



Container Train Operators in India: Problems and Prospects

**Rachna Gangwar
G. Raghuram**

W.P. No. 2010-09-01
September 2010

The main objective of the working paper series of the IIMA is to help faculty members, research staff and doctoral students to speedily share their research findings with professional colleagues and test their research findings at the pre-publication stage. IIMA is committed to maintain academic freedom. The opinion(s), view(s) and conclusion(s) expressed in the working paper are those of the authors and not that of IIMA.



**INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380 015
INDIA**

Container Train Operators In India: Problems and Prospects

Rachna Gangwar¹
G. Raghuram²

Abstract

In India, railways are under the control of the government which is the sole provider of the infrastructure, operations and regulatory functions. Private participation, though very limited, was largely in the domain of infrastructure creation.

In January 2006, in a landmark initiative to introduce competition in the container operations segment, the Ministry of Railways allowed the entry of private and public sector operators to obtain licences for running container trains on the Indian Railways (IR) network. Until then, the Container Corporation of India, a subsidiary of IR, was the monopoly operator of container trains in India. This initiative was the first significant move of its kind where private parties were allowed to make entry in the domain of railway operations with direct customer interfacing.

The response to the policy was good and 15 new entrants obtained licences to run container trains. Due to lack of clarity or inconsistency in matters pertaining to haulage charges, maintenance of wagons, transit guarantees from IR and terminal access charges, operators started feeling skeptical about the viability of the business. This paper examines the current policy environment from the point of view of business viability for 15 new Container Train Operators and brings out issues related to licensing, pricing, terminals, maintenance, and service levels.

Keywords: Indian Railways, Container Train Operators, Container Corporation of India, Policy Issues for Container Transport

¹ Contact Address : Ms. Rachna Gangwar (Email: rachna015@gmail.com),

² Prof. G. Raghuram (Email: graghu@iimahd.ernet.in), Indian Institute of Management, Ahmedabad – 380 015, India

Container Train Operators In India: Problems and Prospects

Introduction

Traditionally, railways worldwide have been under the control of the federal government. In the past few decades, many developed countries including the US, UK, Japan, and European Union have undergone various reforms and even restructuring of their railway systems to convert the state owned monopolies into public private partnerships with a competitive environment. Both freight and passenger services in these countries are provided by multiple operators. Freight operations, including container, are subject to open competition. [Gouvernal and Daydou, 2003; Hafer, 1996; Pittman, 2005; Vassallo and Fagan, 2005].

In some other developing countries including China, Russia, Malaysia, and India, all freight and passenger operations are managed by the government owned railways. Recognising the potential of container based movement, the railways of these countries have segregated the container operations by creating subsidiaries which are the sole providers of container rail haulage. [Al-haj, 2003; Baskakov, 2007; Wan and Liu, 2009]. India also created the Container Corporation of India (CONCOR) as a monopoly container train operator (CTO) in 1988. India has moved a step further in 2006 after opening up the container rail sector to competition, involving private and public sector operators.

In India, railways are government owned and operate under the Ministry of Railways (MoR), Government of India. It is a vertically integrated organization controlling its own facilities, performing all operating and administrative functions and unilaterally determining what services to provide. The top management of IR also function as the secretaries of the MoR, thereby bundling the roles of licensor, infrastructure service provider, operator, and regulator.

Historically, organizational reforms in IR have been towards the creation of wholly/partially owned subsidiaries for specific operations (for example CONCOR for container operations), and partnerships with state governments and/or private sector mainly for infrastructure creation projects (for example construction of new railway lines, wagon procurement and wagon manufacturing schemes). These projects did not have any element of direct interfacing with the customer. Opening up of the container sector is a new era in IR where it has allowed partnership in train operations and consequently direct interfacing with the customer.

The policy environment for opening up the sector is described in the next section titled 'Background'. The key components of the container train policy are described in the following section 'The Policy.' To describe the operations at the time of introducing the policy, we discuss 'CONCOR, The Incumbent.' The new entrants after the introduction of the policy are described in the section 'The Entrants.' The impact made by the new entrants on the industry and CONCOR is discussed in the following section 'The Impact.' The major problem areas and issues faced by the entrants are brought out in the section 'Issues.' Key suggestions with regard to operations and regulation are made in the

section 'Recommendations.' The last section 'Conclusion' proposes some strategies as a way forward for the industry.

Background

On January 5, 2006, MoR announced its new container train policy wherein it allowed private operators to obtain licences for operating container trains on Indian Railways (IR) network. The policy was conceived with a view to attracting a greater share of container traffic for railways and for introducing competition in rail freight services. India's containerized cargo was mostly export import and the rail share was only 30%. CONCOR, a subsidiary of IR, was the monopoly operator of container trains at the time of this announcement.

The Minister of Railways, then Mr Lalu Prasad, in his budget speech on February 26, 2005, had announced that the MoR and the Government of India would permit private operators to run container trains. Two earlier initiatives in 1994 and 2004 to allow private operators for container train operations had failed, primarily due to lack of clarity on the role of CONCOR vis-à-vis the other operators, and CONCOR's own resistance. The MR now wanted the subject to be studied by a professional agency. Accordingly, RITES, a multidisciplinary consultancy organization under the administrative control of MoR, was awarded the study in June 2005. RITES submitted its final report in September 2005 suggesting guidelines for the policy [RITES, 2005]. RITES' recommendations were discussed in various interministerial meetings and issues such as entry barriers for new operators, level playing field with CONCOR, and users' interest were debated by various stakeholders before the policy was finalized.

The Policy

After many interministerial deliberations involving MoR, Ministry of Shipping, Ministry of Commerce and Industry, and Planning Commission, the final policy was announced on 5th January 2006 by the MR [MoR, 2006]. The scheme was open to all Indian companies, including subsidiaries of foreign companies registered in India, having a minimum annual turnover of Rs 1 billion (b) (about US\$ 20 million (m)). The validity for permission was for 20 years, further extendable to another 10 years, if the CTO performed well.

