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TRADE IN LAND TRANSPORT SERVICES: RAILWAYS

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Abbreviations

ATOC	Association of Train Operating Companies
BOLT	Build Operate Lease Transfer
BOT	Build Operate Transfer
BV	Banverket
CONCOR	Container Corporation of India Ltd
DMRC	Delhi Metro Rail Corporation
EC	European Community
FA	Ferrocarriles Argentinos
FDI	Foreign Direct Investment
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
IBM	International Business Machines Corporation
ICDs	Inland Container Depots
IDFC	Infrastructure Development Finance Company
IR	Indian Railways
IRCTC	Indian Railway Catering and Tourism Corporation Limited
IRFC	Indian Railway Finance Corporation Limited
JBIC	Japan Bank of International Co-operation
JNPT	Jawaharlal Nehru Port Trust
Kms	Kilometres
MFN	Most Favoured Nation
NCAER	National Council of Applied Economic Research
OECD	Organisation for Economic Co-operation and Development
POL	Petroleum Oils and Lubricants
RailTel	RailTel Corporation of India Limited
RITES	Rail India Technical and Economic Services Limited
Rkms	Route Kilometers
SJ	Statens Janvagar
SPV	Special Purpose Vehicle
TERI	The Energy Research Institute
TU	Transport Unit
UK	United Kingdom
UNCPC	United Nations Central Product Classification
USA	United States of America
VAT	Value Added Tax
WTO	World Trade Organisation

Foreword

This study investigates the developments in rail transport sector, both globally and in India, in the context of the ongoing GATS 2000 negotiations. It finds that in spite of significant autonomous liberalisation, there is limited scope for multilateral liberalisation in rail transport services since many WTO member countries have not even bound the existing regime in their initial offers. Although Indian Railways is a public monopoly and hence there is currently limited scope for foreign investment, India was found to have export potential under Modes 4 and 3 in maintenance and repair of rail transport equipment and supporting services. The study suggests that India should therefore offer liberalisation commitments in these two sub-sectors of rail transport services and push for the removal of barriers in markets of export interest. It also points out that India can use liberalisation commitments in the WTO as a tool to implement appropriate domestic reforms.

Railways, an integral part of the transport network, play a crucial role in facilitating trade. The performance of this sector not only affects the global competitiveness of merchandise trade but also the performance of other service sectors such as tourism. Over the past two decades railways across the world have undergone significant restructuring/liberalisation, which has improved their productivity and efficiency. The prolonged presence of monopoly in rail transport services has inevitably resulted in various monopoly-induced inefficiencies. The study emphasises the need and urgency for restructuring rail transport services on commercial lines and suggests some reform measures to improve the productivity, efficiency and global competitiveness.

The success of Telecom reform and the failure (so far) of Electricity reform has demonstrated the need for two critical elements in infrastructure reform: The separation of policy, regulatory and production/supply functions and the need for competition in the non-natural monopoly segments of the sector through private entry. Without such fundamental reform (see ICRIER web site for details) the railway system the deteriorating trend in financial viability, quality of service and safety & security of passengers is unlikely to be reversed.

This sector study is a part of the Ministry of Commerce project “Trade in Services: Opportunities and Constraints”. I am confident that this paper will provide significant input to policy makers, industry associations and academicians working towards realising the potential of this sector.

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Introduction¹

Railways, an integral part of transport network, play a crucial role in facilitating trade. An efficient railway system reduces the cost of transportation and thereby enhances the global competitiveness of the economy. In a large developing country like India, railways are a medium of long-distance transportation of passenger and freight. Railways are more energy efficient and environment friendly as compared to other modes of transport (e.g. roads). The performance of railways has implications for the performance of other service sectors such as tourism.

Prior to the 1980s, due to the public good nature of railways, requirement of huge investment and uncertain returns, railways were largely under a monopoly, often a public monopoly. In the 1980s, with increasing financial pressure on the governments, technological developments in the transport sector and general trend toward liberalisation and globalisation; countries started restructuring their railway systems to increase productivity and efficiency by encouraging competition.

Although many WTO (World Trade Organisation) member countries had already started the process of restructuring/liberalisation, this was not reflected in their commitments during the Uruguay Round of GATS (General Agreement on Trade in Services) negotiations. Commitments in rail transport services were extremely limited in terms of the total number of countries that scheduled the sector, their sectoral coverage and modes of delivery. In the post Uruguay Round period, many WTO members such as China have initiated restructuring and liberalisation of rail transport services. Autonomous liberalisation along with growth of multimodal transport (which requires effective co-ordination between different modes of transport) indicates that there is significant scope for widening the coverage and extent of commitments in rail transport services during the GATS 2000 negotiations.

India has one of the largest railway networks in the world which is under a public monopoly. India did not make any commitments in rail transport services during the Uruguay Round of GATS negotiations. The *objective* of this study is to examine the prospect of liberalising trade in *Rail Transport Services* and the costs and benefits of doing so under the GATS framework. The study also attempts to identify the domestic and external barriers to India's trade in rail transport services and suggests various reforms

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with a view to enabling Indian Railways to improve its productivity, efficiency and global competitiveness. The study also suggests possible strategies for India in this sector in the ongoing market access negotiations in services in the Doha Round.

Structure of the Study

The structure of the study is as follows:

- Section 1 provides an overview of GATS and discusses the coverage of rail transport services under GATS.
- Section 2 analyses the recent trends and developments in rail transport services in India and the world – emphasising on the deregulation and privatisation process.
- Section 3 identifies the domestic constraints affecting the growth, efficiency and global competitiveness of the Indian rail transport services and the external barriers to India's trade in rail transport services.
- Section 4 provides an analysis of the commitments made in rail transport services during the Uruguay Round of GATS negotiations.
- Section 5 discusses India's possible negotiating strategies during the GATS 2000 negotiations. This section analyses the requests of India's trading partners and India's possible response to such requests. It also discusses the possible demands which India can make on its trading partners for removal of entry barriers in markets of export interest. The initial offers of major players are analysed to get a broad idea of the extent to which WTO members are willing to open up this sector.
- Section 6 discusses the regulatory and other reforms which would not only improve the productivity of the Indian rail transport services but also enable the sector to meet the challenges and opportunities arising from trade liberalisation under the GATS.
- Section 7 draws up the main conclusions of the study.

1 Coverage of Rail Transport Services under GATS

This section presents a brief overview of GATS and the coverage of rail transport services under the GATS.

1.1 A Brief Overview of GATS

The General Agreement on Trade in Services (GATS), negotiated during the Uruguay Round (1986–1994), is the first ever set of multilateral, legally enforceable rules governing trade in services. The GATS envisages progressive liberalisation of trade and investment in services through periodic rounds of negotiations.

Under GATS services are traded in four different modes:

- a) *Cross-border Supply or Mode 1* refers to the delivery of services across countries. In the case of transport services, this refers to the cross-country movement of passengers and freight. It also includes electronic delivery of information, data, etc.

- b) *Consumption Abroad or Mode 2* refers to the physical movement of the consumer of the service to the location where the service is provided and consumed. It also covers activities, such as ship repair, and in case of railways, repair of rail equipment abroad, where only the property of the consumer “moves”, or is situated abroad.
- c) *Commercial Presence or Mode 3* refers to the establishment of foreign affiliates and subsidiaries of foreign service companies, joint ventures, partnerships, representative offices and branches. It is analogous to foreign direct investment in services.
- d) *Presence of Natural Persons or Mode 4* refers to natural persons who are themselves service suppliers, as well as natural persons who are employees of service suppliers temporarily present in the other Member’s market to provide services.

In modes 1 and 2, service supplier *is not present* within the territory of the Member, while in modes 3 and 4, service supplier *is present* within the territory of the Member.

The GATS contains two sorts of provisions. The first are general obligations, some of which apply to all service sectors (e.g. MFN, Transparency) and some only to scheduled specific commitments (e.g. Article XI: Payments and Transfers). The second are specific commitments, which are negotiated undertaking particular to each GATS signatory.

Under the Most Favoured Nation (MFN) Treatment (Article II) a Member is obliged to provide to another Member treatment which is no less favourable than that it provides to any other country, whether a Member or not (i.e. if a WTO member country offers a certain privilege to any other country, whether it be a Member or not, it has to extend the same treatment to all WTO Member countries). However, GATS allowed member countries to undertake exemptions to this clause, in their initial commitments in the Uruguay Round, subject to review.

Transparency clause (Article III) requires each Member country to publish all measures of general applications which pertain to or affect the operation of the Agreement. Countries are also required to publish international agreements pertaining to or affecting trade in services. Or in other words, the Council of Trade in Services will have to be informed, at least annually, of the introduction of any new, or any changes to existing laws, regulations and administrative guidelines. WTO Member countries can make request regarding specific information, which the concerned country will have to provide promptly. Article III requires Member countries to establish enquiry points to provide specific information to other Members.

GATS envisages progressive liberalisation of services trade under the four modes of service supply. For each mode, a country can impose two types of barriers: market access barriers and/or national treatment barriers. A country is said to have imposed a market access barrier if it does not allow (or partially allow with some restrictions) foreign service providers to enter and operate in its market. A national treatment barrier exist when foreign service providers are allowed to enter the market but are treated less favourably than domestic service providers. During the successive rounds of GATS negotiations, Member countries negotiate and undertake commitments to liberalise market access and/or

national treatment in specific sectors in what are known as sectoral schedule of commitments and across all or several sectors in the horizontal schedule of commitments. Both the sectoral and horizontal schedules have to be read together to understand the extent and nature of commitments in a particular sector. Thus, market access and national treatment are not automatically applicable across the board to all service sectors. These are negotiated obligations. It is possible for countries not to grant full market access and deny national treatment by putting limitations and conditions on market access and conditions and qualifications on national treatment in sectors/sub-sectors which might be opened. This is done by recording such limitations and qualifications in the commitment schedules under market access and national treatment. In its schedule a country is said to have made a “full” commitment in a particular mode of supply of service if there are no restrictions on market access or national treatment. A country is said to have made a “partial” commitment if the commitment is subject to some restrictions on market access and/or national treatment. If a country does not make any commitment to liberalise a particular sector or mode of supply and retains the right to impose restrictions in the future, then it is said to have kept the sector/mode “unbound”. It is expected that successive rounds of negotiations will secure further liberalisation by adding more sectors to a country’s schedule and removing limitations and qualifications, if any, in sectors/sub-sectors already in the schedule. This is done mode-wise for each sector/sub-sector. However, in some services, trade may not be technically feasible through all the four modes. It is also possible for countries to make commitments which are outside the scope of market access and national treatment as defined in the GATS. These are called Additional Commitments (Article XVIII). This provides scope for making commitments in such regulatory areas as licensing, qualifications and standards applicable to services. The “REFERENCE PAPER” on regulatory principles in Basic Telecom Services was negotiated under this provision.

GATS follows a positive list approach which indicates that countries are free to choose the service sectors/sub-sectors and modes within those sectors/sub-sectors for scheduling commitments.

1.2 Classification of Rail Transport Services

In the Services Sectoral Classification List (MTN.GNS/W/120), which was drawn up during the Uruguay Round based on the United Nations Provisional Central Product Classifications (UNCPC), rail transport services is listed as a sub-sector of transport services and includes five sub-categories namely, passenger transportation, freight transportation, pushing and towing services, maintenance and repair of rail transport equipment, and supporting services for rail transport services.

A brief description of each of these sub-categories is given below:

- (a) Passenger Transportation (CPC 7111):** This sub-sector includes two kind of services:
 - (i) *Interurban passenger transportation* (CPC 71111)-** This refers to interurban passenger transportation provided by railway, regardless of the distance covered and the class used.

- (ii) *Urban and suburban passenger transportation (CPC 71112)*- This refers to transportation of passengers between two urban areas or between an urban and a suburban area. Services provided by urban mass transit railways, i.e., underground and elevated railway, are included in this category.²

- (b) **Freight Transportation (CPC 7112)**: This sub-sector includes the following services:
 - (i) *Transportation of frozen or refrigerated goods (CPC 71121)*- This refers to the transportation of frozen or refrigerated goods (e.g. perishable food products in special refrigerated cars) by railway.
 - (ii) *Transportation of bulk liquids of gases (CPC 71122)*- This refers to transportation of bulk liquids of gases in special tank cars by railway. These cars may also be refrigerated.
 - (iii) *Transportation of containerised freight (CPC 71123)*- This refers to transportation by railway of individual articles and packages assembled and shipped in specially constructed shipping containers designed for ease of handling in transport.
 - (iv) *Mail transportation (CPC 71124)*- This refers to transportation of mail by railway on account of national and foreign postal authorities.
 - (v) *Transportation of other freight (CPC 71129)*- This refers to transportation by railway of freight, not included elsewhere.

- (c) **Pushing and Towing Services (CPC 7113)**: This sub-sector includes railway pushing or towing services, on a fee or contract basis, e.g. the movement of wagons between terminal yards, industrial sidings, etc.

- (d) **Maintenance and Repair of Rail Transport Equipment (CPC 8868)**: Maintenance and repair activities in this sub-sector cover repair services of transport equipment, on a fee or a contractual basis and do not include maintenance and repair of railway infrastructure, which is covered under the Construction and Related Engineering services sector (CPC 51310 and CPC 51320).

- (e) **Supporting Services for Rail Transport Services (CPC 743)**: This sub-sector includes railway passenger terminal services, except cargo handling, and other supporting services for railway transport, not classified elsewhere. This sub-category excludes shunting services (classified in CPC 71130 under Pushing or Towing Services); railway freight cargo handling services [classified in the subclass CPC 74110 under Container Handling Services, if for containerised freight, and in CPC 74190 (Other Cargo Handling Services), if for non-containerised freight or passenger baggage].

It is to be noted that in the Services Sectoral Classification List (MTN.GNS/W/120) construction of railway infrastructure is covered under the category – Construction and

² Urban traffic is defined as traffic that has its origin and destination within the borders of the same urban unit; and suburban commuter traffic is defined as traffic with a greater metropolitan area including contiguous cities [WTO, (1998), S/C/W/61].

Related Engineering Services. Architectural and Engineering Services related to railways is listed as a sub-sector of Professional Services under Business Services. This study concentrates on the above listed five sub-categories of rail transport services and does not cover construction of railway infrastructure or any services related to construction of railway infrastructure and its maintenance. The study, however, analyses the requests made by WTO member countries in *Services Auxiliary to all Modes of Transport* [i.e., cargo handling services (CPC 741); storage and warehouse services (CPC 742); freight transport agency (CPC 748); and other auxiliary services (CPC 749)].

Although WTO member countries have not raised much concern regarding the classification of rail transport services, urban transportation by railway has characteristics that are closer to those of competing means of transport such as motor buses, tramways and trolley buses. Moreover, these are often managed by the same transit authority. For light rail vehicles, the distinction between rail transport and urban road transport is blurred and often disputable.³ Hence, any commitments in urban transportation by railway should be consistent with commitments in other urban transport system.

2 An Overview

This section provides a broad overview of rail transport services and discusses the developments in this sector globally and within India with special reference to liberalisation and privatisation processes underway in this sector in selected countries. Impact of liberalisation on trade in rail transport services is also examined.

