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KERALA'S INDUSTRIAL BACKWARDNESS:
AN EXPLORATION OF ALTERNATIVE HYPOTHESES

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1. Introduction

As is well known, Kerala's development experience is marked by the attainment of certain social indicators of development ^{1/} which reflect that the people enjoy the highest level of physical quality of life in the country. This achievement has been the result of the approach adopted by successive governments in the State emphasising the development of physical and economic infra-structure, and raising consumption levels of different sections of the people through extensive welfare programmes. The development approach however cannot be considered successful in terms of its achievement in conventional growth-rate in per capita State domestic product. With the low rate of growth of the regional economy, there have not been opportunities for the creation of productive employment on a large scale. Unemployed labour force is swelling at an alarming rate and inflation erodes living standards. The impact of inflation has been severe in Kerala, which has a highly monetised economy and has to meet much of the local demands increasingly by inter-State trade. The State produces very few of the goods that it consumes. On the whole, the fragile production-base has been constraining the sustenance of the positive achievements, and the improvement in living standards of the people. Kerala's development experience thus underlines a simple point: no country or region can maintain a high level of social consumption on a sustained basis without securing an enormous increase in the productive forces of the society and in the output of manufactured goods.

^{1/} For a detailed assessment see K.N.Raj et.al. Poverty Unemployment and Development Policy - A Case Study of Selected Issues with reference to Kerala, United Nations, New York, 1975.

An attempt to identify the weak links in the production structure is critical importance in the planning exercise for regional development. This paper makes an attempt in that direction in an inter-regional framework of analysis, though its scope is confined to the industrial sector. The objective of the study is to explore into the alternative hypotheses that have been advanced to explain industrial backwardness (stagnation) of Kerala. In particular, the focus is on examining the empirical basis of the alleged 'inefficiency' of Kerala's industrial system in terms of labour militancy, high wage-cost, and low productivity. For, the High Level Committee of the State Planning Board has recently recommended strategies for industrial development in the State on the assumption that "wages have also been increased over years without increasing productivity with the result that industries in the State are not able to produce at competitive prices even of its own consumption" ^{1/} It needs hardly any stress that industrial planning and policies for regional development based on apriori knowledge rather than empirical analysis will have the potential danger of taking the economy on a misguided path. This paper therefore aims to provide an overview of locational cost advantage/disadvantage of Kerala by analysing some facets of its industrial-structure as compared to some developed states and the nation as a whole.

2. Structural diversification of the growth pattern

From the view point of structural analysis in an inter-regional framework a noteworthy feature of Kerala is that the proportion of work-force engaged in agriculture is the lowest in the country. And interestingly, the proportion has declined from 55.5 per cent in 1971 to 50.6 per cent in 1981 according to Census data. (See Table 1) Although inter-Censal data

^{1/} Government of Kerala, Report of the High Level Committee on Industry, Trade and Power, Vol.I General Report on Industry, State Planning Board, Trivandrum May 1984. p.111.

are not strictly comparable due to changes in the definition of 'worker', there had been
 a decline of nearly five percentage points in the proportion of agricultural work-force as compared to three percentage points at the national level

Table 1
Structural Shifts in Kerala Economy
(Sectoral distribution of workers and SDP)

(percentage)

Sectors	Workers*			State Domestic Product **		
	1971	1981	% point change 1971-81	1971	1981	% point change 1971-81
Agriculture and allied industries	55.5	50.6	-4.9	49.4	39.9	-9.5
Industry	18.0	19.9	+1.9	16.4	23.8	+7.4
of which manufacturing	15.8	16.1	+0.3	12.4	18.2	5.8
Construction	1.7	3.0	+1.3	2.9	3.1	0.2
Services	26.5	29.5	+3.0	34.2	36.3	2.1

Source: * Census data; ** National Income Data (as reproduced in Basic Statistics Relating to the Indian Economy, Vol.2, September 1984.)

On the face of it appears a significant shift in the structural composition of labour force.

The data on sectoral distribution of Kerala's state domestic product (SDP) also depict a somewhat similar picture of the declining share of agriculture and the increasing share of tertiary sector. By 1981 the share of agricultural sector in SDP came under 40 per cent. Indeed, the fall in

the proportionate share of agricultural sector in GDP is not as pronounced as the decline in that sector's share in the work-force. Nevertheless, the share of agriculture in GDP today constitutes a smaller proportion in Kerala as compared to other major states except Maharashtra, Gujarat, Tamil Nadu and West Bengal. Significantly, Kerala is one among the few States with a relatively high proportion of tertiary sector in both work-force and GDP. Viewed in Kuznet's framework^{1/} of analysing economic growth and structure in terms of shifts in the relative weights and positions in various economic, occupational and other groups within a society, Kerala data tend to suggest a process of structural shift in the growth pattern of the regional economy.

Generally, the structure of a regional economy starts changing both in output and more significantly, in labour-force terms when industrialisation crosses a particular level in relation to population-base and continues to grow fast enough to bring about associated changes in tertiary sectors. It is the rapid industrialisation that acts as the spring-board to structural diversification and stimulates growth in tertiary employment. Has the development path in Kerala taken on such a course? If not, the structural change reflected in the declining share of agricultural work-force between 1971-81, is superficial.

In this context, it is instructive to note that Kerala is one among those states, where the decline in the share of agricultural workers in total work-force in the period 1971-81 is compensated by a rise in the earlier period, 1961-71.^{2/} In other words, there has not been a fairly systematic and persistent trend of change in labour reallocation itself.

^{1/} Simon Kuznets, Economic Growth and Structure (New Delhi, Oxford and IBH, 1974), p.96.

^{2/} The proportion of agricultural workers in the total workforce increased from 53 percent in 1961 Census to 55 percent in 1971 Census.

Any inference on the nature of structural pattern of growth in Kerala, therefore, may be somewhat premature. Further, as has been argued by Alagh^{1/} a pronounced structural change in the pattern of growth in India is confined to a category of States (consisting of Gujarat, Haryana, Karnataka, Maharashtra and Tamil Nadu) where the structural change in labour reallocation has been accompanied by higher than national average increase in per capita value-added in the factory sector. Kerala does not come near those states in terms of the level of industrial development.

In fact, Kerala's overall growth achievement itself is relatively poor compared to many other states including some of those, where the fall in the share of agricultural workforce in the total workforce has been relatively small. The annual growth rate of per capita SDP in Kerala between 1971 and 1981 in real terms has been as small as 0.4 per cent against 1 per cent for all-India (see Table 2). If one takes into consideration annual rate of growth at current prices^{2/} Kerala's achievement looks better with a figure of 8.8 per cent but not impressive enough as compared to national average figure of 9.4 per cent per annum during the decade. The increase in value-added by manufacture in Kerala has been below the national average and the increase in the proportion of workforce absorbed by it has also been marginal. Although the rate of increase in income generated by the secondary sector is proportionately higher than the tertiary sector, the latter's share is larger than the former. The Census data also show that it is the tertiary sector which has by and large compensated the fall in the proportion of agriculture with respect to labour reallocation.

1/ Yoginder K. Alagh, "Some Aspects of Planning Policies in India", lectures delivered at the Govind Vallabh Pant Social Science Institute, March 1985.

2/ The data base of real income estimate at State level is weaker than current price estimates. Besides, it is more meaningful to look at the money income of different states as claims in the real goods and services available in the country as a whole.

Table 2

Growth of per capita state income (net domestic product)

	(Rupees)					
	At current prices			At constant prices (1970-71)		
	1970-71	1980-81	Annual rate of growth (%)	1970-71	1980-81	Annual rate of increase (%)
(1)	(2)	(3)	(4)	(5)	(6)	
Andhra Pradesh	586	1313	8.4	586	649	1.0
Assam	535	1221	8.6	535	538	0.4
Bihar	402	927	8.7	402	447	1.1
Gujarat	829	1828	8.2	829	861	0.4
Haryana	877	2331	10.3	877	1061	1.9
Karnataka	685	1314	6.7	685	637	-0.8
<u>Kerala</u>	<u>594</u>	<u>1379</u>	<u>8.8</u>	<u>594</u>	<u>619</u>	<u>0.4</u>
Madhya Pradesh	484	1131	8.9	484	493	0.2
Maharashtra	783	2261	11.2	783	980	2.3
Orissa	478	1101	8.7	478	529	1.1
Punjab	1070	2771	10.0	1070	1380	2.6
Rajasthan	620	1238	7.2	620	542	-1.3
Tamil Nadu	581	1197	7.5	581	615	0.6
Uttar Pradesh	486	1280	10.1	486	518	0.7
West Bengal	722	1553	7.9	722	761	0.5
All India	633	1559	9.4	633	697	1.0

Source: CSO Estimates of State Domestic Product 1960-61 to 1982-83, New Delhi, Jan. 1984.

It stands to reason that the decline in the proportionate share of agriculture in SDP and a more pronounced proportionate fall in the share of agricultural workforce in Kerala relative to all-India between 1971 and 1981 cannot be interpreted to mean a diversified structural growth pattern of the regional economy.^{1/} Indeed, the growth pattern is marked by considerable expansion of the tertiary sector. This may have been linked with economic activity related to the collection, transport and trade of agricultural products, the expansion of infrastructural facilities and the export base (including export of skill) of the regional economy. However, such a growth process is unstable and also vulnerable to developments outside the State. The development experience of Kerala thus emphasises a simple point: agriculture sector alone cannot be expected to provide the growth dynamism; an industrial base is needed to stimulate and sustain the growth process^{2/}. The argument here is not that industrialisation by itself will absorb the labour force on a large scale in Kerala. It will but provide the base for diversifying economic structure and developing forces of production within the region so as to put the associated changes in the tertiary sector on a stable and continuous growth path.

3. Contribution of industry to State Domestic Product

In common parlance, industrialisation is visualised as wholly confined to factories. That is true neither of India nor of Kerala. The informal (unregistered) sector is an important part of Kerala's economy and accounts for nearly one half of the income generated by manufacturing. However, data relating to the non-factory (unregistered) sector are scanty. The data of a comprehensive nature are limited to value added. Hence,

1/ A similar conclusion is reached in an earlier analysis of work-force distribution. See, P.G.K.Panikar and Grace Sunny, Industrial Distribution of Workforce in Kerala, Working Paper No.11. Centre for Development Studies, Trivandrum.

2/ This is not to deny the need for systematic analysis of the causes of poor performance and identifying measures for upgrading technological base and improving institutional framework for raising agricultural productivity. In this connection the hypothesis of a newer type of absentee landlordism and proposal for further land reforms to give the land to the tiller in Kerala as suggested by Raj deserve consideration. (See K.N.Raj "Natural Resources and Decentralised Development in Kerala" Paper read at the annual conference of Kerala Sastra Sahitya Parishat, Calicut, February 1985.

much of the discussion would be based on ASI data^{1/} relating to the factory sector. We review Kerala's industrial progress first with the analysis of the data on national income generated in the industrial sector defined on lines of international convention^{2/}, and later with a detailed analysis of the factory sector.

