INTER STATE VARIATIONS OF INVESTMENT IN THE MANUFACTURING PUBLIC ENTERPRISES UNDER GOVERNMENT OF INDIA

THESIS SUBMITTED TO THE
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN ECONOMICS
UNDER THE FACULTY OF SOCIAL SCIENCES

By
ELEZABETH, M.P.

Under the Supervision of
Prof. Dr. N. CHANDRASEKHARAN PILLAI

DEPARTMENT OF APPLIED ECONOMICS
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
COCHIN - 682 022

MARCH, 1995

CHOOL OF MANAGEMENT STUDIES
COCHIN UNIVERSITY OF SCIENCE
AND TECHNOLOGY

No. SMS.....

Date....27-3-1995.....

CERTIFICATE

Certified that the thesis "**INTER STATE VARIATIONS OF INVESTMENT IN THE MANUFACTURING PUBLIC ENTERPRISES UNDER GOVERNMENT OF INDIA**" is the record of bona fide research carried out by **Ms.Elezabeth, M.P.** under my supervision and guidance. The thesis is worth submitting for the degree of Doctor of Philosophy in Economics.

Dr.N. CHANDRASEKHARAN PILLAI
Professor

KOCHI - 682 022, KERALA, INDIA; Phone: Office 8-55310
Grams: CUSAT, Telex: 0484 885-5019 CU IN; Fax: 53-2495

CONTENTS

LIST OF TABLES

LIST OF CHARTS

Chapter 1

INTRODUCTION

1.1 Disparities in economic development is a vexing problem in regional analysis. Scholars differ about the reasons for the inequalities among different regions of a country. Professor Hirschman (1959)[1] is of the view that regional inequalities are the inevitable concomitant and conditions of growth in itself and economic development cannot be balanced. From the geographical point of view, economic development is always unbalanced. Professor Gunnar Myrdal (1958)[2] maintains that the main cause of regional inequalities has been the strong backwash effects and the weak spread effects. Economic development results in a circular causation process as a result of which the rich are more favoured while the efforts of those who lag behind are thwarted. There were many other explanations for the inequalities in growth.

Disparities in the levels of economic development of various regions in the country have been recognised as

---

1. A.O.Hirschman, The Strategy of Economic Development, Yale University Press, Inc., Newhaven, USA, Second Print, October, 1959.
2. Gunnar Myrdal, Economic Theory and Underdeveloped Regions, Vora and Company, Barbay, First Print, May 1958.

one of the major constraints on the rate of growth of the national economy and a source of social tension and political instability. Empirical studies made by Kuznets[3] and Williamson[4] suggest that there is a systematic relation between national development levels and regional inequality. Correction of regional imbalances in development has, therefore, become serious consideration of policy makers. Development policies of the government in these days are increasingly judged not merely by their success in achieving a rapid expansion of aggregate real output but also in terms of how the fruits of development are distributed among different classes and regions.

Regional inequality has been a common feature of federalism. It is noticed that state intervention has been increased and thereby conscious policies have been adopted in several countries to reduce the disparities in levels of economic development. The great depression and the emergence of the welfare state concept compelled the governments one after the other to realize the necessity of

---

3. Simon Kuznets, "Quantitative Aspects of the Economic Growth of Nations: VIII-Distribution of Income by Size", Economic Development and Cultural Change, Vol.6, July 1958.
4. J.C.Williamson, "Regional Inequality and the Process of National Development: A Description of the Patterns", Economic Development and Cultural Change, Vol.XIII, July 1965.

enlarging their functions beyond the traditional role of securing national defence and maintaining law and order. As a matter of fact, the philosophy of Laissez Faire started in the 19th century and its continued practice led to the existence of distress and luxury, starvation and plenty, opulence and poverty, side by side. Besides, industrial revolution contained the seeds of state intervention in the economic life of the country. It disrupted the old economic pattern and gave birth to numerous social and economic problems. The state, in such a compelling condition, could not afford to remain a passive spectator.

In the developed countries the problem is confined to a few backward areas and areas which for geographical and other reasons, are found to be lagging in the process of development. In UK, the successive world wars and the great depression in the 1930s prepared the necessary grounds for government intervention and control. The Labour Party, after assuming power, resorted to programmes of large scale nationalisation and thus giving the public sector a respectable place in the economy. In France, the trade unions played an active role in giving an impetus to the movement towards nationalisation. Due to the

reluctance of private investors to risk their money in industrial enterprises other than the well established fields, the Italian Government accelerated the process of nationalisation.

In communist countries, their economic foundation was based on the socialist system, that is, the socialist ownership of the instrument and means of production, the liquidation of capitalist system and abolition of private ownership which transformed the whole economy into a vast public sector. Rapid economic development attained by these countries demonstrated to the world in general and the under-developed countries in particular, as to what could be achieved through the device of public enterprises.

In the developing countries, however, the size and nature of the problem is different in the sense that there are only a few highly developed areas in the midst of large tracts which are underdeveloped. The levels of unemployment, underemployment particularly in the agricultural sector, adds a new dimension to the regional problems in the under-developed countries. While the problem of congested metropolitan areas has become acute in most of the developed countries, it has also become significant in some developing countries.

In India, efforts have been afoot since independence to reduce regional inequalities and during the previous decades a series of measures have been taken by the Central Government as well as State Governments to promote dispersal of industries. But there is growing evidence to show that inter-state disparities have remained undiminished in various dimensions of development and in certain cases they have been further aggrevated. The problem of regional disparities is, therefore, increasingly becoming a matter of greater concern to policy makers. The problem of regional disparities in economic development is, for India, an inheritance from the colonial past. At the beginning of the First Five Year Plan (1950-51) the per capita income of Bihar which stood at the bottom of the state income ladder was only less than two-fifths that of West Bengal which stood at the top. Also, Bihar's per capita income was only three-fifth that of the national average.[5]

It has been pointed out that this uneven development resulting in regional disparities was not due to any uneven resource endowments. India's developmental

---

5. National Council of Applied Economics Research (NCAER), Estimates of State Income, New Delhi, 1967, p.57.

experience cannot be studied without referring to the historical facts of protracted colonial dominations and the way the mechanism of imperial exploitation affected the different segments and regions of the economy.[6] In these circumstances, it was understood by the Indian planners this uneven growth would perpetuate itself and the further widening of interstate disparities would not do any good either from the political or economic angle.

Balanced regional development in India has been a major objective since the beginning of the planning era in the country. "In the perspective of long-term development with the economy advancing rapidly towards the stage of self-sustained growth and with steady rise in the living standards of the people, regional and national development are essentially two different facets of a common objectives".[7] The Third Five Year Plan document contained a separate chapter on balanced regional development and stressed that balanced development of different parts of the country, extension of benefits of economic progress to the less developed regions and wide spread diffusion of

---

6. Krishna Bharadwaj, "Regional Differentiation in India - A Note", Economic and Political Weekly, Annual Number, April 1982, pp.605-614.
7. Third Five Year Plan Draft, 1961-66, Govt. of India, Planning Commission, p.153.

industries are among the major aims of planned development.[8] But a number of studies[9], however, have shown that the interstate disparities have remained unchanged. The major objective of Indian Plans--balanced development--has not been fulfilled. In fact, the interstate disparities have only widened during the plan era.

Though industrial dispersal was one of the cornerstones of the regional policies of Indian planners, industrial growth during this period was much more uneven than the growth in state income, although the share of secondary sector in the state income increased in the case of all states. Agricultural growth during this period also was highly uneven.[10] Similar disparities, by and large, are visible when we look into the relative status of states with regard to absorption of inputs like irrigation, water and fertilizers. Disparities existed not only in state

---

8. Ibid.
9. K.R.G.Nair, Regional Experience in a Developing Economy, Wiley Eastern, New Delhi, 1982; R.H.Dholakia, Regional Disparity in Economic Growth in India, Himalaya Publishing House, New Delhi, 1985; K.K.George, Centre State Financial Flows and Inter-State Disparities, Criterion Books, Delhi, 1988.
10. S.Mahendra Dev, "Growth and Instability in Foodgrains Production - An Inter-State Analysis", Economic and Political Weekly, September 26, 1957.

income, central sector investment, but also in the unemployment rates and population below poverty line. What is more, they are increasing as was brought out by Raj Krishna.[11]

Regarding population below poverty line, it is found that as many as seven states had more than 14.13 per cent (all India average) of their population below this line. The highest population below this line was in Orissa (66.4%) followed by Bihar (57.4%). Out of the seven states five states are concentrated in North-Eastern regions. Some of the better-off states in this respect are Punjab (15.13%) and Haryana (24.84%).

The unemployment rate was the highest in Kerala at 25.69 per cent in 1977-78. As compared with the all India average of 8.18 per cent of the rate exceeded in Tamil Nadu, Andhra Pradesh, West Bengal and Karnataka.

Date related to factory sector output for 1977-78 show that Maharashtra recorded the highest position with Rs.1636/- as gross factory

---

11. Raj Krishna, "The Centre and the Periphery: Inter-State Disparities in Economic Development", Social Action, January-March, 1982, p.8.

output per capita and is followed by Gujarat (Rs.1378). Other states which are sufficiently better-off in this respect are Punjab, Tamil Nadu, Haryana and West Bengal. As compared to all India average of Rs.621/- the states which have the lowest are Orissa (224), Uttar Pradesh (271), Bihar (334) and Madhya Pradesh (341).

Besides the above discussed indicators, there are other pointers such as per capita power consumption, road length, rate of urbanisation, literacy, health etc. which could also be considered. The per capita power consumption in the same year was the highest in Punjab (314 kwh) followed by Maharashtra (296), Gujarat (243) and Haryana (202). While there are only six states having per capita consumption of power at the all India level of (130 kwh), the lowest in this ladder are Bihar, Uttar Pradesh, Andhra Pradesh and Kerala.

Data related to road length per 100 sq.km. in 1978-79 shows that Kerala is having the lengthist surfaced road with 232 per sq. mile of area while the all India average is 49 per 100 sq. miles. In this period six states were below the average.

With regard to urbanisation, it shows that among the major states, Maharashtra is the most urbanised with 35.03 per cent of its population living in urban areas. Next to Maharashtra in the descending order of proportion of urban population to total population would come Tamil Nadu, Gujarat, Karnataka, Punjab and West Bengal. These states have a proportion of urban population to total population higher than the national average of 23.73 per cent. Andhra Pradesh, Haryana, Rajastan, Madhya Pradesh, Kerala, Uttar Pradesh, Bihar and Orissa among the larger states have a proportion of urban population to total population in the order but below the national average. The percentage of urban population to total population in Bihar is 12.46 which is slightly higher than half of national average.[12]

The statewise literacy rates for the three census, that is, 1961, 1971 and 1981 indicated that Kerala occupied the first position among all the states in each of the three censuses. Maharashtra witnessed an improvement from fourth in 1960 to second rank in 1981 among all the states. The literacy percentage in 1981, of the following states,

---

12. Government of India, Census of India, 1981, Census of India Office, New Delhi.

was less than the national average of 36.2 per cent. Andhra Pradesh (29.9), Bihar (26.2), Madhya Pradesh (27.9), Orissa (34,2), Rajastan (24.4) and Uttar Pradesh (27.2). Thus Rajastan had the lowest literacy percentage and the next in the order were Bihar and Uttar Pradesh.

From the angle of medical and health aspects, Kerala (169 beds per lakh of population) was the most developed state in the country. The next in this order were Maharashtra (128), Punjab (119), and Gujarat (111). The state of Madhya Pradesh ranked the lowest ladder having 31 beds per lakh of population, followed by Bihar (38), Orissa (43) and Uttar Pradesh (44). A similar picture emerges with respect to number of hospitals and dispensaries. The four most backward states in the country had extremely low level of medical facilities in terms of the availability of beds in hospitals and dispensaries.

