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National Council of Applied Economic Research

Factors Impacting Railway Freight Traffic in India

Study Sponsored by

The Railway Board, Ministry of Railway, Government of India

February 2016

Document of NCAER
Report No. 2016–02–1

NCAER 60

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National Council of Applied Economic Research
11 Indraprastha Estate, New Delhi 110 002

Published by
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Foreward

The Indian Railway (IR) system is one of the largest transportation and logistics networks in the world, operating some 19,000 trains daily, including 7,000 freight trains, over 65,000 kilometres of routes across 7,146 railway stations. In many ways, it is the lifeline of this country for both passengers and freight. Indian Railways have the distinction of being one of the four railway networks globally that carry more than a billion tonnes of freight annually.

The Indian Railway Board in the Ministry of Railways, Government of India, requested NCAER for this short-term study to focus on IR's freight business and to identify the reasons for the recent plateauing of its growth to around 1 per cent per annum for bulk freight commodities, including coal, iron ore, cement, steel, fertilisers and food-grains, and container traffic. The NCAER study also estimates the likely volume demand in 2016–17 for railway freight. In line with our mandate and its quick turn around, pricing issues were not considered in this study.

Freight accounts for nearly two-thirds of IR's revenue and falls into two broad categories, bulk and other goods. Unfortunately, the plateauing of IR's freight traffic comes at a time when IR has taken up the creation of additional rail capacity. Inadequate handling capacity has been a key hurdle in IR's realising the immense potential for growth in both its passenger and freight businesses in an economy that is growing well above the average for emerging market economies.

There are many reasons for the flat growth in IR's freight. The Indian economy has been passing through a difficult and challenging phase since 2014–15. Deficient rainfall and two drought years in a row have significantly lowered rural demand. Industry too remains sluggish due to low investment demand and the difficulties in the banking sector, particularly with public sector banks. Services, which have been a key driver for growth, have also not remained immune to the slowdown.

Alongside industry, growth in gross value added in 2015–16 for the mining and quarrying sector, a major client of IR, is estimated to be 6.9 per cent as compared to 10.8 per cent in 2014–15. Crucial components of core infrastructure, coal, steel, cement, and electricity, also showed a decline in their growth rate for April–December 2015 as compared to their performance in 2014–15.

The economic outlook for 2016–17 used in this NCAER study is based on a number of assumptions that are derived from the broader economic forecasting work at NCAER. First, the study is based on the widely held assumption that global growth prospects will change only marginally and will not have much impact on growth trends observed during 2015–16. Second, we expect a gradual pick-up in domestic

demand in the course of the year. Third, no dramatic upturn in the performance of any industry associated with railway freight is expected. These factors make forecasting demand particularly challenging in a year in which there may be continuing uncertainty about how low the international price of oil will go to. The bottom line forecast made in this study is that IR freight volume is likely to grow by 2.1 per cent in 2016–17, as compared to the 1 per cent growth in 2015–16.

Though outside its limited, short-term purview, the study notes a number of commercial, operational and policy-related issues that could have an impact on IR's freight traffic. IR's freight charges have gone up by 67 per cent in the last five years while there has been a decline in fuel prices. Road transport for freight has now become much cheaper than rail. Commodity packet sizes have also come down, e.g. for cement, making inventory management easier with road transport. It seems clear that IR will need to have a serious look at its fare-to-freight ratio and provide more flexibility to its customers to improve freight competitiveness.

I would like to acknowledge financial and data support from the Railway Board without which this study would not have been possible in the record time it has been completed. The acknowledgement section in the study lists officials who have been of immense help. I would particularly like to thank Shri Mohd. Jamshed, Member Traffic in the Railway Board and Shri N. Madhusudana Rao, Executive Director, Traffic Commercial (Rates), for their help and encouragement. Finally, I would like to thank Shri Suresh Prabhu, Union Minister for Railways, for his interest in NCAER's work. We look forward to deepening our research on the railways and for informing policymaking by the Minister and the Railway Board.

I would like to thank the NCAER team that did the study. Dr Saurabh Bandyopadhyay is the principal author of the study and was ably assisted by Mr. Palash Baruah. The study was undertaken under the overall guidance of NCAER Senior Consultant and faculty member, Professor Devendra B Gupta.

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February 16, 2016

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Acknowledgments

The present study on Railway Freight in India was undertaken by the National Council of Applied Economic Research with funding from the Railway Board. During the course of the study, we have had the opportunity to hold extensive discussions with several Railway Board officials in order to gain insights into the intricate processes involved in freight movement by the Indian Railways. We also met several other key stakeholders in various sectors, particularly those using the Indian Railways for freight transportation. In addition, we met several professionals with domain knowledge. These included:

1. Mohd. Jamshed, Member Traffic, Railway Board
2. N. Madhusudana Rao, EDTC (Rates)/Railway Board
3. M.K. Akhouri, EDTT(F)/Railway Board
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5. N.K. Parasuramka, GM/UTS
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7. N.A. Viswanathan, Secretary General, Cement Manufacturer's Association (CMA)
8. Rajesh Chadha, SRF/NCAER
9. Ramgopal Agarwala, Steel Industry Expert/NCAER
10. Bornali Bhandari, Fellow/NCAER
11. Harbrinder Bajwa/Director TT(G)
12. Abhijit Narendra/GM, COA

We would particularly like to express our special gratitude to Shri Mohd. Jamshed and Shri N. Madhusudana Rao, both of whom ungrudgingly gave us their valuable time. We are not sure whether this study would have been completed in such a short time without their support and understanding. We thank them once again.

We would sincerely like to thank our Director General, Dr Shekhar Shah, Senior Research Counsellor, Dr Rajesh Chadha, and Secretary, Dr Anil K. Sharma, for offering their encouragement and support in carrying out this study. Thanks are also due to Ms Sadhna Singh for Secretarial Assistance, Mr J. S. Punia for his help for printing and publication, Mr Praveen Sachdeva for formatting the report and Ms Anupma Mehta for her careful editing within a short and stipulated time frame.

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Executive Summary

1. **Objective of the Study**: The Indian Railway (IR) system is one of the four railway systems in the world that transports more than one billion tonnes of traffic annually. As against a growth of 4 per cent to 4.5 per cent in the last few years, IR is likely to achieve only 1 per cent growth in 2015–16. This is indicative of a plateauing of the growth in freight traffic. The main objectives of this study are and (a) identify the underlying reasons for the plateauing of freight traffic in the current year, (b) assess the prospects for 2016–17 and suggest possible strategies that IR could adopt for the coming year.

2. **Freight Traffic 2015–16**: IR is likely to miss the freight loading target for 2015–16 by almost 80 million tonnes. As against a target of 1186.25 million tonnes, the likely achievement is expected to be about 1107 million tonnes. The major shortfall is in coal loading which is likely to be about 30 million tonnes less with two-thirds of the shortfall coming from the imported coal segment and the remaining from indigenous captive coal block segment. Coal loading is thus expected to be about 555 million tonnes this year. Cement loading is likely to be less by about 15 million tonnes on account of depressed demand in the construction sector and an ailing real estate sector. The shortfall in loading in iron ore & finished steel is likely to be about 9 million tonnes on account of depressed steel market locally as well as globally. Decentralised foodgrain procurement has affected foodgrain loading and there is likely to be a huge shortfall of about 18 million tonnes. Global slowdown has worsened the export-import scenario affecting the loading of containers by about 8.8 million tonnes. In our estimation, the present slowdown in the growth of freight traffic is thus typically due to exogenous factors related to the functioning of the domestic and the external economy which adversely impacted the momentum.

   The plateauing of freight traffic comes at a time when railways have taken up creation of capacity as a key challenge. Railways have invested heavily in Doubling, New Lines and Gauge Conversion. Doubling gives the maximum returns to railways whereas new lines and gauge conversions take longer to pay back. The pace of doubling in the current plan period is three times that of the Xth Plan period. Despite a plateauing of traffic this year, from a long term perspective, the railways seem to be on the right track.

3. **Economic Environment**: Since 2014–15, India is passing through a difficult and challenging phase. Rainfall is deficient and consequent agricultural production scenario as well as rural demand prospect are not bright. India has suffered two drought years in a row that has lowered rural demand significantly. This has cumulative impact on rural income generation. On the other hand, industry remains sluggish with low investment demand. The economy has also not performed well in the external market. India's merchandise export growth weakened since July 2014 and entered into contraction period from January through April 2015. The growth in the GVA (Gross Value Added) at base prices for 2015–16 for 'mining and quarrying' sector is estimated to be 6.9 per cent as compared to growth of 10.8 per cent 2014–15. The key indicators of mining sector, namely, production of coal, crude oil and natural gas registered growth rates of 4.6 per cent, (-)0.8 per cent, (-)2.8 per cent during April-December, 2015-16 when compared to 9.5 per cent, (-)0.8 per cent, and (-)4.8 per cent respectively during April–December, 2014–15. The most crucial components of core infrastructure, i.e. coal, steel, cement and electricity for April–December have shown a decline in the growth rate as compared with the previous fiscal year (2014–15).

   As per the data released by the CSO (Central Statistical Organisation) on 8th February, 2016, GVA at basic prices for 2015–16 from construction sector is estimated to grow by 3.7 per cent as compared to a growth of 4.4 per cent in 2014–15. Key indicators of construction sector, namely, production of cement and consumption of finished steel registered growth rates of 2.2 per cent and 4.4 per cent, respectively, during 2015–16 as compared to 7.9 per cent and 3.6 per cent respectively, in 2014–15.

   The decline in investment demand in the economy may be noted with the fact that Gross Fixed Capital Formation (GFCF) as percentage share of GDP is declining over the years. The share, which was 33.4 per cent in 2012–13 has come down to 29.4 per cent in 2015–16, a reflection of general weakening of investment activities in the economy. On the other hand, due to slowdown of growth in China, US and in the major EU countries, India could not do well in the external front. Most world economies e.g. China and US are in trouble with considerable build-up of inventories (iron and steel, coal etc.). This has impacted the global economy with prices crashing for raw materials like iron ore, crude steel and POL.

4. **Commodity Specific Analysis:**

   Coal: A significant part of the incremental growth in coal loading on Indian Railways in last few years came from imported coal as domestic production could not keep pace with demand. The consumption of coal by power sector has grown by only 1.8

per cent primarily due to newer and more efficient power plants getting generation schedule and higher generation by port based power plants run on imported coal (as the imported coal has higher Gross Calorific Value) although coal based power generation has grown this year by 6.2 per cent (as against 14.4 per cent last year). The rail fed plants especially long lead plants have got substantially lower generation schedules compared to last year which has affected coal traffic of IR especially the NTKMs. Further, the installed thermal power capacities the PLF of coal based power plants has dropped from 64 per cent to 61 per cent this year reflecting that sizeable capacities are underutilised. The reduced imports of thermal coal by rail fed plants has resulted in a substantial drop in imported coal loading of Indian Railways in 2015–16. As per the current trend, imported coal loading for IR may drop by about 18-20 million tonnes over last year. Further, there is likely to be a shortfall of approximately 10 million tonnes due to non-commencement of indigenous captive coal blocks. The overall shortfall in coal loading is therefore expected to touch 30 to 32 million tonnes this year.

Cement: The problems of the real estate and the construction sector has exerted pressures on both the demand and supply front. According to the Mid-Year Economic Analysis 2015–16 released by the Finance Ministry, while there has been a sharp decline in deployment of credit for the construction sector during April–November of financial year 2015–16, there has been a decline in the real estate service activity too. Therefore, weak demand continues to ail the cement sector. Although cement prices have declined across most parts of the country, the demand is not looking up. This sluggish demand is likely to result in a shortfall of cement loading by about 15 million tonnes or so.

Iron & Steel: Over the past three years (2010–11 to 2013–14), the profits of Indian steel producers have declined by more than 46 per cent in nominal terms. Cheaper steel imports from China, sluggish global and local demand for steel and huge excess capacities globally have hit the steel sector hard. Consequently, transportation of steel by rail has come under severe pressure. The likely impact of this depressed steel scenario is likely to result in a shortfall in loading of finished steel by about 2 million tonnes and a marginal shortfall of less than half million tonnes in raw materials to steel plants.

Iron Ore: The depressed demand scenario of the domestic and global steel industry has had its impact on the transportation of ore by rail. Drop in loading from NMDC's Bailadila sector (KK line), which has registered a drop of 22.5 per cent, has severely impacted IR's loading. Global production and consumption scenario indicates that iron ore prices will continue to face pressure from consuming industries and could

see a downward price revision for the next 3 quarters. The consuming industries such as steel are facing price pressures due to over production and export from China along with subdued demand from infrastructure and housing sectors. Iron ore loading is thus likely to be severely affected and the shortfall is expected to be around 7 to 7.5 million tonnes.

Container Service: The EXIM traffic carried by Indian Railways saw a decline of 3.69 per cent from 29 million tonnes containerized cargo in April to December 2014 to 27.93 million tonnes during the same period in 2015. The domestic traffic declined by 16 per cent from 7.98 million tonnes during April to December 2014 to 6.70 million tonnes in April to December 2015. The total containerized cargo carried by Indian Railways reduced from 36.98 million tonnes during the April to December 2014 to 34.63 million tonnes in April to December 2015, a drop of 6.35 per cent due to slowdown in economy which has reduced the demand. The slowdown in the global trade as well as depressed domestic demand is likely to result in a shortfall of a little less than 9 million tonnes.

Foodgrains: The policy of Decentralised Procurement of Foodgrain is introduced way back in 1997–98 that emphasised on state level procurement. During the course of time, the policy did not have much impact as the state level procurement system was not developed and in order to carry out the public distribution of foodgrain, Government has to procure rice and wheat, mostly from the Northern states of Punjab and Haryana and supply the same to the South and the North-Eastern states through railways. Recently, the system of procurement has shown to have gone down significantly in rice and consequently the loading by the IR has been affected substantially. The shortfall in foodgrain movement is expected to be about 18 million tonnes or so.

Fertilizer: Loading of indigenous fertilizer has been recording a slow growth of around 1.7 per cent. However, with re-commissioning of Madras Fertilizers Ltd, Mangalore Chemicals & Fertilizer Ltd has enhanced the possibility of healthy growth in loading in the Southern zone. Fertilizer consumption will come down in the drought affected area of Andhra Pradesh, Telangana etc. Unless there is dramatic increase in the gross cropped area, the fertilizer consumption likely to remain the same. However fertiliser loading seems to be the only bright spot in this year's freight loading scenario and loading is likely to exceed target by about 5 million tonnes.

Summing up the current year's freight loading scenario, IR is likely to fall short of its target of 1186.25 million tonnes by about 80 million tonnes. IR is therefore expected to reach a level of 1107 million tonnes.

5. **Competition from other modes:** Indian Railway's overall share of freight has come down from 86 per cent percent in 1950–51 to 30 per cent in 2015–16. In the recent years, pipeline has captured significant share in Petroleum, Oil and Lubricants (POL) movement and coastal shipping has emerged as a potential competitor for IR. Due to lower prices, some bulk traffic like coal, iron ore, POL and even cement is now moved by coastal shipping. IR's freight policy, where freight subsidises passenger segment, has had two major implications. On the one hand, it makes railway's competitors in the freight business more competitive even if they do nothing because railways have priced themselves out. On the other hand, low passenger fares results in greater demand for rail services reducing capacity for freight movement.

6. **Outlook for 2016–17:** Outlook for the next fiscal is based on assumptions that the global growth prospect would change marginally and would not have substantial impact on the trend that is being observed in the ongoing fiscal. Second, the domestic economic outlook may show a gradual pick up in the demand scenario. Third, there would not be any dramatic upturn in the performance of any of the industries that concerns railway freight movement. With this scenario depicted by IIP, the current trend of loading of IR and the response of industries during interactions, the freight traffic by the Indian Railways is estimated to grow by 2.06 per cent during 2016–17.

   The estimates for 2016–17 show that the freight traffic is likely to grow only by about 22.6 million tonnes i.e. 1129.6 million tonnes out of which coal would continue to dominate with 11.3 million tonnes, Iron and Steel 1.13 million tonne and raw materials to steel plants by 0.6 million tonnes. We expect iron ore to grow by 2.3 million tonnes while Cement could become positive and add 1.5 million tonnes. Foodgrains and fertilisers are expected to contribute 0.5 and o.7 million tonnes, respectively. POL and containers could contribute an additional 1.3 and 1.1 million tonnes to the freight basket while other goods may contribute another 2.2 million tonnes. The future prospects are therefore not very bright but this is based on trend as usual method.

7. **Recommendations:**

   a. The decline in diesel prices have made road a serious competitor and IR needs to have a thorough relook at it's freight rates. The freight to fare ratio which is one of the highest in the world has to be corrected.

   b. Port congestion charge of 10 per cent should be done away with as ports are no longer congested and the same is driving port traffic away from rail.

   c. Busy season surcharge of 15 per cent needs to be revisited at a time when traffic is plateauing. But as the financial impact is considerable, railways need to deliberate on other available options.

d. Customers are seeking better inventory management and desire smaller parcel size and in this context, IR's decision to restrict two point loading in BCN rakes has to be revisited.

e. Restoring short lead traffic concessions to customers who promise long term traffic commitment.

f. Abolishing dual freight rating in iron ore as iron ore prices have declined globally and continuation of the distance based surcharge on export traffic seems incongruous.

8. In both the short and the long term, railways needs to have a serious look at its fare to freight ratio so that the resource allocation is better and the better mode of transport prevails. For the country and for the railways, the solution lies in unravelling this freight to fare ratio conundrum.

Section I

1. Background and Introduction

The first two years of the present government have been marked by an attempt to revive the economy with a focus on the infrastructure sector. The sector has played a significant role in pushing India's overall development and has thus understandably received intense focus from the government for the initiation of policies and programmes to ensure the time-bound creation of world class infrastructure in the country. India needs an investment worth $ 1 trillion in new infrastructure over the next few years to attain the targeted Gross Domestic Product (GDP) growth of 7.8 per cent in 2016–17 and to touch a double-digit growth rate by 2019–20.

Key policy and regulatory reforms have been introduced to ensure transparency and to attract more investments by easing restrictions in Foreign Direct Investment (FDI) for the defence, construction, insurance and railways sectors. In the construction sector, with 100 per cent permissible FDI, the government has relaxed the minimum capitalisation and minimum built-up area conditions to boost investments and jumpstart the affordable housing segment. The government has also mooted the implementation of flagship projects for boosting development in urban, road and port infrastructure. Similarly, power for all the schemes has been augmented to provide round the clock electricity to around 80 million households that are still not connected to the grid. An ambitious Rs. 430 billion programme has also been planned to supply electricity via separate feeder systems to rural households for domestic consumption.

The results attained so far have been mixed. Economic recovery is under way amidst the depressed international market. Policies pertaining to land acquisition, environmental clearances and labour constitute the prime agenda of reforms. The country is facing a funding gap, and considering the fiscal constraints, the potential for expanding public investments is under strain. It is in this backdrop that the present report for the Ministry of Railways (MoR) attempts to bring into focus the economic underpinnings which have a bearing on the movement of commodities, mainly bulk, through the railways. There is a high correlation between the flows of economic activities to the movement of bulk commodities that are particularly linked to infrastructure development, especially through the railways. The present report analyses the sectors that utilise rail transportation by deciphering the underlying factors that concern railway loading during the short and the medium-terms.

Section II

2. Objectives, Methodology and Data

The study by NCAER has the following objectives:

1. A sector-wise analysis of the sectors that utilise rail transportation as also an analysis of the changes in those sectors that concern freight loading in the railways:
2. An examination of change(s) in policies which directly or indirectly affect rail transportation, for example, changes in foodgrains procurement, export duties on iron ore, and service tax, among others;
3. An assessment of the global economic situation to ascertain how it is impacting the railway's port traffic with a special emphasis on container traffic; and
4. A study of the developments in competing modes of transport.

NCAER initiated data collection from the Ministry of Railways and other secondary sources required for carrying out analyses of the sectors soon after the commissioning of the study. The following data has been collected so far keeping in view the major objectives of the study:

1. Data on freight for major commodities transported by the Indian Railways (collected from the websites of the Ministry of Railways, Government of India);
2. Data on the power sector (from the Ministry of Energy, Government of India);
3. Data on the core sector of the economy (from the Ministry of Industry, Government of India);
4. Index of Industrial Production (from the Ministry of Industry, Government of India);
5. Major port data for the commodities linked to rail transportation, collected from the Centre for Monitoring Indian Economy (CMIE) and Directorate General of Commercial Intelligence & Statistics (DGCI &S) sources; and
6. GDP and aggregative data of the major sectors of the economy [from the Central Statistical Organisation (CSO), Government of India].