The entire network of IR was classified and grouped into four categories based on existing and anticipated traffic volumes of ports (Table 1). A one time registration fee of Rs 500 m (about US\$ 10 m) (for category I license) or Rs 100 m (about US\$ 2 m) (for category II, III, and IV license) was payable to MoR.

Table 1: Licence Categories

Category	Areas of Operation	Registration Fee (Rs m)
I	JNP/Mumbai Port - National Capital Region rail corridor and beyond. This category will also include all domestic traffic.	500 (automatically includes all four categories)
II	Rail corridors serving JNP/Mumbai Port and its hinterland in other than National Capital Region and beyond. This category will also include all domestic traffic except on category I routes.	100
III	Rail corridors serving the ports of Pipavav, Mundra, Chennai/Ennore, Vizag and Kochi and their hinterland. This category will also include all domestic traffic except on category I routes.	100
IV	Rail corridors serving other ports like Kandla, New Mangalore, Tuticorin, Haldia/Kolkata, Paradip and Mormugao and their hinterland and all domestic traffic routes. This category will also include all domestic traffic except on category I routes.	100

The rolling stock had to be procured by the operators based on IR approved design. It would have to be inspected by IR as per the rules in force. Locomotives would be supplied by the IR. For terminal activities, operators were required to either have a rail linked Inland Container Depot (ICD) or give an assurance within a period of six months of getting approval that they would construct their own ICD within three years or arrange to furnish a lease agreement with an existing ICD owner.

Maintenance of track at the terminals would be done by the operators at their own cost, with IR being paid for inspection/supervision according to the prescribed prevailing rates. Maintenance of rolling stock would be done by IR, for which the prescribed charges would be recovered from the operators.

Operators could carry all goods subject to conditions specified in the goods tariff and under provision of IR Act and any other instructions issued on the subject by MoR from time to time. The operators were given full freedom for setting tariff from their customers. Operators had to pay haulage charges to IR for using its infrastructure. IR reserved the right to determine haulage charges.

Trains would be dispatched on a nondiscriminatory 'first come first served' basis. IR would not provide any transit times guarantees.

The process of registration as well as train operations would be uniformly applicable to all including CONCOR. The scheme would be open for one month in a year for registration.

CONCOR, the Incumbent

CONCOR, the incumbent container train service provider, was set up in 1988 as a wholly owned subsidiary of IR. It had built a strong asset base over the past twenty years. CONCOR had 59 terminals, of which 39 were rail linked ICDs in many interior towns, serving almost all the regions of India. As of December 31, 2009, it had 218 rakes, 8117 high speed wagons, and 13,576 (owned and leased) containers.

In 2008-09, CONCOR handled 2.31 mTEUs of container traffic, of which, 1.84 mTEUs were export import. Its total income was Rs 36,280 m and the net profit was Rs 10,140 m. CONCOR paid over Rs 1000 m as haulage to IR [CONCOR, 2009].

CONCOR was also a stakeholder in two container terminals at Indian ports. It joined with the container shipping line, Maersk (of Denmark), with a 26% stake to form Gateway Terminals India Pvt Ltd to competitively bid for building and operating the third container terminal at Jawaharlal Nehru Port. They won the bid in August 2004. In February 2005, CONCOR picked up 15% stake in India Gateway Terminal Pvt Ltd, a company floated by Dubai Ports International, which had already won the bid, to set up and operate an international container transshipment terminal at Vallarpadam, under the Cochin Port.

The Entrants

The initial response to the policy was good. In the first round of registration (January 16-February 15, 2006), 14 operators, including the incumbent CONCOR, signed an agreement with IR. Ten of these permissions were for category I routes, two for category II and the remaining two were for category IV. As promised by MoR, 'in principal approval' to run container trains was given to these 14 operators before 31st March 2006. This number was larger than expected, and more so since the Model Concession Agreement (MCA) (which is a precise policy and regulatory framework legalizing the agreement between the MoR and operators) was not yet ready. MoR collected Rs 5400 m as registration fee.

To satisfy the requirement for access to terminals, eight of the 13 CTOs signed MoUs with CONCOR for using its terminals. CONCOR put a restriction on CTOs that they should not do business with CONCOR's existing customers using these terminals.

The following year, in the second round of registration (December 01, 2006 – January 31, 2007), although 60 companies sent applications, only two, KRIBHCO and Gammon India, showed further interest. Finally, KRIBHCO alone signed the agreement with IR for category I routes. The enthusiasm had already gone down, showing that the first round registrations were more opportunistic. The one year period had given operators a deeper insight into the business and a realistic assessment of operational viability.

In the mean time, the MCA was finalized. It broadly reflected the final policy except one setback for CTOs. It specified certain commodities, which normally moved in railway wagons in trainload, as restricted/notified commodities, implying that they cannot be moved in containers. These were coal, coke, iron ore and minerals (accounting for about 66% of IR's traffic by originating tons and 63% by freight revenue). MoR further kept the right to change/modify restricted commodities from time to time [PC, 2007]. The MCA was signed with operators on 4th January 2007.

In April 2007, MoR changed the idea of a limited one month registration period and allowed the licence to be bought anytime. Arshiya International, a global supply chain services company, got the category I license on April 10, 2008, making the total number of operators as 16. Thus, of the 16, 12 got the category I licence, two got category III and two category IV. None had sought the category II licence. Most of the companies created

subsidiaries to undertake container operations. Table 2 provides a listing of 16 operators, their parent companies, other activities of the parent companies, and details of their first trips. For the purpose of this paper, the term 'CTO' has been used to refer to the 15 new operators.

