EXECUTIVE SUMMARY

1. The transport sector, comprising the Railways, roads, ports and civil aviation, has been one of the principal areas of State intervention in India. Given the transport sector's fundamental contribution to economic growth and social welfare, State intervention was perceived to be necessary, as in the case of many other infrastructure sectors, because of the market failure hypotheses, high risk perception emanating from long gestation periods, irregular revenue flows, higher average debt-equity ratio, and economies of scale as well as substantial sunk costs reflected in the high costs of entry and exit, in turn, leading to (natural) monopolistic tendencies/practices.

2. Public Sector ownership, management and financing of the transport sector in India, however, suffers from several forms of inefficiencies and has been found to be unresponsive to user demand. Further, services are usually priced below costs which impedes the generation of adequate internal surpluses, in turn, leading to excessive dependence on budgetary support.

3. Moreover, in recent times, (i) contemporary cost curves do not justify the natural monopoly of State and (ii) technological developments have allowed unbundling and competition in many infrastructure services, once viewed as the natural monopoly of State.

4. Furthermore, the on-going structural reform process in India, initiated in the early nineties, has cast a new dimension to the overall framework for the financing of transport infrastructure and services. Some of the major elements of the reform process are to bring about an orderly correction of fiscal imbalances, develop and strengthen financial institutions and capital markets and (further) liberalise the economy with a view to encouraging private initiative and competition. In the transport sector, this has translated, *inter-alia*, into encouraging public sector entities to maximize internal resource generation in order to finance future expansion programs without having to depend (excessively) on budgetary support. Given the tapering

off of the conventional sources of funds to finance new investment as well as for the maintenance of the transport system, there is an imperative need to assess and access alternatives sources that are emerging in the context of the changing policy and operating environment.

Organisation of the Study

1. Role of the State in Financing Transport Infrastructure and Services with specific reference to Roads, Road Transport and the Railways;
2. Private Sector Participation in Transport Infrastructure: International Experience and the Indian Scenario;
3. Financial System and Transport Financing;
4. Policy Suggestions.

I. Role of the State in Financing Transport Infrastructure and Services: Scope for Improvement

A. Roads

5 Road planning and financing in India has always been the responsibility of both the Central and State Governments, with the Centre being responsible for the construction, operation and maintenance of the National Highways (NHs) and the State for all the other type of roads such as State Highways (SHs), Major District Roads (MDRs), except certain special categories of roads. Though NHs and SHs constitute less than 10% of the total road network in the country, this arterial network handles over 75% of the total road-based traffic. The NHs network alone is estimated to carry over 40-45% of the traffic carried over the arterial trunk route system.

6 Observations and Recommendations of **the Expert Group on Commercialisation of Infrastructure Projects** (Chairman: Dr. Rakesh Mohan) (1996) with respect to the **Road Sector**:

- **Observations:** (i) Road networks have not kept pace with increase in road traffic leading to higher transportation costs and adverse impact on the international competitiveness of the Indian economy; (ii) The allocation for the road sector has declined steeply from 6.7 per cent of outlay of the First Five-Year Plan to 3.0 per cent in the Eighth Plan; (iii) Expenditure on roads is only about one-third of the total revenue raised through road taxes and related levies. The balance is used to finance other expenditures; (iv) Economic losses arising from bad (main) road conditions were estimated at Rs.20,000 crore to Rs.30,000 crore per annum. Besides, there are security, safety and pollution problems; (v) Only user taxes have been tapped as a source of financing road infrastructure in India, though there has been private financing of a few projects ; (vi) Of the total projected requirement of Rs.61,000 crore for national and supernational highways during the period 2001-02 to 2005-06, around 30 per cent is expected to be financed by budgetary resources including Highway Development Fund, 18 per cent through bilateral/multilateral loans, 14 per cent through toll levies and the balance of 38 per cent would need to be financed through private sector participation. In respect of State Highways, of the total requirement of Rs.1,700 crore for the period 2001-02 to 2005-06, the shares of government budget, multilateral/bilateral loans and the private sector are placed at 59 per cent, 23 per cent and 18 per cent, respectively .
- The **specific recommendations** of the Expert Group include: (i) creation of a Highway Development Fund to serve as an assured extra-budgetary source for funding India's highways. The Fund is to be created by levy of cess on diesel, petrol, automobiles and automobile components; (ii) setting up a Highway Infrastructure Savings Scheme on the pattern of the National Savings Scheme with a view to providing assured funds to commercial roads. Toll revenues would make good the withdrawals from the Scheme;

(iii) Major part of revenues from taxes on motor vehicles and transportation fuel to be earmarked for road development; (iv) The maintenance of existing highways should be given priority over their improvements. Contracting out of maintenance activities may be initiated in a gradual manner; (v) The Resolution on Central Road Fund passed by the Parliament in 1988 which, *inter-alia*, provided that 35.5 per cent of the accruals of the Fund are to be utilised by the Central Government for the development and maintenance of National Highways, should be implemented; (vi) The development and maintenance of financing viable Supernational Highways, bypasses to congested towns/cities and spot improvements on existing highways, should be taken up through or in collaboration with the private sector; (vii) A Road Board should be set up at the national level (with similar boards at the State level) to plan and implement the highway programme in a time-bound manner, mobilise private funds from domestic/ international markets and maintain and manage the National and State Highways; and (viii) Comprehensive guidelines and procedures to be formulated for the approval of private sector projects.