Today, the industrial sector accounts for nearly one quarter of the State Domestic Product (SDP) whereas, its share in 1971 was just 16 per cent. The increase of nearly 8 per centage points as against 2 percentage points at all-India level looks impressive. More significantly, some structural changes - in terms of shifts in the organisational structure and output composition - have also taken place. Earlier, manufacturing activity in the industrial sector was not only marginal but also concentrated in unregistered units. The share of the registered sector has now overstripped the unregistered sector in the value added generated by manufacturing.^{3/}

We may now compare the rate of growth in the value-added contribution by manufacture in Kerala and all-India (See Table 3). While Kerala recorded an annual growth rate of 11.2 per cent (at current prices) between 1960-61 and 1970-71, the corresponding figure for the country was 13.5 per cent. In the period since then until 1980-81, the relative growth rate in Kerala has been much lower 9.6 per cent as against 14.2 per cent for the country. As a proportion of national total, Kerala's manufacturing sector even today accounts for a share below its population base. In terms of per

1/ With all the limitations the data collected in Annual Survey of Industries by CSO constitute the single-most comprehensive source in India.

2/ By international convention the term "industrial sector" covers (i) mining and quarrying (ii) all types of manufacturing, (iii) electricity, gas and water supply, and (iv) construction.

3/ The share of registered manufacturing in SDP increased from 5.5 per cent to 9.3 per cent as against 6.8 per cent and 8.9 per cent of the unregistered sector between 1971 and 1981.

capita, the performance looks better, the credit for which goes to a slower rate of population growth rather than to improvement in industrial investment and growth.

Table 3

Income generated by manufacturing sector:
Kerala and all-India.

	(at current price)				Col.1 as per cent of Col.2
	Value-added by manufacturing sector		Per capita value-added by manufact- uring		
	Kerala	All-India	Kerala	all-India	
	Rs.	Rs.	Rs.	Rs.	
	crores	crores	crores	crores	
	(1)	(2)	(3)	(4)	
1) 1960-61	53.8	1856.0	31.8	42.3	2.9
2) 1970-71	156.3	4619.0	73.2	73.2	3.4
3) 1980-81	557.2	17366.0	222.9	259.0	3.2
4) Annual rate of change (per cent) between 1960-61 and 1970-71	11.2	13.5	8.7	7.1	
5) Annual rate of change (per cent) between 1970-71 and 1980-81	9.6	14.2	11.8	11.9	

Source: CSO, National Income data as reproduced in CMIE., op.cit.,

4. Kerala's position on India's Industrial map (factory sector)

To get a clear picture of Kerala's position on the Industrial map of India, a few salient indicators relating to ASI factory sector in 1980-81 may be examined. With just above Rs.2090 crores worth of output from its factories numbering about 3050, Kerala accounts for only 3.4 per cent of the national industrial output from factories and ranks tenth among Indian states.

In terms of value-added, Kerala occupies the same low position with an income of Rs.390 crores, which accounts for only 3.3 per cent of the value added by manufacture in the factory sector at all-India level. In terms of industrial employment also Kerala's position is no better. All indicators, including investment in fixed capital, show that Kerala has a low position as compared to its population base in the country.

The inter-state comparison (Table 4) reveals the stagnancy in the share of value-added. Maharashtra, West Bengal, Gujarat and Tamil Nadu, which together accounted for more than one half of the nation's industrial income in 1960, continue to do so even today. Neither has there been any perceptible fall in their relative contribution nor significant improvement made in the contribution by other states to the national industrial income over the last three decades. States which have shown signs towards levelling up are very few in number (e.g. Karnataka, Haryana and Punjab) and are those, which stood above the national average in the sixties. As for Kerala, the achievement made in laying down an industrial base commensurate with its population base, so far as the factory data indicate, has been poor. In terms of levels of industrial development as reflected in per capita value, Kerala remained below the national average in the sixties so also today.

5. Industrial stagnation: The Evidence

Kerala's performance may now be seen in terms of long-term growth rate in employment and value-added (at constant prices) in the factory sector. It may be noted that the annual compound growth-rate in value added (at constant price) for the period between 1961-79 by the factory sector in Kerala has closely followed the all-India level. (See Table 5) In fact, Kerala has recorded a growth rate marginally above the national average. A similar picture has also emerged with respect to the trend growth-rate with Kerala recording 6.07 per cent as against the national average of 5.56 per cent in value-added. When the whole period is broken

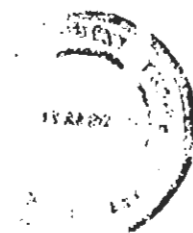
Table 4

Inter-state disparity in levels of industrialisation

	Share in population in 1981 (1)	Share in value-added in factory sector					
		1960-61		1970-71		1980-81	
		Per cent (2)	Rank (3)	Per cent (4)	Rank (5)	Percent (6)	Rank (7)
Andhra Pradesh	7.8	3.1	8	4.0	8	4.9	8
Assam	2.9	3.0	9	1.4	14	1.07	15
Bihar	10.2	6.5	5	5.5	7	4.2	9
Gujarat	5.0	10.5	3	9.1	3	9.5	4
Haryana				2.2	12	2.9	12
Karnataka	5.4	3.2	7	5.7	6	5.1	6
<u>Kerala</u>	<u>3.7</u>	<u>2.7</u>	<u>11</u>	<u>2.9</u>	<u>10</u>	<u>3.3</u>	<u>10</u>
Madhya Pradesh	7.6	2.4	12	3.6	9	5.0	7
Maharashtra	9.2	26.7	1	26.8	1	25.0	1
Orissa	3.9	0.9	14	1.9	15	1.7	14
Punjab	2.5*	3.0*	10*	2.3	11	3.2	11
Rajasthan	5.0	1.0	13	2.1	13	2.8	13
Tamil Nadu	7.1	7.9	4	9.8	4	10.3	3
Uttar Pradesh	16.2	6.3	6	6.6	5	6.3	5
West Bengal	8.0	20.5	2	13.6	2	11.5	2

Source: Based on ASI data reproduced in Basic Statistics Relating to the Indian Economy, CMIE, Bombay.

* Punjab including Haryana.



into two sub-periods with 1969 as the dividing line,^{1/} Kerala is found lagging behind the national average in the second period (i.e. 1969-79). The state has recorded an annual compound growth rate of barely 2.12 per cent as against the national average of 6.07 per cent.

In terms of employment generation Kerala's performance appears far below the national average for the entire period. In general, the growth rate in employment has been much below the growth rate in value added in the Indian factory sector. In the period of slow growth rate in value-added the growth rate in employment has also been markedly slower. These facets appear pronounced in Kerala. Not only has the growth rate in factory employment been low but also has been on the steady decline relative to all-India level.

It appears that industrial development in Kerala has not gone hand in hand with all-India pattern in different sets of time-period. Strangely, when the country as a whole stagnated in industrial growth Kerala prospered whereas, it showed signs of slow down when the country as a whole was recovering. The asymmetry is clearly seen in the growth rate of factory output at constant prices during different growth phases of India's industrialisation. (see Table 6) For instance, Kerala's factory sector (ASI Census) recorded significantly higher aggregate growth-rate during mid-sixties and early seventies (1965-75) when the country as a whole was in a period of industrial recession. Contrarily, when industrial growth in the country as a whole recovered (1975-85) Kerala recorded a growth rate much

^{1/} The choice of 1969 as the dividing line in the present analysis is guided by a number of considerations: In any growth measurement the base period should not be low and terminal period high in performance. The plotting of the growth path showed that after the deceleration in Industrial growth since mid sixties, the growth rates seemly picked up from 1968. Further a real planning thrust towards industrialisation with regional balance as an objective started only with the Fourth Plan. Above all, 1969-70 was a time period of major changes in industrial organization in India.

Table 5

Annual compound growth rates of Industrial
Employment and value-added in Factory sector.

Periods	Employment		Value-added*	
	Kerala	all-India	Kerala	all-India
	(1)	(2)	(3)	(4)
1961-1969	3.20	3.86	10.81	5.70
1969-1978/79	2.30	4.08	2.12	6.07
1961-1978/79	2.72	3.97	6.12	5.89
1961-1978/79**	3.18 (0.79)	3.94 (0.98)	6.07 (0.84)	5.56 (-0.94)

* Value-added at constant price (1961 price)

** Trend Growth rate; figures in paranthesis
Values of R² at 1 per cent significant level.

Source:ASI data calculation (Gourtesy: Dinesh Awasthi)

Table 6

Compound Growth rates in Industrial Output at Constant Prices
(1961)

(Percentages)

1965-75	1960-65		1965-69		1969-74/75		1974/75-1979/80		1965-74/75		Share in total output 1960	
	K	AI	K	AI	K	AI	K	AI	K	AI	K	AI
Food products	7.0	4.0	4.0	3.0	1.0	(-)1.0	1.0	7.0	2.0	0.0	31.0	20.0
Beverages etc.	-	21.0	-	13.0	-	24.0	(-)4.0	-	19.0	-	-	3.0
Tobacco products	-	5.0	-	5.0	-	(-)7.0	-	2.0	-	4.0	-	3.0
Cotton Textiles	9.0	6.0	7.0	3.0	10.0	5.0	6.0	4.0	9.0	4.0	8.0	20.0
Wool Silk etc.	-	46.0	-	8.0	-	4.0	8.0	12.0	-	6.0	-	1.0
Jute textiles	-	7.0	(-)7.0	(-)7.0	(-)4.0	(-)4.0	-	8.0	(-)6.0	(-)6.0	-	5.0
Textile products	(-)4.0	14.0	(-)10.0	1.0	0.0	8.0	8.0	5.0	(-)5.0	5.0	12.0	1.0
Wood products	6.0	14.0	3.0	-1.0	7.0	(-)2.0	(-)5.0	2.0	5.0	(-)2.0	3.0	1.0
Paper products	54.0	11.0	10.0	9.0	5.0	3.0	(-)1.0	4.0	8.0	5.0	2.0	4.0
Leather products	-	13.0	-	12.0	-	9.0	-	7.0	-	10.0	-	1.0
Rubber products	18.0	10.0	15.0	8.0	21.0	4.0	3.0	4.0	18.0	6.0	3.0	1.0
Petrol products	-	11.0	-	24.0	-	10.0	-	17.0	-	15.0	-	2.0
Chemical products	8.0	15.0	12.0	11.0	7.0	9.0	4.0	10.0	9.0	11.0	19.0	8.0
Non-metallic min.	-	10.0	(-)1.0	5.0	3.0	(-)1.0	11.0	8.0	1.0	2.0	4.0	4.0
Metals & alloys	-	14.0	(-)6.0	3.0	15.0	1.0	27.0	9.0	5.0	2.0	-	9.0
Metal products	9.0	16.0	15.0	0.0	4.0	3.0	5.0	2.0	9.0	2.0	1.0	2.0
Non-Elec. Machinery	25.0	24.0	9.0	9.0	5.0	7.0	6.0	6.0	7.0	8.0	1.0	3.0
Electrical	8.0	20.0	8.0	10.0	(-)10.0	8.0	11.0	10.0	(-)2.0	9.0	5.0	3.0
Transport equip.	15.0	12.0	11.0	3.0	(-)19.0	3.0	61.0	5.0	(-)7.0	3.0	1.0	8.0
Others	5.0	24.0	59.0	9.0	16.0	13.0	21.0	7.0	33.0	11.0	12.0	4.0
All Industries	8.0	11.0	16.0	6.0	10.0	5.0	3.0	7.0	12.0	5.0	100.0	100.0

K. Kerala

AI - All India

Source: ASI data computation (Courtesy: Thirthankar Roy, Centre for Development Studies)

below the national average. Also the rate of growth in the aggregate output showed a steady slow-down in Kerala. The steady decline in growth rates in successive period implies that Kerala has been suffering from industrial stagnation since 1970s.

