

# ECONOMICS & PROJECT



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# INDEX

1. Certificate
2. Acknowledgement
3. Monopoly
  - 3.1 Introduction
  - 3.2 Features
  - 3.3 How does monopoly market structure arise
  - 3.4 Demand curve for monopoly firm
  - 3.5 A monopolist is a price maker How?
4. Monopoly : Indian railway
  - 4.1 Railway operation
  - 4.2 Freight operation
  - 4.3 An outline of cost structure in different modes of transport
  - 4.4 Resource cost
  - 4.5 Pricing in Rail transport
  - 4.6 Charges for wagon load and train load traffic
  - 4.7 Recent development
5. conclusion
6. learning experience
7. Bibliography

# CERTIFICATE

This is to certify that Miss Hiral Mehta is a student of class XII COMMERCE has successfully completed the research on the project title Monopoly : Indian Railways under the guidance and supervision of Mr. Santlal Kumar, PGT Economics, during session 2018-19 in partial fulfillment of Economics project work conducted by Central Board of Secondary Education (CBSE).

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# Acknowledgement

It gives me immense pleasure to present the project on Economics, Monopoly: Indian Railway.

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I would also like to express my gratitude towards my parents for their kind co-operation and encouragement which helped me in the completion of this project.

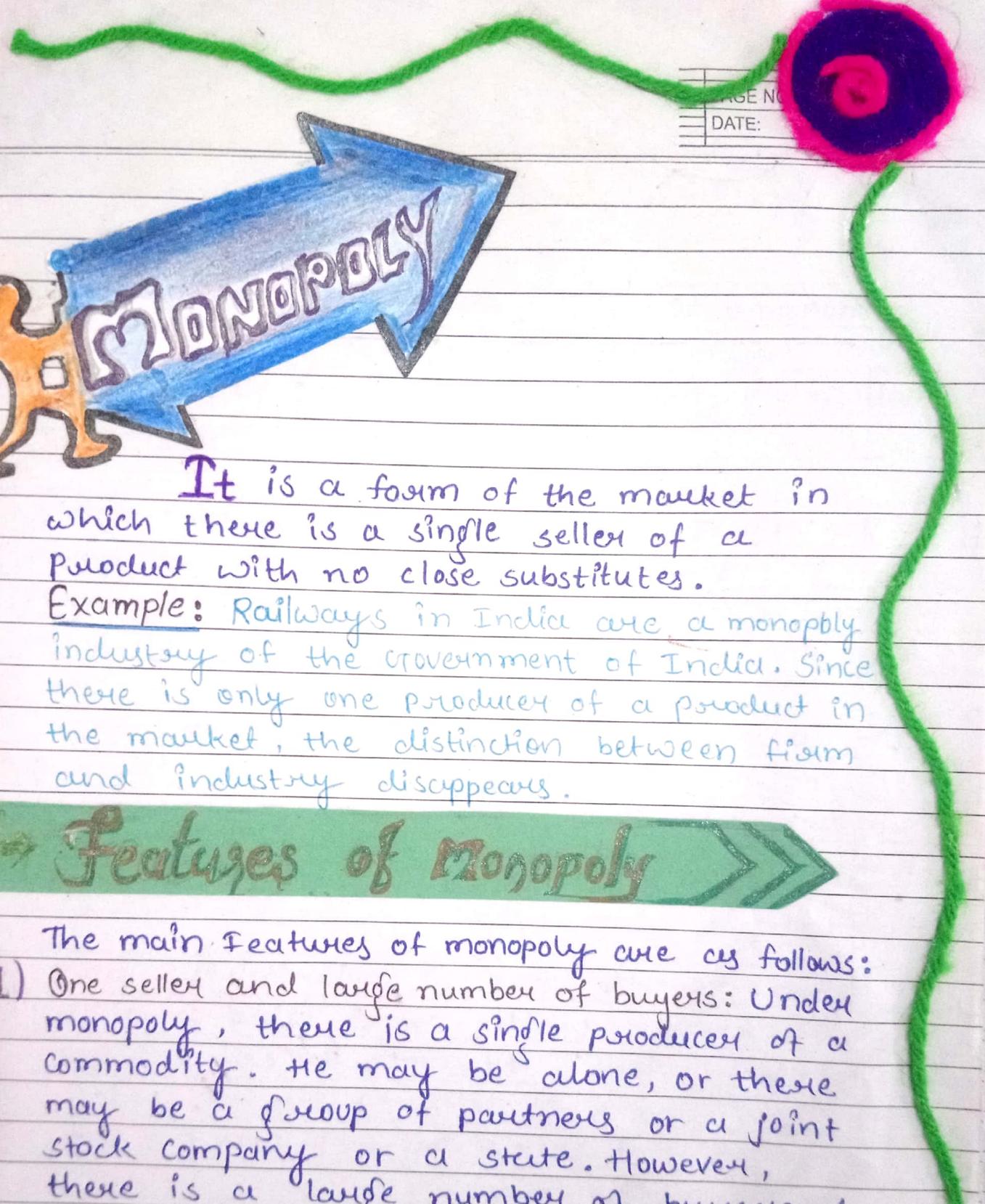
I am also thankful to the C.B.S.E. for giving me such an amazing opportunity for making this project, and giving a suitable instructions and guidelines for the project.