Gateway Rail Freight Pvt Ltd was the first private operator to run a container train. They flagged off their first train on 3rd May, 2006, using a CONCOR rake. The first privately owned container train by a private operator was flagged off by Innovative B2B Logistics Solutions on 30th October, 2006.

As of December 2009, of the 16 operators, 13 were operational. Of the remaining three, KRIBHCO Infrastructure Ltd had time till January 2010 since it had received its licence in 2007. Pipavav Railway Corporation Ltd had sought a one year extension which was granted by the MoR. So they had time till January 2010. Reliance Infrastructure, to keep the licence, had run one train in collaboration with BLR Logistics in February 2009 by leasing a rake from an existing operator. Their regular operations were yet to begin.



Table 2: Entrants

S No	Company	Year	Category	Parent Company	Other Activities	First Trip		
						When	From	To
1	Adani Logistics Ltd	2006	I	Adani Group	Ports, container terminal, railways, CFS	9-Nov-07	Patli	Mundra Port
2	CONCOR	2006	I	IR (Public Sector Undertaking)	Incumbent			
3	Container Rail Road Services	2006	I	DP World	Ports, container terminal	5-Oct-07	Dadri	Mundra Port
4	CWC	2006	I	CWC (Public Sector Undertaking)	Warehousing, CFS	4-Jan-07	Loni	Mumbai Port
5	Freightstar	2006	I	ETA Star Group (Dubai)	Shipping and port services	23-Nov-07	Loni	JN port
6	Gateway Rail Freight Ltd	2006	I	Gateway Distriparks	CFS	3-May-06	Garhi Harsaru	Mundra Port
7	Hind Terminals	2006	I	Sharaf Group (UAE) and MSC Agency (belonging to Mediterranean Shipping Company, Geneva)	Shipping, freight forwarding	16-Apr-07	Nhava Sheva	Loni
8	India Infrastructure and Logistics	2006	I	APL India (subsidiary of NOL, Singapore) (76%), and Hindustan Infrastructure Project and Engineering (24%)	Container shipping, infra entrepreneur	31-May-07	Loni	JN Port
9	Reliance Infrastructure	2006	I	Reliance (ADAG)	Industry in general	Not available		
10	SMART	2006	I	SICAL Logistics	CFS, container terminal	6-Mar-08	Hatta Road (MP)	Khetri (Rajasthan)



11	Boxtrans (India) Logistics Services	2006	III	JM Baxi & Co	Container terminal, CFS, stevedoring	12-Apr-07	Kolkata	Loni
12	Pipavav Railway Corporation Ltd (PRCL)	2006	III	PRCL (A JV between IR and Gujarat Pipavav Port Limited, a subsidiary of Maersk)	Ports, railways	Not yet started		
13	TransRail Logistics Ltd	2006	IV	Delhi Assam Roadways (Transport and Logistics Company)	Trucking	9-Feb-09	Kolkata	Patli
14	Innovative B2B Logistics Solutions	2006	IV	Bagadiya Shipping, and Bothra Brothers (P) Ltd	Agency and entrepreneur	30-Oct-06	West Bengal	Andhra Pradesh
15	KRIBHCO Infrastructure Ltd	2007	I	KRIBHCO (Public Sector Undertaking)	Fertilizer industry	Not yet started		
16	Arshiya Rail Infrastructure	2008	I	Arshiya International	Logistics, entrepreneur	2-Feb-09	Jharsuguda	Visakhapatnam

[Source: Compiled from Various Sources]

The problems faced by the CTOs in starting operations included delays in delivery of wagons due to few wagon manufacturers and shortage of wheelsets,, rakes becoming costlier due to hike in steel prices, delays in approvals from IR and other government authorities, and shortage of rail linked ICDs.

An analysis of the profile of entrants (Table 3) showed that of the 15 new entrants, 12 were from private sector, one was a joint venture, and two were public sector entities. A further analysis based on their ability to offer/influence traffic showed that three operators were from the container shipping lines, five were container terminal operators, one was a commodity manufacturer, two were CFS operators, and four were from service sectors. Five operators (Hind Terminals, India Infrastructure and Logistics, Container Rail Road Services, Innovative B2B Logistics Solutions, and Pipavav Railway Corporation Ltd) were driven by significant international interests. It is expected that operators from private sector who are from container shipping lines and container terminal operators are in a position of advantage to generate traffic.

The Impact

The investments and achievements by CTOs were remarkable, inspite of the economic downturn in 2008 and 2009 which had affected the industry adversely for one and half years. CTOs had invested nearly Rs 30,000 m in terminals, rakes, and rake handling equipment. Apart from the one time licence fee of Rs 6400 m, they paid Rs 5850 m as haulage in 2008-09 to IR.

The data on how much traffic was moved by CTOs in 2008-09 is not readily available in the public domain. One approach to determining it would be the difference between what the IR reports as total container traffic less the figures reported by CONCOR, both of which are available in the public domain. However, it is difficult to make this estimate due to the fact that the IR reports the container traffic in tons while CONCOR reports its figures in TEUs. We would need to bring both these figures to the same unit.

In an attempt to do this, we analyse the data of 2006-07, prior to the CTOs coming in, where the container data reported by IR would essentially be CONCOR's traffic. IR reported the container traffic as 20,406 thousand tons. Of this, 17,470 thousand tons was international and 2,936 thousand tons was domestic. In the same year, CONCOR reported its traffic as 2,106 thousand TEUs, of which, 1,716 thousand TEUs was international and 390 thousand TEUs was domestic. From these figures, a tons to TEU ratio would work out to be 9.69 for total, 10.18 for international and 7.53 for domestic

container traffic. To compare it with traffic data reported major ports, the tons to TEU ratio in 2006-07 was 13.25.

