

Indian Railways an Example of a Monopoly Market

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Abstract

Indian Railways operates 8,702 passenger trains and transports have around 5 billion annually across 27 states and three union territories (Delhi, Pondicherry and Chandigarh). This division is the most preferred form of long distance transport in most parts of the country. In South India and North-East India buses are the preferred mode of transport for medium to long distance transport. In India a standard passenger train consists of 18 coaches, but some popular trains can have up to 24 coaches. Coaches are designed to accommodate anywhere from 18 to 72 passengers and may actually accommodate many people during the holiday seasons and on busy routes. The coaches in use are vestibules, but some of these may be dummied on some trains for operational reasons. Freight trains use a large variety of wagons. Each coach has different accommodation class in which the most popular being the sleeper class. This paper discuss about the monopoly market situation in India and how The Indian Railways taking growth as a monopoly company.

KEYWORDS- Monopoly market in india, Indian Railways – fare monopoly.

Introduction of Monopoly Market:-

It is often claimed that a free market leads to large firms gaining monopoly power and being able to restrict the output of the goods they produce to arbitrarily raise their prices . This alleged monopoly power is said to lead to greater economic inefficiency, a lower productive capability, and a lower average standard of living. Hence, it is said the government must step in to restore competition, such as through the antitrust laws. In this paper, I show that this claim is based on an invalid view of competition and monopoly. I show that the free market leads to the most intense competition that is possible in any industry and that deviating from a free market, with some form of government interference in the name of allegedly making competition more intense, actually decreases the intensity of competition that exists in the economy and thus decreases the level of economic efficiency, the productive capability, and the standard of living.

In economics, market structure describes the state of a market with respect to competition. From a managerial standpoint the practical application of market structure theory helps depict the factors that influence decision making including the number of firms competing in a market, the size of the firms, geographic market reach of a firm, demand conditions and the ease with which firms can enter or exit the industry. Market structure also drives competitive behavior and helps predict industry profitability. Ultimately market structure facilitates corporate and business level strategic decision making; particularly market entry or exit, vertical/horizontal integration, product scope, output, pricing, positioning and advertising and other forms of driving demand. In its

simplest form, a monopoly is a firm that is the sole producer of a good or service in a relevant market. Conceptually, where there is a single provider of a good or service, a firm has leverage in optimizing pricing and output quantities based on their marginal revenues and costs.

Features of Monopoly Market

- Concentration – single firm
- High barriers to entry
- No substitutes
- Imperfect availability of information

Monopoly power is often misinterpreted and misunderstood. High monopoly power does not guarantee high profitability. In some cases, a firm may have a monopoly as a natural consequence of market size and geographic reach. A common example is a car wash in a small town. If there were more than one car wash, neither firm would earn above average profits and in the long run only one firm can be supported. There are 4 primary sources of monopoly power – one or more of these sources create a barrier to entry that prevents other firms from entering and competing.

- **Economies of scale** – exist whenever long-run average costs decline as output increases
- **Economies of scope** – exist when the total cost of producing two products within the same firm is lower than when the products are produced by separate firms
- **Cost complementarities** – exist when the marginal cost of producing one output is reduced when the output of another product is increased
- **Patents and legal barriers** – government may grant an individual or a firm a monopoly right or a patent may protect a new product or service for a given period of time.

A monopolist does not have unlimited power, however. Although a monopolist is able to charge any price for the product, that does not mean the firm can sell as much as it wants to at that price – ultimately consumers still control demand. This is because of the downward sloping demand curve and the principles of price and quantity demanded.

Deadweight Loss of Monopoly

A main insight that one can conclude is that monopolies tend to produce less output and charge more for it than would a benchmark perfectly competitive industry and that this type of equilibrium leads to a deadweight loss. The diagram below illustrates the loss of both producer surplus (B) and consumer surplus (A) resulting from the monopolists profit maximizing decision to produce less output and charge a higher price than would be the case under perfect competition.

Indian Railways:-

An overview

Indian Railways operates 7,566 locomotives, 37,840 Coach vehicles and 222,147 freight wagons. There are a total of 6,853 stations; 300 yards; 2,300 goods-sheds; 700 repair shops and a total workforce of 1.54 million.

