



A RESEARCH PAPER ON STUDY OF FREIGHT EARNINGS OF INDIAN RAILWAY

Abstract

Indian railway is the most cheapest and convenient mode of long distance transport system. Its main earning sources are fare and freight. Fare earnings are earned from passenger service and freight earnings are earned from bulk commodities service. It is said that freight is the surplus earning segment of Indian Railway and it is the back bone of Indian railway. Rise in road transport has been one of the reasons for less market share for railways. Is it the fact or what? Here in this research paper researcher tries to study the deficit or surplus and trend of freight earnings of Indian railway.

Research key Words

Indian Railway, Freight Earnings, Earning per wagon km. Cost per wagon km., Net Deficit/Surplus per Wagon km.

Research problem

Indian Railway is the third largest rail network in the world. Its main sources of income are fare and freight. During the period from 2001 to 2006 railway was running in losses, after that it took revival strategies and had shown good come back. Especially there came a time during 8th plan when road transport competitors gave tough competition to railway and during 9th plan railway framed competitive strategies for regaining back theirs market share. As it is said that freight service is the surplus earning segment of Indian Railway, and is the backbone of railway. Here the question to researcher is that - Is freight earnings truly the back bone of railway? Is it generating net surplus or deficit? What is the trend of its earnings in the last ten years 2006-07 to 2015-16?

Research introduction

With its more than 174 years old history, Rail transport is a commonly used mode of long-distance transportation in India. It is handled by a state-owned public utility of the Government of India under the **Ministry of Railways**. It is the third largest railway network in the world with 7,216 railway stations, 2,51,256 wagons, 11,122 locomotives, 53,101 passenger coaches and 66,867 route kilometers as on 31st March 2016. It carries 8107 millions of passenger traffic and covers 11,43,039 million passenger kms in a year. It transports around 1,108.62 million tonnes of freight traffic and covers 6,55,605 million tonnes kms in a year. It currently has 1,331 thousand employees and an average wage per employee is Rs.7,18,147 annually. Its operations cover 17 zones, twenty seven states and two union territories and also provide limited service to Nepal, Bangladesh and Pakistan.

The main commodity of freight business of Indian railway are Coal, iron ore, food grains, mineral oil, cement, fertilizers, iron and steel and other goods. Coal is the commodity which shares maximum revenue and maximum tonnes, followed by iron ore, food grains, mineral, cement, fertilizers, iron & steel, and other goods.

Review of literature

- a) Statistics from International Union of Railways indicate an average overall growth of 4% in freight ton km as well passenger ton km in 2011, confirming economic and trade recovery. There was about 12% increases from Russia which shares about almost a quarter for world ton km, about 5% increase in freight ton km by Asia Oceania and Middle East, whereas the bleak European scenario show a dip by 7% in the same. The USA accounting for more than a quarter of about 26% in total ton km has merely shown a rise by 2% in freight ton km. The rise in

freight ton km in Asian Oceania and Middle East was due to rise in growth of China, whereas India has shown a slower growth rate of 4%. Africa shows a marginal decline in the same compared to previous year. Asia Oceania & Middle East carried the bulk of total rail passenger traffic & comprised about three quarters of passenger km worldwide. Growth in passenger traffic continued in Asia, particularly India, which saw an 8% increase and carried almost half the traffic in Asia, while China recorded growth of 3 % only. Passenger-km in Africa fell 21%, but grew by 3% in Europe. Rail Network, in terms of length of lines, improved significantly in case of Africa with an increase of about 40% from 0.5 lakh km in 2010 to 0.7 lakh km in 2011

[Online][Cited: Monday July 2014.]http://mospi.nic.in/Mospi_New/upload/SYB2013/CH-19-INDIAN%20RAILWAYS/railways.pdf.

The 2014-15 budget presented by Union Railway Minister Mr.D.V.Sadananda Gowda declared highest ever plan outlay of Rs.65,455 crore and an expenditure pegged at Rs.1,49,176 crore. The budget proposes to cover food court at major stations. Separate housekeeping wing is planned at major 50 stations. CCTVs are planned for monitoring cleanliness activities. Dedicated freight corridors for Eastern and Western corridors. Proposal to start bullet train on Mumbai-Ahmedabad route, speed of important trains is also planned to be raised. Diamond quadrilateral project of high speed trains to connect all major metros. Mumbai local to get 860 new state-of- the-art coaches, and 64 new EMUs to be introduced. Online booking to support 7,200 tickets per minute; to allow 1.2 lakh users log in simultaneously. Some stations to be planned at international level through PPP model.