However, it could be inaccurate to use the ratios derived above to estimate the CTOs' traffic in 2007-08 and 2008-09. The CTOs have a higher proportion of business in domestic and possibly a reduced empty movement due to a strong commercial focus. We hypothesise a tons to TEUs ratio of 11 for 2008-09 for both international and domestic to convert the IR's container traffic from tons to TEUs. In 2008-09, IR moved 30,342 thousand tons of total container traffic, of which, 23,287 thousand tons was international and 7,055 thousand tons was domestic. This would yield to 2,758 thousand TEUs of total container traffic, of which, 2,117 thousand TEUs would be international and 641 thousand TEUs would be domestic. CONCOR reported carrying a total of 2,308 thousand TEUs, of which 1,855 thousand TEUs was international and 453 thousand TEUs was domestic in the same year. Therefore, in 2008-09, total CTOs traffic could be estimated as 450 thousand TEUs, of which, 262 thousand TEUs would be international and 188 thousand TEUs would be domestic.

Infrastructure

As of December 31, 2009, CTOs had acquired 93 rakes and had built 12 ICDs/CFS/logistics parks (Table 4).

Industry analysts predict that over the next five years, CTOs would be operating about 450 rakes and paying Rs 30,000 m per annum to IR as haulage. The sector would employ approximately 3000 people directly and 12,000 indirectly.

Table 3: Profile of Entrants

----- Increasing level of influence (primary role)

	Container shipping line	Container terminal	Commodity	CFS operators	Services	Other	Total
Pvt	<ul style="list-style-type: none"> • APL India (<i>India Infrastructure and Logistics</i>) • MSC Agency (<i>Hind Terminals</i>) 	<ul style="list-style-type: none"> • Adani Logistics Ltd (<i>Adani Group</i>) • DP World (<i>Container Rail Road Services</i>) • JM Baxi & Co (<i>Boxtrans (India) Logistics Services</i>) • SICAL Logistics (<i>SMART</i>) 		<ul style="list-style-type: none"> • Gateway Distripark (<i>Gateway Rail Freight Ltd</i>) 	<ul style="list-style-type: none"> • Arshiya International (<i>Arshiya Rail Infrastructure</i>) • Delhi Assam Roadways (<i>TransRail Logistics Ltd</i>) • ETA Star Group (<i>Freightstar</i>) • Bagadiya shipping (<i>Innovative B2B Logistics Solutions</i>) 	<ul style="list-style-type: none"> • Reliance (ADAG) (<i>Reliance Infrastructure</i>) 	12
JV	<ul style="list-style-type: none"> • Maersk (<i>Pipavav Railway Corporation Ltd</i>) 						1
Public		[CONCOR]*	<ul style="list-style-type: none"> • KRIBHCO (<i>KRIBHCO Infrastructure</i>) 	<ul style="list-style-type: none"> • CWC 			2
Total	3	4	1	2	4	1	15

[Source: Authors' Analysis]

*Incumbent

Influencing parent companies are listed in this table. Their subsidiaries for container operations are given in the bracket.

Table 4: Infrastructure and Operations

As of December 2009

	Operator	Rakes	Operating Routes	Operational Rail siding	Planned Rail Sidings
1	Adani Logistics Ltd	5	<ul style="list-style-type: none"> • Patli to Mundra • Patli to JNPT • Patli to Chennai • Kishangarh to Mundra • Kishangarh to Chennai 	Patli (Gurgaon), Kishangarh (Rajasthan)	Land acquired for more sidings
2	CONCOR		Incumbent		
3	Container Rail Road Services	7	<ul style="list-style-type: none"> • Ludhiana to Nhava Sheva • Ludhiana to Mundra • Faridabad to Nhava Sheva 	Tie up with CFS/ICD operators	NA
4	CWC	-	<ul style="list-style-type: none"> • Loni to JNPT • Delhi to Mundra • Delhi to Chennai • Delhi to Vishakapatnam • Kandla to Delhi 	Has several ICDs and CFS of its own	NA
5	Freightstar	7	<ul style="list-style-type: none"> • Dhapper to JNPT • Loni to JNPT • ACTL to JNPT 	Tie up with CFS/ICD operators	Two owned sidings
6	Gateway Rail Freight Ltd	18	<ul style="list-style-type: none"> • Ludhiana to JNPT, Mundra, and Pipavav • Kalamboli to JNPT and Mundra 	3 ICDs – Garhi (Delhi), Sanewal (Ludhiana), Kalamboli (Mumbai)	Faridabad (NCR)
7	Hind Terminals	10	<ul style="list-style-type: none"> • JNPT to Sabarmati, Kota, Ludhiana, Dadri, and Bangalore • Mundra to Sabarmati, Kota, Ludhiana, and Dadri • JNPT to Jaipur and Nagpur (proposed) • Chennai to Bangalore and Hyderabad (proposed) 	Strategic alliance with Allcargo and CWC at JNPT, Mundra and NCR	New location In strategic alliance with Allcargo
8	India Infrastructure and Logistics	9	<ul style="list-style-type: none"> • JNPT to Loni • JNPT to Patli • JNPT to Faridabad • Loni to Kalamboli 	Tie up with CFS/ICD operators	Panipat
9	Reliance Infrastructure	-	-	NA	NA
10	SMART	5	<ul style="list-style-type: none"> • Chennai to Patli • Chennai to Chattisgarh • Chennai to Morvi • Raipur to Baruj, Delhi, and Jhatsila • Delhi to Hyderabad • Chennai to Bangalore 	3 CFS (Chennai, Tuticorin and Vizag); tie up with CFS/ICD operators and private sidings	More sidings planned

