations on permissible vehicle weights, dimensions and loadings. Clearly, the lowest allowable weights, dimensions, and loadings of the countries through which a vehicle commences, transits or ends its journey will affect the overall load which a vehicle can carry. In addition to vehicle weights, dimensions and loadings, there are also safety issues of concern which are related to technical construction standards of a vehicle, its roadworthiness and whether it is left or right hand drive. In cases where there are gauge differences in railways, transhipment facilities for containers need also to be provided.

THE INDIAN TRUCKER AND HIS TRAVAILS

A. K. Bhattacharya*

This is the story of a "runner",
the village postman,
who runs from village to village,
from town to town,
to distribute your mail
without fail.
But does anybody care
for his mail,
his barefeet, his hunger,
his life and travails?

– A translated extract from a poem written by Bengal's rebel poet, Sukanto Bhattacharya, in early twentieth century.

INTRODUCTION

The story of an Indian truck driver is somewhat similar. The truck driver is perhaps the most critical link in the road transport chain, that today accounts for about three-fourth of India's total goods transportation. Yet, he suffers from neglect from all quarters - his immediate employer, the transport company, various government agencies he has to deal with on road and even the automobile company that manufactures the trucks he drives.

Compare the role he plays with those of his counterparts like the driver of the railway goods train or even the pilot of a cargo plane. In terms of criticality, the truck driver is no less than the train driver or the pilot. But in terms of infrastructural support, social status and compensation package, the truck driver will rank way down the ladder when compared with the train driver and the pilot.

Worse, despite the reality of his disadvantages, travails and the yeoman's service he offers to society, the Indian truck driver has not yet acquired the

* *Managing Editor, Business Standard, New Delhi.*

sobriquet of an underdog or downtrodden that could have earned him sympathy or the kind of eulogy the village postman got from our Bengali poet. Indeed, it is time the Indian truck driver, his problems and the critical role he plays in the country's transport economy is realistically evaluated and duly acknowledged.

FACTUAL ASSESSMENT

There are about 4.4 million truck drivers in the country. The estimate is based on the assumption that there are at present 2.2 million goods vehicles operating in different parts of India, and each vehicle has two drivers attached to it. A recent survey has revealed that about eighty per cent of drivers were literate. Most of them were quite willing to receive training on road safety, fuel efficiency and health awareness. Given the rising number of trucks being operated for goods transportation, it is evident that the total number of truck drivers in the country will see a virtual doubling in the next ten years.

In spite of this, there is no perceptible change in the way the road transportation sector values the contribution made by the truck driver. This neglect has resulted in the poor quality of life a truck driver leads in his workplace. The frequency of a driver returning to base is quite low for most drivers. A survey conducted in 1998 showed that more than 21 per cent of the drivers could return to their base only after eight days of duty. About 47 per cent of the drivers returned to their base between five and eight days, 19 per cent between three and four days, while only 12 per cent returned to their base in less than two days.

It is true that the yardstick of frequency of returning to base cannot be uniformly applied to all segments of the transportation sector. For instance, the frequency of returning to base for a pilot of a cargo plane will be obviously higher than either the goods train driver or the truck driver. This is attributable largely to the technology used in different modes of transport and little can be done to reduce the time taken in travelling a set distance by truck. But the inevitably low frequency of returning to base in respect of truck drivers raises certain relevant concomitant issues like the quality of support services offered to them during the period they are away from their base.

It becomes clear from the accompanying box that, for the most part, whether or not such support services will be provided depends on the tightness of the market for truck drivers. In the US the trucking firms began taking more sympethatic view only after a huge shortage developed. In India, however, thanks to the excess supply of truck drivers no such pressures have developed or are

likely to develop in the near future. That is why trucking firms have to be persuaded by other, possibly regulatory, means to ease the rigours of a drivers life.