2.1 Global Developments in Rail Transport Services

Railways, which are one of the earliest forms of motorised transportation in the world,⁴ play a vital role in facilitating trade. An efficient railway system lowers the cost of transportation, integrates people and markets across the country, links backward regions with the mainstream economy (by opening them up to trade and investment); and thereby increases the overall productivity and global competitiveness of the economy. For a land locked country (for example, some of the European countries), railways are one of the most important modes of international trade and cross-border movement of persons.⁵ In developing countries such as India and China, railways are the main form of mass passenger transport at a price accessible to the majority of the population.⁶ Railways are also an essential component of the intermodal supply chain.⁷

³ See WTO (1998), S/C/W/61 and WTO (1998), S/C/W/60 for details.

⁴ The Indian Railways Report (2001)

⁵ Other modes include road, air, etc.

⁶ In 1995, China and India each accounted for 18 per cent of passenger-kilometers (kms) carried in the world. Comparatively European Union accounted for 14 per cent, and the US only one per cent [WTO (1998), S/C/W/61].

⁷ Where more than one mode of transport is used to transport a commodity from the place of origin to the destination.

Railways have certain advantages over competing modes of transport such as roads. They are more energy efficient⁸ and environment friendly⁹. They are also more economical for certain freight and passenger transportation, such as long haul freight transportation and high-speed trains for medium distance passengers.¹⁰

Although there has been a growth in the rail transport sector in some countries, there is no clear trend in this regard across countries. The railway network increased in countries such as China and Thailand but declined in countries such as Brazil, Japan, France and New Zealand. Railway passenger traffic, as measured in passenger kilometers (kms), almost tripled in China between 1980 and 1999, from 1,38,037 millions to 4,04,627 millions.¹¹ During the same period, passenger-kms in Japan increased from 1,93,143 million to 2,40,877 millions.¹² Some other countries, which experienced similar trend, include India, France and Egypt. In China, freight traffic, measured in tonnes-kms, increased from 5,70,732 in 1980 to 1,257,789 in 1999. During the same period, freight tonnes-kms in New Zealand also increased from 3,226 to 3,671. In spite of this growth in absolute terms, railways around the world are facing stiff competition from other modes of transport such as road transport, air and water transport, which has significantly eroded its market share in both the passenger and freight segments. For instance, in the European Union, the share of railways in tonnes-kms fell from 30.2 per cent in 1970 to 13.8 per cent in 2000, where as the share of road transport increased from 52 per cent to 74.6 per cent.¹³ This decline was less pronounced in the passenger segment, where railways share in terms of passenger-kms fell from 10.3 per cent in 1970 to 6.3 per cent in 2000.¹⁴ In the US, in 1995, although railways accounted for a much larger volume of freight transported (40.9 per cent) compared to that transported by roads (28.9 per cent), the growth trend was much lower than that for road transport (between 1970 and 1995, road transport grew by 123.4 per cent while rail transport only grew by 70.6 per cent).¹⁵

Over the years, there has been a significant change in the nature of goods transported – from high volume bulk cargo to high-quality, high-value containerised cargo. In the past, railways had largely been a mode for transportation of high volume bulk cargo

⁸ As compared to other modes such as road transportation, railways carry a much larger volume consuming a much lower level of energy.

⁹ Carbon-di-oxide emissions for passenger-kms are 100 times lower on passenger rail than in private cars [<http://www.atoc.org>]. The environmental cost of transporting passengers by train in densely populated areas is 50–80 per cent lower than by road. The environmental cost of freight movement by train is eight times lower than by roads. Transportation by railways also reduces problems such as congestion on major highways, vehicular pollution, etc. [The Indian Railways Report (2001)].

¹⁰ The Indian Railways Report (2001)

¹¹ World Bank's Railways Database (2001)

¹² World Bank's Railways Database (2001)

¹³ <http://www.iru.org>

¹⁴ http://europa.eu.int/comm/transport/rail/overview/current_en.htm

¹⁵ WTO (1998), S/C/W/61

with high-value light goods being transported by roads. Railways in many countries have now implemented high-quality and efficient container transportation services. In the US, railways have tried to increase their share of high value added traffic by establishing transnational freight corridors for container-only trains with a guaranteed date of arrival and computerised tracking of the goods.¹⁶

Historically, many railway companies were set up under private initiatives. They, however, received support from the government in the form of allocation of land, financing of infrastructure, guarantee of a return on the capita invested (as in India), etc. As the railway network expanded, capital intensity of the sector, high infrastructure costs, indivisibility and externalities, made rail transport a natural monopoly, which in most cases was a public monopoly.¹⁷ Railway companies became vertically integrated – with one single entity (often a state-owned firm) being responsible for the infrastructure, operation and marketing. The management of these companies was highly centralised and organised into a hierarchy, with strong trade union presence. Even in cases where the government did not directly own the services, government authorities imposed controls over entry, withdrawal, technology, operating practices, capital formation, pricing, frequency, the financial structure and accounting practices.¹⁸ Some of these restrictions were meant to preserve the national character of the industry and protect it from external competition and others for public policy goals of access at affordable prices and consumer protection. In this vertically integrated monopoly model, there was virtually no scope for privatisation¹⁹ and foreign investment.

The continued presence of monopoly and absence of competition resulted in monopoly-induced inefficiencies, low productivity and large deficits. Most railways in the world incurred growing deficits during 1970s and 1980s. For instance, inspite of significant government subsidies, the revenues earned by railways in Italy, France and Spain were only half of their operating costs. In 1994, the total debt of Italian railway was almost 4.9 per cent of the country's GDP (Gross Domestic Product).²⁰ In early 1980s, Japan National Railways incurred a loss of US\$10–15 billion per year.²¹ Continued financial losses over several years resulted in large debts. In 1985, the total debt of Japan National Railways was around US\$200 billion.²² The financial losses, debts and subsidies incurred by some major railway companies in the 1980s are given in Table A1, Appendix A.

¹⁶ WTO (1998), S/C/W/61

¹⁷ In some countries such as the US, freight transport companies were never nationalised.

¹⁸ OECD (1998)

¹⁹ Except in case of a few countries, for example the US where the freight transport companies were not nationalised and several companies operating freight services were allowed to compete in the same route [WTO (1998), S/C/W/61].

²⁰ OECD (1998)

²¹ The Indian Railways Report (2001)

²² The Indian Railways Report (2001)

Despite the growing financial pressure, the monopolies did not take much initiative to reduce cost. Many railways were overstaffed and employee cost constituted a significant proportion of the operating cost of the railways.²³ The vertically integrated monopolies also suffered from lack of managerial flexibility. In many countries, especially European countries, the labour unions became powerful and defended the interests of railway employees at the cost of productivity. As governments continued to subsidise the railways, this led to a vicious circle of state funding leading to low productivity and greater inefficiencies, and in turn generating a greater demand for state funding.

Towards late 1980s and early 1990s, governments of many OECD countries were finding it difficult to support the inefficient railway system. Due to the lack of funds, there was a reduction in subsidies and investment in rail infrastructure. To increase investment in railways, reduce monopoly-induced inefficiencies and improve performance, many countries started restructuring their rail transport system in the 1980s and 1990s. The restructuring process was characterised by deregulation and increased privatisation.

The other factor, which may have initiated the restructuring process, was a rapid change in customer demand for higher quality services at lower prices. This is especially true for freight customers, who with liberalisation and globalisation faced competition from their global counterparts and hence pushed for lower transport costs. Competition from other modes of transport such as roads reduced the market share of railways and pressurised it to improve productivity through technological upgradation (e.g. high speed container trains).

2.1.1 Restructuring of Railways: Deregulation, Liberalisation and Increased Private Participation

Railway restructuring began in the 1980s. Although each country adopted a different approach to restructuring, in accordance with its own social and political needs, there were some basic changes that were common to all the railway systems. The changes after restructuring in some selected countries are listed in Table A2 in Appendix A.

The first major step towards restructuring was the separation of railways from the government. In some countries restructuring involved the transfer of railways from a government department to a public corporation, while in others there was a direct transfer of ownership from government to the private sector. In order to run the railways profitably and commercially, the management was given greater autonomy and decision making was made transparent. To increase customer focus, governments inducted fresh talent and external professionals in top management of railways. In fact, during the restructuring process, majority of senior management in railways in Sweden, Japan, Spain, Italy, Austria, etc. were replaced by commercial expertise from outside the industry.²⁴ As a part of restructuring, railways identified their public service obligations and then drew up

²³ For instance, when Sweden undertook the restructuring in 1989, the cargo operator SJ Cargo could function with just 30 per cent of its previous staff (This information is provided by SJ Cargo).

²⁴ The Indian Railways Report (2001)

contracts with their respective governments for state funding of these obligations as well as efficient use of such funds. To improve their performance, railways created customer-focused units such as Passenger and Freight units in Sweden, and Long Distance Passenger, Short Distance Passenger and Freight units in Germany.²⁵

Governments took various steps to support the restructuring process. In Japan, the government created a new organisation – the Japanese National Railways Settlement Corporation, which took over most of the debt of Japan National Railway's amounting to US\$189 billion. The Japanese government also redeployed almost a third of the workforce made redundant due to restructuring.²⁶

Another common feature of restructuring was the separation of core and non-core activities of the railways. In the past, due to the non-availability of suppliers, railways had undertaken a large number of activities such as maintenance, catering and manufacturing, that were not core elements in the rail operation. With restructuring, railways started spinning off these non-core activities and private sector was allowed to operate in these sectors. In Pakistan, railways contracted out ticket sales and inspection and on-board services for two lines out of Lahore. The contractor was required to pay a fixed rate to the railways and therefore has an incentive to collect as much as possible. This arrangement reduced the previously high levels of ticketless travel. Other contracting services in Pakistan include luggage handling and parcel services. In Japan, the right-of-way for the bullet trains has been entirely maintained under contract with the private sector. In several US railways, locomotives are maintained by private contractors.²⁷

To facilitate private sector participation, some countries adopted the strategy of separating ownership of infrastructure from operations (Table A2 in Appendix A). In this model, which has been adopted by many European countries, the infrastructure company is usually a national monopoly subsidised by the state, undertaking traffic management, slot allocation, signalling, station management, etc. while the operation is managed by the private sector. However, the extent of private involvement varied from country to country. For instance, in 1988, the infrastructure and operation of Swedish State Railway was separated into two companies – Banverket (BV), the state-owned company which was the infrastructure service provider and Statens Järnvagnar (SJ), a public company which was responsible for operation of both passenger and freight trains. On the other hand, in the UK, after the break-up of British rail, Railtrack, which was privatised in May 1996, became the owner of the rail infrastructure. In Italy and Spain, infrastructure and operations were separated as independent profit centres. Along with the separation of infrastructure and operation, many countries created an independent regulator to oversee contractual relationships between infrastructure service provider, for defining standards and for ensuring fair competition. The role and responsibility of the regulator differed across countries.²⁸

²⁵ The Indian Railways Report (2001)

²⁶ The Indian Railways Report (2001)

²⁷ OECD (1998)

²⁸ For details see The Indian Railways Report (2001).

In some countries private sector participation was facilitated through concessions.²⁹ Concession is a form of lease in which the contractor agrees to make certain fixed investments and retains the use of the assets for a long contract period. For instance, in Argentina, in 1990s, the government-owned rail company, Forrocarriles Argentions, was split into separate businesses for freight services, inter-city services, and metropolitan commuter rail services. A state-owned company, Forrocarriles Metroplitanos SA, was created to run the suburban passenger services, which were split into seven lines. Each of these seven lines was offered to a private consortium through concessions.³⁰

Countries, such as Japan and China, adopted a different model of restructuring based on regionalisation. These countries created vertically integrated and geographically separated railway systems. For instance, In Japan, the Japan National Railway was divided in six regional passenger railway companies and one freight company covering the whole country (Table A2, Appendix A).

The time frame of restructuring varied across countries. While in some countries the restructuring was in a phased manner, in others it was completed within a short period. For example, the privatisation of the national railways in New Zealand and Japan were phased over several years, while in Argentina and United Kingdom, the main areas were privatised within two years. Restructuring and liberalisation process started much later in some developing countries. In 1998, Chinese Ministry of Railway initiated structural reforms that aimed at reducing the size of employees, separating administration from management, and increasing operational efficiency. Several parts of the railways, such as Guangzhou-Shenzhen and Gwyang Rolling Stock, were partly privatised.³¹ In late 1990s, Bangladesh Railways started encouraging private sector participation to become more market oriented. For instance, it leased out the commercial activities of passenger trains between Dhaka and Narayangunj on July 1997.³²

2.1.2 Effects of Restructuring

One impact of restructuring was an increase in private participation in the rail transport services. In the UK, the British Rail was split into around 100 private companies (1 infrastructure, 25 passenger operators, 6 freight operators, 3 leasing companies, 22 engineering companies and more than 40 associate companies). In Japan too, the railways were split into independent and private railroad organisations.

²⁹ It should be noted that the World Bank as part of its loan activities for restructuring railways has encouraged the granting of concessions in Argentina, Burkina Faso, etc. Concessions obey the logic of government procurement rather than market access within the framework of the GATS. However, no member of the Plurilateral Agreement on Government Procurement has made any commitments in rail transport services [WTO (1998), S/C/W/61].

³⁰ OECD (1998)

³¹ The Indian Railways Report (2001)

³² Subramanian and Arnold (2001)

Restructuring and privatisation have improved the performance of railways in terms of customer services (price, quality and safety), market share, productivity and investments. In Japan, the travel time got reduced by almost 25 per cent.³³ In Sweden, the price of passenger services fell by almost 5 per cent per annum and the freight rates were reduced by 7 per cent.³⁴ Rail restructuring also improved the safety levels. Following restructuring, the number of accidents in Japan reduced by 50 per cent.³⁵

Although restructuring did not immediately increase the market share of railways, it helped to reverse the downward trend.³⁶ The operating system became more efficient, which is evident from the increase in employee productivity. Employee productivity (measured in Thousand TU's/employee) more than doubled in Britain between 1990 and 1998 (0.3 to 0.8 for passenger productivity including passenger stations and 0.7 to 2.1 for freight productivity). This trend was replicated in other countries like Japan, Germany and Sweden. There was significant increase in infrastructure investment and reduction in public subsidies. In Germany, investments increased from US\$ 3.9 billion per annum in the 1980s to US\$ 6.8 billion in the late 1990s. In the UK, infrastructure investments doubled from less than US\$ 1.4 billion a year in the late 1980s to more than US\$ 2.8 billion per annum by 1999–2000.³⁷

However, the privatisation process in some countries has not been a success story. Privatisation of British Rail is an issue of considerable controversy. It is often argued that the breaking up of British Rail into several companies within a short time frame had negatively affected the performance of railways. In fact, after a spate of accidents, the British Government had to intervene and infuse capital for renovation of degraded assets to increase safety of rail transport.