[Online][Cited: Monday July 2014.]<http://www.thehindu.com/news/national/railway-budget-201415-highlights/article6189594.ece>.

b) The working group for the formulation of eleventh five year plan (2007-12) has presented their report that Railways have exceeded most of the targets set for the Tenth Five Year Plan. The terminal year of the Plan has seen a record level of over 728 Million Tonnes of originating freight traffic, 6.24 billion of originating passengers, an enviable operating ratio of 78.7 percent and a cash surplus before dividend of over Rs 20,000 crores. Efficiency improvements and a customer-focused approach have remained major drivers of the growth. It is difficult for capacity enhancement to keep pace with the growth in traffic due to the gestation lags. Most of the major traffic-carrying routes are under severe strain. A number of initiatives have already been launched to redress the situation; these need to be sustained and greatly expanded in both scale and scope during the Eleventh Five Year plan. In addition, there is a need to identify infrastructural weaknesses that, if left unaddressed, could derail the momentum of growth.

[Online][Cited: Wednesday December 2013.

] <http://www.indianrailways.gov.in/railwayboard/uploads/directorate/infra/downloads/ReportoftheWorkingGroupfortheXIfiveyearPlan.pdf> .

Research objective

The objective of this research is to study the Freight earnings of Indian Railway from the period 2006-07 to 2015-16.

Research sample

The sample of this research paper is Indian Railway headed by Ministry of Railways.

Research period

The period covered for the study is from 2006-07 to 2015-16 covering 10years.

Research tools

Accounting technique ratio analysis is used.

- Earnings Per Wagon km = Freight earnings / Wagon kms
- Cost Per Wagon km = Wagon costs / Wagon kms.

Statistical calculations like average, minimum and maximum are used.

Data analysis

From earning per wagon km and cost per wagon km are used and net deficit is calculated.

Exhibit 1 Net Deficit/Surplus per wagon km in Freight Service

Years	Earning Per Wagon Km (BG)	Cost Per Wagon Km (BG)	Net Surplus (BG)	Trend of Earning per Wagon Km (BG)	Trend of Cost per Wagon Km (BG)	Trend of Net Surplus per Wagon Km (BG)
2006-07	11.95	6.96	4.99	-	-	-
2007-08	12.63	7.14	5.49	5.69%	2.59%	10.03%
2008-09	32.04	17.38	14.66	153.74%	143.42%	167.18%
2009-10	33.32	22.49	10.83	4.00%	29.40%	-26.11%
2010-11	34.16	23.35	10.81	2.51%	3.82%	-0.22%
2011-12	35.37	23.96	11.41	3.55%	2.61%	5.57%
2012-13	44.11	25.79	18.32	24.72%	7.64%	60.58%
2013-14	46.81	30.85	15.96	6.11%	19.62%	-12.90%
2014-15	54.43	35.30	19.13	16.27%	14.42%	19.84%
2015-16	57.16	35.46	21.70	5.02%	0.45%	13.44%
Average	36.20	22.87	13.33	24.62%	24.89%	26.38%
Minimum	11.95	6.96	4.99	2.51%	0.45%	-26.11%
Maximum	57.16	35.46	21.70	153.74%	143.42%	167.18%

(Self-made various statistical sheets and annual reports used, Source Ministry of Railway website)

Earning per wagon km shows rising trend during the research period. It range lies from Rs.11.95 to Rs.57.16. It is minimum in 2006-07 at Rs.11.15 and maximum in 2015-16 at Rs.57.16. It has shown a huge rise in the year 2008-09 by 153.74%. After that a measurable rise is seen in the years 2012-13 by 24.72% and 2014-15 by 16.27%. It has shown an overall rise by Rs.45.21.

Cost per wagon km shows rising trend during the research period. It range lies from Rs.6.96 to Rs.35.46. It is minimum in 2006-07 at Rs.6.96 and maximum in 2015-16 at Rs.35.46. It has shown huge rise in the year 2008-09 at Rs.143.42% reaching to Rs.17.38. Then rise in 2009-10 by 29.40%, 2013-14 by 19.62%, and 2014-15 by 14.42%. A minimum rise in cost per wagon km is seen in 2015-16 by 0.45%. It has shown an overall rise by Rs.28.5.