The divergence in the aggregate growth-rate within a certain time-period between Kerala and the whole country may be due to significant difference in the industrial-mix. In more general terms, the industrial-structure hypothesis can be advanced to explain "regional differentiation" process in the context of Kerala. Viewed in that framework the slow pace of industrialization in Kerala and its divergence from the national pattern may be due to weak inter-industry linkage (demand) of a lop-sided (concentrated) industrial structure. Alternatively, the "regional differentiation" process may be explained in terms of region-specific factors such as, labour-supply schedule and the nature of entrepreneurship. For instance, if the labour has turned to be militant as a result of certain inherent nature of trade unionism in the region, the locational patterns of new investment get biased against the region leading to slow down in investment and output growth relative to the whole country. The analytical problem in the second case is one of empirical verification of wage-cost hypothesis i.e., labour militancy pushing up wages and the wage-share in value-added and slowing down the growth rate in investment and output in the region relative to the nation. Needless to say, the industrial structure framework seeks to explain the regional differentiation - divergent growth pattern - in terms of demand variations acting through industrial composition and the region-specific framework taken into consideration supply-side variables specific to the region. The first approach based on Myrdal's theory of cumulative causation implies

structural diversification and the second approach derived from the neo-classical theory emphasises factor or factor price movements as the significant determinant of regional growth patterns.

6. Industrial Structure Hypotheses

An analysis of Kerala's industrial base in relation to that of the nation as a whole the industrial base or a region can be identified by using economic base study concepts ^{1/} may shed some light on the role of industrial structure in shaping its growth rate. For example, it can be said that where the location quotient ^{2/} is less than unity, Kerala has less than its "fair" share and where it exceeds unity has more than proportionate share, of the industry in question as compared to the whole nation. From apriori knowledge it will be possible to identify a number of inter-related set of industries in Kerala based on the value of location quotients. One or more of such sets of industries can then be defined as constituting its industrial base.

To see whether the overall industrial system has a concentrated or a diversified pattern, the concept of coefficient of specialisation ^{3/} can be made use of. If the given region has a proportionate mix of industries identical with the national system the value of specialisation coefficient will be zero. In contrast, if all industrial employment of the region is

1/ Earlier studies have shown that "the type of interregional industrial structure in India lends itself to the analysis by both conventional economic base studies and more complex regional input-output techniques but given block diagonal technology, a regional input-output study has no significant advantage over a location quotient analysis..." (See Yogindeer, K Alagh, K.K.Subrahmanian and S.P.Kashyap, "Interregional Industrial Structure in a Developing Economy: A Conceptual Frame with a case study" Journal of Regional Science, Vol.II, No.3, 1971.

2/ Location quotient is defined as:

$$l_{ik} = \frac{e_{ik}}{E_k} \bigg/ \frac{E_i}{E}$$

where, 1) e_{ik} = employment in i th industry in k th region
 2) E_k = the total industrial employment in k th region
 3) E_i = employment of i th industry in all the region
 4) E = the total industrial employment in all industries in all the regions.

3/ Specialisation coefficient is defined as:

$$S_k = \frac{\sum_i e_{ik}}{E_k} (100) - \frac{\sum_i E_i}{E} (100)$$

concentrated in a single industry its value will be unity. Changes in the value of specialisation coefficient across regions and between different time points will reflect the degree of industrial diversification achieved in the given region. A less diversified industrial structure in a region is likely to cause a growth-rate pattern somewhat different from the nation.

To begin with, let us examine relative shares of different industry groups (2 digit NIC) in total industrial employment originating in Kerala's factory sector in 1980-81. (See Table 7) More than one half of the total industrial employment in Kerala is accounted by food products (39%), electricity (10%) and beverages (7%).^{1/} Other important sources of factory employment include cotton textiles and textile products (mainly knitting mill and coir products), wood and wood products, chemicals and chemical products and non-metallic mineral products. The picture is different if industries are ranked on the basis of value-added: the importance of food products declines and that of chemicals and rubber products increases significantly. Nevertheless, all major industries in Kerala are still based on the natural resource endowment of the state.

The relatively small share of engineering industries is noteworthy. Barely eight percent of total 2.8 lakhs factory-workers in Kerala is today employed in manufacturing activities connected with metals, machinery, and transport equipment. In terms of value-added the corresponding share is 10 per cent. Generally, engineering industries provide stimulus to technical progress and industrial dynamism; Kerala's industrial sector is conspicuous of the inadequate development of these very engineering industries. Indeed,

^{1/} Food-product category in Kerala is dominated by tea and cashew, and Beverage category by bidi.

it is not necessary and not possible that all regions develop all types of industries. In a multi-regional economy with mobility of factor inputs the industrial composition of a regional economy will have a tendency to specialise in certain activities depending upon its natural resource base, localization economies and the local demand base. Yet, inter-regional balance will require a diversified industrial base for each region in order to ensure the required growth stimuli through inter-industry linkages and agglomeration economies. That Kerala's factory employment is concentrated in resource-based industries and that foot-loose type industries occupy relatively small share all tell upon the fragile industrial base of the region's economy.

On the basis of location quotients (Table 7) Kerala's industrial base consists of a set of inter-related agro-based and non-metallic mineral based industries and universal intermediates. In terms of employment the industrial base at 2-digit NIC consists of wood and wood products, paper and paper product, food products, and non-metallic mineral products. Viewed in terms of value-added the core of the industrial base remains same except that rubber products, electricity and Electrical machinery get added to the base. Clearly, such industries as basic metal and alloys, machinery and machine tools, and transport equipment coming under the category of capital goods sector (engineering industries) do not have a "fair" share. The development of engineering industries in the region is rudimentary and domestic demand is largely met by imports.

1/ The table presents location quotients for industries in 1964-65 and 1980-81. A caveat may be entered. The data here relate to ASI census sector (large scale sector) and therefore exclude small scale registered units. The loss in comprehensiveness of coverage is however compensated by a more disaggregated industrial classification with the use of census-sector data.

Table 7

Kerala's Industrial Base 1980-81

NIC code	Industry	Employment			Value-added		
		Percent share in Kerala's aggregate factory sector	Percent Share in all India total for the industry	Location quotient	Percent share in Kerala's aggregate factory sector	Percent share in all-India total for the industry	Location quotient
1	2	3	4	5	6	7	8
20+21	Food products	38.96 ✓	8.34	2.32	9.39 ✓	5.19 ✓	1.58 ✓
22	Beverages	7.16	5.92	1.65	3.17	5.35	1.63
23	Textiles	6.66	1.63	0.45	7.16	2.11	0.64
24	Wool, Silk, Symethetic	0.73	0.92	0.28	1.05	1.09	0.33
25	Jute Textiles	-	-	-	-	-	-
26	Textile products	2.04	5.66	1.58	3.40	11.13	3.40
27	Wood and products	5.14	17.47	4.89	2.61	15.94	4.87
28	Paper and products	3.54	3.60	1.01	4.99	4.49	1.37
29	Leather and Leather products	-	-	-	-	-	-
30	Rubber, Petroleum etc.	2.94	3.51	0.99	9.92	6.41	1.96
31	Chemical and products	5.89	3.36	0.94	17.62 ✓	4.76	1.45
32	Non-metallic mineral	5.25	4.08	1.14	3.83	3.71	1.13
33	Basic metal & alloy	1.30	0.62	0.17	2.82	0.89	0.27
34	Metal products	1.21	1.70	0.48	0.92	1.06	0.33
35	Non-electric Machinery	1.33	0.91	0.26	1.16	0.51	0.15
36	Electrical Machinery	2.77	2.43	0.68	7.08	3.32	1.01
37	Transport equipment	1.77	1.02	0.28	2.31	1.05	0.32
38	Other manufactures	0.62	2.52	0.70	1.27	3.84	1.17
40	Electricity	10.32	3.89	1.09	18.39 ✓	5.02	1.53
97	Repair services	2.26	3.99	1.11	2.12	4.75	1.45

Source: Calculation based on data from ASI 1980-81
Summary Results for Factory Sector, CSO, 1984.

As the process of industrialisation gains momentum one expects the industrial base of the region to get diversified, and the share of agro-based industries to fall . In this context, the trend in Kerala's industrial structure is not very encouraging.

A number of new industries have sprung up in the State during the last three decades with the result that relative importance of some traditional industries is reduced and modern industries increased in the industrial-mix. For instance, ranks of cashew, coir, tiles, printing and rubber products came down in terms of their value-added contribution in the total factory system. On the other hand, petroleum refining, ship-building, and electrical machinery (including electronics) moved up in their relative positions (see Appendix Table I). Yet major industries in Kerala are of the traditional variety and based on the region's natural resources. Today, top 10 industries consist of: Cotton textile (mill sector); Tea; Basic chemicals; Soap, Rubber products; Knitting mills; petroleum refining; Ship building; Aluminium; and Bidi. These top ten together account for 50 per cent of the total value added by the factory sector. The engineering industry-group is conspicuous by its absence, among major group through the last two decades saw the nascent beginning of industries in the area of engineering. A number of product-groups under metal-based (engineering) sector still however do not find a place in Kerala's industrial structure. Engineering industries even today account for less than 15 per cent of the total value-added generated by the State's factory sector. The location quotient for the few items that now appear in the engineering category (capital goods) has value close to zero indicating a less than "fair" share for them in Kerala as compared to all-India.

It stands to reason that the overall industrial base of the State is still characterised by concentration rather than diversification. On the basis of Alagh's estimates ^{1/} of specialisation coefficients of the regions in India (reproduced in Table 8) Kerala has a higher concentrated industrial-base as compared to major states excepting Assam, Jammu & Kashmir. Over time, the value of specialisation coefficient has shown a declining tendency suggesting thereby a process of industrial diversification that is underway in Kerala. However, the pace has been too slow to make any perceptible impact on industrial growth in conformity with the national pattern.