The basic methodology adopted for achieving the objectives of the study, to begin with, entails analysing the trends in railway freight movement, a description of the economy, and the impact of changes in the sectors and policies on the volumes of freight carried by the Indian Railways (IR).

The present report is structured as follows. Section 3 presents a brief summary of the railway freight movement in the economy, while section 4 deals with sector wise performance of the economy that affect railways freight business. Section 5 elaborates upon global economy, especially the impact of recent slowdown of the Chinese economy. Section 6 analyses sector wise description of the major bulk commodities for the IR. Section 7 narrates the substitution by competitive mode while Section 8 presents the concluding observations and outlook for the next fiscal.

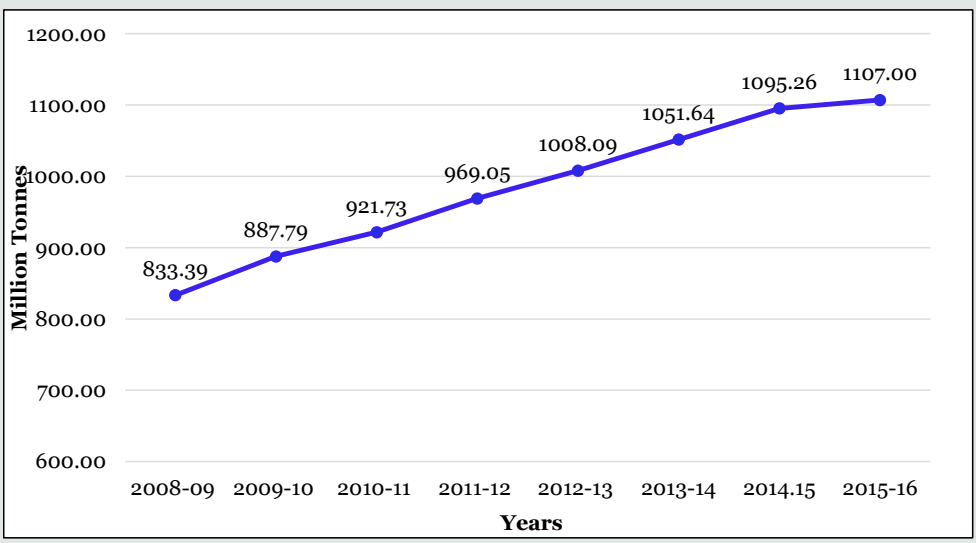
Section III

3. Indian Railways: A Glimpse of the Freight Movement

The Indian Railway (IR) system is one of the largest transportation and logistics networks in the world, operating about 19,000 trains daily, including 7,000 freight trains over 65,000 kilometres of train routes across 7,146 stations. It thus acts as the lifeline of this country, in terms of both passenger as well as freight traffic. It is a service-based organisation that has played a crucial role in the economic development and integration of the country. The railways signify an energy as well as cost-efficient economic mode of conveyance for this country, and have greatly facilitated both long-distance travel as well as the movement of bulk commodities across India. It has the proud distinction of being one of the four railway networks in the world that carry more than a billion tonnes of freight traffic annually.

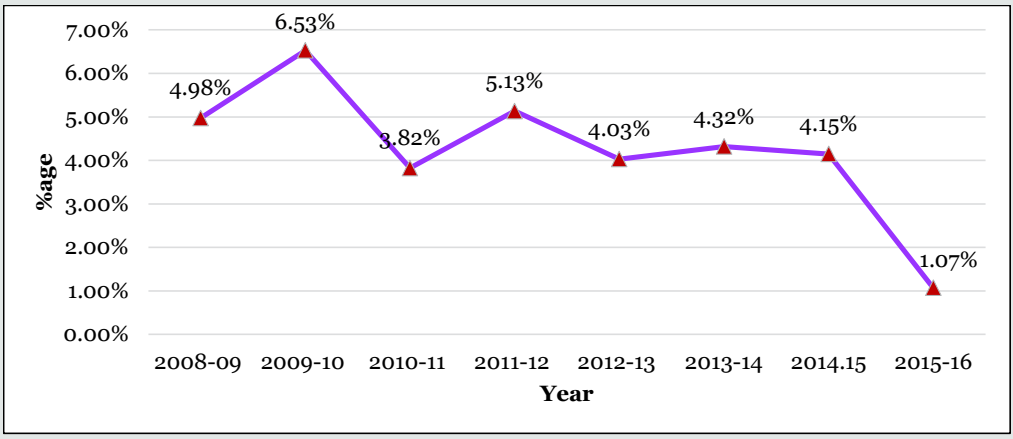
During the past half a decade or so, IR has carried incremental freight traffic of about 42.5 million tonnes annually while the growth of this traffic seems have to stabilised to around 4–4.5 per cent. However in 2015–16, the incremental traffic is projected to be about 15 million tonnes that translates into a growth of 1 per cent, which is indicative of a plateauing of freight traffic. Figures 3.1 and 3.2 trace this pattern.

Figure 3.1: Freight Traffic by the Indian Railways (Million Tonnes): 2008–09 to 2015–16



Note: The figures are given excluding the Konkan Railways.
Source: Ministry of Railways.

Figure 3.2: Growth (%) in Freight Traffic by the Indian Railways



Note: The figures are given excluding the Konkan Railways.
Source: Ministry of Railways.

Table 3.1 provides the commodity-wise break-up of the freight traffic, which shows that in 2015–16, the railways have experienced negative growth in the traffic of cement, foodgrains, containers and steel. The only redeeming factor seems to be coal and fertiliser traffic, which has shown a healthy growth.

As mentioned earlier, the present NCAER study, commissioned by the Railway Board, focuses on the freight business of IR and on identifying the underlying reasons for the recent plateauing of the growth rate for the bulk of transported commodities including coal, iron ore, cement, steel, fertilisers, and foodgrains, along with containers. The growth of freight traffic is largely a reflection of derived demand and combines both the supply side as well as the demand side aspects involving the activities of various stakeholders in the economy. Table 3.1 presents both the targeted and estimated figures of the freight movement for the years 2014–15 and 2015–16.

Indian Railways may suffer a shortfall of almost 80 million tonne (MT) of freight loading than the target for the year 2015-16. Coal is going to give major setback, losing approximately 30 MT as indicated by the trend of loading till January, 2016 in the current fiscal. The shortfall in the imported coal segment itself is expected to be around 20 MT less than projected. Remaining 10 MT of shortfall is likely to be from indigenous captive coal block segment. Moreover, the share of IR in coal transportation has also been lower despite some growth has been registered in overall coal consumption. These dampening factors is not likely to let the coal loading for IR to be more than 555 MT as against the targeted 585 MT, despite healthy growth of about 10 per cent shown by the Coal India Ltd.

Other than coal, major commodities facing shortfall in loading on IR, are cement, iron ore & finished steel, foodgrain and containers. All these commodities together are going to give a dip of approximately 50 MT from the targeted quantum for the year 2015-16. Slowdown in demand due to various factors as seen by the trend of loading in the current fiscal is likely to cause a shortfall of about 15 MT in cement loading and almost 9 MT in the segment of iron ore and finished steel taken together.

Global slowdown has been identified as the main cause of likely shortfall of about 9 MT in the container sector of IR loading. Another 18 MT of shortfall is likely to be in the foodgrain segment identified as an outcome of current foodgrain scenario in the country and adoption of decentralised procurement. Overall, the freight traffic of IR is likely to be at the level of 1107 MT, with the growth of around 1 per cent only, which is indicative of a plateauing of the growth of freight traffic.

Table 3.1: Commodity wise Revenue Earning Freight Traffic 2015-16 (Million Tonnes): Likely Achievement vs Target

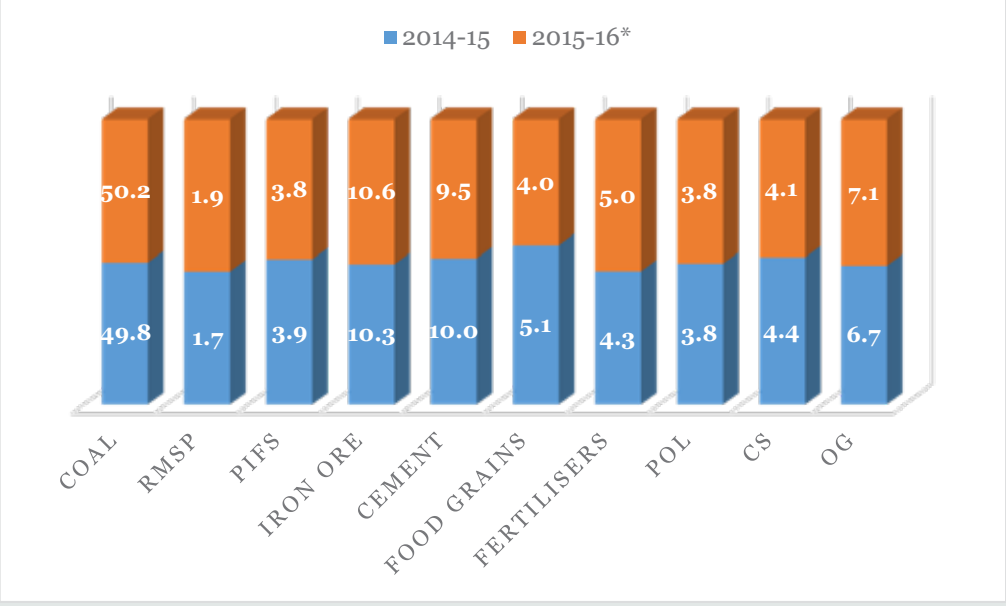
	2014-15 (Actuals)	2015-16 (Target)	2015-16*	Shortfall vis-à-vis Target	Shortfall vis-à-vis Target (%)
	1	2	3	4 (3-2)	5
Coal	545.81	585	555.63	-29.4	-5
Raw material for steel plants	18.28	21	21.21	0.2	1
Pig Iron & Finished Steel	42.84	43.50	41.64	-1.9	-4
Iron Ore	112.77	125.00	117.81	-7.2	-6
Cement	109.8	120.50	105.36	-14.6	-12
Food grains	55.47	62.00	44.13	-17.9	-29
Fertilisers	47.41	49.50	54.83	5.3	11
POL	41.1	43.25	42.48	-0.8	-2
Container Services	48.38	54.5	45.66	-8.8	-16
Other Goods	73.4	82	78.25	-3.8	-5
Total goods traffic	1095.26	1186.25	1107	-79.25	-6.7

Note: T is the targeted figure (commodity-wise) presented in the railway budget for 2015–16.
Source: Ministry of Railways (*estimated figures for 2015–16 has been received from the Railway Board, Ministry of Railways).

It may be noted that the shortfall from the budgetary target for 2015–16 is very high in the case of foodgrains, container services, cement, iron ore and coal. Overall, the shortfall is going to be 7 per cent, which has adverse implications for the freight earnings by the Indian Railways. Figure 3.3 shows how the share of various commodities in IR's freight basket are likely to change at the end of the current year.

Freight traffic accounts for nearly two-thirds of the railways revenue and consists of two broad groups, viz. bulk and other goods. In the current year as compared to 2014–15, coal has gained importance in terms of its percentage share of the tonnes carried (see Figure 3.3). In the ongoing fiscal, the share of coal in the total tonnage is going to be 50.2 per cent, as compared to a corresponding figure of 49.8 per cent in 2014–15. The share has increased for iron ore and fertilisers, but decreased significantly for foodgrains (by almost 1 percentage point) and cement.

Figure 3.3: Share (%) of Commodities in the Railway Freight Movement: A Comparison of 2014–15 and 2015–16



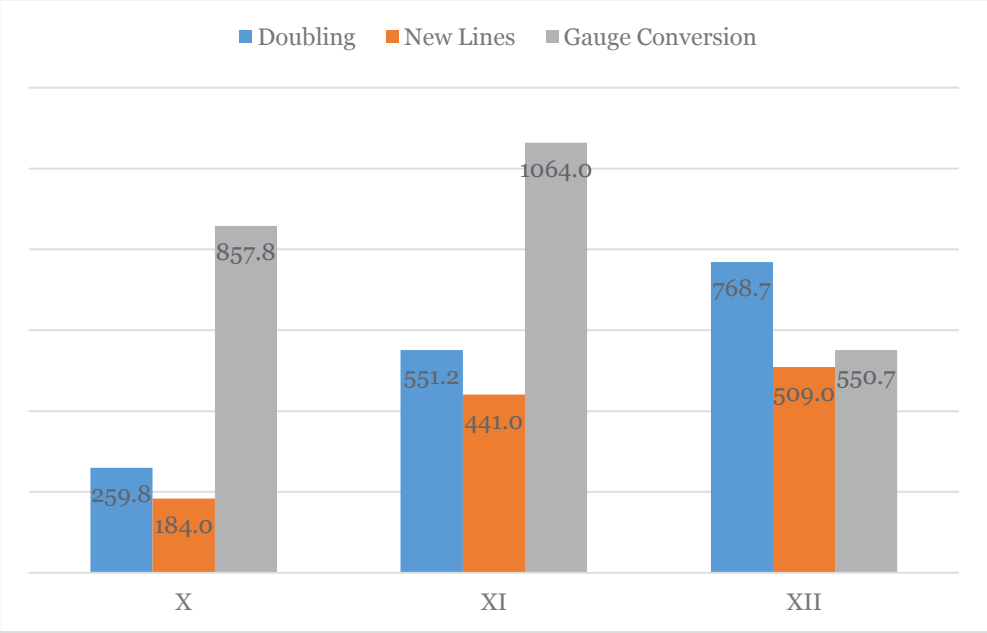
Note: The part of the bars marked as 2015-16 in the figure denotes the estimated figures of the Ministry of Railways; RMSP= Raw Materials for Steel Plants; PIFS= Pig Iron and Finished Steel; POL= Petroleum, Oil and Lubricants; CS= Containerised Service.

Source: Railway Board, Ministry of Railways.

The plateauing of freight traffic comes at a time when the railways have taken up the creation of capacity as a key challenge as that would help IR realise the immense potential for growth in the passenger and freight businesses offered by a burgeoning economy. The Railways have invested heavily in doubling, new lines and gauge conversion. Figure 3.4 shows that during the last three plan periods (Tenth to Twelfth), IR has made tremendous efforts to decongest the over-stretched and clogged up infrastructure. The doubling of lines, creation of new lines and gauge conversion indicate that IR has created substantial capacities to accommodate the demand for traffic. Further, the data

available in the Annual Year Book of the Railways shows that IR has added to its existing fleet of locomotives and rolling stock to ensure that there is no impediment to the growth of its freight business.

Figure 3.4: Doubling, New Lines and Gauge Conversion (Annual Average during the Plans in Kms)



Source: Planning Directorate, Ministry of Railways.

Doubling brings the maximum returns for the railways whereas new lines and gauge conversions take longer to pay back. The pace of doubling in the current plan period is three times that of the Tenth Plan period. Despite the plateauing of traffic this year, from a long-term perspective, the railways seem to be on the right track. The present slowdown in the growth of freight traffic is typically due to exogenous factors related to the functioning of the domestic and the external economies, which adversely impacted the momentum. In the next two sections, we elaborate upon the current economic scenario pertaining to both the domestic as well as the external environment.

Section IV

4. Overview of the Economy and Analysis of Trends by Sectors that affects the Railway's Freight Business

India is the seventh largest economy in terms of the nominal Gross Domestic Product (GDP) and the third largest in terms of Purchasing Power Parity (PPP), according to the report of the International Monetary Fund (IMF) published in late 2014. The country is classified as a newly industrialised economy and is now one of the prominent members of the G-20. The country posted an average GDP growth of over 7 per cent during the past 20 years and has turned out to be the fastest growing economy since 2015, a position that China had held earlier. However, during the post-global financial crisis period, India was exposed to external shocks from depressed commodity prices and wide fluctuations in foreign capital flows. India's Current Account Deficit (CAD) in the second quarter (July–September) of 2015 stood at US$ 8.2 billion and is estimated to be around 1.5 per cent of the GDP in the ongoing fiscal due to a sharp fall in oil prices. The CAD was 1.7 per cent of the GDP (US $ 32.4 billion) in 2013–14.

Since 2014–15, India has been passing through a difficult and challenging phase. The rainfall in the country has been deficient and consequently, neither the agricultural production scenario nor the rural demand prospect is bright. India has suffered two drought years in a row, which has significantly lowered the rural demand. According to the information furnished by the Department of Agriculture and Cooperation (DAC), the production of foodgrains is expected to decline by 0.5 per cent in 2015–16 as compared to a decline of 4.9 per cent in the previous agriculture year. The rainfall received in October 2015 and January 2016 was significantly deficient, affecting both the kharif as well as rabi crops. The deficiency was conspicuous in the region of higher gross cropped area for agricultural production. This has had a cumulative impact on rural income generation.

Table 4.1: Major Meteorological Sub-division-wise Progress of Rainfall: Cumulative Deviation from the Normal

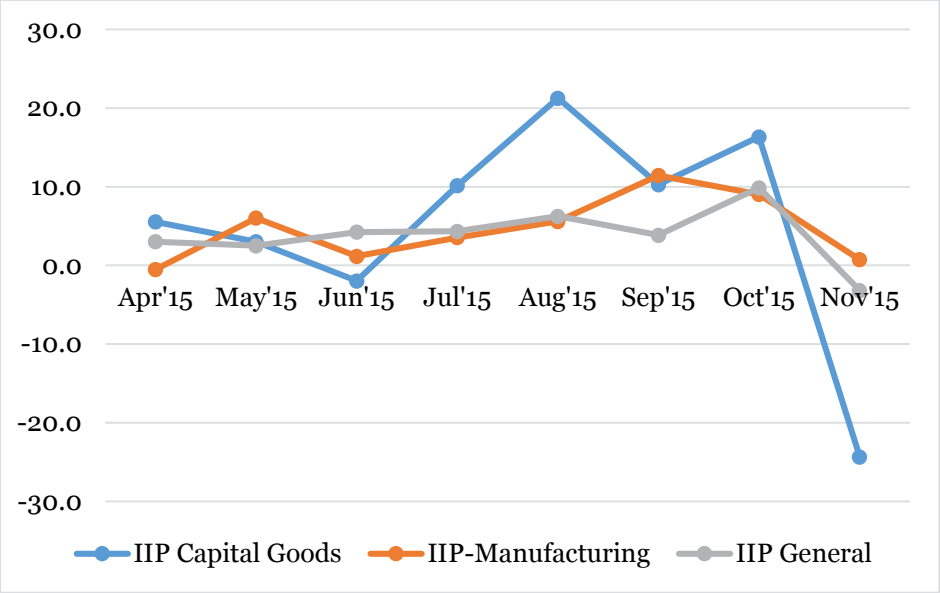
Cumulative	India	GB	EUP	WUP	HAR	PNB	HP	GUJ	MTW	CAP	TEL	CKAR
June 2013	36.8	-10.3	96.5	175.2	58.7	211.4	193.1	63.1	30.7	11.9	63.9	31.9
October 2013	62.0	188.0	98.4	42.8	-38.1	-30.7	-56.0	159.3	32.5	103.2	155.6	26.4
January 2014	9.8	-92.7	200.6	181.4	-18.2	-3.2	-26.2	837.5	-62.9	-91.1	-98.2	-100.0
March 2014	29.1	-10.6	94.9	128.7	100.9	22.8	2.9	-80.0	1437.0	-30.1	519.5	3.7
June 2014	-40.2	-23.8	-41.5	-62.7	-30.7	-64.5	-35.8	-86.2	-75.0	-74.0	-49.0	-28.6
October 2014	-23.7	-53.7	53.2	-65.5	-38.7	-72.1	-56.6	-84.8	-80.9	-12.3	-51.7	7.2
January 2015	-5.5	4.2	101.4	84.3	-16.2	-12.3	-23.5	137.5	197.1	-78.2	117.9	150.0
March 2015	104.9	-67.3	479.2	562.9	482.1	182.1	71.7	633.3	625.0	-57.7	291.8	673.1
June 2015	23.8	-14.9	-73.4	-49.5	-1.3	2.1	-10.5	-0.6	7.3	155.2	113.1	-10.6
October 2015	-51.8	-75.4	-92.2	-96.6	-83.5	-57.9	-60.5	-90.4	-71.9	-66.8	-79.5	-16.6
January 2016	-60.4	-18.4	-60.6	-87.2	-100.0	-81.6	-90.0	-100.0	-100.0	-77.9	-80.4	-16.7

Note: GB=Gangetic Bengal, EUP=Eastern UP, WUP=Western UP, HAR=Haryana, PNB=Punjab, HP=Himachal Pradesh, GUJ=Gujarat, MTW=Marathwada, CAP=Coastal Andhra Pradesh, TEL=Telangana, CKER=Coastal Karnataka.

