



**Report  
of  
Inter-Ministerial Group  
on  
Freight Equalisation of Commodities**

**MINISTRY OF INDIA  
FREIGHT COMMISSION**

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of  
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on  
Freight Equalisation of Commodities**

**GOVERNMENT OF INDIA  
PLANNING COMMISSION  
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## INTRODUCTION

In response to representations received from some State Governments, particularly from the Governments of West Bengal and Tamil Nadu, regarding disadvantages suffered by textile mills in these states on account of high freights paid on raw cotton, the Ministry of Commerce constituted a Committee in 1973 to examine the proposals for introduction of a Freight Equalisation Scheme for raw cotton. In its report, the Committee indicated that after considering the various implications, it found it difficult to recommend any freight equalisation scheme for raw cotton. It, however, suggested that when the Planning Commission undertook review of the policy of equalising the prices of important commodities throughout the country in light of the observations made in the Draft Fifth Plan Document, it might also study the similar approach for raw materials for textile industry as a whole covering items such as cotton, yarn and other inputs.

The Planning Commission, accordingly, set up, in June, 1975 an inter-ministerial Group under the Chairmanship of Shri S.S. Marathe, Chairman, Bureau of Industrial Costs and Prices, with the following terms of reference :—

- (i) To indicate the existing Freight equalisation policy for steel, cement, fertilisers, etc.
- (ii) To suggest the broad principles to be taken into account in the adoption of the freight equalisation policy, and
- (iii) In this background to study the scope and feasibility of adoption of freight equalisation policy for raw cotton to encourage the dispersal and balanced development of the cotton textile industry.

The constitution of the Group is at Annexure I.

The Group met on 28<sup>th</sup> June, 1975 to consider the spade work to be done for examination of the problem. It again met on 2nd February, 1976 when the present report was finalised. The report is divided into four parts. Part I discusses the various issues arising from freight equalisation policy and suggests broad principles to be taken into account

in the adoption of freight equalisation policy. The present freight equalisation schemes and their analysis is contained in Part II. The proposals for freight equalisation for raw cotton have been examined in Part III of the report. Some of the members of the Group have drawn attention to certain special problems relating to some areas and essential consumer goods which do not directly concern freight equalisation, but essentially relate to high incidence of freight for certain geographical areas. These have been discussed in Part IV of the report.

## PART I

### CONSIDERATION FOR FREIGHT EQUALISATION

As an industrial process generally leads to reduction in weight, the industry as a natural phenomenon emerges at the sources of raw material. However, there are tendencies to move the location of an industry away from the sources of raw material when (i) the output is such that it has to be produced only where it is required to be consumed, like construction and (ii) reduction in cost of producing the output elsewhere than at the source of main input, as a result of various advantages at the new location arising from lower prices of other inputs, which exceed the net addition of transportation cost (arising from moving the input for a longer distance and saving on shorter transportation of the output).

2. The cost of advantages referred to above could be due to a number of factors. Firstly, if the 'Weight loosing' in the manufacturing process is negligible, it might become advantageous to produce the output near the regions in which demand originates. Secondly, a region might be offering localisation economies achieved through the process of historical development of industries in that region, like transmission of skills learnt on the job, access to the pool of skilled labour, ease of communication of commercial impulses, existence of common service/facility centres, common facilities, bulk buying/selling and the like. The size of these agglomeration economies or external economies depends on the size of the cluster. The same is true for industrial clusters that might have developed due to certain other factors. Thus, the regions which, due to historical factors or the entrepreneurship of the local Government/business community, or even due to inter-linkage technological factors, have developed themselves as industrial centres, offer considerable cost economies to attract further investments. Thirdly, relatively more developed infra-structural facilities in certain regions would offer reduction in the cost of production. Fourthly, the local entrepreneurship also plays an important part in taking investments decisions. Fifthly, the freight structure itself plays a part in motivating locational decisions. For example, a high rail tariff rate for the finished product compared to

the raw material would tend to move away the location of industry from the source of raw material to the demand centres. Lastly, industrial licensing policies and needs for balanced regional development play an important part in locational patterns.

The factors enumerated in this paragraph are only the reasons which can explain the historical processes determining location. Not all these factors or policies lead necessarily to optimal locations.

3. A policy frame for freight equalisation need to be considered in the context of industrial development and industrial planning at the regional level in the Indian economy. Two points may be noted at the beginning. Industrial development is not the only instrument and perhaps not even the most important instrument for regional development in the Indian context. Thus for employment generation the question of viable agro-based planning may be considered as an important one. This is not to deny, however, that industry has some significance. The industrial sector has played an important role in the modernisation of the national economy and even in the period 1960-61 to 1973-74 its rate of growth in output, in the organised sector as shown by the CSO's index of industrial production is 5.5 per cent compound per annum, which makes it a leading sector. Organised industrial production is, however, at considerable investment cost and this indicates that considerations of social efficiency of the national economy should be primary in terms of policy requirements. The second point to note is that freight equalisation is itself only one out of many policy measures which may be considered for the purpose of fostering industrialisation along desirable lines. Public sector investment, industrial, licensing policies, priorities in term lending institutions, provision of infrastructure, research support policies and fiscal policies may be thought of as important instruments which can be used to guide both the rate as well as the pattern of industrialisation. Many of these policy instruments can be operated differentially across states and freight equalisation is only an additional instrument in this context. The question for the policy maker is to choose relatively efficient instruments, to move along the desired directions.

4. The framework of policy regarding the regional aspects of industrialisation can be indicated in terms of general principles such as the pursuit of objectives of the realisation of dynamic social efficiency principles. However, such general statements by themselves are not of great help in the evaluation of suitable measures for practical decision

making. Thus it is perhaps important to note the special features within which industrialisation has taken place in the inter-regional context in India so that the policy framework can be outlined in the historically determined context. For this purpose we propose to give a brief outline of the inherited nature of the industrial economy before Independence followed by a review of the developments that have taken place subsequently. Finally, we propose to demarcate the features of a policy framework within which the question of freight equalisation can be suitably considered.

### Industrial Economy on the Eve of Independence

5. Gadgil<sup>1</sup>, Buchanan<sup>2</sup>, and relying on them Malenbaum<sup>3</sup> and Daniel and Alice Thorner<sup>4</sup> have outlined the salient features of the Indian Economy to forces of international trade, the simultaneous opening of internal transport arteries, expansion of primary production and the subsequent development of raw material based industries such as cotton textiles and plantations. These descriptive studies pinpoint the narrow locational base of each industry primarily around port towns and the raw material supply centres<sup>5</sup>. Recently Bhagwati and Padma Desai sum up the historical record of industrialisation by the statement that :

“Indeed it is dubious whether despite the undoubted growth and diversification (however limited) of enterprise and industrial investment through the nineteenth century and the indisputable prosperity of burgeoning centres such as Bombay and Calcutta the overall impact on the Indian Economy was not anything more than perfunctory.”

The industrial expansion due to the impact of the World Wars and tariff protection, particularly on industries like cotton textiles, iron

<sup>1</sup> Gadgil, DR, *The Industrial Evolution of India* 4th Ed. Calcutta; Oxford University Press 1954.

<sup>2</sup> Buchanan, DH, *The Development of Capitalistic Enterprises in India*, reprint, London; Frank Cass, 1966.

<sup>3</sup> Malenbaum, W, *Prospects for Indian Development*, London : George Allin and Unwin, 1962

<sup>4</sup> Thorner, D and Thorner A, *Land and Labour in India*, Bombay : Asia Publishing House, 1967, Ch. 5-7.

<sup>5</sup> *Op. cit.*, Gadgil, Chs. 2 and 8



and steel, cement, paper and sugar is well-known. However, the following quote from the first CMI adequately sums up the situation before Independence :

“the three major provinces (West Bengal, Madras and Bombay) account for 68% of the total factory strength. Rice mills accounted for 31% of the factories, general engineering for 21% and vegetable oil mills for 11%. These three industries in which the factories are generally small, accounted for 63% of the factories in the 29 industries.”<sup>1</sup>

General engineering factories accounted for 7.25% of the aggregate industrial employment in 1946 while the proportion was 3.19% in 1929<sup>2</sup>. Many of the general engineering ‘factories’ were in fact repair shops. Malenbaum comments that :

“After allowing for the expansion of service facilities and in coal output needed for the railway system, there was little evidence of industrial diversification. While each large textile factory was soon surrounded by a large number of machine repair shops these remained small scale makeshift enterprises and again nor did the advent of steel give rise to a modern machine building industry<sup>3</sup>.

### Regional Aspects of Industrialisation since Independence

6. Organised industries have been given a special focus in the planning process in India. This has meant that they have been the leading sector of the growth process. In the decade of the 60s the organised industrial sector grew to a compound rate of 9% per annum in the period of the Third Plan, 1.5% per annum in the Annual Plan period and 4.5% per annum in the Fourth Plan period, giving a compound annual growth rate of 5.5% per annum in the period 1960 to 1973. The Fifth Plan proposes to accelerate this development. Within this overall rate of growth, many regions of the economy, which had not inherited significant industrial systems in the colonial economy have by now established fairly diversified industrial systems. At the end of Third Plan it has been estimated

<sup>1</sup> India, Government, *First Census of Manufactures, India, 1946*, Vol. I, Ministry of Industry and Supply, Dte. of Industrial Statistics, New Delhi, Manager of Publications, 1949, p. 7.

<sup>2</sup> CMI, estimates for 1946 and Gadgil for 1929, op. cit., p. 274.

<sup>3</sup> *Op. cit.*, pp. 153-54.

that Maharashtra, Tamil Nadu, Mysore, U.P., Madhya Pradesh, Punjab, including Haryana and Himachal Pradesh, West Bengal and Delhi were in that order the industrially most diversified States of India. Thus industrial development had led to considerable pockets of diversified development, in addition to the development around port based towns before Independence.

7. It may also be noted that in fact there is evidence to suggest that industries grew in spatial clusters. Thus for example a detailed analysis of the regional aspects of industrialisation for the year 1965 suggests that amongst others the following industries tended to grow through space in simultaneous clusters :

- (a) Food processing machinery, other electrical machinery, metal products, conveying equipment, electric motors, steel, structural fabrications ;
- (b) Mining machinery, wagons and passenger coaches, pipes and tubes, other non-electrical machinery, castings and forgings, construction machinery, office machinery, electric fans, jute machinery and refrigerators, water coolers and air conditioners ;
- (c) Artificial silk fabrics, chemical machinery, textile machinery, other textiles, dye-stuffs, cotton yarn and textiles.

Thus it can be argued that in the regional context, industries have tended to grow with certain amount of ordering behind them. It can be clearly seen that (a) and (b) are engineering based clusters. However, they are not associated with the growth of the iron and steel industry. This is a feature which has continued up to date as shown later in this Report and may be explained by the policies towards freight equalisation in iron and steel. Cluster (c) is that of a textile based group of industries.

### **A Policy Frame**

8. The considerable industrialisation since Independence has, therefore, led to important regional effects. However, the purpose of policy has to be to orient future development along desirable lines. There is much to be said for the proposition that given the cost of industrialisation in a poor country, principles of dynamic social efficiency

should be the guiding factors for industrial planning through space. In efficient industrial investment decisions, in terms of social costs would lead to the rate of output and savings growth being lower and would, in turn effect the growth of the poorer regions of the national economy. The purpose of the historical analysis was to show that the market itself, given a distorted received economy does not necessarily provide the correct indicators for investment decisions. However, the contrary principle that has to be emphasised is that such costly decisions have to be guided by considerations of long range economic benefits in relationship to the social cost of the use of investible resources. This does not mean that the needs of less developed regions should be ignored. First, it has to be recognised that if industrial opportunities are looked at in terms of social cost perhaps, many disadvantaged regions, which may not be candidates for investments according to the indications given by current market prices, do in fact emerge as candidates for industrialisation programme, on account of the resource advantages that they possess. The fact that Central Public Sector investments in the past have concentrated in areas such as Bihar, Orissa and Madhya Pradesh is on account of such considerations. Second, it has also to be recognised that as regards balanced regional development, the challenges lie in the area of employment, agricultural planning and public works. However, it regards the planning of industrial investments in the organised sector, the following may be stated as general principles with a certain amount of validity :

- (i) Prices of commodities and rates for services should reflect real costs (including real interest and foreign exchange rates) at the place of production and the place of consumption.
- (ii) Prices of homogenous goods should be the same at given location without regard to origin and should differ from location to location by the marginal cost of transportation if the commodity is transported and at most by that cost if not transported between two separate locations.
- (iii) The present discounted value of net returns from the investment at the optimal location should be larger than or equal to the present discounted value of the net returns from the same investment project computed for any other location (basing the computation on real costs and interest).