last but not the least, I thank my friends who shared necessary information and useful web links for preparing my project.

Thanks again to all.



**MONOPOLY**  
**INDIAN**  
**RAILWAYS**



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# MONOPOLY

It is a form of the market in which there is a single seller of a product with no close substitutes.

Example: Railways in India are a monopoly industry of the government of India. Since there is only one producer of a product in the market, the distinction between firm and industry disappears.

## Features of Monopoly

The main features of monopoly are as follows:

- 1) One seller and large number of buyers: Under monopoly, there is a single producer of a commodity. He may be alone, or there may be a group of partners or a joint stock company or a state. However, there is a large number of buyers of the product.
- 2) Restrictions on the entry of new firms: Under monopoly, there are some restrictions on the entry of new firms into the monopoly industry. Generally, there are patent

rights granted to monopoly firm. Or, a monopoly firm has exclusive control over a technique (of production) or over the raw material needed for production.

3) No close substitutes: A monopoly firm produces a commodity that has no close substitutes.

Example: There is no close substitute of railways as a 'bulk carrier'.

4) Full Control Over Price: Being a single seller of the product, a monopolist has full control over its price. A monopolist, thus, is a price maker. He can fix whatever price he wishes to fix for his product.

5) Price discrimination: A monopolist may charge different price from different buyers. It is called price discrimination. "Price discrimination refers to the practise of charging different prices from different buyers for the same good".