7 In recent years, the significance of road transport has enhanced manifold, aided by the expansion and improvement in the highway network. **Recent developments:** (i) The National Highway Development Project (NHDP) launched in 1998-99 comprises the Golden Quadrilateral (GQ) and the North-South, East-West corridors; the GQ was expected to be completed by 2003 and the two corridors by 2007; (ii) The Central Road Fund has been revamped by crediting a cess of Re.1 per litre of petrol and diesel. The Central Road Fund Act, 2000 was enacted in December 2000 to give statutory effect. Rs.5590 crore was allocated under the revamped fund during 2000-01; (iii) With a view to encouraging **private sector participation**, Model Concession Agreements have been finalised for (a) major projects costing more

than Rs.100 crore to be undertaken under BOT Scheme; (b) projects less than Rs.100 crore and (c) based on annuity approach.

8 **It was also stressed that there is a need for a clear policy stance with regard to the utilisation of Road Funds in order to avoid systemic bias against maintenance expenditure. The international experience also supports this view.**

B. Road Transport

9 **The State Road Transport Corporations (SRTCs) have played an important role as providers of road transport services.** The financial position of SRTCs has, however, been under strain for many years. During 1999-2000, the total losses of all SRTCs was placed at around Rs.1,950 crore. The situation has not changed with losses amounting to nearly Rs.2000 crores in 2006-07. The losses have been attributable to a variety of factors such as inefficiency in operations and management, uncompensated burden of social obligations and uneconomic pricing of services.

10 **The financial performance of an SRTC, like any other organisation, is closely linked to its physical performance which, in turn, depends on the efficiency of operations and policy related variables.** This link was analysed by means of a model. **Projections** relating to **financial performance** of SRTCs in terms of Profits/ Losses were made for the period **2000 - 2005**. **Physical productivity** measures as reflected in Fleet utilisation (FU), Vehicle Utilisation (VU), Fuel Efficiency (KMPL) and Staff / Bus ratio (S/B) are the major supply-side parameters while **Load factor (LF)** was a significant demand variable. The average fare charged was taken to be a **policy variable** since it is almost always fixed exogenously. The model took a disaggregated look at the costs: fixed and variable. The fixed cost components are the interest and depreciation provisions while the variable cost components include wages, diesel costs, other material costs and passenger taxes. ***In the model, the physical efficiency is***

linked to the financial efficiency through the following equation:
Traffic Revenue = Average Fare * (Capacity*Effective KM*Load Factor).

11 **The above model indicated that some of the SRTCs , for example, can be categorised in the following manner:**

Financial Performance	Physical Performance	
	High	Low
High	Karnataka, Himachal, Andhra. TamilNadu, Punjab	
Low		Maharashtra,Gujarat

12 **The model reveals that in** the case of Tamil Nadu, for instance, SRTCs achieve a high level of physical efficiency and have high Load factors. This performance, however, does not get reflected in the financial performance since price levels are low. Although efficiency levels are found to be high, a uniform tariff for units across the State despite varying sizes and characteristics and low levels of such a tariff as compared to SRTCs in Maharashtra, Karnataka, etc. have resulted in huge losses of these units.

13 High fare levels but low physical efficiency performance have contributed to losses in states like Maharashtra and Gujarat. The model showed that improvement of physical performance to optimal levels could see the emergence of huge surpluses.

14 Thus, this analysis reveals that the **Load factor (LF) and a critical fare level are significant influences on the financial performance of a SRTC.** Given the emerging liberalised economic framework, SRTCs would need to effectively tackle the problem of low load factors in a variety of ways. In the Indian context, demand for transport services are price inelastic and at times supply induced. Therefore, an appropriate fare strategy alongwith efficiency enhancement is required to set the organisation on a long-term growth path.

C. Railways

15 Budgetary support to the Railways has been decreasing sharply since

the 1980s but has increased marginally in the recent past. Accordingly, the share of internal and extra budgetary resources (IEBR) has been rising. In 2000-01, the dependence of the Railways on Union budgetary support was 38 per cent with 32 per cent covered through IEBR and the balance covered by market borrowings whose share went up to 30 per cent. Budgetary support has come down to as low as 20 per cent in recent years.

16 **The study notes that market borrowings should be used within prudential limits in financing the resource gap. Increased financing of the railway system through market borrowings can be unsustainable in the long run.**

17 **Internal resource generation can be enhanced if effective operating policies are adopted. It is necessary to: a) keep loaded wagons moving for longer hours per day, b) reduce the delays in loading, classification, unloading, etc., by imposing a tariff rate per wagon utilised per day rather than tonnage, and c) improve wagon allocation procedures by appropriate scheduling and reduction in empty wagon movements.**

18 **Given the accumulation of arrears of track renewals, rolling stock replacement and under-investment in line-haul facilities, it is also necessary to recognise that there is a limit to the better utilisation of facilities.**

19 Empirical studies have pointed out that operational improvements on the Indian Railways do not get reflected in the same degree of financial improvement primarily because tariffs are not in alignment with the changes in input costs. On the basis of notional adjustments (to take care of changes of input costs), the relationship between operational indicators and financial performance is found to be strong, thereby supporting the case for tariff adjustment commensurate with changes in input costs.