American Trucking

An ever-growing call for trucking services has combined with the diminishing appeal of the job to create an increasingly tight market for drivers. Today, the industry is short of an estimated 50,000-80,000 drivers (out of 3m). And the average firm has to replace the equivalent of its entire workforce every year, a turnover rate five times as big as in the fabled tight job market in technology.

This has forced the trucking firms to take desperate measures to attract and keep employees. Carriers now have to pay well – the best drivers make more than $80,000 a year – and to offer such perks as chiropractors, in-cab e-mail and special encouragement to husband-and-wife (and even pet) teams.

But the most effective way to make the job more attractive has been to reduce the length of most trips to 300-400 miles, so that drivers can spend more time with their families. As drivers defected from long-haul firms to short-haul ones to recover a home life, trucking firms of all sorts had to change the way they worked to stem the tide. Many responded by setting up "terminals" and regional warehouse hubs at which one driver could hand over to another, Pony-Express style, or loads could be redistributed, both to limit the distance travelled and to avoid the bane of the industry, trucks carrying half-empty trailers for part of their journey.

– Extract from The Economist, June 3rd - 9th, 2000.

For instance, what facilities do the truck drivers have for night stay or for rest during long journeys? The same survey conducted in 1998, on the basis of multiple choices made by the drivers interviewed, has a telling commentary to offer. For about 75 per cent of the drivers, the first option for night halt are the roadside 'dhabas', which can be described as small make-shift restaurants that provide cots doubling up as dining table as well as a sleeping bed. About 42 per cent of truck drivers, covered under the survey, preferred petrol stations on the way as the second option for their night halt. Shockingly, about 24 per cent of the drivers gave roadside as the third option as a place for their night halt.

The question that inevitably arises is : Why do the truck drivers choose a roadside dhaba or a petrol station for his night halt? Quite clearly, the truck owners or the transport companies operating the trucks care little about the welfare of the drivers. It is shocking that the absence of such basic work support facilities for the trucking industry has not raised any eyebrow in any quarter. A night halt at a roadside dhaba for a truck driver has been accepted by the

system without a murmur of protest. But will a railway engine driver accept such a treatment from his employers? The difference is indeed very stark.

Vital Statistics

			(%)
Educational Level of Drivers	Illiterate	–	20.06
	Literate	–	27.33
	Non-matriculate	–	29.04
	Matriculate	–	21.86
	Graduate	–	1.71
Frequency of Returning to Base	2 or less days	–	12.42
	3-4 days	–	18.89
	5-8 days	–	47.26
	More than 8 days	–	21.40
Night Halting Places of Drivers	Roadside	–	24.24
	Petrol Pump	–	41.70
	Dhaba	–	74.84
	Others	–	6.69
	Any of above	–	1.21
	Note : Percentages are worked out on multiple choices mentioned by drivers interviewed.		
Average Driving Hours Per Day	4 or less hours	–	5.14
	5 to 8 hours	–	28.88
	9 to 12 hours	–	44.59
	More than 12 hours	–	20.39
Type of Insurnace Policy Held	80% of the vehicles had comprehensive insurance policy, while 20% were having only third-party insurance policy.		

Truck owners and transport companies have shown little regard for the usual norms of working hours prevalent in most industries. In most developed countries, there are clearly laid down laws that prohibit any heavy vehicle driver to remain at the wheels for more than four or six hours. These norms have been framed not just to ensure that the driver gets a decent break and rest from his work, but also to make sure that road safety norms are honoured. A tired driver is a hazard for road safety, particularly when he is at the wheels of a heavy commercial vehicle.

But as the 1998 survey showed, truck drivers in India function in a different world. About 20 per cent of the drivers covered in the survey confessed to

having driven on an average for more than twelve hours a day. More than 44 per cent of the drivers said that they drove their vehicles for nine-to-twelve hours a day. Twenty-nine per cent of the respondent drivers said that the average driving hours per day for them were between five and eight. And only a small segment of drivers (5 per cent) admitted to driving, on an average, only for four hours per day.