# How does monopoly market

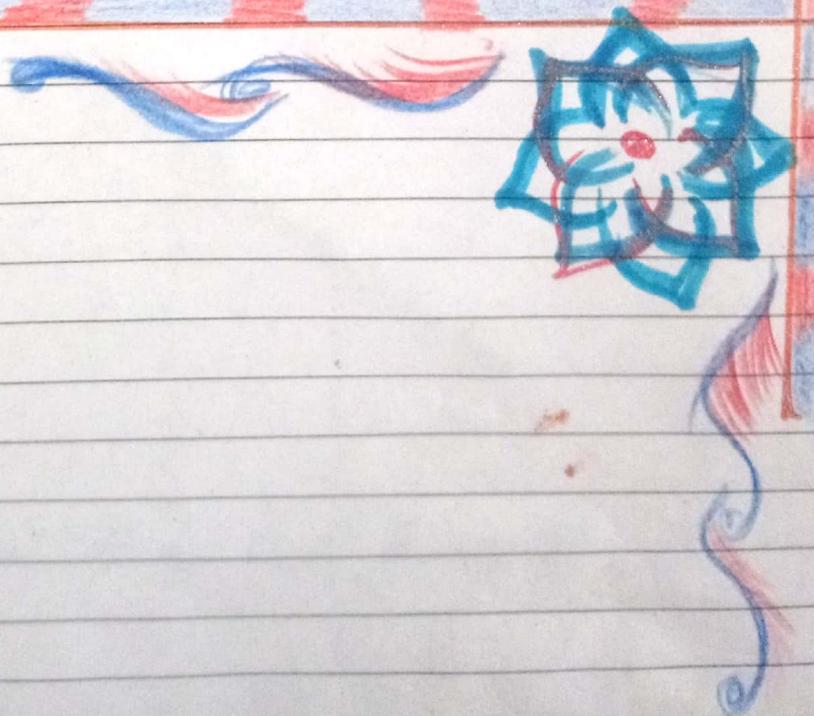
## Structure arise

Monopoly market structure may arise in any of the following ways:

- 1) Government Licensing / Government Control: The government may grant license for the production of a particular commodity only to one producer. Accordingly, monopoly comes into existence. Also, the government may decide to control the production of ~~certain~~ goods (or services) exclusively through its departmental undertakings, like Railways in India.
- 2) Patent Rights: New products may secure patent rights. It amounts to monopoly rights regarding the shape, design or other characteristic of the product. Patent rights may be secured on new technology. It prohibits the use of patented technology by others. Accordingly, monopoly market structure emerges.

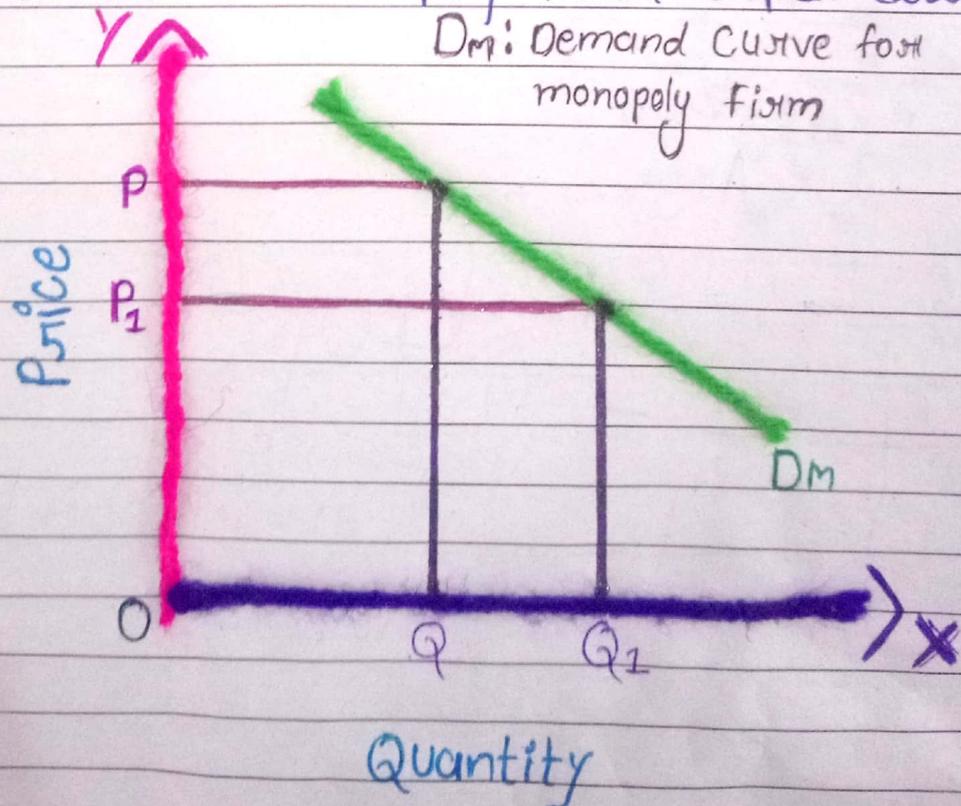
3) Cartels : It refers to formation of a group by the competing firms in the market. Of course, this is possible when the number of firms is small. The group as a whole secures monopoly control of the market.