20 **Pricing of railway services** has been insensitive to changes in the relative advantages of modes (as reflected by elasticities) as is evident from the gradual diversion of high-valued as well as low-valued items from the Railways to the highways. At the same time, the scope for mobilising large-scale internal surpluses by raising tariffs is limited due to proven shift away from the Railways. Consequently, there exist large gaps between costs incurred by the Railways and prices charged by them especially in respect of passenger services.

21 Passenger traffic earned only about 30% of the Railway's total earnings while freight traffic earned 70%. Thus, the entire social burden of the Railways is almost entirely borne by freight traffic. The freight rates are, therefore, pitched at a level higher than fully distributable costs. Accordingly the average rate per tonne km. is nearly 3.5 times the rate per passenger km. Thus, passenger services are increasingly being underpriced while freight services are overpriced. Consequently, the rail is losing competitiveness vis-a-vis the road transport sector.

22 **Accordingly, it is suggested that freight rates should be brought down or at least not raised till the revenue per passenger km. exceeds the revenue per tonne km. There is, thus, definitely a case for raising passenger fares. This may be specifically true for traffic in the second class mail/ express component (mainly long-distance intercity non-suburban). This segment accounted for nearly 50% of the passenger-km. and 55% of the revenue generation. Even a mere 10 paise increase per passenger-km. could result in additional earnings of around Rs.1800 crore**. And it is widely believed that there would not be an adverse revenue impact to passenger fare increase (in other words, inelastic demand).

23 The **Expert Group on Railways** set up by the Ministry of Railways in 1998 identified that the main cause of the financial problems of the Railways is the absence of adequate productivity increases that are in line with real wages over time. In this context, the Group has

recommended, *inter-alia*, (i) a "High Growth Strategy" that will entail "focussed remunerative investment and corresponding organizational restructuring of the Indian Railways internally and in relationship with government, including corporatisation"; (ii) stop unremunerative investments; and (iii) setting up of the Indian Rail Regulatory Authority to regulate tariffs. The Report of the Group is being examined by the Government.

24 **Railway Budgets in the past decade have taken steps** towards the much needed rationalisation of the tariff structure especially in regard to freight rates. The Budget, while resisting any across-the-board increase in freight rates, proposes a higher relativity index for upper class travel (except first class AC, where the relativity index has been lowered to make it more competitive vis-à-vis air travel). The minimum fare of passenger travel also goes up marginally from 15 to 16. In other words, there is a policy signal to eventually correct the existing imbalances between freight rates and passenger rates.

25 A major factor impacting upon the financial performance of the Railways is their **social burden**. Conceptually, the social burden on the Railways can be categorised into (a) losses on transport of essential commodities; (b) losses on coaching services; (c) losses on uneconomic branch lines; and (d) losses on strategic lines. For the period 1980-93, the magnitude of the social burden is estimated to have ranged between 13 per cent and 20 per cent of the Railway's gross traffic receipts and 13 per cent to 21 per cent of their total working expenses. Since the onset of economic reforms, the social obligations of Railways have declined, touching 11 per cent of total expenditure. In 2001-02, the social obligation of Railways is estimated at 13.8 per cent of **total** receipts (14.6 per cent of total expenditure). Studies have shown that if the Railways were relieved of their social burden, they would not have to depend upon budgetary support to finance their Plan outlays. Alternatively, it has been argued that the level of tariffs could have been lower even after meeting the dividend liabilities.

26 Such losses are covered through cross-subsidisation, via higher freight rates on some commodity groups. While cross-subsidisation is intended to benefit economically weaker sections, in reality, the benefit of subsidy is appropriated by economically well-off segments of society.

27 **The Study thus recommends systematic pruning of those subsidized services that will not reach the target groups**.

II. Private sector participation in transport infrastructure and services:

A. The International Experience

28. Although private participation can provide immediate access to a considerable pool of additional funds and private management skills, it is recognised that it may not necessarily be a panacea for the problems confronting all infrastructure projects. Accordingly, there is a need to understand the international experience in respect of practices, regulations, institutional arrangements and risk management with a view to devising a framework that is fair, predictable, satisfactory and, above all, one that delivers services with greater efficiency.

29. The international experience indicates that private sector participation in the transport sector has usually taken the following **three forms**:

(a) sale of public enterprises in the transport sector;

(b) contracting and outsourcing of specific services and

(c) private financing and management of new projects in transport.

30. The international experience with transport privatisation, as succinctly brought out by Gomez-Ibanez and Meyer (1993), suggests **five conditions** that facilitate and are, most often, crucial **for successful privatization**:

(i) Effective competition;

(ii) Large efficiency gains;

(iii) Few transfers;

(iv) Limited environmental problems and other externalities; and

(v) Reasonable but not excessive profitability.