Given the initial composition of Kerala's industrial sector in terms of the types of industries, and the lack of diversification over time, the pattern of aggregate growth rate and its divergence from the national pattern observed during different sets of time-period can well be explained in the framework of industrial-structure hypothesis. It has been argued by some scholars ^{1/} that the decline in the country's industrial growth rate since mid-sixties is largely restricted to certain product-groups, mainly of the engineering industry. To the extent those product-groups account for smaller proportions in Kerala's industrial structure it stands to reason that the stagnation of mid-sixties may not have adversely affected Kerala's aggregate industrial growth. A higher growth rate in Kerala's industrial sector during mid-sixties was perhaps accounted by the maintenance/improvement of growth rates in such product-groups as rubber products, paper products, wood products, chemicals and 'others' that occupy proportionately larger shares in the region's industrial base structure.

During the second half of the seventies some of these major product-groups (e.g. rubber products, wood products and 'others') witnessed slowdown

^{1/} Isher Ahluwalia, Industrial Performance in India, 1982, ICRIER, New Delhi (mimeo)

in output growth-rate; and those product-groups, which influenced recovery at the national level, did not enjoy any significant weight in Kerala's industrial base. Consequently, Kerala recorded a continuous decline in the aggregate growth-rates whereas, the country as a whole improved its growth performance. Based on the logic that "rapid growth of the manufacturing sector is associated with structural changes of the regional economy provided it is sustained for a period of a decade and a half or more" ^{1/} it may be concluded that Kerala's industrial backwardness and the divergence of its growth rates with the national pattern may be due to its lop-sided industrial structure. It follows, structural changes in the region's industrial sector should receive top priority in the State Government's Planning strategy and policies.

7. Structural ratios and technical coefficients

In order to delineate strategy options in the light of an assessment of productive efficiency of the region's industrial system some structural ratios and technical coefficients of industries (2 digit NIC) in the factory sector may be examined (Table 9). We begin with the capital-labour ratio (fixed capital per employee) which reflects the capital-intensity and note that the industrial system in Kerala is dominated by less capital intensive industries as compared to all-India. The capital output ratio (fixed capital per unit of value added) however is high in the overall industrial system and particularly in engineering industries (e.g. metal products, machinery, electrical machinery) reflecting poor capital-productivity in the region. Specialised industries in the region, however, show lower capital output ratios indicating a relatively higher capital productivity as compared to their all-india counter parts. The pattern is more or less same when capital productivity is measured by the ratio of fixed capital per unit of gross value

^{1/} Yoginder K. Alagh, "Some Aspects of Planning Policies in India, op.cit.

of output. The differential between the region and the country, however, is narrow. The product-mix of the region perhaps explains the difference.

If capital output ratio is found high in a region as compared to all-India in a given industry that region is generally regarded to have locational disadvantages for that industry. Based on that logic, inadequate development of engineering industries in Kerala can be explained in terms of region-specific factors. There are however some snags. Historically, the region developed as a plantation economy, a raw material base for colonial export, without creating a nucleus of engineering industries. Surprisingly, the region continued to be of an export-based economy open to international forces despite the planning efforts. To the extent that engineering industries are foot-loose in character and that there is national freight equalisation for major raw materials of the engineering industry, the inadequate development of these industries in the region is not easy to comprehend. Without an engineering base, inter-industry linkages are minimal and hence capital productivity is poor. Further, the lower capital productivity reflected in the high fixed capital to value added ratio in the region may have been due to regional differences in technology levels and product mix patterns. To say the least, the higher capital-output ratio by itself cannot be a sufficient condition to draw upon any firm conclusion on the efficiency of the industrial system. Other things remaining same, the efficiency has to be seen in terms of labour productivity and its relationship with wage-rate.

8. Wage-cost Hypothesis

We may now examine the trend in industrial wages and its relationship with labour productivity in Kerala relative to all-India. It has been ehld by the High Level Committee that "... trade union movements

backed by political parties organised agitations and successfully pushed up the wages and other emoluments of the labour employed in the organised sector".^{1/} The characteristic of the Kerala people as a whole is regarded as inhibiting industrial growth in the State. By viewing industrial stagnation of Kerala in terms of the 'high-wage-cost' hypotheses, the policy thrust is placed on seeking a consensus of agreement among all political parties of Kerala to render investors protection from labour. Indeed, the political viability of such an anti-labour stance in the policy prescription looks dubious. In any case, it is important to examine whether or not the wage-productivity relationship in Kerala is in fact of the type generally assumed and conveniently endorsed by the High Level Committee.

Moreover, empirical verification of the high wage-cost hypotheses will enable us to understand if region-specific factors and in particular, the nature of labour organisation and its influence on the elasticity of labour-supply schedule can provide a framework for explaining the "regional differentiation" process in industrial growth rate in the context of Kerala. As explained earlier, if militancy of labour has turned to be a specific feature in the State's tradition of trade-unionism, the wage rate and the wage-share would be pushed up unmatching with productivity increase and divergent to the national pattern. The region would be unfavourable for industrial location and hence the output growth rate. The examination of wage-productivity relationship in Kerala's factory sector relative to all-India and some industrially advanced region will provide an indirect test of the applicability of region-specific factor approach vis-a-vis industry-structure approach in the context of Kerala.

^{1/} Govt. of Kerala, Report of High Level Committee, op.cit p.110

Table 6

Specialisation coefficient of the regions
of India

Sl.No.	Regions	Specialisation coefficient		
		1960	1965	1973
1)	Maharashtra	0.281	0.298	0.206
2)	Madras and Pondicheri	0.405	0.303	0.286
3)	Mysore and Goa	0.371	0.305	0.299
4)	Uttar Pradesh	0.393	0.363	0.374
5)	Madhya Pradesh	0.432	0.391	0.332
6)	Punjab, Haryana and Himachal Pradesh	0.430	0.399	0.379
7)	West Bengal and Andaman Nicobar	0.446	0.401	0.434
8)	Delhi	0.475	0.4	0.410
9)	Rajasthan	0.488	0.410	0.415
10)	Gujarat	0.494	0.475	0.356
11)	Andhra Pradesh	0.564	0.519	0.456
12)	Bihar	0.610	0.540	0.520
13)	Orissa	0.571	0.601	0.566
14)	<u>Kerala</u>	<u>0.633</u>	<u>0.658</u>	<u>0.566</u>
15)	Assam and Tripura	0.847	0.745	0.715
16)	Jammu and Kashmir	0.889	0.759	0.753

Computed from ASI Data for the Factory Sector.

Source: Table 10 from Yoginder K. Alagh, "Some Aspects of Planning Policies in India", Three Lectures Delivered at the Govind Vallabh Pant Social Science Institute, Allahabad, March, 1985.

Generally, labour productivity gets reflected in the ratio of value-added per employee. Overall, the ratio in Kerala's industrial system is not seen favourable as compared to all-India. This may be due to a poor score in the ratio by the food product group, which occupies the largest share (39 per cent) in the industrial composition measured in terms of employment. In any case, labour productivity by itself is an incomplete criterion unless it is related to wage-rate. Overall, the region's industrial system is placed favourable as compared to all-India in relation to average wages per worker. Industrywise, a relatively higher wages per worker is seen only in those areas where Kerala has no specialisation. The wage-rate is much lower than the national average in food products and cotton textiles and with their dominance in the region's industrial structure, the overall wage rate is also low as compared to all-India level.

In theory, some rough correspondence should exist between the wage rate and labour productivity. In a comparison of regional structure with all-India, industries can be identified in the following typology of wage-productivity relationship:

- a) wage rate is higher and labour productivity is higher;
- b) wage rate is lower and labour productivity is lower;
- c) wage rate is higher but labour productivity is lower; and
- d) wage rate is lower but labour productivity is higher.

As far as the factory sector data show, Kerala's industrial system overall is characterised by lower labour productivity with lower wages as compared to all-India. A situation of higher wage rate is seen generally in the industries having higher labour productivity. The complex situation of higher wages coexisting with lower productivity is seen confined to wood and wood products, non-metallic mineral products and manufacture of machinery and parts. An exploitative situation of lower wage rate with higher lower productivity in major industrial groups is found limited to electric power

Table 9

Structural Ratios and Technical Coefficients in Industries
for factory sector: 1980-81

Industry Code			Fixed capital per employ- yee	Net value added per employ- yee	Wages per work- er	Fixed capi- tal net value added ratio	Fixed capi- tal from out- put ratio	Net value added from out- put ratio	Emolument net value added ratio
			Rs. FK/E (1)	Rs. NV/E (2)	Rs. W/L (3)	FK/NV (4)	FK/O (5)	NV/O (6)	WE/NV (7)
20-21	Food Products	K	2017	3341	1278	0.60	0.06	0.11	0.45
		I	9380	5484	2373	1.71	0.15	0.09	0.54
22	Beverages, Tobacco and Tobacco products	K	2710	6173	3081	0.43	0.15	0.33	0.53
		I	3426	5741	2297	0.60	0.12	0.21	0.47
23	Manufacture of cotton textiles	K	18718	14960	7181	1.25	0.36	0.29	0.54
		I	10416	12392	7103	0.84	0.21	0.25	0.62
24	Wool, silk, etc.	K	34980	20156	1336	1.73	0.37	0.21	0.72
		I	22093	17510	7142	1.26	0.24	0.19	0.48
26	Textile products (including wearing apparatus, etc.)	K	9502	23241	7703	0.40	0.09	0.23	0.36
		I	8251	12087	4807	0.68	0.10	0.14	0.48
27	Wood and wood products, furniture and fixtures.	K	5968	7255	3718	0.82	0.19	0.23	0.58
		I	8021	8135	3326	0.99	0.19	0.20	0.49
28	Paper and paper products and printing and publishing	K	28130	19591	11439	1.43	0.37	0.26	0.63
		I	30498	15912	7224	1.92	0.49	0.26	0.53
29-30	Rubber, Plastic Petroleum and coal products	K	56910	47343	7363	1.20	0.06	0.06	0.18
		I	32881	26158	21913	1.26	0.11	0.10	0.85
31	Chemical and Chemical products	K	82470	41683	13303	1.98	0.42	0.21	0.35
		I	76334	29740	8690	2.57	0.46	0.18	0.39
32	Non-metallic Mineral products	K	54086	10695	6105	0.50	0.23	0.46	0.62
		I	20250	11873	4764	1.71	0.41	0.24	0.53
33	Basic metal and alloy industries	K	34201	30197	13448	1.13	0.22	0.20	0.52
		I	74301	21354	9706	3.48	0.60	0.17	0.52

(Table 9 contd.....)