Source: CMIE.

On the other hand, industry remains sluggish due to the low investment demand. The government is thus making various attempts to revive the sector. However, some constraints are expected in the efforts to overcome the sluggish growth of industry. One, the hope for a pick-up in the global growth of the export-led stimulus is somewhat suspect. Two, the services sector, which was earlier regarded as the main trigger for robust economic growth, has not remained immune to the overall slowdown. For example, the monthly indices of industrial production (IIP), a reflection of the demand for industrial products in the country, has shown a declining trend, especially in the capital goods sector, manufacturing and the overall index in the ongoing fiscal, 2015–16. A steep downtrend has also been noted in the capital goods sector, reflecting low investment demand during the ongoing fiscal.

Figure 4.1: Growth (%) in the Movement of Monthly Industrial Activities during April–December 2015–16

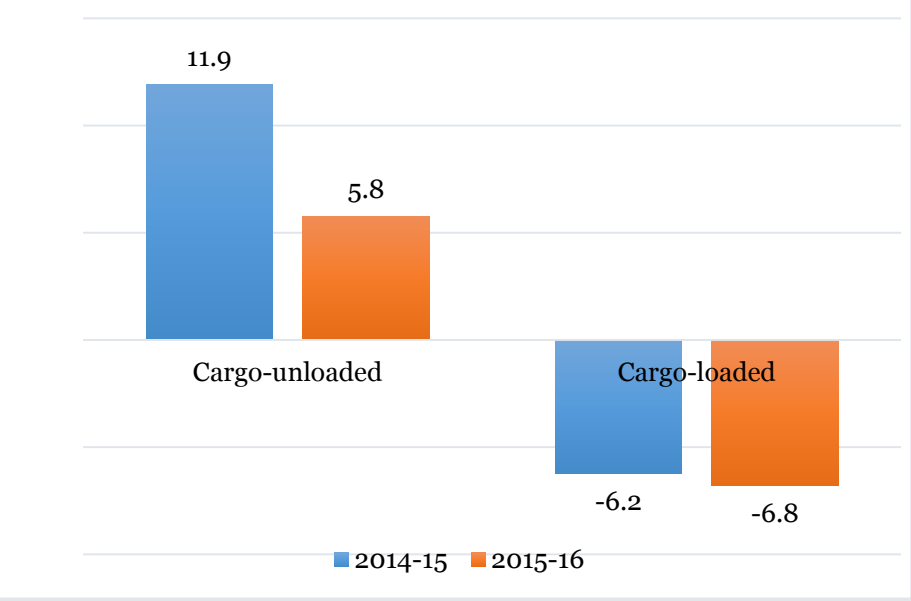


Note: IIP=Index of Industrial Production.

Source: www.eaindustry.nic.in.

While there is weakness in the domestic industrial activities, the economy has not performed well in the external market either. India's merchandise export growth has weakened since July 2014 and entered into a contraction period from January through April 2015. According to the Reserve Bank of India (RBI), net exports are unlikely to contribute as much to growth going forward as they did in the past financial year. Consequently, growth will depend more on strengthening of the domestic final demand, which is yet to look up. Both the export and import demand are sluggish and the recovery prospects remain poor for the rest of the year. The period April–December 2015–16 has posted a sharp year-on-year (Y-o-Y) decline of 18.25 per cent in merchandise exports. During the same period, the merchandise imports decreased by 15.59 per cent. In volume terms, the unloading and loading of cargo in the major ports of India, which is an important indicator of freight movement from/towards the hinterland, registered a sharp decline during the period April–November 2015–16. The growth of unloading at ports declined from 11.9 per cent in 2014–15 to 5.8 per cent in 2015–16 (Y-o-Y), while loading remained in the negative territory throughout the period and intensified further in the ongoing fiscal.

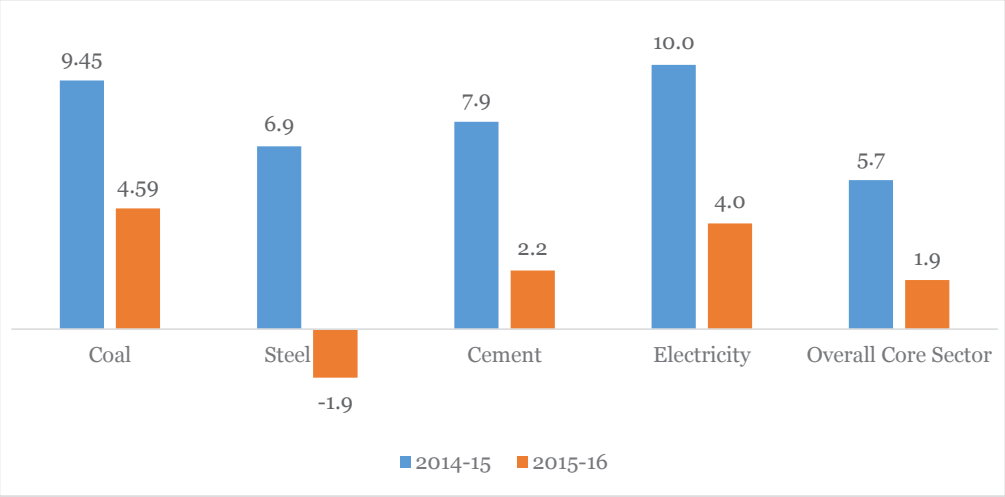
Figure 4.2: Growth (%) of Unloading and Loading of Cargo in the Major Ports of India (Y-o-Y for the period April–November 2016)



Source: CMIE.

Alongside the industry, the growth in the GVA (Gross Value Added) at base prices for 2015–16 for the 'mining and quarrying' sector is estimated to be 6.9 per cent as compared to a growth of 10.8 per cent in 2014–15. The key indicators of the mining sector, namely, the production of coal, crude oil and natural gas registered growth rates of 4.6 per cent, (-) 0.8 per cent, and (-) 2.8 per cent during the period April–December, 2015–16, respectively, as compared to the corresponding respective figures of 9.5 per cent, (-) 0.8 per cent, and (-) 4.8 per cent, recorded during the period April–December 2014–15. The most crucial components of core infrastructure, that is, coal, steel, cement and electricity, showed a decline in the growth rate for April–December as compared to the previous fiscal year (2014–15). The growth of coal production is down by 4.59 per cent, while that of steel too is in the negative zone of (-) 1.9 per cent. A downward trend in growth has been noticed in cement (2.2 per cent) and electricity (4 per cent). The decline in the performance of this industry is a reflection of the low level of industrial, construction and agricultural activities.

Figure 4.3: Growth (%) in the Production of Core Infrastructure (April–December Y-o-Y Comparison)

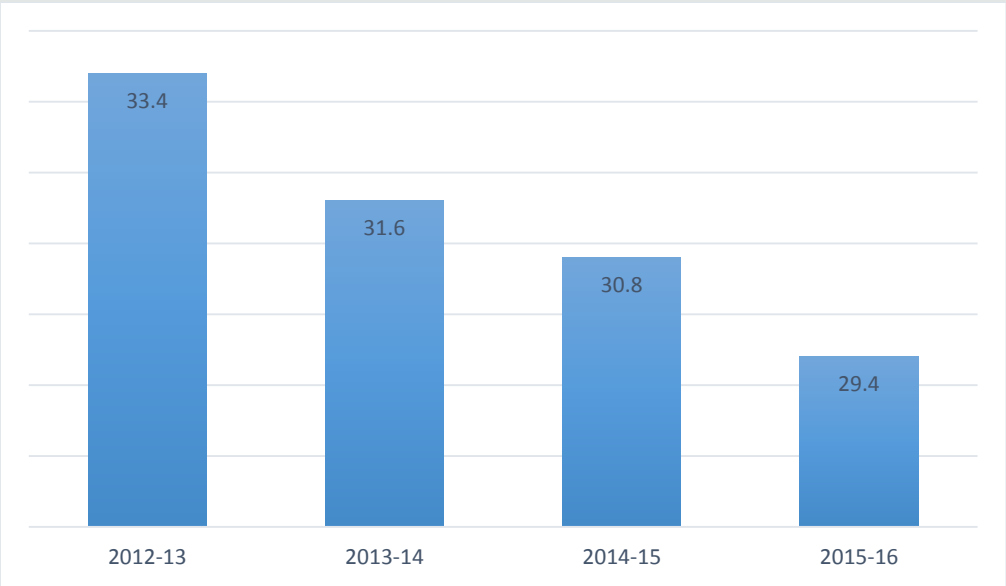


Source: www.eaindustry.nic.in.

As per the data released by the CSO (Central Statistical Organisation) on 8th February 2016, the GVA at basic prices for 2015–16 from the 'construction' sector is estimated to grow by 3.7 per cent as compared to a growth of 4.4 per cent in 2014–15. The key indicators of the construction sector, namely, the production of cement and consumption of finished steel registered growth rates of 2.2 per cent and 4.4 per cent, respectively, during 2015–16 as compared to 7.9 per cent and 3.6 per cent respectively, in 2014–15. It is interesting to note that the activities in Finance, Insurance, Real Estate and Professional Services (FIREPS) have receded because the GVA at basic prices for 2015–16 from this sector is estimated to grow by 10.3 per cent as compared to a corresponding growth of 10.6 per cent in 2014–15. The major component of this industry is real estate and professional services with a share of 71 per cent.

The preceding discussion suggests a decline in investment demand in the economy and it may be noted that the Gross Fixed Capital Formation (GFCF) as a percentage share of the GDP has been declining over the years, as may be observed from Figure 4.4. The share, which was 33.4 per cent in 2012–13, has come down to 29.4 per cent in 2015-16, a reflection of the general weakening of investment activities in the economy.

Figure 4.4: Share (%) of GFCF in the GDP



Source: CSO Advanced estimates, 2015–16.

The RBI's quarterly order books, inventories, and capacity utilisation survey (OBICUS) shows the decline of capacity utilisation to 70.6 per cent in the July–September quarter. The Nikkei India Manufacturing Purchasing Managers' Index moved back into the positive zone in January, but the improvement was moderate. Moreover, the balance sheets of both corporates as well as banks continue to be under severe stress.

The slowdown in investment activities is further echoed by the declining bank credit for major sectors of the economy. The latest RBI release shows that the growth of gross bank credit (GBC) declined steeply for all the sectors taken together from 8.6 per cent during the period April–November 2014–15 to 4.0 per cent during the corresponding period of the ongoing fiscal. The decline in credit is notable for agriculture (11.8 per cent to 7.9 per cent), manufacturing (4.1 per cent to -2.1 per cent), infrastructure (8.7 per cent to 4.4 per cent) and the power sector (10.4 per cent to 5.2 per cent).

Table 4.2: Growth (%) in the Deployment of Gross Bank Credit by Major Sectors (April–November) for 2015–16 as Compared to 2014–15

	2014–15	2015–16
Gross Bank Credit to All the Sectors	8.6	4.0
Agriculture & Allied Activities	11.8	7.9
Industry	5.0	0.4
Shipping	6.1	4.1
Commercial Real Estate	4.5	2.6
Consumer Durables	12.2	8.1
Housing (Non-priority sector)	18.6	12.2
Agriculture & Allied Activities	11.8	7.9
Manufacturing	4.1	–2.1
Housing (under Priority Sector Lending)	6.1	4.0
Construction	3.0	1.7
Infrastructure	8.7	4.4
Power	10.4	5.2
Roads	7.5	5.4

Source: RBI Bulletin.

The decline in industrial as well as infrastructure activities is reflected in the prices of the crucial components of core infrastructure. The wholesale price index (WPI) of iron ore, cement and iron and steel (all ferrous) has shown a steep downward movement during the quarters of 2015–16 as compared to the previous fiscal. The WPI of coal has remained stagnant over the years. Iron ore has, however, registered a sharp decline in its prices during every quarter as compared to the price level of 2014–15. The prices of cement too went down precipitously over the quarters.

Table 4.3: Changes in the Prices (%) of Critical Infrastructure Components in 2015–16

	Iron Ore	Coal—Total	Cement—Total	Iron & Steel (All Ferrous)
Q1-2015	-13.152	0.053	5.935	-5.538
Q2-2015	-26.835	0.053	1.994	-8.904
Q3-2015	-41.384	0.053	1.363	-10.583

Source: www.eaindustry.nic.in.

Section V

5. The Global Scenario

Due to the slowdown of growth in China, the US and in the major European Union (EU) countries, India could not do well on the external front. Most world economies, for example, China and the US, are in trouble with a considerable build-up of inventories (iron and steel, coal, and so on). This has impacted the global economy with the prices crashing for raw materials like iron ore, crude steel and POL. In this context, the scenario for the emerging markets and developing economies is diverse and poses a major challenge due to the slowdown and rebalancing of the Chinese economy, lower commodity prices and strains in some large emerging markets that would weigh on the growth prospects in 2016–17. This is also likely to have an impact on India, vis-à-vis the following:

1. Reduced liquidity;
2. Sluggish industrial and infrastructure performance;
3. Reduced income opportunities;
4. Slowdown in capital market activities;
5. Decrease in real estate developments;
6. Increased inflation expectation; and
7. Diminishing business and consumption confidence.

5.1 Declining Growth Scenario of China and its Impact on the World Economy

A higher than expected decline in the growth of the Chinese economy will hurt the growth of the world economy, including India. The Chinese economy influences the rest of the world through the trade channel. When the growth of the Chinese growth comes down, its imports may also decline. This is because a country's imports are positively related with its growth rate and income. There are around 40 countries for whom China is the main export market. Thus, a low growth rate in China will reduce the exports of the developing world. As regards India, around 50 per cent of its exports go to the developing countries. When these developing countries suffer from low exports to China, their income will come down and they may reduce their imports from India as well. Although India is not too export-dependent, exports are generally critical to support growth. Exports constitute around 15 per cent of India's GDP. A decline in exports may depress India's economic growth. Table 5.1, which depicts the share of India's exports and imports for major destinations, shows that the export share

to China has receded since 2013–14 and stands at 3.53 per cent (Y-o-Y) in 2015–16, while its import share has been growing continuously during the same period. On the other hand, the share of imports from China rose to around 16 per cent, reflecting a huge dumping of Chinese products, notably steel, in a depressed price scenario.

The Indian Government has imposed a duty on steel products to protect domestic producers. Imports constituted 5 per cent of the country's total production during 2013–14 though they have increased since then and are on course to hit more than 13 per cent this fiscal. However, it is to be noted that China has an 800 million tonnes capacity of steel production and a 10 per cent fall in demand will lead to an 80 million tonnes surplus for export. Such ad hoc measures like the imposition of duty will not help as the Chinese will either match the duty hike with export subsidy on steel or further devalue their currency or indeed do both to make matters worse for India, while at the same time, Indian products like engineering goods and other construction materials would face a hike in their raw material costs to their further disadvantage. This situation thus needs to be examined with a balanced view.

Table 5.1: Share of India's Exports and Imports (%) for Major destinations (April–November)

	2013–14		2014–15		2015–16	
	Export	Import	Export	Import	Export	Import
China	4.42	11.53	3.72	12.76	3.53	15.97
USA	12.69	5.31	13.55	4.65	15.5	5.26
UAE	9.71	6.70	10.52	6.13	11.56	5.21
UK	3.04	1.49	2.94	1.06	3.39	1.38
Hong Kong	4.13	1.66	4.43	1.15	4.57	1.50
Saudi Arabia	4.03	7.97	3.96	6.69	2.62	5.63
ROK	1.29	2.78	1.55	2.89	1.37	3.35
Singapore	4.52	1.52	3.35	1.52	2.63	1.92
South Africa	1.66	1.48	1.85	1.38	1.48	1.61
Germany	2.33	2.84	2.36	2.8	2.62	3.02
Japan	2.21	2.16	1.82	2.21	1.84	2.46
Rest of the World	49.97	54.56	49.95	56.76	48.89	52.69

Note: USA=United States of America, UAE=United Arab Emirates, UK=United Kingdom, ROK=Republic of Korea.

Source: DGCI&S.

Earlier China's economic expansion remained as a powerhouse for regional and global growth, affecting the economies of other countries with the demand for commodities and other imports. Now the reverse is happening—its slowdown is also dragging down growth across the region. Among the Southeast Asian countries, Singapore has been the worst hit, with a 1 percentage point fall in China's economic growth adversely impacting Singapore's GDP by 1.4 percentage points (*Source*: Australia and New Zealand Banking Group Ltd). China is Singapore's largest export destination with almost 15 per cent of its shipments going to China. Singapore's GDP growth was only 2.1 per cent in 2015, the slowest during the last six years as a result of the slowdown in China. This also resulted in a decline in the export share to Singapore from India.

Indian exports to China are not sizable. However, the slow growth of China reduces the prospects of exports of the developing world and their low growth may subsequently reduce India's exports and economic growth. The projected turnaround in growth during the next two years— despite the ongoing slowdown in China—primarily reflects the forecasts of a gradual improvement of growth rates in countries currently experiencing economic distress, notably Brazil, Russia and some countries in the Middle East, even though this projected partial recovery may remain unfulfilled due to unforeseen economic and political shocks. By and large, global economic activity remained restrained during 2015. Growth in the emerging markets and developing economies, which accounts for over 70 per cent of the global growth (*Source*: IMF) has declined for the fifth consecutive year, while a modest recovery has been observed in the advanced economies. The following three key factors seem to have influenced the global outlook:

- A gradual slowdown of economic activity in China away from investment and manufacturing toward consumption and services;
- Lower prices for energy and other commodities; and
- A gradual tightening in monetary policy in the United States in the context of a buoyant US recovery as several other major central banks in the advanced economies continue to ease monetary policy.

A faster-than-anticipated slowdown in world imports and exports (related to the Chinese slowdown) partly reflects a downturn in investment and manufacturing activity. These developments, together with market concerns about the future performance of the Chinese economy, have a spillover effect on other economies through weaker commodity prices, diminishing confidence, and increasing volatility in financial markets. Manufacturing activity and trade remain fragile globally, reflecting not only developments in China, but also the depressing global demand and investment as a whole.

With several emerging market economies (EMEs) slowing down alongside the sluggish growth of the advanced economies (except in the US), external demand, in general, was down, coupled with significantly lower prices of the tradables. In the case of India, the import prices declined faster than export prices, conferring unexpected gains in net terms of trade as well as an appreciable easing of imported inflationary pressures. However, the progress of the real economy came under strain due to a slowdown in economic activities in industry and the core infrastructure sector.