31. A Table, on their assessment of the **prospects for privatization** of certain activities in respect of both developed and developing countries, an abridged version of which is given below, is interesting:

	Prospects for					
Activity and Stage of Development	**Competitive Market**	**Large Efficiency Gains**	**Minimal Transfers**	**Few Extern-alities**	**Profitability from user charges**	**Overall Success**
Toll Roads						
Developed	Medium	Medium	Low	Low	Low	**Low**
Developing	Medium	Medium	Low	Medium	Medium	**Medium**
Intercity Passenger Rail (new lines)						
Developed	Strong	Strong	Medium	Low	Low	**Low**
Developing	Medium	Strong	Medium	Low	Medium	**Medium**
Urban Rail Transit (new lines)	Strong	Strong	Low	Low	Low	**Low**
Intercity buses						
Developed	Strong	Strong	Medium	Low	Medium	**Medium**
Developing	Strong	Strong	Medium	Medium	Strong	**Strong**
Urban Transit Buses						
Developed	Medium	Strong	Medium	Strong	Low	**Medium**
Developing	Strong	Strong	Medium	Strong	Strong	**Strong**
Domestic Airlines (except U.S.)	Medium	Strong	Low	Strong	Medium	**Medium**
Internatio-nal Airlines	Strong	Strong	Medium	Strong	Strong	**Strong**

32 **Lessons** from the international experience of (transport) privatisation:

- The **State** has an **active role** to play by ensuring an appropriate policy environment and providing active support at the project level.

- Governments can significantly reduce the costs for the private sector by conducting **prudent macroeconomic policies**, supporting secure property rights and deregulating and liberalising the financial system so that private players can do their best to take advantage of low-cost funding opportunities. Transaction costs of privatisation projects seem to have more to do with the characteristics to the policy environment than with the characteristics of the project.
- **BOT projects** are exceedingly complex both from a financial and legal point of view. These projects require an extended period of time to develop and negotiate. In fact, it is feared that the longer negotiation time required to develop private infrastructure projects relative to more traditional forms of direct investment has been one of the factor limiting investment in transport sector.
- Whether an infrastructure project is structured and framed under a BOT scheme or a non-BOT scheme does not alter the fundamental risks associated with it. But the key difference is the participation of the private sector in a BOT project and hence the **transfer of risk from the public to the private sector** which would lead to a reduction in budgetary support but give rise to the need for non-conventional financial analysis of the project scheme. Conventional financial analysis in evaluation of infrastructural projects uses deterministic estimates of important parameters with the implicit assumption of certainty. This assumption of total certainty in, say, analysis of BOT projects which are prone to risk elements would be inappropriate and could be prove expensive to both the government. and project sponsors. Many factors such as construction cost, traffic volume and toll revenue cannot be estimated with precision due to nature of the project itself.
- The private sector is generally willing to undertake those risks that it considers it can best handle while seeking government

support for only those risks it feels it is unable to control. But the experience is that infrastructure privatization in the developing world has frequently been accompanied by **extensive residual risk bearing by governments** which not only threatens to vitiate its efficiency benefits but also confronts governments with large financial liabilities. Typically, private investors seek to reduce risks by asking for Government support in the form of grants, preferential tax treatment, debt or equity contributions or guarantees.

- In effect, the Government substitutes a contingent liability for a recurrent liability in the form of a variety of **guarantees** some of which are specifically project oriented such as traffic guarantees in the case of toll roads while others relate to macro-level parameters such as exchange rate, interest, etc. Given the experience are developing countries, guarantees can be expected to efficiently support private infrastructure where participation programmes are an interim measure while the reform process is being set in place to allow various elements of the market to handle the relevant risks. While issuing guarantees, government must consider the expected value of commitments. In other words, whichever risk a Government takes on, it needs to consider how it can **measure the value of (expected) commitments and incorporate it in its accounts and budgets**. Various techniques in this regard are prevalent. Valuation of guarantees enables decisions to be made on the basis of real rather than apparent costs and benefits.

- The global trend towards infrastructure privatisation has pushed **regulatory issues** to the forefront, because regulation is complicated by three related considerations: (i) prices are invariably based on political pressures/ considerations; (ii) investors are aware of these pressures. In the absence of credible government commitments, capital will be more expensive

which results in higher tariffs. In terms of privatisation, this translates into smaller proceeds from sale of existing enterprises and higher financing costs for new (greenfield) projects; and (iii) the long-term nature of most infrastructure investment makes credible commitments difficult. It is necessary to devise systems of regulation and support that provide the encouragement and room for maneuver that the private sector needs while at the same time minimising government. exposure to the host of commercial and financial risks surrounding the projects.

- The **synchronization** of demand and supply of transport finance through coordination of government privatization programme and release of contractual saving towards funding transport infrastructure and services is very important.