There is also the additional problem on the insurance front. Eighty per cent of the vehicles have a comprehensive insurance policy, while about 20 per cent have only a third-party insurance cover. This too has an adverse impact on the drivers' sense of security while driving.

For a sector that is already providing jobs for over four million skilled people (and this requirement is expected to double in the next ten years), the existing infrastructure is woefully inadequate to take care of these person's needs, improve their work conditions and make them conducive to maximising their efficiency levels.

PROBLEMS

The poor infrastructure support for the truck driver has given rise to a series of problems that cannot be brushed aside if India's transport economy has to maximise the utilisation of its road sector. As the factual assessment showed, driving a truck in India's traffic conditions, including poor and badly maintained roads, can be a challenging proposition. Poor working conditions only aggravate the problems. Truck drivers work for long hours away from home. They do not have access to proper facilities at work. The net impact on the psychology of a truck driver is devastating. He becomes insensitive to norms. No wonder, an analysis of road accidents in India reveals that one of the main causes of accidents on the highways is the negligence of drivers.

The 1998 survey also revealed certain interesting behavioural trends among truck drivers. Most drivers, the survey revealed, were very aggressive on the road. They indulged in haphazard overtaking, overspeeding and occupying the centre of the roads even in two-lane carriageway, creating problems for other vehicles on the road. The survey also showed that the truck drivers never followed a particular schedule. If the truck has two drivers on duty, there is no scheduled halt for rest for either of them. There are no fixed or particular time for rest or meals. A common practice among most drivers is taking meals at odd hours. Intake of alcoholic drinks has also been noticed on many occasions among many drivers. Worse, drivers have been found to be taking naps at the

wheel, for between five and ten seconds, particularly towards the end of a long driving spell of more than ten hours.

The manner in which the truck drivers have been treated by the society and the trucking industry has given rise to a vicious cycle. Because the infrastructure facilities are not adequate for the drivers to maintain proper driving standards, road accidents and other forms of safety hazards are a frequent occurrence. And because road accidents and safety hazards are associated with road transport and are usually attributed to drivers' negligence, the system passes the blame on to the drivers instead of creating an environment more conducive to better driving.

Consider the life of a truck driver. His working life begins with the driver's cabin at the front of the truck. Most Indian trucks have been fabricated without keeping the driver's needs in view. The driver's cabin is virtually a small cubicle, where the driver and his associate hardly find enough space to move their legs and hands freely. The driver's cabin is an extension of the main body of the truck, and not a separate section as is seen in trucks in most other developed countries. A separate section for the driver allows him to have more space and is preferable from the safety point of view. It also allows the driver to get into his cabin in a more convenient way. The way the Indian trucks are fabricated requires the drivers to be adept at acrobatic skills as well. He has to climb up to get into the driver's cabin. Why? Because, no truck manufacturer in India has ever thought of the driver while designing a truck.

The truck driver's travails start even before he begins his journey. In the Indian context, the driver very often plays multifarious roles. He often acts as the supervisor of the loading operations and in the absence of the transport company's representative takes complete charge of the safe loading and unloading of goods. Once he does that, he is under the influence of his bosses either to overload or to move on to the road, irrespective of the prevailing city traffic norms. Very often a truck driver is hauled up for violating the city traffic rules. His efforts at mollifying traffic police begin from there. Once on the highway, the regional transport officers (RTO) take over. Instead of facilitating highway traffic, the highway police and the RTOs lose no opportunity to harass the truck driver. Add to this the discomfort he has to go through while driving on Indian roads particularly during the summer months. All this has an impact on the truck driver's attitude towards driving and also reflects in his own assessment of his role and position. He senses a clear mismatch between his aspirations and the actual treatment meted out to him by the society.