The violation of these principles results in wasting resources and in diminishing future savings and growth potential. The above principles require for their application the solution of long-term optimal inter-regional industrial development plan. Such a plan does not exist at present and, therefore, one may regard them only a providing general guidelines for selection of policy, based on whatever analysis can be made with easily available data and on qualitative considerations implied from the above.

9. However, a few features may be noted from the above discussion. In general, a specific regional solution to investment decisions in the industrial sector can be justified only if a particular region of the national economy can be shown to have certain real economic cost advantages, analysed in social cost terms. Thus temporary disabilities on account of historically received disadvantages such as the lack of agglomeration and other economies, can be removed through well designed measures of industrial policy relating to issues such as public and private investments, infrastructure provision, as also fiscal and perhaps freight policy considerations. Second, it has to be noted that since the provision of transport is a real economic cost, in terms of rankings of policy instruments, investments and other instruments rank higher than policies which tamper with decisions to transport commodities through space on primarily economic considerations.

10. Besides freight equalisation for raw materials and intermediate products, there has also been demand for introduction of freight equalisation for essential consumer goods. The Committee on Essential Commodities and Articles of Mass Consumption under the chairmanship of Shri Mohan Dharia, in its report submitted in December 1973, had remarked that "Backward areas always suffer for lack of communication. Transport charges are always a heavy burden over the poor people in such areas. It is, therefore, recommended that as far as possible, prices of essential articles and commodities, including inputs, should be the same for the whole of the country. Transport charges should be equitably spread so that the people residing in backward areas are not further penalised for want of transport facilities". Recently some of the States, particularly in the North-Eastern region of the country, have also represented that heavy transport charges have substantially increased the prices of essential consumer goods in these states, and that there was a need to introduce freight equalisation in order to equate the prices of essential goods for consumers in various parts of the country.

11. There is a force in these arguments. People residing in those areas where transportation is costly due to lack of development of communication facilities, or due to geographical factors, should not be penalised through high price of essential commodities. It is, however, important to ensure that freight equalisation schemes for essential consumer goods, if introduced, should be capable of bringing benefits to the consumer and should be administratively feasible. It seems that freight equalisation schemes would be beneficial only if they cover those consumer goods as satisfy the following conditions :—

- (i) The item should be of essential and mass consumption nature;
- (ii) It should be an important constituent of the consumption basket of an average citizen, especially of the weaker section of population;
- (iii) Freight should account for a substantial proportion of the final consumer price in inaccessible areas;
- (iv) The items should be subject to perfect market and stable prices so that the benefit of freight equalisation is actually transmitted to the final consumer.

A number of commodities would satisfy the above conditions. The items on which freight equalisation has been proposed are kerosene oil, vegetable oils, soap, salt and pulses.

12. It is, however, important to ensure that the freight equalisation for consumer goods is administratively feasible. A freight equalisation scheme can generally apply only on rail transportation. If, however, an item is of mass consumption nature, a large part of it would be consumed in the villages, and a substantial part of the freight for the final consumer would be in the form of road transportation by truck/cart. It is administratively difficult to cover such transportation under freight equalisation arrangements, unless the item is marketed by a monopoly public sector agency. Thus, freight equalisation can be considered on such commodities for which public distribution arrangements do exist on long term basis, or are introduced due to various considerations.

## PART II

### ANALYSIS OF FREIGHT EQUALISATION SCHEMES

#### Freight Equalisation Schemes

13. At present, freight equalisation schemes are operated in case of pig iron, steel, cement, petroleum products and nitrogenous fertilisers. The schemes are operated through establishments of self financing funds/ accounts through which excess amounts paid/short payments on despatch of the items as compared to the equalised freight are paid or credited as the case may be. The Railways receive freight charges at the normal tariff rates and as such do not incur any losses on account of these schemes. The weighted average expenditure on freight based on the expected lead distances and the corresponding tariff rates are estimated in advance to be added to the ex-factory prices and to provide bases for operation of freight equalising funds. Whereas there are specific freight equalisation funds in case of iron and steel and cement there is a joint pool for fertilisers which finances equalisation of freight as well as of sale price based on payments on domestic purchases and imports of nitrogenous fertilisers. The freight equalisation schemes generally cover rail freights, though they have been extended to cover transportation by road, specially where rail transport facilities are not available and road transport is costly. For example, in case of iron and steel, all despatches to parties in Imphal, Kohima, Agartala and all destinations located on the National Highways between Pathankot, Jammu, Srinagar and Anantnag. The Railway freight upto destination rail station plus transport/out agency charges are also adjusted from the equalisation fund. Similarly, in case of despatches to Assam by rail-cum-river route, the rail/river freight and handling charges are adjusted from the fund. In case of cement, the despatches made by road are also reimbursable from the fund on the basis of graded rate structure. For all destinations for hill areas like Simla, the freight reimbursement is given upto three times of the distance by rail. For destinations in eastern areas of Assam, a dump has been created at Jogighopa where bulk movement of cement is affected by rail and further movement is done by road, and freight reimbursement is given upto 150% of the corresponding rail freight.

14. The freight equalisation scheme for petroleum products, which was introduced in 1969, is rather limited in its scope. At present there are 9 refinery ex-storage pricing points in the country and 4 secondary pricing points at ports. These 13 points are fairly distributed over the country. A consumer is entitled to purchase petroleum products from any pricing centre which is nearest to him. In case of any imbalance in supply from a pricing centre, the consumer purchases the items from other centres, but the excess freight that becomes due as a result of purchase from a distant point is charged through a pool, which is financed by a freight pool surcharge of Rs. 15 per kl/tonnes levied on all the petroleum products. The cost of transportation from the nearest pricing point upto the actual consuming point has, however, to be borne by the consumer concerned and its incidence varies depending on the distance between the pricing point and the consumption point.

15. Besides the officially managed freight equalisation schemes, freight equalisation is also undertaken by various industries/manufacturers in their own interest so as to capture national markets and/or to eliminate competition. Under such arrangements, list prices are fixed/quoted on f.o.r. destination basis. An indicative list of some such items is at Annexure II. It is not necessary that the total sales of these products is on equalised freight basis, as only some of the manufacturers might be fixing their All-India f.o.r. destination list prices. For example, in case of cotton textiles only well-known mills which have established brand preference for their products follow this policy, whereas a large number of less known mills, or those who have not been able to establish identity for their products, sell their output in wholesale markets, and distribution from this point onwards is subject to freight charges as might be applicable depending on the destination.

16. In certain cases, prices are controlled by Government and are determined on f.o.r. destination basis. Drugs and controlled cloth are two such examples. In such cases, the average freight actually paid by the manufacturers during a base period, suitably adjusted, is added to the ex-factory prices to determine the f.o.r. destination uniform selling price under the control scheme.

## Railway freight Structure

17. Partial freight equalisation is also undertaken by railways through freight structure. The equalisation is undertaken on two fronts (i) through telescopic freight by which short distance traffic subsidises long distance traffic, and (ii) through differentiated freight on various commodities, though this differentiation is not necessarily to subsidise freight on more essential commodities, but is mainly based on commercial principles and differences in costs of transportation.

18. For the purpose of goods tariff, commodities have been classified under 29 classes, and the freight rate varies from commodity to commodity according to the class to which it belongs. The base scale corresponds to class 100, and the other classes are expressed as percentage of the base scale. The 29 classes range from 32.5 to 150, and the actual freight rate for a class is determined as percentage of the basic scale *i.e.*, 100. Again the telescopic freight structure provides that the average freight rate per km goes down progressively as the distance increases. This arrangement has, therefore, an inbuilt adjustment by which long distance haulage is subsidised by short distance haulage. The base scale (for class 100) rates at different distance ranges are shown below:—

Distance (Kms.)	Freight Rate (Paise per km per quintal)	Index No.
1—40	3.26	100.0
41—100	1.92	55.8
101—250	1.31	40.2
251—500	1.14	35.0
501—800	1.07	32.8
801—1200	1.01	31.0
1201—1800	0.90	27.6
1801—2400	0.68	20.9
2401—3000	0.45	13.8
3000 and over	0.28	8.6

It would be noted that compared to the freight rate on distance upto 40 Km. the freight rate for haulages for 1000 kms. is only one third, and is less than one-tenth for haulages beyond 3000 Kms.



19. Besides the basic rates, the freight is subject to certain supplementary charges as well. The present freight rates including supplementary charges, for goods in wagon load, for certain classes, and distance ranges, are shown below:—

\* (Rs. per tonne)

Distance (Kms)	Classes							
	35	40	45	60	87.5	100	115	150
1—40	7.8	8.5	9.3	11.6	15.8	17.6	20.0	25.2
96—100	12.3	13.7	15.1	19.3	27.0	30.5	34.7	44.5
291—300	23.1	25.9	28.8	37.5	53.2	60.4	69.1	89.3
491—500	32.6	36.8	41.0	53.7	76.8	87.3	99.9	129.4
691—700	43.3	49.0	54.8	71.9	103.2	117.5	134.6	174.6
976—1000	56.6	64.3	71.9	94.6	136.4	155.3	178.1	231.2
1976—2000	94.2	107.1	120.0	158.8	230.1	262.4	301.2	391.9
2951—3000	117.2	133.6	149.8	198.5	287.9	328.5	377.3	491.1
3951—4000	129.2	147.3	165.2	219.0	317.8	362.7	416.6	542.3
4051—5000	141.2	160.9	180.6	239.5	347.7	396.9	455.9	593.5

NOTE:—These rates are exclusive of additional supplementary charges leviable on goods traffic (with certain exceptions) with effect from 1-4-1976, at the rate of 5% for traffic booked upto and inclusive of 500 Kms and of 10% for distances beyond 500 Kms.

It would be seen that when distance of haulage increases from 40 Km to 4000 Km or by 100 times, the freight charges increase by 16 times (for class 35) to 23 times (for class 150). Similarly rates for class 150 are 3.2 times (for shortest distances) to 4.2 times (for long distances) the rates for class 35 commodities.