B. The Indian Scenario

33 **The Expert Group on Commercialisation of Infrastructure Projects** (Chairman: Dr. Rakesh Mohan) (1996) dwelt at length on the issues relating to **privatisation** in respect of the Indian economy**.** The Report called for sweeping reforms in the debt and capital markets and drastic deregulation and privatisation of the ***infrastructure*** sector in order to attract annual investments of Rs.1.80 trillion by 2005-06. The Group estimated the requirement of external finance to the extent of 15% or Rs. 2.70 billion ($ 7.71 billion) per year. The **recommendations** of the Group in this regard **include**:

- an overarching legislation to be made for projects formats such as BOT, BOO, etc., governing projects across all sectors on the lines of the BOT law of the Philippines;
- an infrastructure Co-ordination Committee to be constituted on the same lines as the FIPB which will clear projects on a national level based on broad principles;

- the present restrictions in FII guidelines to be removed for investment in infrastructure projects, or separate guidelines similar to FII guidelines without investment limits to be issued; and
- SPVs to be used for funding infrastructure projects. Such SPVs should be able to vary their capital with ease; they should be easy to wind up and tax-transparent.

34. In India, at the initial stages of **road privatisation**, around 1995-96, the response of the private sector was lukewarm, primarily because of the absence of **'concessions'**. Notable among the concessions sought was that the **land** required for the purpose would have to be acquired for the project by the government and handed over to the private firm.

35. With respect to roads where **toll financing** was feasible, it was suggested that it would be necessary to offer substantial incentives to the private sector since traffic levels to sustain a high-standard network would be too low to ensure attractive financial returns.

36. The Government has initiated a number of **measures** and offered a number of financial incentives. These include amendments to the National Highway Act to permit imposition of tolls on existing roads, no compulsion to have a toll-free facility, relaxation of MRTP provisions to enable large firms to enter the sector, acquisition of land for the facility which would be given to the firm on lease for the period of concession, etc. Further, a number of **financial incentives** have also been announced. As a result, nearly 20 National highway projects have gone on stream on a BOT basis. Of the nearly 10 road projects (others being bridges), two - the Udaipur by-pass and the Thane-Bhivandi by-pass are fully operational while others are at various stages of planning (physical and financial) / construction.

37. An interesting case is that of the Coimbatore by-pass in respect of which **"take-out financing"** has been used for the first time in India.

Such a structure allows lenders to exit from the project loan without really recalling the loan.

38. On the other hand, the Moradabad by-pass is the first project to be promoted by the NHAI on a **commercial return basis**. The NHAI for the first time has made a foray into the debt market through a **Special Purpose Vehicle** - the Moradabad Toll Road Company Limited (MTRCL) - which helps it to multiply its leveraging capability. The entire financing is to be done on a limited recourse basis with the only assurance being that a sovereign-owned subsidiary will operate the project. However, the financial restructuring does envisage some comfort to the lenders: the toll revenues are to be credited into an escrow account on which the debtors will have the right of charge. NHAI is expected to divest from MTRCL when it goes into the operation and maintenance phase. This has been recommended in order to create a benchmark in financial markets for future. Such disinvestment either by the private sector BOT operator or by the NHAI also help raise additional resources for such investments.

39. A problem faced by financial institutions in funding such projects has been that of providing **physical asset cover**. Most financial institutions either insist on corporate guarantees from the promoters or extend long-term finance only by mortgaging the physical assets of the project. In fact, financial institutions demand a physical asset cover of 1.5 times of the loans extended by them, which is in line with existing term loan conditions. But **collaterisation** of physical assets is virtually impossible in national highway projects. This is because BOT operators neither have the **leasehold nor ownership rights over the land** used since the ownership is vested with the government and not the Special Purpose Vehicles set up for the projects. Moreover, mortgaging of physical assets is not necessarily the solution to all the problems nor does it insulate creditors from defaults. In fact, it only provides some comfort in the books of the creditors. This apart, mortgages do not necessarily ensure prompt

repayment of either the principal or the interest amount and the level of comfort is restricted to recovery of dues through the sale or auction of physical assets.

III. Financial System and Transport Financing: Developments and Issues

To obtain an idea of the financial requirements of the transport sector, given the growth rate of GDP and the share of transport sector in the economy, a simulation exercise was conducted. The simulation exercise examined the financing need of the transport sector over the period 2000-01 to 2004-05. The historical simulation estimate financing requirement of the sector based on: (1) growth rate of GDP and (2) share of investment in transport in the GDP. It is estimated that if the growth rate averages 5 per cent and the share of investment in transport in GDP moves upwards gradually by 0.1 per cent per annum, the financing needs that arises from the sector would be placed at Rs.16,372 crore. In the 7 per cent growth scenario, the required investment would be Rs.23,151 crore over the period 2000-01 to 2004-05.

A. Banking Sector

40. The commercial banking sector's involvement in transport financing could be broadly classified into two groups: (a) Advances to transport operators including those under **priority sector lending** scheme, and (b) **Project financing**.