11	Boxtrans (India) Logistics Services	12	<ul style="list-style-type: none"> • Loni to Mundra • Loni to Vishakapatnam • Lorvi to Kolkata • Morvi to Guwahati • Delhi to JNPT 	Vizag and Rajasthan; tie ups with CFS/ICD operators	5-6 sidings planned
12	Pipavav Railway Corporation Ltd (PRCL)	-	-	NA	NA
13	TransRail Logistics Ltd	2	Eastern Western corridor	NA	NA
14	Innovative B2B Logistics Solutions	12	<ul style="list-style-type: none"> • JNPT to Noli • South eastern zone to northern zone 	Kalamboli (JNPT); tie ups with CFS/ICD operators	3 sidings planned
15	KRIBHCO Infrastructure Ltd	-	-	NA	NA
16	Arshiya Rail Infrastructure	6	<ul style="list-style-type: none"> • Jharsuguda to Vishakapatnam 	Vizag; tie up with CFS/ICD operators	Khurja (NCR), 5 other
	Total	93			

NA: Not available

[Source: IDFC-SSKI (2009) and Frost and Sullivan (2009)]

Operations

To the credit of CTOs, more commodities moved in containers and new services were being provided on routes where road was a monopoly. The following examples demonstrate this:

- One of the operators was providing customized solutions for moving marble in containers from Kishangarh and Makrana (both in Rajasthan) to Kolkata (West Bengal). Earlier this traffic was moving entirely by road. Now 60% of marbles on this route move in containers.
- 25% market was captured by CTOs for tiles moving from Morbi (Gujarat) to Eastern India.
- There was a major shift from road to rail for refrigerated containers from National Capital Region to Mumbai.
- Arshiya Rail Infrastructure was moving aluminium ingots in customized containers from Jharsuguda (Orissa) to Vizag Port.
- Adani Logistics Ltd was transporting cars in specially designed containers for carrying automobiles.

CTOs were able to increase rail share on routes even where CONCOR services existed. As an example, rail share increased from 28.6% to 37.5% for aggregated movement of steel from Rourkela (Orissa) to Ludhiana (Punjab)

This was achieved by providing integrated logistics solutions, reduction in transport cost and/or travel time, greater reliability, and customized solutions.

On CONCOR

CTOs posed stiff competition to CONCOR, a monopoly service provider for nearly 17 years, by offering value added services. This was reflected in CONCOR's market share which dropped from 95% in 2007-08 to 76% in 2008-09. In terms of intellectual loss, many of their experienced managers resigned from CONCOR and joined private operators.

In a strategic move to retain the market share, CONCOR reduced tariffs for FEU (forty foot equivalent unit) containers, dropped rates on selected routes, introduced incentive schemes (volume discounts, bulk discounts, rebates, lower rates for moving empty containers, and longer free time for clearing loaded import containers) and formed joint ventures with companies to provide end to end intermodal logistics solutions to its customers.

CONCOR reduced rates by 8% for containers between Ludhiana (Punjab) and ports on the west coast after Hind Terminals, and Container Rail Road Services started operations on this route.

CONCOR entered into several strategic tie ups in the past few years to derive volumes. In addition to container terminals at JNPT and Kochi Port, it had tied up with Transport Corporation of India to provide door to door services, entered into a 50:50 JV with NYK Line India, the local arm of Japan's Nippon Yusen Kabushiki Kaisha, to handle automobile movement by rail. It was setting up a cold storage chain for agriculture exports. It had plans to set up five logistics parks that would offer single window solutions to customers, and was considering entering new businesses such as container shipping and air cargo.

Overall, in the face of competition, CONCOR has become more 'dynamic' by trying to enter into value added businesses.

Issues

As per recent industry research, the total Indian freight market in the country was about 3.1 billion tons (bt) in 2008-09 [IDFC-SSKI, 2009]. This freight has grown at a compounded annual growth rate (CAGR) of 8% between 2006-07 and 2008-09. Of the total 3.1 bt, the international cargo was 25%. The rail share was only 30% (850 million tons (mt)) despite rail being more economical, faster and environment friendly.

The containerized traffic was about 100 mt during 2008-09. India's containerized cargo is mostly export import. Container cargo has been growing at a CAGR of 15% over the past ten years and has a potential to grow even faster given the robust international trade growth and increasing container penetration. India's international trade growth has been over 20% during the past five years. Container penetration for international containerizable cargo, which is currently about 68%, is likely to increase to the global average of 75-80%. Rail currently carries only 30% of the export import containers to the hinterland. International container volumes for rail will increase given the healthy container growth and the increase in rail share due to multiple operators.

India's domestic container cargo is extremely low, estimated at 20-30 mt. With the entry of CTOs, this sector has gained much focus and volumes are likely to grow.

In 2008-09, IR moved 30 mt by container (through CONCOR and CTOs), constituting 3.65% of the total rail traffic. In terms of net ton kms, it accounted for 38 bt kms, constituting 6.90% of the total net ton kms of IR. The revenue earned through the container traffic was Rs 25 b, constituting 4.88% of the total IR's earnings. Given the above growth trends, it appears that the rail container volumes are bound to increase.

However, there are issues that are either unresolved or lack clarity. The business has a long gestation period which is further increasing with IR exercising its right to change

tariffs and norms from time to time. Since CTOs entered this business, IR has increased haulage, introduced new charges, and brought in restrictions on bulk commodities. Some of the CTOs feel insecure as their expenses are higher than revenues, resulting in losses. They are also skeptical about IR's commitments and future policy directions on various issues. IR, on the other hand, is affected by a sense of territorial incursion and is focusing on protecting IR revenues rather than strategizing on expanding the market.

Based on discussions with a variety of stakeholders and field visits, we identify and discuss six issues. These are entry costs, pricing by IR, service levels by IR, maintenance, terminals and level playing field with CONCOR.