Restructuring and privatisation led to the reduction in subsidy, but not its elimination. Subsidies in rail transport services have been justified on the ground that railways have a public service obligation. Subsidies received by railways of some selected countries are listed in Table A9 in Appendix A. Most railways earn profits through freight traffic whereas they breakeven or incur losses in the passenger segment.

2.1.3 Trade in Rail Transport Services

Cross-border supply (Mode 1) or the cross-country movement of passenger and freight is the main mode of trade in rail transport services. International transport of passenger and freight consist of joining successive national railway networks. In the past, no single entity was responsible for an international journey – the freight and passenger use to pass from one monopolistic network to the another. In such a set up there was hardly

³³ East Japan Railway Company

³⁴ The Indian Railways Report (2001)

³⁵ East Japan Railway Company

³⁶ The Indian Railways Report (2001)

³⁷ The Indian Railways Report (2001)

any competition in Mode 1, except in the case of transit between the same two points using different routes (for example, Rotterdam-Genoa through Germany and Switzerland or through Belgium and France) and different modes of transport (i.e. roads or rails).

One way to liberalise cross-border trade in rail transport services is through access rights, which allows operation of services through the track of another in return for a fee. Many countries have implemented access right at a national level³⁸ and this has been extended to cross country trade in Europe.

Railways are an important mode of international transport for landlocked European countries and the European Union (EU) took the first major step to liberalise international rail traffic. In 1991, the EU adopted a Directive 91/440/EEC³⁹ which laid down the framework for deregulation and liberalisation of railways in Europe. The aim of the Directive was to improve the legal framework of railways and restrict the decline in its market share by improving efficiency and creating a competitive environment. Under this Directive operation of rail transport was separated from management and maintenance of infrastructure. The Directive also gave "international groupings" (of one or more railway undertakings in member States) access and transit rights in the member States of establishment of their constituent railway undertakings, as well as transit rights in other member States for the supply of international transport services among member States where the undertakings constituting the said groupings were established. Furthermore, individual railway undertakings, (excluding urban, suburban and regional transport) were given the right of access, on equitable terms, to the infrastructure in the other member States for the purpose of operating international combined transport goods services. This Directive was supplemented by subsequent Directives, adopted in 1995, that defined the regime for the licences which had to be obtained in order to be considered a railway undertaking within the meaning of Directive 91/440/EC (Directive 95/18/EC⁴⁰) and the criteria for the non-discriminatory allocation of infrastructure capacity and the charging of fees (Directive 95/19/EC⁴¹).

Impact of such trade liberalisation initiatives was quite significant. Some member states implemented the Directive 91/440/EEC strictly and established paths which were restricted solely to groups of national companies and were called "freightways". These include the 17 Antwerp-Lyons paths, with extension to Marseilles and Barcelona, on the one hand, and to Turin-Genoa-Milan-La Spezia-Giaioia Tauro, on the other, set up in 1997-98 by Interdelta/Belitalia, a grouping of Belgian, French, Italian, Spanish and Luxemburg railway companies.⁴² Other member States (Germany, Netherlands, Austria

³⁸ In the US, Amtrak only owns 450 miles of track but has access to a further 24,000 miles of the American network owned by private freight companies on payment of a fee [WTO (1998), S/C/W/61].

³⁹ Official Journal of the European Communities No.L 237, August 24, 1991.

⁴⁰ Official Journal of the European Communities No.L 143, June 27, 1995

⁴¹ Official Journal of the European Communities No.L 143, June 27, 1995. It should be noted that this Directive, as in the case for the licensing Directive, also excludes from its scope cross-channels shuttle services.

⁴² WTO (1998), S/C/W/61

and Italy, together with Switzerland in this instance) have gone beyond the Directive and have put in place three freight corridors between Germany, the Netherlands and eventually Scandinavia, on the one hand, and Austria, on the other, called "freeways".⁴³ These are not only open to national operators but also to any recognised rail operators within the meaning of Directive 95/18/EC. In several member States, access has been much more open than that envisaged in the Directive 91/440/EEC. This is the case in Germany, where free access for freight has been established (but on a reciprocal basis in the case of foreign operators), the United Kingdom, where there is a free access for freight, and the Netherlands where free access also covers passenger services.⁴⁴

The second stage of liberalisation was in 2001, when the above-mentioned Directives were amended to further open up the markets. Directive 2001/12/EC was adopted to make amendments to Directive 91/440/EEC. The aim of Directive 2001/12/EC was to facilitate transparency in the use of resources through the separation of profit and loss accounts and the balance sheets.⁴⁵ It also gave the responsibility for essential functions to an independent body in order to guarantee fair and non-discriminatory access to infrastructure. With the objective of completing the internal market, the Directive provides access rights for all licensed railway undertakings, meeting safety conditions, to provide international transport of goods on a defined network called the Trans-European Rail Freight Network (TERFN), including access to, and supply of, services in major terminals and ports. Directive 2001/13/EC amended Directive 95/18/EC by extending the provisions on the licensing of railway undertakings. Directive 95/18/EC had introduced an obligatory license for railway undertakings for the operation of such services, valid throughout the European Union. Since some Member states extended access rights beyond Directive 91/440/EEC, amendment was made to the Directive 95/18/EC whereby licensing principles laid down were extended to all companies active in the sector. Directive 2001/14/EC replaced Directive 95/19/EC, on the allocation of railway infrastructure capacity and the levying of infrastructure charges. It provides a more precise definition of the rights of railway undertakings and of the infrastructure manager with regard to capacity allocation, and establishes a procedure for resolving conflicting demands for capacity and overcoming problems relating to capacity shortages.

Trade in rail transport services through Mode 1 is constrained by various technical obstacles. These include difference in gauge widths, supply of electrical current, maximum axle loads for wagons and locomotives, signalling and braking system, commercial speed limits, height of railway wagons, technical standards for wagons, etc. There are also issues related to fixation of fares, management of rail traffic, custom clearance procedures, etc. All these factors result in delays at border crossing which leads to higher transportation costs.

There are no major restrictions on trade through Mode 2 or consumption abroad. On the contrary, there is often cross-border co-operation among railway companies to

⁴³ WTO (1998), S/C/W/61

⁴⁴ WTO (1998), S/C/W/61

⁴⁵ Official Journal of the European Commission.

attract customers to use the rail transport services in Mode 2 (for example, Eurorail cards).⁴⁶

Due to the monopolistic nature of rail transport services, there is limited scope for trade under Mode 3 or commercial presence. With deregulation and privatisation (provided that foreign companies are allowed to invest in the sector), and gradual introduction of access rights and transit rights, trade under Mode 3 is becoming possible. Many railways have now spinned-off the non-core activities and it is likely that foreign players can enter these areas. Due to paucity of funds, countries have allowed foreign investment in rail infrastructure. Several American companies have purchased shares in Mexican railways. The increase in concessions, which is often given to a foreign consortium with presence in the country, there is increasing possibilities for trade *via* Mode 3.⁴⁷

Trade under Mode 4 involves the cross-country temporary movement of professionals (consultants, managers, technicians, engineers, etc.) for providing rail transport services. In the past, there has been a marginal flow of professionals from developed countries to developing countries. In recent years professionals from developing countries such as India are increasingly being recognised for their quality of services and comparative price advantages in both developed (for example the UK⁴⁸) and developing (for example, Malaysia, Bangladesh, Sri Lanka, Tanzania, etc.) markets.

The above discussion shows that although countries have autonomously liberalised there are still various barriers to trade in rail transport services. The discussion also highlights that countries are in the process of restructuring, deregulating, liberalising and privatising the sector, which would in turn, increase the scope for multilateral liberalisation.

2.2 Rail Transport Services in India

Rail transport services in India date back to the colonial era when the first railway line of 34 kms was laid between Bombay and Thane. Since then, there has been significant development in this mode of transport and presently India has one of the largest railway networks in the world spreading over 63,140 route kilometre (Rkms)⁴⁹ covering the length and breadth of the country. Passenger traffic in terms of passenger-kms increased from 66 billion in 1950–51 to 457 billion in the year 2000–01 and the freight traffic (in terms of net tonne kms) increased from 44 billion to 315 billion during the same time period (see Table A3 in Appendix A). IR not only plays a crucial role in integrating markets, but is also a

⁴⁶ WTO (1998), S/C/W/61

⁴⁷ WTO (1998), S/C/W/61. One needs to note that if the concession holder is given a monopoly it will be an issue of government procurement rather than market access.

⁴⁸ See Section 2.2.1 for more details.

⁴⁹ Comprising of broad gauge (45,099 Rkms), metre gauge (14,776 Rkms) and narrow gauge (3,265 Rkms) [Economic Survey (2002–03)].

main mode of transport for passengers and long haul of bulk commodities.⁵⁰ IR is an integral part of the urban transport network of the four metros, especially Mumbai and Kolkata. Half the passenger traffic of the IR consists of urban and suburban passengers.

The share of transport sector in the GDP has increased from 6.5 per cent in 1993–94 to 7.7 in 2000–01. However, the share of railways in the GDP has remained constant at around 1 per cent during the same period (see Table A4, Appendix A). Nevertheless, IR contributes significantly towards employment. With total staff strength of 1.5 million (in the year 2000–01)⁵¹, it is one of the largest employers in the organised sector.

Indian Railways is one of the largest railway networks under a single management. At the centre, there is a Union Minister of Railways, under whom there are two Minister of State for Railways. At the national level, the Railway Board is responsible for formulation of policies and effective operation of railways. The regional organisation of railways is divided into 16 zones (from 1st April 2003) and each zone is headed by a General Manager. The General Manager is responsible for the overall administration of his zone and for co-ordination with the Railway Board and other zones. In addition, there are various production units under the Railway Ministry. These include Chittaranjan Locomotive Works (Chittaranjan), Diesel Locomotive Works (Varanasi), Rail Coach Factory (Kapurthala), Integral Coach Factory (Perambur), etc. IR also has various public sector undertakings. These include: RITES (Rail India Technical and Economic Services Ltd.) which provides consultancy services in the field of transport, infrastructure and related technologies; IRFC (Indian Railway Finance Corporation Limited) which partly finances the plan outlay of IR; CONCOR (Container Corporation of India Ltd.) which provides multi-modal logistic support and movement of containerised cargo – both international and domestic; IRCON International Limited which is engaged in construction activities in India and abroad; IRCTC (Indian Railway Catering and Tourism Corporation Ltd.) which provides the catering and tourism services of the railways; RailTel (RailTel Corporation of India Ltd.) which was set up to modernise IR communication system, etc.

IR is a classic example of a public monopoly. Historically, this monopoly was a necessity since construction of railway infrastructure required large resources, investment involved long gestation periods and returns were uncertain. In the early years of operation, private sector participated in various non-core activities but these later came under the public monopoly. Presently, apart from operating in the non-core segments such as design, manufacturing and maintenance of rolling stock; catering services; hotels; etc, IR also owns and manages provision of basic amenities for staff such as hospitals, schools and housing complexes.

With restructuring and liberalisation, many railways across the world have unbundled the monolithic and integrated services into more manageable and compact

⁵⁰ These include coal, iron ore, iron and steel, cement, foodgrains, POL, fertilisers, etc. In 2001–02, IR loaded 522.23 million tonnes of freight traffic, of which 492.50 million was revenue earning [Annual Report (2001–02), Indian Railways].

⁵¹ Facts and Figures (2000–01), Indian Railways.

constituent units, which is followed by greater involvement of private sector in a competitive environment. Some countries have segregated the core and non-core activities while others have isolated the infrastructure from operation of railways. Although India initiated various reform measures in the 1990s, which led to privatisation and increased foreign participation in the transport sector, the IR was not a part of the reform process and continued to be an integrated public monopoly.⁵²

Liberalisation of the economy in the 1990s created greater demand for transport services in general and rail transport services in particular. However, railways have not been able to meet the challenges arising from opening up of the economy. The prolonged existence of monopoly has led to various monopoly-induced inefficiencies⁵³ resulting in low productivity, lack of customer orientation and poor quality of services. The performance of IR is much below the global standards. This is evident when comparison is made with similar railway systems such as the Chinese Railways (Table A5, Appendix A). The Chinese Railways has a significantly higher freight output with almost similar route kilometres. Staff productivity is also much higher in China (Table A6, Appendix A). The poor performance and low productivity, together with the growth of competing modes of transport (i.e. roads) has drastically reduced the share of railways in land transport.⁵⁴ Between 1950–51 to late 1990s, the market share of railways in freight traffic has dropped from 89 per cent to around 40 per cent and that in passenger traffic from 80 per cent to 20 per cent.⁵⁵ The development of pipeline transportation and the laying of pipelines for the transport of crude/finished petroleum products by Petronet and others would further affect the market share and revenue of IR. With development of road transport and the construction of Golden Quadrilateral (measuring 13,952 kms, to be completed by 2007) which will join the four metros, the market share of railways is expected to go down further.

The IR has taken various steps to improve productivity, efficiency and increase its market share. The freight structure has been rationalised reducing number of classes of commodities for charging purposes from 59 to 32 and lowering the ratio between the freight rate for the highest class and the lowest class from 8 to 3.3 and further to 2.8.⁵⁶ IR has also taken steps towards decentralisation. It has created new zones and divisions to ensure focused and customer friendly operations.⁵⁷ The power of the zonal General Managers to sanction work estimates has been increased from Rs 30 crores to Rs 50

⁵² It is often argued at the Government level that the privatisation of IR is not feasible due to its strategic importance to the nations and its social service obligations. But as discussed in later sections of this paper, these arguments cannot justify the monopoly-induced inefficiencies and poor performance of IR.

⁵³ These are discussed in details in Section 3.1.

⁵⁴ One needs to note that apart from monopoly-induced inefficiencies, unreasonably high tariff for some commodities is another reason for traffic switching to other modes of transport.

⁵⁵ Annual Report (various issues), Indian Railways and India Infrastructure Report (2001).

⁵⁶ The Economic Survey (2002–03) and Indian Infrastructure Magazine (April 2003).

⁵⁷ Although the Government is of the view that new zones and divisions would improve the performance of IR, the view outside the government is that it is a retrograde step that will only push up the cost and make co-ordination more difficult.

crores.⁵⁸ More power has been delegated to General Managers for quoting concessional freight under Station-to-Station Rates scheme.⁵⁹ Among operational improvements, freight movements are being computerised, high-speed goods trains (at 100 kmph) have been introduced, integrated transport is being developed through the terminal warehousing scheme, etc. All these measures have led to a marginal improvement in efficiency as shown in Table A7 in Appendix A. Nevertheless, the performance of IR is still much below international standards.

On August 15, 2002, the Prime Minister approved the National Rail Vikas Yojana, which is a non-budgetary initiative for removing the capacity bottleneck in critical sections of the railway network such as connecting the four metros and connectivity to ports. The Yojana aimed at putting IR on a fast track growth by introducing long distance high-speed freight trains, creating multimodal corridors, completing all the viable sanctioned projects within ten years, improving the standards of stations and railway compartments, etc. A new company, Rail Vikas Nigam Limited was set up in January 2003 for raising funds and implementation of the Yojana. However, the initiation of this Yojana is not free from criticism. Critics have pointed out that the allocation of funds under the Yojana was not based on careful research and funds have been allocated to projects which are unremunerative and sanctioned on considerations other than organisational needs. Since very few projects are likely to give adequate returns, this may further deteriorate the financial health of IR.