The above discussion shows that there is a tendency towards convergence during the early seventies and the trend towards divergence appears only in the later plans, especially eighties, in spite of the fact that Indian Planning had set balanced regional development as one of

its goals. It may be argued that since there is a "trade off"[13] between the national objective of high growth rate for the economy as a whole and the regional equity objective, widening disparities are unavoidable or even necessary to achieve a higher growth rate for the economy as a whole and the regional equity objective. This argument would have been right if the early stages of development had taken place as per with the factor endowments of different states. As observed earlier, development of earlier parts of the country took place due to historical reasons to observe the military and economic objectives of the colonial power.[14] Paradoxically, some of the poorest states in India today are also the richest in national resource endowments.[15]

Regional changes take place only slowly over the decades, unless policy measures are taken to speed up the process.[16] This is because "where large regional gaps persist within the same national economy, it is apparent

---

13. The first three Five Year Plans, sometimes implicitly or explicitly, assumed such a "trade-off". See K.R.G.Nair, op.cit, pp.134-135.
14. M.J.K.Thavaraj, "Regional Imbalances and Public Investment in India (1860-1947), Social Scientist, Trivandrum, November 1972, pp.1-24.
15. For the resource endowments of some of the poorest states like Bihar and Madhya Pradesh in India, see Raj Krishna, op.cit., p.9.
16. K.R.G.Nair, op.cit.

that there is some degree of immobility of factors of production. Capital does not flow to the poor regions in sufficient quantities to provide jobs and raise income and thus eliminate the gaps; nor does labour move to the rich regions finding there higher income and employment so that the gap disappear".[17] Eventhough there is inter-state migration in India it is not in a high magnitude as to bring about reduction in inter-regional disparities, because of the size and distance. Besides, there are differences in language, race, religion and culture. On top of this, there have been the 'sons of the soil' agitation, the agitation for separate Thelghana, cry for separate Jharkhand state, Assam agitations etc. All these indicate the dissatisfaction with the existing policies and programmes related to regional development, location of projects etc.[18] In such an economy the "trickling down effects" of development are likely to be smaller than the "polarisation effects".[19]

---

17. H. Benjamine, "Taxation and Trade off Curves", The Economic Times, Annual No., Bombay, 1974.
18. V.Krishnamoorthy, Regional Development and Industrial Disparities in India, Chugh Publications, Allahabad, 1990, p.8.
19. Hirschman's term for the factors leading to convergence and divergence, Myrdal calls them "Spread effects" and "Backwash effects". See (1) A.O.Hirschman, The Strategy of Economic Development, New Haven, 1961 and (2) G.Myrdal, Economic Theory and Underdeveloped Region, Methuen, London, 1957.

It may be argued that the regional disparities are lesser in India than in many other developed and developing capitalist and socialist economies.[20] But as the Sixth Finance Commission, which noted this argument, observed even the relatively small disparities cannot be ignored when the absolute levels of per capita income are low".[21] The reduction in inter-state disparities is a desirable end in a nation like India. The Indian policy with its regional constituencies organised on linguistic basis within these circumstances, it cannot be expected to withstand for long the weight of the lop-sided economic development. It has been often pointed that the political events in the North-East, Assam and Punjab have certain economic understones.[22] The threat to federal policy comes

---

20. J.G.Williamson, "Regional Inequality and the Process of National Development", Economic Development and Cultural Change, Vol.XIII, No.4 quoted by Majumdar Grace and J.L.Kapur, "Behaviour of Income Inequalities in India", Journal of Income and Wealth, Calcutta, January 1980, p.4.
21. Government of India, Finance Commission, Report of the Sixth Finance Commission, New Delhi, 1973, p.8.
22. Case of the demands of the Akalis in Punjab is that the Union Government should implement the Anandpur Sahib Resolution of 1973, quoted by Arun Shourie, in "The Troubles in Punjab", Indian Express, Cochin, May 14, 1982. For the Assam agitations, see Ghanashyam Paradesi, "Internal Colony in a National Exploitative System", Economic and Political Weekly, June 7, 1980.

from the poorer as well as the richer federating units. As R.J.May, surveying the experiences of large number of federal states the world over observes "when a small rich unit is ranged against a larger poor unit, or of course, one or two large units are ranged against a number of poor units, two broad outcome are possible (1) either the small unit accepts the pressure from the large unit and assists it to achieve the higher national standards going in the small unit or else (2) the small unit will resist this pressure and seek the secede".[23]

The above discussion leads to the conclusion that in a developing country like India, one cannot patiently wait for the "spread effects" or the "trickling down effects" to meet the "backwash effects" or "polarisation effects". Time is not a good physician to cure this problem. As Nevin points out, "policy can seldom allow its horizones to extend into infinity".[24]

1.1 STATEMENT OF THE PROBLEM

The theory of public finance maintains that the market mechanism fails to provide social wants. This

---

23. R.J.May, Federalism and Fiscal Adjustments, Clarendon Press, 1960, p.51.
24. E.Nevin, "The Case for Regional Policy", Three Banks Review, quoted by Stillwell Frank, Regional Economic Policy, Macmillan, London, 1972, p.16.

necessitates the intervention of government in economic activity especially for bringing regional economic balance. Bringing the regional equitable development is theoretically found to be the responsibility of the Central Government in a federal state like India. This is one of the basic objectives of introducing public sector enterprises in India. From the above discussion, it is seen that removal of disparities in economic development among states has been one of the most important and explicitly stated objectives of Five Year Planning in India. In order to reduce the inter-state disparities among states, the Central Government has made larger investments in different states. But statistics shows that the amount invested in different states by Central Government seems to be uneven. The present study, therefore, attempts to assess how far the central sector investment has been effective in reducing these disparities.

1.3 OBJECTIVES OF THE STUDY

Following objectives are formulated for the study:

1. To examine the extent of regional imbalance in economic development in India, and to outline the policies adopted to reduce these imbalances.

2. To ascertain the temporal nature of variations in central sector investments across states.

3. To study the relationship between central sector investments and regional imbalances.

1.4 METHODOLOGY

The methodology of the present empirical investigation has been broadly outlined as follows:

This is a historical and evaluative study in nature. This study is largely based on the secondary data collected from various sources such as statistical reviews published by Centre for Monitoring Indian Economy (CMIE), Bombay, the Annual Survey of Industries (ASI), Central Statistical Organisation (CSO), National Council of Applied Economic Research (NCAER), Statistical Abstract published by Bureau of Economics and Statistics, Economic Reviews published by State Planning Boards of various State Governments; Reports of Finance Commissions, Planning Commissions, Reserve Bank of India Bulletins, Economic Surveys, published by Government of India, Five Year Plan Drafts etc. The unpublished reports and statements available in Government Offices,

individual research studies and those of autonomous research bodies giving the data over time are also considered in this study.

The present study covers the period of 19 years from 1970-71 to 1988-89. The study could not be extended to the earlier periods due to data constraints. Data were collected on current basis because of non-availability of appropriate deflator.

Data were analysed on quinquaennial and decinnial bases for the convenience of analysis and to make roughly coincide with the duration of the Five Year Plans.

For the purpose of the study, only the major 14 states are taken into consideration. Special category and newly created states are excluded from the study. The major states included in the study are Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajastan, Tamil Nadu, Uttar Pradesh and West Bengal.

The criteria adopted for the purpose of including a particular state in the present study is that the

population of that particular state must exceed at least two per cent of the total population of the country. It is felt that this is a fairly reasonable criterian because population of a region is the only weight that is commonly applied to a particular regional problem in order to know the real magnitude of the problem at the national level. When this criteria is considered only 14 states in the country qualify for consideration and analysis.

These states are classified into developed states, semi-developed states, and less developed states on the basis of per capita income

Taking $\overset{*}{X} \pm 10$ per cent

as cut-off points, these 14 states are divided into three, and they are presented in Table 1.1.

Table 1.1

Classification of States

Sl.No.	Category of region	States
1.	Developed region	Gujarat, Haryana, Maharashtra and Punjab
2.	Semi-developed region	Andhra Pradesh, Karnataka Kerala, Tamil Nadu and West Bengal
3.	Less developed region	Bihar, Madhya Pradesh, Orissa, Rajastan and Uttar Pradesh

* X denotes All India average per capita income.

The developed region consists of four states, namely, Gujarat, Haryana, Maharashtra and Punjab in alphabetic order. These states have got a level of per capita income which is more than 10 per cent above the all India average per capita income.

The semi-developed regions composed of five states, namely, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and West Bengal. These states are falling in a level of per capita income which is 10 per cent above or 10 per cent below the national average per capita income.

The less developed region encompasses five states, like Bihar, Madhya Pradesh, Orissa, Rajastan and Uttar Pradesh. These states have got a level of per capita income which is less than 10 per cent below the all India average per capita income.

To look into the extent of regional inequality among regions (states) indicators of economic and industrial development such as per capita income, per capita power consumption, per capita expenditure on health, statewise distribution of factories, statewise factory employment, statewise gross industrial output, statewise

value added by manufacturing sector, statewise literacy rate, statewise rate of urbanisation are taken into account. In order to examine the trend of changes in these indicators, compound growth rate over years is used.

Various methods are used to measure inequalities among regions such as Williamsons unweighted and weighted coefficients of variations, Hirschman-Herfindal (H.H) Index, Theil's Index, Gini Index etc. The most commonly used measures are Gini Index and Theil Index. Theil developed a measure based on the concept of entrophy. This measure has a definite advantage over Gini Index because of its additive property. That is, when data is grouped into states/regions/occupations, it is possible to decompose the overall inequality into inequality between the groups and inequality within groups. This kind of decomposition can be helpful for policy formulation. Many researchers have used this measure in the field of social sciences.

It is, therefore, in the present study, Theil's Index is used to measure the inequality between regions and within regions. As states are of unequal size, it is necessary to eliminate the size effect by introducing some

scaling factor like population. For the convenience of analysis, only economic and industrial indicators are used to measure inequality among states. They are per capita power consumption, distribution of factories, factory employment, central investment gross industrial output, value added by manufacturing sector and state domestic product.

The total inequality in the aforesaid indicators among the states, as defined by Theil[25] is as follows:

$$I(Y; X) = \sum_{i=1}^{n} Y_i \log (Y_i/X_i) \qquad (1.1)$$

where n = total number of states

Y_i = proportion of value added of i^{th} state to the total value added of the country

X_i = proportion of population of the i^{th} state to the total population of the country.

The states can be grouped into G regions R_1, R_2,... R_G; so that each state belongs to one and only one region. Then the above inequality can be written as follows:

$$I(Y: X) = \sum_{g=i}^{G} \sum_{i \in R_g} Y_i \log Y_i/X_i \qquad (1.2)$$

25. H. Theil, Economics and Information Theory, North-Holland Publishing Company, Amsterdam, 1967.

Algebraically, this can be decomposed as follows:

$$I(Y: X) = \sum_{g=1}^{G} Y_g \sum_{i \in R_g} pi \log P_i/\pi_i + \sum_{g=1}^{G} Y_g \log Y_g/X_g \qquad (1.3)$$

Equation (1.3) gives the index of total inequality in each variable considered one at a time. The first part of equation (1.3) ie.,

$\sum_{g=i}^{G} Y_g \sum_{i \in R_g} P_i \log P_i/\pi_i$ gives the index of "within inequality" and the second part of the equation (1.3) ie.,

$\sum_{g=i}^{G} Y_g \log Y_g/X_g$ gives the index of "between inequality".

The index will be equal to zero when there is perfect equality and it will take a positive value when there is inequality.

In order to analyse the movements of the indices of inequality (total, between and within) over the years, we also have found the trend lines of each variable.

1.5 SCHEME OF THE STUDY

The study is organised under seven chapters. The first chapter covers the introduction, problem of the

study, objectives of the study, methodology, limitations, significance and scheme of the study.

The second chapter presents the review of literature and regional development theories.

An overview of the nature and trends in regional imbalances over the years in terms of economic and industrial development indicators is presented in the third chapter.

A profile of Central Government policies aimed at reducing the regional imbalances in India is outlined in the fourth chapter.

In the fifth chapter the temporal nature of central investment in central public enterprise in India is discussed.

The efficacy of the policies of Central Government vis-a-vis regional imbalances in India is analysed in the sixth chapter.

The last chapter presents the findings and suggestions for further reduction of inter-state economic disparities.