20. In 1974-75, the average freight per tonne earned by the Railway was Rs. 50.35 and the average lead was 699 Kms. This shows that average freight was paid by commodities in classes 45—50. The commodities have been classified under different tariff classes on various considerations including their specific characteristics such as heavy weight, volume, inflammability, value etc. The goods tariff classification for certain essential commodities, is indicated below:—

Goods Tariff Class	Item
32.5	Oil Cakes
35	Wheat, rice, jowar, bajra
37.5	Paddy, pulses, coal
40	Salt (other than for chemical industries), Sugarcane
42.5	Domestic Coke, Hard Coke, Iron Ore
45	Chemical manures division 'B', Salt for chemical industries.
47.5	Gur, Manganese ore, sand, limestone, dolomite
52.5	Cement, Soda ash, Chemical manures division 'A'
55	Pig Iron
57.5	Agricultural implements
60	Sugar, Khandsari, paper, books, Newsprint, bamboo, wood
65	Edible Oil, Steel Ingots, Lead ingots.
70	Soap, kerosene Oil, Jute (pressed), diesel oil, liquid fuel
75	Battery cells, Hides and Skins, zinc, ingots, electric motors, aluminium ingots and sheets, machinery other than electrical
85	Hurricane Lantern, drugs, gunny and hasian cloth.
87.5	Vanaspatti, Cotton Cloth, cotton raw (pressed) Iron and Steel items
95	Medicines, tea, coffee, Mica, crude oil, industrial alcohol, wood raw (pressed), colours, and dyes.
100	Footwear (leather rubber), bicycle tyres and tubes, stationery, Jute (unpressed), hides & skins (tanned) synthetic and rubber manufactures, electric fans
105	Wool raw (half pressed) glassware, Sulphuric acid
115	Safety matches, cotton raw (unpressed), petrol, lubricating oil

It would be noted that the essential items are distributed among various classes, and the extent of subsidisation of freight of such items would be rather limited. It is the telescopic freight structure that provides relief on long haulage.

## Incidence of Freight

21. The incidence of average freight rate on the various items, including those covered by the Freight Equalisation Schemes, vary considerably ranging from almost nil to over 60% of the price of the product. The following table summarises the position for the items under the Freight Equalisation schemes as well as some other major product for which rail freight data are available for the year 1973-74.

22. It would be noted that the average incidence of freight in case of item covered by freight equalisation schemes range from about 5% in case of urea, to 21% in case of cement and pig iron. However, there are also some items for which freight equalisation schemes do not exist where the incidence of freight is quite significant, the most important item being coal. In case of this item the average freight in 1973-74 was Rs. 23.55 per tonne as compared to the ex-colliery price of Rs. 43.38 per tonne for Grade A and Grade I coal giving a ratio of 55 and 62%. It would also be noted that the average lead distance is not necessarily longer in case of those items covered by freight equalisation schemes as compared to the other items. Thus, in 1973-74 the average lead for cement and fertiliser was of the order of 635-753 Kms. but in case of pressed cotton, aluminium sheets, paper rubber products cotton manufactures, tea, soap and soda ash, the lead distance ranged between 1200—1800 Kms; it was as high as 2600 Kms. for raw rubber.

Item	Average rail freight paid in 1973-74 (Rs. tonne)	Wholesale price as in Oct. 73 (Rs. tonne)	Average freight as per cent of wholesale price	Average lead in 1973-74 (Kms).
(1)	(2)	(3)	(4)	(5)

### I. Freight Equalised Items—

<b>1. Pig Iron</b>				
(a) Basic Pig Iron (Standard)	86.00	410.00	21.0	1017
(b) Foundry No. 1		515.00	16.7	1017
<b>2. Steel</b>				
(a) Mild Steel		1338.00	8.7	1017
(b) Sheets (Black H.R.)		1471.00	8.0	1017
(c) G.C. Sheets	117.00	2360.00	5.0	1017
(d) Structurals		1195.00	9.8	1017
(e) Bars and rods excluding flats 14 mm		1201.04	9.7	1017

(1)	(2)	(3)	(4)	(5)
3. Cement . . .	48.15	224.52	21.4	635
4. Fertilizer (Urea) . . .	40.00	879.00	4.6	753
II. Other Items—				
5. Coal				
(a) Grade A . . .	23.55	43.20	54.5	562
(b) Grade-I . . .		38.00	61.8	592
6. Sugar . . .	72.52	2485.40	2.9	963
7. Sugar cane . . .	5.35	89.10	6.0	47
(UP minimum price)				
8. Aluminium (Sheet) . . .	117.78	8810.00	1.4	1217
9. White printing paper . . .	80.05	2550.00	3.4	1792
10. Soda ash (light) . . .	69.40	891.00	7.8	1383
11. Rubber crude and raw . . .	210.14	5000.00 *	4.2	2001
12. Rubber products . . .	149.08	1750.00 *	0.9	1355
13. Cotton manufactures and other price goods . . .	156.08	16000.00*	1.0	1373
14. Tea . . .	156.99	8000.00*	2.6	1689
15. Soap . . .	99.21	8000.00*	1.7	1234
16. Cotton (Pressed) . . .	140.34	8000.00*	1.8	1492

\*(Indicative price)

23. The main effect of freight equalisation schemes is to reinforce the resource based character of the 'weight loosing' industries and to offer protection to the industries using the freight equalised inputs that are located far away from units manufacturing them. An attempt has been made to estimate the extent of such protection provided by the freight equalisation schemes for fertilisers, iron & steel and cement for the consuming units established at different distance ranges of lead distances. The potential benefit of equated freight of raw cotton accruing to the cotton textile industry in different regions has also been estimated. The details may be seen at Annexure. III. The main results are summarised below. These conclusions, however, need to be treated as tentative due to various reasons; they are only broad indication of magnitudes.

- (i) Freight equalisation in case of fertilisers reduces the intensity (at which profits are maximised) of application by about 0.2 kg of ammonium sulphate at the distance of 250 kms from the source of supply, the dose remains unchanged at a distance of 500 kms; but it gradually increases with the lead rising

to nearly 1.3 kg at a distance of 2,000 kms. However, even at this distance, this additional application of ammonium sulphate is equivalent to only 1% of the dose. This shows that the net effect of freight equalisation on intensity of applications is not quite substantial even at long distances. Moreover, the actual fertiliser application in different areas depends on adequacy of supplies and ability of the farmers to mobilise adequate finance and other complementary inputs like irrigation, pesticides, high yielding varieties, etc.

- (ii) Five selected groups of steel consuming industries have been studied. The results show that even for steel intensive products like structurals, the benefit of freight equalisation is positive only for leads exceeding 1,000 kms and would be just about 2.6% of the price when the lead distance is 2,000 kms. In case of high value added products like machine tools, the freight equalisation benefit is only 0.3% of the price for leads in excess of 2,000 kms.
- (iii) The impact of freight equalisation on cement and steel on construction costs is more or less the same for commercial, residential and industrial buildings. The construction cost is reduced slightly only at a lead of 750 kms; the decline in costs is of the order of around 6% when the lead distance is 2,000 kms.
- (iv) For construction of industrial steel structures, freight equalisation raises costs upto the lead distance of 750 kms. There is a slight reduction in construction costs when the lead increases to 1,000 kms and the reduction in costs is of the order of 2.5% of the outlay for a lead of 2,000 kms.
- (v) The potential benefit of freight equalisation on cotton textiles is quite small. It is positive only for leads exceeding 1,500 kms and works out to 0.5% for a lead of 2,000 kms.

It has not been possible, however, for us to examine the effect of freight equalisation on location decisions in terms of the impact on profitability, since the required data is not easily available. However, in general, even low differences in prices and costs can have some times fairly significant impacts on profitability differentials, which of course are the ultimate determinants of location and investment decisions for profit maximising entrepreneurs.

24. The following table shows the despatches of cement during 1974 under the freight equalisation scheme :—

*Transportation of cement in 1974*

(Lakh tonnes)							
From	To	North	East	West	South	Total	Despatches to other regions
North	.	20.8	—	0.3	—	21.1	0.3
East	.	1.8	21.0	—	—	22.7	1.8
West	.	13.5	2.6	25.3	0.7	42.1	16.8
South	.	3.0	1.2	12.0	34.7	50.8	16.2
Total	.	39.1	24.7	37.5	35.4	136.7	35.1
Receipts from other regions		18.3	3.8	12.3	0.7	35.1	—

25. It would be noted that out of the total despatches of 137 lakh tonnes in 1974, intra-regional despatches accounted for 102 lakh tonnes. Of these, only about 25 lakh tonnes were moved for distances beyond the average lead, requiring freights more than the average of Rs. 41.1 per tonne. The inter-regional despatches were of the order of 35 lakh tonnes, bulk of which were for longer distances. In all, 58 lakh tonnes, representing 42% of the total despatches, were for longer distances, which would have benefited from the equalised freight. The extent of benefit, however, varied, depending on the distance involved. The following table shows the tonnage of cement moved as per frequency distribution of the advantage, measured in terms of the percentage excess of actual freight than the equalised freight:—

Excess of actual over the average freight (per cent)	Lakh tonnes
0—5	5.3
5—10	18.0
10—20	8.2
20—30	11.5
30—70	2.5
70—80	5.1
80—100	0.5
Above 100	6.9
Total	58.0

Out of 58 lakh tonnes, as much as 43 lakh tonnes benefited by less than 30% of the equated freight. About 6.9 lakh tonnes, equivalent to 5% of the total despatches of cement, benefited by more than 100% of the equalised freight.

### Lead distances and Originating Tonnage

26. Data on quantities of freight equalised items transported by rail are available for 1973-74. Such data, together with that for raw cottons are summarised below to indicate the average lead distances, proportion of quantities carried beyond the average lead distances, and the originating tonnages for the year 1973-74.

#### *Railway lead distances in 1973-74*

	Lead distance Km.	Proportion carried beyond lead dis- tances (per cent)	Originating tonnage (lakh tonnes)
Iron and Steel . . . .	1017	54	92.8
Cement . . . . .	635	39	100.2
Fertilisers . . . . .	753	38	53.2
Coal . . . . .	562	40	473.8
Cotton pressed . . . .	1492	51	4.0
Cotton unpressed . . .	770	25	0.5

It would be noted that among freight equalised items steel is subject to long haulages. Again more than half of steel is transported to distance beyond the average lead, compared to less than 40% in case of the remaining two items. Tonnage-wise as well steel accounts for 9.3 million tonnes, compared to 10 million tonnes of cement and 5.3 million tonnes of fertilisers.

27. It would also be noted that cotton (pressed), which is not subject to equalised freight, is moving much longer distances on an average, more than twice the average leads for cement and fertilisers and about 50% more than in case of iron & steel and a larger proportion (more than half of the originating tonnage) is transported to distances beyond the average lead, as compared to less than 40% in case of cement and fertilisers. Of course, the above data would not give a correct picture in regard to cotton, as quite a large proportion of cotton is transported by road, and only such quantities are transported by rail as have to move long distances.

28. In this context, the following table showing the availability of the above items (production plus imports) and originating tonnage on rail in 1973-74 (and also in 1966-67) may be seen :—

	1966-67			1973-74		
	Avail-ability (lakh tonnes)	Origina-ting traffic (lakh tonnes)	Proportion of availa-bility transported by rail (per cent)	Avail-ability (lakh tonnes)	Origina-ting traffic (lakh tonnes)	Proportion of avail-ability transported by rail (per cent)
Iron and Steel . . .	119.6	97.8	81.7	115.8	92.8	88.2
Cement . . . . .	111.0	88.9	80.1	147.0	100.2	68.2
Fertilisers . . . . .	45.2	35.1	78.0	61.8	53.2	86.0
Coal . . . . .	709.0	462.9	65.3	812.0	472.8	58.2
Cotton . . . . .	10.4	4.7	45.2	11.2	4.5	40.2

29. It would be noted that only 40% of cotton is actually moved by rail; and the rest is transported by roads, perhaps for short distances. In case of the three freight equalised items, however, almost the total transportation except to places not connected by rail, takes place through rail. Even when the transportation by road in competition to the rail would have been economic, the rail transportation would have been resorted to in view of procedures for operation of the freight equalisation schemes. Only in case of cement where the freight equalisation scheme is also open for road transportation that only two-thirds of the traffic is carried by rail. It is, however, possible that the above estimates of proportion of availability transported by rail are on the high side, as it would be possible for an item to enter originating tonnage more than once particularly in case it is not sold directly by the manufacturer to the final consumer but has to be moved initially to either the distributor, or the regional warehouse, and then to the consumer.