Net surplus per wagon km shows fluctuating trend during the research period. It range lies from Rs.4.99 to Rs.21.70. It is lowest in 2006-07 at Rs.4.99 and highest in 2015-16 at Rs.13.33. Net surplus has shown maximum rise in the year 2008-09 by 167.18% reaching to Rs.14.66. It has shown good rise in the year 2012-13 by 60.58% moving to Rs.18.32 and 2014-15 by 19.84% at Rs.19.13. Net deficit has shown fall in the years 2009-10, 2010-11 and 2013-14. It has shown an overall rise by Rs.16.71.

Exhibit 2 Year Wise Total Net Surplus in Freight Service

Years	Earning Per Wagon Km(BG)	Cost Per Wagon Km (BG)	Net Surplus (BG)	Wagons Kms (in millions)	Total Surplus (in millions)	Trend of Net Surplus (in millions)
2006-07	11.95	6.96	4.99	34,259	170846.56	-
2007-08	12.63	7.14	5.49	36,695	201355.70	10.03%
2008-09	32.04	17.38	14.66	16,134	236537.88	167.18%
2009-10	33.32	22.49	10.83	17,063	184835.23	-26.11%
2010-11	34.16	23.35	10.81	17,749	191837.15	-0.22%
2011-12	35.37	23.96	11.41	19,140	218395.60	5.57%
2012-13	44.11	25.79	18.32	18,912	346520.62	60.58%
2013-14	46.81	30.85	15.96	19,546	311952.60	-12.90%
2014-15	54.43	35.30	19.13	18930	362064.70	19.84%
2015-16	57.16	35.46	21.70	18708	405900.92	13.44%
Average	36.20	22.87	13.33	21714	263024.70	
Minimum	11.95	6.96	4.99	16134	170846.56	
Maximum	57.16	35.46	21.70	36695	405900.92	

(Self-made various statistical sheets and annual reports used, Source Ministry of Railway website)

Freight service generated net surplus throughout the research period. Its net surplus was 1,70,846.56millions in 2006-07 and has reached to 4,05,900.92millions in 2015-16. Net surplus has shown an overall increase by 2,35,054.36millions. This proves that freight service is running in net surplus throughout the research period.

Findings

1. Earning per wagon km shows rising trend during the research period. It has shown a huge rise in the year 2008-09 by 153.74% reaching to Rs.32.04. In 2012-13 it raised by 24.72% reaching to Rs.44.11, a good rise in 2014-15 by 16.27% reaching to Rs.54.43. It has shown an overall rise by Rs.45.21
2. Cost per wagon km shows rising trend during the research period. It has shown an overall rise by Rs.28.5. A maximum rise in cost is seen in the year 2008-09 by 143.42%. Rise in cost is also observed in the years 2009-10, 2013-14 and 2014-15.
3. Net surplus per wagon km shows fluctuating trend during the research period. It has shown maximum rise in the year 2008-09 by 167.18% reaching to Rs.14.66. It has shown good rise in the years 2012-13 and 2014-15. It has shown an overall rise by Rs.16.71.
4. Freight service has shown an overall rise by Rs.2,35,054.36millions during the research period.
5. In 2008-09 freight earnings have raised maximum, but along with it cost has also shown maximum rise resulting in to low net surplus. The huge rise in wagon earnings is due to rise in loading by 20tons per wagon and which is maintained or has risen throughout the research period. The main strategy of railway in 2008 -09 remained loading near about 1.45times more in one wagon and handling of old as well as new freight traffic with a reduced number of wagons in use as compared with the past trend. As wagons in use are decreased operating cost decreases; again tons loaded are increased which results in more revenue without additional operating cost. This strategy of railway has given them two fold benefits – at one side operating cost is

decreased and additional revenue is generated without any extra cost; on other side optimum use of wagons is accomplished resulting into huge rise in net surplus.

- Freight earnings has always shown net surplus and is the financial back bone for Indian Railway, but due to the burden of passenger service deficit, overall low net surplus is generated by Indian Railway. Freight service is burdened of the cross subsidization of passenger service deficit.

Conclusion

For Indian Railway Freight service is truly its back bone, and its survivor. The deficit of passenger service is borne by freight service, and freight service has to beat the increasing road transport competition. Proper strategies should be framed to maintain its surplus, and to meet with the cut throat competition in freight market. Optimum utilization of assets and minimum lead time can be the ladders for generating surplus and reducing expenses.

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