1.6 LIMITATIONS OF THE STUDY

The present study is, however, subjected to some limitations. The major limitation is the nature of data. Eventhough the period of study is from 1960-61, a detailed study is limited to the period from 1970-71 to 1988-89. The study is largely based on ASI data which were published only upto 1988-89. The data were published on various bases. Upto 1959, they were published on calender year basis. After that the data published on the basis of census sector had included only large scale industries. From 1969 onwards data were published on factory sector where almost all factories were included. So in the present study the data concerning factory sector published by ASI are only considered.

The study covered only 14 states in India. Smaller states, Union Territories and special category states are not considered because of the following reasons. First is the non-availability of data for these states for all years. Second is the special nature of the economies of these states and the special nature of their problems, not all these economic, which necessitated abnormally large financial investments to these states.

Another limitation is that, due to data constraints and nature of allocation of investment funds, certain central public sector enterprises like Railways, Defence etc. are not included. As such due to the allocation of a lion's share of central investment in industrial sector, the present study gives emphasis only to the analysis of central investment in industrial sector.

1.7 SIGNIFICANCE OF THE STUDY

In countries with federal constitutions, it is the responsibility of the Central Government to provide solution to the perceived needs of the federating states. As is well known, the degree of financial dependence of the Indian states on the Central Government is much higher than that of the constituent units in most other federations. It is seen that there are disparities in the internal resource position of the states. The internal resource position of the low income group states was just half that of the high income group and two-third of that of the middle income states. Bihar's own resources were only a little more than a fourth that of Punjab. Such inter-state differences in own resource position have not been the result of the developed states. Reddy's study shows

that Bihar which had the lowest amount of own resources had made the highest tax efforts among the sixteen Indian States.[26]

However, fiscal transfers alone may not be able to eliminate certain types of regional inequalities which are structural in character. Such inequalities can be removed only through long term economic policies; particularly investment policies. As the regional development needs may not always appeal to the investing private sector, large doses of public investments will have to come in. But the endowments of the different states vary considerably. Therefore, the poorest states which need more and more doses of investments, may not be in a position to mobilise the required resources. It implies that the state sector funds and natural resources are limited in less developed states. In such a context the government of India will have to step in with large investments in states. This brings to focus the need for central sector investment.

Since the removal of regional disparities was one of the prime objectives of national planning, it is natural that the states have to depend upon the central investment

---

26. K.N. Reddy, "Inter-State Tax Effort", Economic and Political Weekly, Vol.X, December 13, 1975, p.1961.

for the realisation of its development potentialities. The Central Government has invested large amounts in heavy industries in different states in order to diverge the accumulation of funds. The aim of such investments is to reduce regional disparities in economic development of the country. But the evidence showed that the amount invested in different states seems to be uneven. It is seen that the richer states have received larger quantum of such investment vis-a-vis the richer states accentuating inequalities further.

Chapter 2

REVIEW OF LITERATURE

2.1 Most of the countries, especially in the third world, did not look at economic development from a regional perspective. Recently, many factors gave rise to a rapidly growing interest in regional development. After the Second World War these countries have put forward many policy measures for their economic development. As a result of these activities and the propaganda of politicians, regional equity in national development became an important plank of the political and economic agenda of many countries. This trend was particularly evident in countries with a federal system of government. The present study focusses on the inter-state disparities in India.

An attempt is made here to outline the existing theories on regional imbalances. First of all, a conceptual discussion can be made regarding the meaning of the term 'region'.

2.2 THE CONCEPT AND DEFINITION OF REGION

The concept of region has a special significance in economic planning. It was developed by geographers like

Demergeon Ratzel, Hettner Roxby, Morran, Herberston etc. during the later half of the 19th century.[1] Perhaps no term in the geographical literature has received more attention than the term 'region'.[2] It is simply and generally known. Still uncertainities remain as to its meaning and significance.[3] Such uncertainities have given rise to numerous definitions of the term 'region'.

Defining the term 'region' as a concept appears to be an essential pre-requisite for the analysis of regional economic phenomenon. But there is no particular definition of the term 'region'. Regions may be defined in different ways depending on the objectives of the enquiry or the question under study. A region is a geographical and socio-economic entity delimited as an administrative unit or a combination of such units when the context is clear. It is an area homogeneous with respect to a particular set of conditions determined by the purpose. The choice of a concept of region is, therefore, constrained by the purpose for which delineation of a set of regions is required, and

---

1. E.Ahmad and D.K.Singh, Regional Planning with Particular Reference to India, Oriental Publishers and Distributors, New Delhi, Vol.I, 1980, p.4.
2. N.S.Gisburg, Area, Regions and Human Organisations, 21st International Geographical Congress, 22-26 November 1968, National Committee for Geography, Calcutta, 1971, p.7.
3. Ibid.

by the overall structure and degree of integration of the regional system considered as a whole.[4]

In regional science, a region has been defined as an area in which all parts as far as possible show similar economic structure and similar problems and interests. These similarities call for uniformity in economic action in the form of regional planning. Obviously it is very difficult to define the character and content of a region within a particular set of words. Many hundreds and thousands of words have been written on this topic without coming with a fully satisfactory answer. The only safe statement is there is no unique definition ...."[5]

However, recently a consensus has slowly evolved for suggesting region as space which is larger than any single urban area or a small group of villages.[6] Therefore, the term space brings out the idea of a smaller unit, ie., region.

---

4. Walter Isard, "Regional Science--The Concept of Region and Regional Structure", Papers and Proceedings of Regional Science Association, 2 (1956), pp.13-26.
5. H.Richardson, Regional Growth Theory, Macmillan, London, 1973, p.6.
6. S.C.Patnaik, Economics of Regional Development and Planning in Third World Countries, Associated Publishing House, New Delhi, 1981, p.26.

In the case of India, most of the studies[7] on regional variations in development, that have already been conducted, have taken 'states' as their regional unit. They justified their selection of regional unit as state largely on account of data availability.

In the present study, however, states are considered as the regional units. In India, with federal democratic constitutional set up, states are recognised to be extremely important administrative units. Each state has its own elected legislative assembly and a council of ministers. The constitution of India has clearly demarcated area of activities and responsibilities for the centre and the states. Moreover, after 1956, the states in India represent groupings on the basis of linguistic and cultural homogeneity. So that they represent real groupings of local sentiment and interest. States, therefore, are considered as the regional units in the present study. Besides, the question of data availability has also accounted for this selection.

---

7. D.T.Lakadawala (ed.), Development of Gujarat--Problems and Prospects, Sardar Patel Institute of Economic and Social Research, Ahmedabad, 1983.Majumdar Madhavi, "Regional Income Disparities, Regional Income Change and Federal Policy in India: 1950-51 to 1967-68: An Empirical Evaluation", Occasional Paper No.7, Department of Economics, University of Dundee, August 1977; K.R.G.Nair, "Inter-State Income Differences in India: 1970-71 to 1979-80", Man and Development, 5, 1983.

2.3 CLASSIFICATION OF REGION

Though there are regions conforming to the definitions given by the regional science, still there are wide variations among regions with respect to their own characteristics and problems. These variations call for classification of region. Generally, regions are classified as congested regions, depressed regions, backward regions etc. Boudeville[8] has classified the region into three categories as: (i) homogeneous regions which are close to natural regions of geographers; (ii) polarised regions which represent polarisation in terms of population density; and (iii) planning regions which represent administrative areas.

Stillwell[9] made a distinction between three kinds of problem regions, viz., (i) under-developed regions, areas with mainly a traditional agricultural structure; (ii) depressed regions, areas which have gone through an industrialisation process but which have not been able to continue the process of economic growth due to lack of

---

8. J.R.Boudeville, Problems of Regional Economic Planning, University Press, Edinborough, 1966, p.2.
9. F.J.B. Stillwell, Regional Economic Policy, Macmillan, London, 1972.

innovation or unfavourable locational conditions and (iii) congested regions, areas in which a further concentration of activities will lead to additional agglomeration disadvantages which exceed the advantages.

Richardson[10] has classified a region into three categories--homogeneous, nodality and programming. As homogeneous entity, region is homogeneous in respect to certain factors like dominant industry, per capita income level, employment level, language etc. As nodel concept a region has one or more cities or dominant nodes, programming regions are planning regions and are defined by law.

Whatever may be the basis of classification of a region, whether homogeneous, polarised or planned, disaggregation of a country's total area into regions reveals the existence of disparities. David Keeble has observed that "these disparities exist not just in terms of absolute levels of population, economic activity or related social infrastructure, but with respect to relative indices

---

10. H.Richardson, op.cit.

such as unemployment or activity rate, income per head or rate of employment growth".[11]

2.4 THEORIES OF REGIONAL DEVELOPMENT

There are certain theories which were formulated to provide a framework for regional development. Geographers, sociologists, demographers and economists have all attempted to explain the nature of regional development in both developed countries and developing countries. Perhaps the most quoted sentence in the study of regional development in Frances Perroux's observation that "growth does not appear everywhere and all at once, it reveals itself in certain points or poles, with different degrees of intensity; it spreads through diverse channels".[12] There are various theories which explain the causes and courses of regional imbalances. However, today there is no single theory of regional development that commands universal assent. It is necessary, therefore, to study relevant theories to understand the process of regional development. Broadly, theories of regional development may

---

11. David Keeble, Reasons for Government Intervention (Unit 12) - The Open University Regional Analysis and Development Course, Open University Press, Milton Keynes, U.K., p.12.
12. Frances Perroux, "Economic Space: Theory and Application", Quarterly Journal of Economics, Vol.64, No.1, February 1950, p.95.

be divided into neo-classical spaceless, neo-classical spatial, Marxist and neo-Marxist schools of thought. Since industrial location plays an important role in concentration of industrial growth and development, some important location theories and other relevant theories such as growth pole theory, industrial complexes, role of cities in economic development etc. are discussed in brief.

2.4.1 Neo-Classical Theories--Spaceless

In this theory, regional growth and development are considered as the consequence of 'factor mobility'. Based on this concept, Myrdal[13] and Hirschman[14] propounded their theories and suggested that due to the effect of three factors--labour migration, capital migration and inter-regional linkage--the growth of developing countries would follow an inverted 'U' shape. Williamson[15] explains this type of 'U' shape of regional inequality curve mainly

---

13. G.Myrdal, Economic Theory and Underdeveloped Regions, Duckworth, London, 1957.
14. A.O.Hirschman, A Generalised Linkage Approach to Development with Special Reference to Staples, University of Chicago Press, Chicago, 1976.
15. J.G.Williamson, "Regional Inequalies and the Process of National Development: A Description of the Patterns", Economic Development and Cultural Change, Vol.1, No.4, Part II, July 1965.

with the help of four factors, such as labour migration, capital migration, inter-regional linkages, and central government policy.

According to Myrdal,[16] once growth gets started in a particular region and meets with initial success all sorts of economic and non-economic activities start concentrating there because of ever increasing internal and external economies. The growth in progressive regions affects the growth in lagging regions through "spread effects" and "backwash effects". The spread effects remain dominated by the backwash effects for a number of years and regional imbalances tend to increase at a faster rate. Whereas, according to Hirschman[17] growth once started tends to concentrate around the initial starting points because of external economies. While "the trickling down effects" of this concentration are dominated by the "polarisation effects" in the short run, the trend is reversed in long run. Thus divergence in the early stages of development converges in the later stages. To sum up, the theories of

---

16. G.Myrdal, The Challenge of World Poverty, Allen Lane, The Penguin Press, 1970.
17. A.O.Hirschmen, The Strategy of Economic Development, Yale University Press, New Haven, USA, Second Print, October 1959.

Myrdal and Hirschman are of particular relevance in explaining how the process of development starts and why it starts in particular places and not in others. However, while Hirschman argues in favour of the need for initially geographical imbalances through the creation of development centres, Myrdal argues that the mechanism for spread effects should be strengthened from the outset.