Industry Code		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
34	Metal products and parts except machinery and transport equipment.	K	31905	10545	5246	3.02	0.57	0.19	0.55
		I	14242	17297	6765	0.82	0.20	0.24	0.47
35	Machinery, Machine Tools and parts except electrical.	K	16595	12144	9079	1.36	0.48	0.35	0.87
		I	19751	22154	8210	0.89	0.22	0.25	0.47
36	Electrical Machinery, apparatus, appliances	K	42558	38054	10516	1.11	0.29	0.26	0.32
		I	22300	26278	9283	0.85	0.20	0.23	0.45
37	Transport equipment and parts	K	17884	18132	10445	9.86	2.75	0.28	0.65
		I	28358	17661	9518	1.61	0.41	0.25	0.63
38	Other manufactures	K	23354	10644	8755	0.82	0.25	0.31	0.37
		I	16249	18989	7291	0.86	0.23	0.27	0.50
40	Electricity	K	116281	24706	7987	4.70	0.31	0.66	0.40
		I	177341	19568	8328	9.06	3.16	0.35	0.50
42	Water supply	K	97692	45384	10502	2.15	0.86	0.41	0.24
		I	42465	16328	6593	2.60	0.73	0.28	0.43
57	Repairs	K	4123	4000	10637	0.31	0.11	0.37	0.83
		I	6551	11005	7921	0.60	0.14	0.24	0.78
All Industries:	Kerala		28621	13967	5023	2.05	0.38	0.19	0.43
	India		38757	34419	6523	0.05	0.01	0.19	0.51

K = Kerala

I = All India

Source: Calculation based on ASI Factory Sector

generation. It must also be emphasised that the general pattern of wage-productivity relationship in the region's engineering industry (e.g. metal and alloy industries, metal products, and electrical machinery) is characterised by higher wage rate with higher labour productivity or lower wage rate with lower productivity as compared to all-India. All considered, there is no clear cut evidence from the factory sector data to suggest that the industrial system in Kerala is characterised by higher wage cost and lower labour productivity.

To get a more realistic picture, the data relating to the large scale sector (ASI Census) alone may be analysed. For, small scale factories differs in their characteristic widely between regions. And locational factors relative to a given industry will be reflected more in large scale than small scale investments. The picture emerging from the analysis of some structural ratios and technical coefficients of ASI census sector for 1980-81, presented a profile of the region's industrial efficiency similar to the one for the whole factory-sector. The picture, however, is sharper as seen from the following wage-productivity relationship observed in the large scale (ASI Census) sector in Kerala:

Wage-productivity relationship	Two-digit NIC groups
a. Higher wage rates and higher labour productivity	22. Beverages, tobacco and products 23. Cotton textiles 26. Textile products (exc. apparels) 27. Wood and wood products. 31. Chemicals and chemical products 33. Basic metals and alloy industries 36. Electrical machinery 37. Transport equipment and parts
b. Lower wages and lower labour productivity	20/21. Food products 34. Metal products
c. Higher wage rates and lower labour productivity	30. Rubber, plastic and petroleum 32. Non-metallic minerals 35. Machinery, machine tools and part
d. Lower wage rates and higher labour productivity	40. Electricity

It is clearly evident that the wage-productivity relationship does not suggest any intrinsic inefficiency of the industrial system in Kerala as compared to the nation.

It may also be useful to put Kerala in comparison with other major states in India. The analysis of key structural ratios and technical coefficients of all industries taken together in the ASI census sector across major states reveals certain interesting features (Table 10). In terms of level of industrialisation Kerala is way behind many other states. This however is not necessarily because of a high wage-cost industrial system. Among the major states Kerala ranks low in terms of wages per employee but enjoys a higher ranks in terms of labour productivity. Its industrial system is marked by lower wage rates and higher productivity. In terms of capital productivity, however, Kerala presents a poor picture as reflected by a higher rank in the capital output ratio. As the record of Maharashtra suggests, higher capital output ratio is not a sufficient condition to reflect upon the industrial efficiency of a region. The noteworthy feature of Maharashtra is that it tops in labour productivity wage rate and levels of industrialisation. What is then characteristic of the industrially developed region is the correspondence between wage rate and labour productivity. Among industrially developed states only West Bengal presents a complex situation of higher wage rate coexisting with lower labour productivity. There is a parity in ranks of other developed states in relation to labour productivity and wage rate. What therefore appears more relevant to judge the efficiency of a region's industrial system is the wage-productivity relationship than the relationship between capital intensity and capital productivity.

Table 10

Some structural ratios and technical coefficients in major States (ASI Census Sector)

	Rank in terms of value- added	Fixed capital per employee		Net value-added per employee		Wages per worker		Fixed capital/ value-added		Emoluments / val added	
		Rs. (1)	Rank (2)	Rs. (3)	Rank (4)	Rs. (5)	Rank (6)	Ratio (7)	Rank (8)	Ratio (9)	Rank (10)
Andhra Pradesh	8	38736	10	4187	15	4421	14	3.46	7	0.50	5
Assam	15	16159	15	9463	14	2901	15	2.64	9	0.40	12
Bihar	9	97560	1	13638	12	9297	2	7.15	1	0.75	1
Gujarat	4	45617	7	17905	6	7029	8	2.54	10	0.47	7
Haryana	12	66140	5	22290	2	6532	10	2.96	8	0.35	14
Karnataka	6	37999	11	15724	9	6673	9	2.41	11	0.12	15
Kerala	10	<u>33976</u>	<u>12</u>	<u>15342</u>	<u>9</u>	<u>5394</u>	<u>12</u>	<u>2.21</u>	<u>12</u>	<u>0.42</u>	<u>10</u>
Madhya Pradesh	7	77310	4	21181	3	8011	5	3.64	6	0.41	11
Maharashtra	1	41202	9	24622	1	9551	1	1.68	14	0.46	8
Orissa	14	61986	6	15771	8	8934	4	3.93	5	0.63	3
Punjab	11	77917	3	18272	5	4986	13	4.26	4	0.39	13
Rajasthan	13	85046	2	19758	4	7258	6	4.30	3	0.43	9
Tamil Nadu	3	30165	13	17664	7	7066	7	1.70	13	0.48	6
Uttar Pradesh	5	44254	8	9960	13	5450	11	4.44	2	0.62	4
West Bengal	2	23835	14	15094	11	9052	3	1.57	15	0.67	2
All-India		45563		16932		7388		2.69		0.52	

Source: Based on ASI Data for Census Sector 1980-81.

Table 11

ASI factory sector: KeralaTrends in wages and labour productivity

Year	Wages per worker Rs.	Value added per worker Rs.	Emoluments per employee Rs.	Valued-added per employee Rs.
1973-74	2241	6402	3020	5585
1974-75	2446	7525	3471	6431
1975-76	2937	7842	3999	6633
1976-77	2875	8655	3855	7233
1977-78	2960	9980	4065	8367
1978-79	3977	12243	4853	10108
1979-80	4316	14920	5305	12211
1980-81	5023	16802	6033	13870
	Corr. 0.983; $R^2 = .9662$		corr. 0.980; $R^2 = .9612$	

The correlation coefficient between wages and the productivity is positive and statistically highly significant. Indeed, industrial wages have increased over years in Kerala but commensurately there has been an increase in the labour productivity.

It is also significant to note (Table 12) that the share of wages in value-added in Kerala's industrial system is below the national average now. The share was above the national average in early 70s, but it showed a declining trend since mid 70s whereas the corresponding share remained more or less stagnant at all-India level.

Table 12

Share of wages in value added in factory sector

Year	Kerala	All-India
1970-71	32.22	35.89
1973-74	35.60	34.56
1974-75	30.76	29.66
1975-76	37.65	33.64
1976-77	33.51	31.16
1977-78	29.66	31.17
1978-79	21.80	31.78
1979-80	28.80	32.31
1980-81	29.90	33.07

The available evidence thus stand to repudiate the general notion of high labour-cost inhibiting the growth of industrialisation in Kerala. It follows that the policy prescription for accelerating industrialisation based on a premise, which lacks empirical support, can only misdirect the planning efforts in the state. To say the least, the high wage-cost hypothesis put forth to explain industrial backwardness and stagnation has no empirical basis in the context of Kerala. If industrialisation in Kerala has not progressed the root cause has to be searched not along the labour-cost but in other directions.

9. Cost-structure and profit pattern

An approach that easily suggests itself is an assessment of locational advantages/disadvantages in terms of total costs and their components. The aim of the approach is to distinguish differences in physical factor productivity and factor prices for each component of total cost of those industries which have a location quotient less than unity in a given region.

This will help to understand whether the lack of a "fair share" of a given industry in a given region is due to its locational cost-disadvantage. However, such an analysis needs cost-output time series data from units of different sizes in each region in the country. That would but constitute a separate study by itself.

As an alternative, we may here attempt a static comparison of the industry-level cost structure in Kerala with that for the country using ASI data for 1980-81. The choice of the Census sector instead of the whole factory sector is guided by the consideration of capturing the average behaviour of loss-heterogenous industries in terms of size characteristics. The cost structure of an industry is viewed in terms of percentage shares of major components (costs of fuel, raw materials, other purchased inputs, emoluments and supplements to emoluments, rent, interest, depreciation, and profit) in the value of output (= total production + profit/surplus). The analysis can be expected to provide the profile of the region's cost-advantage/disadvantage from location, size effect held constant, as compared to all India and the major industrialised states.

The pattern of cost of production and profit in major industries in Kerala. (Table 13) indicates that the region's industrial system is in a disadvantageous position with respect to material-cost and interest components in its cost-structure. A relatively higher material component in the total cost as compared to all India partly is the reflection of either poor physical productivity or high input prices. The core industries in the region (e.g. food products and paper & paper products) are however seen to have lower material cost as compared to the corresponding share in the cost-structure of these industrial groups at the national level. The overall higher material-cost component in the region's cost structure cannot therefore be attributed to material transformation inefficiency. It is more likely to be the

Table 13

Pattern of cost of production and profitability in major industries (ASI Census Sector : 1980-81)

SIC Code	As per cent of gross value of output									Profit as per cent investment capital
	Fuel	Material	Other inputs	Emoluments	Supplementary emolument	Rent	Interest	Depreciations	Profit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
21 K	2.31	73.67	8.69	6.98	0.89	0.22	1.81	0.80	4.65	19.24
I	3.47	74.70	9.30	5.75	0.58	0.13	3.61	2.05	6.40	
22 K	2.54	57.56	12.95	9.83	0.91	0.05	2.59	2.85	10.60	25.79
I	3.03	58.43	16.90	8.30	1.07	0.39	3.09	1.57	7.18	17.25
23 K	3.25	53.22	10.90	15.71	2.32	0.05	4.24	3.26	7.41	11.21
I	7.45	54.66	8.40	16.81	2.42	0.11	4.09	2.49	3.57	7.82
26 K	2.38	63.96	2.29	10.70	1.88	0.05	0.69	0.69	16.22	37.83
I	1.55	56.70	25.02	7.58	0.94	0.53	3.31	1.08	2.92	9.06
27 K	4.82	56.40	7.40	19.35	2.90	0.19	6.07	2.31	0.59	1.03
I	4.20	56.67	8.39	14.27	1.61	0.23	4.77	3.11	6.07	8.06
28 K	2.78	49.04	16.92	16.92	2.55	0.26	3.39	5.26	2.79	3.91
I	10.92	48.41	8.84	15.00	1.55	0.27	4.65	4.75	5.48	6.93
30 K	0.50	92.82	0.82	0.81	0.18	0.05	3.00	0.85	0.99	4.56
I	1.29	84.78	4.72	2.38	0.38	0.07	1.88	1.23	3.21	8.82
31 K	9.13	57.57	5.81	7.61	1.57	0.05	4.72	5.74	7.82	10.48
I	9.03	56.11	11.06	7.32	1.19	0.05	4.72	5.28	4.85	6.02
32 K	24.14	23.71	7.20	27.61	4.71	0.38	0.04	1.89	10.37	27.59
I	19.89	42.95	9.30	11.89	1.65	0.19	3.62	4.06	6.46	9.19
33 K	11.66	57.58	8.97	9.85	1.43	0.26	2.45	1.65	6.01	8.22
I	13.67	53.37	9.81	9.90	1.49	0.11	3.55	4.75	3.34	3.07
34 K	4.97	59.60	13.20	12.61	1.97	0.23	5.90	3.33	(-)1.73	(-)2.67
I	3.17	55.55	11.19	13.53	1.96	0.29	4.47	2.10	7.74	15.56
35 K	5.20	42.72	7.34	36.76	6.58	1.38	9.45	6.26	(-)15.72	(-)9.93
I	2.18	54.57	15.49	12.13	1.79	0.23	4.27	2.54	6.76	10.31
36 K	1.72	60.71	8.84	8.64	1.36	0.20	7.51	2.34	8.65	13.06
I	1.84	59.41	11.67	11.23	1.75	0.23	4.13	2.09	7.61	12.16

Table 13 contd.....