41. The percentage **share of transport sector credit** to total outstanding credit by scheduled commercial banks rose sharply but declined gradually from nearly 5.5% in the early eighties to about 1.8% in 1999. A major share of bank credit was accounted for by land transport (90% or more). The major share of credit (70%) has been for heavy commercial vehicles (trucks and buses), with intermediate public transport modes (Taxis and Autorickshaws) receiving about 13-14%

of credit, non-mechanized (land) and water transport modes receiving about 7-8% each. The share of bank credit to transport sector provided at "less than 14 per cent" **interest rate** has declined sharply from 72 per cent in 1989 to less than 12% in 1999 with 88% of the credit provided in the interest rate range of "14% and above". Of the outstanding credit to the transport sector, a little more than 7 per cent has been provided under the **priority sector schemes**.

42. An important factor contributing to the reduction in bank finance to the sector was the increasing number of **default** cases. "The rising proportion of non-performing loans has limited the volume of credit that banks can extend to new clients" (World Bank,1990, p.55).

43. **Main reasons for the poor recovery** included: a) inability of small operators to repay loans; b) willful default due to political influence; c) legal complications; and d) National system of permits which enables a truck operator to operate in number of states. Further, poor recovery varied from State to State. While repayment was found to be satisfactory in States like Rajasthan and Tamil Nadu, where there is an efficient back-up government machinery, in the case of States like Bihar and U.P., the recovery performance was poor. **It is strongly felt that the flow of funds from the banks would improve considerably if the recovery mechanism could be made more effective.**

Project financing by commercial banks

44. Long-term commitments (either by way of loans or equity contributions) to infrastructure projects would create a serious maturity mismatch between the assets and liabilities of these institutions. This mismatch could be even more precarious in the absence of efficient and liquid money markets that would otherwise provide banks with some tools to manage their liquidity and interest rate risks.

45. In order to promote and strengthen infrastructure financing, the **Reserve Bank of India** has liberalised term loans extended by banks for this purpose. Earlier, there were prudential ceilings on the overall exposure that a bank could take on a single infrastructure project which have been liberalised. Each bank is now free to sanction term loans to all projects within the overall ceiling of the prudential exposure norms prescribed by RBI. In **April 1999**, banks were permitted to sanction term loans to technically feasible, financially viable and bankable projects through **four broad modes of financing**: (i) financing through funds raised by subordinated debt (Tier II); (ii) entering into take-out financing; (iii) direct financing through rupee term loans, deferred payment guarantees; and (iv) investments in infrastructure bonds issued by project promoters and financial institutions.

46. **Take-out Financing** mechanism, though in its nascent stage in India, provides opportunities to the commercial banks to create long term assets from short term liabilities. The participation of a long-term player is crucial in this mechanism. After a specified period of time, the long-term asset is transferred to the books of the long-term financial institution. Take-out financing can be done through number of routes:
    a) where the risk is borne by the primary lender and the liquidity support is given by the long term financial institutions ;
    b) where the risk is fully taken over by the term lending institutions; and
    c) a blend of the both, (a) and (b) above.

B. Non-Bank Finance Companies

47. It is felt that the commercial banking system was very rigid its approach in respect of financing transport operators which often resulted in considerable delays in processing loan applications. The financing of transport operators through NBFCs is an emerging route. **In view of the large numbers of individual borrowers, management**

efficiency considerations suggest that creditworthy NBFCs should act as intermediaries in the entire process.

48. In other words, banks could play the role of "Wholesale financing/ banking" while the NBFCs could play the role of "retail financing/ banking". Some of the major players in the NBFC segment have, over the years, developed a special expertise in evaluating credit worthiness of potential borrowers (especially in truck financing) which is supported by an effective delivery system, in turn, backed up by an effective recovery management system which operates on the basis of a large retail network. This has occurred because many of NBFCs have focussed exclusively on commercial vehicle operators. From the demand side, it appears that operators prefer NBFCs to banks for a variety of reasons ranging from the attention they get for individual needs such as design of customer-oriented funding options to flexibility in recovery such as restructuring of payments in the case of genuine financial difficulties.

49. At the same time, there is a need to increase bank support to NBFCs in the near future, mainly because:

- It will provide substantial relief to transport financiers (NBFCs) which have been facing a severe resource crunch following restrictions on the mobilisation of public deposits. Banks look upon NBFCs as their competitors in terms of both deposit mobilisation and credit expansion.
- The classification of bank support to NBFCs under priority sector lending will enable banks to fulfill their targets under the scheme, which would also be based on a satisfactory recovery mechanism.

C. Financial Institutions

50. All India financial institutions, including, IDBI, IFCI, ICICI, SIDBI and IIBI play a crucial role in providing infrastructure finance. They alongwith State Industrial Development Corporations provide long term

finance to transport sector. Furthermore, the Infrastructure Development Finance Company (IDFC) was set up as a specialized intermediary to address the needs of the infrastructure sector and to facilitate the flow of private finance to commercially viable projects. The role of IDFC is crucial in transport financing in terms of (a) mitigating commercial and structural risk of transport projects and (b) designing innovative products. The Union Budget for 2002-03 entrusted additional responsibilities on the IDFC by creating an Infrastructure Equity Fund of Rs.1000 crore which would be structured and managed by IDFC and by requiring the company to play a coordinating role for debt financing by major financial institutions and banks for infrastructure projects larger than Rs.250 crore.