2.4.2 Neo-Classical Theories--Spatial

The neo-classical spatial theories of regional development are based on the concept of space. The important exponents of these theories are Richardson[18] and Borts.[19] Richardson pointed out the incompatibility between spaceless neo-classical theory and location theory which must take space explicitly into account. He proposed to substitute location preferences and agglomeration economies--both of which are spatial variables--for the neo-classical yield differentials.

2.4.3 Marxist (View) Theories

Marx[20] had never focussed his attention on regional unbalances or spatial uneven development. He

---

18. H.W.Richardson, "Empirical Aspects of Regional Growth in the United States", Annals of Regional Science, July 1974, pp.8-23.
19. G.H.Borts, "Review of Richardson's Growth Theory", Journal of Economic Literature, Vol.XII, 1974, pp.346-347.
20. K.Marx, Capital, 3 Vols., International Publishers, New York, 1967.

concentrated attention on the inevitable centralisation of capital and redistribution of it among groups of people. Lenin and Trotsky followed the same policy and later spread it in many third world countries. The socialist economies show less intensity of inter-regional inequality. A reduction in the inter-regional inequality may be achieved if the use of resources are planned taking proper care of the requirements of different regions. It is believed that free play of market forces takes full care of all regions and thereby reduces regional imbalances. There is, however, in fact, increase in inter-regional inequality. Hence lies the importance of socialist view on regional development.

2.4.4 The Neo-Marxist View

The neo-Marxists, Samir Amin,[21] Andre Gunder Frank etc. have found neither the neo-classical development theories sound enough particularly for the third world countries. They attacked bourgeois theories from different view points than the classical Marxian. The crux of their contention is that the bulk of the Neo-classical theory is concerned with the problem of growth and development in the

---

21. S.Amin, Accumulation on a World Scale, Monthly Review Press, New York, 1976.

under-developed regions which have either consciously or unconsciously evaded the contradiction of these newly emerging nations with the imperialist powers, as propounded by Lenin in 1913 in his theory of imperialism.

2.4.5 Locational Theories

Besides, the problem of disparities arises due to the uneven distribution of industrial investment and employment.Concentration of industries in a few urban areas can be thought of as a problem of industrial location. Since regional theory is largely a location theory, some locational theories are discussed here.

Location theories have originally developed to examine the logic of the location decision of the firms and to determine the influential factors as the choice of a particular location of a firm. The major location theories can be structured around three approaches, namely (i) the Least Cost Approach; (ii) the Market Area Approach and (iii) the Profit Maximisation Approach.

The least cost theory was developed by Alfred Weber.[22] He put forward that optimum location is

---

22. Alfred Weber, Theory of the Location of Industries, translated by C.J.Fridricks, University of Chicago Press, Chicago, 1929.

determined by three principal costs viz., transportation cost, labour cost and cost due to excessive agglomeration and assumed perfect competition. He also believed that the plant at the lowest cost location will achieve the highest profit. His model was further extended by Walter Isard[23] and considered that the transport input, ie., distance, played a major role in production and consumption process.

The market area approach was introduced by August Losch.[24] He criticised Webers assumption of constant demand as unrealistic and varied from place to place. As a result the market for the produce is scattered. August Losch determined the market area for an enterpreneur on the basis of the assumption that (i) there is no spatial variations in the distribution of inputs over a homogeneous place; (ii) density of population is uniform and taste is constant, and (iii) no locational interdependence exists between firms.

---

23. Walter Isard, "Distance Inputs and the Space Economy: The Locational Equilibrium of the Firm", Quarterly Journal of Economics, No.65, 1951, pp.373-397.
24. Losch August, The Economics of Location, Yale University Press, USA, 1954.

Profit maximisation approach as an attempt to integrate cost and demand approaches was made by Melwin Greenhut.[25] He tried to maximise profit rather than minimise cost, and believed that transportation cost will be the determining factor in industrial location if it constitutes the major portion of the costs.

2.4.6 Growth Pole Theory

Economic space and poles of development provide a dynamic explanation of the process of regional development. The concept of 'development pole' was first developed by Perroux[26] in 1955 on the basis of the borrowal from the growth economics of Schumpter, Hirschman and Myrdal though their theories are quite different from each other. By a growth pole, Perroux means "a centre in abstract economic space" from which centrifugal forces emanate and to which centripetal force are attracted. Each centre being a centre of attraction and repulsion has its own field which is set in the field of other centres".[27] He considered

---

25. Melwin L.Greenhut, Micro-economics and the Space Economy, Illinois Scott-Foresman, Chicago, 1963.
26. Frances Perroux, "Note Sur la notiou de pole de Croissauce", Economic Applique, 1955.
27. Frances Perroux, "Economic Space: Theory and Application", Quarterly Journal of Economics, Vol.64, No.1, February 1950, p.95.

that the process of economic development should essentially be polarised and it inevitably resulted in cluster of economic activity and growth. In other words, a growth pole is a region where a large and expanding firm or industry is located which would derive considerable economies of scale during the process of expansion. Moreover, this process of expansion could influence the growth of a large number of other industries through its additional purchases of inputs and through its large output which it could sell at a cheaper rate due to the economies of scale.

2.4.7 Industrial Complexes

The idea of industrial complex is similar to the growth pole theory which has been defined as "a rainfield chain of a functionally interconnected industries".[28] In a more detailed sense, an industrial complex is "an ensemble of technically and economically interconnected industrial units, usually located on a given territory. Such a complex is normally a 'planned' one based on physical infrastructure and developed around one major industry which forms the core or the focal point of the

---

28. A.Goryacheva, "Industrial Complexes in India", Oriental Studies in the USSR (No.4), India: Problems of Development, USSR Academy of Sciences, Moscow, 1981, p.79.

complex. The core often appears to be a heavy industry .... The concept of industrial complex is basically functional."[29]

2.4.8 Role of City in Economic Development and Regional Imbalances

Although the theories of development discussed above agree that development, when left to itself, tends to be geographically concentrated, they do not undertake a thorough analysis of the fundamental reasons for this. The role of cities in the economic as well as socio-cultural development is very crucial. Howard Shindman, Clark, Klassen, Richardson and Isard have made significant contribution in this area. Urbanisation is a critical process in the development of modern state. This may be understood from the Indian experience itself, where the large cities like Bombay, Calcutta, Madras, Delhi, Bangalore etc. are more developed than other centres. Any deviation from the traditional society must envisage the development of cities. Historically, the emergence of cities could be seen as a synthesis of economic, administrative defence and religious requirements. Their

---

29. T.Hermansen, "Development Poles and Development Centres in National and Regional Development" in A.Kuklinski (ed.), Growth Poles and Growth Centres in Regional Planning, The Hague, Mouton and Company, 1973, pp.26-27.

spatial setting can be determined partly by natural conditions and partly by the developing network of communication, trade, and transportation facilities. The emergence of modern technology and organisation is also an important factor in the city making process. They are the main agents for geographical integration of the social, political, economic and cultural systems of a nation. They are particularly conducive to innovations and they also provide for external economies.

2.5 OTHER RELEVANT HYPOTHESES

The 'self-perpetuation hypothesis' made by Hughes[30] and proved empirically by Booth[31] suggested that disparities diverge in the process of development. As against this, 'Accordian effect hypothesis' suggested convergence by Hanna[32] and found valid by Perloff and Hanna.[33]

---

30. R.B.Hughes, "Inter-Regional Income Differences, Self-Perpetuation", Southern Economic Journal, Vol.28, No.1, July 1961, pp.41-45.
31. E.J.R.Booth, "Inter-Regional Income Differences", Southern Economic Journal, Vol.31, No.1, July 1964, pp.41-51.
32. F.A.Hanna, State Income Differential 1919-1954, Duke University Press, Durham, 1959.
33. H.S.Perloff, Regions, Resources and Economic Growth, Resources for the Future, John Hopkins Press, Baltimore, 1960.

Another acceptable hypothesis is 'concentration cycle hypothesis' developed by Myrdal[34], Hirschman,[35] Alonso[36] and Williamson[37] and found empirically valid by Williamson and Koropeckyj.[38] This stated that regional disparities diverge initially only to converge later on.

The 'Centre-Periphery model' of Friedman[39] stresses cumulative and self-reinforcing advantages of initial location and limited advantages of backward regions normally insufficient to offset agglomeration advantages.

2.6 EMPIRICAL STUDIES ON REGIONAL DISPARITIES

Many studies were undertaken by individual researchers in the past three decades to assess the impact

---

34. G.Myrdal, Economic Theory and Underdeveloped Regions, Vora, 1958, pp.38-39.
35. A.O.Hirschman, The Strategy of Economic Development, Yale University Press, Yale, 1958, p.184.
36. W.Alonso, "Urban and Regional Imbalances", Economic Development and Cultural Change, Vol.17, No.1, October 1968, pp.1-14.
37. J.G.Williamson, "Regional Inequality and the Process of National Development - A Discription of the Patterns,in L.Needleman (ed.), Regional Analysis, Penguin Modern Economic Readings, 1968, p.106.
38. I.S.Koropeckyj, "Equalisation of Regional Development in Socialist Countries", Economic Development and Cultural Change, Vol.21, No.1, October 1972, pp.68-86.
39. J.Friedman, Regional Development Policy - A Case Study of Venzuela, p.41.

of plan effort aimed at the reduction of regional disparities.

Ashok Mitra[40] made a pioneering study of levels of regional development at the district level, based on 1961 census data. Using a large number of indicators, the study divided the 327 districts of the country into four levels of development relying on simple ranking method. The study brought out the association between different indicators and the levels of development. The Census of India, 1961 uses as many as 30 indicators of the level of development of a region, and then, prepares a composite index of development based on their co-variance. It should be noted in the first place that this procedure may get some satisfactory results for comparison of the levels of development among different regions, but that it may be too complicated to yield very satisfactory results for comparison of the economic growth of different regions.

---

40. Ashok Mitra, "Levels of Regional Development in India", Government of India, Census of India, 1961, Part 1A(i), Text, New Delhi, 1961.

Nath[41] has done another study by using various indicators to highlight disparities between regions based on state ranks in India. He has taken five indicators for his study and came to a conclusion that Maharashtra, Tamil Nadu stood as the most developed states followed by Gujarat, West Bengal, Punjab and Kerala all of which are designated as the relatively developed states in comparison to remaining eight less developed states. He also finds that "economic growth during the 1950s and early 1960s was probably somewhat more rapid in the developed states than in the less developed ones".

S.K.Rao[42], for measuring the levels of regional disparities in India, has used the multiple factor analysis after taking into account only six indicators of which

---

41. V.Nath, "Regional Development in Indian Planning", Economic and Political Weekly, Bombay, Annual Number, January 1970, pp.242-260.

42. S.K.Rao, "A Note on Measuring Economic Distances between Regions in India", Economic and Political Weekly, Bombay, August 1973, pp.796-799.

three related to industry. He concluded that "development during the first 15 years of planning in India seems to have led to no reduction in regional disparities; if at all, it seems to have been polarised in two top groups of the states. If one has to name the states which seem to remain depressed, one may mention the following: Assam, Orissa, Madhya Pradesh, Uttar Pradesh, Rajasthan, Bihar and Kerala".

M.N.Pal,[43] in an empirical study, has attempted to identify relatively less or more developed areas (districts) in India as compared to an average national level of development. Instead of taking income as a single indicator of development he has taken several such indicators to compute a composite index which can represent an aggregate picture of regional disparities in the levels of development and also identify the differential pattern of sectoral development and its contributory factor by this method.

---

43. M.N.Pal, "Regional Disparities in the Levels of Development in India", Paper contributed to the Fifth Economic Conference of India, Delhi School of Economics, 1965.

Ganguli and Gupta[44] have done another comprehensive study on the basis of the levels of living indices for 15 states in India by using the method of principal component analysis. They came to the conclusion that the disparities in the overall levels of living between the states declined during the period 1955-65. Yet a few other studies on the inter-state disparities including one by Majumdar,[45] for the period of 1950-51 to 1967-68 and another by Majumdar and Kapoor,[46] taking three yearly averages during the period of 1962-76 have located a rising trend in the extent of regional disparities in India.