4) Natural Occurrence: Monopoly may emerge as a gift of nature. The only spring of water in an island, for example, may be under the control of one person.

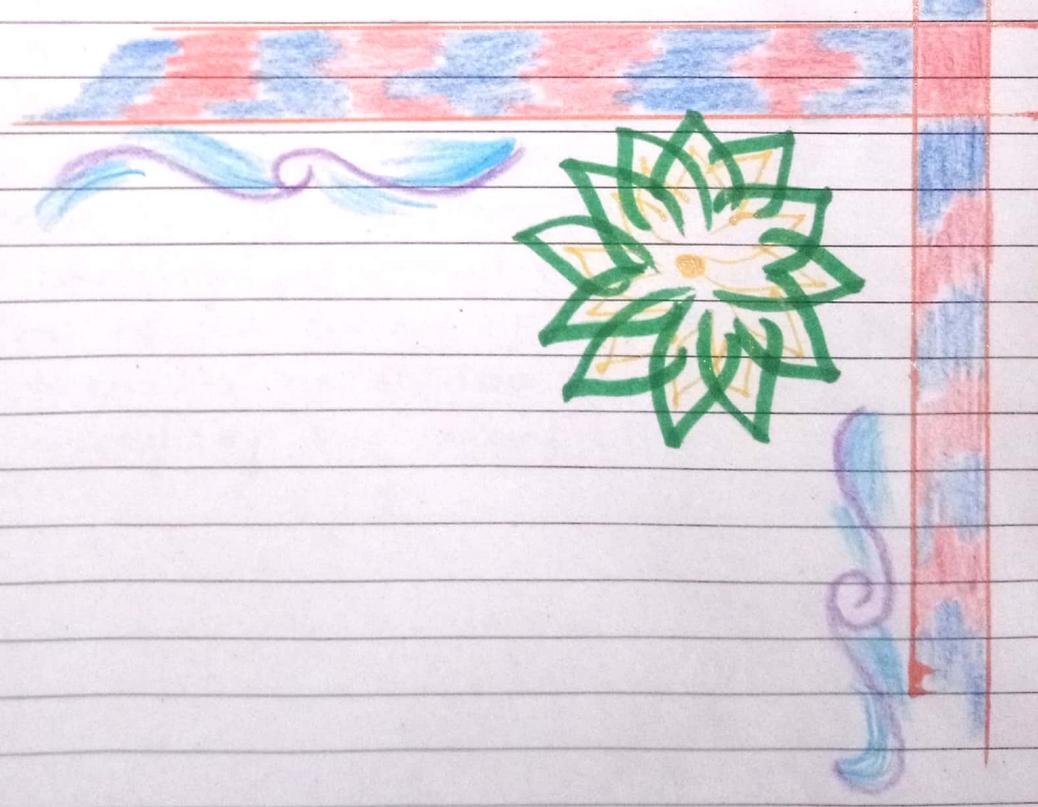


## Demand curve for a Monopoly Firm

Full control over price under monopoly does not mean that the monopolist can sell any amount of the commodity at any price. Once the monopolist fixes price of the commodity, quantity demanded will depend upon the buyers. Buyers will demand more if price is lowered, and demand less if price is raised. So that, there is an inverse relationship between price and quantity sold by the monopoly firm. Accordingly, demand curve for a monopoly firm slopes downward.



$D_M$  is the demand curve for the monopoly firm. It shows inverse relationship between price and quantity:  $OQ$  quantity is sold when price is  $OP$ . When the price is reduced from  $OP$  to  $OP_1$ , quantity sold increases from  $OQ$  to  $OQ_1$ .