The truck driver is also influenced by the condition of the national highways and state highways. Maintenance of these roads on many stretches is very poor, which makes driving a nightmarish experience. Add to this the free movement of cattle and plying of light slow-moving vehicles on the roads. All this adds to the frustration and dissatisfaction of the driver. While the system has not yet geared up to redress such issues affecting the truck driver, the continued rise in the level of frustration has resulted in poor driving standards and mounting safety problems.

WAY OUT

What ails the Indian truck driver most is the system's complete neglect of his concerns. The first step, therefore, ought to be to create an overall policy environment where the truck driver feels that the system, the administration and the infrastructure are being geared to meeting his requirements. The beginning of this exercise should be an all-round movement to create an awareness of the unmet needs of the Indian truck driver. Truck manufacturers, transport companies, the central government and all the state governments should come forward and take part in this movement.

Like the quality movement launched in the sixties and the seventies, it is time the central and state governments in India urged the truck manufacturing companies and the transport operators to launch a movement which could be called : "I care for the truck driver". With such a slogan, the movement could list out what all needs to be done to resolve the problems faced by the truck driver and which support systems need to be created to facilitate the truck driver.

For instance, automobile manufacturing companies could be encouraged to come up with better-designed trucks that have a more spacious driver's cabin. Also, they could explore the option of providing the driver's cabin in a separate section of the truck, which would be technologically more beneficial from the point of view of road safety and driver's comfort. Why, for instance, shouldn't the driver's cabin in a truck be air-conditioned ? The hot and humid conditions that prevail in most parts of the country and most months of the year should make it ideally desirable for all truck manufacturers to provide air-conditioning in the driver's cabin. Consider the positive fallout it will have for the driver's efficiency.

Indeed, technology can play a big role in this area. While the more advanced technology in passenger cars available in developed countries has been transferred to Indian automobile manufacturers, which are incorporating that in

the new models being produced here, no such advanced technology transfer has taken place in the case of heavy commercial vehicles. It is time the heavy commercial vehicles sector in India too incorporated technological changes that have already swept across the developed countries.

Training and retraining of drivers will also go a long way in reducing accidents and improving the reliability of road transportation of goods. Training and retraining of drivers will not be a problem, as most truck drivers (as much as eighty per cent of the current strength of 4.4 million) are literate and possess basic skills that are amenable to training or retraining. Such training is very important as the absence of a rigorous truck drivers' licensing system has meant that the drivers entering the system are indifferently trained. There is, therefore, need for proper training institutes for truck drivers. These schools must have minimum infrastructure to provide necessary training and retraining facilities to truck drivers. They should not only help them procure a driving licence, but also pay greater attention to quality, fuel conservation, basics of repair, health awareness, efficiency and safety while driving.

But such training of drivers will be useless if their working conditions are not simultaneously improved. Training can yield suitable results only if the drivers feel that they have lesser number of hours to drive, a decent place to rest at night and a decent package for having their food on duty. The need to provide truck drivers a decent place where they can stay for the night has to be seen from a different perspective as well. Because the truck drivers have no proper place to stay at night, they end up in prostitutes' houses in various villages on the highway. This practice has adverse ramifications for the drivers' health. In view of the rapid spread of AIDS, provision of facilities to drivers to stay at a decent place at night will go a long way in curbing this growing health menace.

All this may mean more cost for the transport operators. But the benefits arising out of this increase in the cost of operation would be much more for the entire road transport sector. In any case, the transport operators can easily pass on the additional cost arising out of training/retraining of drivers and provision of better working conditions for them to the customers who use road transport for shipping their goods. In fact, the customers would also benefit from this as goods would be transported under greater safety and security.