NIC Code		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
37	K	2.40	53.69	10.83	18.33	2.14	0.19	20.25	4.43	(-)12.26	(-) 2.5
	I	3.03	57.47	9.17	16.70	2.02	0.20	3.14	4.41	3.83	4.8
38	K	0.60	46.17	20.07	10.87	1.40	0.06	6.10	1.94	12.88	20.2
	I	1.55	51.96	12.88	14.28	2.06	0.24	4.82	2.83	9.54	12.4
40	K	0.56	1.58	23.02	26.62	0.06	--	55.13	8.69	(-)15.67	(-) 4.7
	I	2.84	45.56	9.94	17.47	1.16	0.70	17.88	6.76	(-) 2.50	(-) 0.6
97	K	4.84	12.26	40.04	27.74	2.06	0.15	7.82	2.02	3.07	21.8
	I	4.57	39.08	25.60	26.11	2.53	0.07	0.50	1.16	0.33	1.1
All Industries	K	3.90	67.42	6.68	8.22	1.03	0.08	7.06	2.30	2.72	3.9
	I	8.87	51.11	11.76	12.53	1.62	0.26	5.66	4.03	4.16	4.3

K = Kerala

I = All India

Source: ASI Census Sector Factory Data 1980-81.

reflection of regional differences in input prices especially prices of materials that go into engineering industries. Illustrative cases include the manufacture of basic metals and metal products, for which raw material and other purchased inputs have to be imported. Detailed case studies are needed to confirm whether the higher material-cost component in Kerala's industrial cost-structure is due to higher input prices in the region.

In terms of locational cost-advantages, the region's industrial system is placed in a favourable position with regard to fuel costs, labour costs and rent components in the cost-structure. These advantages are significant in the case of engineering industries as seen from relatively lower proportion of these items in the cost-structure. The surplus generation (profit) as a proportion of the value of output in the region is however low as compared to all-India. In particular, almost all engineering industry-groups show net losses in the state.

The analysis of inter-state variations of the cost-structure indicates (Table 14) that Kerala is a region which has the least fuel cost. The share of labour cost also is low as compared to industrially advanced regions, except Gujarat. In terms of the share of material-cost Kerala is in a disadvantageous position as compared to industrially developed regions. And Inter-costs also appear relatively high in the region's cost-structure. Consequently, profit as a proportion of value of output is relatively low in Kerala as compared to industrially developed regions in the country.

When profitability is measured as return to total investment (i.e., profit as a percentage of invested capital) Kerala's record of overall profitability is on par with the all-India figure. It is however, worth noting that the profitability recorded by engineering industries is lower in Kerala than their counterparts at all India level and further, some activities like the manufacture of machinery and transport equipment in the

region, in fact, recorded losses. The profit ability of industrial investment in Kerala is low as compared to the more industrially developed states, except West Bengal.

All considered, the pattern of regional production costs and profitability underlines Kerala's locational advantages in terms of costs of fuel and labour costs as compared to all India and industrially developed states. In view of locational disadvantage in material cost and interest cost, however, the profitability in the region is low particularly in engineering industries, we therefore conclude; the region's industrialisation can not be explained fully in the framework of locational cost-advantage/disadvantages. If at all the cost-framework is used, the locational cost-disadvantage of Kerala looks connected with its lop-sided industrial structure and not with the high labour cost.

10. Other region-specific factors

This does not imply that region-specific factors do not play any significant role in determining the regional growth pattern. Indeed, sources of industrial growth in a region are complex and change with region-specific environment as well. There are however no easy ways of identification. Following conventional wisdom one may list out some key elements and examine how the region is placed at a time period in respect of each. Obviously, the list should include both demand and supply-side variables.

With regard to the demand, the relatively low per capita State Domestic Product at first sight would present Kerala as an unattractive location for industrial investment. In particular, fluctuations and the stagnation in agricultural growth rates in the State will receive consideration in the context of the agricultural-manufacturing linkage hypotheses

Table 14

Industrial cost-structure of major states : 1980-81
(ASI Census Sector)

States	Cost as percentage of value of output									Profit as a percentage of invested capital
	Fuel	Material consumed	Other inputs	Emoluments	Supplementary to emoluments	Rent	Interest	Depreciation	Profit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Andhra Pradesh	6.99	57.48	8.35	13.38	0.88	0.21	5.65	4.16	2.90	2.84
Assam	6.50	64.96	5.29	7.52	0.64	0.01	2.93	4.51	7.64	7.54
Bihar	12.64	56.53	7.29	12.26	1.63	0.06	4.84	7.40	-2.65(-)	1.76
Gujarat	9.33	61.60	9.00	7.94	1.00	0.13	4.25	3.35	3.40	4.98
Karnataka	7.22	60.46	8.29	7.26	1.01	0.15	3.54	3.80	8.27	9.78
Kerala	6.62	52.00	12.08	12.99	1.86	0.21	5.42	4.87	3.95	4.27
Madhya Pradesh	3.90	67.42	6.72	8.22	1.03	0.08	7.06	2.80	2.77	3.87
Maharashtra	10.76	46.80	10.97	11.10	1.60	0.10	7.05	4.63	6.99	5.04
Mizoram	5.98	57.55	12.22	10.20	1.52	0.47	4.02	2.45	5.59	8.86
Nagaland	12.24	46.11	14.58	12.60	1.39	0.05	2.99	7.10	2.94	2.31
Rajasthan	6.57	60.21	10.93	7.12	0.63	0.10	6.68	4.44	3.32	3.48
Tamil Nadu	6.14	54.59	9.38	11.00	1.28	0.16	7.49	4.80	5.16	3.79
West Bengal	6.27	61.10	10.11	9.49	1.29	0.12	4.01	2.80	4.81	7.64
Uttar Pradesh	10.73	55.52	10.04	13.22	1.26	0.14	8.70	2.66	-2.27(-)	1.79
West Bengal	7.44	57.33	8.43	16.64	2.14	0.21	4.12	2.27	1.38	1.83
All India	8.87	51.11	11.76	12.53	1.62	0.26	5.66	4.03	4.16	4.14

Source: Based on ASI Data, Census Sector 1980-81.

generally advanced to explain industrial growth (stagnation) ^{1/} and its regional differentiation process.^{2/} However, some empirical studies^{3/} tend to suggest that agricultural growth trends in States do not adequately explain changes in the growth rates of their manufacturing sector and inter-state differences in particular time periods. In any case, as the most densely populated part of the world Kerala has a large consumer market. The State economy is one with high liquidity as a result of emigrants' remittances. Although precise estimates of regional demand elasticities are not available, casual empiricism suggests the increasing demand for factory-made consumer goods especially durables. At present, the regional demand is increasingly met by imports from other regions. In any case, industrialisation in a multi-regional country need not be exclusively based on local markets though it can act as a catalytic agent. What is significant is not the direct demand, but inter-industry demand acting through industrial-structure. The lop-sided and concentrated structure of the industrial sector in the State presumably is restricting the inter-industry demand and acting as a serious constraint to the acceleration of the region's industrial growth rate. The type of industrial-structure in Kerala apart from acting through inter-industry demand may be adversely affecting the supply-side variables due to the lack of technological linkages and agglomeration economics.

On the supply side are to be considered such variables as raw-material infra-structure, labour and other factors. The State is handicapped by geographical location for metallic mineral resources. The handicap gets

1/ K.N.Raj, Growth and Stagnation in Indian Industrial Development, Economic and Political Weekly, Annual Number Feb.1976.

2/ Krishna Bharadwaj, Regional Differentiation in India: A Note, Economic and Political Weekly, Annual Number, Feb. 1982

3/ For instance, Thirthankar Roy, Inter-State Variations in Industrial Growth Rate, M.Phil Thesis, Centre for Development Studies, 1984 (Ch.3)

compounded by the lack of agglomeration economies. A strong point in favour of the State is the availability of skilled labour. And as shown earlier, labour cost relative to productivity in Kerala cannot be considered as a constraining factor. Adequate supply of skilled and semi-skilled labour flow, excellent educational base and social ethos conducive to modernization place the region favourable for locating skill-intensive and technology oriented modern foot-loose industries. The region's saving rate is also relatively high to facilitate capital formation. Kerala is also a region with a well-developed physical and social infra-structure. On the basis of CMIE Index of Infra-structure Development covering sixteen indicators Kerala scores fourth rank among the major States in India. Above all, no other major state in India has a social infrastructure so developed as in Kerala. Many commentators have praised the state for providing extensive welfare programmes comparable with advanced country standards. This is an important aspect, for "locational attractions include social amenities, a pleasant and healthy environment, climate and many other kinds of influences"^{1/}.

All the above and many more are supply-side ingredients which are required for industrial growth but all these are of secondary importance. The first order conditions include (1) propensity of the labour force to accept some minimum degree of discipline (2) entrepreneurship of the community, and (3) government policy framework. If these are available, the second order factors can be created in a planned economy. Some brief comments on these first order conditions would, therefore, be helpful in identifying the constraints of industrial growth.

^{1/} H.W.Richardson, Regional Growth Theory (London Macmillan, 1977), pp. 108-9.

The traditional theory of location postulates economic rationality of entrepreneurs and says that industries tend to be located on the basis of maximisation of profit and minimization of cost. It has now been recognised that "profit maximization or cost minimization is an unsatisfactory goal for location decision makers" and "location decision, more than most managerial decisions, has to take into account psychic income's influences and other personal factors, which are not easily compatible with narrow definition of economic rationality".^{1/} The difference in entrepreneurs psychic costs and income between regions are in the ultimate analysis dependent on their perception of a given region's secure and steady environment for business. These perceptions can get distorted by subjective preferences or misgivings of the objective conditions in potential locations. Even if the strict calculus of costs and returns may indicate a given region's prospects for a high return due to its nearness to cheap labour, availability of power, capital, etc., the entrepreneur's perception of the labour force in a given region as militant and trouble-makers adds to psychic cost and hence distorts locational decision. From the view point of the climate for industrial investment, therefore the propensity of the labour force to accept some minimum degree of discipline becomes an important factor in influencing the locational attraction of a given region.