30. Comparison of the originating rail traffic for 1966-67 and 1973-74 shows that in case of steel and fertilisers, the proportions moved by rail have increased during seven year period. Rail transportation has gone down in case of cement but that is mainly due to liberalisation of the scheme to cover transportation by road as well. However, in case of the two items, cotton and coal, for which freights are not equalised, the proportions of transportation by rail has gone down. This is also true for rail transportation of manufactured goods in general. Whereas index of



industrial production shows an increase of 32% in industrial output between 1966-67 and 1973-74, the tonnage (of manufactures) carried by Railways remained almost un-changed—29.0 and 28.5 million tonnes respectively in the two years—showing reduction in the proportion carried by Railways.

31. Since freight equalisation schemes offer uniform prices to the consumers located in different parts of the country, it would normally result in increasing the average haulages. In this context statement at Annexure IV showing the average distance by which different commodities have been transported and average freight rates since 1960-61 may be seen. The following table summarises the data.

	Average lead distance Kms.			Rates per tonne Km (paise)		
	1960-61	1966-67	1973-74	1960-61	1966-67	1973-74
Iron and Steel . . . .	697	958	1017	5.99	6.55	8.12
Cement . . . . .	377	468	635	4.72	5.39	6.29
Fertilizers . . . . .		675	753		4.72	6.29
Coal . . . . .	593*	540	562	2.58	3.12	4.19
Cotton (pressed) . . . .		1182	1492		8.80	9.44
Cotton (unpressed) . . .		1086	770		9.61	11.70
Overall goods traffic . .	561	578	686	3.87	4.71	7.16

It would be noted that between 1960-61 and 1973-74 the average lead distance increased substantially, by nearly 70%, in case of cement and by 46% in case of iron and steel as compared to only 22% on an average for all rail goods traffic. Data for fertilisers are available from 1966-67 only; between 1966-67 and 1973-74 the increase in average lead for fertilisers was rather moderate, being of the order of 11%. In case of raw cotton (pressed) which is not subject to freight equalisation scheme, the average lead distance also increased by 35% between 1966-67 and 1973-74; it is, however, important to note that the lead distance for unpressed cotton has gone down substantially between the two years, viz., from 1086 kms to 770 kms, or by 29%. Moreover, 60% of cotton is transported by road for relatively short distances. On overall bases, therefore, lead

distance for cotton would not have gone up substantially. Similarly in case of coal, another important item outside freight equalisation scheme, the lead distance has shown only marginal variations since 1962-63. The data analysed by the Committee on lead distances in relationship to freight equalisation policies, suggests in a fairly marked manner that the freight equalisation policies of the Government have had an effect in increasing the real transport costs to the economy and also by subsidising freight encouraging locations of activity at points where they might not have sprung up without such policies.

32. The distribution of traffic originating with railways in respect of important items for the year 1973-74 according to the distant range may be seen from the following table :

Distance Kms (Average lead)	(in per cent)					
	Iron and Steel (1017)	Cement (635)	Chemical Fertilisers (753)	Coal (562)	Raw Cotton (pressed) (1492)	Raw Cotton (unpressed) (770)
1—240 . . . . .	10.0	17.8	15.0	43.3	0.6	38.5
241—499 . . . . .	13.9	31.2	26.0	13.3	3.8	23.1
500—799 . . . . .	9.8	27.3	24.8	14.9	14.0	15.4
800—1299 . . . . .	27.0	15.6	17.8	18.5	14.8	15.4
1300—1899 . . . . .	30.6	4.7	15.2	7.7	46.8	7.7
1900—2399 . . . . .	7.9	1.5	1.0	2.1	11.8	—
2400 and above . . . . .	0.8	1.8	0.2	0.2	8.2	—
Total . . . . .	100.0	100.0	100.0	100.0	100.0	100.0

It would be seen that the range of the hauls varies from product to product. Substantial proportion of traffic in cement, coal and raw cotton (unpressed) was in the nature of short and medium distance upto 500 Kms. On the other hand, about 58% of the despatches of iron & steel were moved for 800—1900 kms and an equal proportion of fertilizers were hauled for 500—1900 kms; similarly about 47% of cotton (pressed) was transported for 1300—1900 kms and almost 95% over 500 kms.

## Dispersal of Industries

33. The main effect of freight equalisation schemes would normally be to move the production of the item nearer the sources of raw material on the one hand, and to disperse the location of the consuming units on the other. Data on iron & steel and fertilisers has been examined in this context. It, however, needs to be emphasised that freight equalisation is not the only factor responsible for dispersal of consumption. There can be a number of policies which either support the above trend or arrest them with the result that the net effect can, in some cases, be different than what an individual instrument is expected to achieve.

34. There is some evidence to suggest that the pattern of use of iron & steel has undergone a change in the recent past. The data on despatches of saleable steel at Appendix V show that the share of each of the 5 States near the major steel plants (West Bengal, Bihar, Assam, Orissa and Madhya Pradesh) was less in 1973-74 than 10 years earlier, though the extent of reduction is rather limited being 6.2% of total supplies in the country. However, it would be noted that the share of some of the other major steel using States, particularly Maharashtra and U.P., has also gone down somewhat. This shows a dispersal of the steel using industries not only away from the States in which steel plants are located, but also from some other major users of steel. The change in the pattern of consumption of iron and steel has naturally resulted into changes in the share of different States in production of various engineering items. The decline in the share of West Bengal in the engineering goods sector during these years has been dramatic. On the basis of data available from Annual Survey of Industries the Committee has witnessed marked changes in the share of certain States so far as the engineering industries are concerned. For example, in the case of steel castings industry the share of West Bengal has witnessed a marked decrease. Likewise in the railway wagons industry the share of Maharashtra and West Bengal has decreased considerably during the period 1963—1970. This decrease in the share these States has obviously meant an increase in the share of other States. The factors which have brought out these changes are many and complex. It would not be correct to conclude that this change in regional pattern of production is only due to freight equalisation schemes.

35. Share of different States in the production and consumption of nitrogenous fertilisers is shown in Annexure VI. Annexure VI shows a number of merging trends. Firstly, the production of fertilizer is now

more widely dispersed than earlier. Consequently production has now moved away to such States which have the potential for consumption as well as the resource base. Rajasthan, Bihar and Orissa accounted for over half of the production of fertilizers in 1966-67 but share only 8% of the all-India consumption; the share of these States in 1974-75 production had come down to only 7%. Other States like UP and AP, which consume large quantities of fertilisers, have been able to increase their share in production. However, there are some States which consume substantial quantities of fertilisers but have not been able to attract the fertiliser industry due to lack of natural resource base. Relatively low despatches for long distances may also be seen from the following table which shows share of different regions in total despatch of freight equalised fertilisers (Urea, Ammonium Sulphate and CAN) during 1974-75.

		Per cent to total despatches					
Despatched From	To	Central	East	North	South	West	Total
Central	. . . .	20.5	2.2	0.9	—	3.0	26.6
East	. . . .	1.2	20.4	—	0.1	—	21.7
North	. . . .	6.9	—	5.9	—	1.0	13.8
South	. . . .	—	2.7	—	11.6	9.0	23.3
West	. . . .	—	—	—	—	14.6	14.6
Total		28.6	25.3	6.8	11.7	27.6	100.0

36. It would be noted that only 27% of the fertilisers is transported intra-regionally, that too mainly in neighbouring zones. Contrary to this conclusion, data in para 34 shows average lead for fertiliser increased by 11% during 1966-67 to 1973-74; that is so because Railway data includes imported fertilisers as well as fertilisers other than those which are subject to freight equalisation.

37. The following conclusions may be drawn from the foregoing analysis :

- (i) Freight equalisation is not limited to officially administered schemes (*i.e.* pig iron, steel, cement and fertilizers) but is being implemented by a number of industries/manufactures in their own interest, and is also built into some of the price control schemes.

- (ii) Incidence of freight in case of the administered schemes varies from 4.6% in case of fertilizers to 21% for pig iron; however, the incidence of freight is also quite high for items for which freight is not equated—it is as high as 55/62% for coal, but varies between 4 to 8% for other essential items like sugarcane, soda ash and raw rubber.
- (iii) The average lead is much longer for some other essential items like cotton cloth, tea, soap, soda ash, aluminium and rubber than the items covered by freight equalisation schemes.
- (iv) With the exception of perhaps cement, freight equalisation schemes appear to be only marginally effective as a device for reducing the competitive disadvantage of unfavourable locations. Even when the lead is more than 2,000 km, the price advantage as a result of freight equalisation is only 1% for ammonium sulphate, 0.3% for machine tools, 2.6% for structural steel and 2.5% for steel structures; it is only in case of construction cost that freight equalisation for cement and steel reduces the costs by 6% for lead distance of 2,000 km.
- (v) Even in case of cement, consumers of 60% of cement despatched in 1974, subsidised the consumers of remaining 40% despatched to longer distances—in fact it was only 10% of cement that would have paid 13% more of the equalised freight, and only 5% which would have paid double the equalised freight.
- (vi) In case of freight equalised items, the proportion of production transported by rail has increased since introduction of the scheme. Simultaneously the average lead distances of majority of these items have increased considerably during the period.
- (vii) The share of States around major steel mills in the total consumption of steel seems to have gone down during the past decade. Consequently the engineering industry presently is more dispersed than earlier.
- (viii) Fertilizer industry has shown a tendency to regional dispersal in spite of freight equalisation. A number of factors would be responsible for this trend.

### PART III

#### FREIGHT EQUALISATION OF RAW COTTON

38. There are regional imbalance between production and consumption of raw cotton in the country; as a result some of the regions particularly, Punjab, Haryana and Gujarat have emerged as surplus States, whereas Tamil Nadu, West Bengal and U. P. are the net importers of cotton. Spindle capacity with consumer base has also been set up in various States like Assam, Bihar, Orissa, West Bengal, Kerala and Pondicherry which do not grow cotton: In this connection, the following table showing regional share in production and consumption of raw cotton may be seen:

	Per cent shares		
	Production of cotton in 1972-73	Consumption of cotton in 1973	Surplus Cotton
1. Gujarat . . . . .	25.5	18.3	+7.2
2. Maharashtra . . . . .	19.4	25.4	-5.8
3. Punjab . . . . .	18.7	2.5	+16.2
4. Haryana . . . . .	7.8	2.2	+5.6
5. Tamil Nadu . . . . .	6.0	16.7	-10.7
6. Karnataka . . . . .	7.7	4.5	+3.2
7. Madhya Pradesh . . . . .	6.1	4.9	+1.2
8. Rajasthan . . . . .	5.3	3.6	+1.7
9. Uttar Pradesh . . . . .	0.7	5.9	-5.2
10. West Bengal . . . . .	—	5.8	-5.8
11. Andhra Pradesh . . . . .	2.1	2.9	-0.8
12. Others . . . . .	0.7	7.5	-6.8
Total	100.0	100.0	

39. Cotton textiles has a wide consumer base. Most of the States, have therefore, set up spinning capacities. Nevertheless with four exceptions, the spinning capacity is concentrated on cotton growing States. The inter-state movement of cotton, however, accounts for 40% of the total cotton production in the country which enters into the rail traffic; of this about half have a lead distance of more than 1400 kms. Moreover the inter-regional movement of cotton does not depend only on deficits.

but also on cotton mixed used. Even surplus States do import certain varieties of cotton not locally grown so as to produce required counts of yarn.