Hemalata Rao[47] has looked into the question in a number of studies (1984).[48] She has chosen as total number

---

44. B.N.Ganguli and D.B.Gupta, Levels of Living in India - An Inter-State Profile, S.Chand and Company, New Delhi, 1976.
45. Majumdar Madhavi, "Regional Income Disparities, Regional Income Change and Federal Policy in India, 1950-51 to 1967-68: An Empirical Evaluation", Occasion Paper, No.7, Dept. of Economics, University of Dundee, 1977.
46. G.Majumdar and R.J.L.Kapoor, "Behaviour of Inter-State Income Inequalities in India", Journal of Income and Wealth, 4, 1980.
47. Hemalata Rao, "Identification of Backward Regions and Trends in Regional Disparities in India", Artha Vijnana, 10, 1977, pp.93-112.
48. Hemalata Rao, Regional Disparities and Development in India, Ashish Publishing House, New Delhi, 1984.

of 14 states and analysed data for the years 1956, 1961 and 1965. She has taken 24 variables and used the technique of principal component analysis and came to the conclusion that there has been a general decline in absolute differentials between the developed and less developed states.

K.R.G.Nair[49] conducted a study and came to the conclusion that, "the first decade of Indian Planning does not seem to have witnessed any major decrease in inter-state income differentials." He also made another attempt (1982)[50] to analyse in detail the pattern of change in inter-state disparities in the levels of living in India between the fiftees and the eightees. He concluded that there is a glaring gap between the low ranking and high ranking states in terms of per capita NDP during the period under study. The evidence from his study clearly indicates that "inter-state disparities in per capita NDP decline from the fiftees to the mid-sixtees, but increase since then".

---

49. K.R.G.Nair, "Inter-State Income Disparities in India", Indian Journal of Regional Sciences, 3, 1971, pp.49-50.
50. K.R.G.Nair, Regional Experience in a Developing Economy, Wiley Eastern, 1982 , p.183.

Dholakhia's[51] study has covered 15 states and years from 1960-61 to 1980-81 in examining the trends in inter-state income inequalities during this period. These findings are fairly in line with what Nair has reached in his investigation: "The state product inequalities have clearly increased during the period 1960-61 to 1979-80 not only in money terms but also in real terms. The product inequalities, moreover, are also increasing in the primary and the tertiary sector. The trend in the inequalities in the primary and the tertiary sectors, largely governs the trend in the overall product inequality among states. Although the experiences suggest that richer states have gained more and that the poorer states have gained less, the analysis indicates a relationship of complementarity between the objectives of growth and equity in India. The growth equity trade-off does not appear to be very serious in India. The analysis, on the contrary, unravels a promise of growth if equity is aimed at".

K.K.George[52] conducted one study for assessing the divergence in Indian economy and examines how far the

---

51. R.H.Dholakia, Regional Disparities in Economic Growth in India, Himalaya Publishing House, New Delhi, 1985, p.169.
52. K.K.George, Centre-State Financial Flows and Inter-State Disparities, Criterion Books, Delhi, 1988.

declared regional goals have been achieved by different agencies like the Finance Commission, Planning Commission and the Financial Institutions. The study came to the conclusion that the regional disparities is increasing in order to the biblical saying, "To the rich shall be given; from the poor shall be taken away".

Another comprehensive study has been conducted by Joshy.[53] He examined in detail the growth of and regional imbalances in infrastructure among states especially in Uttar Pradesh by using a composite index of economic development and came to the conclusion that the inter-state pattern of development in terms of infrastructure facilities has remained more or less unchanged.

Rao and Sundaram[54] made another study and observed that specified regional policies are needed to guide deliberate action to bring about a more even economic and social development in different parts of the economy.

---

53. B.M.Joshi, Infrastructure and Economic Development in India, Ashish Publishing House, New Delhi, 1990.
54. K.V.Rao and P.Sundaram, "Regional Imbalances in India: Some Policy Issues and Problems", Indian Journal of Regional Science, Vol.II(1), 1979, pp.1-14.

Sampath,[55] using a technique similar to the coefficient of variation,conducted one study and observed that inequality has significantly increased in agricultural sector.

Dhadibhavi[56] made use of the principal component analysis to analyse inter-taluka disparity and backwardness in Karnataka. The inter-taluka variations in respect of agricultural development were not found high.

From the above discussion it is seen that inter-state disparities in economic development among states are either increasing or more or less remained unchanged over decades. Many studies have already been undertaken, using many variables,to explain the nature of disparities in economic development among states. But very little has been done to explain the problem in terms of the differences in the central sector industrial investments. Therefore, the present study aims at bridging the gap.

---

55. R.K.Sampath, "Inter-State Inequalities in Income in India, 1951-71, Indian Journal of Regional Science, Vol.IX, No.1, 1977.
56. R.V.Dadibhavi, "An Analysis of Inter-Taluka Disparity and Backwardness in Karnataka State, 1975-76, Indian Journal of Regional Science, Vol.XIV, No.2, 1982, pp.166-173.

Chapter 3

REGIONAL IMBALANCES - A REVIEW

The problem of regional economic imbalances is universal and found to exist in almost all countries in varying degrees. Differences in income, employment, industrial development, etc. among regions have a long history. Both developed and developing countries are under the grip of regional imbalances and inequalities. No country can escape from this condition. The problem of regional disparities creates social and political stress and strain particularly in the third world countries.

In Canada, the federal government established a fiscal equailisation programme in 1957 intended to reduce disparities among regions to achieve a national standard in public service, etc. Over half the fund which totalled $186 million was spent on highway constructions and water and sewage systems.[1]

---

1. A.Careless, Initiative and Responses: The adaptation of Canadian Federalism to Regional Economic Development, Mc-Cill Queens' University Press, 1977.

In Western Europe, until 1950, any effective regional development effort was not sustained. From this point, "every member country of the European Economic Community developed a variety of incentive programme to spur development in slow growth areas. Physical infrastructure programmes and manpower training programmes were also introduced".[2]

In the United States of America, the problems of regional development have not been as widespread and persistent as they have been in Canada and Europe. There had problem regions at various times in the United States, but they had not been cumulative or even chronic. Regions that were depressed at one time became leading regions at another time witness the south-east region. Benjamin Higgins observes that, "it almost seems as if Adam Smith's invisible hand operates in a special way, at the local and regional level just for Americans".[3]

Backward regions in a developing country like India are rural in character and has not experienced any

---

2. Benjamin and Donald J.Savoie, Regional Economic Development, Unwin & Hyman Ltd., 1988, p.5.
3. Higgins Benjamin, Regional Development Planning: The State of the Art in North America, Nagoya, United Nations Centre for Regional Development, Nagoya, Japan, 1981, p.4.

industrial development. Different regions are endowed with different deposits of natural resources. However, imbalances is inherent in the process of development. The present chapter discusses an overview of regional imbalances in India.

In India, the historical factors, especially the colonial rule, guided the development of the port towns of Bombay, Calcutta, Madras etc. These cities have, in turn, worked as the nuclei for the development of Maharashtra, West Bengal and Tamil Nadu respectively; which are at present the most industrially advanced states of India. On the other, the areas having natural advantages in the form of mineral resources such as Bihar, Orissa, Rajastan, Madhya Pradesh and Andhra Pradesh have lagged far behind. This type of historical growth processes described the creation of inter-state disparities in the early stages of development in India. These disparities are widening over decades.

The problem of regional disparities had been causing great concern to the planners and political leaders since the independence. However, it was in the Third Five Year Plan that a more concerted effort was made and a new

chapter on 'Balanced Regional Development' was added in the Plan document. The Third Plan stressed the need for studies of trends as well as rates of growth of different regions on a continuous basis. It was thought unless we had an idea of the magnitude of the problem no proper and effective measures could be initiated. Planning Commission took the lead by appointing a working group known as Pande working group[4] in 1968 to go into the problem of backward areas. The Committee suggested six criteria for the identification of backward states and thus identified the states of Andhra Pradesh, Bihar, Assam, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Nagaland, Orissa, Rajastan and Uttar Pradesh as industrially backward states. Around the same time, the Ministry of Industrial Development also set up a Committee[5] under the Chairmanship of Shri N.N.Wanchoo to go into the question of fiscal and financial incentives for industries in the backward areas.

The Planning Commission had set up another Committee known as the National Committee on the Development of Backward areas, to examine afresh the backward area programmes in depth under the leadership of

---

4. Planning Commission, Report of the Working Group on the Identification of Backward Area, Government of India, New Delhi, 1969.
5. Development Commission (SSI), Fiscal and Financial Incentives for Starting Industries, Government of India, New Delhi, 1969.

Shri B.Sivaraman in 1978. The Committee adopted the problem area approach for identification of backward areas and identified six types of problem areas, namely, chronically drought prone, desert, tribal, hill, chronically flood affected and coastal areas affected by salinity. Although these measures help to reduce the inter-regional disparities, the distance in development among states is widening year after year.

In order to examine the inter-state disparities in economic development some important economic and non-economic indicators are taken into account. These are income, investment, power, transport, health, education, urbanisation, industrial development indicators such as number of factories, employment, gross industrial output, distribution of fixed capital and value added by manufacture etc. These indicators of development are discussed in brief as follows:

3.1 INVESTMENT

Investment is said to be the 'sine qua non' of economic development (following the hypothesis of higher

investment leading to higher growth rate, it would be appropriate to have an impact analysis of the investment in different states discussed in detail in chapter VI). Regarding the investment in central public enterprises projects, the evidences clearly showed that the developed states received more than the less developed states. In other words, all the available evidence leads to the conclusion that, instead of a deliberate support being introduced in favour of backward states including Uttar Pradesh, the flow of resource has taken place in the reverse direction on the plea of maximisation of returns, continuation of historical trends, absorptive capacity and economies of agglomeration. Out of the total Central investment made among the 14 states in the year 1985-86 the major share went to the industrially developed states. Maharashtra alone received the highest per capita investment (Rs.1428) whereas it was Rs.186 in Rajastan, Rs.272 in Uttar Pradesh, Rs.329 in Orissa and Rs.823 in Bihar. This can be seen from Table 3.1.

3.2 PER CAPITA INCOME

The most commonly used indicator for assessing the levels of development is per capita income, though it suffers from certain inherent weaknesses. Per capita

Table 3.1

Distribution of Central Investment Among 14 States 1970-71 to 1988-89

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	113.8	310.9	988.08	5294.01	9906.32
Bihar	928.9	1882.8	3541.40	6311.60	8440.32
Gujarat	155.4	432.5	1068.45	2405.54	5071.10
Haryana	7.8	51.6	261.15	545.94	813.67
Karnataka	100.7	212.0	844.64	1546.56	2180.79
Kerala	126.0	246.8	481.96	922.75	1523.81
Madhya Pradesh	579.9	1366.3	2634.67	6844.37	11502.29
Maharashtra	130.8	371.5	1826.80	9029.85	16179.67
Orissa	470.8	619.6	1038.99	4073.18	5719.29
Punjab	34.7	165.2	418.64	602.78	802.35
Rajasthan	41.1	187.7	361.56	717.18	1399.03
Tamil Nadu	329.5	498.6	922.57	2954.10	4897.71
Uttar Pradesh	161.6	395.6	1017.90	3310.36	8295.17
West Bengal	473.7	566.0	1736.40	3999.84	5730.43

Source: Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt. of India, New Delhi.

income during the study period was much more uneven although all states showed an increase. The distance between the lowest per capita income state Bihar (Rs.878) and the highest per capita income state Punjab (Rs.2675) in 1980-81 increased drastically when compared with per capita income in 1970-71. During 1970-71 the per capita income was above the national average in the case of five out of fourteen states. The picture was not different in the following periods. This may be seen in Table 3.2.

Generally speaking, the less developed states are below the national average during the whole period and the developed states, on the other, are above the national average. The semi-developed states stand almost near the national average. Punjab recorded the first rank during the whole period followed by Haryana, Maharashtra and Gujarat respectively in the developed states' group. But in the semi-developed states' group, West Bengal recorded the first position and it was above the national average almost during the whole period. Among the South Indian states, Karnataka ranked the first position followed by Kerala during the seventies and early eighties. During the later half of eighties Tamil Nadu improved her position. By 1988-89 Andhra Pradesh improved to the third position.