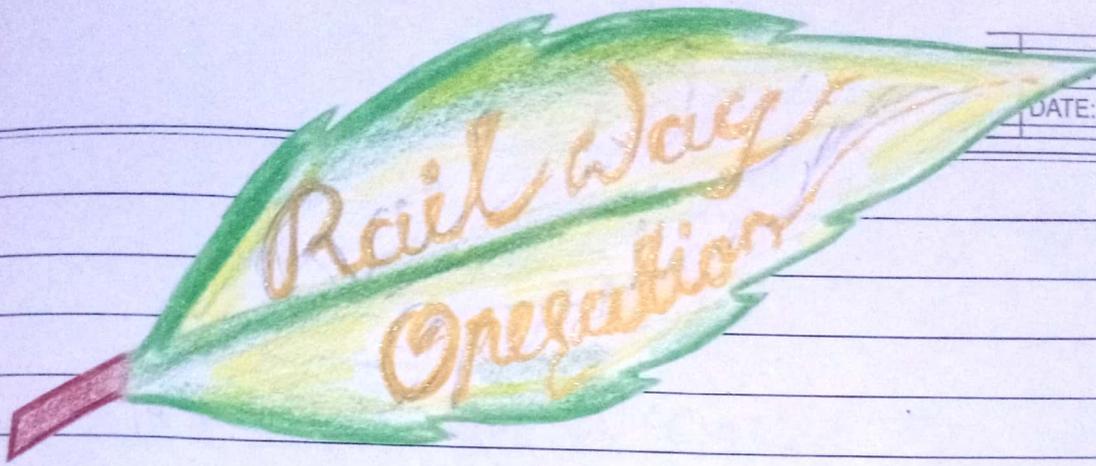
# A Monopolist is a Price maker. **How**

A monopolist is a price maker. It means that he can fix whatever price he wishes to fix for his product. It is because of the following reasons:

- (i) A monopolist is a single seller of the product in the market. There is no competition.
- (ii) There are no close substitutes of the monopoly products. So that, there is no fear that the buyers would shift from one product to the other to any significant extent.
- (iii) There are legal, technical or natural barriers to the entry of new firms. So that, there is no challenge to the price fixed by the monopolist.

# Railway Map





The principal mode of inland transport in India is Railways and Road transportation. Other modes of transport play comparatively a minor role of present. Industries are dependant on Indian Railways for sending finished goods. In this study importance is mainly given to show how Railways as a "Service providers" may influences the cost structure of a product. Reports show that materials carried by Railways are mainly Industrial products like Coal, Cement, Iron ore, mineral oils, limestone etc. The table 1 shows the percentage of bulk commodities carried by Railways.

**TABLE :- 1**

**Ratio Bulk Goods Carried By Indian Railways**

Year	Total Tonnes	Bulk Commodities (%)	Other Goods (%)
1950-51	73.20	58.2	41.8
60-61	119.80	72.8	27.2
70-71	167.90	79.8	20.2
80-81	195.93	85.6	14.4
82-83	228.79	87.9	12.1
85-86	258.55	90.3	9.7
87-88	290.21	94.0	6.0

The trend indicates that Railways increasingly concentrated on carrying bulk commodities rather than other commodities. Otherways it indicates the trend that industries are loading bulk commodities preferably to Railways.