Finally, the central and state governments have to pay more attention to constructing better roads and maintaining them regularly. They should realise that better roads not only help in safe driving, but also ensure increased fuel

efficiency and conservation. A good road also means a challenge for a truck driver to drive well and follow the traffic rules while a badly maintained road is a powerful de-motivating factor for any driver. The government authorities should also ensure that the truck drivers are not needlessly harassed by the police and the transport inspectors. At present, there is an unholy nexus between the transport operators, the police and the transport inspectors. With better trained and better looked-after truck drivers, this nexus can be broken. But for that to happen, the government has also to send out a tough signal to the police and the transport inspectorate to mend their ways.

The truck driver needs to be assured that the system cares for him and values his services. Today, such assurance is missing. With better training, better-designed trucks, better infrastructure, better roads and better behaviour from law enforcement agencies, there is every hope that today's neglected truck driver will feel more congenial and, as a result, the road transport sector will become more efficient.

Statistical Profile

Registered Motor Vehicles in India

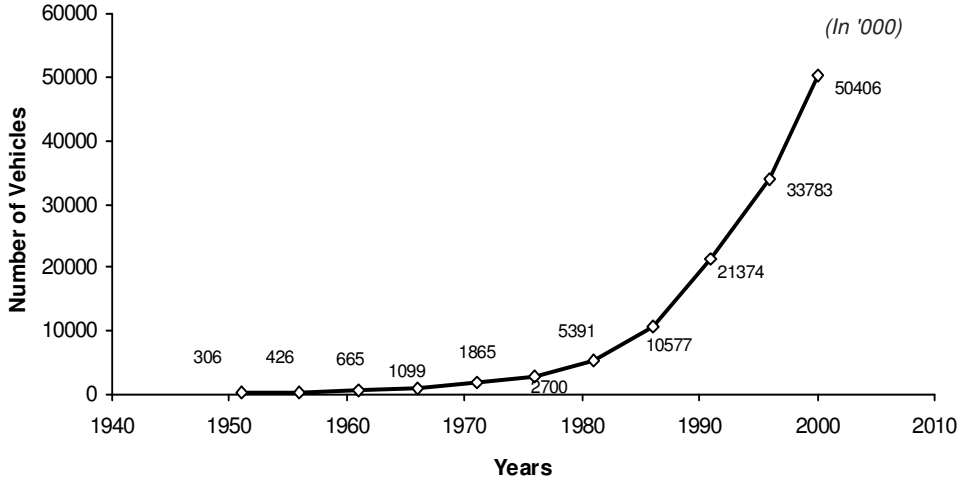
(In '000)

Year (As on 31st March)	All Vehicles	Two Wheelers	Cars, Jeeps and Taxis	Buses	Goods Vehicles (HCVs+LCVs)	Others
1951	306	27	159	34	82	4
1956	426	41	203	47	119	16
1961	665	88	310	57	168	42
1966	1099	226	456	73	259	85
1971	1865	576	682	94	343	170
1976	2700	1057	779	115	351	398
1981	5391	2618	1160	162	554	897
1986	10577	6245	1780	227	863	1462
1991	21374	14200	2954	331	1356	2533
1992	23507	15661	3205	358	1514	2769
1993	25505	17183	3361	364	1603	2994
1994	27660	18899	3569	392	1691	3109
1995	30295	20831	3841	423	1794	3406
1996	33783	23252	4204	449	2031	3847
1997	37231	25693	4662	488	2260	4128
1998*	41217	28736	5213	516	2390	4362
1999*	45491	32139	5734	540	2506	4572
2000*	50406	35916	6496	570	2647	4777

* Estimated

Source : Transport Research Wing, Ministry of Surface Transport

Total Number of Registered Motor Vehicles in India



CRITIQUE

Entering the 21st Century :
World Development Report 1999-2000

Published by the World Bank, Washington D.C., 2000.

It is in the fitness of things that, when poised on the cusp of a new century, a responsible institution should turn its attention to grand themes. This World Development Report (WDR), therefore, focuses on two inter-related themes of global significance : the pervasive and irresistible movement towards globalisation on the one hand and the equally persistent, though perhaps a shade less irresistible, pressure towards localisation, which comprises devolution of power to local governments and communities so that people can define the contexts of their own lives in a more meaningful way.