1. Entry Costs

With all upfront and variable investments, the business has become highly capital intensive with a long gestation period for CTOs. They had to pay Rs 500 m/Rs 100 m as one time registration fee. It was mandatory for them to build an ICD within three years of getting the licence. A medium sized ICD costs anywhere between Rs 750 to 1000 m. Initially, many CTOs tied up with CONCOR for using their ICDs. CTOs felt that the charges by CONCOR were high. CTOs have to procure their own rakes and containers. One rake, together with containers costs about Rs 140-150 m. It is estimated that a minimum investment of Rs 2000 m is required from a CTO to start the business, considering five rakes and one ICD.

2. Pricing by IR

The major pricing element is the haulage, a charge that IR levies on CTOs for using its tracks, locos, and signaling infrastructure. Other elements are development surcharge, parking, and stabling charges. These prices have a significant impact on the CTO's operational costs.

The haulage alone accounts for 70-75% of their operating costs. Haulage has been increased four times since the final policy in January 2006, with effect from (wef) November 01, 2006, October 01, 2008, July 01, 2009, and January 01, 2010, with a total increase upto 20% (Table 5). Revenues earned through haulage account for only 3% of IR's total revenues. However, for CTOs, it is the most significant cost and any upward revision comes as a setback to them.

IR is considering change in haulage rates for steel, POL (Petroleum Oil Lubricants), fertilizer, cement, foodgrains and clinker by linking them to freight rates charged by IR from its direct customers, with a small discount to CTOs. This would be a departure from the principle of charging container haulage irrespective of what is loaded inside. Any such change at this stage would have a severe impact on the CTO's business plans as they have made significant investments in procuring special containers.

Table 5: Increase in Haulage

Distance (kms)	Haulage in 2006 (Rs)			% Increase (2006-10)		
	upto 20t	20-26t	above 26t	upto 20t	20-26t	above 26t
501 - 550	5874	7172	7871	1.6	12.4	12.7
1001 - 1050	9734	12222	13556	11.2	14.3	14.5
1501 - 1550	13796	17267	19236	13.7	16.4	16.8
2001 - 2050	18089	22304	24908	13.7	18.3	18.5
2501 - 2550	22405	27362	30600	13.5	19.4	19.5
3001 - 3050	26720	32391	36265	13.3	20.2	20.3

[Source: Authors' Analysis]

Empty container movement is charged at 65% and empty container wagon at 60% of the loaded container. On the return, operators do not always get cargo, resulting in lesser margins. Reefer containers (for refrigerated goods) generally come empty on the return due to lesser possibility of finding similar cargo.

The capacity by weight of an FEU is just about 1.2 times of a TEU. The haulage charged by IR for an FEU is 1.8 times of TEU. The FEU hence is viable only for low density cargo.

Additionally, IR introduced 2% development surcharge on haulage wef 1st April.2008. The parking charges in between runs were increased from Rs 9,000 to Rs 13,000 per rake per day. The economic downturn in 2008-09, shortly after operators got their licences, forced many operators to stable their rakes for want of business. Stabling charges at Rs 13,000 per rake per day were introduced.

In January 2007, one year after the policy announcement, while releasing the MCA, the IR restricted ores, minerals, coal and coke, accounting for 70% of total rail freight, for carrying by containers. The commodity basket for CTOs was thus restricted to just 30% of what moves by rail.

All these charges impacted CTOs by adding to their operational costs.

3. Service Levels by IR

The policy did not provide CTOs any service level guarantees from IR. CTOs were demanding guaranteed transit time or a fixed time tabled schedule for container trains, which IR denied on the ground of network capacity constraints. As of now, IR does not have a time table for freight trains. Passenger trains run with a time table and are given priority over freight trains. In the absence of such a guarantee, CTOs were having difficulties in ensuring timely delivery to their customers, and managing their own logistics. CTOs were battling for this since the policy announcement.

Finally, in December 2009, nearly four years after the policy, MoR announced an Assured Transit Time (ATT) service on limited routes. This service aimed at providing scheduled container train services to interested CTOs for end to end movements at an additional 10% of the haulage charge, called premium ATT service charge. In case of non adherence of ATT by IR, the premium would be reimbursed. The reduction in time taken in the ATT service against the existing service varies. For the JN Port (Mumbai)-Tughlakabad Depot (Delhi) stretch, which is a distance of about 1500 km, the ATT service offers about 15% reduction in time (36-39 hours over the current 42-45 hours). For the JNPT-Loni Depot stretch, the reduction is 28-30% (42-43 hours against 60-odd hours now) [Business Line (2010)].

CTOs have yet to start using this service. There are concerns about the implementation modalities and premium being kept at 10%. CTOs are of the view that IR should offer discounts on the charges in case of non compliance rather than just reimbursement of premium.

4. Maintenance

Rake maintenance is only done by the IR at designated facilities. As of December 2009, the designated facilities were 21, eight in IR yards, 10 in CONCOR premises, and three in CTOs' premises (one each of Adani Logistics Ltd, Gateway Rail Freight Pvt Ltd and CWC). Each rake is assigned a particular facility for examination. It is possible that such a facility is away from the main circuit on which a rake is operational and hence the rake has to move a long distance to reach the facility.

After examination, a Train Examiner (TXR) issues a certificate to the rakes, valid for 6000 km or 30 days, whichever is earlier. There may be a scope to increase validity of distance beyond 6000 km based on the age of the rolling stock. Most of the rolling stock procured by CTOs is new.

At an operational level, containers have to be offloaded from the rake for TXR examination. This results in detention to stock and increased cost of handling.

The train examination is done only by a railway TXR staff. This needs coordination with railways. Sometimes the rake is ready but the examination is delayed. CTOs are not allowed to hire their own TXR staff.