India's Ninth Five-Year Plan (1997–2002) has referred to the involvement of private sector in provision of rail services. The Planning Commission in the Tenth Plan Document restated the need for private participation and recommended the setting up of a Railway Regulatory Authority. The Tenth-Five Year Plan (2002–07) emphasises that the IR should run on commercial lines. The scope for private/foreign participation is, however, extremely limited in the existing monopolistic set up. In the early 1990s, Own Your Wagon scheme was initiated to attract private investment for building up a modern wagon stock. IR has encouraged private participation through Build Operate Lease Transfer/Build Operate Transfer (BOLT/BOT) schemes but these schemes have received lukewarm response. Private sector has also been allowed to participate in cleanliness of stations and catering services⁶⁰. In the case of CONCOR, which is now the only means of transportation of containerised cargo, the Government of India holds 63.09 per cent of the shares and the remaining shares are held by foreign institutional investors, domestic financial institutions, mutual funds, banks and individuals. Private port lines for private ports have been initiated through SPV (Special Purpose Vehicle).⁶¹ A Special Purpose Vehicle, Pipavav Railway Corporation Limited, has been formed with equity participation of Ministry of Railway and Gujarat Pipavav Port Ltd. to provide broad gauge connectivity

⁵⁸ Status paper on Indian Railways (2002)

⁵⁹ The Economic Survey (2002–03)

⁶⁰ In 2001–02, catering facilities were available on 228 pairs of trains, out of which 43 pairs of trains were catered to by the departmental catering units and 185 pairs of trains were catered by the private sector (Annual Report, Indian Railways, 2001–02).

⁶¹ A SPV is a firm which embodies a financial contract. It has no management or employees.

to the port of Pipavav in Gujarat. Gujarat Pipavav Port Ltd. is a joint venture between Gujarat Maritime Board and private operators including Sea King Ltd. and Port of Singapore Authority (Singapore). Although privatisation is still at a nascent stage, IR has taken a distinct move towards corporatisation, especially the corporatisation of various non-core activities. For instance, IRCTC was set up in 2001 to provide on board catering contract, upgrade catering services on railways and railway stations, promote rail based tourism, strengthen railway's linkages with travel intermediaries, etc. RailTel was also incorporated in the same year to modernise and upgrade IR communication system.⁶²

2.2.1 India's Trade in Rail Transport Services

Prior to 1947, India had an integrated railway network with Pakistan and Bangladesh. In the post independence period, railway networks of the three countries have been owned by respective public monopolies and cross-border trade has been limited to the movement of a few freight trains between India and Bangladesh and passenger and freight between India and Pakistan. The movement of passenger (between Delhi and Lahore through the Samjhauta Express) and freight between India and Pakistan has been suspended from time to time due to the strained political relationship between the two countries. There is also a Munabao-Khokhrapar rail link between Rajasthan and Sindh which was operational before 1975 and has not been used since then.⁶³ National security issues, political issues and custom clearance related issues have prevented the development of an efficient inter-country logistic system.

It is often pointed out⁶⁴ that the lack of efficient rail connectivity is delinking the north-eastern region of India from the rest of country and the country as a whole would gain from an efficient rail transport system connecting east and north-east India through Bangladesh. At present, there is a protocol for interchange of rail wagons across India-Bangladesh border. It sets out the charges for exchange of wagons and also sets the target wagon balance. Both India and Bangladesh have expressed interest in increasing rail connectivity, especially between east India and west Bangladesh. However, there are various technical obstacles to setting up of railway connectivity between the two countries and in connecting east and north-east regions of India through Bangladesh. The railway networks between India and Bangladesh are a mix of broad gauge and metre gauge. The network in eastern India is mainly broad gauge while in north-east it is metre gauge. Similarly in case of Bangladesh, the network in east Bangladesh is metre gauge and in the west is broad gauge. So unless there is a gauge conversion it is difficult to operate a continuous railway line from east India to north-east India through Bangladesh. There are other technical barriers to trade between India and Bangladesh. For instance, in the case of cross-country movement of goods, the freight trains in India are typically 40 wagons in

⁶² IR started building up a dedicated telecom network since 1960s. To expedite and modernise the old and worn out telecom network the Ministry of Railways set up RailTel. RailTel is in the process of evolving a nation-wide broadband telecom network along the railway track.

⁶³ Both India and Pakistan have recently shown a keen interest in resuming these rail links and are in the process of holding technical level discussion for the same.

⁶⁴ See Subramanian and Arnold (2001) for details.

length while in Bangladesh they are only 35 wagons long. Due to this, Indian rakes crossing the border have to be broken into smaller units and hauled short distance to destination while one section have to wait for a week for another locomotive. Since rakes travelling from Bangladesh to India carry consignment for a variety of locations, the wagons have to be reassigned to other trains. Indian and Bangladesh wagons have different coupling and braking system. This restricts the operating speed of Indian trains hauling Bangladeshi cars, and thereby reduces the efficiency of Indian trains. Apart from these obstacles, the movement of freight trains between India and Bangladesh is restricted by the complex and time consuming border crossing procedures, which results in delays at the borders and high transaction costs.⁶⁵ National security related issues also causes delays in cross-country movement of freight. Rail services between India and Bangladesh can only operate during daylight hours due to security reasons. Moreover, since the track maintenance system is less efficient in Bangladesh than in India, there are various safety issues.

Lack of an efficient cross-country railway network has affected trade of landlocked countries such as Nepal. At present, Nepal's international trade is through the Calcutta port and the movement of cargoes is largely by roads. It has been pointed out that ⁶⁶ a direct rail link between Birgunj in Nepal and JNPT (the container port of India) would help in the fast movement of containerised cargo to Nepal. However, it should be noted that Nepal does not have adequate rail connectivity and most lines (except connectivity to Birgunj) are metre gauge.

IR and its various public sector undertakings export rolling stock/spares to countries such as Bangladesh, Malaysia, Sri Lanka, Tanzania, Algeria, Iran, Columbia and Myanmar.⁶⁷ In most cases the export of rolling stock is accompanied by a contract for their repair and maintenance, which in turn create demand for export of professionals (engineers, supervisors, managers, technicians, etc.). For instance, since 1993 IRCON, a public sector undertaking, has a contract with the Malaysian Railways to lease diesel locomotives to Malaysia and also provide for its spares and maintenance. As a part of the contract, engineers and technicians have been sent from India to Malaysia for maintenance of rolling stocks.

India has significant potential for exporting consultancy and project management services related to maintenance and repair of transport equipment. For instance, in 2000–01, RITES secured a contract for maintenance and management of rolling stock for Atlantic Railway in Columbia. In the same year, RITES was engaged by a UK based consultancy firm to provide off-shore design support services for modification in the overhead electric traction lines required to modernise the West Coast Main Line in the UK for high speed passenger services. RITES provided consultancy services for signalling design for a rail project in the UK. It also provided advisory services for private sector participation in Sri Lanka Railways, and undertook studies for rail concessions in the

⁶⁵ Subramanian and Arnold (2001)

⁶⁶ See Subramanian and Arnold (2001) for details.

⁶⁷ Annual Report, Indian Railways, 2001–02.

Dominican Republic. In 2000, RITES had secured a contract for conversion of conventional passenger coaches into air-conditioned coaches for Bangladesh Railways on a BOT (Build Operate Transfer) basis. The company maintains metre gauge diesel locomotives in Bangladesh. RITES also provides various management and maintenance services in countries such as Malaysia, Vietnam, Tanzania, etc.⁶⁸ Commercial presence is often required for providing maintenance and repair services. In many cases (for example in Malaysia) the public sector undertakings (RITES and IRCON) have entered the foreign markets through local incorporation. Indian companies are yet to explore the possibilities of offering maintenance and repair services through the Internet.

Apart from movement of professionals as a part of a contract for repair and maintenance, there is a strong demand for Indian consultants, engineers, technicians, etc. from the railways of countries such as Malaysia, Zambia, Bangladesh, Sri Lanka, Vietnam, UK and some African countries for providing services related to construction of railway infrastructure, management and operation of railways. Indian consultants engineers, technicians, etc. not only have a cost advantage over their counterparts from developed countries, but are also renowned for their high quality services. This is also evident from the fact that Indian companies have conceived and conducted training programmes for foreign railway personnel both in India and in their own country. In 2000–01, RITES offered training to 33 personnel of Sudan Railway Corporation and Botswana Railways in various disciplines of railway management, operation and maintenance.⁶⁹

On the import side, the possibilities of foreign direct investment (FDI) in rail transport services is extremely limited. In India, FDI is not allowed in three main sub-sectors of rail transport services namely, passenger transportation, freight transportation, and pushing and towing services. FDI is allowed through automatic route in the remaining two sub-sectors – maintenance and repair of rail transport equipment and supporting services. However, foreign investors have not shown any interest in investing in these two sub-sectors.⁷⁰ India has opened up services auxiliary to all modes of transport for foreign investment. These include cargo handling services, storage and warehousing services, freight transport agency services and other auxiliary services. The Multimodal Transport of Goods Act 1993 permits foreign companies to invest in multimodal logistic services and foreign investors are now investing in these sectors.

In the past India, has imported professionals for providing services related to railway construction, management and operation. A large number of railway projects are through international loans. Sometimes multilateral funding agencies and donor countries impose a number of conditions while sanctioning the loans, such as appointment of international consultants, often consultants from the donor countries. For instance, in the case of the Delhi Metro, which is financed by a loan (about 56 per cent of the cost is covered by the loan) from the Japanese government through the Japan Bank of

⁶⁸ Annual Report (various issues), RITES and through interviews.

⁶⁹ Annual Report (various issues), RITES and through interviews.

⁷⁰ Industry associates have pointed out that there has been no FDI inflow in these sub-sectors due to various reasons such as stringent labour laws, cumbersome bureaucratic procedures, etc.

International Co-operation (JBIC), the loan conditions require appointment of international consultants (but not necessarily from Japan). Delhi Metro Rail Corporation has so far appointed 5 consultants (three from Japan, one from the USA and one from India).⁷¹

On the whole, India's trade in rail transport services is, at present, extremely limited. There is hardly any movement of passenger and freight between India and its neighbouring countries and even that movement is only through bilateral protocols. Since India has not allowed foreign direct investment in passenger transportation, freight transportation and pushing and towing services and foreign investors have not shown much interest in investing in maintenance and repair of rail transport equipment and supporting services, there is hardly any trade through Mode 3. India is exporting and has the potential of increasing its exports of maintenance and repair services through Modes 3 and 4. The country also has the potential for exporting professionals (consultants, engineers, technicians, etc.) for providing services related to infrastructure construction, management and operations. There are possibilities for imports under Mode 3 for services auxiliary to all modes of transport.

3 Domestic and External Constraints

This section identifies and discusses the various domestic constraints affecting the productivity, efficiency and global competitiveness of the Indian rail transport services sector and the external barriers to India's trade in rail transport services.

3.1 Domestic Constraints

It has been pointed out in Section 2.2 that the performance of IR in terms of productivity and efficiency is below international standards, and railways are fast losing their market share to other modes of transport such as roads. This sub-section lists the domestic constraints affecting the overall performance of this sector.

IR has pointed out that the key problem affecting the growth and performance of this transport sector is *inadequate resources*. This is evident from the fact that, in 2000–01, IR was not able to pay dividend to the government on its past borrowings.⁷² There are three sources of finance for railways: budgetary support, internal resources and market borrowing. In 2000–01, capital investments were funded in proportion of 20, 54 and 26 per cent by budgetary support, internal resources and market borrowing respectively.⁷³ Over the years, the budgetary support in the plan expenditure for the railways has drastically declined, from 75 per cent during the Fifth Five-Year Plan to 23 per cent during the Eighth Five-Year Plan. In addition to the budgetary support and revenues raised internally, IR is allowed to raise loans from the market through Indian Railway Finance Corporation.

⁷¹ It is to be noted that all consultants are appointed through competitive bidding (Delhi Metro Rail Corporation).

⁷² Status Paper on Indian Railways (2002).

⁷³ Annual Report, Indian Railways, 2001-02.

However, such loans are accompanied by high rate of interest and the share of interest/lease payment has been steadily rising. Since railway is a capital-intensive sector requiring massive investment with long gestation period and uncertain returns, scarcity of resources is slowing down the process of technological upgradation and modernisation. This is evident from the fact that despite accelerated track renewal programme taken up during the Seventh and Eight Five-Year Plan, about 11,000 kms of track length was overdue for renewal during the start of Ninth Five-Year Plan. Frequent engine failures, rail fractures and other track failures, the tardy working of signals and telecommunication equipment indicate the poor quality and reliability of rail assets and have raised issues related to safety of rail transport.⁷⁴ The process of electrification is slow and as of March 2001 only 24.4 per cent of the route-kms has been electrified. Although IR was one of the first organisations to adapt Information Technology in the 1960s, it is finding it difficult to implement new technologies such as Integrated Geographic Information System, automatic train control, etc. due to financial constraints.

Unlike railway system in most countries, IR does not receive any direct subsidy from the government. Government support for this sector is mainly in the form of loans for purchase of capital assets, land, construction of new lines, electrification, etc., but the cost of borrowing is lower than the cost of market borrowing. IR has pointed out that since it does not have the freedom to set tariffs it should be compensated by budgetary support.

In spite of the resource crunch, the public monopoly has not taken much initiative in using the limited resources appropriately. Since the 1990s, IR has been making investments in unremunerative projects, which has escalated the cost. Examples of such projects are the introduction of a number of new lines and unremunerative passenger services for political reasons and large-scale investment in unigauge projects.⁷⁵ An example of introduction of new trains is the seventeen intercity trains called Jan Shatabdi which were introduced in 2002–03, without any market survey of demand for such services. The performances of some of the Jan Shatabdi trains have been so poor that the IR is contemplating to cancel the services. Such new trains not only enhance the resource crunch but also increase the cross subsidy burden. Large-scale investments in unigauge projects have affected the performance of IR. Instead of prioritising the projects, the available funds are thinly spread across a large number of projects resulting in time and cost overrun. The Planning Commission⁷⁶ has estimated that the throw forward (balance amount required to complete the projects) on these projects amounts to more than Rs 30,000 crores and going by the present rate of allocation on these projects it will take more than 30 years to complete them. It has been pointed out that⁷⁷ the creation of new railway zones (16 zones from 1st April 2003) has lead to further escalation of costs.

⁷⁴ Taskforce on Integrated Transport Policy, Planning Commission of India (2001).

⁷⁵ It has been pointed out that 70 percent of rail investment in the late 1990s were politically driven and unremunerative [for details see The Indian Railway Report (2001)].

⁷⁶ Taskforce on Integrated Transport Policy, Planning Commission of India (2001).

⁷⁷ Matilal, P. (2002).