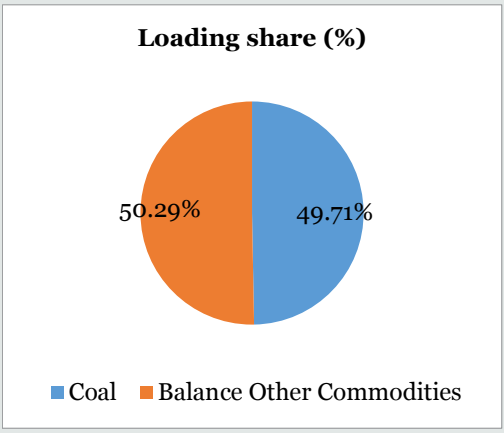
Section VI

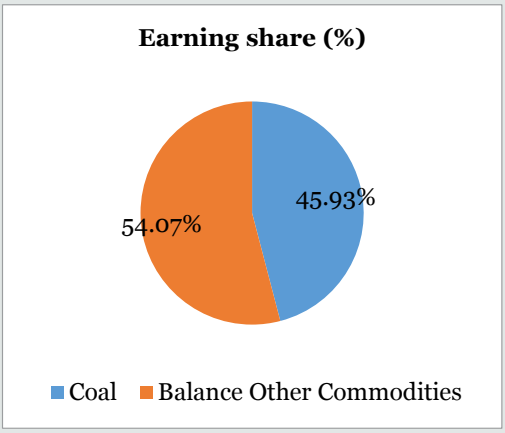
6. Sector-specific Overview

6.1 Coal

Loading and Earning of Coal, 2014–15

	Coal	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	545.63	1097.57	49.70
Earning (Rs. Crore)	48372.81	10,5312.09	45.90





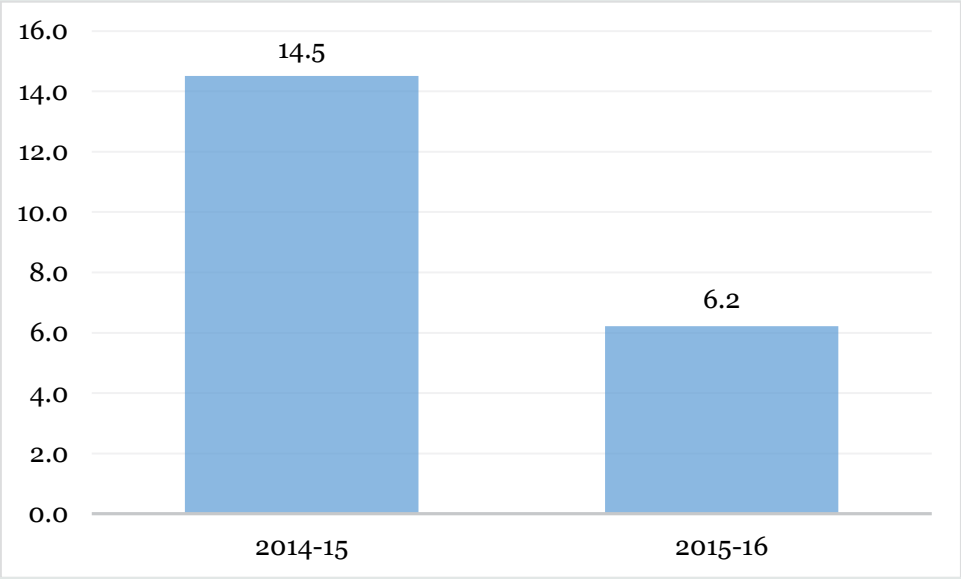
Loading and Earning of Coal (A Comparison up to December)

	Loading (Million Tonnes)	Earning (Rs. Crore)
2014–15 (Up to December)	400.33	34581.26
2015–16 (Up to December)	409.26	37460.07

The power sector accounts for almost 80 per cent of the coal usage in the country, followed by steel and cement. More than 65 per cent of the total power generated in the country is from coal-based thermal power plants, which are spread all over India, with the railways providing the critical transportation from the mine/port to a majority of these plants. In the case of some pit head power plants, coal is transported to the plant by belt conveyors or Merry Go Round (MGR) systems. Similarly, in the case of some port-based power capacities, the transportation of domestic/imported coal is done through dedicated conveyor systems without the involvement of the railways.

The transportation of coal for power plants constitutes 80 per cent of the coal traffic of IR. Coal transportation by the railways is, therefore, closely linked to the demand from the power sector. The coal-based thermal power generation in 2014–15 registered a very healthy growth of 11.2 per cent. However, the coal-based thermal power generation in 2015–16 has been subdued and the growth rate has registered a sharp decline during the period April–December 2015. The growth rate during the period April–December 2015–16, as compared to that during the corresponding period of 2014–15 is depicted in Figure 6.1.

Figure 6.1: Coal-based Thermal Power Generation (%)



Source: CMIE.

The growth of coal-based thermal power generation during the period April–December 2015 was 6.2 per cent as against 14.4 per cent during the corresponding period the preceding year. However, as against a power generation growth of 6.2 per cent in April–December 2015, coal consumption by the power sector has grown by a mere 1.8 per cent, primarily due to the advent of newer and more fuel-efficient plants (using super-critical technology) getting more generation schedules. This has been reflected in the improvement in specific coal consumption (or the quantity of coal required for producing 1 Kwh of power) by 5 per cent (0.643kg/Kwh in 2015–16 from 0.676 kg/Kwh in 2014–15). Thus, the growth in coal consumption by the power sector has been less than the growth in power generation. The reduced coal consumption by the power sector (vis-à-vis growth in the power sector) has directly impacted coal transportation by IR in the current fiscal.

Another important aspect related to power generation is the plant load factor (PLF), which has shown a declining trend in 2015–16. The PLF is a measure of the average capacity utilisation. The declining PLFs indicate that the mean power capacities are not being utilised to generate power. The actual PLF for India remained below the targeted one and declined by 4.4 per cent. Within the power sector, the decline is noted to be steep for the State Sector (-7.9 %), followed by the Central Sector (-3.2 %). The private PLF too exhibited a declining trend.

Table 6.1: Declining Plant Load Factor (PLF) in India's Power Sector

Year	Target (%)	Actual (%)	Sector-wise Actual		
			Central	State	Private
2009–10	77.2	77.5	85.5	70.9	83.9
2010–11	72.1	75.1	85.1	66.7	80.7
2011–12	68.7	73.3	82.1	68	69.5
2012–13	70	69.9	79.2	65.6	64.1
2013–14	69.6	65.6	76.1	59.1	62.1
2014–15	65.52	64.46	73.96	59.83	60.58
2015–16 (up to December 2015)	66.49	61.65	71.57	55.12	59.78

Source: Ministry of Power, Government of India.

In the current year, the PLF has dropped to 61.6 per cent from 64.4 per cent last year, indicating that the installed power capacities are much higher than the demand. In the scenario of the supply exceeding demand, the plants to be run are decided on the basis of a 'merit order' based on the variable cost of the plants. As the variable cost depends upon the cost of coal and the transportation cost, plants with less variable cost have more generation schedules and pit head plants and port-based power plants (run on imported coal) have clocked higher growth in 2015–16. These plants have either their own MGR or a conveyor system from ports for moving their coal. Since these plants are not served by the railways, higher growth in these plants has not resulted in any additional traffic for IR. Rail-fed power plants, especially long lead plants, have much lower PLFs as compared to those of pit head or port-based plants. A comparison of the PLFs of some rail-fed plants and pit head/port-based plants during the period April–January 2014–15 and 2015–16 is depicted in Table 6.2.

Table 6.2: Plant Load Factor (PLF) of the Rail-fed and Pit Head/Port-based Plants

Plant/Utility	Location	PLF–April–January	
		2014–15	2015–16
PSPCL	Rail-fed	55.26	40.00
HPGCL	Rail-fed	52.51	36.76
RRVUNL	Rail-fed	68.28	53.24
GSECL	Rail-fed	54.52	44.04
Badarpur (NTPC)	Rail-fed	58.33	38.41
Dadri (NTPC)	Rail-fed	78.66	62.33
Indira Gandhi (NTPC JV)	Rail-fed	54.49	46.16
Sipat (NTPC)	Pit head	82.76	83.53
Singrauli (NTPC)	Pit head	81.54	92.67
Talcher (NTPC)	Pit head	88.44	89.64
Korba (NTPC)	Pit head	86.87	88.75
Adani Mundra	Port-based	77.12	81.24

Note: PSPCL=Punjab State Power Corporation Ltd, HPGCL=Haryana Power Generation Corporation Ltd, RRVUNL=Rajasthan Rajya Vidyut Utpadan Nigam Ltd, GSECL=Gujarat State Electricity Corporation Ltd. NTPC=National Thermal Power Corporation, Indira Gandhi Super Thermal Power Project is the joint ventures of NTPC, PSPCL and HPGCL

Source: Railway Board, Ministry of Railways, Government of India.

Thus, reduced generation by rail-fed long lead plants has adversely affected coal traffic of IR, especially the NTKMs.

The efforts of the government to increase coal availability by boosting domestic production seem to have borne fruit, and the Coal India Ltd (CIL) and Singareni Collieries Company Limited (SCCL), the two public sector coal mining companies, have registered production growths of 9.6 per cent and 20.7 per cent, respectively, during the period April–January 2015–16. The supply of coal to the power sector by these coal companies has grown by 8.4 per cent during the same period. However, since the coal consumption by the power sector has grown by a meagre 1.8 per cent (April–December 2015–16), the coal stocks in some 100-odd power plants have more than doubled to 35 million tonnes in February 2016 from 16 MT a year earlier, according to the Central Electricity Authority (CEA). Each plant has an average coal stock for about 24 days now, as against seven days last year. As very high coal stocks in the power plants create operational problems, some power plants have reduced the sourcing of coal. Since the rail-fed long lead plants have accumulated very high coal stocks (due

to reduced generation), these plants are now regulating coal supplies, which is further impacting the coal loading of IR.

The thermal coal imports by the power sector registered a steep increase during the last five years as the domestic coal production lagged behind the coal demand in the country. While the domestic coal production grew by only 15 per cent during the last five years (from 532.7 MT in 2010–11 to 612.4 MT in 2014–15), coal imports increased by 208 per cent during the same period (from 68.9 MT in 2010–11 to 212.1 MT in 2014–15). However, the increased domestic coal production in 2015–16 has resulted in a steep drop in the imports of thermal coal by power utilities, especially for blending purposes. As per the CEA, the coal imports in 2015–16 for blending purposes by power utilities decreased by 9 MT till December, 2015 over the last year. The power utility-wise details regarding imports are provided in Annexure 1. Some coal-based power producers have, however, continued with coal imports, as historically low international coal prices have resulted in the landed cost of imported coal being lower than that of domestic coal. The coal imports for plants designed to run on imported coal have registered a slight increase over the last year (32.5 MT during the period April–December 2015 as against 31.8 MT during the corresponding period last year). Such plants are generally based on the port itself and no transportation by rail is involved for the movement of imported coal from the port to the plant. Most of the incremental growth in coal loading on IR during the last few years came from imported coal. Out of the 212.1 MT of coal imported in 2014–15, around 125 MT was carried by IR. The reduced imports of thermal coal for blending purposes have resulted in a substantial drop in the imported coal loading of IR in 2015-16 (signifying a drop by 8.9 per cent during the period April–January 2016). A slowdown in the steel sector (-1.9% during the period April–December 2015) has also impacted the demand for imported coking coal loading. As per the current trends, the imported coal loading of IR may drop by 20 MT in 2015–16 over that of last year.

The coal traffic on IR has also been impacted by the decision of Supreme Court to de-allocate coal blocks with effect from 1 April 2015. Although most of the functional coal blocks allocated to the public sector power utilities were re-allocated to the same power utilities by the Ministry of Coal, some of these major coal blocks have not been able to commence mining operations after 1 April 2015 due to issues related to statutory clearances and the appointment of Mining and Development Organisations (MDOs). The non-commencement of mining in the captive blocks allocated to the power utilities of Punjab, Karnataka and West Bengal is expected to result in a drop of 10 MT in the loading of IR.

The loading of indigenous coal by IR grew by 4.6 per cent in April–December 2015 against an identical core sector growth (IIP) of 4.6 per cent during the same period.

However, this growth in the loading of domestic coal by IR has been largely neutralised by a drop of 8.9 per cent in the loading of imported coal by IR, resulting in an overall coal loading growth of only 2.3 per cent in the current year till December 2015.

Indian Railways had set a target of loading 585.4 MT in 2015–16. As per the current trends, however, IR is likely to achieve the loading of only around 555 MT in 2015–16, signifying a shortfall of 30 MT. The details of this shortfall vis-à-vis the target are summarised in Table 6.3.

Table 6.3: Loss of Loading by the Indian Railways

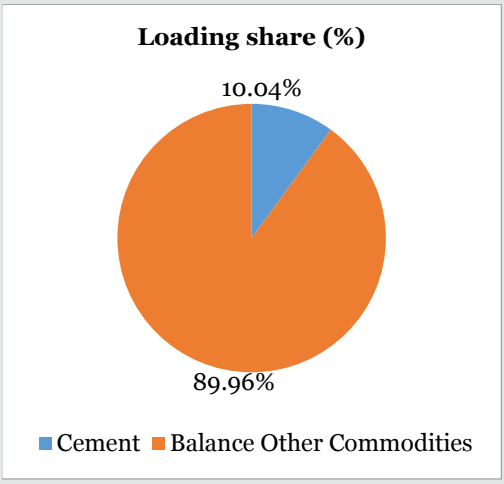
Source of Coal	Loss of loading (MT)
Imported	20
Captive coal blocks	10
Total	30

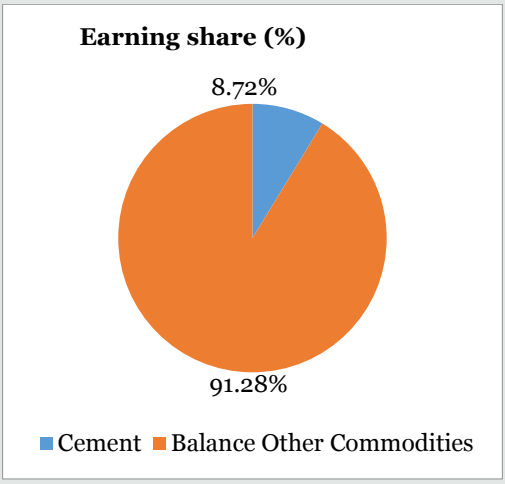
Source: Ministry of Railways, Government of India.

6.2 Cement

Loading and Earning of Cement, 2014–15

	Cement	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	110.17	1097.57	10.04
Earning (Rs Crore)	9181.64	10,5312.09	8.72



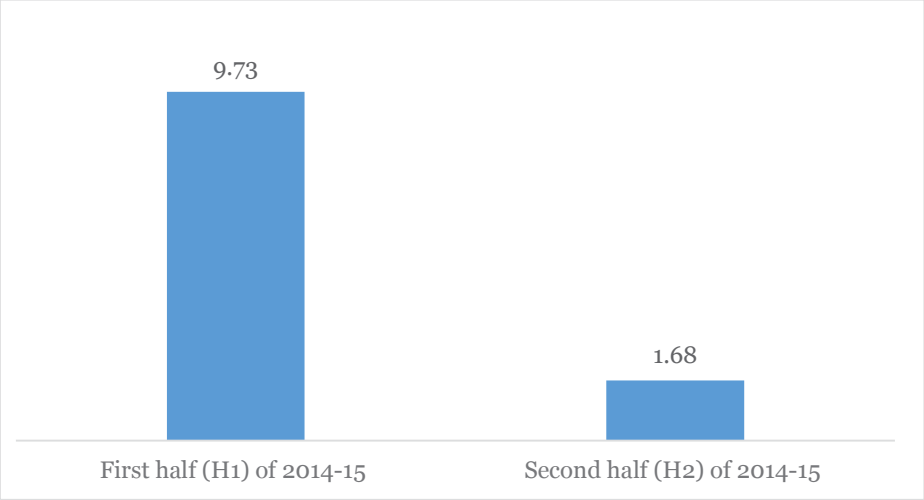


Loading and Earning of Cement (A Comparison up to December)

	Loading (Million Tonnes)	Earning (Rs Crore)
2014–15 (Up to December)	81.98	6673.74
2015–16 (Up to December)	78.12	6709.11

Cement is the third largest freight and second largest revenue contributor to IR. In 2014–15, the industry contributed Rs 9181.64 crores to the railways towards freight loading of 110.17 million tonnes of cement and clinker by rail. Cement loading by rail has now declined to about 27 per cent of the total despatches from 50 per cent a couple of years back. In this context, it may be noted that the industry has observed a slowdown in demand in the year 2015–16 (April–November), but the drop has been noticed since the latter part of the year 2014–15 as shown in Figure 6.2.

Figure 6.2: Decline in Cement Production (%) Started Post First Half (H1), 2014–15



Source: www.eaindustry.nic.in

During the period April–December 2015–16, cement production, as per the Office of the Economic Advisor, Department of Industrial Policy and Promotion (DIPP), was 204.33 MT as against 199.87 MT in the previous fiscal, registering a growth of just 2.2 per cent as compared to a growth of 7.9 per cent recorded in the comparable period of 2014–15. While there is no official data on consumption, it is usually in tandem with production growth as production is monitored in accordance with demand. The lack of demand from construction, real estate and other infrastructure has contributed to a further decline of capacity utilisation of the industry and as per the industry insiders, the idle capacity has now reached 160 MT.

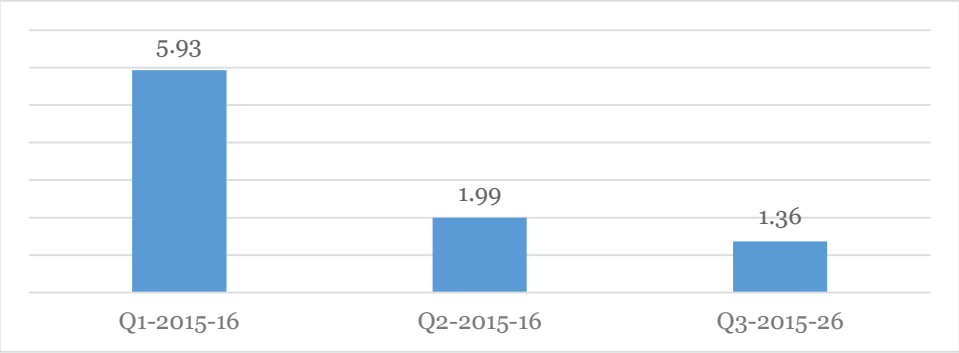
Further, a decline in the production of kharif crops due to poor monsoons affected agricultural incomes and the post-monsoon rural demand for cement for housing and other purposes. Regional factors such as extension of the monsoon in the South and unseasonal rains in the North during the current phase of 2015–16 affected overall construction activities and consequently the cement demand in some areas. The situation is expected to persist and would continue to drag the sectors to a lower level of demand in the short as well as the medium terms.

The problems faced by the real estate and construction sector exerted pressures on both the demand and supply front. According to the Mid-Year Economic Analysis 2015–16 released by the Finance Ministry, while there has been a sharp decline in the deployment of credit for the construction sector during the period April–November of the financial year 2015–16, there has been a decline in the real estate service activity too. The slowdown in the credit off-take is a reflection of the lack of activity and

demand within the real estate, and the infrastructure space crucially reflects the impact of the high unsold inventory in major markets within the country in the housing sector. Therefore, a weak demand continues to ail the cement sector. The trend is quite contrary to the normal, wherein demand moves up usually after the monsoon, as construction activity, deferred during the rains, picks up. However, this time cement prices have declined across most parts of the country, and the demand is not looking up.

The steepest price decline in the third quarter ended 31 December 2015 has been in the North, where prices have come down by about Rs 15–20 per bag (50 kg). One reason is the surplus capacity built up in the recent past. Prices have been dropping in the eastern and central regions as well, though the fall is less severe. This has also pulled down the all-India average cement prices by 2–5 per cent per bag. The overall decline in the wholesale prices of cement for the different quarters of 2015–16 (Y-o-Y comparison) is shown in Figure 6.3.

Figure 6.3: Decline in WPI of Cement during the Quarters of 2015–16 (Y-o-Y)



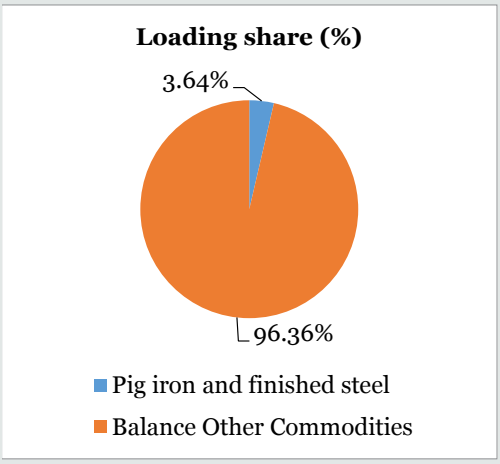
Source: www.eaindustry.nic.in.