Table 3.2

Per Capita Income Among 14 States 1970-71 to 1988-89

(In Rupees)

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	585	883	1380	2296	3584
Bihar	402	656	878	1604	2266
Gujarat	829	1235	1951	3218	4663
Haryana	877	1432	2370	3948	5679
Karnataka	641	951	1528	2520	3645
Kerala	594	954	1510	2352	3162
Madhya Pradesh	484	784	1333	2071	3045
Maharashtra	783	1388	2427	3825	5519
Orissa	485	731	1231	2072	2965
Punjab	1070	1749	2675	4940	7674
Rajasthan	651	880	1222	1978	3075
Tamil Nadu	581	831	1498	2620	3594
Uttar Pradesh	486	721	1278	2000	2730
West Bengal	722	1125	1611	2873	4236
All India	656	1023	1651	1852	2082

Source: Column 1, 2, 3 : H.L.Chandok and the Policy Group, India Data Base - The Economy, Vol.I.
Column 4, 5: A.N.Agarwal et. al., Basic India 1991-92.

In the third group, that is, the less developed states' group, Bihar recorded the lowest rank during the whole period. All the states in this group recorded below the national average during seventies and eighties. In this category, Rajastan eventhough a less developed state, reached near to the national average and recorded the first position followed by Uttar Pradesh, Orissa, Madhya Pradesh and Bihar. And paradoxically, all these states are in the Hindi belt of the country. But during the later half of eighties Madhya Pradesh and Orissa improved their positions and recorded second and third ranks followed by Uttar Pradesh and Bihar.

3.3 POWER

The per capita consumption of electricity is considered as an accepted index of progress of an economy. In this condition, it is noticed that during the study period, the per capita consumption of power in the country increased by more than three times. Among the 14 states, Punjab had the highest per capita power consumption. The lowest increase was observed in Bihar and the other states placed at the bottom ranks were viz., Uttar Pradesh, Madhya Pradesh, Rajastan and Orissa. This may be seen in the Table 3.3.

Table 3.3

Per Capita Power Consumption Among 14 States 1970-71 to 1988-89

(In Kwh)

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	56	66	106	205	238
Bihar	63	68	76	94	112
Gujarat	138	154	245	304	439
Haryana	98	145	213	242	365
Karnataka	104	134	157	189	271
Kerala	76	86	101	139	166
Madhya Pradesh	54	76	98	168	225
Maharashtra	158	186	272	314	407
Orissa	96	78	116	134	256
Punjab	159	134	315	423	630
Rajasthan	50	71	99	143	191
Tamil Nadu	130	105	190	218	297
Uttar Pradesh	60	66	87	117	161
West Bengal	118	98	114	131	138
All India	90	110	135	178	240

Source: Column 1,2 Central Electricity Authority, Ministry of Energy, Government of India.
Column 3, 4, 5 Confederation of Engineering Industry, The Power Scenario, New Delhi, April, 1990.

In general, the figures show a clear disparity among states in per capita consumption of power. The distance between the state with the highest per capita consumption of power (Punjab) and the state with the lowest per capita consumption of power (Rajastan) was three times in 1970-71, and has increased to four times in 1980-81 in the case of Punjab and Bihar. Disparity became more pronouncing during 1980-81. The less developed states like Bihar, Madhya Pradesh, Uttar Pradesh, Rajastan and Orissa continued to be far away from the all India averages 90 kwh in 1970-71, 110kwh in 1975-76, 135 kwh in 1980-81, 178 kwh in 1985-86 and 240 kwh in 1988-89.

The developed states of Punjab, Haryana, Maharashtra and Gujarat showed a higher per capita consumption of power during the reference period whereas, although the less developed states showed an increase in per capita consumption of power, it was below the national average. In the semi-developed group, Andhra Pradesh has doubled its consumption of power two times but could not reach the national average. Kerala and West Bengal showed almost equal status of less developed states except during 1970-71. The case of Tamil Nadu and Karnataka showed an equal status of developed states except during 1975-76. It was more than the all India average consumption of power.

3.4 TRANSPORTATION[6]

Roads constitute the most important infrastructure for agricultural and industrial development. The length of surfaced roads provides a good measure of level of development of an area with respect to transportation facilities. In this context, it was noticed that during 1981-82 the length of surfaced road per hundred square kilometre of area in the country was 21 km as compared to 15 km in 1973-74. An interstate comparison reveals that Punjab secured the first position where the corresponding figure was 71 km which is more than four times of the national average. The states at the bottom ranks were

---

6. The drawback of this indicator is the following: It happens that some of the states which rank rather low in respect of road length per unit area are also the states which are too frequently visited by draughts. Whenever there is a draught, an intensive road building activity starts in these states. In this manner tens of crores of rupees are spent every year in draught affected areas. And yet it is soon found that the roads which were supposed to have been built there just do not exist. What goes in the name of a road is either not built at all or takes the form of a disorderly heap of soil which is washed out by the first downpour of the next monsoon.

   Railway is a central subject. Being one of the principal modes of transport, its development materially affects the state's economy. But the railway route length cannot be taken as a very dependable indicator of the levels of economic development of a region. Thus, for example, the Bombay-Delhi railway route which passes through Rajastan is probably utilised more by the people of Delhi, Gujarat and Maharashtra than by the people of Rajastan so that the data related to railway route length cannot be considered as an indicator of economic development in the present study — Centre for Monitoring Indian Economy (CMIE), Vol.II, Bombay, September 1980.

Rajastan (10 km), Orissa (11 km) and Bihar (16 km). In terms of an increase in the length of surfaced road per 100 square kilometre of the area, it is noticed that during the period 1973-74 to 1981-82, the highest progress was made by Maharashtra followed by Gujarat, both belonged to developed group.

3.5 HEALTH

A broad idea about the level of development of an area, particularly in medical and health sectors, can be had from the number of beds available in hospitals, number of dispensaries and especially from the per capita expenditure on health. From the former angle, Kerala was the most developed state in the country, where the number of beds per lakh of population in 1983-84 was 169, followed by Maharashtra (128), Punjab (119) and Gujarat (111) which are all belonging to the developed states except Kerala. The state of Madhya Pradesh ranked on the lowest ladder with only 31 beds per lakh of population. The other states placed at bottom ranks were Bihar (38), Orissa (43) and Uttar Pradesh (44). A similar situation emerges with respect to the number of hospitals and dispensaries. The three most backward states in the country, namely, Bihar, Orissa and Uttar Pradesh, had extremely low level of

medical facilities in terms of the availability of beds in hospitals and dispensaries. More or less a similar picture can be had from the per capita expenditure on health. This can be seen from the Table 3.4.

Generally speaking, the per capita expenditure on health in the developed states was much higher than the all India average during the whole period. The distance between the state with the highest per capita expenditure on health (Haryana) and the state with the lowest per capita expenditure on health (Bihar) was more than three times during the seventies. During the eighties, the interesting fact to note was that the highest and the lowest ranks were assumed by Rajastan and Bihar.

The developed states recorded their positions above the national average during the reference period. The semi-developed states like Kerala, West Bengal and Tamil Nadu recorded their per capita expenditure on health above the national average during the whole period. Karnataka and Andhra Pradesh showed a cyclical trend. It is interesting to note that the economically depressed states like Rajastan recorded the first rank in the ladder of per

Table 3.4

Per Capita Expenditure on Health Among 14 States

(In Rupees)

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	6	13	23	53	63
Bihar	3	8	14	30	35
Gujarat	7	16	26	58	72
Haryana	8	19	31	74	73
Karnataka	5	14	19	47	61
Kerala	8	15	32	63	77
Madhya Pradesh	5	11	23	48	74
Maharashtra	8	17	27	77	80
Orissa	6	12	22	47	56
Punjab	8	19	32	74	85
Rajasthan	8	14	33	85	101
Tamil Nadu	7	14	23	52	67
Uttar Pradesh	4	10	17	29	49
West Bengal	7	11	26	42	58
All India	6	13	24	41	69

Source: Centre for Monitoring Indian Economy (CMIE), Various issues.

capita expenditure on health in the eighties. Madhya Pradesh has improved her position and reached above the national average latter half of eighties. Orissa kept on her position below the national average except in the latter half of eighties. Bihar and Uttar Pradesh recorded the lowest positions during the whole period.

3.6 LITERACY RATE

Literacy rate provides a fairly good measure of level of educational development in an area. Generally the female literacy in every state is less than the male literacy. Where the male literacy rate is less than 40 per cent, the female literacy is comparatively much lower than half of the male literacy rate. These states included Madhya Pradesh, Uttar Pradesh, Bihar and Rajastan, all in the Hindi belt. Female literacy rate, however, improved three fold, that is, better than the near-double in case of male or all over literacy rate between 1951 and 1981, for the country as a whole as well as in most major states.[7] The state-wise literacy rates for the three censuses ie., 1961, 1971 and 1981, indicate that Kerala occupied the first position among all the states in each of the three

---

7. Centre for Monitoring Indian Economy (CMIE), Vol.II, Bombay, September 1980.

censuses. Maharashtra witnessed an improvement in her rank from fourth in 1961 to second in 1981 among all the states. The state of Gujarat had a setback, as it stood with the fourth rank in 1981 as compared to second in 1961. The literacy percentages of six states in 1981 were less than the national average of 36.2 per cent. This can be seen from Table 3.5.

It is observed that the developed states recorded, as usual, above the national average during the study period. In the case of semi-developed states, Andhra Pradesh recorded below the national average and all other states showed an increase above the national average. In the less developed group, all states recorded below the national average, although showed an increase. As per the 1981 census, among the five states, Orissa much improved her position more or less reaching the national average. The distance between the state with the highest literacy rate and the state with the lowest literacy rate was recorded more than three times. The highest rate was recorded by Kerala whereas Rajastan was on the other end during the three study period.

Table 3.5

Literacy Rates Among 14 States 1961, 1971, 1981

States	1961	1971	1981
Andhra Pradesh	21.3	24.57	29.94
Bihar	18.4	19.79	26.20
Gujarat	30.5	35.72	43.70
Haryana	0.0	26.69	36.14
Karnataka	25.4	31.54	38.46
Kerala	46.8	60.16	70.42
Madhya Pradesh	17.1	22.12	27.87
Maharashtra	29.8	39.08	47.18
Orissa	21.7	26.12	34.23
Punjab	24.2	33.39	40.86
Rajasthan	15.2	18.79	24.38
Tamil Nadu	31.4	39.39	46.76
Uttar Pradesh	17.6	21.64	27.16
West Bengal	29.3	33.05	40.94
All India	28.3	29.45	36.23

Source: Census Reports of 1961, 1971 and 1981, Government of India, New Delhi.

3.7 RATE OF URBANISATION

Urbanisation in India is one of the important areas of discussion because it has shown a sufficiently high increase during the last two decades as well as it is intrinsically linked and irrevocably intervened with the process of development. Urbanisation is considered to be a historically determined process going hand in hand with the growth of non-primary activities. In this context, the rate of urbanisation is considered as an indicator used to measure the development of a region. The rate of urbanisation is defined as the percentage of population living in urban centres. The 1981 census reports that 23.3 per cent of India's total population lives in urban areas. During 1971-81 the urban population of India decreased by 3.4 per cent per annum and the rural population of India increased by 1.8 per cent per annum.[8]

Table 3.6 shows that among the 14 major states, Maharashtra is the most urbanised state followed by Tamil Nadu, Gujarat, West Bengal, Punjab and Karnataka in the order as per 1961 census. There were six states showing an increase above the national average. Similar was the case in 1971 and 1981 censuses. In the bottom level, Orissa,

---

8. Census of India, Government of India, 1981.

Table 3.6

Rate of Urbanisation Among 14 States 1961, 1971, 1981

States	1961	1971	1981
Andhra Pradesh	17.4	19.3	23.3
Bihar	8.4	10.0	12.5
Gujarat	25.8	28.1	31.1
Haryana	17.2	17.7	21.9
Karnataka	22.3	24.3	28.9
Kerala	15.1	16.2	18.8
Madhya Pradesh	14.3	16.3	20.3
Maharashtra	28.3	31.2	35.0
Orissa	6.3	8.4	11.8
Punjab	23.1	23.7	27.7
Rajasthan	16.3	17.6	20.9
Tamil Nadu	26.7	30.3	33.0
Uttar Pradesh	12.9	14.0	18.0
West Bengal	24.5	26.7	26.5
All India	18.0	19.0	23.3

Source: Census Reports of 1961, 1971 and 1981, Government of India, New Delhi.