Staff cost constitutes a significant proportion of cost of the IR. The staff cost and pension as a percentage of ordinary working expenses is presented in Table A8 in Appendix A, which shows that since the late 1990s, the total staff cost (including pension) has been more than 52 per cent of the total working expenses. Over the years, IR has diversified into various non-core activities, which has resulted in higher employment and consequently larger staff cost. Moreover, factors such as low level of mechanisation resulting in low capital input and outdated technologies; archaic labour practices of single skill; and inability to shed surplus staff have also escalated the staff cost.⁷⁸ Being a government department, the salaries of employees in IR are not linked to their performance but to the government salary structure⁷⁹ and hence, the salaries of employees have risen much faster than their productivity.⁸⁰ Table A6 (Appendix A) shows that employee productivity in IR is much lower when compared with other railway systems in the world. It is also pointed out that the policy of decentralisation adopted by the government and the creation of new zones could have reduced the staff cost, had the staff been reallocated. However, this has not happened and new employment in these zones has further escalated the staff cost.

Freight traffic in trunk routes has reached a point of saturation and there is limited scope for revenue growth without substantial improvement in technology. The large differentials in speed between passenger and freight trains, severely constraint the freight carrying capacity of trunk routes. In India, the maximum number of trains running even in the busiest double line sector are 50–60 per day in either direction compared to 85–100 either way which is the international norm.⁸¹ CONCOR has pointed out that the congestion in high-density corridors such as congestion on rail corridor at JNPT causes delays and results in high costs.

The IR suffers from a split personality disorder. On the one hand, it is seen as a government department and has certain public service obligations and on the other, it is seen as a commercial organisation and hence is expected to be financially self-sufficient. As a part of its public service obligation, IR is required to provide passenger transportation services below cost, run uneconomic services such as services in the north-east India, transport essential commodities below cost, etc. During 2001–02, losses incurred on account of social service obligation is estimated at Rs. 3, 413 crore. Such losses constitute approximately 9 per cent of the total earnings and 9.3 per cent of the total expenses of Indian railways.⁸² Since these services are not subsidised, IR has been cross-subsidising the loss incurred on cheap passenger fares by increasing the freight charges. For the past two decades, IR has been increasing freight tariffs much faster than increase in input costs

⁷⁸ World Bank (2002)

⁷⁹ It has been pointed out that employee cost of railways has significantly increased after the implementation of the recommendations of Fifth Pay Commission [for detail see The Indian Railways Report (2001)].

⁸⁰ The World Bank (2002)

⁸¹ The Indian Railways Report (2001)

⁸² Economic Survey (2002–03)

while passenger fares have not increased at the same rate as input costs. As a result freight tariff has increased much faster than passenger fares (Figure A1, Appendix A), and the ratio of rail fares to freight tariffs has fallen to 0.32, among the world's lowest.⁸³ In addition, cross-subsidisation exist within freight services and freight charges for certain commodities such as salt, fruits, vegetables, etc. are below the cost of operations. Cross subsidy also exist between operations in high-density and low-density branch lines and between high-class and low-class passenger services.

The high freight charge is one of the main reasons for diversion of freight from rail to road transport. CONCOR has pointed out that with the escalation of costs, IR has increased the annual haulage charges to CONCOR at a rate of 1-2 per cent on a regular annual basis. This has diverted the traffic to other modes such as roads. Railways share in freight traffic has fallen from 65 per cent in 1978 to around 40 per cent in 1998-99.⁸⁴ In fact, as in other countries, IR is facing significant competition from road transport sector. With development of expressways, road transport offers more flexibility in terms of door-to-door services and just-in-time deliveries. After trucking was deregulated in the 1980s, road transport has grown rapidly and has adversely affected the market share of railways. The construction of the "Golden Quadrilateral" linking four metros is likely to further reduce the market share of railways, unless IR upgrades its technology to provide point-to-point services and rationalise the freight rates. On the passenger side, with the development of National Highways and decline in air travel rates, IR will face competition from both road and air transport sector, especially for high-class passengers.

Since it is a public monopoly, IR suffers from various monopoly-induced inefficiencies. This is evident from the fact that IR has a weak asset management system. Instead of focusing on maintenance, the emphasis is on new investment. There is little incentive to manage the cost or deliver services efficiently. There is no proper system of evaluating the commercial viability of projects. Most project decisions are related to political pressures resulting in their non-viability.⁸⁵ The high degree of centralisation in decision-making and low level of autonomy reduces flexibility and results in delays in decision making. IR lacks customer orientation and has not focused on the quality of services. The present system of accounting followed by IR is non-transparent. While the system has worked well for internal management of railways, it is not well understood by businesses outside the railways.⁸⁶

IRCON has pointed out that existing provision in the custom duties has affected trade in rail transport services. IR and its public sector undertakings export rolling stock on a lease basis. They have to pay a custom duty for re-importing the rolling stocks at the end of the contract period. Delhi Metro Rail Corporation has pointed out that duties and taxes

⁸³ The World Bank (2002)

⁸⁴ The World Bank (2002)

⁸⁵ For details see The Indian Railways Report (2001)

⁸⁶ The Indian Railways Report (2001)

account for a significant part of the project cost (almost 18.5 per cent). High levels of duties and taxes discourage investment in rail infrastructure.

3.2 External Constraints

India's trade in rail transport services is presently very limited. IR is not able to meet the domestic demand and has not explored the possibilities of exporting abroad. At present, there is no cross-country movement of passengers and cross-country movement of freight is only with Bangladesh through bilateral protocols. The main barriers to trade are political relationship of India with its neighbours, national security and transit issue. In addition, there are various technical barriers to trade which are discussed in details in Section 2.2.1.

IR and its public sector undertakings export rolling stock/spares to various countries such as Bangladesh, Malaysia, Sri Lanka, Tanzania, Algeria, Iran, Columbia and Myanmar and such exports are often accompanied by contracts for providing maintenance and repair services. Most of these contracts are through competitive international bidding. In many cases, IR and its public sector undertakings face stiff competition from companies from developed countries. There are various restrictions on commercial presence for maintenance and repair services such as local incorporation requirements, joint venture requirements, etc. In some countries such as Malaysia, Algeria and Zambia, the governments insist on the utilisation of local labours. Although local labours may be less costly than Indian labours, the latter is more efficient and the condition of utilisation of local labours acts as a barrier to trade.

India has a comparative advantage in the export of professionals (engineers, technicians, etc.) for providing rail transport services. Presently, there are several non-tariff barriers on the cross-country movement of professionals. Temporary movement of professionals is constrained by recognition barriers, including, requirement on qualification, work experience and licensing/certification. RITES has pointed out that in some European countries including the UK, professional qualification from India are not recognised and Indians are required to seek technical licenses for providing engineering services. Residency and nationality requirements also act as barriers to movement of service personnel. Other non-tariff barriers include strict eligibility conditions for application for work permit/visas, cumbersome procedure for actual application and processing of these work permits and visas, limitations on the length of stay and transferability of employment in the overseas market. Some countries (for example, Malaysia and Bangladesh) have imposed stringent medical fitness tests which acts as a barriers to movement of professionals.⁸⁷ Apart from these restrictions there are also entry barriers in the form of economic needs tests, local market tests and management need test. All these restrictions raise direct and indirect (due to uncertainty and delays) costs on entering a foreign market.

⁸⁷ This was pointed out by IRCON.

4 An Analysis of the Uruguay Round Commitments

This section will discuss the nature and significance of commitments undertaken by the member countries in rail transport services during the Uruguay Round of WTO negotiations. Emphasis is placed on the restrictions imposed by different countries on market access and national treatment in the four modes of supply, namely cross-border supply, consumption abroad, commercial presence and movement of natural persons.

In the Uruguay Round, commitments under rail transport services were classified under five major sub-sectors – passenger transportation, freight transportation, pushing and towing services, maintenance and repair of rail transport equipment, and supporting services for rail transport services. Twenty-two WTO member countries (considering EU as one) undertook commitments in at least one of these sub-sectors. Some important member countries such as India and Australia did not make any commitments, while others such as Brazil, Japan, Sweden and European Community made commitments in only one sub-sector. The low level of commitments can be accounted for by the fact that rail transport has largely been a natural monopoly and during the Uruguay Round many countries were in the process of restructuring, but had not completely liberalised. Countries thus, found it difficult to integrate the GATS concept of multilateral liberalisation in the traditional monopoly model.

Table B1 (Appendix B) shows that among the 22 members, majority (18 countries) had undertaken commitment in maintenance and repair of rail transport equipment, followed by commitments in passenger and freight transportation (10 countries each). Only a few members had undertaken commitments in pushing and towing services (5 countries) and supporting services for rail transport services (4 countries). Two countries – Sierra Leone and Nicaragua made commitments in all the five sub-sectors followed by Switzerland, which made commitments in four sub-sectors.

A sector-wise and mode-wise analysis of market access commitments is presented in Table B2, Appendix B. The commitments made by different countries in various sub-sectors of rail transport services are discussed below:

- ***Passenger and Freight Transportation:*** Ten WTO member countries made commitments in each of the sub-sectors – passenger transportation and freight transportation. Of these nine countries (including Canada, USA, Hungary, New Zealand, Philippines, Switzerland, Turkey, Nicaragua and Sierra Leone) had undertaken commitments in both the sub-sectors⁸⁸ (Table B1, Appendix B). Overall, the commitments made under passenger and freight transportation are very similar and hence can be discussed together. The US excluded high-speed trains and Brazil excluded transportation of bulk liquids, gases and mails from their respective schedule of commitments.

⁸⁸ Mexico had undertaken commitments only in part of passenger transportation and Brazil in freight transportation.

Mode 1 is an important mode of trade in this sub-sector. Out of ten, four member countries including United States and New Zealand fully liberalised trade *via* Mode 1, while others (such as Canada, Turkey) offered partial commitments with restrictions on market access. Canada imposed a restriction on Cabotage. In Turkey, internal rail transportation can only be provided by the public monopoly. Countries such as Hungary, Switzerland and Philippines had left Mode 1 unbound for both passenger and freight transportation.

Commitments in Mode 2 were very liberal. Almost all the countries, which undertook commitments, offered to completely liberalise trade under this mode, except Brazil, which left this mode unbound for freight transportation. For Mode 3, only New Zealand and Philippines offered full commitments in market access, while other member countries opted for partial commitments with restrictions on either market access or national treatment. For instance, countries like Brazil, USA, Hungary, Switzerland and Turkey imposed market access restrictions while Canada imposed a national treatment restriction. The restrictions on market access included requirements on concessions authorisations, incorporation requirements, joint ventures requirements and investment limitations, etc. while the national treatment restrictions included nationality and residency requirements, additional requirements on concessions, authorisations, etc. For instance, in Brazil, the foreign supplier requires government authorisation and the authorisation is given in a discretionary manner. Brazil also reserves the right to limit the total number of service suppliers. In Hungary, services may be provided through a Contract of Concession granted by the state and the local authority. In Switzerland, for granting concession there has to be a need for such a railways undertaking and there should be no other means of transport which could handle that service in an ecologically and economically more reasonable way. In Turkey, internal rail transportation is a public monopoly. In the USA, foreign company wishing to own the stock of a railroad company incorporated in Vermont, must itself incorporate themselves in either Vermont or adjoining states.

Almost all the countries liberalised trade *via* Mode 4 only to the extent committed in their horizontal schedules. Philippines and Turkey being the only members who undertook full commitments under Mode 4 for both passenger and freight transportation.

- ***Pushing and Towing Services:*** Only five countries including New Zealand, Nicaragua, Norway, Sierra Leone and Switzerland undertook commitments in this sub-sector. While Sierra Leone and New Zealand fully liberalised trade *via* Mode 1, Switzerland and Norway left this mode unbound for both market access and national treatment. Nicaragua undertook full commitments only under market access, while reserving the right to impose a national treatment restriction by scheduling an unbound commitment. All the five countries offered full commitments under market access and national treatment for Mode 2. Norway and New Zealand had completely liberalised trade under Mode 3, Nicaragua did not make any commitments for national treatment and Sierra Leone and Switzerland had imposed partial restrictions. In Sierra Leone the foreign service provider is required to enter into a joint venture with the Government or

with Sierra Leoneans. In Switzerland, for granting concession there has to be a need for such a railways undertaking and there should be no other means of transport which could handle that service in an ecologically and economically more reasonable way. Mode 4 is the most restricted mode and all countries commitments to open up this mode to the extent scheduled in their horizontal commitments.

- ***Maintenance and Repair of Rail Transport Equipment:*** Eighteen countries, including United States, Canada, European Union, Thailand, Philippines, Japan, Switzerland, Sweden, etc. undertook commitments in this sub-sector. Out of these, 13 left Mode 1 unbound, 12 (including European Union, Finland, Sweden, Thailand, Philippines and Japan) did so due to lack of technical feasibility (Table B2, Appendix B). It is worth noting that with technological developments and progress in electronic tele-maintenance, certain maintenance and repair operations are now technically possible through Mode 1. Only 5 countries including USA, Canada and Hungary had fully liberalised trade *via* Mode 1. For Mode 2, all countries, except Nigeria, offered liberal commitments. Nigeria left this mode unbound due to reasons of technical infeasibility. Countries offered liberal commitments under Mode 3 (commercial presence). Thirteen countries (including Canada, European Union, USA, Switzerland, Norway, Philippines, Hungary, Finland, etc.) offered full commitments in this mode with no restrictions on market access or national treatment while others such as Japan, Thailand and Sweden made partial commitments. Japan did not impose any restrictions on national treatment other than those indicated in its horizontal commitments, while Thailand did the same for market access. In Thailand there is no restriction on national treatment as long as the foreign equity participation does not exceed 49 per cent. In Sweden, operators are allowed to establish and maintain their terminal infrastructure facilities, subject to space and capacity constraints. Only two countries, Czech Republic and Slovak Republic left this mode unbound. As in the case of other sub-sectors, most countries left Mode 4 unbound except as indicated in their horizontal commitments. The only two exceptions being Nigeria and Philippines, who did not impose any restrictions under Mode 4. Thailand bound this mode only to the extent indicated in the horizontal commitments but left the mode unbound specifically for civil engineers.
- ***Supporting Services:*** During the Uruguay Round only four countries – Nicaragua, Norway, Sierra Leone and Thailand scheduled commitments in supporting services. While Nicaragua, Norway and Sierra Leone scheduled commitments for the entire gamut of supporting services, the commitments made by Thailand were restricted to passenger and freight car cleaning services and security services at railway station. For trade *via* Mode 1, Nicaragua and Sierra Leone did not impose any market access restrictions but Norway and Thailand left the mode unbound. All four countries scheduled full commitments under Mode 2. For Mode 3, Norway scheduled full commitments with no restrictions on either market access or national treatment. Nicaragua did not impose any market access barriers but left the Mode 3 unbound under national treatment. Thailand and Sierra Leone undertook partial commitments for trade *via* this mode of supply. In Sierra Leone, the foreign service supplier is required to enter into the market through joint ventures with either the government or a

Sierra Leonean. In Thailand, there are no market access restrictions under Mode 3 for providing passenger and freight car cleaning services and security services at railway station other than those listed in the horizontal commitments. Thailand agreed not to impose any national treatment restrictions as long as foreign equity participation did not exceed 49 per cent. For Mode 4, all members scheduled partial commitments, offering only to the extent indicated in their horizontal schedules.