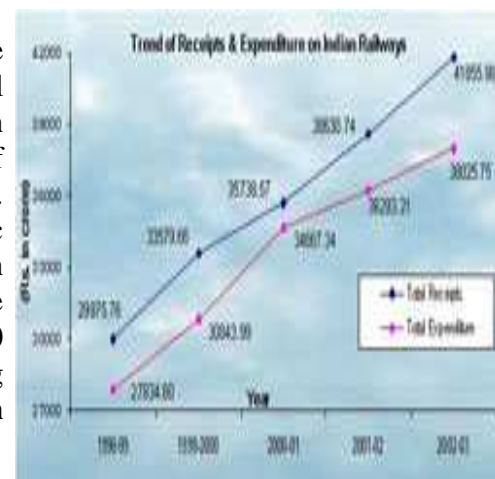
In India Kharagpur railway station is regarded as being the world's longest railway platform at 833 m (2,733 ft). Ghum station along with the Toy Train route is the second highest railway station in the world to be reached by a steam locomotive. The shortest named station is Lb and the longest is Sri Venkatanarasimharajuvariapeta. Himsagar Express between Kanyakumari and Jammu Tawi, is longest run train in terms of distance and time on Indian Railways network which covers 3,745 km (2,327 miles) in about 74 hours and 55 minutes.

The Trivandrum Rajdhani train travels non-stop between Vadodara and Kota, covering a distance of 528 km (328 miles) in about 6.5 hours. It has the longest continuous run on Indian Railways. The fastest train in India is the Bhopal Shatabdi Express having a maximum speed of 140 km/h (87 mph) on the Faridabad-Agra section. The fastest speed attained by any train is 184 km/h (114 mph) in 2000 during test runs.

The Indian railway Industry has registered 13.87 % growth in revenue to Rs 57,863.90 crore in the first nine months ended December 31, 2008. While total earnings from freight increased by 14.53% at Rs 39,085.22 crore during the period, passenger revenue earnings were up 11.81% at Rs 16,242.44 crore. The railways have enhanced freight revenue by increasing its axle loading, improving customer services and adopting an innovative pricing strategy.

Total contribution to the economy/ sales

Indian Railways Industry is one of the largest rail networks in the world with total 63,465 route kilometers at the end of 2005-06. In 2005-06 it has handled total 666.5m tones of cargo and around 5,832m passenger traffic. Indian Railways is the largest Indian public sector undertaking and largest railway system in Asia run with 12000 trains a day & 63000 route kms of track. Indian Railways has around 7000 railway stations. It takes up the task of carrying nearly 11 million passengers and 1.2 million tones of cargo per day.



Top leading Companies

Numbers of Public Sector Corporations help Indian Railways to maintain, develop and modernize its systems. These corporations are also ideal employers for a variety of job applicants. These companies are:

- Centre for Railway Information Systems (CRIS)
- Container Corporation of India
- Dedicated Freight Corridor Corporation of India

- Indian Railway Finance Corporation
- Indian Railways Catering and Tourism Corporation
- IRCON International Ltd.
- Konkan Railway Corporation
- Rail Land Development Authority
- Rail Vikas Nigam Limited
- Raitel Corporation of India
- RITES Ltd

Latest Developments

- The Darjeeling Himalayan Railway, a narrow gauge train with a steam locomotive is classified as a World Heritage Site by UNESCO. The route starts at Siliguri in the plains in West Bengal and traverses tea gardens en route to Darjeeling, a hill station at an elevation of 2,134 meters (7,000 ft).
- UNESCO has classified Nilgiri Hills in southern India, the Nilgiri Mountain Railway as a World Heritage.
- The Chatrapati Shivaji Terminus (formerly Victoria Terminus) railway station in Mumbai is another World Heritage Site operated by Indian Railways classified by UNESCO.
- In Rajasthan it is the Palace on Wheels which is a specially designed train, lugged by a steam engine, for promoting tourism in the state.
- The efforts of Maharashtra government had made a way to introduce the Deccan Odyssey along the Konkan route.
- Then there is even the Samjhauta Express a train that runs between India and Pakistan. However, in 2001 the hostilities between the two nations saw the line being closed, though it is scheduled to be opened soon.
- "Hospital-on-Wheels" Lifeline Express is a special train which provides healthcare to the rural areas.

Price discrimination

Price discrimination exists when the sales of the identical goods or services are transacted at different prices from the same provider. Indian railway enjoys some part of the consumer surplus by employing the different methods of price discrimination.

Following are the few factors that enable Indian railways to engage in price discrimination

- It employs the tactic of market segmentation, and achieves this based on various factors like age, sex, job type etc.
- The products or services of Indian railways are not resalable and thereby restricts its discount customers to become resellers and benefit from arbitrage.
- It has monopoly and hence is able to dictate the pricing terms and conditions to a greater extent, in spite of being owned and regulated by Indian government.

Types of price discrimination

1. **First degree price discrimination:** In first degree price discrimination, price varies by customer's willingness or ability to pay. This type of discrimination aims to extract from

each customer whatever he or she is willing to pay and hence theoretically complete consumer surplus is available to the producer. Indian railways do not engage in any first degree price discrimination. However, they plan to do so in near future

- a. Indian railways plan to have online auctions of the freight capacity. This will allow better utilization of freight capacity and boost revenues.