### Incidence of Freight on Raw Cotton

40. Cotton accounts for a large proportion in the market price of cotton cloth. However, the proportion varies from mill to mill depending on the prices of cotton actually paid, quality of cloth, extent of processing and distribution arrangements. The BICP study of cotton textile industry in 1973 showed that at the then cotton prices, cotton accounted for 52—60% of the ex-factory prices of grey fabric. Contribution of different element in fair prices for grey fabrics was as follows :

In Rs. per kg. of grey fabric

Group of Cotton Count of Yarn	Element of the cost				Total	Per cent share of Cotton
	Cotton	Spinning	Weaving	Return		
I . . . . .	4.85	0.96	1.83	0.42	8.06	60.1
II . . . . .	5.22	1.12	2.18	0.49	9.01	57.9
III . . . . .	5.68	1.50	2.72	0.58	10.48	54.2
IV . . . . .	6.10	1.76	3.10	0.66	11.62	52.2
V . . . . .	7.09	1.97	3.52	0.73	13.22	52.9
VI . . . . .	7.82	2.25	3.77	0.81	14.65	53.4

41. If the cost of processing which includes calendering, bleaching, dyeing, printing, mercerising, sanforising, finishing etc. are taken into account, the proportion of the cost of cotton in the finished cloth will correspondingly decline to even 30—35%. And if marketing costs of 25—30% and excise duty are also taken into account, the proportion of cotton costs would go down to 20—25% in case of printed/sanforised cotton cloth.

42. Freight charges on raw cotton vary from mill to mill depending on the location of mills, place and terms of purchase of cotton. Generally cotton purchased is made through agents on spot delivery on F.O.R. basis. Spot price includes payment on account of transport, sales tax, octroi, brokerage etc. upto the marketing centres. For outstation purchase mills bear freight and transport charges for bringing cotton to their

godown. The mills located in cotton growing areas, therefore, have lower incidence of freight on cost of cotton than those located away from the growing areas. Since terms and markets of purchase are not the same even the mills stationed at the same place, freight charges vary considerably from mill to mill.

43. Incidence of freight and transport charges in cost of cotton in certain selected mills taken up by the BICP during the investigation of cotton textiles is given in Annexure VII. The data relates to 1970-71. It would be seen that incidence of freight and other transport charges were lower in Ahmedabad mills than in mills at Bombay, Porbander and Indore. Ahmedabad mills paid freight charges at Rs. 2.20 per quintal, Bombay mills at Rs. 5.51, Porbander mills at Rs. 19.25 and Indore mills at Rs. 28.31. Since mills procured different varieties of cotton from different places and at different terms, the freight charges varied even among mills located at the same station. Ahmedabad mills generally purchase cotton locally and, therefore, enjoyed freight advantages. Since 20 FSG cotton is grown in Punjab, Manjushry mills at Ahmedabad had to pay Rs. 20 per quintal as transport charges on this variety. The wide variation have also been noted in transport charges for the same variety of cotton used by mills at the same station; this is due to difference in terms and market of purchase. In general, the freight accounted for about 0.4—5.0% of the cost of cotton for different mills. On an average rail freight, accounted for 1.8% of cotton cost in 1973-74.

### **Cost of Cotton in Production of Cloth**

44. Cost of cotton depends not only on the freight on its movement, but on a large number of other factors as well. Various cotton textile mills adopt different system of purchase of cotton. Some mills purchase in local market or in big cotton centres like Bombay and Ahmedabad through commission agents/brokers. Other make their own arrangement for purchase of cotton from the growing areas. Agents/representatives of some mills collect samples and send them to the mills before finalising the deal, while others make on the spot purchases on the strength of their experience and visual observation. Quite a number of mills make purchases through inviting offers from traders/agents. Some mills have their own ginning and pressing factories and buy kapas instead of cotton. Some mills buy more than their requirement and trade in cotton. Top management personnel of some mills are connected in one way or the other with cotton trading firms, or ginning factories. Some of mills



belonging to large industrial houses have arrangement for centralised system of cotton purchase which, no doubt, enhance their buying power. A financially stronger mill, therefore, takes full advantage of market conditions as it can wait till it finds market price to its advantage. Weaker mill on the other hand may be working from hand to mouth and may have to be in the market all the time and pay high prices.

45. Lack of standardization of different varieties of cotton is also responsible for imperfection in cotton market. Varieties of cotton grown in different areas have different fibre properties. For a given variety, quality/staple length and grade may vary from area to area and even from a lot to lot. The quality of cotton is generally ascertained by physical varification rather than on scientific basis. Thus the prices of the same variety may vary according to the judgement of the buyers.

46. The differences in purchase price of cotton naturally results in wide variation of cost of cotton in the cost of some count of yarn manufactured by mills. Besides differences in purchase prices, the differences in costs of cotton may be due to certain technical factors like condition of machinery, efficiency of working and optimality of cotton mix. The BICP investigation of cotton textile industry (1973) showed that the cost of cotton per kg. of yarn commonly spun by 30 mills for which comparable data was available varied upto 30% as may be seen from the following frequency distribution :—

Count of Yarn	Number of mills for which the cotton costs are in excess of the lowest costs upto the following percentage range.						
	0	1—5%	5—10%	10—15%	15—20%	20—30%	Above
14 . . .	1	1	2	3	—	4	1
20 . . .	1	2	1	2	1	—	—
22 . . .	1	—	2	—	2	1	—
24 . . .	1	1	3	2	—	—	—
28 . . .	1	—	3	5	—	1	—
30 . . .	1	—	1	4	1	1	—
60 . . .	1	—	—	—	—	—	3
	7	4	12	18	4	7	4

47. It would be noted that the model range of deviation from the minimum costs for the same count was 10—15% and the median cost difference was 11% above the minimum. Of the 54 cost figures, 15 exceeded the median by the range of 11—20% and 7 by the range of 21—30%. The freight element, which was varied upto 5% and averages to 2% was thus only one out of a large number of factors responsible for differences in cotton costs of different mills.

### Price Fluctuations

48. Cotton prices fluctuate violently from season to season, from month to month and even from seller to seller and buyer to buyer in the same market. Maharashtra and Gujarat are the two principal cotton producing areas. The Maharashtra Cotton begins to arrive in the market in October-November. Gujarat Cotton follows during the next two months. Cottons from the other parts of the country also start moving in. As a normal seasonal phenomenon, cotton prices should tend to move down till January—March and increase thereafter by about 2% per month as carrying cost. But in reality this never happens. In many years, the prices remain very high and even move up during the production season depending on speculation regarding output, demand and future prices. During the last four seasons the variation between maximum and minimum monthly average of index number of wholesale prices of raw cotton ranged between 46—56%. The seasonal fluctuations of monthly average of index number of wholesale prices of raw cotton during the cotton seasons 1966-67—1974-75 may be seen below:—

1961-62=100,

Cotton Season (Sept.—Aug.)	Maximum monthly average	Minimum monthly average	Percentage excess of maximum over minimum
	<i>Index Month</i>	<i>Index Month</i>	
1966-67 . . . . .	136.0 July.	129.5 October	5.0
1967-68 . . . . .	160.9 Dec.	129.0 September	24.7
1968-69 . . . . .	173.0 Aug.	154.6 February	11.9
1969-70 . . . . .	194.8 July.	161.2 November	20.8
1970-71 . . . . .	262.6 Jan.	182.7 September	28.3
1971-72 . . . . .	248.8 Sept.	158.6 June	55.9
1972-73 . . . . .	272.0 Aug.	174.4 September	55.9
1973-74 . . . . .	387.0 Aug.	271.6 September	46.2
1974-75 . . . . .	410.9 Sept.	278.4 June	47.6
(Sept.—June)			

49. Besides wide seasonal fluctuations, there are significant variation in prices paid by the mills for the same variety at the same time due to imperfection of cotton market. Based on data collected during the BICP investigations, Annexure VIII gives data on prices paid by different mills for three popular varieties of cotton (Digvijay A, CO2 and L 147) in Feb. '70 and June '70. It would be noted that the lowest and highest prices paid by the mills in the month of February ranged between Rs. 458—593 per quintal for Digvijay A, Rs. 502—536 for CO2 and Rs. 501—603 for L 147; similarly in June '70 they varied between Rs. 508—610 per quintal for Digvijay A, Rs. 500—616 for CO2 and Rs. 485—583 for L 147. Thus margin between lowest and highest prices paid by different mills in the same month was as high as 20—29%. Even the prices paid by the same mills for the same variety in the same month varied significantly. For instance, purchase price of Manjushri Textiles ranged Rs. 458—560 for Digvijay A in February, 1970 giving a margin of 20%. Such large variations were partly due to price fluctuations during the month and partly due to differences in qualities of cotton, terms of purchase and purchase arrangements. It was, however, noted prices varied by even 5% during a single day.

50. The proposal for freight equalisation for raw cotton needs to be considered in the light of the foregoing analysis and the consideration as indicated at the end of part II.

In this context, the following points may be specifically noted:

- (i) Cotton textiles is an essential items of mass consumption nature and therefore any scheme for equalisation of freight on raw cotton would contribute towards equalisation of the prices of cotton textiles among various consumers in the country.
- (ii) However, the market for cotton textiles is highly imperfect. There are a large number of varieties of cotton cloth; the marketing margins vary widely from place to place, from market to market and even in the same market from one consumer to another or from one variety to another. Under the circumstances, it is doubtful if any benefit from the equalisation on raw cotton will be felt at the consumer stage unless that benefit this substantial.

- (iii) Cotton market itself is highly imperfect and subject to various pulls, pressures and speculations. Psychology and expectations of traders, growers and mills play a vital role in determining prices resulting into an imperfect market situation. The prices under such circumstances do not move in a rational and consistent manner. Thus the fluctuations in prices of raw cotton have been as high as 56% during a 12 month period price paid by different mills during the same month varying upto 30% and even by the same mill upto 20%.
- (iv) Besides the prices of raw cotton, the cost of cotton for the same quality of yarn varies from mill to mill depending on the management efficiency, conditions of machinery and other technical factors. Thus the cost of cotton for the same count of yarn varies upto over 30%.
- (v) On the other hand the incidence of freight on movement of cotton from one region to another is not in excess of 4-5% of the cost of cotton even for long haulages and would be less than 1% in most cases. The freight equalisation which can reduce the cost of cotton in areas far removed from cotton growing areas by only 1-2% cannot, therefore, be an important factor to encourage setting up of textile industry in those areas.
- (vi) Prices of inputs of textiles other than raw cotton vary from State to State. There are particularly wide variations in costs of utilities and wages.
- (vii) Administration of freight equalisation of raw cotton is also likely to pose a number of problems. Only 40% of the cotton production is moved by rails and the balance is moved

by road. Unless there is monopoly purchase at the growing areas, freight equalisation can hardly be implemented. Moreover cotton is grown on farms. It is subject to large number of specifications which cause criss cross movement depending on variety of cloth required to be produced in a mill. Under these circumstances, freight equalisation can hardly be satisfactorily administered.

51. Under the above circumstances, any freight equalisation scheme for raw cotton would be inadvisable.

## PART IV

### TRANSPORT SUBSIDY

52. The proposals for freight equalisation for essential consumer goods have been discussed in paragraph 10—12 of Part I. These proposals specially refer to the high incidence of transportation cost of essential goods consumed in inaccessible/backward areas. Attention has also been invited to similar difficulties faced by small-scale units situated in similar areas. The problem in regard to the high transportation cost arises mainly under the following circumstances :—

- (i) The consumption centres/small units are far removed from the rail-head
- (ii) The consumption centres/small units are situated in hilly/inaccessible areas and road transport is relatively costly.
- (iii) Transportation to specific parts of the country is undertaken in a costly mode as a result of Government decision.

The above special circumstances impose inequitable costs on consumers/industry. Solution, however, does not lie in introduction of freight equalisation scheme on all-India basis, as only a small proportion of consumers are involved. What in fact is required is subsidisation of such high transportation costs. Subsidy can be financed through a number of means specially the following :—

- (i) Public Exchequer
- (ii) Cess on production/consumption of the item concerned throughout the country.
- (iii) The surcharge on rail freights on the item concerned.
- (iv) Limited public distribution arrangements so that excess transport cost is equitably distributed in limited areas.

53. Though the subsidisation of costly transport in limited areas is not one of the terms of reference on the committee, nevertheless, as the problem has often been raised in the context of freight equalisation the committee deemed it fit to bring these proposals to the notice of the Government for their consideration.