Czech Republic, Bulgaria, Slovak Republic and Turkey had undertaken MFN exemptions specific to this sector, while 10 more Members had undertaken MFN exemptions applicable to all sectors in land transport services including rail transport services. Out of these ten in seven cases, the general land transport exemption concern regional agreements in South and Central America. The three other cases concern reciprocity requirements, among which there is one case of tax reciprocity (VAT). Czech Republic, Bulgaria, Slovak Republic and Turkey undertook MFN exemptions specific to rail transport services. Czech Republic, Bulgaria, Slovak Republic made exemptions to cover existing or future agreements regulating traffic rights and operating conditions and provision of transport services in their territories and between the countries concerned. Turkey listed an MFN exemption for a preferential treatment in terms of reduction in renting fees of railway wagon for the neighbouring countries – Syria, Iraq, Iran and Lebanon and the application of national treatment to tariff rates on the reciprocal transportation of goods with the Commonwealth of Independent States and the Baltic Republics. All these MFN exemptions are for an indefinite period of time.

Overall, the commitments in rail transport services were extremely restrictive both in terms of sectoral coverage and modes of delivery. This can partly be explained by the existence of national monopolies. However, three activities (repair and maintenance of transport equipment, pushing and towing services and supporting services) can technically operate outside the scope of monopoly.⁸⁹ During the Uruguay Round, many countries had already started the process of restructuring and liberalisation but this has not been reflected in their commitments. Hence, there is significant scope widening the coverage and extent of commitments in the current round of WTO negotiations

Services auxiliary to all modes of transport (cargo handling services; storage and warehouse services; freight transport agency services; and other auxiliary transport services) play an important role in the growth and development of multimodal transportation. A commitment under this category has implications for trade in rail transport services. Thirty-three WTO member countries had undertaken commitments in services auxiliary to all modes of transport. While the commitments were largely made by the developed countries (such as USA, EU, Canada, Japan) important developing countries (like Korea, Brazil and China) had also commitments in some sub-sectors. India had not offered any commitment in this service sector during the Uruguay Round. Overall, the commitments are limited in terms of sectoral coverage since half of the countries that did make commitments, did so only in one or two sub-sectors. Moreover, commitments were very restrictive in terms of modes of delivery. The maximum number of countries had

⁸⁹ WTO (1998), S/C/W/61

taken commitments in storage and warehouse services, followed by freight transport agency services, cargo handling services and others services. Although the nature of commitments varies across countries, there are certain common features across the four modes of delivery. Most of the countries had either completely liberalised Mode 1 (e.g. Mexico) or have left unbound due to lack of technical feasibility (e.g. USA, Japan, Brazil). Members offered liberal commitments in Mode 2. Majority of them undertook partial commitments under Mode 3, and imposed market access restrictions. For instance, Canada imposed a licensing requirement while US required services of customs house brokers to be supplied through a corporation, association or partnership. Some countries such as Brazil did not impose any market access or national treatment restrictions under Mode 3. For Mode 4, as in the other sectors, countries undertook liberalisation only to the extent committed in their horizontal schedule.

5 GATS 2000 Negotiations

The discussions in the previous sections show that IR is a public monopoly and FDI is allowed in only two sub-categories of rail transport services – maintenance and repair of rail transport equipment and supporting services for rail transport. The previous sections also highlight that India’s trade possibilities through the two main modes – cross-border supply and commercial presence, are extremely limited. India however has a comparative advantage in the export of professionals for providing services related to maintenance, management and operations.

This section discusses India’s possible negotiating strategies for the ongoing GATS negotiations. Since rail transport services is a public monopoly and there may not be any major restructuring/liberalisation in the near future, this sector will receive low priority in India’s negotiations and it is likely that the country may not schedule it in the current round. India, however, has received some requests from its trading partners and would have to formulate a strategy to respond to them. This section discusses India’s possible negotiating strategies during the GATS 2000 negotiations, emphasising on whether it is in the interest of the country to offer a forward looking commitment or bind the existing regime for sub-sectors such as maintenance and repair of rail transport equipment. It is also important to analyse the initial offers of major players to understand the extent to which other members are willing to liberalise in the ongoing round.

5.1 Requests of Trading Partner’s

India has received requests from 24 WTO member countries, among which only four – EU, Brazil, Norway and Singapore have made requests specific to rail transport services. Even major players such as the USA and Canada did not make any request in this sector. The small number of requests shows that this is not an important sector from the negotiating perspective.

The nature of requests varies across the four countries. While Brazil has requested for full commitments under all modes for all sub-sectors of rail transport services; Norway

wants India to remove all restrictions under Mode 3 for rail cabotage transport of cargo where an international sea leg is involved; EU has requested for full commitment under Mode 3 for freight transportation and Singapore has asked for complete opening up of Modes 1, 2, and 3 for maintenance and repair of rail transport equipment.

5.2 *India's Negotiating Strategies*

India has limited export interest in Modes 1 and 2. India however has a comparative advantage in the export of professionals to provide consultancy and project management services in both developed and developing markets. As discussed in Section 3.2, there are various barriers to movement of professionals and India should negotiate for the removal of such barriers. These barriers are not sector specific and are common to all professional services. Hence, they would be discussed under the broader negotiations on cross-cutting issues related to temporary movement of professionals. However, certain barriers specific to movement of professionals to provide rail transport services, such as the condition imposed by countries like Malaysia, Algeria and Zambia for utilisation of local labour for provision of rail transport services, will have to be negotiated under Mode 4 sector-specific commitments.

Since India is exporting services relating to maintenance and repair of rail transport equipment and supporting services, it should push for the removal of barriers to commercial presence in these two sub-sectors in markets of export interest. These include joint venture requirements, local incorporation requirements, etc. For instance, in Malaysia there is a local incorporation requirement and India can negotiate for the removal of such restrictions. On its own, India has opened up these two sub-sectors for foreign investment (100 per cent FDI is allowed) and should undertake binding commitments not only to enhance its negotiating position but also to gain greater market access in other areas of export interest.

India can use the WTO negotiations to initiate domestic reforms and reduce the monopoly-induced inefficiencies in rail transport services. Certain segments of freight and passenger services can be opened up for privatisation and foreign investment. For instance, given the demand for transportation of containerised cargo, the government can allow FDI in container transportation. Unlike IR, no major railway systems in the world operate urban and suburban traffic. Such traffic is managed by local authorities through separate organisations. IR can gradually open up the urban and suburban transportation for foreign investment. The country can undertake a forward-looking commitment, i.e., a commitment to open up certain segments of passenger and freight transportation after a certain period of time subject to some conditions (for instance, there can be a local incorporation or joint venture restriction under Mode 3). Such commitments should specifically state the time-frame of liberalisation and the nature of restriction, if any, imposed by India. Example of such forward-looking commitments in rail transport services is in China's accession

schedule.⁹⁰ As a negotiating strategy, India can use liberalisation commitments in rail transport services to gain greater market access in other areas of export interest.

Trade in rail transport services is also affected by commitments in services auxiliary to all modes of transport. Member countries such as EU, Japan, Brazil, Switzerland, Sri Lanka, New Zealand and China have made requests for either opening specific sub-sectors under services auxiliary to all modes of transport or the sector as a whole. Most of these requests refer to full commitment under Modes 1, 2, and 3. Mode 4 can remain unbound except as specified under horizontal schedule. It is worth noting that India has autonomously opened up all the sub-sectors under services auxiliary to all modes of transport and FDI up to 100 per cent is allowed through automatic route, but the country did not schedule it during the Uruguay Round of WTO negotiations. Since India has already opened up cargo handling services, freight transport agency/freight forwarding services and storage and warehouse services and foreign players (such as TCI, Gatti, Express Courier in freight transport agency services, Mersk in storage and warehouse services) are operating in these sub-sector, India should offer to bind the existing regime. It has also been pointed out that liberal commitments in these sub-sectors will enhance the growth of multimodal transportation in the country.

Japan has requested India to eliminate nationality or residency requirements for custom clearance services. In India, to obtain a license for custom clearance agent services, there is a need to pass an exam, pre requisite for which is that the person must an Indian national. It has been pointed out that⁹¹ due to security reasons it would be difficult for India to meet this request.

5.3 Analysis of Initial Offers

As of March 31, 2003, countries have started submitting offers for the GATS 2000 negotiations. The offers so far are “initial”, i.e. they have no legal bindings and are conditional upon the negotiations and offers received from the trading partners. A preliminary analysis of the offers in rail transport services show that there has been very little improvement over the Uruguay Round commitments. Countries such as the USA, EU, Canada, New Zealand, Switzerland, Japan, Norway, Mexico, Turkey, Thailand, China, Bulgaria and Czech Republic have scheduled rail transport services in their initial offers. While countries such as the USA, New Zealand, Switzerland, Czech Republic, Turkey and Bulgaria did not make any liberalisation commitments over and above those scheduled during the Uruguay Round of negotiations, Norway has removed the technical infeasibility restriction on trade in maintenance and repair of rail equipment through Mode 1. Japan has removed the national treatment restriction on maintenance and repair services of rail

⁹⁰ China, as a part of its accession commitments in the WTO, has undertaken commitments in all the sub-sectors of rail transport services. It has offered full commitments in Modes 1 and 2. In Mode 3, China undertook partial commitments for market access whereby, three years after China’s accession into the WTO, foreign majority ownership will be permitted and within six years of its accession, wholly foreign-owned subsidiaries will be permitted. It has not imposed any national treatment restrictions under Mode 3. For Mode 4, it has committed to the extent indicated in the horizontal schedule.

⁹¹ This point was raised during the interview survey.

transport equipment and rental services of railway transport equipment with operators under Mode 3 and offered full commitments under this mode. In its initial offers, Canada also removed the national treatment restriction imposed in Mode 3 in passenger and freight transportation during the Uruguay Round. This restriction stated that for railways in Newfoundland, majority of the Board of Directors must be a resident in Newfoundland.

Overall the initial offers in rail transport sector are extremely restrictive. Even EC, which has a liberal rail transport sector, did not offer commitments in passenger and freight transportation. Although countries have opened up unilaterally and bilaterally, the restrictive initial offers shows the unwillingness of WTO members to open up the rail transport services multilaterally.

6 Domestic Reforms

World-wide transport growth has been consistently higher than the economic growth. The World Bank has estimated that if the Indian economy grows at a rate of 7–8 per cent per annum, the demand for freight and passenger transport is expected to grow around 10 per cent a year.⁹² The discussions in the preceding sections show that although railways have an innate advantage over other modes of surface transport – being less energy intensive and more environment friendly, and that liberalisation of the economy has generated need for transport; railways have not been successful in increasing its market share of traffic. In fact, the overall performance of railways in India is much below international standards and IR is facing a severe financial crisis. This section will discuss the regulatory and other reforms that are required to increase the productivity and efficiency of rail transport services in India and also enable the sector to be globally competitive.

The main problem of Indian Railways is that there is no clear demarcation between social and commercial operations. Railways, being a public utility service, has been undertaking certain uneconomic operations in wider social and national interest, so as to provide affordable transport services to passengers and carry certain essential commodities meant for mass consumption at low freight rates. Such social service obligations are also performed by other railway systems in the world. However, most of these railways receive state support for meeting such obligations (Table A9, Appendix A). Since IR do not receive any subsidy from the Government, it fulfils the social service obligation through cross-subsidisation between passenger and freight rates. Similar to other countries, the IR should be compensated for providing public service through explicit subsidies from the Union Budget. For this, the IR will have to segregate its commercial and social operations. In this respect, IR can gain from the restructuring experience of European railways. During the process of restructuring, European railways clearly identified the extent of public service obligation and then entered into contracts with the government to ensure state funding. A similar demarcation in India would not only establish clarity in terms of business purposes but would also allow IR to estimate the funding required to support social obligations.

⁹² The World Bank (2002)

To survive in a competing environment, IR will have to re-orient itself on commercial lines. At present, IR has a large shelf of ongoing projects⁹³ mainly relating to new lines and conversion of gauge. The available funds are scarcely spread across numerous projects resulting in time and cost overrun. There is an urgent need to prioritise the projects, keeping in view the available resources and reasonable time frame. IR will have to assess the commercial viability of the projects and non-urgent/non-revenue-earning projects should be deferred. The railways should close down uneconomic branch lines⁹⁴ where alternative modes of transport exist or can be developed. It has been pointed out that in cases where the State Governments do not agree for closure of uneconomic lines due to their own reasons they have to share losses with Indian Railways on a 50:50 basis.⁹⁵

One needs to note that due to the availability of budgetary support in the form of Capital at charge, and with no liability for loan servicing, there is considerable financial indiscipline in planning for projects. This can be corrected only if IR is made responsible for loan servicing in respect of loan-financed projects.

The tariff structure will have to be rationalised to restrict the decline in railways' market share. IR will have to depoliticise the provision of passenger services and run passenger services on commercial lines. In this regard, India can gain from the Chinese experience. In China too, passenger services were running at a loss and there were concerns about the ability of masses to pay for the real cost of passenger services. In the initial stage, to conserve the capacity for freight traffic and minimise loss on passenger services, China tried to reduce passenger services by rationing travel. However, later the country increased passenger fares and used the surplus generated to increase capacity and quality of services. Between 1994 to 1998, Chinese railways raised passenger fare by 75 per cent. The ratio of passenger fare to freight tariff changed from 0.86 in 1994 to 1.15 in 1998.⁹⁶ The IR needs to analyse the cost of providing various types of passenger services to help determine their financial viability. A study needs to be conducted to see the cost of operating alternative modes of transport (such as roads) in low-density corridors so that the loss on passenger transportation is minimised.

Being a public monopoly, IR is not often responsive to customer's needs. Over the years customer's expectations have grown and they now have the flexibility to choose between alternative modes of transport. IR will have to concentrate on the customer's requirements and gear its services to meet such requirements. It will have to be a user-friendly organisation, which can quickly re-orient its services in line with customer demands. It needs to focus on attracting traffic, through improvement in service quality,

⁹³ According to the IR White Paper on Projects of July 1998, IR has created a massive shelf of projects which would have required Rs 35,000 crores for completion at the then prevailing prices. At current prices, this would be more than Rs 50,000 crores. A more alarming point is that out of the Rs 35,000 crores nearly Rs 23, 000 crores are required for financially non-viable projects.

⁹⁴ Instructions have been issued for closure/discontinuation of 21 uneconomic branch lines [Economic Survey (2002–03)].

⁹⁵ Economic Survey (2002–03)

⁹⁶ The World Bank (2002)

aggressive marketing and competitive pricing. For instance, in the passenger segment the fares can be pegged to seasonal demands. IR can introduce value-added services (both in passenger and freight) at premium prices, which will generate revenue. Studies⁹⁷ have shown that customers are willing to pay a premium price for services such as reservation for journeys from stations other than from where booking is being done, reservation related inquiries, tourist train circuits, etc. In the freight segment, customers are willing to pay for time guarantees – both for wagon allotment and transit time, transit-handling insurance, etc. which reduces their risk.