5. Terminals

Terminals are yards where the consolidation of cargo is done. To provide some relief to CTOs, till the time they build their own terminal base, IR authorized Zonal Railways to notify one or more railway owned terminals (goods sheds, railway sidings, unused railway lines etc) as a container rail terminal (CRT) depending upon the requirement. Though guidelines have been issued from the MoR, Zonal Railways are at times resistant in allowing container handling at these CRTs. In the beginning, the usage of

these railway terminals turned CRTs was not charged. However, since July 01, 2007, the following charges were announced by the IR:

- Terminal access charges (Rs 34,000 per terminal per rake)
- Detention charge (Rs 100 per wagon per hour)
- Ground usage charge (Rs 2250-4500 per rake per hour, depending on the type of the goods shed)

There are innumerable underutilized/unused private rail sidings across the country. These could serve as a strong asset base for the CTOs till the time they develop their own sidings. However, these sidings need to be redeveloped for use of container handling.

For development of these under utilized and unused terminals and goods sheds, a clear vision is needed whether these terminals should be developed as common user or captive facilities. In case of a common user facility, who (IR, CTO(s) or owners of private sidings) should invest would be a matter of discussion. The owners of the unused private sidings would hardly have interest in making any investment. If CTOs make an investment, they may prefer to have the facility captive to them or would like to earn revenue by providing services to others. IR may invest but since they have a big shelf of projects pending already, the willingness and service levels would be questionable.

CTOs are willing to invest in these sidings but there are no clear guidelines from the IR on development and use of these private sidings.

6. Level Playing Field with CONCOR

Though the policy did provide a level playing field to CTOs with CONCOR, CONCOR is still benefiting due to its earlier protection from the IR. While CTOs have to buy land at market prices, CONCOR had been provided land at prime locations from the IR at a low rate. CONCOR still pays a very nominal lease rent for this land. CTOs were not extended any support from the IR in procuring land, though IR has a large amount of vacant land across the country.

In the absence of their own ICDs, 10 CTOs initially tied up with CONCOR for using its terminal infrastructure. Access charges levied by CONCOR for these terminals were felt as quite high by CTOs. Although CONCOR's terminals are built on IR land, IR did not exercise any control on this matter.

New entrants have to make payments towards haulage on a transaction basis through a demand draft. Getting this draft made at a remote siding is difficult due to not having banks in the vicinity, or due to opening hours of the banks etc. CONCOR was paying haulage to IR on a fortnightly basis (even with a credit of 15 days). CONCOR is allowed to continue with the same practice.

Recommendations

1. Entry Costs

In spite of the entry costs, 16 operators entered the market. Potential operators can get into agreements with existing operators to minimise capital investments. Hence, issue of entry costs may not be significant.

2. Pricing and 3. Service Levels

There are two interfaces which are subject to regulation for pricing and service level guarantees (i) IR vis-à-vis CTOs and (ii) CTOs vis-à-vis customers.

Between IR vis-à-vis CTOs, haulage increase, service guarantees, and commodity restrictions have been the major areas of concerns. There has been no rationale for haulage increase. Instead of restricting commodities, IR could have levied a different haulage for such commodities. To improve the current pricing, other models could be evolved eg revenue sharing between IR and CTOs, route based cost of haulage etc. More importantly, these matters need to be overseen by an independent regulator to ensure stability and transparency so that CTOs' interests can also be protected. In the absence of such a regulator, IR exercises its control with conflicting interests as licensor, regulator, service provider and operator.

Between CTOs vis-à-vis customers, there is already competition among 16 players and market forces will ensure fair charges and services for customers.

4. Maintenance

There is a need for more number of wagon examination facilities in the country. A vision on how these facilities should be developed and operationalized is a policy matter and needs attention. Though CTOs are currently allowed to establish facilities in their premises, the train examination is done only by the railway TXR staff which results in delays.

If IR develops the future facilities, it needs to decide on the appropriate numbers and locations so that the turn around time of rakes is not very high.

If CTOs invest in facilities, there should be a provision of hiring non IR TXR staff for train examination. Training to such staff could be provided by IR and/or other agencies. The certification should be done by IR.

Currently, the wagon examination charges are included in the haulage charged by the IR. There is a need to unbundle the maintenance charges from the haulage since CTOs' facilities are also being developed. If the examination takes place in the CTOs' premises, they should not have to pay the maintenance charge.

For greater efficiency and to avoid containers from being unloaded for examination, IR should provide pit lines and mechanical testing facilities.

5. Terminals

While the greenfield terminal development is more capital intensive due to land prices, modernization of brownfield terminals should be given priority. Common user development for private sidings would have an advantage over captive since there are limited facilities as of now. It is recommended that apart from IR and CTOs, independent third party organization(s) should get into professional terminal management business. These organizations should take over the existing underutilized private sidings, invest in upgradation to enable container handling, and maintain on a regular basis. Any CTO that wishes to use these terminals should pay the terminal access charge for each use. This model exists in telecom sector in India, wherein telephone towers are owned and maintained by organizations other than telephone operators.

For railway owned unused goods sheds, instead of IR developing and maintaining, a similar third party approach is recommended for bringing in investment capital and operational efficiencies.

6. Level Playing Field with CONCOR

IR should dilute its ownership in CONCOR, which is currently 63%, for providing a true level playing field to CTOs with CONCOR. Due to holding more than 50% stake, IR has control on the ownership and management of CONCOR. Key professionals from IR move to CONCOR on deputation. There are conflicts of interests if IR, the licensor, is also an operator in the same business through its subsidiary.

It would also be worth considering a break up of CONCOR into at least two players, so that a 'mighty' incumbent does not come in the way of the growth of the new players. This would be like the breakup of AT&T in the US in the telecom sector.

CONCLUSIONS

What Should the Operators Do?

At this stage when even the survival is difficult for some of the CTOs, they should share facilities like rakes and ICDs to minimize investments. For the 15 new CTOs, building economies of scale is important for the viability of business. While a few operators have reached a break even mark, others are struggling to minimize losses. Even though volumes may be there for all the operators to survive, the business has a long gestation period and small operators may find it difficult to uphold the losses. In such a situation, it would be more sustainable if the 15 new CTOs consolidate into fewer big operators.