54. The Industrial Policy Resolution, 1956 stresses that essential infra-structure facilities like supply of power and water transport facilities and raw materials are steadily made available to the areas lagging behind industrially so that disparities of development between different regions are progressively reduced. Over the last decade or so a number of State Governments have taken up schemes for industrial development of backward areas and also set up industrial development corporations. Besides, certain incentives relating to octroi duty power and water rates etc. are offered by most States for promotion of industries in backward areas. According to a decision taken in February, 1973 in the implementation of licensing policy the Government will ensure that licence decisions conform to the growth profile of the Plans and that techno-economic and social considerations such as balanced regional development and development of backward areas are fully reflected. There are 246 districts spread over the various States and UTs which have been declared backward areas and are eligible for concessional finance. Out of these, in 102 areas/districts the Centre provides an outright grant or subsidy on fixed investment. While the scheme was announced in August, 1971, the rate of subsidy has been raised since March, 1973 from 10% to 15% subject to a maximum of Rs. 15 lakhs for industries taking effective steps on or after March, 1973. Again, out of these 246 backward areas, 92 are covered by the Rural Industries Projects.

55. Under the Transport subsidy scheme, subsidy is given by the Centre equivalent to 50% of the transport costs of industrial raw materials as well as finished products between certain specified rail heads and the location of new industrial units and the existing units undertaking substantial expansion or diversification. This subsidy is applicable to the industrial units (barring plantations refineries, and power generating units) both in the public and private sectors and also cover small, medium and large scale industries. This subsidy is applicable to the following States/Union Territories.

1. Jammu and Kashmir
2. Assam
3. Meghalaya
4. Nagaland
5. Manipur
6. Tripura

7. Arunanchal Pradesh
8. Mizoram
9. Himachal Pradesh
10. Hilly districts of U.P.
11. Andaman and Nicobar Islands
12. Lakshadweep.

56. The transport subsidy is obviously applicable to very limited areas mostly confined to the sub-Himalayan region. In order to provide adequate facilities for growth of industries in backward areas all over the country. Government might consider extension of the transport subsidy to another backward districts, specially those which are not connected by rail. Although several other facilities are available in these backward areas yet one of the major impediments is lack of cheaper transport. Many of these backward areas are not connected by rail and consequently the transport costs are high. Many of them have got local resources which cannot properly exploit as transportation costs for marketing their products in areas where the products can be sold are prohibitive. Similarly in certain areas small units might be set up to meet local demand though raw material may have to be transported from other regions. Transport subsidy on finished goods for resource based units and on raw material for consumer demand based units in backward districts will go a long way in dispersed growth of industries, particularly in the small scale sector and thus be an important step in meeting one of the aims of the Industrial Policy Resolution, 1956 to the effect that disparities in the level of development between different areas are reduced and the industrial base, specially in the small scale sector becomes more broad based. Initially the scheme might be operated for certain selected items of raw material/finished goods which are important from the point of view of cost structure, and for which freight subsidisation would be useful to offset locational disadvantages.

57. The analysis by the Committee in general tends to suggest that Freight Equalisation by itself is not a optimal policy for achieving the objectives of the balanced regional development or even that of balanced industrial development in socially optimal manner. In view of this, a rationalised system of location based on comparative advantages of different regions will need to be evolved over a period of time say a decade



or so. For sponsoring a particular type of industrial activity at specific location measures like licensing, fiscal and other incentives rather than generalised policies of transport subsidy should be the major consideration. The aim should be to phase out the withdrawal of freight equalisation scheme over a period.

### **Essential Consumer Goods**

58. Certain essential commodities and items of mass consumption like salt, soft coke, edible oils, vanaspati, laundry soap, pulses, kerosene oil, cycle tyres and tubes are being sold at higher prices at places which are not well covered by the rail/road transport than is the case in well connected and easily accessible urban and rural areas. These areas are in particular which suffer on account of high transportation costs are in the whole of sub-Himalayan region and certain other backward areas like Andaman and Nicobar and Lakshadweep. From the view point of equitable social justice and welfare of the poorer sections of the society it is extremely important that essential commodities and items of mass consumption are sold throughout the country at more or less the same price. In any case, it is highly inequitable to make people in areas like North-Eastern Region, parts of Himachal Pradesh and J & K State or A & N Islands to pay much higher prices. The main reason for such a higher variation in prices is the high rate of incidence of transportation costs.

59. Salt, being a basic necessity for every man, should be available to every body at almost the same price throughout the country. But salt is sold in North-Eastern parts of the country at prices which are a few times higher than the price paid by a consumer in Delhi, Patna or even Calcutta. This is due to two main factors :—

- (i) High road transportation costs in hilly and inaccessible areas; and
- (ii) Because of Government's decisions, due to heavy pressure on demand for wagons to rationalise transport of salt from Western coasts to Calcutta and of coal from Calcutta to Western coasts by using coastal shipping which, otherwise was uneconomic to have one-way haulage of coal from Calcutta region to Western region.

Cost of coastal shipping has also increased recently due to increase in prices of fuel oil and port handling charges which have further added to the cost of salt adversely affecting the consumers in the North-Eastern region. This will further aggravate the situation when Haldia port goes into operation. The consumers in all the North-Eastern States may then have to get their salt requirements only through Calcutta. The following table shows the comparatively high cost of transportation of salt by coastal shipping as compared to salt moved by rail upto Calcutta. Upcountry consuming centres in north-eastern regions will have to face additional cost of rail transportation from Calcutta, if they are to be supplied salt by coastal shipping through Calcutta.

	Per Bag of 75 Kg. (in Rs.)			
	From Gandhidham		From Tuticorin	
	By rail	By ship	By rail	By ship
1. Originating Price (FOR/FOB) . . . . .	5.62	5.62	5.96	7.27
2. Transport . . . . .	7.50	7.02	7.62	6.39
3. Incidentals (Stavedoring Port, insurance) . . . . .	—	2.53	—	2.53
Total . . . . .	13.12	15.17	13.60	16.19

60. In the case of other essential commodities and items of mass consumption the problems of freight are of same nature as is the case with that of salt. Perhaps more so because many of them do not pass through the organised trade and transportation as is the case with salt. Some such essential commodities are soft coke, edible oils, vanaspati, kerosene, pulses, laundry soap. Perhaps in all the sub-Himalayan areas, A & N Islands, Lakshadweep and some other backward areas pay much higher prices for these essential commodities and other items of mass consumption than is the case with their counterparts elsewhere in the country.

61. There are also wide variations in the retail prices of kerosene which is very vitally important lighting material for the poor people particularly in areas which are not electrified. The variation is on account of the four tier distribution system involved in the sale of kerosene oil and also because of the high cost of transportation in areas which are not well connected by rail and road transport. These four tiers of

distribution are oil companies' the agents, wholesalers, semi-wholesalers and retailers. At present, the oil companies have only 140 depots from which supplies are made to the agents or wholesalers as against 3400 recommended by the Dam-le Committee. In case the oil companies have a depot each in all Tehsils/Talukas at least in the backward areas, the need for agents and wholesalers or semi-wholesalers may be completely eliminated. This would obviously reduce the distribution costs and help people in the backward areas to get kerosene oil at a cheaper price.

## SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

62. It has been suggested in Part I that in planning for industrial investments in the organised sector the following principles might be taken into account :

- (i) Prices of commodities and rates for services should reflect real costs at the place of production and at the place of consumption.
- (ii) Prices of homogenous goods should be the same at the given location with regard to origin and should differ from location to location by the marginal cost of transportation.
- (iii) The present discounted value of net returns from the investment at the optimal location should be larger than, or equal to the present discounted value of the net returns from the same investment computed for another location.

63. As regards to consumer goods, it needs to be recognised that the consumers in the backward areas should not be made to pay high prices due to lack of transport facilities. A freight equalisation scheme would however, be beneficial only in the following circumstances :—

- (i) The essential item under consideration is an important constituent of the consumption basket of an average citizen specially of the weaker sections of population.
- (ii) Freight should account for a substantial proportion of the final consumer price in inaccessible areas.
- (iii) The item should be subject to perfect market and stable prices so that the benefit of freight equalisation is actually transmitted to the final consumer.
- (iv) The freight equalisation should be administratively feasible.

The last condition is particularly important. If an item is of mass consumption nature, a large part of it will be consumed in villages, and consequently, a substantial part of the freight would be on road transport upto the villages, which can hardly be covered by a centralised freight equalisation scheme. Under such circumstances, freight equalisation can be considered for commodities for which public distribution arrangements exist, or are introduced due to various considerations.

64. It would be noted from Part II that besides the officially administered freight equalisation funds, freight equalisation is also implemented by a number of industries/manufacturers in their own interest. The incidence of freight on an average, is not necessarily high for the items covered by freight equalisation schemes (*i.e.*, pig iron, steel, cement and fertilizers) as compared to some other items (*e.g.*, coal and some other items like soda ash, raw rubber, sugar-cane); nor the average lead distance for these items is much longer than for the essential items like cotton cloth, tea, soap, soda ash, aluminium and rubber. The analysis also shows that with the exception of, perhaps, cement, freight equalisation scheme appears to be only marginally effective as a device for reducing the comparative disadvantage of unfavourable locations, and that even when the lead is more than 2,000 kms, the price advantage as a result of freight equalisation varies between 0·3% for machine tools and 2·5% for steel structures. It is only in case of construction costs that the combined effect of freight equalisation on cement and steel reduces the cost by 6% for lead distances of 2,000 kms. Moreover, even for cement where a distant consumer gets maximum advantage from freight equalisation, it was only 5% of cement consumption that actually paid half of the freight under the freight equalisation scheme, than what would have been paid otherwise. The analysis also points out that there are indications to suggest that, for the freight equalised items, the proportion of production transported by rail has increased since introduction of the schemes and that the average lead distances have also increased during the period. On the other hand, there is some evidence to suggest that the consumption of steel and the production of engineering goods is presently more dispersed than earlier; but a number of factors, besides freight equalisation, would be responsible for such dispersal.

65. Analysis in Part III suggests that introduction of freight equalisation for raw cotton would not be advisable. The main analytical results which lead to this conclusion are :—

- (i) The market for cotton textiles is highly imperfect and the marketing margin varies from place to place, from consumer to consumer and from variety to variety.
- (ii) Market for raw cotton is highly imperfect and is subject to speculations based on expectations of traders, growers and the mills. Thus, prices paid by different mills from the same variety vary widely (upto 50%) and fluctuate from day-to-day (upto 50% in a year).

- (iii) Price of cotton is not the only determinant of the cost of cotton per kg. of yarn; the other important variants are the cotton mix management efficiency and conditions of machinery. The cost of cotton for the same count of yarn varies upto 30% as between different mills.
- (iv) The incidence of freight on movement of cotton is not in excess of 4-5% of the cost of cotton even for long haulages, and less than 1% in most cases. The freight equalisation can possibly reduce the cost of cotton in far removed areas by 1-2%.
- (v) Prices of inputs of textiles other than raw cotton also vary from State to State; there are particularly wide variations in costs of utilities in wage rates.
- (vi) Administration of freight equalisation of raw cotton is also likely to pose a number of problems as only 40 % of the cotton production is moved by rails. Moreover, as cotton is produced in a large number of specifications, it is subject to criss-cross movements depending on the variety of cloth required to be produced.

66. Proposals regarding high transportation cost on essential commodities/raw materials used inaccessible/backward areas has been discussed in Part IV. The problem arises when the consumption points are far removed from the nearest rail head, or are in hilly/inaccessible areas, for which transport is relatively costly, or where the transportation costs for certain regions of the country are high due to Government decisions. The solution for such high transportation costs does not lie in introduction of freight equalisation schemes on All-India basis, as only a very small proportion of consumers are involved. Under such circumstances, the high transportation costs need to be subsidised by either (a) Public Exchequer or (b) cess on consumption of the item throughout the country or (c) a surcharge on rail freight or (d) public distribution arrangements. Though the subsidisation of costly transport in limited areas is not one of the terms of reference of the Committee, never the less, the problems has often been raised in context of freight equalisation. The Committee, has therefore, deemed it fit to bring these problems to the notice of the Government for their consideration.