Bihar and Uttar Pradesh recorded the lowest ranks during the whole three census periods.

All states in the developed states, except Haryana, recorded above the national average. In the case of semi-developed states, Tamil Nadu, West Bengal and Karnataka recorded an improvement above the national averages. Andhra Pradesh has improved her position in 1981 and reached to the national average in 1981. Kerala marked much below is average and it was lower than those of the less developed states like Madhya Pradesh and Rajastan. In the case of less developed states, Orissa and Bihar ranked the lowest positions during the three census periods. Eight states recorded below the national averages in 1961 and 1971 censuses whereas it improved to seven in 1981 census.

An idea about the level of industrial development can be observed from the following indicators like distribution of factories, distribution of employment, distribution of fixed capital, gross industrial output, value added by manufacture, etc.

3.8 DISTRIBUTION OF FACTORIES

As regards the interstate variations in respect of

the number of factories for the year 1970-89, it can be seen that more than 90 per cent of the total factories are distributed among the major 14 states, of which Maharashtra accounted for the highest number of factories in the whole period. The State of Orissa ranks the lowest on the ladder of distribution of factories. The other states placed at the bottom ranks were Haryana, Kerala, Bihar, Madhya Pradesh and Rajastan.

Table 3.7 shows that during 1970-71, Maharashtra accounted for 18.14 per cent whereas Haryana 1.68 per cent, both states are developed states. Maharashtra followed by Gujarat, Punjab and Haryana accounted for 37.04 per cent of the total number of factories, ie., more than one-third of the total distribution of factories. The semi-developed states contributed 37.91 per cent of the total number of factories. Of which Tamil Nadu accounted for the highest, followed by West Bengal and Andhra Pradesh. In the less developed group, Uttar Pradesh contributed 6.95 per cent, followed by Madhya Pradesh and Bihar. Nearly one-fifth (18.56%) of the total number of factories was shared by these group of states. By and large, the same was the position in the following points of time. The semi-developed states contributed 40 per cent in 1988-89 whereas developed states

Table 3.7

Distribution of Factories Among 14 States 1970-71 to 1988-89

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	5448	6150	11155	12746	14292
Bihar	2566	3684	4250	4988	3449
Gujarat	7040	7873	11208	10305	11103
Haryana	1089	1549	2486	3026	2761
Karnataka	3469	4285	5381	5456	5649
Kerala	2302	2461	3049	3104	3072
Madhya Pradesh	2657	2880	3488	4000	3636
Maharashtra	11741	12371	15576	14970	15127
Orissa	1174	1290	1794	1467	1430
Punjab	4048	4358	5688	5710	5997
Rajasthan	1308	1760	2696	2966	3162
Tamil Nadu	6874	7348	10292	12429	13099
Uttar Pradesh	4492	4892	7151	7550	9404
West Bengal	6402	5961	6359	5619	5419
All India	64565	71705	96503	101016	104077

Source: Annual Survey of Industries (Various Issues).

and less developed states accounted for 33.61 per cent and 20.23 per cent respectively during 1988-89. During this period Tamil Nadu, Andhra Pradesh and Uttar Pradesh improved their positions but West Bengal particularly showed a decrease in eighties.

3.9 DISTRIBUTION OF EMPLOYMENT

According to the all India Report on Employment statistics, the total employment in the country for the industrial factories covered in this study worked out to 50.31 lakhs in 1970-71, 77.15 lakhs in 1980-81 and 77.43 lakhs in 1988-89. Employment in Maharashtra (17.34%) accounted for the highest percentage of the total employment in the country followed by West Bengal (12.34), Tamil Nadu (10.3), Uttar Pradesh (9.99) and Gujarat (9.07) for the year 1980-81. This can be seen from Table 3.8.

The distribution of factory employment among the 14 states was 95.13 per cent, 94.98 per cent, 92.45 per cent, 94.86 per cent and 94.91 per cent during the five time points respectively. Maharashtra contributed the highest and Orissa on the other made the lowest in this regard during the reference period. The developed states accounted for 32.93 per cent of the total distribution of

Table 3.8

Distribution of Employment Among 14 States 1970-71 to 1988-89

(No.of Employees)

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	325108	466062	666150	660482	724606
Bihar	263601	351464	381926	343417	381732
Gujarat	473799	588010	699427	665746	668625
Haryana	102601	116186	169172	236504	227960
Karnataka	247480	328808	396236	376197	401399
Kerala	200092	243719	279668	233038	235499
Madhya Pradesh	202905	272174	324708	345498	318036
Maharashtra	1001246	1165017	1337718	11998825	155296
Orissa	89323	108023	133186	151995	155296
Punjab	139084	178600	235141	312523	375412
Rajasthan	111406	144357	191128	216701	230849
Tamil Nadu	568482	640625	794993	856217	897288
Uttar Pradesh	390639	543207	770626	682842	755228
West Bengal	845858	914077	952026	806434	763099
All India	5215786	6380745	7714679	7471515	7743344

Source: Annual Survey of Industries (Various Issues).

employment in 1970-71. More or less the same was the picture given during the remaining four time points. The contribution of semi-developed states was 41.93 per cent in 1970-71 and it reduced to 38.12 per cent in 1988-89. This showed a decreasing movement. Among these states, Tamil Nadu and Andhra Pradesh improved their positions whereas West Bengal and Kerala showed a decrease in their positions. Karnataka recorded a cyclical movement during the study period.

On the other hand, the less developed states improved their contribution. In other words, the rate of employment has increased considerably. The less developed states contributed 20.28 per cent in 1970-71 and 23.36 per cent in 1980-81 and 25 per cent in 1988-89. During this period Uttar Pradesh improved its position. Bihar showed a decrease and was nearly stagnant during the study period. The other states Madhya Pradesh, Orissa and Rajastan recorded a stagnant position during the whole period.

3.10 DISTRIBUTION OF FIXED CAPITAL

As regards the interstate variations in respect of distribution of fixed capital for the year 1970-71, it can be seen that out of the Rs.8751.54 crores in the country 95

per cent has been distributed among the 14 states. Maharashtra accounted for 15.7 per cent followed by West Bengal with 11.97% Uttar Pradesh with 11.07 per cent, Tamil Nadu with 10.48 per cent. This can be seen from Table 3.9.

The developed states like Maharashtra received the highest amount of Rs.1374.35 crores followed by Gujarat, Punjab and Haryana respectively. In semi-developed states' group, West Bengal received Rs.1049.13 crores in 1970-71 followed by Tamil Nadu, Andhra Pradesh, Karnataka and Kerala. In the third category, ie., less developed states, Uttar Pradesh received the highest amount of Rs.968.38 crores followed by Bihar, Madhya Pradesh, Orissa and Rajastan respectively. The distance between the state with the highest fixed capital (Maharashtra) and the state with the lowest fixed capital (Kerala) recorded more than seven times increase. More or less a similar picture can be observed during the remaining points of time.

3.11 INDUSTRIAL GROSS OUTPUT

The total output of all the industrial units in India worked out to Rs.61084.03 crores for the year 1980-81. The contribution from the industrial units of Maharashtra alone to the total output was 23.58 per cent.

Table 3.9

Distribution of Fixed Capital Among 14 States 1970-71 to 1988-89

(Rs. in Crores)

States	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	483.60	747.96	1821.22	3613.51	6074.99
Bihar	677.46	1774.26	3422.70	5285.84	6053.32
Gujarat	574.47	1314.38	2684.97	5310.47	8239.55
Haryana	219.96	447.15	959.90	1946.53	2327.19
Karnataka	414.43	676.74	1296.42	2990.55	3745.85
Kerala	192.42	468.46	800.45	1568.24	2039.62
Madhya Pradesh	530.46	856.39	2106.26	5458.61	4627.63
Maharashtra	1374.35	2154.32	4776.68	9390.20	14743.19
Orissa	413.76	433.03	750.55	1602.34	4712.30
Punjab	266.93	669.86	1350.25	2750.00	4250.90
Rajasthan	299.36	667.89	1339.54	2859.34	3950.18
Tamil Nadu	917.39	1129.82	2041.28	5154.57	8523.01
Uttar Pradesh	968.88	1748.03	3095.93	5980.28	9770.94
West Bengal	1049.13	1169.88	2115.54	4688.34	6317.30
All India	8751.54	14029.10	29900.38	60085.24	89098.75

Source: Annual Survey of Industries (Various Issues).

The contribution from Gujarat, Tamil Nadu, West Bengal, Uttar Pradesh and Andhra Pradesh were 11.72, 10.86, 9.81, 6.18 and 5.25 percentages respectively. On the other hand, Orissa recorded the lowest gross output percentage (1.67) and the next in order were Rajastan (2.63), Haryana (3.06) and Kerala (3.42) respectively. The distance between the lowest contributing state (Orissa) and the highest contributing state (Maharashtra) was more than 12 times. This can be seen from Table 3.10.

It can be seen from Table 3.10 during 1970-71 Maharashtra contributed 24.57 per cent followed by West Bengal (13.48), Tamil Nadu (10.25) and Gujarat (9.71) respectively. In 1975-76 Gujarat improved its position and recorded the second position. Uttar Pradesh has marked an improvement during 1988-89 and recorded the third position.

Among the developed states, Maharashtra accounted for the highest output followed by Gujarat, Punjab and Haryana. A similar picture was given in the subsequent time points. In the case of semi-developed states, Tamil Nadu contributed the highest output except in 1970-71. West Bengal recorded a decrease from 1975-76 onwards. It's position changed from second in 1970-71 to fifth in

Table 3.10

Distribution of Gross Output Among 14 States 1970-71 to 1980-89

(Rs. in crores)

States	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	687.86	1706.59	3184.18	7334.66	11447.52
Bihar	752.39	1975.21	3106.13	6520.85	9959.68
Gujarat	1337.29	3002.13	7159.76	13423.74	20115.93
Haryana	319.48	658.25	1598.55	4049.51	6468.22
Karnataka	564.86	1232.97	2591.81	4787.80	7995.58
Kerala	373.91	878.48	2091.41	3081.95	4863.16
Madhya Pradesh	577.32	1257.79	2450.00	5761.00	8779.26
Maharashtra	3382.86	7182.43	14405.87	27088.99	39042.64
Orissa	237.77	514.37	1024.21	2037.47	4380.89
Punjab	441.85	1011.94	2491.06	5154.73	8395.53
Rajasthan	265.47	700.13	1612.11	2605.46	5514.03
Tamil Nadu	1410.84	2916.81	6334.69	12973.31	19552.36
Uttar Pradesh	1002.76	2012.05	3776.62	8816.65	16698.21
West Bengal	1855.57	3433.87	5992.52	9542.09	12262.69
All India	13767.89	29866.45	61084.03	120155.40	184348.78

Source: Annual Survey of Industries (Various Issues).

1988-89. The less developed states contributed very less to the total output during the whole period. Uttar Pradesh contributed the highest to the total output followed by Bihar. In each and every time period, one can see a clear disparity between states. The distance between the highest and the lowest contributing states was more than ten to twenty times increase.

3.12 VALUE ADDED BY MANUFACTURE

The value added by manufacture of all the factories covered in this study period was Rs.11928.77 crores for the year 1980-81. Maharashtra topped the rank (25.03%) followed by West Bengal (11.53%), Tamil Nadu (10.31%) and Gujarat (9.55%) respectively. The distance between the state with the lowest value added (Orissa, 1.66%) and the state with the highest value added (Maharashtra, 25.03%) was more than ten times. This can be seen from Table 3.11.