D. Bond and Equity Financing

51. In East Asian economies, although government bonds continue to be the predominant mode for infrastructure financing, the move towards privatisation of infrastructure services and new investment by the private sector has not only reduced the need for government bond financing but has also facilitated and accelerated the pace of corporate issues and the development of corporate bond markets. Two features that stand out in regard to the development of the debt market in developing countries in recent years. (i) availability of contractual savings for infrastructure financing; and (ii) divestment of public enterprises and role of existing enterprises in mobilising long-term debt.

52. In India, since the Malhotra Committee recommendations, there has been progressive liberalization of investment norms of contractual savings instruments. This opens up supply of funds for transport sector, among other long term investment areas. The demand for such investible funds can come from (a) growth of private sector and (b) disinvestment of public sector enterprises in the transport sector (through bond issues by such PSEs).

53. The **disinvestment** process is poised to pick up. The Economic Survey 2001-02 indicated that disinvestment in respect of Public Sector Units like Air India, Indian Airlines, Shipping Corporation of India is on the cards. Furthermore, the recommendations of the Disinvestment Commission in its Report submitted in January 2002, included those in respect of the Rail India Technical and Economic Services Limited (RITES).

E. Debt Market and Infrastructure Financing

54. A well-developed debt market with a diversified investor base helps the commercial banks to manage their asset-liability mismatches. The development of bond markets facilitates the development of derivative products such as credit derivatives to hedge against credit risk. A deep liquid debt market ensures setting up benchmarks and helps the price discovery process. It also ensures the unbundling of credit risks, interest rate risk and liquidity risk. Major steps towards development of the debt market include: (i) developing a system of primary dealers in the government securities market; (ii) introduction of liquidity adjustment facility (LAF) to address temporary liquidity mismatches of financial institutions and also to provide interest rates segment to the market; and (iii) investment norms for contractual saving institutions were liberalized to promote a more proactive role of debt market towards infrastructure financing.

F. Role of Guarantees

55. Contingent Liabilities (such as guarantees) perform a crucial role in the mitigation of risks to long term funding of transport projects. Project sponsors typically insist on government guarantees to bring in funds for road sector projects. Financial institutions, Banks and NABARD insist on guarantees while investing in infrastructure projects to contain default risk. Such guarantees are given by respective State Governments. The insistence on guarantees for project finance increases the fiscal risk of State Governments in

India. The reliance on guarantees as a substitute for debt has witnessed a sharp rise since the mid-nineties. Between 1996 and 2000, aggregate guarantees extended to state level entities grew at a rate of 24.1% as compared to 7 per cent between 1992-96. The Executive Committee on State Government Guarantees, RBI, advised institution of statutory administrative ceiling on guarantees and ensuring greater transparency. In 2002, the RBI constituted a working group to assess the fiscal risk of State Government guarantees. The report is yet to be placed in the public domain.

G. Recent Incentives in respect of the Transport Sector

56. (i) A ten year tax holiday was proposed in the Union Budget 2001-02 for core infrastructure activity, including roads and highways; (ii) tax incentives have also been provided in respect of long term project financing for interest income, dividend and to capital gains; (iii) budgetary provisions for roads and railways have been enhanced. An additional Rs.200 crore has been provided in the Union Budget 2002-03 to NHAI for completion of the 'Golden Quadrilateral' work. Another Rs.100 crore has been provided to other roads and inter-State importance; and (iv) the Insurance Regulatory Authority of India (IRDA) in April 2001 has further liberalized the investment guidelines for Life Insurance Companies and Pension Funds. The life insurance companies now are required to invest not less than 15% of their funds to the infrastructure and social sector while the general insurance companies and pension funds will have to invest a minimum of 10 per cent of its investments for infrastructure and social sectors. Such investment proposals will enhance the flow of investments to the infrastructure sector.

IV. Policy Suggestions

(A) From the point of view of an analysis of the resource gap being a reflection of the inefficiency of service delivery from existing transport infrastructural facilities provided mostly by the public sector within

an inadequate policy framework and the recognition that the public sector has a relevant, explicit but focussed role to play in direct infrastructure and service provision, the following observations are in order:

1. Pricing and cost recovery policies in the past have often not taken account of the fiscal effects and the cost of public funds. There have, thus, been major adverse effects of distorted pricing on resource allocation, operational and managerial standards of infrastructure services and the environment Thus, **setting user charges to economically efficient levels should be an important element** of an infrastructure financing strategy. This has to be true not only with respect to services provided by the railways and road transport (the major modes) but also in regard to roads in which case though user taxes do represent genuine user prices to a large extent, many governments have never seen it fit to set these taxes in accordance with accepted public utility pricing principles.

2. Besides an appropriate tariff strategy, **efficiency enhancement strategies to result in better utilisation of existing infrastructure and services** is required to be in place to set public sector organisations like the Indian Railways and State Road transport Corporations on a long-term growth path.