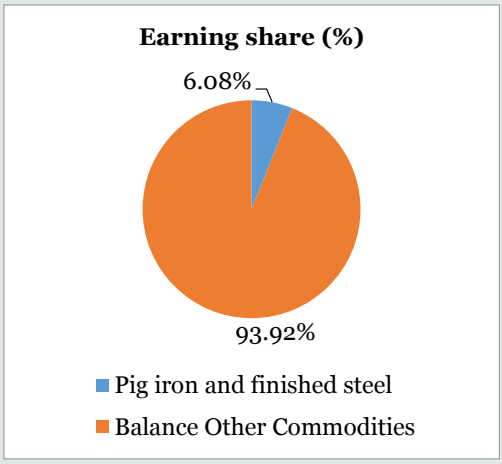
The absence of strong infrastructure activity and housing demand are the main reasons for the slowdown in the cement sector. Ironically, this is in spite of higher tendering activity in road, water supply and irrigation projects during the last six months. On the other hand, weakness in the rural economy, which contributes to nearly 40 per cent of the country's cement offtake, is also restricting the cement demand. Even the housing demand is lukewarm in rural areas. The all-India capacity utilisation of cement companies is around 70 per cent as compared to the corresponding figure of 85–90 per cent during the years of robust demand. Along with rising freight and power costs, this leaves very little scope for improvement in profitability. The short- as well as medium-term outlook, therefore, is challenging for the industry. As low growth in cement demand has resulted in pressure on cement prices, reducing inventory costs by transportation in smaller parcel sizes (where transportation by road is more competitive than by rail) has affected the share of IR.

6.3 Pig Iron and Finished Steel

Loading and Earning of Pig Iron and Finished Steel 2014–15

	Pig Iron and Finished Steel	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	39.97	1097.57	3.64
Earning (Rs. Crore)	6404.99	10,5312.09	6.08





Loading and Earning of Pig Iron and Finished Steel (A Comparison up to December)

	Loading (Million Tonnes)	Earning (Rs. Crore)
2014–15 (Up to December)	29.58	4631.66
2015–16 (Up to December)	30.69	4972.91

Steel finds a wide variety of applications in various sectors linking construction and industrial machinery to durable consumer products (for example, automobiles) and steel itself with diverse technologies. Apart from steel, India is also an important producer of pig iron.

Steel is the mainstay of industrial growth in the country. On this count, India's giant ambition to push up the share of the manufacturing sector to 25 per cent of the GDP remained elusive with an almost stagnant share at a 15–18 per cent level for the last three decades and the growth rate of manufacturing too showed a fluctuating trend. There is considerable excess capacity in the manufacturing sector, and private corporate investment is not yet showing signs of a strong resurgence. Steel forms about 2 per cent of the GDP and about 16 per cent of the industrial sector. A healthy steel

sector is vital for the economy, particularly for manufacturing. The steel industry is constrained not just by the usual supply-side factors such as the availability of land or minerals or environmental clearances, but also by inadequate demand and several other macroeconomic factors.

If India's economic growth accelerates, the production of steel should increase by several hundred million tonnes over the next few decades. However, the current conditions of the steel industry in India are dismal, with very low profits, low capacity utilisation and dim prospects of new private investment, either foreign or domestic. The August 2015 devaluation of the Chinese Yuan also created conditions leading to the dumping of steel into the Indian market.

The slowdown in China's economic growth with the country shifting focus from investment to consumption-led growth has meant that the cycle of capacity, production and demand for the world steel industry has reached a saturation level. This was inescapable since China, for nearly two decades, grew its steel capacity at such a pace that it now accounts for nearly half the share of the global production of steel. A lethal combination of over-capacity and fall in demand, both mostly occurring in China, has been largely responsible for a 40 per cent fall in steel prices this year. The margins remain under pressure despite large falls in the prices of iron ore and metallurgical coal, its two most important ingredients. Investors too have lost interest.

The year 2015 was marked by a deflation of commodity prices globally, bringing down steel prices. In the Indian context, the drop was steeper than that of other raw materials, leading to a severe pressure on the operating margins of steel plants. Besides, a weak demand in major steel-producing countries such as China, Japan and South Korea led them to focus on exports at aggressive prices, including on India, thereby adversely impacting the domestic industry. The imports up to the end of October 2015 stood at 7.20 million tonnes as against 5.1 million tonnes during the same period last year, signifying a whopping increase of 41.1 per cent (China 2.05, Japan 1.4, Korea 1.82, Russia 0.22, Ukraine 0.18, Others 1.53, Total 7.20 million tonnes). This led to the prices of some products hitting a ten-year low in the Indian market.

Despite having the largest iron ore reserves in the world, India does not produce enough steel to be able to become the cheapest producer. Global scale or economies of scale are not built into the country's manufacturing system. Secondly, the use of expensive inputs like energy and financial resources, coupled with inefficiency makes India a costlier producer than even China, which imports ore and sells it at cheaper rates to all over the world.

The steel demand in India has passed through various phases. During the five golden years of growth in India, viz. 2003–07, the steel industry also recorded a good performance and if that had continued, India could have realised the target of producing 300 MT of steel by 2025. However, for the past three years (2010–11 to 2013–14), both the economy as well as the steel sector have been facing stagnation. During this period, the profits of steel producers have declined by more than 46 per cent in nominal terms. A giant like Tata Steel Ltd. has posted a net loss of Rs 2,127 crore in the quarter ending December 2015. Its sales fell by 16.5 per cent to Rs 28,039 crore because of cheaper Chinese exports into the UK and Southeast Asian countries. China makes nearly half the world's 1.6 billion tonnes of steel, and exported over 100 million tonnes of the alloy last year. Consequently, medium and small steel companies have been experiencing substantial losses in recent years. On the other hand, many companies in the secondary sector are experiencing a swelling of excess capacity and are on the verge of collapse. The steel Authority of India Ltd. (SAIL) plants have been performing way below last year's levels with the major plants of Bokaro, Durgapur and Bhilai experiencing a substantial shortfall in loading as compared to last year. The production of saleable steel dropped by 7.8 per cent in SAIL plants during April-December 2015-16.

There have been several exits from Capital Expenditure (CAPEX) plans involving companies such as Posco, ArcelorMittal and JSW indicating, among other things, their assessment of the prospects of their investments in India. Under the circumstances, there is a slim chance of the steel sector meeting the Twelfth Plan targets or of achieving a capacity of 300 MT capacity by 2025 as envisaged by the Steel Policy 2012.

The poor performance of the steel industry is due to a combination of both demand-side and supply-side problems. Among the demand-side issues, the first is the slow investment growth. Secondly, the growth in GDP is mainly led by consumption by the trade, hotels, finance and government sectors where steel intensity is low. Slow growth has also been observed in fixed investment, mining and manufacturing along with low steel intensity in construction.

The slowdown in the demand for steel in India is taking place in an unfavourable external environment. As per the OECD Steel Committee, there is a huge excess capacity globally, which has been unsurpassed in a decade. India is losing export competitiveness due to the high relative unit cost of labour, capital, logistics and now even raw materials, partly due to a decline in the international prices of iron ore and partly due to the new auction process in India that will push up the costs of both coal as well as iron ore. Increased vulnerability to imports has been observed due to huge excess capacity in export-aggressive China, the dramatic devaluation of the Russian rouble and the recent devaluation of the Chinese yuan. There has been an import surge

in most of the steel products. During 2014–15, steel imports to India surged to 10.0 MT tons with 3.6 MT coming from China alone. China has the potential to devastate the steel industry in India just as it has done in the case of several other manufacturing sectors.

The domestic finished steel production for sale, import, export and consumption during the period April–November 2015–16 as compared to the previous financial year is given in Table 6.4.

Table 6.4: Production, Import, Export and Consumption of Steel in India

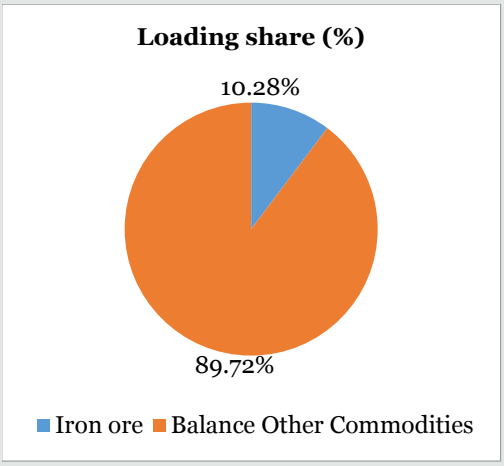
Period	Product	Production for Sale	Import	Export	Consumption
April–November 2016 (MT)	Mild Steel	54.4	5.7	2.2	46.8
	Alloy and SS	6.1	1.8	0.3	5.4
	Total	60.4	7.4	2.5	52.2
April–November 2015 (MT)	Mild Steel	55.4	4.3	3.1	45.6
	Alloy and SS	5.9	1.2	0.5	4.0
	Total	61.3	5.5	3.7	49.6
Growth (%)	Mild Steel	-1.9	31.3	-29.9	2.7
	Alloy and SS	3.6	45.5	-38.3	33.2
	Total	-1.4	34.5	-31.2	5.1

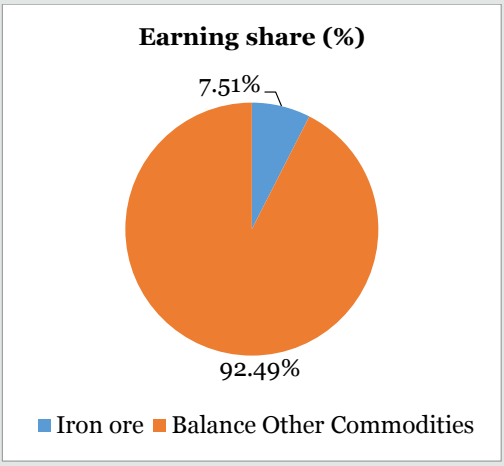
Source: JPC.

6.4 Iron Ore

Loading and Earning of Iron Ore, 2014–15

	Iron ore	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	112.78	1097.57	10.28
Earning (Rs. Crore)	7913.73	10,5312.09	7.51





Loading and Earning of Iron Ore (A Comparison up to December)

	Loading (Million Tonnes)	Earning (Rs. Crore)
2014–15 (Up to December)	83.53	5890.28
2015–16 (Up to December)	85.9	5193.86

Iron ore is the basic raw material used for making pig iron, sponge iron and finished steel, and is produced in several parts of India, notably in the states of Odisha and Jharkhand, Chhattisgarh, Karnataka and Goa. Iron ore production declined in 2012–13 over 2011–12, but rose in 2013–14 over 2012–13. The decline in iron ore production was principally attributed to the restrictions on mining operations (including exports) in the country in states like Karnataka and Goa. In the Financial Year (FY) 2014–15, the drop in production was mainly attributed to issues connected with the renewal of mining leases in the states of Odisha and Jharkhand, which account for a predominant share of mines in the country. In order to increase domestic value addition and to improve iron ore availability for the domestic steel industry, the duty on the export of iron ore was increased to 30 per cent.

The Government had also imposed export duty @ 5 per cent ad-valorem on the export of iron ore pellets in 2014 but the same has been withdrawn now, a move that is expected to make the commodity more competitive amidst subdued demand and weakening prices. The overall production, export and imports of iron ore over the years till 2014–15 is shown in Table 6.5. The provisional production data for iron ore shows a decline of production from 11 per cent in 2013–14 to -15.9 per cent in 2014–15.

Table 6.5: Iron Ore Production, Export and Import (Million Tonnes)

	Iron Ore Production	Iron Ore Export	Iron Ore Import
2011–12	169	47	0.18
2012–13	136	18	1.49
2013–14	151	16	0.06
2014–15 (P)	127	4.8	15.07

Source: Indian Bureau of Mines (IBM) and Directorate General of Foreign Trade (DGFT).

While the trend of iron ore export started showing a continuous decline from 2012–13 onwards, imports started increasing dramatically in the last fiscal. Imports went up by a whopping 250 per cent in 2014–15 prompted by the poor availability of domestic iron ore due to the closure of mines and the landed costs of imports being comparable to domestic iron ore. India's export of iron ore was at its peak during the period 2008–10, but now the reverse has happened. Falling international prices had helped boost imports, which hit a record 15 million tonnes during 2014–15. Even if the present-day low prices in the international market might encourage steel majors to continue the import of key steel-making raw material, the re-opening of a large number of mines has now improved the availability of domestic ore and consequently reduced the requirements for imports. The demand for iron ore transportation has remained tepid in the current year (recording a 2.8 per cent growth in April–December) due to a contraction in the steel sector (-1.5 per cent Core Sector growth during the period April–November 2015). Table 6.6 shows the price indices of iron ore for the comparable quarters of 2014–15 and 2015–16.

Table 6.6: Wholesale Price Index of Iron Ore in India: A Quarterly Comparison of 2014–15 and 2015–16

	Q1	Q2	Q3
2014–15	502.6	529.9	548.4
2015–16	436.5	387.7	321.4

Source: www.eaindustry.nic.in.

In the absence of the sustainable pick-up of demand in the construction and real estate sector, the production of iron ore may remain subdued in the coming quarters and the trend may well surpass the present financial year.

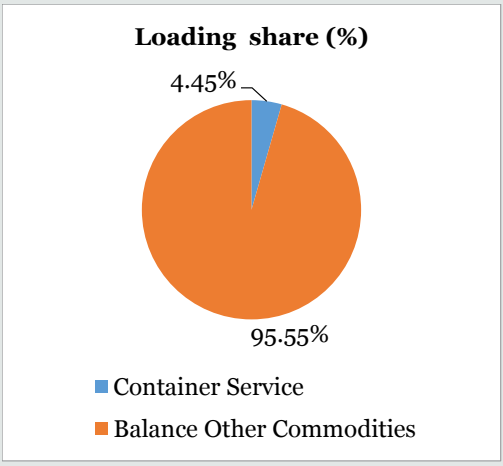
The depressed demand scenario has had its impact on the movement of ore in different parts of the country. A drop in loading of 22.5 per cent at NMDC's Bailadila sector (KK line) has severely impacted IR's loading. This is due to the reduced demand for the high priced NMDC ore. The state-run NMDC slashed the prices of iron ore fines by more than 52 per cent to Rs. 1,460 per tonne for October 2015 as compared to Rs. 3,060 a tonne in January 2015, as it faces weakening ore demand. The price of the higher grade iron ore (lumps) has been reduced by 41 per cent to Rs. 2,500 per tonne in October 2015 as compared to Rs. 4,200 per tonne in January 2015. This is also a reflection of the low demand scenario for steel plants. Due to the subdued steel demand worldwide, global iron ore prices saw a downward trend in 2014–15. Iron ore prices in international markets are trading in the range of $ 54–56 a tonne, up by 25 per cent from the record low of $44–45 in July 2015, but still nowhere near the levels seen at the same time last year. Iron ore prices were in the range of $68–70 in December 2014.

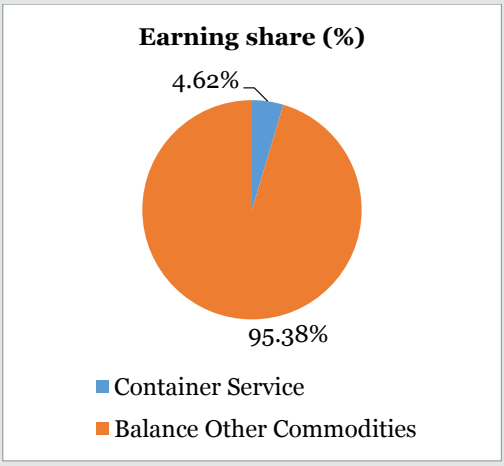
The global production and consumption scenario indicates that iron ore prices will continue to face pressure from consuming industries and could see a downward price revision over the next three quarters. The consuming industries such as steel are facing price pressures due to over-production and export from China along with subdued demand from the infrastructure and housing sectors that has impacted the prices of both the finished steel as well as its raw materials.

6.5 Container Service

Loading and Earning of Container Service, 2014–15

	Container Service	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	48.83	1097.57	4.45
Earning (Rs Crore)	4868.92	10,5312.09	4.62





Loading and Earning of Container Service (A Comparison up to December)

	Loading (Million Tonnes)	Earning (Rs Crore)
2014–15 (Up to December)	36.98	3524.44
2015–16 (Up to December)	34.63	4101.61

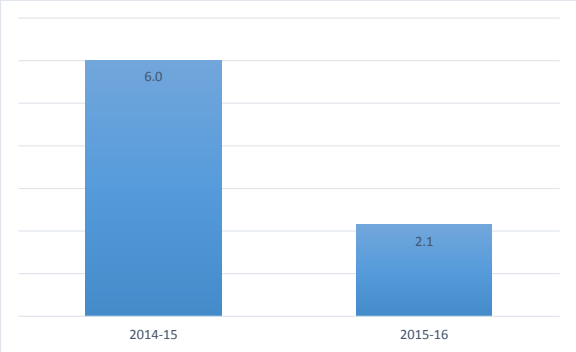
The growth in international trade is critically linked to the removal of trade barriers that encouraged the developing countries to concentrate more on the improvement of their infrastructure, like roads, railways, airports, and seaports, which play a vital role in the development of the economy. the storage of products along with the capacity to move large shipments have placed the shipping industry in a very gainful position through containerisation, multi-modal transport, advancement of marine engineering technology and computerisation, all of which have contributed towards making sea transport a prime mode of movement of internationally traded goods. However, the development of the shipping industry in any country also depends on its population density, economic advancement and many other inter-related conditions like port and refuelling capacities.

India has 12 major and 187 non-major ports. Cargo traffic, which was recorded at 1,052 million metric tonnes (MMT) in 2015, is expected to reach 1,758 MMT by 2017. The Indian ports and shipping industry is important for sustaining growth in the country's trade and commerce. India is the 16th largest maritime country in the world, with a coastline of about 7,517 km. The government plays an important role in supporting the ports sector. It has allowed FDI of up to 100 per cent under the automatic route for port and harbour construction, and maintenance projects. It has also facilitated a ten-year tax holiday for enterprises that develop, maintain and operate ports, inland waterways and inland ports. In order to boost the port capacity, the government announced plans to develop ten coastal economic regions to revive the country's Sagarmala (string of ports) project. These zones would be converted into manufacturing hubs, supported by port modernisation projects, and could span a coastline of 300–500 km. The government is also seeking to develop the inland waterway sector as an alternative to road and rail routes for transporting goods to the nation's ports and hopes to attract private investment in the sector.

Indian ports are the gateways to India's international trade, and are handling over 95 per cent of the foreign trade in volume. Although the bulk of Indian trade is carried by sea routes, the existing port infrastructure is insufficient for effectively handling trade flows effectively. The capacity of all the major ports as on 31 March 2015 was 871.52 MMT, as compared with 581.54 MMT in cargo traffic handled through 2014–15. Thus, the capacity utilisation through 2014–15 was around 66 per cent. Furthermore, as per internationally accepted norms, the gap between traffic and capacity is usually around 30 per cent, and the government has taken several measures to improve operational efficiency through mechanisation, deepening the draft and speedy evacuations.

The capacity utilisation at major ports has been increasing over the years owing to growing trade. During 2001–02, the capacity utilisation was 83.6 per cent, which peaked to 99.7 per cent during 2007–08 but came down significantly to 66 per cent during 2014–15, signifying a major deceleration of trading activities among all the major ports. Another major challenge faced by the Indian shipping industry is the relatively low hinterland connectivity with the ports. In the ongoing fiscal, the growth of the total seaborne trade in volume terms (excluding transhipment) has declined from 6 per cent in 2014–15 to just 2 per cent in 2015–16 (a comparison of the period April–November). Both loading and unloading during the period April–November during the ongoing fiscal is 379 MT. The decline in the growth of trade volume aptly reflects low trading activities over the years.

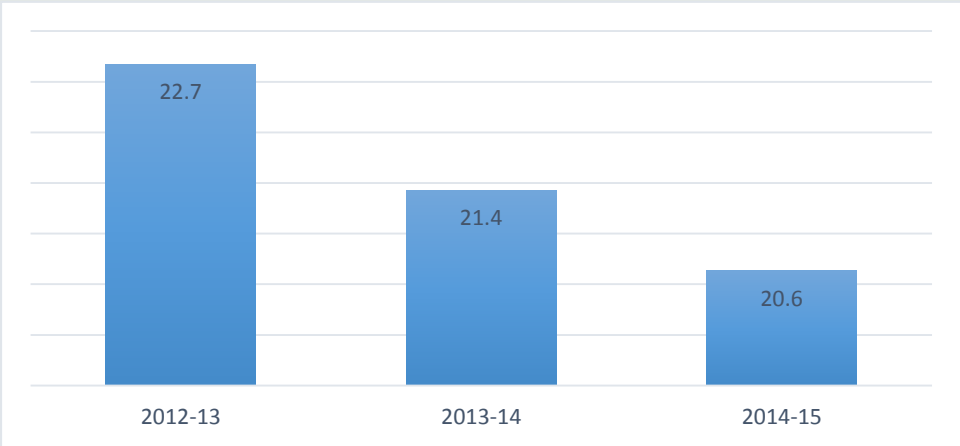
Figure 6.4: Decline in the Volume of Seaborne Trade (%) for 2014–15 (April–November) as Compared to the Same Period of 2015–16



Source: CMIE.