67. Three special problems have been referred to in this context. Firstly, it has been suggested that Government might consider extension of transport subsidy to the backward districts, specially those which are not connected by rail. Such a subsidy given on finished goods for resource-based unit, and on raw material for consumer demand based units in backward districts will lead to dispersed growth of industry. Secondly, it has been suggested that the abandoned railway sidings might be reactivised in so far as the backward areas are concerned so as to provide incentives for location and growth of small-scale units in such areas. Thirdly, it has been suggested that the basic necessities of life should be available at almost the same price throughout the country and the extra transportation cost to inaccessible areas might be subsidised. It has also been indicated that in case the oil companies open a depot each in all the tehsils in backward areas, the cost of distribution of kerosene oil could be reduced to the advantage of the consumers in such areas.

68. The analysis made by the Committee in general tends to suggest that freight equalisation by itself is not in an optimal policy for achieving the objectives of balanced industrial development in a socially optimal manner. In view of this, a rationalised system of location based on comparative advantages of different regions will need to be evolved over a period of time, say, a decade or so. For sponsoring a particular type of industrial activity at specific locations, measures like licensing, and fiscal and other incentives rather than generalised policies on transport subsidy, should be of major consideration. The Committee would not, therefore, recommend an extension of the scheme for freight equalisation to more items of raw materials or other inputs. So far as existing freight equalisation schemes are concerned, in principal, there would be a case for their elimination. However, it has to be recognised that certain investment decisions have already been taken on the basis that such schemes would continue. There is also the problem that sudden abolition of freight equalisation schemes in deficit areas may lead to a substantial increase in prices (not only of quantities despatched from other centres but of the entire quantities consumed in these areas). In view of these considerations, the Committee feels that the existing schemes can be phased out gradually only over a period of time. Wherever total supplies in the country are adequate, and the incidence of freight in the final price is not substantial, freight equalisation schemes could be phased out. In general, the Committee would suggest that the concerned administrative Ministries should periodically review whether existing freight equalisation in relation to individual products needs to be continued.

**ANNEXURE I**

*In ter Ministerial Group on Freight Equalisation of Commodities constituted by Planning Commission vide its No. 31/75-RG&P dated 13th June 1975*

**Composition**

- |   |                 |
|---|-----------------|
| 1. Shri S.S. Marathe,<br>Chairman, Bureau of Industrial Costs & Prices,<br>Ministry of Industrial Development,<br>53, Sunder Nagar,<br>New Delhi. | <b>Chairman</b> |
| 2. Shri V.K. Dar,<br>Joint Secretary, Deptt. of Steel,<br>Ministry of Steel and Mines.  | <b>Member</b>   |
| 3. Shri A.F. Couto,<br>Joint Secretary,<br>Deptt. of Civil Supplies and Cooperation,<br>Ministry of Industry and Civil Supplies.                  | <b>Member</b>   |
| 4. Dr. A.K. Sengupta,<br>Economic Adviser,<br>Ministry of Commerce  | <b>Member</b>   |
| 5. Shri Bimal Jalan,<br>Economic Advisor,<br>Deptt. of Industry,<br>Ministry of Industry and Civil Supplies                                       | <b>Member</b>   |
| 6. Shri K.G. Vaidya,<br>Economic Advisor,<br>Deptt. of Econ. Affairs,<br>Ministry of Finance  | <b>Member</b>   |
| 7. Shri S.K. Dhar<br>Director, Department of Coal,<br>Ministry of Energy.   | <b>Member</b>   |
| 8. Shri V.K. Sthannunathan,<br>Director Traffic (Commercial),<br>Railway Board.   | <b>Member</b>   |
| 9. Shri M. Satyopal,<br>Adviser (Industry and Mineral),<br>Planning Commission.   | <b>Member</b>   |
| 10. Dr. Y.K. Alagh,<br>Adviser (Perspective Planning),<br>Planning Commission.  | <b>Convener</b> |

**Terms of Reference**

1. To indicate the existing freight equalisation policies for steel, cement, fertilisers, etc.
2. To suggest the broad principles to be taken into account in the adoption of the freight equalisation policy.
3. In this background, to study the scope and feasibility of adoption of freight equalisation policy for raw cotton to encourage the dispersed and balanced development of the cotton textile industry.



## ANNEXURE II

*List of items priced on the basis off.o.r. Destination*

1. Electric Fan.
2. Electric Lamp.
3. Radio recorder
4. Cables Wires (Certain types)
5. Machinist Steel files.
6. Grinding wheels.
7. Sewing Machine.
8. Tractors.
9. Ball Bearings.
10. Belting.
11. Bicycles.
12. Aluminium.
13. Safety Blades.
14. Locks.
15. Vacuum Flasks.
16. Medicine.
17. Soap.
18. Paints & Varnishes.
19. Toilet requisites (hair oil, face and Talo Powder, cold cream).
20. Insecticides (DDT, igamaxine).
21. Radiator Hose.
22. Bus seat cushion.
23. Bata shoes.
24. Matches.
25. Tooth Brush
26. Clock & watches
27. Biscuits.
28. Baby foods.

*ANNEXURE III**Protection provided by Freight equalisation Schemes*

1. At present uniform rail freight rates are charged for pig iron, steel, cement and fertilisers. The existing freight rate structure thus re-inforces the resource-based character of 'weight losing' industries like steel, cement and fertilisers. On the other hand, it offers added protection to activities using these inputs that are located far away from units manufacturing them or from ports. This paper sets out estimates of the extent of such protection as well as of the potential benefit of equated freight on raw cotton accruing to the cotton textile manufacturing units in regions which have to obtain cotton from far away sources.

**Fertilizers**

2. The uniform freight rate for fertilisers can be expected to bring about, other things remaining the same, a more intensive application of chemical nutrients in regions far away from indigenous sources of supply, or from ports. The protective effect of freight equalisation can, thus, be indirectly measured in terms of the likely induced changes in the relative intensity of fertilisers application in different areas. At present the equated freight is Rs. 4 per bag of 100 kg for nitrogenous fertilisers. Since the nitrogen content varies from one type of fertiliser to another the incidence of freight per unit of nitrogen as well as the benefit of freight equalisation would be the maximum for varieties having the lowest nitrogen percentage. Accordingly, ammonium sulphates, with a nitrogen content of only 21 per cent, was selected for estimating the effect of freight equalisation on fertiliser dosages in different locations. The optimal, that is to say profit maximising, dosages for different fertiliser movement leads were first estimated with the aid of a statistical fertiliser productivity function and the 'class rate' for fertilisers. The dosages were recomputed on the basis of equated freight

rates in order to determine the likely (positive or negative) changes in the intensity of fertilisers use of different distance leads from sources of supply. The results of this exercise are tabulated below:—

Lead (Km.)	Variation in optimal nitrogen dose (kg./ha.)
250	-0.22
500	0.00
750	0.30
1000	0.52
1500	0.92
2000	1.29

Freight equalisation, thus, reduces optimal intensity of nitrogen per hectare in the form of ammonium sulphate by about one fifth of a kilogramme at a distance of 250 km. from the sources of supply. The optimal dosage remains unchanged at a distance of 500 kms. but, thereafter, it gradually increases with the lead, rising to nearly 1.3 kg. at a distance of 2000 km. As the optimal dose itself is close to 127 kg. per hectare at existing prices, the net effect of freight equalisation does not appear to be substantial. However, this conclusion should be treated as tentative for a number of reasons. In the first place the fertiliser productivity function used is an average of functions for three high yielding varieties of wheat in Ludhiana\* : it cannot, therefore, be treated as being typical for all areas and for all crops. Secondly, the productivity function takes into consideration only the application of nitrogen. Finally, the actual fertiliser application in different areas may be well below the optimal because of inadequate supplies. Supply constraints, as also the inability of poorer farmers to mobilise adequate finance and other complementary inputs like irrigation, would render freight equalisation more or less ineffective.

### Iron & Steel

3. Pig iron and rolled steel are basic inputs for a very large number of engineering products. Users of iron and steel pay Rs. 86 per tonne of pig iron, and Rs. 117 per tonne for other categories of steel, as rail

\*The marginal produce in Kg. per hectare is taken to be  $38.49 - 0.272x$ , where  $x$  is nitrogen, application in Kg. per hectare: Source "Fertilisers Application on High Yielding Varieties", S. Roy *Economic & Political Weekly*, December 1970, pp. A 175/A-180

freight for all destinations. However, there is no uniform freight rate for iron and steel scrap, ferro-alloys and special steels which are charged the relevant 'class' rate. Freight equalisation on iron and steel widens the difference between the freight rate per unit of the finished product, on the one hand, and freight rate paid on the quantum of iron and steel required to produce it, on the other. In this manner iron and steel using industries located in regions far away from the steel plants gain a competitive edge over those located near them. This benefit attributable to freight equalisation can, when expressed as a proportion of the price of the product, be considered as the effective rate of protection extended to engineering industries in locations involving long lead movement of iron and steel.

4. As the number of iron and steel using product is very large, the computation of such effective rates of protection was confined to a set of five steel using industries : castings and forgings; structurals; machine tools; motor cycles; scooters and bicycles, and bolts, nuts, rails, rivets etc. Three main criteria were used for selecting this set of industries : existence of capacity in different parts of the country, comparatively high consumption of iron and steel and convenience in estimating the (packing inclusive) weight of finished products. The Annual Survey of industries (ASI) provides data regarding the weight of most of the inputs consumed and the gross value of output. A.S.I. data for 1966 the latest year for which detailed statistics have been published, were used to estimate weight of finished products indirectly. Weight of inputs and materials, including packaging, were added up and adjusted for weight loss owing to some of them, like fuel or special ores, being fully or particularly used up as well as for notional wastage occurring in the manufacturing process. The price per unit weight of finished product was then determined with the aid of the relevant gross output value figures. As there has been a substantial rise in prices since 1966, the actual protection rates should be significantly lower than the estimates based on A.S.I. data and existing rail freight rates.

5. It will be seen from the data tabulated below that even for such steel intensive products as structurals the benefit of freight equalisation is positive only for leads exceeding 1000 kms. Even so, as a proportion of the price of the finished product this benefit works out to just about 2.6 per cent when the lead rises to 2000 kms. In case of other products too the freight equalisation benefit, though smaller, becomes positive only when the lead is rather long.

*Freight Equalisation Benefit (Per cent of output price)*

Lead (Km.)	Machine Tools	Structurals	Castings & forgings	Bolts, Nuts Rivets etc.	Motorcycles, Scooters and Bicycles
250 . . . . .	-0.4	-3.1	-2.8	-3.1	-0.5
500 . . . . .	-0.3	-2.1	-2.0	-2.2	-0.3
750 . . . . .	-0.1	-1.1	-1.1	-1.3	-0.2
1000 . . . . .	0.0	-0.3	-0.4	-0.5	0.0
1500 . . . . .	0.2	1.3	1.0	0.9	0.2
2000 . . . . .	0.3	2.6	2.1	2.2	0.3

6. The estimates of benefits set out above are in effect weighted average relating to all the different qualities and specifications of particular types of products. As such, the cost advantage resulting from freight equalisation will tend to be lower than the average for sophisticated and high priced varieties and to be above it for simpler and cheaper ones.