The Report suggests that there isn't much use in fulminating against globalisation and resisting localisation. As a result of what Marxists may describe as historical processes, both are taking place. The issue, therefore, is not whether, but how fast, an entire chain of events stemming from technology, economics and politics – in that order – has set in motion a process that can be controlled to suit national needs, but cannot be stopped, let alone reversed.

This has, naturally, brought national governments face to face with an unprecedented set of policy dilemmas. Whether its financial integration with the global markets, abiding by the commitments made to multilateral treaties, or even deciding something as local as the source of water supply, they have to now operate under constraints which, only a few years ago, would have been denounced as a gross abridgement of national sovereignty. Indeed, some outliers still continue to do so, but the mainstream orthodoxy now realizes the need for responding sensibly to the process rather than denouncing it as an imperialist conspiracy.

Knowing what is happening to you does not, however, mean that you also know the full magnitude of the changes that will be wrought or what you can do about it. It is here that this WDR is of immense importance. For it lays down, in an objective and understated manner, the main elements of the vast changes that are taking place and what they imply. Responsible policymakers – which is not quite an oxymoron that it sounds – would be well-advised to read this Report as there are few better substitutes for providing a quick *tour de horizon*.

The Report also explicitly recognises something that India, at any rate, has been preaching for decades but perhaps not been practising, namely, that growth is not synonymous with development and, further, that although it is a necessary condition for increasing human welfare, it is not a sufficient one. It is encouraging to see that an institution which, while being dedicated to development, had tended to treat it as a lemma to growth, has now accorded it the status of an independent theorem. It is not only the world but the Bank as well that has changed.

By far the most informative chapter is the one entitled, 'The Changing World'. It captures, in a few broad brushes, the whole range of issues that ought to be of concern to governments. The emphasis on the role of institutions, in particular, is welcome for in several societies, including the Indian society, enough importance has not been accorded to them. It is not as if these societies do not recognise the important institutions. They do. But the paradox is that in spite of being aware of the importance of social institutions, they seem wholly unaware of the importance of political and economic ones.

One explanation for this has been that institutions which do not evolve locally cannot survive for long. While this may be true, there may be another explanation as well: the short-run incompatibility of the various institutions and the inability of societies to convert the struggle for supremacy between them into a non-zero sum game. So long as there is a strong commitment to ensure the building up of new and the protection of existing institutions, there is yet hope. In this context, one cannot help wondering if it might not be a good idea for the World Bank to devote a future issue to the kind of conflicts that emerge and how they can be resolved in the quickest possible time at least cost. It may not be much use, in this context, to point admiringly at the Western example for, after all, not only did it evolve over a couple of centuries, it also involved huge costs, worldwide.

The Report has also thought it proper to dwell on issues of sustainability. This, again, is something of a departure because – intellectually – the Bank has tended to live in the mould of neo-classical economics which does not accord a very high priority to sustainable development, taking it for granted that prices and technology will provide the necessary solutions. That they do, is borne out by experience. But, nevertheless, it is important to recognise that until the full solution is in place, growth does impose insupportably high costs on both local and global commons. Answers are not easy to find.

The basic contradiction here appears to stem from the fact that while neo-classicism would encourage financially and economically efficient supply

augmentation, the concerns of sustainability pull in the opposite direction of demand management in the short term. For societies like India's which also have to cope with the pulls and pressures of political pluralism, the challenge becomes severe need. Unfortunately, the Report makes no explicit recognition of this. In future, perhaps, it will devote some space to this aspect as well because if a set of recommendations is to be adaptable, it must also exhibit awareness of the problems that governments face on the ground. Isolated success stories like don't provide much comfort.

That said, the fact is that this volume ranks amongst the three best of the series of 22 reports that the Bank has published so far. It should be made mandatory reading at the university level.

AITD