Source: <http://www4.economictimes.indiatimes.com/news/news-by-industry/transportation/railways/soon-tweet-or-access-e-mails-while-travelling-in-trains/articleshow/5783998.cms>

- 2. **Second degree price discrimination:** In second degree price discrimination, price varies according to quantity sold. Usually monopolist sets the block prices, under which prices are highest for first block of quantity bought and it is reduced for each successive purchase by the same customer. Indian railways employ second degree price discrimination as follows

- a. Indian railways charge for every kilometer which is reduced as one travels longer and longer. Thus a train ticket for the Rajdhani's 1st AC between Bangalore to Delhi (Rs 4555) is lesser than the cost of two 1st AC tickets one from Bangalore to Nagpur (Rs 3245) and Nagpur to Delhi (Rs 2845). The cost differences are negligible if any for providing the same seat on the same train on same day. The price differences are much more than what can be explained by cost, hence this is a case of second degree price discrimination.

	Bangalore to Delhi	Bangalore to Nagpur	Nagpur to Delhi
Rajdhani 1 st AC fares	4555	3245	2845

* All prices in Indian rupees for 1st February 2011 as noted on 16th December 2010 from www.irctc.co.in

- b. Indian railway provides special passes called 'Indrail' for foreign tourists and NRIs holding valid passport. They can obtain reservations against these 'Indrail' passes from any reservation office of Indian Railways. Prices of a pass reduce as the consumer increase the number of days of validity of the pass, which simply means customer buys more subsequent days of validity at reduced price.

Sample fares for 1st AC for different number of days are as follows

	½ day	1 day	2 day	4 day	7 day	15 day	21 day	30 day
Adult	26	43	70	110	135	185	198	248
Price/day	52	43	35	27.5	19.28	12.33	9.42	8.27

* All prices for 1ST AC in US dollars
 from http://www.indianrail.gov.in/international_Tourist.html

3. Third degree price discrimination: In third degree of price discrimination, price usually varies by attributes such as location of purchase, customer segment etc. Indian railways heavily employs third degree of price discrimination in following ways

- a. Indian railways segment its customers by age, thereby segmenting them in different groups. Children older than 5 years however less than 12 years are entitled for a discount of 50% on the purchase price. Citizens equals to or older than 12 years and less than 60 years have to buy the ticket at purchase price. Male citizens equal to or older than 60 years are entitled for a discount of 30% on the purchase price (concession code – ‘SRCTZN’). Female citizens equal to or older than 60 years are entitled for a discount of 50% on the purchase price (concession code – ‘SRCTNW’). It is to be noted that all these discounts kicks in when the travel distance is more than minimum chargeable distance for the given class.

Train	Child (5-12 years)	Citizen (12 - 60 years)	Senior Citizen (M, F)
Sampark Kranti	1873	3560	2548, 1873
Rajdhani	2330	4555	3220, 2330
Karnataka Express	1806	3427	2455, 1806

* All prices for 1ST AC from Bangalore to Delhi obtained from <http://www.indianrail.gov.in>

- b. Indian railway discounts the price of its tickets for different type of passengers. For example, they offer different concessions to students, patients, sports person, handicapped person, teachers, unemployed youth etc. These discounts make the rail travel attractive to the targeted consumers, who might choose other mode of transport.

Discount Code	Description	Discount Percent
SPORTN	Sports National Level	50%
STDNT	Student Concession	50%
TEACHR	Teacher	25%
TLSMIU	Thalassemia Patient	50%
KIDNEU	Kidney Patients	50%
YTH2SR	Unemployed Youth for Interview	100%

* All discount codes applicable for 1ST AC from Bangalore to Delhi obtained from <http://www.indianrail.gov.in>

- c. Indian railway additionally charges a convenience charge ranging from Rs 10 to Rs 20 for all the tickets booked online, thereby discriminating on the location of purchase of ticket. This charge commands premium from the customers who are willing to pay a little extra in exchange of the convenience from booking from home or internet café avoiding queues at railway reservation centers.
- d. Indian railway provides circular journey tickets specially targeted for customer segment intending for sightseeing or pilgrimage trip. Circular Journey Tickets provides consumer the benefit of telescopic rates, which are considerably lower than regular point to point fare. They are issued for all journeys which begin and complete at the same station and can be purchased for all classes of travel

For instance, let's see the circular journey fare

Route	Circular Journey Fare (1 st AC)
New Delhi - Kanpur Central – Varanasi – Puri – Howrah – Patna – Barauni – Muzaffarpur – Raxual – New Delhi (4410 Kms)	2458