CTOs should differentiate services through value propositions by offering (i) first and last mile connectivity, (ii) new routes, (iii) door to door solutions, and (iv) customized

container solutions. Last but not the least, CTOs can lobby with IR railways to get them to change.

What Should IR Do?

IR should review its strategies towards the implementation of the policy which was conceived with the objective to increase the rail share and introduce competition. The objective has got affected by a sense of 'territorial incursion,' and the focus has expanded to protecting IR revenues. This has resulted in creation of a non conducive policy environment for CTOs where they feel suppressed by high investments and operational costs. IR should facilitate CTOs so that they confidently venture new markets and target road volumes. IR should view CTOs as their partners rather than competitors.

There is no top management functioning to give focus to rail based container operations. As an operator, the Railway Board Members' roles should be redefined towards strategizing for key market segments rather than as the current cadre based functional supremo.

What Should the Government Do?

From some of the successful examples from the US and European countries reforms, it can be learnt that unbundling of roles, separation of infrastructure from services, balanced regulation than excessive regulation, non-discriminatory access rights for rail infrastructure to all operators, and competitive access to private operators is essential. Competitive access would be characterised by the existence of an integrated infrastructure provider, who is required to make rail facilities available to other operators on a fair and equal basis. [Cantos and Campos, 2005].

In the US, the Staggers Act was passed in 1980 which was a move towards a more balanced regulatory environment to replace the excessive regulation in the past. It promoted competition and allowed rail operators and shipping lines to enter into confidential contracts [AAR, 2009].

The European Union, in its reforms towards increasing rail market share, required railways in state member countries to be operated commercially like private companies, opened the freight market to competition, separated accounts for infrastructure from services, provided competitive access to private operators, and introduced a defined policy for capacity allocation and infrastructure charging [European Commission Directive, 2001].

In this context, we suggest independent regulation and privatization as the way ahead in this sector. Issues related to pricing, service levels, and level playing with CONCOR can best be resolved with an independent regulator. In areas related to maintenance and

terminals, there is need to explore more options other than IR and CTOs. These areas should be privatized and third parties be allowed in the business.

To avoid conflict of interest, it is important to begin immediately with a separation in the IR's roles of licensor, operator and regulator. The separation of infrastructure and operations can then follow.

List of Abbreviations

ATT	Assured Transit Time
b	billion
bt	billion ton
CONCOR	Container Corporation of India
CRT	Container Rail Terminal
CTO	Container Train Operator
FEU	Forty Foot Equivalent Unit
ICD	Inland Container Depot
IR	Indian Railways
m	million
mt	million ton
MCA	Model Concession Agreement
MoR	Ministry of Railways
POL	Petroleum Oil Lubricants
PRCL	Pipavav Railway Corporation Ltd
TEU	Twenty Foot Equivalent Unit
TXR	Train Examiner

References

- AAR (2009). 'A Short History of the US Freight Railroads,' Association of American Railroads, Policy and Economics Department, September 2009.
- Al-haj, T. (2003). 'Liberalization of the Container Haulage Industry in Malaysia,' Transport and Communications Bulletin for Asia and the Pacific, No 73, 2003, pg 73-98.
- Baskakon, P. (2007). 'Container Transportation by Rail in the Russian Federation,' Transport and Communications Bulletin for Asia and the Pacific, No 77, 2007, pg 75-81.
- Business Line (2010). 'Container Train Operators Sceptical of Railways Premium Service,' 8th January 2010.
- Cantos, P. and J. Campos (2005). 'Recent Changes in the Global Rail Industry: Facing the Challenges of Increased Flexibility,' European Transport\Trasporti Europei, Quarterly Journal of Transport Law, Economics and Engineering, Issue 29.
- CONCOR (2009). 'Annual Report of Container Corporation of India,' 2008-09
- European Commission (2001). 'Directive 2001/14/EC of the European Parliament and of the Council,' 26 February 2001.
- Frost and Sullivan (2009). 'Strategic Assessment of Containerization Trends in India,' P2B2-18, July 2009.
- Gouvernal, E. and J. Daydou (2003). 'Rail Freight Services for Containers: What Kind of Agreements after Liberalisation?,' Proceeding of the European Transport Conference 2003.
- Hafer, P. (1996). 'The Effects of Railroad Reforms in Germany,' Japan Railway & Transport Review, September 1996.
- IDFC-SSKI (2009). 'Logistics: Container Rail, Sector Report,' IDFC-SSKI India Research, December 2009.
- MoR (2006). The Gazette Notification dated 26th September, 2006, Ministry of Railways.
- Morris, S., A. Pandey, G. Raghuram, and R. Gangwar (2009). 'Introducing Competition in Container Movement by Rail,' Working Paper No 2010-02-02, Indian Institute of Management, Ahmedabad, February 2010 and accessible on Planning Commission website <http://infrastructure.gov.in>
- PC (2007). 'Model Concession Agreement for PPP in Container Train Operation,' Planning Commission, Government of India, June 2007
- Pittman, R. (2005). 'Structural Separation to Create Competition? The Case of Freight Railways,' Review of Network Economics, 2005, Vol 4, issue 3.
- UTES (2005). 'Study for the Operation of Container Trains on Indian Railways,' Report prepared for the Ministry of Railways, September 2005
- Vassallo, J. M. and M. Fagan (2005). 'Nature or Nurture: Why Do Railroads Carry Greater Freight Share in the United States than in Europe,' Research Working Paper Series, WP05-15, John F Kennedy School of Government, Harvard University.
- Wan, Z. and X. Liu. (2005). 'Chinese Railways Transportation: Opportunity and Challenge,' Transportation Research Board Annual Meeting 2009, Washington DC.