A decline has also been in the share of container traffic (in volume) in the total seaborne trade, which came down from 22.7 per cent in 2012–13 to 20.6 per cent in 2014–15.

Figure 6.5: Decline in the Share (%) of Container Traffic in the Total Seaborne Trade in Volume



Source: CMIE.

There is no doubt that the overall cargo volumes traded by sea have been affected by the overall slowdown in the international market. This, in turn, has impacted the freight traffic carried by IR.

The recovery prospects remain poor for the rest of the year. The period April–December 2015–16 has posted a sharp Y-o-Y decline of 18.25 per cent in merchandise exports while merchandise imports decreased by 15.59 per cent during the same period of 2015–16. In volume terms, the unloading and loading of cargo in the major ports of India is an important indicator of freight movement from/towards the hinterland,

which saw a sharp decline during the period April–November 2015–16. Unloading has declined from 11.9 per cent in 2014–15 to 5.8 per cent in 2015–16, while loading has remained in the negative territory all throughout and intensified further in the ongoing fiscal.

The depreciation of the rupee has also made imports expensive. The value of the dollar, which used to be Rs. 60–61 last year, has increased to the level of Rs. 67–68 now, and has impacted the import traffic. Moreover falling diesel rates, which had hit rock bottom with crude prices plunging below US$ 30 per barrel, have been giving an edge to road haulage even over long leads, thus affecting the container traffic on IR.

During the period April–December 2015, a total 8.859 million Twenty-Foot-Equivalent Units (TEUs) of container traffic was handled at all the ports in India as compared to 8.642 million TEUs handled during the same period last year, signifying a marginal growth of 2.51 per cent. The contribution of major ports in this traffic was 6.086 million TEUs in April–December 2015, indicating a marginal growth of 1.65 per cent over 5.987 million TEUs handled during the period April–December 2014.

The export-import (EXIM) traffic carried by IR saw a decline of 3.69 per cent from 29 MT containerised cargo in April to December 2014 to 27.93 million tonnes during the same period in 2015. The domestic traffic declined by 16 per cent from 7.98 MT during the April–December 2014 to 6.70 MT during April–December 2015. The total containerised cargo carried by IR reduced from 36.98 MT during the period April–December 2014 to 34.63 MT during April–December 2015, recording a drop of 6.35 per cent. The main reasons for this decline are delineated below.

a) A slowdown in the economy—this has reduced the demand and negative growth is seen in both EXIM and domestic businesses. The overall drop in exports of the country during the period April–November 2015 vis-à-vis the same period of last year is 18.46 per cent and the drop in overall imports during the same period is to the tune of 17.21 per cent in financial terms. The major commodities that have seen a drop in exports, imports and domestic segments are as follows:

   - Exports—Drop of 36.7 per cent in buffalo meat, 41 per cent in *guar* gum and 21.5 per cent in yarn.
   - Imports—32 per cent drop in waste paper and 24 per cent drop in PVC resin.
   - Domestic—30 per cent drop in ceramic tiles, 66 per cent drop in soap and 69 per cent drop in granite.

b) Levy of Service Tax: With effect from 1 April 2015, the abatement for charging service tax is available only on the condition of non-availment of

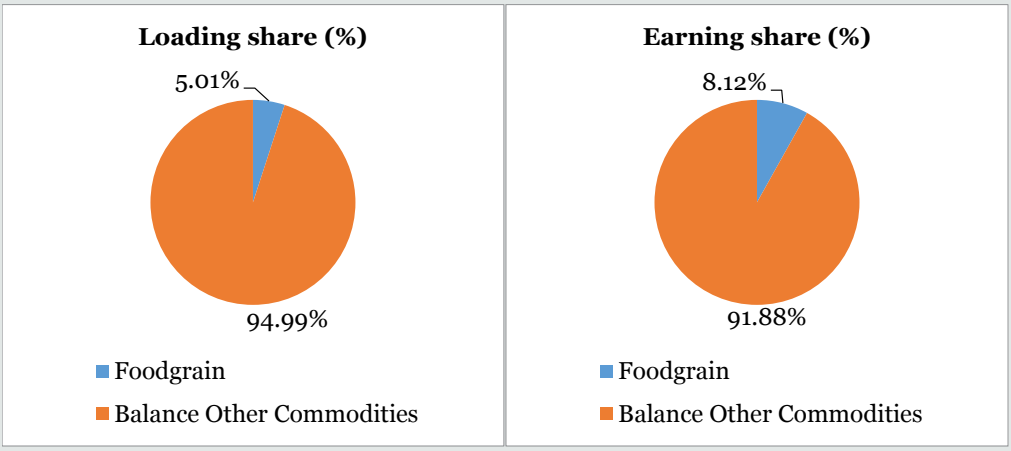
Central Value Added Tax (CENVAT) credit by the service provider. This provision is not applicable for road transportation. A customer cannot take the CENVAT credit benefit for input service, which has seriously affected the domestic business by rail. This has further diverted the containerised traffic from rail to road.

c) Revision in rail haulage charges for containers and levy of Port Congestion Surcharge—the port congestion surcharge at the rate of 10 per cent of the rail haulage charge was introduced in November 2014 and rail haulage charges were revised on 5th December 2014 and 1st March 2015.

6.6 Foodgrains

Loading and Earning of Foodgrains, 2014–15

	Foodgrains	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	54.99	1097.57	5.01
Earning (Rs. Crore)	8550.37	10,5312.09	8.12



Loading and Earning of Foodgrains (A Comparison up to December)

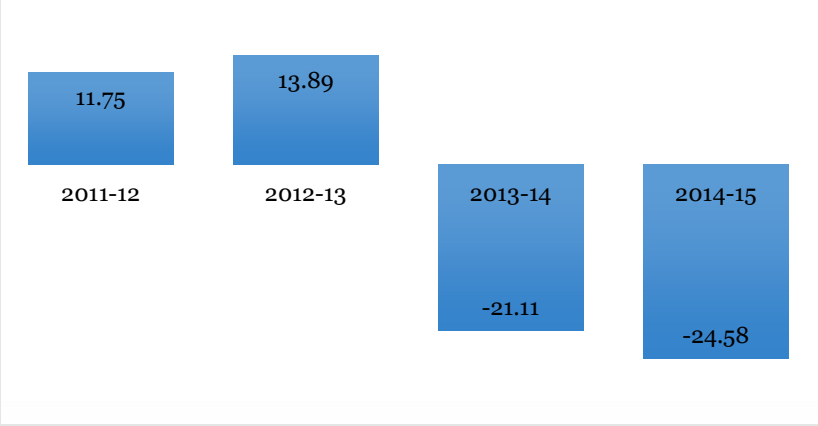
	Loading (Million Tonnes)	Earning (Rs Crore)
2014–15 (Up to December)	40.53	6275.71
2015–16 (Up to December)	32.91	5541.3

The deficit monsoon of 2014 and unseasonal rains of February–March 2015 took a toll on the overall foodgrain production in the country for the financial year 2014–15, leading to a decline in the total estimated output by nearly 5.5 per cent. The government estimate put the figure of total foodgrain production during the 2014–15 crop year (the July–June period) at 252.68 MT, which is lower by 12.36 MT than the 2013–14 record foodgrain production of 265.04 MT. This year, the prospect for foodgrain production is not bright because of the deficient rainfall. Unseasonal rains/hailstorm during the period February–March 2015 had a significant impact on the production of rabi crops. Due to a setback in the kharif as well as rabi seasons, the production of most of the crops in the country declined during 2014–15 and is likely to decline further in 2015–16. However, despite lower production, government agencies have still procured

more wheat from farmers as compared to what they bought in 2013–14. In the case of rice, however, the production is showing a steep decline.

As far as the policies are concerned, the National Food Security Act (2013) is slated to have a major impact on the foodgrain stocking policy in India. The Bill entails cash transfers and the issuance of food coupons to the eligible families. However, no concrete steps have been spelt out and, therefore, it is the present system of procurement and storage of foodgrains by the Central and State government agencies will supposedly continue. The successful implementation of the Act will clearly require that much larger stocks should be held. Whether these stocks are held by the government or the private sector depends on the creation of new instruments, for example, negotiable warehouse receipts on new institutions such as public–private partnerships in warehousing and on changes to the legal structure, especially the Essential Commodities Act and the Agricultural Produce Marketing (Regulation) Act.

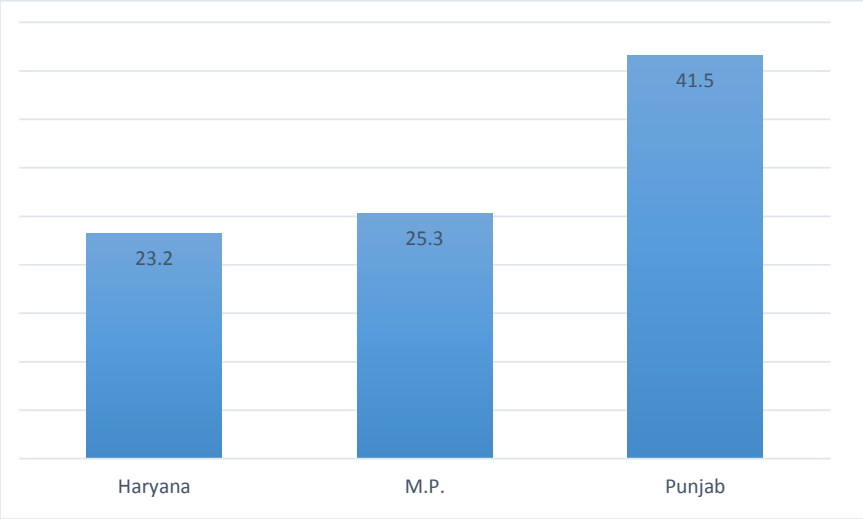
Figure 6.6: Growth (%) in the Procurement of Total Foodgrains



Source: Annual Report of 2014-15 of the Department of Food and Public Distribution as on 1 January 2015,

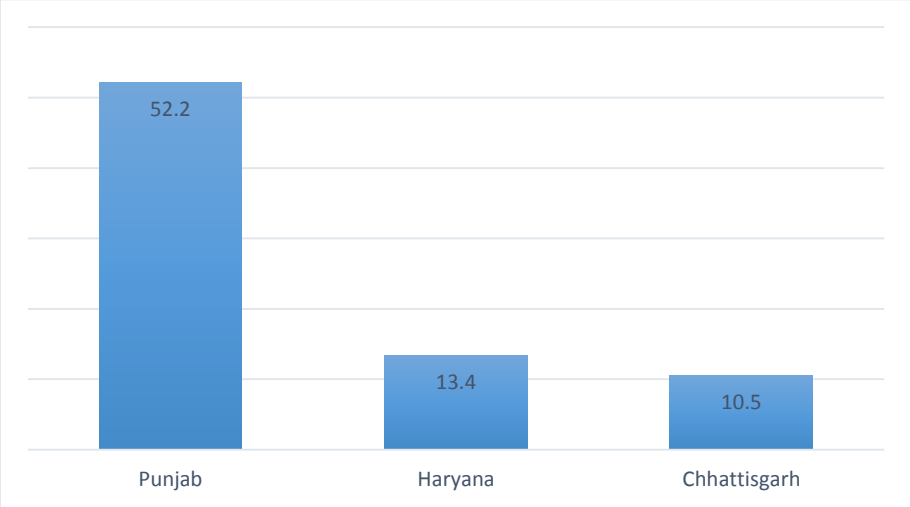
The long lead foodgrain traffic is primarily carried by rail from the Northern states of Punjab and Haryana to the food-deficit Southern and North-Eastern regions. The trend of steep decline in the procurement of wheat and rice is continuing. It may be noted that 90 per cent of the procurement of wheat is coming from the three states of Punjab, Haryana and Madhya Pradesh. Similarly, 76 per cent of the rice is procured from the three states of Punjab, Haryana and Chhattisgarh.

Figure 6.7: Share (%) in the Procurement of Wheat by the States (2014–15)



Source: Annual Report of 2014–15 of the Department of Food and Public Distribution.

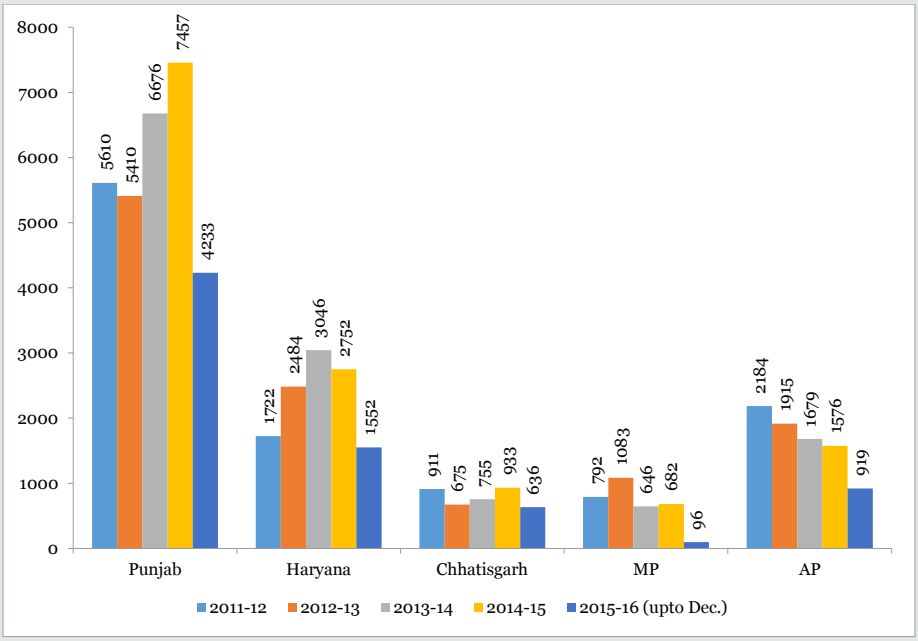
Figure 6.8: Share (%) in the Procurement of Rice by the States (2014–15)



Source: Annual Report of 2014–15 of the Department of Food and Public Distribution.

It may be noted there is a steep decline in the foodgrain loading by the Food Corporation of India (FCI) from the states of Punjab, Haryana, Chhattisgarh and Andhra Pradesh as may be noted from Figure 6.9.

Figure 6.9: Major Foodgrains Loading State for FCI (Rakes per Year)

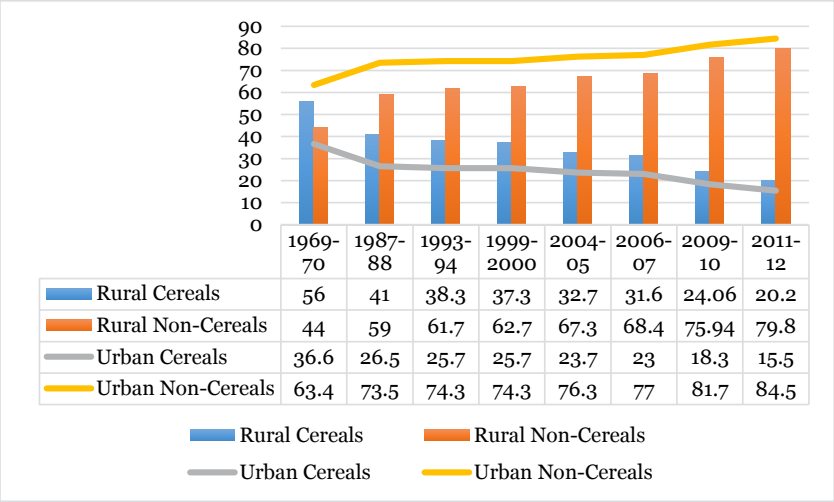


Source: Ministry of Railways, Government of India.

The decentralised procurement over different states has impacted the foodgrains traffic of IR, which has traditionally been relying on the movement of foodgrains from the states of Punjab and Haryana to other states.

The increased government purchases are the result of two factors. The first is a decline in private demand, especially for exports on account of the falling global grain prices. This has compelled farmers to offload more of their produce to government agencies, even with only a marginal hike of Rs. 50/quintal in the Minimum Support Prices (MSPs). The second factor has been the unseasonal rains and hailstorms in early 2015, causing widespread damage to the standing wheat crop and also the poor quality of the harvested grain. That, in turn, also meant fewer private takers for wheat. All the surplus grain might have been stored into government godowns. On the contrary, the decline in foodgrains ought to have had less impact on the intake of cereals as there has been a precipitous decline in consumption and substitution of foodgrains by non-cereals. The compilations from the different rounds of the National Sample Survey Organisation (NSSO) show that the rural as well as urban demand for cereals has been declining steadily, whereas it has been increasing for non-cereals at a rapid rate. Figure 6.10 highlights this trend.

Figure 6.10: Consumption of Cereals and Non-cereals in Urban and Rural India



	1969-70	1987-88	1993-94	1999-2000	2004-05	2006-07	2009-10	2011-12
Rural Cereals	56	41	38.3	37.3	32.7	31.6	24.06	20.2
Rural Non-Cereals	44	59	61.7	62.7	67.3	68.4	75.94	79.8
Urban Cereals	36.6	26.5	25.7	25.7	23.7	23	18.3	15.5
Urban Non-Cereals	63.4	73.5	74.3	74.3	76.3	77	81.7	84.5

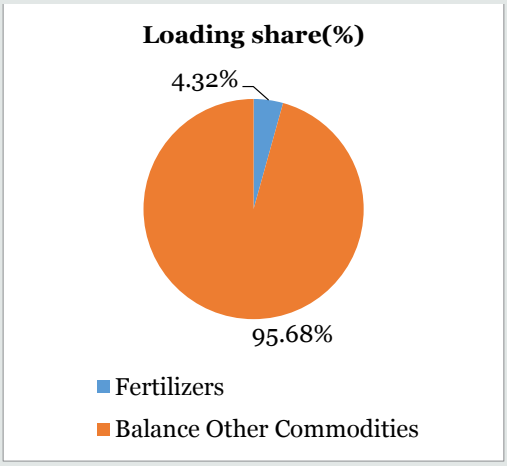
Source: NSSO (various rounds).

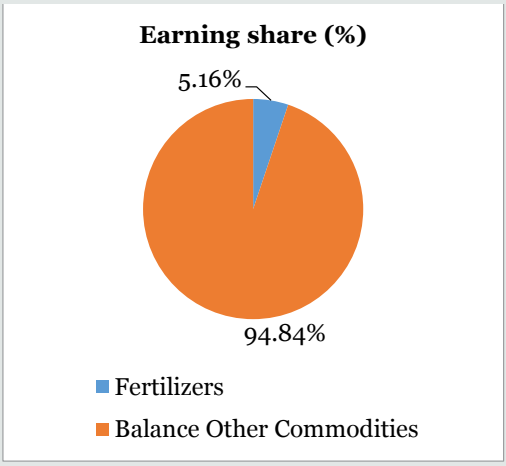
Changes in consumption and dietary patterns in both rural and urban areas call for diversification of agricultural production and value addition processes. With the growth of per capita income, the consumption patterns have undergone a significant change, which would again constrain the conventional pattern of foodgrains movement by IR carried out earlier.