# FREIGHT OPERATION

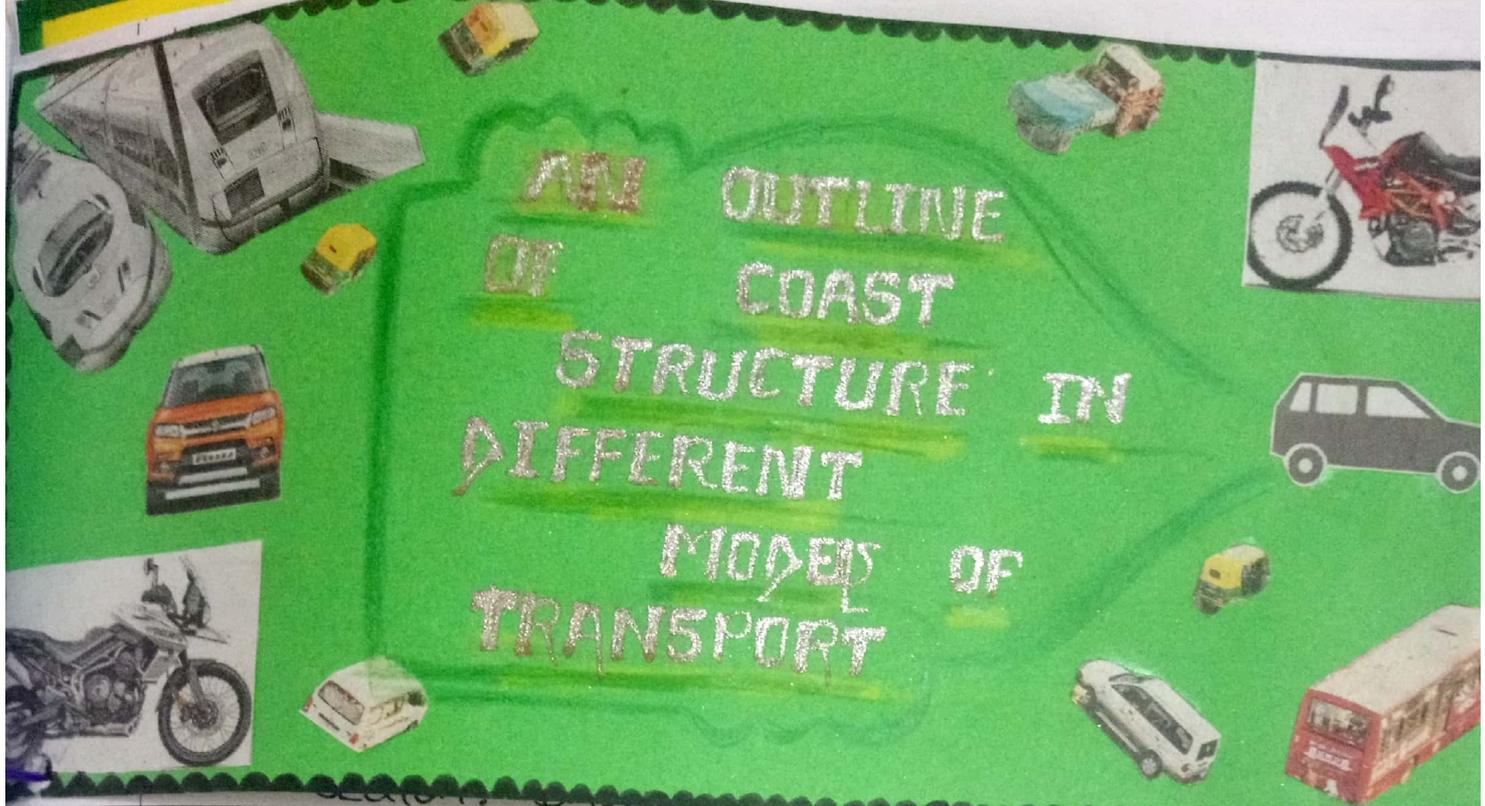
Indian Railways loaded 377.47 million tonnes in 1993-94 of which 358.72 million tonnes was revenue earning and 18.75 million tonnes non-revenue freight generating total Net tonne kilometers (NTKMs) of 257.13 billion in 1993-94 as against 258.13 billion in 1992-93. In 2000-01 total revenue earning traffic was 473.5 million tonnes.

It will be seen from the following table that commodities that are traversed through the Railways are mainly Industrial products. For instance coal as a major raw material of many Industries is being traversed through Indian Railways. The important point to note in this regard is that Railways as a "Service provider" is earning revenue by transshipment. In simplest terms revenue of Railways is the cost to the industries. In this way railways

is one of the determining factors in cost structure of industries using any of the revenue earning commodities like coal, iron ore, cement or fertilisers.