The focus should be on augmenting capacity in the high-density corridors through technological upgradation and modernisation, especially in the freight segment. The speed of freight trains will have to be increased and the speed differential between freight and passenger services will have to be reduced to improve traffic throughput. The freight car designs will have to be improved to secure higher payload-to-tare ratios for freight and greater speed. There is need to introduce new state-of-art locomotives and upgrade the existing fleet through retro-fitment. Tracks will have to be modernised to cater to high axle load and speed. There is also need for dedicated lines for high-speed trains. Modern signalling and telecommunication facilities will have to be introduced together with better methods for detecting rail defects, track fractures, etc. for improving rail safety. IR will have to complete the implementation of computerised Freight Operation Information System and Terminal Management System to enable online tracking of cargoes and improving quality of services respectively.

Although IR was one of the pioneers in adopting computer based applications as early as the 1960s, it has not been very successful in using Information Technology to improve efficiency. In fact the success of rail restructuring depends to a large extent on the application of IT to increase freight revenue through greater reliability and information on tracking of goods, better customer services through efficient reservation and ticketing system, reduction in operational costs through optimum utilisation and deployment of existing resources (rakes, locomotives, crew, etc). However, it may be difficult for the IR to manage such an extensive IT network and Railways need to seriously investigate the possibilities of outsourcing such services.

Instead of concentrating only on the transportation of bulk commodities,⁹⁸ IR should enter into multimodal business. For this there is a need to have a more integrated approach to provision of freight transportation with other modes such as roads, port, etc. For instance, door-to-door service through the process of containerisation with necessary road links would improve IR share of freight traffic. On its own, IR will have to upgrade freight terminals, create railway hubs with sufficient warehousing facilities, increase ICDs and provide point-to-point services. For transportation of containers the roll-on-roll-off facilities, such as initiated by the Konkon Railways, will have to be replicated.

⁹⁷ India Infrastructure Report (2001)

⁹⁸ The share of bulk cargo is likely to decline in the future, while the share of high value low volume traffic will increase.

The international experiences of rail restructuring are diverse and reflect solutions that are tailor made to specific needs of each country depending on their geography, ideology, and overall development. However, there are some common features of the restructuring process. One of the salient features of railway restructuring has been disassociation of the railways from the governments and operation of railways on commercial lines. Many European countries have completely separated the rail operations from the government and introduced independent regulators. In India, the existence of a monolithic organisation has resulted in delays in decision making and uneconomic use of scarce resources. Unless there is a segregation of the government from the operation of IR, the latter cannot function on commercial lines.⁹⁹ Under the current setup it is extremely difficult for IR to negotiate on issues like compensation for social obligations. Segregation from the government does not indicate that the sector would become deregulated. In fact there is a need for regulation in the transport sector – both on economic and social grounds.¹⁰⁰ The Approach Paper to the Tenth Five-Year Plan suggest the need for setting up a Railway Tariff Regulatory Authority for tariff fixation. The role of the regulatory should not be limited to fixation of tariffs but the regulator should also monitor the quality of services. The functioning of the regulator must be free from bureaucratic control and it should act as an arbitrator in case of disputes between different service providers.

Another feature of the global restructuring process is the separation of the core business of transportation from other non-core activities. In order to simplify the business procedures, countries have restructured the organisation along business lines into smaller, more manageable units¹⁰¹ with clear accountability for each part. The first step towards commercialisation in India would be to desegregate the core and non-core activities of IR and restructure the non-core/peripheral activities into viable business units, with commercial accounting practices. As a second step, some of these non-core activities can be given out for privatisation.

Many countries have separated infrastructure from operation of railways and have allowed private sector (including foreign players) to operate the railways. It is widely debated whether private sector should be allowed in the operation of Indian Railways. Railways, being a public monopoly offers little scope for private participation (only in the form of procurement of wagon, BOT projects, catering and cleanliness services, etc.). The prolonged existence of monopoly has resulted in various monopoly-induced inefficiencies leading to low productivity and lack of global competitiveness. IR is suffering from severe financial crisis and there is very little scope for technological upgradation and modernisation. Globally, heavy losses and paucity of government funds have encouraged and facilitated the emergence of private sector participation in development of rail

⁹⁹ The Ministry of Railways is not only responsible for policy making but also for rail transport services. There is an urgent need to segregate the policy making from regulation which can be achieved by creating a Regulator similar to the one in the Indian telecommunication sector.

¹⁰⁰ Transport sector is treated as a public good and there are various externalities. In the absence of regulation, the service provider may charge an unreasonable price and compromise on quality.

¹⁰¹ When China restructured, its rolling stock manufacturing unit was separated from the main railway. Similarly in India the manufacturing units can be corporatised and later privatised.

infrastructure and provision of rail services. Involvement of private and foreign players has increased investment in railways, encouraged the adaptation of latest technical know-how skills and enhanced quality of services through increased competition. Although it may not be possible to privatise the operation of IR in totality, IR should seriously investigate the possibility of privatising certain areas/segments of operation. Non-core activities such as catering services, cleanliness of stations, manufacturing of wagons, locomotives, coaches, etc. can be totally privatised. Some areas where private sector can participate include construction and management of freight and passenger terminals with all logistic services; close circuit dedicated rake movement between major production and consumption centres; bulk terminals for certain commodities such as cement, foodgrains, fertilisers; in allied activities, such as optic fibre cable and telecom services; multimodal transport services including setting up of storage and warehousing facilities, ICDs, etc; construction of new lines and their management and operations. The railways can work together with private sector to improve port connectivity. With increased containerisation, in parallel to CONCOR, private operators can be allowed to operate container services. The government may consider allowing privately owned trains to run on railway lines between fixed points using existing infrastructure. The government should also seriously consider privatisation of the management of urban rail transport network such as the metro railway in Kolkata. In most countries such urban and sub-urban traffic is managed by local authorities through separate organisations which ensure better coordination between different modes of transportation.

Railways have close linkages with tourism – an export oriented service sector. IR can have partnership with private sector for running tourist trains like Palace on Wheels. This would not only encourage international tourists to visit the country but also enhance railways' revenues. In such cases, the IR can provide the infrastructure while the private sector can operate and maintain the trains. It should be noted that there are possibilities of increasing private participation within the present structure through joint ventures and SPVs – both for infrastructure development and service provision. The Joint ventures and SPVs would have to be built on leveraging of the complementary strength and risk taking abilities of partners.

So far, Indian Railways have not been successful in attracting private participation and schemes such as leasing of wagons under Own Your Wagon Scheme and private participation through BOT and BOLT have received lukewarm response. This is because private sector would always evaluate the commercial viability of the projects and would not invest in a project which is not revenue earning. For private participation, the Railways need to identify projects with high rate of return. Unless the BOT model has specific clauses for revenue sharing, private sector would not be interested in investing. Private sector has shown an interest in investing in sectors such as tourist circuits, catering services, terminal operations, multimodal operations and freight forwarding and consolidation services. To encourage private participation, the legal and tax framework for leasing will have to be simplified and streamlined. The approach of railways to involve private participation should be based on the concept of partnership and not employer-contract basis. A partnership approach, where the investors have the full confidence to reap

the benefits of growing market potential in the transport sector including multimodalism, will encourage private investment in rail transport services.¹⁰²

Manpower cost constitutes a significant proportion of cost of railways and any reduction in cost would require a reduction in the staff cost. The wage rates in railways are low but the number of employees far exceeds the requirement, given the current technology. It has been pointed out that the spinning-off of the non-core activities would reduce the total employment.¹⁰³ Other steps such as abolition of posts on retirement, well designed schemes like the Voluntary Retirement Scheme, privatisation of maintenance activities, increasing use of contractors for execution of work, etc. would also reduce staff cost. The quality of existing staff would have to be improved through proper training and motivation.¹⁰⁴ There is a need to create a leadership team that is capable of injecting fresh ideas and skills to initiate and accelerate the development of Indian Railways into a commercially-savvy market-oriented business.

On the revenue side, IR can expand its customer base to include advertisers, telecom operators and real estate developers.¹⁰⁵ IR has huge plots of land which can be leased out to the private sector for commercial purposes. Similarly, it can lease out its telecommunication network to private telecommunication companies.

The accounting system followed by Indian Railways is non-transparent. While this system has worked well for internal management of the railways, it is not well understood by business outside the railways. The accounting procedure of IR should be in line with standard business procedures. IR should have a segment-wise costing, which will make the accounting more transparent.

On the whole, there is a need for a National Railway Policy which will lay down authoritatively the role of the railways (to remedy the dichotomy between social responsibility and commercial operation), commercial accounting, a rational pricing policy, appropriate personnel policy, proper investment policy together with the funding arrangements, etc.

India's trade with its neighbouring countries through rail transport is very limited. An efficient inter-country logistic service will be beneficial both to India and its neighbours. For instance, if there is a direct rail connectivity between JNPT (India) and ICDs in Chittagong or Dhaka (Bangladesh), this will not only facilitate the fast movement of containers to Bangladesh but will also increase the revenue of IR. Similarly, direct rail connectivity between JNPT and Birgunj (Nepal) will increase railways share in container

¹⁰² Agarwal (1999)

¹⁰³ The World Bank (2002)

¹⁰⁴ Presently, more than 65 per cent of the accidents are attributed to failure of railway staffs [Approach Paper to Tenth Five-Year Plan (2002-07), Planning Commission of India].

¹⁰⁵ India Infrastructure Report (2001)

trade. However, this would not only require a political will but also an effective co-ordination between India and its neighbours on technical issues such as gauge conversion.

7 Summary and Conclusion

This study investigates the recent trends and developments in rail transport sector – globally and in India within the context of the GATS 2000 negotiations. In large developing countries like India, railways play a crucial role in facilitating trade and integrating people and markets across the country. Rail transport services is an integral part of multimodal transportation – an efficient railway system lowers the cost of transportation and thereby increases the global competitiveness of the economy. The performance of railways not only affects merchandise trade but also other interlinked service sectors such as tourism.

This study shows that in the past two decades railways across the world have undergone significant restructuring/liberalisation. Prior to the 1980s, given the public goods nature of rail transport services, requirements for huge investments and uncertain returns, this sector has largely been a public monopoly. With liberalisation and globalisation in the 1980s together with increasing financial pressures on the governments and poor performance of the public monopolies, there has been a distinct shift towards privatisation and foreign investment. The impact of restructuring/liberalisation has largely been positive and performances of railways have improved in the post-restructuring era.

The study showed that the scope of multilateral liberalisation in rail transport services is very limited. Although many WTO member countries had started the process of restructuring and liberalisation during the Uruguay Round of negotiations, they were cautious to schedule it and the commitments were very restrictive in terms of sectoral coverage and modes of delivery. Countries have not diverted from this stand in the current round of negotiations and the initial offers show that in spite of significant autonomous liberalisation, countries have not scheduled commitments in various sub-sectors of rail transport services.

India has one of the largest railway networks in the world, which is under a public monopoly. The pro-longed presence of monopoly has resulted in various monopoly-induced inefficiencies and low productivity leading to decline in market share of railways in freight transportation and lack of global competitiveness. Indian Railways suffer from inadequate resources and even the existing resources are not invested economically. The study emphasises on the need and urgency for restructuring rail transport services on commercial lines and suggests various reform measures, such as demarcation between social responsibility and commercial operation, privatisation of non-core activities and certain segments of rail transport services, tariff restructuring, transparent accounting practices, an independent regulator and better manpower management. International experience with restructuring/liberalisation shows that each country has adopted a model that best fits its domestic requirements. India should also develop a National Railway Policy which would serve as a framework for restructuring/liberalisation.

Although India's trade (both exports and imports) possibilities in rail transport services are presently very limited due to the presence of public monopoly, the study found that India has export potential in maintenance and repair of rail transport equipment and supporting services. On its own, India has allowed FDI in these two sub-sectors. The country can, therefore, open up these two sub-sectors and push for removal of barriers in markets of export interest. The country is also exporting professionals to both developed and developing markets to provide consultancy and project management services and should negotiate for removal of barriers to movement of professionals. Even though rail transport services receives a low priority in the Indian Government's WTO negotiating agenda, the study emphasises that the country should undertake binding commitments and use the WTO negotiations for further liberalisation and for implementation of appropriate domestic reforms. The country can also use its liberalisation commitments in rail transport services as a tool to gain greater market access in other areas of export interest.

Appendix A

Table A1

Financial Losses, Total Debt, and Public Subsidies of some major Railways

	Financial Losses (US\$ million)	Total Debt (US\$ million)	Public Subsidies (US\$ million)
Japan, 1985	11,300	200,000	5,000
Germany, 1992	2,500	33,500	6,500
France, 1996	2,200	28,800	3,000
Britain, 1993	270	n.a.	1,300
Sweden, 1988	200	650	590

Source: EU, East Japan Railways, SJ, SJ Cargo, Deutsche Bahn, and Railtarck.