In the above context, there is a general feeling among entrepreneurs that labour is more restive in Kerala than elsewhere. A survey

^{1/} Ibid.

carried out by a social scientist^{1/} among a sample of Malayalee small-scale entrepreneurs operating in Tamil Nadu and Karnataka indicated cheap labour and peaceful atmosphere as the most important factors influencing their decision for locating the units outside Kerala. Macro data on mandays lost through industrial disputes show that the annual average mandays lost during 1978-82 was as high as 205 per 100 workers in Kerala's organised sector as against 131 for all-India. The data tend to suggest the militant characteristics of Kerala labour. It is but important to recognise that the high incidence of industrial disputes can as well reflect to the peculiarities of the states industrial structure dominated by dying and problem-hidden traditional industries. Pending detailed studies on the nature of industrial disputes by causes, by types of industries and by types of employers, etc. any attempt at generalisation of the characteristic of Kerala labour is indeed cynical. It may also be underlined that the average loss of mandays due to industrial disputes in more developed regions like Tamil Nadu, Karnataka and Maharashtra is equally substantial. Besides, the recent data show that the incidence of industrial dispute in Kerala is on the decline.^{3/} Presumably the trade-union culture in Kerala may be such that there may be difference of degree in the approach of the Kerala workers in dealing with 'stiff-necked' employers as compared elsewhere. Basically however all workers are capable of reacting favourably and performing well when led by a strong and

1/ M.A.Oomen, "Mobility of Small Scale Entrepreneurs. A Kerala experience," Indian Journal of Industrial Relations, Vol.17, Number 1, July 1981.

2/ Referring to industrial disputes in Kerala, the High Level Committee Report quotes a cynic as saying "like the coconut tree we stand apart from each other with our head high. We are collectively foolish despite being individually intelligent". (p.110 of the Report).

3/ The data for 1983 show that average mandays lost per 100 workers in Kerala was only 105 as against 510 for West Bengal, 469 for Maharashtra and 158 for all-India. The 1984 data present a still more encouraging picture.

at the same time sympathetic management. Therefore, labour organisation in Kerala per se cannot be branded as the constraining factor in Kerala's industrial stagnation and backwardness.

Nevertheless, the fact remains that Kerala is seen by entrepreneurs as a region lacking industrial peace. The perception may have been moulded by lack of appreciation of the positive role of unionisation or by communication gap. The political environment may also mould the perception. But the perception prevails and tends to discount "psychic" income and other locational advantages in the state. It is in that sense region specific factors and in particular the labour can be an explanatory variable in the regions industrial stagnation.

This takes us to entrepreneurship, which is another critical factor on the supply-side. Kerala is often cited as a typical case; industrial growth is constrained by lack of adequate number of entrepreneurs. There is a general notion that a Malayalee would put his savings safely in a bank and earn modest interest regularly but would not risk it to earn a better return in a business enterprise. A talented business executive from Kerala would gladly join on enterprises as Managing Director and run it very competently but he himself, even if he has funds, would not venture to start an enterprises of his own. The risk-taking trait in Keralaites is generally taken for granted as poor. Indeed, the entrepreneur class in Kerala may not be comparable to that in Gujarat. Yet, it cannot be ignored that certain communities in the region (e.g. Syrian Christians) have demonstrated their risk-taking trait in trading, financial and plantation-related enterprises. Apart from the internal characteristics of a community

towards risk-taking, entrepreneurship relevant to industrialization connotes the external environment which determine the opportunity for profitable investment. If industrial entrepreneurship is dormant in the state, the particular environment may be partly responsible. As pointed out by Raj there is no clear evidence yet of growth of entrepreneurship in Kerala except at the fringes; this appears to be less due to lack of the necessary ability than to the existence of other seemingly more attractive alternatives.^{1/} The situation seemingly has not changed since then.

While the importance of entrepreneurship is recognised in a capitalist relations of production, it is poor in logic to argue that a society lacking in entrepreneurial tradition should remain industrially underdeveloped notwithstanding other locational advantages. Just because a society is endowed with the people who have developed risk-taking trait for sociological or historical reasons it does not follow that the region would get industrially developed. Rajasthan is a region well endowed perhaps even better than Gujarat, with an entrepreneurial community but it is one of the least industrially developed regions in the country. If the Keralites lacks the quality of private entrepreneurship, the responsibility of the State Government is greater to take up the leadership role as an entrepreneur first and second, to create the necessary external environment for entrepreneurial development. This requires appropriate planning policies and programmes for developing the confidence of the people for resource mobilisation and deployment in industrial activities.

II State Government's Policy

In the context of Kerala the role of the State as an investor assumes critical importance for historical reasons. The level of private

1/ K.N.Raj Approach to the Planning of Kerala's Economy, in Planning for Prosperity in Kerala, Delhi Malayalee Association, N.Delhi, 1960 p.42.

investment in Kerala have remained historically very low. Even today the private sector accounts for only about one third (32.6%) of the total investment of Rs.1192 crores in large and medium industries. (See Table 15). It is the public sector investment that sustain industrial activities in the state: Central sector accounts for 52.6 per cent and the State sector 12.1 per cent of the total investment. Reasons for this are many among which, the important ones are embeded in the history: the lack of industrial infrastructure investment under colonial policy and export-base approach to regional development during the post-independent period. The pattern of development diverted private investment into relatively quick-return activities related to plantation, contracts for public welfare programmes financial enterprises and commerce at the cost of industrial activities. The emerging industrial structure accentuated by the poor availability of industrial minerals, was too lop-sided to ensure inter-sectoral linkages and agglomeration economies for the overall industrial progress. Most of these disadvantages still persists in Kerala and therefore, as in the past industrial advance will greatly depend on public sector investment.

Indeed, the state government has set up a number of industrial ventures exclusively under its control and jointly with private sector; has been liaisioning with the Central Government for location of Central Government projects as well private enterprises under Industrial (Development and Regulation) Act, and has been providing fiscal incentive and infrastructural facilities (e.g. industrial estate programme) for the promotion of small scale industries in the state. An assessment of the effectiveness of the State government policy framework in all these directions is necessary to identify the elements in Government policies and programmes that may have constrained the pace of industrialisation in the region. An attempt towards

Table 15

Organisational Pattern of Investment in Large & Medium Industries in Kerala
as on 1983

Industry	Central Sector		State Sector		Joint Sector		Cooperative Sector		Private Sector		Total	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
1. Agro-based	96 (0.15)	0.94	5.67 (3.95)	5.55	148 (8.25)	1.45	677 (47.85)	6.63	8720 (22.39)	85.42	10208 (8.56)	100.00
2. Forest	14159 (22.58)	63.40	226 (1.56)	1.02	292 (16.28)	1.30	-	-	7657 (19.65)	34.28	22334 (18.73)	100.00
3. Marine	-	-	-	-	-	-	-	-	50 (0.13)	100.00	50 (0.04)	100.00
4. Mining/Mineral	796 (1.26)	36.07	600 (4.16)	27.19	272 (15.18)	12.32	-	-	539 (1.39)	24.42	2207 (1.85)	100.00
5. Textiles	1270 (2.02)	11.70	1412 (9.80)	13.02	161 (8.98)	1.49	704 (49.75)	6.49	7302 (18.75)	67.30	10849 (9.10)	100.00
6. Chemicals	30085 (48.00)	73.52	5767 (40.00)	14.10	765 (42.66)	1.87 (2.40)	34	0.08	4268 (10.95)	10.43	40919 (34.31)	100.00
7. Electronics/ Electrical	1031 (1.65)	9.50	4618 (32.03)	42.57	155 (8.65)	1.43	-	-	5045 (12.95)	46.50	10849 (9.10)	100.00
8. Engineering	15254 (24.33)	69.83	1224 (8.49)	5.60	-	-	-	-	5368 (13.79)	24.57	21846 (18.32)	100.00
All Total	62690 (100.00)	52.56	14414 (100.00)	12.07	1793 (100.00)	1.50	1415 (100.00)	1.20	389449 (100.00)	32.66	119262 (100.00)	100.00

Figures in parenthesis percentage and vertical total

Source: Based on table VII-3, Report of the High Level Committees on Industry, Trade and Power, Vol.I, State Planning Board, Trivandrum 1984.

such an assessment can be expected to pay rich dividends in terms of directions for industrial planning and policies. It is beyond the scope of the present paper to deal with such an omnious task, but a quick scanning of some relevant data and literature tends to suggest that the Government policy framework has not been effective enough to pull the regional economy out of industrial underdevelopment.

To illustrate, industrial investment in the State sector, as pointed out by the high level committee,^{1/} did not receive adequate attention in the development plans. Besides, the pattern of State investment appears top-sided. The limited State investment in large and medium industries is concentrated in chemicals and electronics (72% of State investment). The meagre share (9%) in the engineering industries reflects the lack of dynamism on the part of the State to enter into fields where private sector is dormant but which are vital to ensure a diversified industrial structure and growth. It is also noteworthy that the States initiative in promoting private entrepreneurship through Joint Sector specially in fact-loose industries has been poor. Further, investment in the public sector enterprises of the state has not been yielding adequate returns with a number of enterprises continue to incur losses which in a large number of enterprises accumulated beyond the value of paid-up capital. The reasons for the poor performance are complex and are not, as generally believed, confined to labour troubles and organisational weakness. No less important are product choices, marketing arrangements, pricing policy, inter sectoral linkages, choice of technology, modernization, level of R&D, managerial autonomy and other factors connected with the industrial planning.

^{1/} Government of Kerala, Report of the High Level Committee, op cit p.126

The State government offers on the pattern of other industrialised States for industrial dispersal a long list of incentives and concessions to attract private investment from within and outside the region.^{1/} The state has also set up institutional machinery for the promotion of modern small scale industries. As a general point, an environment of every state vying with each other in providing such fiscal incentives reduces their effectiveness as location-influencing factor. In the particular case of Kerala, the implementation of these schemes is not carried out with the same business-like spirit as in some industrially developed regions. That the high level committee^{2/} found Kerala's performance in the matter of promoting industrial estates poor when compared to neighbouring States illustrate the point. Presumably, the promotion of small scale industries is not likely to make much headway as the development of large scale and medium scale has been lagging behind most in Kerala. As has been shown in the case of Gujarat the success of small-industry development strategy depends on efficient planning of inter-related activities so as to take advantages of linkage potential within the local economics.^{3/} In the case of Kerala it seems efforts are taking to generate inter-industry demand by planning technologically inter-related industrial clusters. The State also lacks dynamism to design imaginative policies/programmes that would kindle the innovativeness of local industrialists

It may be that the ability of State to provide the necessary lead is greatly constrained by the lack of financial resources. Unfortunately, the

1/ Kerala Government offers investment subsidy, interest-free, sales tax loans, exemption from sales tax for the first five years of small scale units, heavily subsidised electricity tariff, margin money assistance and the like.