**TABLE:- 2**  
Commoditywise Tonnage of Revenue Traffic [million tonnes]

Commodity	Tonne Load		
	1992-93	1993-94	2000-01
Coal	157.73	167.00	223.7
RM to steel Plants	32.97	33.40	38.6
Pig Iron and finished steel from steel plant	12.03	12.08	11.9
Iron ore for export	10.47	10.46	14.6
Cement	30.38	32.54	42.9
Food grains	27.30	26.68	26.7
Fertilisers	18.94	19.50	27.0
POL (Mineral oil)	26.41	29.95	36.2
Other goods	33.82	31.11	52.0
Total Revenue earning traffic	350.05	358.72	473.5



# AN OUTLINE OF COST STRUCTURE IN DIFFERENT MODES OF TRANSPORT

national level between various modes of transport is also determined based on the Resource cost. Now the meaning of the term Resources cost may be analysed. Resources cost should be distinguished from financial cost which includes total expenditure actually incurred by the operation. Resources cost of a services is the cost to the economy or society or actually resources utilised for production. The cost of pollution, noise, risk of public life are not included in the finance cost.

## RESOURCE COST

Resource consists the three components namely those to operator, user and the community.



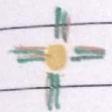
**Cost to the operator:** This includes repairs and maintenance, operating cost of rolling stock as well as overhead expenses, replacement and capital cost for generating additional capacity, compensation of damages, interest on borrowed capital etc.

For rail transport, cost of maintenance of track is borne by the operator which is not so for roads because these are constructed and maintained by the govt. Similarly, for coastal shipping, loading and unloading facilities and other services are provided at ports and wharfs by the govt. The cost to the operator forms the basis for decision and pricing policy and also competitiveness. It also forms part of the overall Resources cost to the nation.



**Cost to the users:** These are borne exclusively by users, namely the passengers, travelers, consignees or consignees. For freight transport 'users cost' consists of packing, cartage, handling, transport losses, inventory cost and warehouse cost and

these are borne exclusively by users which influence choice of mode of transport.



Social and community cost: This includes cost element borne by the society as a whole and not individually by the operators or the users. Infrastructural costs are borne by the government, such as cost of provision and maintenance of public roads, ports and wharfs form part of this social cost.

These are also external elements such as cost of accident air pollution and congestion. In a metro city more and more increase in the number of road vehicles leads to atmospheric pollution and without adequate expansion of the road network for which there is an obvious limitation, congestion and time losses occur which again add to the resources cost of the particular mode of transport.

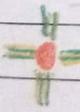


Fixed and variable cost: A rough estimate of the proportion of the fixed and variable cost of different modes of

transport as per studies made U.S.A. is as under:

### TABLE Fixed & Variable Cost of different modes of Transport

Carrier	% Variable	% Fixed
Railways	25 to 50	75 to 50
motor freight carriers	80 to 90	20 to 10
pipelines	30 to 40	70 to 60
Airlines	10 to 50	90 to 50

 Common Costs: The common or joint costs arise due to non-homogeneity of product mix. For instance in case of Railway transport, general repairs and maintenance of permanent way (Rail track) is common to both goods and passenger services. Similar is the case for wages and allowances of train passing staff, commercial staff, maintenance of station building etc. Distribution of such joint cost over output is a difficult costing

Problem. The principles of distribution of expenses between coaching and goods are done on the basis of ratios developed in accordance with related performance factors. For instance, repairs and maintenances of ~~per~~ permanent way may be on evaluated track km., expenses on fuel may be on G.T.KM. (Gross tonne km.) etc.



**Inventory Cost:** The cost is mainly incurred by the user and represents interest charges on the capital value of the goods, locked up during the period of transit and is generally calculated at the market rate of interest for the number of days involved in the transit of consignment. The longer the period of transit the more would be the inventory cost and the customer is put into financial losses. Inventory cost particularly comes into the economies of transporting high value cargo which are used as raw material. This is one of the reasons why shippers prefer the fast moving

road transport even though it may be costlier in terms of tariff as compared to railways when they transport material like non-ferrous etc.

The cost structure of rail transport is frequently contrasted with that of road on the ground that, with rail transport a considerable proportion of total cost is fixed while with road transport only a small proportion falls into the fixed category. From this comparison it can be deduced that road transport can carry increased traffic with only a proportionate or more than proportionate increase in total cost, while with rail transport the proportion of fixed cost is such that increased traffic can be carried with less than proportionate increase in total cost.