Note: Years taken are before the restructuring was undertaken.

n.a.: not available

Table A2
Deregulation of Railways in United States, United Kingdom, Argentina, Sweden, New Zealand, and Japan

	United States		United Kingdom		Argentina	
	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring
Market Structure	Competitive situation	Competitive situation with concentration of few big companies and many small ones	Public Monopoly	A competitive market 25 franchises in passenger operations and 1 company for freight operation	Public monopoly	Private players were allowed through franchise system for freight and passenger operations
Ownership of Railways	Private companies	Private companies	<i>British Rail</i> (BR), public body with managerial autonomy	Private concessions and rolling stock leased to private firms	<i>Ferrocarriles Argentinos</i> (FA), public enterprise with little autonomy	Private companies operating in each segment through franchise
Ownership of Infrastructure	Vertically integrated private companies operating rail services	After restructuring infrastructure for passenger operations was taken over by Amtrak, while freight services infrastructure remained with the private companies	State owned	Private company (Railtrack)	State owned	State owned but rented to the private franchises

	United States		United Kingdom		Argentina	
	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring
Separation between Infrastructure and Services	Access rights existed before restructuring	Access rights continue to exist Amtrak only owns 450 miles of track itself but has access to a further 24,000 miles of the American network owned by private freight companies on payment of a fee	Unified Management	Total separation of operations and infrastructure	Unified Management under FA	System of franchise adopted so that franchisees rents both infrastructure and rolling stock (under govt. ownership) and operates for the franchise period
Reasons for deregulation	Decline in market share of railways and heavy losses incurred by the rail companies		High level of public subsidy Restructuring was undertaken with an aim of improving traffic and productivity levels		High public subsidies and deficits of FA's Restructuring was undertaken with an aim of improving traffic and productivity levels	
	Sweden		New Zealand		Japan	
	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring
Market Structure	Public monopoly	Monopoly on infrastructure and quasi monopoly in services	Monopoly of New Zealand Railways	Monopoly	Monopoly of Japan National Railways	6 passenger companies, 1 freight company

	Sweden		New Zealand		Japan	
	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring	Before Restructuring	After Restructuring
Ownership of Railways	Swedish State Railways	SJ (Statens Jarnvagar), public company with wide autonomy, and host of small companies	Public agency	Private companies (private groups that bid highest to buy the company)	Public	Only 3 in the process of privatisation
Ownership of Infrastructure	State owned	Managed by state agency, Banverket (BV)	State owned	Private ownership	State owned	Owned by 6 new passenger companies
Separation between Infrastructure and Services	Unified management	Separation of services Services run by SJ and small Companies Infrastructure by BV	Unified management	Unified management	Unified management	Unified management Vertically integrated passenger railway companies and presence of access rights for the freight companies.
Reasons for deregulation	Propelled by declining market share of railway, high public subsidies, and high deficits of state owned railways Aim of undertaking deregulation was to improve traffic levels and productivity		Increasing deficits of New Zealand Railways and high public subsidies		Declining market share of railway, high state subsidies, and high annual deficits of Japan National Railways The aim was to improve the productivity levels	

Table A3**Some Statistics on Indian Railways***Train Kms. (excluding deptt.) (in millions)*

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01
Passenger and proportion of mixed	163.4	205.1	248.7	294.6	364.5	451.5
Goods and proportion of mixed	111.5	161.2	202.4	199.5	244.9	261.1

Volume of Traffic: Passenger Traffic

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01
No. of passengers originating (in millions)	1,284	1,594	2,431	3,613	3,858	4,833
Passenger kms. (in millions)	66,517	77,665	1,18,120	2,08,558	2,95,644	4,57,022
Passengers earnings (in Rs. crore)*	98.2	131.6	295.5	827.5	3,144.7	10,483.2
Average lead (in kms.)	51.8	48.7	48.6	57.7	76.6	94.6
Average rate per passenger kms. (in paise)	1.48	1.71	2.50	3.97	10.64	22.94

Volume of Traffic: Freight Traffic [Tonnes originating (in millions)]

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01
Revenue earning traffic	73.2	119.8	167.9	195.9	318.4	473.5
Total traffic	93.0	156.2	196.5	220.0	341.4	504.2

Freight Traffic: Net tonne kms. (in millions)

	1950-51	1960-61	1970-71	1980-81	1990-91	2000-01
Revenue earning traffic	37,565	72,333	1,10,696	1,47,652	2,35,785	3,12,371
Total traffic	44,117	87,680	1,27,358	1,58,474	2,42,699	3,15,516
Earnings from freight carried excluding wharfage and demurrage charges (Rs. crore)	139.3	280.5	600.7	1550.9	8,247.0	23,045.41
Average lead-total traffic (in kms.)	470	561	648	720	711	626
Average rate per tonne km (in paise)	3.16	3.87	5.43	10.50	35.0	73.78

Source: Indian Railways (2000-01), Government of India.

Note: * Excludes earnings pertaining to Metro Railway, Kolkata. Earnings from these for year 1990-91 and 2000-01 were Rs. 25.45 crores and Rs. 31.90 crores respectively.

Table A4
Contribution of Transport Sector and various sub-sectors to the GDP of India
 Figures are in Rs. Crore (at 1993-94 prices)

	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
GDP at factor cost	781345	838031	899563	970083	1016399	1082472	1148500	1193922
% growth of GDP over previous year		7.3	7.3	7.8	4.8	6.5	6.1	4.0
Transport, storage and communication	51131 <i>6.5</i>	56017 <i>6.6</i>	62317 <i>6.9</i>	67441 <i>7.0</i>	72785 <i>7.2</i>	78608 <i>7.3</i>	85146 <i>7.4</i>	92129 <i>7.7</i>
Railways	9648 <i>1.2</i>	9846 <i>1.2</i>	10657 <i>1.2</i>	11169 <i>1.1</i>	11367 <i>1.1</i>	11577 <i>1.1</i>	12620 <i>1.1</i>	13163 <i>1.1</i>
Road Transport	22759 <i>2.9</i>	24804 <i>2.9</i>	27109 <i>3.0</i>	29467 <i>3.0</i>	31402 <i>3.1</i>	33373 <i>3.1</i>	36011 <i>3.1</i>	-
Water Transport	5361 <i>0.7</i>	5875 <i>0.7</i>	6361 <i>0.7</i>	6614 <i>0.7</i>	6929 <i>0.7</i>	6824 <i>0.6</i>	7461 <i>0.6</i>	-
Air Transport	1727 <i>0.2</i>	2138 <i>0.2</i>	2487 <i>0.3</i>	2415 <i>0.2</i>	2391 <i>0.2</i>	2465 <i>0.2</i>	2482 <i>0.2</i>	-
Services incidental to transport	2193 <i>0.3</i>	2406 <i>0.3</i>	2713 <i>0.3</i>	3025 <i>0.3</i>	3040 <i>0.3</i>	3205 <i>0.3</i>	3513 <i>0.3</i>	-

Source: National Accounts Statistics (2002), Government of India.

Note: Figures in italics indicate the percentage contribution to the GDP.

GDP figures for the year 2000-01 are quick estimates.

Contribution of transport by means other than Railways, in 2000-01, was Rs. 51713 crore (4.3 percent of the GDP)

Table A5
Comparison of Indian and Chinese Railways

	Chinese Railways (1999)	Indian Railways (1999)
Route km	60,000	62,759
Freight Tonnes (million)	1569	456
Freight Tonne km (billion)	1257	301
Passengers (million)	977	4585
Passengers km (billion)	404	431
Traffic Density (000 of TU kms)	27,707	11,672
Employee Productivity	1061	464
Employee per km of Line	26.12	25.13

Source: World Banks Railway Database (2001)

Note: TU: Transport Units

Table A6
Employee Productivity and Cost for various Countries

Railway	Year	Route length km.	Transport Units (millions)	Employee (000)	Employee productivity, TU/Employee	Staff cost/revenue
India	1999	62,809	684,397	1,250 ¹	547	42 ¹
China	1999	67,400	1,662,416	1,567	1061	15
US (Class1)	1999	1,93,578	2,064,708	178	11,599	26 ²
South Africa	1999	25,555	1,05,675	44	2,402	44

Source: The World Bank (2002).

Note: TU: Transport Units

¹based on the assumption that out of 1.578 million employees on Indian Railways, 1.25 million are engaged in providing transport services and the rest on non-core activities.

² excluding cost of fringe benefits, 36 per cent including benefits.

Table A7
Some Important Efficiency Indices for Indian Railways

Efficiency Index	Broad Gauge		Meter Gauge	
	1997-98	2001-02	1997-98	2001-02
Wagon turn around (days)	8.07	7.16	17.44	11.10
Net tonne kms. per wagon per day	1,894	2,223	443	441
Speed (kmph) of all goods trains (all traction)	23.8	24.4	18.2	18.4
Percentage of loaded to total wagon kms.	61.2	61.3	54.5	57.4
Net loads per goods train (tonnes)	1,175	1,280	514	393
Net tonne kms. per engine hour	12,104	13,842	4,604	3,713
Passenger vehicle kms. per vehicle per day	445	469	249	257

Source: Annual Report, Indian Railways, Various Issues.

Table A8
Break up of Ordinary Working Expenses (OWE) of Indian Railways

	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03		2003-04
							B.E.	R.E.	B.E.
Gross Traffic Receipts (in Rs. crore)	24319	28589	29619	32939	34880	37837	41538	40867	43495
OWE (in Rs. crore)	19133	24637	27899	30128	33161	34673	37587	36667	39447
Staff Cost (in Rs. crore)	7636	10155	11643	12458	12759	13054	13719	13590	14257
Pension (in Rs. crore)	2509	2509	4144	401	5103	5384	6000	5850	6500
Total	10145	13664	15787	16479	17861	18438	19719	19440	20757
Total (% to OWE)	53.02	55.46	56.59	54.70	53.86	53.18	52.46	53.02	52.62

Source: Data Book (2003-04), Ministry of Railways, Government of India.

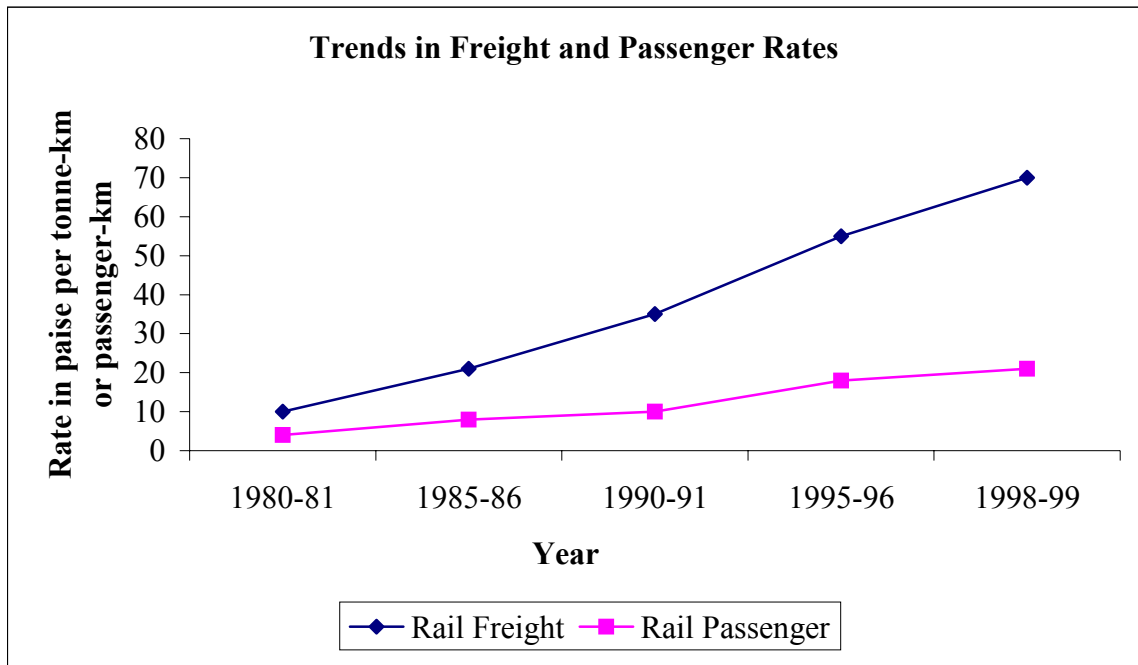
Note: B.E. – Budget Estimate, R.E. – Revised Estimate

Table A9**State Support to some Foreign Railways for meeting Social Service Obligation**

Railway System	Currency	Subsidy (in millions)	Total revenue earnings (in millions)	Percentage of subsidy to total revenue	<i>Total expenses</i> (in millions)	Percentage of subsidy to total expenditure
Companhia Paulista de Trens Metropolitanos (CPTM), Brazil, for the year 2001	\$	192	216	89	646	30
Luxembourg Railways (CFL), for the year 2000	L.Fr.	2914	11749	25	14972	19
Danish State Railways, for the year 1998	Dkr.	1639	4833	34	6099	27

Source: YearBook (2000–01), Indian Railways.

Figure A1



Source: The World Bank (2002)

Appendix B

Table B1

Summary of Specific Commitments - Rail Transport Services

	Passenger transportation	Freight transportation	Pushing and towing services	Maintenance and repair of rail transport equipment	Supporting services	Total
Countries						
Brazil		X				1
Bulgaria				X		1
Canada	X	X		X		3
Czech Republic				X		1
European Community				X		1
Finland				X		1
Hungary	X	X		X		3
Japan				X		1
Mexico	X					1
New Zealand	X	X	X			3
Nicaragua	X	X	X	X	X	5
Nigeria				X		1
Norway			X	X	X	3
Philippines	X	X		X		3
Sierra Leone	X	X	X	X	X	5
Slovak Republic				X		1
Slovenia				X		1
Sweden				X		1
Switzerland	X	X	X	X		4
Thailand				X	X	2
Turkey	X	X				2
USA	X	X		X		3
<i>Total</i>	<i>10</i>	<i>10</i>	<i>5</i>	<i>18</i>	<i>4</i>	<i>47</i>

Source: WTO (1998), S/C/W/61

Table B2
Analysis of Commitments made by Members under Railway Transport Services

(Number of Full, Partial and No Commitments by Sub-sector and by Mode of Supply)

	Market access (number of Members with commitments)											
	Cross-border Supply (Mode 1)			Consumption Abroad (Mode 2)			Commercial Presence (Mode 3)			Movement of Natural Persons (Mode 4)		
	F	P	N	F	P	N	F	P	N	F	P	N
Railway passenger transportation	4	1	5	10	0	0	2	7	1	2	8	0
Railway freight transportation	4	1	5	9	0	1	2	6	2	2	8	0
Railway pushing and towing services	3	0	2	5	0	0	3	2	0	0	5	0
Maintenance and repair of rail transport equipment	5	0	13	17	0	1	13	3	2	2	15	1
Supporting services for railway transport	2	0	2	4	0	0	2	2	0	0	4	0

Source: WTO (1998), S/C/W/61

Note: F: Full commitment (indicated by "none" in the market access column).

P: Partial commitment (limitation recorded in the market access column of the schedule).

N: No commitment (indicated by "unbound" in the market access column of the schedule).

Appendix C

Laws Regulating Indian Railways

1. Railways Act, 1989

An Act to define the current legal framework for construction and operation of railways in India. The Act replaced the Railways Act of 1890 and updated the legal framework for railways in India.

2. Railway Claims Tribunal Act, 1987

An Act to provide for the establishment of a Railway Claims Tribunal for inquiring into and determining claims against a railway administration for loss, destruction, damage, deterioration or non-delivery of animals or goods entrusted to be carried by railway or for the refund of fares or freight or for compensation for death or injury to passengers occurring as a result of railway accidents and for matters connected therewith or incidental thereto.

3. The Railway Protection Force Act, 1957

An Act to provide for the constitution and regulation of an armed force of the Union for the better protection and security of railway property and for matters connected therewith.

4. The Railways (Employment of Members of the Armed Forces) Act, 1965

An Act to make certain provisions relating to the employment of members of the Armed Forces of the Union in the working and management of railways.

5. The Indian Railway Board Act, 1905

An Act to provide for investing the Railway Board with certain powers or functions under the Indian Railways Act, 1890

6. The Indian Railway Companies (Repeal) Act, 2001

An Act to repeal the Indian Railway Companies Act, 1895.

7. Indian Railway Companies Act, 1895

An Act to provide for the payment by Railway Companies registered under the Indian Companies Act, 1882, of interest out of capital during construction.

8. The Metro Railways (Construction of Works) Act, 1978

An Act to provide for the construction of works relating to metro railways in the metropolitan cities and for matters connected therewith.

9. The Appropriation (Railways) Vote on Account Bill, 2002

A bill to provide for the withdrawal of certain sums from and out of the Consolidated Fund of India for the services or part of the financial year 2002-03 for the purposes of Railways.

10. Multimodal Transportation of Goods Act, 1993

An Act to provide for the regulation of the multimodal transportation of goods, from any place in India, to a place outside India on the basis of a multimodal transport contract and for matters connected therewith or incidental thereto. This Act obliges the Railways to permit others to come in for the transport of container traffic abroad and legally CONCOR cannot be a monopoly.

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