2/ Government of Kerala, Report of the High Level Committee, op.cit. p.21.

3/ See K.K.Subrahmanian, Linkage of Small Scale Industry, Indian Journal & Labour Economies, ed. 76

Central government investment also has not been significant enough to help the situation. The data on the distribution of investment in Central Government undertakings across states indicates that Kerala's share is below its population base and surprisingly has been on the decline. In March 1983, Central Government investment in Kerala remained at Rs.618 crores accounting for just below 2 per cent of the total. This cannot necessarily be interpreted to mean a "step motherly" treatment from the Centre towards Kerala. For, relatively larger resource allocation to states like Bihar and Madhya Pradesh are to be seen in the context of the compulsion of the natural resource location and the weight given to economic backwardness in plan resource allocation. Yet, a disproportionate share for Kerala in Central Government investment in foot loose industries, which are not necessarily tied to location of raw materials, tend to suggest some cynical favouritism and political opportunism in the interregional allocation of Central public sector investment. The data on the regional distribution of industrial licenses/letters of intent under Industrial (Development and Regulation) Act so also on the financial assistance disbursed by financial institution tell a similar dismal story. All these indicate to some measure the inefficiency of the State Government's liaison with the Central Government in relation to resource allocation for the region's industrial development. Viewed in that perspective, the State Government's policy framework can said to be lacking in dynamism for removing the constraints on both the demand and supply side to structural diversification and rapid industrialisation.

12. Conclusions

On the whole, the discussion leads us to conclude that viewing industrial backwardness (stagnation) of a State exclusively in terms of region-specific factors e.g. characteristic of labour, nature of trade-unionism and quality of entrepreneurship - is illogical and irrelevant in the context of Kerala. In particular, the high wage-cost hypothesis to explain stagnation in industrial growth-rate and its regional differentiation process is devoid of empirical support in the case of Kerala. Planning strategies based on the populist notion of trade union movements pushing up wages without corresponding increase in the productivity may misguide developmental efforts in the State. The search light should focus on the industrial-structure hypothesis which emphasises inter-industry demand and agglomeration economies as factors determining the growth pattern.

Indeed, supply-side factors especially, some degree of labour-discipline and external environment of entrepreneurship are of significance. Viewed in the historical perspective, the pace of industrialisation in the region largely depends on the Government's policy framework towards industrial planning. The role expected from the Government of a state like Kerala is dynamic one of providing the lead for the modernisation and diversification of industrial structure by public sector investment and by creating a climate of confidence for private investment from within and outside. This calls for imaginative schemes for mobilising and channelling investible resources in the right types of industrial activities based on the region's comparative advantage in the supply of human capital. To top it all, the Government has to demonstrate the feasibility of profitable modern industries by improving the operational efficiency of the State sector and joint-sector enterprises.

In short, manufacturing industry of the modern variety is marginal at present in Kerala but is central to its future. A major effort by the State to accelerate industrialisation with a diversified structure is necessary and very important condition of economic growth of the region. How far this should be carried out and what strategy is to be followed for diversifying the industrial structure of the State keeping in view constraints in resource mobilisation by the Government of a member-state in a federal policy, are the major planning and policy issues now. If re-structuring of the Centre-state relation with respect to industrial planning is found essential, it is but fair for the State to voice its concern on grounds of efficiency and equity in the de-centralised planning.

INDUSTRIAL STRUCTURE IN KERALA

(Share of Industry-groups in value-added by
Factory sector and location quotients)

NIC Code	Industry	1964		1978-79			
		%share in total factory value-added	Rank	% share in total factory value-added	Rank	Kerala share in all India	Loc tic quc ent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
20-21	FOOD PRODUCTS	<u>30.95</u>		<u>12.17</u>		<u>4.24</u>	<u>1.6</u>
201	Dairy products	0.03		0.36		1.69	0.6
202	Fruits & vegetables	0.25		0.16		7.25	2.9
203	Fish	1.30		0.70		<u>23.23</u>	9.3
204	Grain Mill products	0.64		0.16		<u>0.46</u>	0.1
205	Bakery products	0.02		0.22		<u>1.70</u>	0.7
206	Sugar	0.06		0.36		0.49	0.2
211	Edible oil			0.34		1.64	0.6
212	Tea			<u>6.64</u>	2	10.57	4.2
213	Coffee			0.10		5.71	2.3
214	Cashew	<u>28.65</u>		<u>3.05</u>	13	62.07	24.2
217	Starch			<u>0.57</u>		11.57	4.6
22.	BEVERAGES, TOBACCO & PROD.	<u>1.13</u>		<u>4.85</u>		<u>4.14</u>	<u>1.6</u>
220	Distilling & blending	0.31		1.21		7.65	3.0
226	Bidi	0.82		3.64	10	13.52	5.4
23.	COTTON TEXTILES	<u>8.35</u>		<u>8.13</u>		<u>1.47</u>	<u>0.6</u>
231	Cotton textiles (mill)			6.71		1.32	0.5
235	Weaving (handloom)			1.20		56.75	22.7
236	Weaving (powerloom)			0.12		2.54	1.0
239	Other cotton textiles			0.10		11.17	4.4
24.	WOOL, SILK & SYNTHETIC TEXT.			<u>2.99</u>		<u>2.12</u>	<u>0.8</u>
247	Manmade textile			2.99	14	1.29	0.5
25.	TEXTILE PRODUCTS	<u>4.35</u>		<u>5.98</u>		<u>11.55</u>	<u>4.6</u>
260	Knitting mills	0.15		4.72	6	42.88	17.1
265	Raincoats, hats etc..	0.29		0.03		3.33	1.3
268	Coir & products	<u>3.91</u>	8	1.23		62.40	24.9

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
27.	WOOD & WOOD PRODUCTS	<u>4.55</u>		<u>3.76</u>		<u>14.60</u>	<u>5.8</u>
270	Veneer & Plywood		7	2.04	18	17.58	7.0
271	Sawing, planing of wood	4.37		1.38		19.50	7.8
272	Bamboo, reed containers			0.08		3.97	1.6
274	Wooden industrial goods			0.03		3.19	1.3
276	Furniture	0.18		0.23		10.65	4.3
28.	PAPER & PAPER PRODUCTS	<u>3.11</u>		<u>5.71</u>		<u>3.75</u>	<u>1.5</u>
280	Pulp, paper, Newsprint	0.02		3.12	12	4.40	1.7
281	Paper containers, boxes etc.			0.10		1.14	0.4
284	Printing of Newspapers			1.09		6.03	2.4
285	Printing of periodicals	3.09	9	0.93		3.33	1.3
289	Other printing			0.46		2.26	0.9
30.	RUBBER, PLASTIC, PETROL, COAL	<u>4.64</u>		<u>10.93</u>		<u>6.05</u>	<u>2.4</u>
300	Rubber tubes			1.85	19	3.92	1.5
301	Rubber footwear			0.10		2.17	0.8
302	Other rubber products	4.64	5	4.73	5	22.63	9.0
303	Other plastic products			0.02		0.18	..
304	Petroleum refining			4.21	7	7.77	3.1
31.	SPECIALS & PRODUCTS	<u>13.55</u>		<u>15.36</u>		<u>2.48</u>	<u>1.0</u>
310	Basic chemicals		2	6.18	3	6.68	2.6
311	Fertilizers & pesticides	9.11		1.79		1.58	0.6
313	Drugs & medicines			1.75		1.31	0.5
314	Perfumes, cosmetics soap	4.43	6	5.21	4	6.91	2.7
315	Essential oil	0.01		0.12		1.27	0.5
316	Resins, etc.			0.30		0.36	0.1
317	Waxes			0.01		0.17	..
32.	NON-METALLIC MINERALS	<u>5.15</u>		<u>4.30</u>		<u>3.03</u>	<u>1.2</u>
320	Structural clay products			3.28	11	12.03	4.8
321	Glass and glass products	5.09	4	0.09		0.35	0.1
323	China & porcelainware	0.06		0.24		2.38	0.9
324	Cement, lime & plaster			0.42		0.93	0.4
329	Other non-metallic			0.28		2.36	0.9
33.	METALS & ALLOYS	<u>1.44</u>		<u>6.13</u>		<u>1.34</u>	<u>0.5</u>
330	Iron & Steel	1.34		0.61		0.17	..
331	Foundries and forgings			0.47		0.39	0.1
333	Copper			1.31		15.89	6.3
335	Aluminium			3.74	9	12.54	5.0
34.	METAL PRODUCTS	<u>1.04</u>		<u>1.93</u>		<u>1.76</u>	<u>0.70</u>
340	Fabricated metal products			0.96		3.79	1.5
341	Structural metal products			0.23		1.01	0.7
342	Metal furniture & fixtures			0.05		0.34	0.1
343	Hand tools & hardware			0.22		2.08	0.8

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
35. NON-ELECTRICAL MACHINERY		<u>1.04</u>		<u>1.93</u>		<u>1.76</u>	<u>0.7</u>
350 Agricultural machinery				0.03		0.10	0.1
353 Machinery for food, textile				0.05		0.08	
354 " for other industries				0.10		0.30	0.1
356 Alteration & repairs			14	0.62		0.03	
357 Machine tools				2.27	17	6.94	2.7
358 Office machinery				0.01		0.13	
359 Other machinery repairs etc.				0.10		0.91	
36. ELECTRICAL MACHINERY		<u>1.64</u>		<u>5.97</u>		<u>2.18</u>	<u>0.9</u>
360 Electrical transformers etc.				2.91	15	2.25	0.9
361 Insulated wires & cables			12	0.63		1.86	0.7
362 Dry batteries & wet							
364 Consumer electronics				1.58		3.52	1.4
366 Electronics computers, control				0.34		2.45	0.9
367 Other electronic components				0.44		10.78	4.3
369 Other electrical machinery				0.08		1.54	0.6
37. TRANSPORT EQUIPMENT		<u>0.32</u>		<u>4.90</u>		<u>1.72</u>	<u>0.7</u>
370 Ship building & repairs		0.25		3.90	8	10.84	4.3
372 Railway wagons & coaches				2.24	15	5.39	2.1
376 Bicycles & cycle-rickshawa		0.07		0.19		1.83	0.7
379 Other transport equipment				0.81		12.19	4.8
38. OTHER INDUSTRIES		<u>0.64</u>		<u>1.58</u>		<u>3.72</u>	<u>1.5</u>
380 Medicals and surgical equip		0.04		1.42		10.90	4.3
387 Stationery articles				0.14		2.61	1.0
389 Other misc.		0.60		0.02		0.47	0.1
39. REPAIR SERVICES		<u>2.11</u>		<u>2.20</u>		<u>2.37</u>	<u>0.9</u>
973 Motor Vehicle repairs		2.11	10	1.79	20	3.40	1.3
979 Other repairs				0.41			
UNCLASSIFIED							
TOTAL*		100.00		100.00		2.5	

* Excluding Electric Power Generation and Distribution.

Source: Calculation based on data from
Annual Survey of Industries.



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