3. A financing plan based on efficient prices that also provides for equitable coverage would almost always require subsidies to cover total costs. The traditional method of cross-subsidisation made possible by a mark-up over marginal costs must be abandoned in favour of **explicit subsidies**. In the case of the railways as well as public sector road transport services, there is a need for systematic pruning of those subsidised services that do not reach the target groups.

4. Moreover, the strategy should be one that alters direction of the use of the system of user charges which is currently devoted mostly to (at least supposed to) funding investment to a system that emphasises

maintenance and also controls levels of service usage. This is especially required for road (highway) infrastructure which is most complex in terms of high network implications and accordingly implies a complex maintenance function which requires an effective maintenance strategy. **A strategy of earmarking for the roads sector is recommended** since the most attractive feature of such a scheme is to link the volume and quality of services (as reflected by operating costs) and the user charges (willingness to pay) with a view to ensure adequate allocation of resources to a low profile economic activity with particularly high rates of return. A basic pre-requisite would be an efficient Road administration under a Road Board which can pursue a genuine purchasing agency approach towards an efficient means of road provision and maintenance. By doing so, the Govt. would be promoting the longer-term process of institutional development.

The above observations, thus, point out the need for a thorough – going reform of policy relating to existing facilities.

(B) From the perspective of additional resource mobilisation to take care of the genuine resource gap and keeping in line with the growing belief in the past two decades or so that the private sector has an increasingly important role to play in the creation of wealth given that the incentive effects of private ownership are important, the following prescriptions are important:

5. Though it is widely recognised that the public sector should retain an important role in infrastructure finance and in the provision of infrastructure services, economic efficiency usually does not require a particular form of intervention. In particular, public ownership, operation and direct financing of infrastructure is often not necessary. Accordingly, in funding infrastructural deficits, it is desirable to **draw on market-based financing** as much as possible, keeping in view **sustainable/prudential norms**. These entities can rely on their stable and longer-term revenue profile in issuing debt securities ,

especially ling-term debt instruments. Such debt instruments helps set important benchmarks for the longer end of the debt market and provide attractive opportunities for contractual saving institutions. This objective may be met by devolving investment responsibilities to **autonomous agencies**, which are better positioned to gauge users' investment priorities.

6. The objective may also be met by turning select investment responsibilities to the **private sector under public guidelines, support and regulation**. In the sphere of urban transit, **competition for the market (via franchising/contracting) rather than competition in the market that needs to be encouraged** since that framework appears to be the primary cause of increased efficiency among, for example, bus operators in areas where such deregulatory measures have been attempted.

7. As user charges become more relevant and sophisticated, it should be easy to **promote public-private partnerships** which could ultimately depend on user charges alone. To serve as prototypes, merger of revenues from, say, tolling with taxes should provide a secure revenue base which could open up access to new sources of non-conventional funding such as the capital market, external funding, etc. The experience of both developed and developing countries illustrates the requirement of a close relationship between the need and the desire to **develop and tap capital and debt markets** (domestic and to a lesser extent, international). This process is still very much in its nascent stage in India and should be encouraged by ensuring a healthy balance between investor and user concerns within the framework of an appropriate regulatory framework

8. Given the experience in developing countries, government guarantees can be expected to efficiently support private infrastructure as an interim measure while the reform process is being set in motion to allow the market to handle the relevant risks. **But the Government**

must consider the expected value of commitments in issuing guarantees. Such valuation of guarantees and other contingent liabilities help in comparing guarantees with cash subsidies. Essentially, valuation enables decisions to be made on the basis of real rather than apparent costs and benefits.

9. **The financing mechanism chosen for infrastructure support should encourage greater domestic savings for investment rather than merely divert resources from other investments and the financial saving of the household sector is crucial for additional resource generation for transport financing.**.

10. The banking sector is a major source of financial savings of the households in the country. The traditional model reveals that the commercial banking sector's involvement in transport sector financing has been almost exclusively limited to loans given to transport operators. But recoveries being low, flows have been limited. **In the presence of an efficient recovery mechanism, the flow of funds from the banks is likely to improve considerably** .

11. Given the strength of adequate funding available with the banking system and the inherent efficient credit delivery and recovery mechanisms of NBFCs especially in regard to truck financing, **commercial banks themselves should play the role of "Wholesale financing/banking" while the NBFCs should play the role of "retail financing/banking".**

12. **Financing agencies should (over a period of time) insist on viability of operations either as a firm or as an association/evaporative with a viable fleet and requisite infrastructure as a pre-requisite for lending to truck operators.**

13. Financial innovations like **take-out financing** should be encouraged in the context of transport project financing.

14. Contractual savings form one-third of the financial savings of the households in India. Pre-empted use of these funds by the Government (through requirements to invest in Government securities) has been a major impediment to the development of contractual savings as a source of long-term finance. **There is a definite need to liberalize investment norms of contractual savings instruments**. While such a liberalization of norms represents the sources side from the flow of funds perspective, the **demand for such funds needs to be created through a well-planned programme of disinvestment of public sector (especially infrastructure) entities** with a view to promote private participation in infrastructure, to reduce budgetary support and management obligation and to promote competition. Such a supply (of) and demand (for) funds can contribute to development of domestic capital market.