### Cement

7. Users of cement are charged a flat rate of 48.15 per tonne for all leads. Uniform freight rates for cement and steel reduce the comparative cost of construction at locations involving longer lead movement of these materials. Usually the quantity of steel required for different types of construction is much smaller than that of cement; the reduction in the cost of construction resulting from freight equalisation is, thus, attributable largely to long lead movement of cement. Construction cost and material consumption norms for five different types of structures, obtained from the National Buildings Organisation, were utilised for ascertaining the impact of freight equalisation. One of these five types of structures—agricultural buildings requires only nominal amounts of grey cement and steel so that freight equalisation has no perceptible effect on construction costs. Three of the remaining four types—housing, RCC industrial structures and commercial buildings—require comparatively smaller amounts of steel, the quantity per square

metre consumed being about one-seventh or even less of the quantity of cement. However, the steel norm for industrial steel structures, the last type, is slightly higher than the cement norm.

8. The impact of freight equalisation on construction cost is more or less the same so far as commercial residential and RCC industrial buildings are concerned. There is a slight reduction in construction cost at a lead of 750 kms. for both cement and steel. Expressed as a percentage of construction outlay per square metre (in 1974 prices) the fall in costs ranges from 0.6 to 0.7 per cent. This percentage, however, rises progressively for leads exceeding 750 kms., the cost reduction being of the order of 6 per cent for a lead of 2000 kms. As regards industrial steel structures freight equalisation actually raises costs at a lead of 750 kms. There is a slight reduction in construction costs when the lead increases to 1000 kms., the fall in costs being 2.5 per cent of construction outlay for a lead of 2000 kms.

*Freight Equalisation Benefit (Per cent of construction cost per square metre)*

Lead(Km.)	Residential Buildings	RCC Industrial Structures	Industrial Steel Structures	Commercial Buildings
250	-2.2	-2.3	-1.8	-2.1
500	-0.8	-0.9	-1.1	-0.8
750	0.7	0.6	-1.0	0.6
1000	2.0	1.9	0.3	1.71
1500	4.3	4.3	1.5	3.9
2000	6.3	6.3	2.5	5.8

### Cotton textiles

9. At present raw cotton does not benefit for freight equalisation and the rate class 87.5 is applicable to fully pressed cotton. In the case of iron, steel, cement and fertilisers, the equated freight rate is about the same as the class rate for the relevant average lead of rail movement. In 1973-74, the average lead of fully pressed cotton was 1492 kms. The likely effect of raw cotton freight equalisation on textile manufacture was estimated by taking the class rate of Rs. 186.80 per tonne for 1492 kms. as the equated freight for fully pressed cotton. The

price per unit weight of cotton textile was estimated from 1966 ASI data in exactly the same way as prices of iron and steel manufacturers. The potential benefit of freight equalisation turns out to be rather small; it is positive only for leads exceeding 1500 kms. and works out to 0.5 of price of textiles at a lead of 2000 Kms. For finer and more expensive varieties of textiles the benefit would naturally be lower. Thus even if output is valued in 1966 prices, freight equalisation is not likely to influence much the profitability of textiles manufacture at locations far away from the sources of raw cotton, partly because of the long average lead of cotton moving by rail.

Freight Equalization Benefit (per cent of output price)

Lead (Km)	Cotton Textiles
250	-1.6
500	-1.2
750	-0.9
1000	-0.6
1500	0.0
2000	0.5

10. To conclude with the exception perhaps of cement, freight equalisation based on freight rates for average leads appears to be only marginally effective as a device for reducing the competitive disadvantage of unfavourable locations or for influencing the regional patterns of input use in agriculture.

## ANNEXURE IV

Year	Average Km. a tonne of goods was carried (Kms.)					
	Iron & Steel	Cement	Chemical fertilizers	Coal	Raw cotton (pressed)	Raw cotton (unpressed)
1960-61	697	377	—	664A 413B	817C	—
1962-63	799	400	—	593	925C	—
1963-64	793	401	—	571	1120C	—
1966-67	962D 935E	468	675	540	1102	1086
1967-68	958D 991E	484	786	589	1330	925
1972-73	992D 1026E	641	809	587	1455	775
1973-74	1009D 1026E	635	753	562	1492	770

Year	Average rate per tonne Km (in paise)					
	Iron & steel	Cement	Chemical Fertilizers	Coal	Raw cotton (pressed)	Raw cotton (unpressed)
1960-61	5.99	4.72	—	2.16A 4.11B	9.20C	—
1962-63	6.09	4.76	—	2.58	9.61C	—
1963-64	6.38	5.01	—	2.80	9.72C	—
1966-67	6.38D 6.71E	5.39	4.72	3.12	8.80	9.61
1967-68	6.61D 6.84E	5.66	4.57	3.18	9.64	10.62
1972-73	7.76D 8.41E	6.02	5.96	4.13	9.74	11.90
1973-74	7.76D 8.47E	6.29	6.29	4.19	9.44	11.70

Year	Average rate per tonne (Rs. P.)					
	Iron & steel	Cement	Chemical fertilizers	Coal	Raw cotton (pressed)	Raw cotton (unpressed)
1960-61	41.75	17.79	—	14.34 A 16.97 B	75.16 C	—
1962-63	48.66	19.04	—	15.30	88.89	—
1963-64	50.59	20.09	—	15.99	108.86 C	—
1966-67	61.38 D 62.74 E	25.23	31.86	16.85	96.98	106.36
1967-68	63.32 D 67.78 E	27.39	35.92	18.73	128.21	98.23
1972-73	76.88 D 86.29 E	36.59	48.42	24.24	141.71	92.22
1973-74	78.30 D 86.90 E	39.94	47.36	23.55	140.84	90.09

- A Coal for public.  
 B Coal for Non-Govt. Rly.  
 C For both pressed and unpressed  
 D Booked from Steel Plants.  
 E Booked from other places.

Source: Railway Board.





## ANNEXURE VI

Share of States in production and consumption of Nitrogenous fertilizers

	Production (%)		Consumption (%)		Consumption in Kg. per hectare of Agri. land		
	1967-68	1974-75	1967-68	1973-74	1962-63	1966-67	1972-73
1. Andhra Pradesh	1.9	3.9	13.6	9.6	6.77	12.38	12.23
2. Kerala . .	7.1	6.6	2.9	1.9	3.94	10.83	10.84
3. Karnataka .	—	—	6.4	6.0	2.06	3.89	8.39
4. Tamil Nadu .	11.2	9.3	12.0	11.2	8.64	12.22	24.66
5. Pondicherry .	—	—	—	0.2	—	21.12	64.58
6. Gujarat . . .	10.9	14.5	6.9	7.7	—	3.38	10.14
7. Maharashtra .	12.0	5.1	12.0	8.2	1.49	4.24	5.44
8. Goa . . . . .	—	11.4	—	0.2	—	7.72	8.60
9. Madhya Pradesh	—	0.5	1.9	4.4	0.69	0.18	3.90
10. Uttar Pradesh .	1.6	22.8	17.8	18.2	2.02	4.27	15.68
11. Rajasthan . .	21.2	7.2	2.4	3.1	0.39	0.83	2.97
12. Delhi . . . .			0.1	0.2	2.58	7.46	18.39
13. Haryana . . .			3.9	5.2	—	—	16.22
14. Himachal Pradesh			—	0.2	0.25	0.77	2.28
15. Jammu & Kashmir . . . .				0.5	1.33	9.62	7.30
16. Punjab . . . .	—	3.4	10.2	13.4	3.12	3.31	42.71
17. Assam . . . .	—	3.4	0.4	0.3	0.11	0.50	2.06
18. Bihar . . . . .	20.0	4.9	4.1	3.8	2.02	5.17	7.80
19. Orissa . . . .	10.6	5.4	1.8	2.4	0.81	1.83	4.25
20. West Bengal .	—	1.6	3.6	3.0	1.95	3.80	9.71
21. Tripura . . . .					0.03	0.13	2.22
22. Manipur . . . .				0.3	0.20	1.63	5.41
23. Nagaland . . .						0.20	—
By Product . . .	3.3	—					
All India . . . .	100.0	100.0	100.0	100.0	2.51	4.71	9.85

## ANNEXURE VII

Incidence of freight etc. on cost of cotton

		Period		Av. price per Rs./ Quintal	Freight etc. per quintal	Per cent of price
				Amount Rs.		
1. Bhari Mills, Ahmedabad	Digvijay A	Feb.	70	493	2.8	0.6
		June	70	583	2.8	0.5
		Oct.	70	582	2.8	0.5
	L 147	Feb.	70	490	2.0	0.4
		Oct.	70	511	2.0	0.4
	C.J. 73	Feb.	70	439	2.0	0.5
		Oct.	70	511	2.0	0.4
	V 797	Feb.	70	460	2.0	0.4
		June	70	511	2.0	0.4
	C 02	Oct.	70	532	2.0	0.4
Oct.		70	541	2.8	0.5	
2. Manjushri Textiles, Ahmedabad	C 02	1969-70		528	7.0	1.3
		Digvijay A	"	527	8.0	1.5
		L 147	"	478	9.0	1.9
		A-51-9	"	433	5.0	0.9
		Khandesh 197/3	"	407	4.0	1.0
		320 FSG	"	444	20.0	4.5
		CJ 73	"	469	8.0	1.7
3. Maharaja Mills, Porbander	C 02	Feb.	70	511	25.0	5.0
		Mar.	70	504	25.0	5.0
		Aug.	70	505	10.0	3.4
4. Morarjee Goculdas Spg. & Wvg., Bom- bay	Khandesh 197/3	1970-71		641	27.0	4.2
		Kalyan 757	"	584	28.0	4.8
		Berar 197/3	"	559	27.0	4.8
		L 147	"	693	29.0	4.2
		Combodia B	"	818	33.0	4.0
		Combodia A	"	784	33.0	4.2
		Sankar 4	"	1034	39.0	3.8
		ISC 67	"	994	37.0	3.7
Cotton Mix						
5. Podar Mills, Bombay	20s	1970		482	5.0	1.0
		22s	"	488	5.0	1.0
		30-34s	"	579	5.0	0.9
		47s	"	570	5.0	0.9
		40-70s	"	799	5.0	0.6
Total				515	5.0	1.0
6. Crown Mills, Bombay	1970-71		31.51			
7. Kalyanmal Mills, Indore	1970		28.31			

## ANNEXURE VIII

Prices paid by mills for purchase of cotton

	Rs. Quintal					
	Digvijay A		C02		L 147	
	Feb. 70	Jun. 70	Feb. 70	Jun. 70	Feb. 70	Jun. 70
1. Bihari Mills, Ahmedabad	467—515	570—590	—	—	539—603	—
2. Manjushri Textiles Ahmedabad	458—550	—	—	—	—	—
3. Raipur Mfg. Co., Ahmedabad	485	560	500	—	—	—
4. Arbuda Mills, Ahmedabad	520—545	560	512—538	526—616	—	—
5. Podar Mills, Bombay	479—563	561—572	—	—	510	—
6. Bombay Dying and Mfg. Co., Bombay	593	610	—	—	537	583
7. Crown Mills, Bombay	—	508—610	—	593	—	—
8. Hukum Chand Mills, Indore	555	591	—	—	517—520	540—576
9. Swadeshi Cotton and Flour Mills, Indore	—	562	—	—	—	—
10. Jhajirao Cotton Mills, Gwalior	—	526—598	—	520	—	—
11. Birla Cotton Spg. & Wvg. Mills, Delhi	—	579	—	508	—	—
12. Maharana Mills, Porbandar	—	—	502—520	—	—	—
13. Paravathi Mills, Quilon	—	—	—	526	—	—
14. Amarsinghji Mills, Wankner	—	—	—	500	—	—
15. R.S.R. Gopaldas Mohta Spg. Wvg., Akola	—	—	—	—	—	483
16. Diwan Bahadur R.G. Mills, Hyderabad	—	—	—	—	501—513	564—568
17. Kanti Cotton Mills, Surindra Nagar	—	—	—	—	—	583

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