# Pricing in Rail Transport

"Railways are an industry - a national industry in our country and the product manufactured is transportation."

Railways carry varieties of goods and hence it is very difficult to make specific freight chart of the commodities. The common railway classification of goods are "Train Load" and "Wagon Load". The economic basis of all railway classification rests on the well known dual principles of the "Value of service" and "the cost of service" and in applying these principles, transportation characteristics of the commodity are borne in mind.

M. Colson defines the value of the service of transport as the augmentation of value which transport gives to the article i.e. the difference between the value of an object at the point of despatch and its value at the point of arrival. This augmentation in value is in the whole or in part, due to its transport from the place of origin to

the place of use. The price paid for such transport must not exceed the amount of the augmentation in value. If there is only one source of supply the consumer will bear the whole of the cost of carriage, for whatever rate is charged for transport must be added to the cost of production in fixing the minimum selling price of the article and accordingly the consumer can be demanded his own price. But it is almost universally the case that supplies can be drawn from many sources and the selling price is affected by the lowest price at which goods of the same quantity can be put on the market from whatever source they come, and among which the trader will pay for transport from a particular source of supply to the place of use is limited by the difference between the cost of production of the articles at the point of despatch and the market price at the point of arrival, fixed with reference to the lowest price at which the article can be produced from any source. If the cost of carriage from that particular source is greater than the

difference no traffic will pass from that source, it less the difference in value will form an essential element in determining the amount which may be charged for transport from that source.

Briefly there are two principles which decides the fixation of railway rates:-

1.

Such charges must in no case be less than the cost to the railways management of rendering the required services.

2.

They must in no case be more than the ~~value~~ value of the service to the traders.

Following are some of the Features that may have to be taken into consideration in determining the cost of service:-

1. Loadability

2.

Susceptibility of the commodity to damage or fragility.

3.

special handling required for special of product.

4.

whether the commodity generally moves in

"wagon loads" or smalls.

5.

Quality and regularity of movement.

6.

Empty haulage involved in providing transport for traffic.

7.

The extent to which the commodity may cause damage to other consignments loaded together.

Similarly, in determining the value of services, some of the factors which seem to be relevant are:-

(i)

The value of the commodity at the destinations as compared with the value at the originating station.

(ii)

Competition from other modes of transport.

(iii)

Classification of comparable and related commodities.

## Charges for Wagon Load and Train Traffic

Commodities move both in wagon loads or train loads. The cost of moving a commodity in wagon load is greater than the cost of moving the same commodity in train loads. Wagon loads necessarily moves more slowly than train loads booked to specific destination. Fully loaded wagons have to be marshalled at terminating points and at certain marshalling yards and en route.

Among the general rules accompanying the general classification of goods on Indian Railways is the differential rules which requires explanation. The rules reads as follows:

- A) **Weight:** Except where otherwise specially provided, when goods of the same description are booked from the same station are charged for different rates

according to weight, the charge for lesser weight shall not exceed the charge for greater weight.

**B) Distance:** Provided it be specially notified that the differential rules as to the same direction are charged at different rates according to distance the charge for lesser distance shall not exceed the charge for greater distance.



# Recent Development



## Conclusion

Finally we conclude that there is monopoly control over Indian Railways.

Railway is a source which can help us to travel large distance with least payment.

All most every part of India has reached railways which makes transport easier. Railways increasingly concentrated on carrying bulk commodities which is also beneficial to increasing industries.

# Learning Experience

A project from my point of view can be purposeful learning activity includes practical problems and some theory and required out in a real life manner to achieve specific goal.

In other words the project work refers to a successful completion of a study.

This project gives me detailed information on the topic of monopoly Indian Railways. While preparing this project I found many advantages of railways to our increasing population.

This project gave a chance to me to learn more about the contribution of railways in transportation. This project also gave me a knowledge about limitations of railways like - delay of trains and not providing services from door to door.

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