Source: http://www.indianrail.gov.in/circular_Journey_Fares.html

Individual leg fare for the same route

Route	Train Name	Fare (3 rd AC)
New Delhi – Kanpur Central	Magadh Mail	564
Kanpur Central – Varanasi	Shiv Ganga Exp	861
Varanasi – Puri	Neelachal Exp	988
Puri – Howrah	Puri Hwh Exp	631
Howrah – Patna	Poorva Exp	705
Patna – Barauni	Mahananda Exp	235
Barauni – Muzaffarpur	Vaishali Exp	274
Muzaffarpur – Raxual	Mithila Exp	387
Raxual – New Delhi	Satyagraha Exp	897
Total fare		5542

Source: <https://www.irctc.co.in>

- e. Indian railway introduced 6% freight concession for traffic booked from other states for stations in North Eastern states in the budget of 2008-2009. In this case discrimination is based on the destination.
4. **Peak-load pricing:** Practice of charging higher prices during peak periods when capacity constraints cause marginal costs to be high. Indian railway employs this type of discrimination by differential discounts in peak and off-peak seasons
- a. Indian railway launched ‘Empty Flow Direction Freight Discount Scheme’. To ensure better utilization of empty wagons in the return direction, Railways introduced a freight

discount of 30 percent during lean season and 20 percent during peak season on incremental loading in the empty flow direction

Source: <http://www.indiaonestop.com/railway/dynamicpricingpolicy.htm>

- b. Indian railway launched ‘Two Leg Freight Discount Scheme’. If trainload traffic is offered in covered wagons for both up and down directions, then, a discount of 20 percent in lean season and 15 percent in peak season would be given for traffic in both directions

Source: <http://www.indiaonestop.com/railway/dynamicpricingpolicy.htm>

- 5. **Inter-temporal price discrimination:** Practice of separating consumers with different demand functions into different groups by charging different prices at different points in time. Indian railway employs this type of discrimination through their Tatkal Seva.

- a. Indian railway additionally levies Tatkal (emergency) charges on passengers for booking on short notice. Tatkal charges have been fixed as a percentage of fare at the rate of 10% of basic fare for second class and 30% of basic fare for all other classes subject to minimum and maximum as given in the table below

Class of Travel	Minimum Charges	Tatkal	Maximum Charges	Tatkal
Second (sitting)	10.00		15.00	
Sleeper	75.00		150.00	
AC Chair Car	75.00		150.00	
AC 3 Tier	200.00		300.00	
AC 2 Tier	200.00		300.00	

* Information is obtained

from http://www.indianrail.gov.in/tatkal_Scheme.html

What’s not price discrimination

If an individual or an enterprise engages in differential pricing for products with similar/different attributes, then it cannot be termed as price discrimination. This is because the difference in attributes can possibly be coming from different costs of production.

Indian railways charge different prices for saleable units that belong to different classes on a train or that belong to same class on different train operating on same route. For instance, a passenger ticket from Bangalore to Delhi has different prices. However this will not classify for price discrimination as these products though similar are not identical.

Similarity is that they provide right to a passenger to travel from Bangalore to Delhi on same date, but they differ on attributes like time of travel, comfort and luxury etc.

Train	1 st AC	2 nd AC	3 rd AC	Sleeper
Sampark Kranti	3560	2098	1528	563
Rajdhani	4555	2725	2085	Not Available
Karnataka Express	3427	2021	1473	544

* All prices in Indian rupees for 1st February 2011 as noted on 16th December 2010 from www.irctc.co.in

Conclusion

Indian railway engages in policy of price discrimination in various ways. They have heavily used third degree of price discrimination, exploited second degree of price discrimination also and is yet to explore first degree of price discrimination. They have also successfully engaged in peak load and inter temporal price discrimination. Data shows that they have fared well in recent years and are still provides the cheapest mode for long distance of travel for common man between most of the destinations within India. The political class was against rising of passenger fares, therefore there was no alternative but to raise freight fares, which became so high that it lost in competition to the road traffic. The above are a few examples, as how an organization, which if run on commercial lines could have minted money became financially bankrupt, requiring a lot of assistance from the central govt. Safety was also affected, as the railways were not able to purchase critical spare parts for want of funds. Because of lack of competition, serious efforts are not made to bring in financially viable system. The import of technology depends on the views of the railway board members, who can be prejudiced, for one reason or the other. One such example is the freight corridor, on the Indian Railways, which was a very profitable item, especially on Delhi – Mumbai route, but has lost its profitability because some of the people at the top, have introduced specifications superior to high speed trains, forgetting that the corridor is meant to run goods trains. In case there is fair competition in the rail transportation system, the staff and the management would wake up to the problems more seriously, and the efficiency would improve. The private sector has been asking for slots on the railway track to run their own trains, but so far the progress has been negligible. Some serious thought is required to introduce fair competition in the system.

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