6.7 Fertiliser

Loading and Earning of Fertiliser, 2014–15

	Fertilisers	All Commodities	Percentage in the Railways Freight Basket
Loading (Million Tonnes)	47.45	1097.57	4.32
Earning (Rs Crore)	5431.12	10,5312.09	5.16





Loading and Earning of Fertiliser (A Comparison up to December)

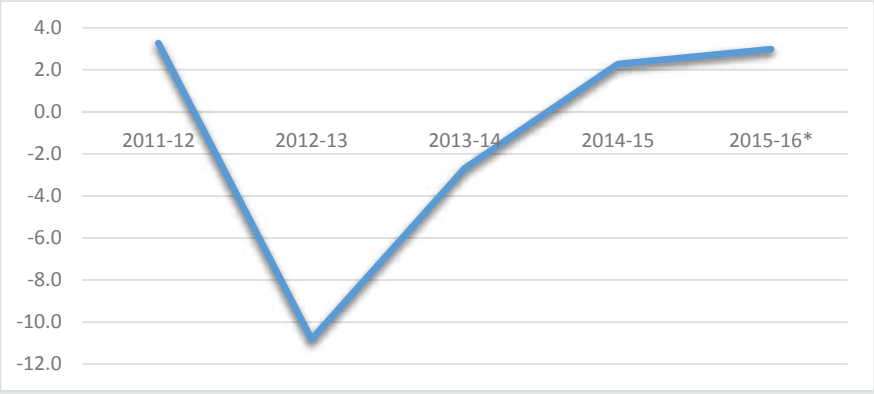
	Loading (Million Tonnes)	Earning (Rs. Crore)
2014–15 (Up to December)	35.52	3958.89
2015–16 (Up to December)	40.72	5397.14

Fertilisers have played an important role in making the country self-reliant in foodgrain production. In this regard, the role of the government remains an important factor for consistently pursuing policies to ensure the increased availability and consumption of fertilisers at affordable prices by the farming community. It is for this reason that the annual consumption of fertilisers in nutrient terms (N, P and K) went up from a mere 0.07 MT to over 27 MT in 2011–12. However, the indigenous capacity of fertiliser production in N, P and K has remained subdued due to the lack of new investment. Further, the government has had to resort to more imports to meet the demand in the country. On the other hand, the implementation of the new investment policies

in 2008 and 2012 attracted fresh investment for production of urea. The growth in the overall availability of fertilisers has shown improvement and is predicated to touch 3 per cent in the ongoing fiscal. The state-wise consumption of fertilisers in India is shown in Annexure 2.

The percentage growth in the total availability of fertilizers is shown in Figure 6.11.

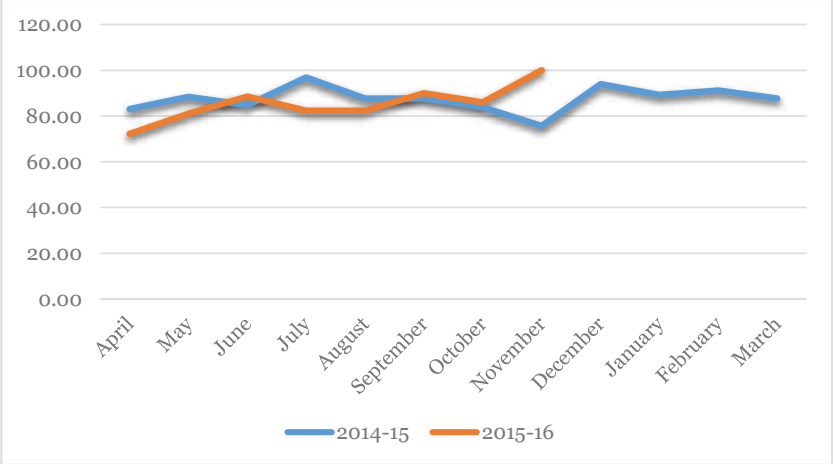
Figure 6.11: Growth in the Total Availability of Fertilisers (%)



Source: Ministry of Chemicals and Fertilisers, Government of India.

The railways remained the top transporter of fertilisers in the country. The railway coefficient for fertilisers is shown in Figure 6.12. The figure also shows that as far as the loading of fertilisers is concerned, the railway coefficient reached the near total level of 100 per cent in December 2015.

Figure 6.12: Rail Coefficient for Fertilisers (%)



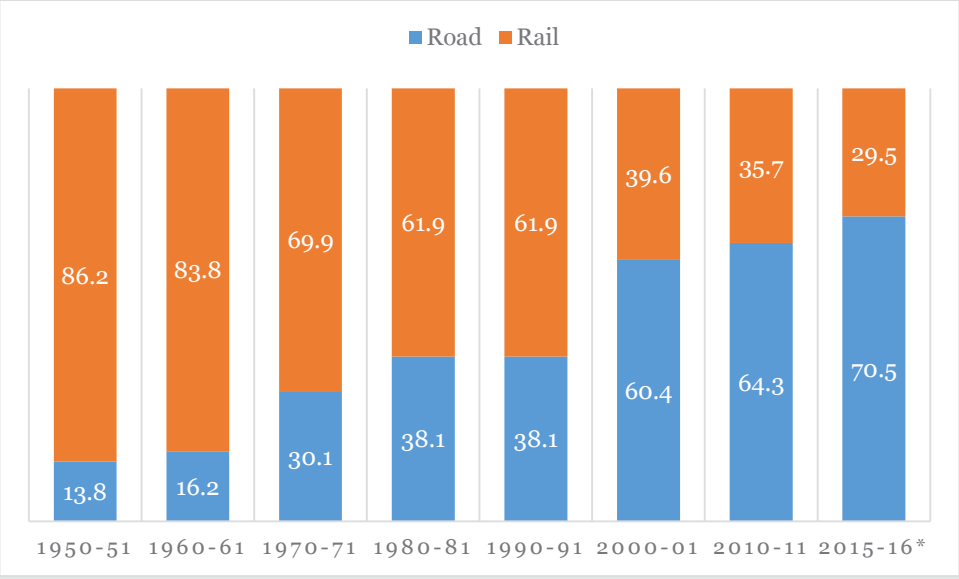
Source: Ministry of Railways, Government of India.

Section VII

7. Competitive Modes and Substitution by Other Modes

The overall share of freight of IR has come down from 86 per cent in 1950–51 to 30 per cent in 2015–16. Figure 7.1 shows the distribution of the overall freight traffic between the roadways and railways (based on billion freight tonne kilometres).

Figure 7.1: Distribution (%) of Overall Freight Traffic between the Roadways and Railways

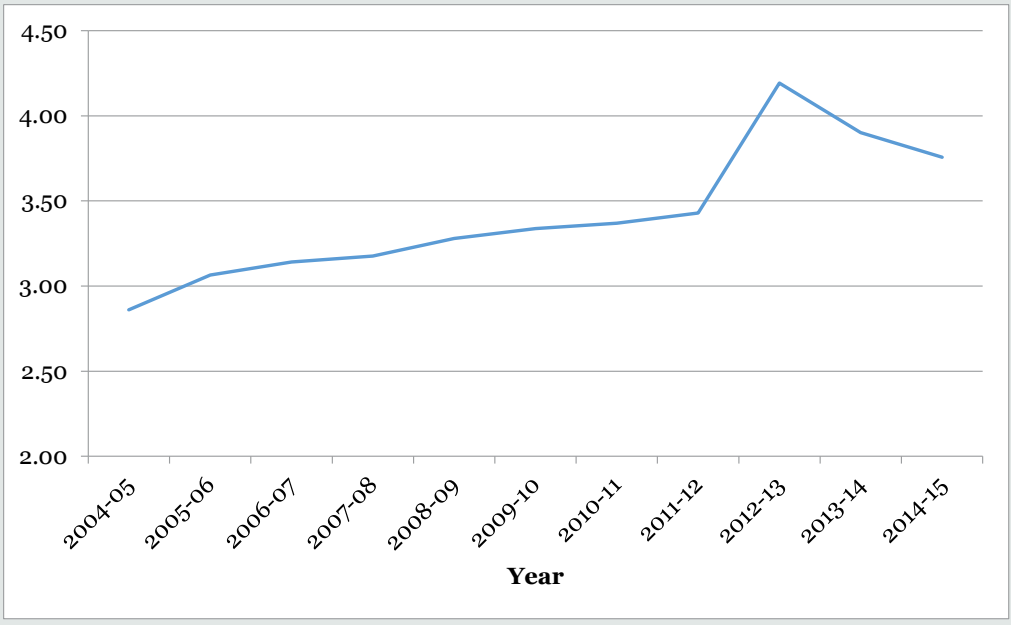


Note: The figure for 2015–16 is estimated.
Source: Ministry of Road Transport and Highways, Government of India.

It is evident from Figure 7.1 that the road sector has captured the largest share of freight. In recent years, the pipeline has captured some share through the POL movement. Coastal shipping has emerged as a potential competitor for IR. Due to lower prices, some bulk traffic like coal, iron ore, POL and even cement is now being moved by coastal shipping. Inland waterway transport is a probable mode though a lot more investment is needed to make it effective. IR's own freight policy had many inadequacies. The freight segment was overpriced without being sensitive to the pricing frame of the competitive modes. In order to deal with swelling costs, it was politically convenient to increase freight fares rather than passenger fares. Fares constitute but one

element of the total logistics costs faced by the customers. The other cost elements are an outcome of the shipment volume, first mile and last mile inter-modal access, reliability in transit times, and the availability of wagons as per requirement. The fare-to-freight ratio chart depicted in Figure 7.2 gives a very good idea of how the freight segment subsidises the passenger business. This has two major implications. On the one hand, it makes the competitors of the railways in the freight business more competitive not because of latter doing anything but because the railways have priced themselves out. On the other hand, low passenger fares attract more and more demands for passenger services, which consumes precious line capacity that would have otherwise allowed the running of more freight trains or the introduction of more long distance passenger services. By correcting this ratio, IR has a chance to regain its lost status as the prime mover of the country.

Figure 7.2: Fare-to-Freight Ratio



Source: Ministry of Railways, Government of India.

Two important considerations are worth mentioning here. The first is the decline in the prices of diesel that remain an important consideration for freight transportation and substitution by the roadways with the railways. During the period April–December 2015, diesel prices showed a continuous fall as compared to the price prevalent during the corresponding months of 2014. This has been illustrated in Table 7.1.

Table 7.1: Diesel Rates in Rs (Delhi)

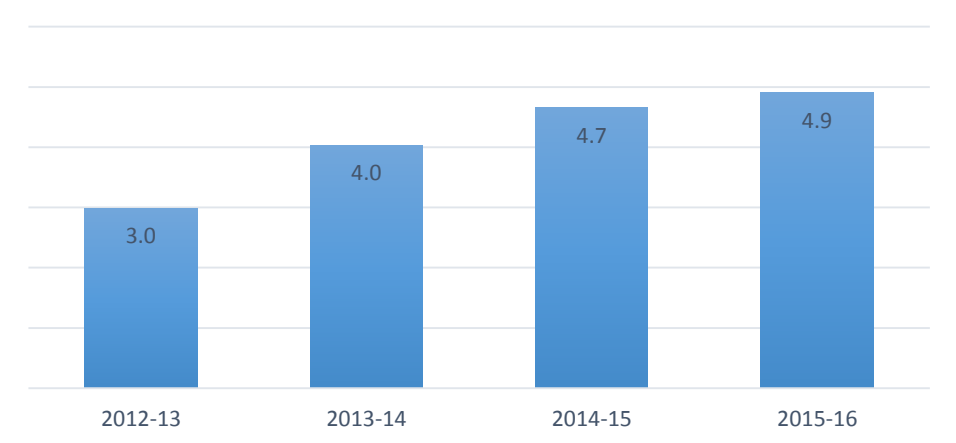
Sl. No.	Month	2014	2015	Change (%)
1.	April	55.49	49.71	-10.42
2.	May	55.49	49.57	-10.67
3.	June	57.28	52.28	-8.73
4.	July	57.84	50.22	-13.17
5.	August	58.40	46.12	-21.03
6.	September	58.97	44.45	-24.62
7.	October	58.97	44.95	-23.77
8.	November	53.35	45.93	-13.91
9.	December	52.51	46.55	-11.35
10.	April–December (%)	-5.37	-6.36	

Source: IOC.

The decline in diesel prices has resulted in a reduction in road transportation costs during the corresponding period whereas the rail haulage charges have increased during the same period.

Second, there has been a substantial investment in roads and one may observe the growth in the road length of the National Highways. This has had a substantial impact on decongestion in the road sector and has led to higher volumes of transport and presumably freight movement by the roadways.

Figure 7.3: Growth (%) in the length of the Roads under the National Highways



Source: NHAI and NCAER estimation.

The sectors needing intervention in terms of freight (basically the highly elastic sectors) may be handled with care, and the comparatively inelastic goods that may not go over to other modes of transport may be chosen for other forms of freight intervention by IR. In this regard, the following important points are worth mentioning:

- In India, 57 per cent of the freight is transported by road, 36 per cent by rail, 6 per cent by water and less than 1 per cent by air, according to a 2011 report by the global consultancy firm McKinsey.
- The infrastructure sector in India will witness massive changes and transformation during the next few years as the government is converting many four-lane roads and highways into eight lanes.
- A large number of national highways will also be turned into expressways. The necessary permissions and approvals to undertake such assignments have already been obtained.
- Traffic congestion has grown steadily. However, since the beginning of planned railway development, the rail route kilometre length has increased by just 23 per cent.
- Railway development needs commercial orientation and investment needs to be increased for attaining growth of freight traffic, which is the mainstay of IR's earnings. It has been observed that the railways have steadily lost their share in freight movement to road transport. For all freight, this share has dropped to 30 per cent from a peak of 86 per cent over the past 66 years. The NCAER analysis suggests that IR's share in freight transportation will fall to 26 per cent by 2020.
- Considering that the average distance over which the railways carry a tonne of cargo is around 600 km, an increasing trend in freight rate over the years has cut into their share of goods traffic. With industrial units being increasingly set up near raw material sources, this advantage enjoyed by the railways may diminish in the future.
- Although the railways have enjoyed an advantage in bulk commodities, wherein they offer siding facilities, yet considering the service quality and a 20-kmph average speed of a freight train, this advantage would take a beating. Besides, while the roadways offer door-to-door service, railway movement sees the additional cost of door-bridging as well as the cost of handling involved at either end.
- In the case of railways, the freight rates are fixed on a distance basis without taking into consideration the geographical, directional or seasonal variations. The pricing continues to be based on uniform distance and commodity classification. Owing to the high cost of freight movement, the logistics cost in the country (including

inventory control, transportation, warehousing, packaging, losses and related administration costs) is estimated at roughly 13 per cent of the GDP. This is higher than the corresponding figures for other major economies, as per the Working Group report of the Planning Commission on logistics. The corresponding figures for the US, Europe and Japan are 9.9 per cent, 10 per cent and 13.4 per cent, respectively. India's emergence as a manufactured products outsourcing hub is, therefore, threatened by costly logistics.

- It may be noted that the current steep fall in crude prices is bound to generate economic activity across most sectors of the economy, especially infrastructure and construction, leading to sharp increases in the demand for steel and cement.
- It is imperative to reduce the freight rate and consider it for alignment with other key stakeholders while also promoting strong customer relations.

Section VIII

8. Outlook for the Next Fiscal and Recommendations

The present outlook for the railway freight movement is based on the Index of Industrial Production (IIP) of the core industries. A separate estimation is attempted while predicting foodgrain movement, based on production and the real time assessment of rain-deficit areas of south and the movement of foodgrain from the northern states of Punjab and Haryana to Kerala and Tamil Nadu for PDS requirement. Outlook for the next fiscal is based on certain assumptions:

First, the global growth prospect would marginally change and would not have substantial impact on the trend that is being followed in the ongoing fiscal

Second, the domestic economic outlook may show a gradual pick up in the demand scenario

Third, there would not be any dramatic upturn in the performance of any of the industries that concerns railway freight movement.

While carrying out the prediction for the railway freight, the following anticipations about the growth of industries (with base of 2004-05) were made.

- The combined index of Eight Core Industries stands at 175.7 in December, 2015, which was 0.9 per cent higher compared to the index of December, 2014. Its cumulative growth during April to December, 2015-16 was 1.9 per cent. Using trend as usual (TAU) method, NCAER estimated a growth of 2.87 per cent in 2016–17 in the overall core sector.
- Coal production (weight: 4.38%) increased by 6.1 per cent in December, 2015 over December, 2014. Its cumulative index during April to December, 2015–16 increased by 4.6 per cent over corresponding period of previous year. It is estimated to grow by 3.4 per cent in 2016–17.
- Steel (Alloy + Non-Alloy with weight of 6.68% in the core industries) has declined by 1.9 per cent in April-December, 2015–16 over the corresponding period of previous year. However, the trend projection shows that it will grow by 4.2 per cent in 2016–17.
- Cumulative index of cement production (weight: 2.41%) during April to December, 2015–16 increased by 2.2 per cent over the corresponding period of previous year.

On the back of rising construction and anticipated pick-up in real estate demand, the cement is estimated to grow by 4.47 per cent in 2016–17.

- Foodgrains production is estimated to grow marginally by 1 per cent (assuming a continuing 10–15% rain–deficit scenario). Given the recent trends in production, meeting future demand for foodgrains through domestic production alone would essentially to come from productivity improvements as the potential for area expansion, by and large, has exhausted. This year India's foodgrain production is estimated (Second Advance Estimate) to increase by 0.45 per cent to 253.16 million tonnes in 2015-16 crop year on probable improvement in output of wheat and pulses despite back-to-back drought. The estimate is, however, lower than the record 265.04 million tonnes in the 2013–14 crop year (July–June), but slightly better than 252.02 million tonnes achieved last year. Wheat, rice, coarse cereals and pulses are part of the foodgrain basket. In sum, overall foodgrain output is likely to be better than last year despite deficit monsoon for two straight years. Production of rice, a major kharif crop, is however projected to decline by 2 per cent to 103.61 million tonnes in 2015–16 crop year, from 105.48 million tonnes in previous year.

- Based on the recommendations of High Level Committee on restructuring of FCI, Government has ensured huge paddy procurement during kharif season. The Government has also provided relief to the farmers during the year by relaxing procurement norms for their crops affected with the unprecedented rains and hailstorms. This will in general enhance the prospect of food grain movement, which may benefit the railway freight and outweigh the negative growth recorded in the ongoing financial year

- Crude Oil production (weight: 5.22 %) decreased by 0.8 per cent in April–December 2015–16 over the corresponding period of previous year. It will experience a decline in growth by 0.10 per cent (to 37.5 million tonnes).On the other hand, the Refinery Products (93% of Crude Throughput with weight of 5.94 per cent in the core industries) has increased by 2.4 per cent in April-December, 2015–16 over the corresponding period of previous year and predicted to grow by 7.7 per cent.

- Cumulative index of fertilizer production (weight: 1.25%) during April to December, 2015–16 increased by 10.1 per cent over the corresponding period of previous year and it will grow at the rate of 2.11 per cent in 2016–17.

- Electricity generation (weight: 10.32%) increased by 4 per cent during April to December, 2015–16 over the corresponding period of previous year. It is projected to grow by 6.77 per cent in 2016–17.

- For other goods, NCAER put on top the growth trend for the general index of industrial activities, which is estimated to grow by 1.15 per cent in 2016–17.

The projection of major industries has been taken into consideration while making the growth projection for the railway freight movement. The projection for different bulk commodities for the Indian railways are given below:

Table 8.1: Outlook of the freight movement by the Indian Railways in the next fiscal (Million Tonnes)

Commodities	2015-16*	2016-17**	Growth projection[1] of 2017 over 2016 (%)
Coal	555.6	566.9	2.03
Raw Material for Steel Plants	21.2	21.8	2.83
Pig Iron & Finished Steel	41.6	42.8	2.88
Iron Ore	117.8	120.1	1.95
Cement	105.4	107.1	1.61
Food grains	44.1	44.6	1.13
Fertilisers	54.8	55.5	1.28
POL	42.5	43.8	3.06
Container Services	45.7	46.8	2.41
Other Goods	78.3	80.5	2.81
Total	1107	1129.8	2.06

Source: Ministry of Railways and NCAER. Note: * Estimated figures from the Ministry of Railways and ** is the estimated projection for 2016–17.

Overall, the freight traffic is estimated to grow by 2.06 per cent during 2016–17, more than 1 per cent estimated growth for 2015–16. This has been projected on the back of higher estimated production of the core sector growth of 2.87 per cent. The year 2016–17 will see the movement of foodgrains to outweigh the negative growth of 2015–16

[1]Simple trend method used using Index of Industrial Production (IIP) production figures (2004-05=100) for the core sector growth and IIP-General Index for the overall growth. For projection the following equation is used:

$Xi = \alpha + \beta^{*}T + AR\ (1)$ #--------(1)

i is the production for coal, steel, cement, fertiliser etc. T is the time trend and AR is the autoregressive correction.

#AR (1) is used only in cases where Durbin-Watson (D-W) Statistic is low.

While projecting the rail share, the estimated projection for Xi is used with the following equation:

$Yi = \alpha + \beta^{*}X^{E}_{i}$----------(2)

Where Y_i is the rail freight for coal, steel, cement, fertiliser etc., and XE is the estimated production using equation (1)

This we have termed as trend as usual (TAU) method.

(-20.44%) to record a slight gain in the positive territory (1.13%) due to anticipated growth in overall foodgrains production and Government action to ensure higher procurement during the next fiscal. In cement, the higher anticipated production would increase rail coefficient by higher clinker movement (as 60% of the clinker movement is through the railways) to move beyond the negative growth estimated during the ongoing fiscal year (-4.04%). Iron ore is a mixed bag with imports might bring in positive gain for the freight movement, while steel production is estimated to grow by 4.19 per cent that would fetch almost 3 per cent gain in freight movement by the Indian railways.

In sum, our estimates for 2016–17 show that the freight traffic is likely to grow only by about 22.6 million tonnes i.e. 1129.8 million tonnes out of which coal would continue to dominate with 11.3 million tonnes, Iron and Steel 1.2 million tonne and raw materials to steel plants by 0.6 million tonnes. We expect iron ore to grow by 2.3 million tonnes while Cement could become positive and add 1.7 million tonnes. Foodgrains and fertilisers are expected to contribute 0.5 and o.7 million tonnes, respectively. POL and containers could contribute an additional 1.3 and 1.1 million tonnes to the freight basket while other goods may contribute another 2.2 million tonnes. The future prospects are therefore not very bright but this is based on trend as usual method. However, the projection of NCAER is based on conservative trend as usual estimates. The situation may change to a healthy prospect if railways can realign itself to the business model, depending of course on the change in the economic scenario, both domestic as well as external.

There could be a variety of reasons concerning commercial, operational and policy related issues that have its impact on the freight movement by the Indian Railways. In the last five years freight charges by the IR have gone up by 67 per cent while there has been a decline in diesel prices. Road transport has now become much cheaper than the rail transport for freight movement.

A few strategic decision that could help increase the railway freight demand are the following:

- Reduction in diesel prices witnessed in the recent past should be realigned under the dynamic policy of linking the same
- Withdrawing the busy season surcharge on the face of a lean demand scenario
- Removal in the port congestion surcharge at a time when ports are working much below its full capacity.
- Enhancing transportation capacity on the critical corridors to take care of industry

It is up to IR to tackle the situation and strategize as to how they would be able to make a dent in this scenario. In our interactions with the industry, the common refrain that emerged was that the railways should do away with the port congestion charge of 10 per cent on the traffic loaded by railways from the ports. This point seems valid since with a sharp decline in port traffic, the reason for imposing the charge no longer exists. We would thus recommend doing away with this charge as soon as possible.

The other common thread in the list of demands that the industry has placed before the railways is that the busy season surcharge, which is 15 per cent and has been imposed for nine months in a year should be done away with. Since the financial outgo is likely to be considerable, IR needs to perhaps fine-tune this surcharge in such a way that industry expectations are assuaged to some extent.

The decline in diesel prices has brought in another factor, that is, the packet size of the cargo to be transported at one time. For commodities like cement, the packet size has shrunk and transportation through road allows for better inventory management. The decision of the railways to disallow 2-point loading in BCN-covered wagons has made the industry quite unhappy. Having to face such a situation of fierce competition from road transport, railways may, therefore, have to relax this operational requirement of theirs.

Another area wherein the railways need to apply themselves is that of short lead traffic for which they had had done away with concessions in the 2015–16 budget. While it makes operational sense for the railways to do so, they are likely to lose short lead coal and iron ore traffic wherever the mines and the consumption points are located at short distances. By deploying close circuit rakes and offering competitive tariffs, the railways could increase the size of their freight basket.

As has been mentioned earlier in the report, iron ore traffic especially for export from India has declined sharply and consequently rail traffic also has suffered. With the FOB prices of iron ore are way below their peak levels, freight costs have also become a decisive factor in deciding whether the traffic will be transported to the port by rail or road. Railways have a Dual Freight Rate policy regarding iron ore transportation where export traffic is charged a distance based charge over and above the regular freight charges. In September, IR reduced the distance based charge per tonne from Rs 1125 to Rs 300. However, in a depressed market scenario, even this reduced charge is likely to act as a deterrent. Railways may consider abolishing the dual freight policy in iron ore.

Another area where railways need to reconsider is their decision regarding short lead traffic where railways in the 2015-16 budget had done away with concessions on short lead traffic. While it makes operational sense for railways to do so, they are likely to

lose short lead coal and iron ore traffic where the mines and the consumption points are at short distances. By deploying close circuit rakes, offering competitive tariffs with long term commitments of traffic, railways could increase the size of its freight basket.

In case of container traffic, the increase in haulage charges by 27 per cent in December 2014 in addition to a Port Congestion Charge of 10 per cent levied in November 2014 really disincentivised movement of containers by rail. The abolition of short lead concessions affected traffic moving under Container Class Rate (CCR). To add to this is the fact that road transporters have passed on the decline in fuel prices to their customers in terms of lower freight rates. For railways to recapture the container traffic, they would need to have a relook at the haulage rates in addition to abolishing of port congestion charge.

The suggestions above could possibly help IR in giving a fillip to their mainstay of earnings viz., the freight revenues. In both the short and long terms, IR needs to have a serious relook at its fare-to-freight ratio to ensure better resource allocation and the introduction of a better mode of transport. For both the country and the railways, the solution thus lies in unravelling the conundrum of this Freight-to-Fare ratio. This has implications for the country as a whole as tweaking the same would result in a better resource allocation and ultimately the more energy efficient, less polluting mode of rail transportation in India.

Annexures

Annexure 1

Import of Coal during the Year 2014-15 (April- December)

(Million Tonnes)

S.No.	Board/Utility	Annual Target of Imported Coal	Receipt at TPSs during April - December 14
I	**Power Plants designed on Indigenous Coal**		
1.	HPGCL	1.000	0.806
2.	RVUNL	0.250	1.135
3.	UPRVUNL	0.500	0.000
4.	MPGCL	1.500	0.306
5.	Torrent AEC	0.400	0.465
6.	GSECL	1.500	0.889
7.	MSPGCL	3.500	1.781
8.	Reliance	0.600	0.476
9.	AP GENCO	3.000	1.511
10.	TANGEDCO	4.500	6.367
11.	KPCL	1.700	0.807
12.	DVC	2.500	0.000
13.	CESC	0.300	0.260
14.	WBPDCL	1.000	0.000
15.	NTPC	16.600	11.379
16.	NTPC(JV) Indira Gandhi	1.500	0.649
17.	Reliance (Rosa)	2.000	1.741
18.	TATA (Maithonrb)	0.000	0.006
19.	JPL (M. Gandhi)	2.600	0.588
20.	LANCO (Anpara)	1.500	0.480
21.	Sterlite Energy (Jhasuguda)	1.000	0.248
22.	J P BINA	0.000	0.082

(Contd...)

Import of Coal during the Year 2014-15 (April- December) (Contd...)

S.No.	Board/Utility	Annual Target of Imported Coal	Receipt at TPSs during April - December 14
23.	Vedanta (Star.)	1.000	0.083
24.	NTPC (JV) Vellur	1.800	1.341
25.	ADANI (Tirora)	2.250	1.592
26.	NABHA Power	1.000	0.382
27.	MOSER BEAR	0.500	0.000
28.	EMCO Energy	0.000	0.430
29.	NTPC SAIL	0.000	0.329
30.	GMR Kamalanga	0.000	0.371
31.	KAWAI	0.000	2.417
32.	BUTUBURI	0.000	0.066
	Sub Total	54.000	36.987
II	**Power Plants designed on Imported Coal**		
33.	TROMBAY	2.300	1.600
34.	JSW ENERGY	6.000	5.023
35.	ADANI POWER*	12.500	11.167
36.	UDUPPI	3.000	1.976
37.	MUNDRA UMPP	11.000	7.604
38.	ESSAR SALAYA	3.000	2.246
39.	SIMHAPURI	1.000	1.571
40.	THAMNA PATNAM	0.600	0.723
41.	IND BARATH(Tuticorin)	0.600	0.000
	Sub Total	40.000	31.910
	TOTAL	**94.000**	68.897

* Includes Mundra Stage - III (1980 MW) designed on 70 domestic: 30 Import basis.

Source: Ministry of Railways, DGCI&S.

Annexure 2

State-wise Consumption of Organic Manures and Chemical Fertilizers in India (2013–14)

States/UTs	Organic Fertilizers (In Lakh MT)	(In ' 000 MT) Urea	DAP	MOP	Complex
Andhra Pradesh	72.03	1806.27	371.41	223.18	1122.33
Telangana		1680.72	243.54	103.16	771.26
Andaman and Nicobar Islands	0.00	0.59	0.59	0.31	0.26
Arunachal Pradesh	1.00	0.97	0.15	0.25	0.00
Assam	9167.5	281.51	34.79	111.33	0.00
Bihar	12.17	1870.64	360.15	139.99	157.94
Chandigarh	0.00	0.00	0.00	0.00	0.00
Chhattisgarh	104.25	651.07	236.87	66.56	84.41
Dadra and Nagar Haveli	0.00	0.85	0.72	0.01	0.00
Daman and Diu	0.00	0.15	0.03	0.00	0.00
Delhi	0.80	7.38	0.00	0.00	0.00
Goa	0.82	4.73	1.83	0.71	2.53
Gujarat	365.81	2144.87	438.59	107.01	398.20
Haryana	0.09	1907.18	396.76	23.59	11.40
Himachal Pradesh	17.65	63.69	0.00	7.93	23.27
Jammu and Kashmir	6.57	124.38	54.14	17.73	1.54
Jharkhand	525.02	162.56	28.77	3.27	15.83
Karnataka	11.65	1479.19	458.28	251.48	1009.41
Kerala	3.85	174.93	31.36	136.37	204.96
Lakshadweep	0.00	0.00	0.00	0.00	0.00
Madhya Pradesh	5.66	2223.53	897.49	51.34	182.91
Maharashtra	9.96	2655.43	639.91	329.96	1573.33
Manipur	0.61	17.14	2.14	1.94	0.00
Meghalaya	16.35	7.20	1.08	0.45	0.00

(Contd...)

State-wise Consumption of Organic Manures and Chemical Fertilizers in India (2013–14) (Contd...)

States/UTs	Organic Fertilizers (In Lakh MT)	(In ' 000 MT) Urea	DAP	MOP	Complex
Mizoram	0.10	9.47	4.57	4.31	0.00
Nagaland	0.88	1.61	1.20	0.51	0.55
Odisha	23.63	532.18	150.00	87.81	190.74
Puducherry	3.23	21.87	1.42	2.00	7.08
Punjab	3.06	2690.54	685.28	35.55	17.15
Rajasthan	0.02	1828.92	462.84	1.07	29.26
Sikkim	0.35	0.00	0.00	0.00	0.00
Tamil Nadu	14.39	911.95	219.49	246.9	414.9
Tripura	0.00	20.17	3.83	7.61	0.00
Uttar Pradesh	0.22	5805.42	1364.55	109.52	330.94
Uttarakhand	23.57	274.63	21.80	1.43	34.72
West Bengal	151.41	1238.74	243.84	207.13	678.60
India	10542.65	30600.48	7357.42	2280.41	7263.52

Source: Indiastat.

Annexure 3

Loading of different Commodities on IR (Million Tonnes)

A. COAL

Coal loading	
Year	**Loading**
2005-06	294.25
2006-07	313.33
2007-08	336.83
2008-09	369.63
2009-10	396.15
2010-11	420.37
2011-12	455.81
2012-13	496.42
2013-14	508.06
2014-15	545.63
2015-16 (RE)	555.63

B. RAW MATERIAL FOR STEEL PLANT

RMSP loading	
Year	**Loading**
2006-07	11.52
2007-08	11.12
2008-09	10.87
2009-10	11.58
2010-11	13.28
2011-12	14.48
2012-13	15.58
2013-14	17.33
2014-15	19.19
2015-16 (RE)	21.21

C. CEMENT

Cement loading	
Year	**Loading**
2005-06	61.2
2006-07	73.13
2007-08	78.99
2008-09	86.24
2009-10	93.15
2010-11	99.08
2011-12	107.66
2012-13	105.87
2013-14	109.8
2014-15	110.17
2015-16 (RE)	105.36

D. IRON ORE

Iron Ore loading	
Year	**Loading**
2005-06	113.45
2006-07	121.74
2007-08	136.69
2008-09	130.58
2009-10	132.74
2010-11	118.46
2011-12	104.7
2012-13	111.41
2013-14	124.27
2014-15	112.78
2015-16 (RE)	117.81

E. PIG IRON & FINISHED STEEL

PI & FS loading	
Year	**Loading**
2005-06	21.76
2006-07	27.04
2007-08	25.79
2008-09	28.58
2009-10	31.85
2010-11	32.82
2011-12	35.15
2012-13	35.31
2013-14	38.95
2014-15	39.97
2015-16 (RE)	41.64

F. FOODGRAIN

FG loading	
Year	**Loading**
2005-06	41.64
2006-07	41.84
2007-08	38.23
2008-09	35.51
2009-10	38.69
2010-11	43.45
2011-12	46.4
2012-13	49.03
2013-14	55.1
2014-15	54.99
2015-16 (RE)	44.17

G. FERTILISER

Fertiliser loading	
Year	Loading
2005-06	32.65
2006-07	34.26
2007-08	35.83
2008-09	41.35
2009-10	43.68
2010-11	48.22
2011-12	52.69
2012-13	46.21
2013-14	44.70
2014-15	47.45
2015-16 (RE)	54.87

H. CONTAINER

Container loading	
Year	Loading
2005-06	
2006-07	19.59
2007-08	23.96
2008-09	29.66
2009-10	35.36
2010-11	36.84
2011-12	38.58
2012-13	41.09
2013-14	43.60
2014-15	48.83
2015-16 (RE)	45.66

I. POL

POL loading	
Year	Loading
2005-06	33.45
2006-07	31.69
2007-08	35.88
2008-09	38.08
2009-10	38.88
2010-11	39.29
2011-12	39.77
2012-13	40.61
2013-14	41.16
2014-15	42.73
2015-16 (RE)	43.28

J. OTHER GOODS

Other Goods loading	
Year	Loading
2006-07	61.63
2007-08	67.61
2008-09	65.47
2009-10	68.56
2010-11	70.98
2011-12	74.34
2012-13	68.49
2013-14	71.22
2014-15	75.83
2015-16 (RE)	80.37

Annexure 4

Performance of Eight Core Industries

Yearly Index (Base Year: 2004-05=100)

Sector	Weight	2010-11	2011-12	2012-13	2013-14	2014-15	Apr-Dec 2014-15	Apr-Dec 2015-16
Coal	4.379	139.7	141.5	148.1	150.0	162.7	151.2	158.2
Crude Oil	5.216	111.0	112.1	111.4	111.2	110.2	110.5	109.6
Natural Gas	1.708	164.4	149.7	128.1	111.5	105.9	106.6	103.7
Refinery Products	5.939	129.7	133.7	172.5	175.0	175.7	174.8	179.1
Fertilizers	1.254	103.4	103.8	100.2	101.8	101.7	101.6	111.9
Steel	6.684	157.7	174.0	181.1	201.9	210.9	210.9	207.0
Cement	2.406	164.2	175.2	188.7	194.5	205.3	202.6	207.1
Electricity	10.316	138.1	149.3	155.3	164.6	178.3	180.4	187.6
Overall Index	37.903	138.4	145.3	154.7	161.2	168.4	167.4	170.5

Source: Ministry of Industries, Government of India.

Yearly Growth Rates of the Eight Core Sector Industries (%)

Sector	Weight	2010-11	2011-12	2012-13	2013-14	2014-15	Apr-Dec 2014-15	Apr-Dec 2015-16
Coal	4.379	-0.2	1.3	4.6	1.3	8.5	9.5	4.6
Crude Oil	5.216	11.9	1.0	-0.6	-0.2	-0.9	-0.9	-0.8
Natural Gas	1.708	10.0	-8.9	-14.5	-13.0	-5.0	-4.9	-2.7
Refinery Products	5.939	3.0	3.1	29.0	1.5	0.4	0.2	2.4
Fertilizers	1.254	0.0	0.4	-3.4	1.5	-0.1	-1.4	10.1
Steel	6.684	13.2	10.3	4.1	11.5	4.4	6.9	-1.9
Cement	2.406	4.5	6.7	7.7	3.1	5.6	7.9	2.2
Electricity	10.316	5.6	8.1	4.0	6.0	8.3	10.0	4.0
Overall Index	37.903	6.6	5.0	6.5	4.2	4.4	5.7	1.9

#Refinery Products' yearly growth rate of 2012-13 is not comparable with other years on account of inclusion of RIL (SEZ) production data since April, 2012.
Source: Ministry of Industries, Government of India.

Performance of Eight Core Sector Industries: Monthly Index & Growth Rate (Base Year: 2004-05=100)

Index

Sector	Coal	Crude Oil	Natural Gas	Refinery Products	Fertilizers	Steel	Cement	Electricity	Overall Index
Weight	4.379	5.216	1.708	5.939	1.254	6.684	2.406	10.316	37.903
Dec-14	186.0	113.4	110.1	186.2	108.5	213.1	211.2	177.6	174.1
Jan-15	185.0	112.6	108.5	185.7	111.6	218.9	217.2	175.7	174.8
Feb-15	185.9	101.5	95.8	166.0	97.5	195.9	205.7	164.8	161.5
Mar-15	220.4	113.9	107.2	182.5	96.9	217.3	217.4	175.9	177.8
Apr-15	156.0	106.6	100.9	161.3	87.3	201.3	213.6	176.0	162.4
May-15	156.5	112.5	107.8	186.0	101.8	231.7	221.3	194.0	178.6
Jun-15	148.1	109.5	102.9	183.9	105.3	221.1	215.0	181.8	171.2
Jul-15	134.7	110.7	99.0	176.2	111.3	206.3	209.7	190.3	168.0
Aug-15	139.0	112.8	107.2	185.1	119.0	197.5	197.2	194.3	169.6
Sep-15	143.2	107.4	103.9	170.3	119.4	197.5	195.8	194.4	166.8
Oct-15	168.4	111.3	105.6	172.5	122.1	209.4	207.4	201.1	175.4
Nov-15	180.3	107.3	102.6	185.9	118.4	194.6	185.9	174.2	166.8
Dec-15	197.4	108.7	103.4	190.2	122.6	203.6	217.9	182.4	175.7

Source: Ministry of Industries, Government of India.

Monthly Growth Rates of the Eight Core Sector Industries (%)

Sector	Coal	Crude Oil	Natural Gas	Refinery Products	Fertilizers	Steel	Cement	Electricity	Overall Index
Weight	4.379	5.216	1.708	5.939	1.254	6.684	2.406	10.316	37.903
Dec-14	7.5	-1.4	-2.9	6.1	-1.6	0.0	3.8	4.8	3.2
Jan-15	1.7	-2.3	-6.6	4.7	7.1	1.6	0.5	2.7	1.8
Feb-15	11.6	-1.9	-8.1	-1.0	-0.4	-4.4	2.7	5.2	1.4
Mar-15	6.0	1.7	-1.5	-1.3	5.2	-4.4	-4.2	1.7	-0.1
Apr-15	7.9	-2.7	-3.6	-2.9	0.0	0.6	-2.4	-1.1	-0.4
May-15	7.8	0.8	-3.1	7.9	1.3	2.6	2.6	5.5	4.4
Jun-15	6.3	-0.7	-5.9	7.5	5.8	4.9	2.6	0.2	3.0
Jul-15	0.3	-0.4	-4.4	2.9	8.6	-2.6	1.3	3.5	1.1
Aug-15	0.4	5.6	3.7	5.8	12.6	-5.9	5.4	5.6	2.6
Sep-15	1.9	-0.1	0.9	0.5	18.1	-2.5	-1.5	10.8	3.2
Oct-15	6.3	-2.1	-1.8	-4.4	16.2	-1.2	11.7	8.8	3.2
Nov-15	3.5	-3.3	-3.9	2.5	13.5	-8.4	-1.8	0.0	-1.3
Dec-15	6.1	-4.1	-6.1	2.1	13.1	-4.4	3.2	2.7	0.9

Source: Ministry of Industries, Government of India.

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Printed in India at www.archanapress.com