From the above Table one can observe that there has been a clear and wide disparity among states in this respect. The developed states accounted for 40.39% in 1970-71. More or less a similar picture was given in the subsequent time points. Eventhough the contribution of the

Table 3.11

Distribution of Value Added in Manufacturing Sector Among 14 States, 1070-71 to 1988-89

(Rs. in Crores)

States	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	124.86	319.13	583.69	1262.28	1821.45
Bihar	174.00	497.17	501.23	1252.02	2576.71
Gujarat	287.75	571.11	1138.71	2152.23	3389.21
Haryana	69.57	150.69	345.71	682.76	1006.83
Karnataka	181.08	329.98	603.02	1171.76	1625.90
Kerala	90.32	161.66	390.63	676.10	950.41
Madhya Pradesh	111.71	277.33	602.11	1363.71	1715.28
Maharashtra	843.47	1571.11	2985.99	6021.91	8215.31
Orissa	59.48	101.45	198.15	337.42	882.72
Punjab	71.04	169.33	386.07	748.09	1069.45
Rajasthan	66.13	155.89	334.05	635.83	883.53
Tamil Nadu	309.34	544.18	1229.40	2401.58	3759.97
Uttar Pradesh	208.22	415.41	749.30	1386.27	2975.28
West Bengal	429.40	851.43	1374.94	1949.50	2194.57
All India	3149.25	6386.68	11928.77	23266.47	34634.80

Source: Annual Survey of Industries (Various Issues).

developed states to total value added by manufacture has decreased over years, it was the highest contributor to the value added. Among these states Gujarat marked an improvement and reached the second position. The semi-developed states contributed 36.03 per cent in 1970-71 and the subsequent time points recorded a decrease, ie., there was a sharp decrease of ten per cent between 1970-71 and 1988-89. Considering the whole period Tamil Nadu recorded a clear improvement over years followed by Andhra Pradesh, whereas West Bengal recorded a steep downfall over years in this regard.

It is interesting to note that the performance of the less developed states was looking ahead hopefully. During 1970-71 these states contributed 19.24 per cent and 26 per cent in 1988-89; clearly an increase of seven per cent. Among these states, Uttar Pradesh recorded a remarkable increase in her share. It ranked the fourth position among the 14 states during 1988-89, eventhough a less developed state.

In short, when one looks into the industrial indicators, one can observe that the state of Maharashtra recorded the first position in all indicators over years,

and is followed by Gujarat, Andhra Pradesh and West Bengal. Uttar Pradesh and Andhra Pradesh recorded a very remarkable change or improvement over decades in almost all industrial indicators. West Bengal recorded a clear decrease in almost all industrial indicators, especially in later half of seventies and eighties. On the other hand, Orissa, Rajastan, Kerala and Madhya Pradesh ranked the lowest cadre in one or the other indicators. Bihar has improved her position in terms of gross output and value added by manufacturing sector.

The above discussion reveals that the inter-state disparity has widened over decades, though some of the states like Andhra Pradesh, Uttar Pradesh, etc. recorded a remarkable improvement in terms of economic and industrial development indicators.

Chapter 4

CENTRAL GOVERNMENT POLICIES AND REGIONAL IMBALANCES IN INDIA--A PROFILE

4.1 In this chapter, a brief review of the policies and programmes of the Central Government is attempted. Further an analysis is also made to find out the factors that influenced the government authorities in framing these policies and programmes of industrial dispersal for reducing regional imbalances.

Most of the countries of the world are faced with the problem of serious regional inequalities. As far as the developing countries are concerned, this problem has assumed such a magnitude that their very political and economic stability is threatened. Because of the complexity created by this economic necessity and the resentment over increasing disparities between backward and developed regions, the backward regions clamour for more resources and a discriminatory governmental policy in their favour. This is the reason why a strong 'desire' to ensure balanced regional development of the economy is incorporated as an important objective of national planning in most of the developing countries.

When one looks into the historical experience of India, it can be observed that the process of development under British rule was not entirely in accordance with the natural processes of development. The development of the country was guided by the economic interest of the foreigners. They paid special attention to the development of certain areas connecting with ports, skilled labour, capital and enterprise while the rest of the economy was ignored. As a result, certain 'enclaves' of development in the country was created while the rest was continually impoverished. "Economically speaking, they were really an outpost of economies of the more developed investing countries".[1] Since these pockets had the advantage of an early start, they became centres of economic activity in due course of time.

Because of the glaring regional imbalances and inequalities which have arisen through a complex set of historical, socio-economic, demographic and cultural factors, the need for state intervention to achieve a balanced regional development is suggested by most of the economists. The economic literature of post second World War period with its firm grip as the distributive aspects

---

1. S.N.Bhattacharya, Development of Industrially Backward Areas, Metropolitan New Delhi, 1981, pp.35-38.

of growth has made its impact on the planners of the less developed countries to an extent that social justice, redistribution of consumption norms and eradication of poverty have become central issues in their planning models".[2] Several compelling factors have induced governments in these countries to launch programmes aimed at the development of backward regions. They are now concentrating their attention on evolving a development strategy which would seek a reduction in regional imbalances without affecting the national income growth rates. In India, soon after independence, when the planning process started in the country, the objectives of planned development were conceived of, and referred to, the problems of regional development as one of them. While statements were made in official documents as well as in the parliament about the desirability of a regional balance and the need to disperse and diversify the economic activities, the very identification of the problems and potentialities of these areas had not been systematically done. In fact, the review of the industrial licensing policies revealed that the needed industries to the necessary extent did not really go to the backward areas.

---

2. Hans Singer, "The Distribution of Gains Between Investing and Borrowing Countries", American Economic Review, Papers and Proceedings, May, 1950, p.473.

This condition, however, has changed only when the policy instrument designed exclusively to promote industrial development in backward areas was instituted since 1970s.

4.2 POLICIES OF CENTRAL GOVERNMENT

India, being a federal country, consists of central government and 27 state governments. As per the Indian federal system, the responsibility for regulation of industrial development is shared between the centre and states. The important declaration as to expediency of control by the centre is contained in the Industries (Development and Regulation) Act of 1951, which lists in its first schedule the industries which are to be under the control of the Central Government. Therefore, in a broad sense, the Central Government has a crucial and overall responsibility in the regulation and development of industries so as to achieve national objectives which have been articulated in the Industrial Policy Resolution (IPR) and Statements. The IPR of 1948, the first in the post-independence period, had no direct reference to the problem of industrial development of backward areas. The policy of the government articulated more fully in the IPR of 1956 which was governed by the objective of attaining the 'socialistic pattern of society'. There was a specific

reference to the development of different categories of industries in the public sector and to the problem of industrial development of backward region.

In order that "industrialisation may benefit the economy of the country as a whole, it is important that disparities in levels of development between different regions should be progressively reduced. The absence of industries in different parts of the country is very often determined by factors such as the availability of the necessary raw materials and other natural resources. A concentration of industries in certain areas has also been due to ready availability of power, water supply and transport facilities which have been developed there. It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is greater need for providing opportunities for employment provided the location is otherwise suitable. Only by securing a balanced and co-ordinated development of the industrial and agricultural economy in each region can the entire country attain higher standards of living".[3] Thus

---

3. S.C.Kuchal, The Industrial Economy of India, Chaithanya Publishing House, Allahabad, 1983, pp.108-109.

the emphasis was on the provision of infrastructure in industrially less developed regions so that imbalances can be reduced.

This resolution has continued to be the corner-stone of government policy, though the subsequent (1971, 1980 etc.) Statements of industrial policies which have emphasised one or the other aspects of industrial development of backward regions in order to reflect changing conditions. The Statement of Industrial Policy issued in 1977 stated that, "The Government attaches great importance to balanced regional development of the entire country so that disparities in levels of development between different regions are progressively reduced. Government has noted with concern that most of the industrial development that has taken place in our country since independence has been concentrated around the metropolitan areas and large cities. The result has been a rapid deterioration in the living condition especially for the working classes in the larger cities and attendant problems of slums and environmental problems".[4] In pursuance of this, the government decided to regulate licensing and financial assistance to industrial units

---

4. Ibid.

coming up in large metropolitan cities having a population of more than one million and urban centres with a population of more than five lakhs as per the 1971 census.

The 'correction of regional imbalances through a preferential treatment of industrially backward areas' was one of the important objectives of the IPR issued in July 1980. The Statement says that "special concessions and facilities will be offered for this purpose and these incentives will be growth and performance oriented."[5] It also emphasised the importance of ancilarisation, and states: "Industrial development has to be viewed in the broader context of generating higher production and employment. Overcoming the problem of poverty and backwardness need a multi-pronged approach. An integral part of this approach would be to create new focal points of industrial growth which have the maximum effect on the quality of life. This will have to be based essentially on the utilisation of local materials and locally available manpower. The ripple effect of substantial in backward districts in the past has in many cases not been adequate; mainly because such investments did not have effective linkages with local resources. Government, therefore,

---

5. Ibid, p.125.

proposes to encourage investments by public and private sectors which will meet these criteria and would also promote a network of spread out ancillaries".[6]

The Five-Year Plans had been considered as the main instrument for implementing the IPRs and statements into action. Within the framework of the IPR, different aims and objectives have been set out in the succeeding Five Year Plans and the need to tackle the problems of industrial dispersal has been recognised in all the plan documents. The Five Year Plan stated categorically industrial development in India has so far been on an unplanned basis and it has been concentrated in a few selected areas. Although there has been a trend towards wide dispersion of some industries like cotton, textile and cement, industrial development in some parts of the country has lagged behind seriously. The excessive concentration of industries brings in its train certain economic and social disadvantages and a wider diffusion of industry is desirable from this larger point of view. Further, if industrial development in the country is to proceed rapidly and in a balanced manner, increasingly great attention will have to be paid to the development of those states and

---

6. Ibid, p.127.

regions which have so far remained backward."[7] The plan pointed out that the large potential of industrial development in several backward states and observed that "it is often desirable to prepare development programmes in terms of regions, determined by physical, economic and administrative considerations. The need and priorities of different regions as well as their potential for short term and long-term development should be taken into account in drawing up and continually reviewing their development programmes."[8]

Anyhow, this broad approach could not be implemented into action in any effective manner as the share of industry in overall investment was very limited in the First Plan. The key industrial strategy of the Government of India was articulated more fully in the Second Plan. Specifically with regard to industrial dispersal the plan suggested a three pronged strategy: "In the first place the National Development Council recommended programmes for setting up decentralised industrial production. Secondly, it has been suggested that in the location of new enterprises, whether public or private, consideration should be given to the need for

---

7. Planning Commission, First Five Year Plan, Government of India, 1952, p.142.
8. Ibid, p.141.

developing a balanced economy for different parts of the country. Thirdly, steps have to be taken to promote greater mobility of labour between different parts of the country and to organise schemes of migration and settlement from more to less densely populated areas."[9] In short, the Second Plan urged the importance of reduction in regional inequalities and observed that "in any comprehensive plan of development, it is axiomatic the special needs of the less developed areas should receive due attention ... the stress of development programmes should be in extending the benefits of investments to underdeveloped regions."[10] The plan approach sought to be implemented into policy to some extent in the industrial estate programmes and in the location decisions for specific public sector projects.

A separate chapter was devoted, in the Third Plan, to the balanced regional development, and special emphasis was laid on the development of backward areas. The Third Plan put forward the idea of large projects of nuclei for regional growth. It stated that "the benefits of a large project accrue in which it is located if certain related or complementary programme and schemes are undertaken.

---

9. Planning Commission, Second Five Year Plan, Government of India, New Delhi, 1956, p.37.
10. Ibid, p.32.

Therefore, as an essential feature of planning, every major projects should be regarded as a nucleus for integrated development of the region as a whole".[11] The plan urged "progress in different regions must, therefore, be watched carefully, and additional steps taken to speed up development in particular areas which are found to be seriously lagging behind".[12] The plan also laid a particular emphasis on the need to disperse small industries. Thus, the plan states: "Although several industries such as village industries, village khadi ... are already located in rural areas, the development of small scale industries has so far been, by and large, in or near the cities and the larger towns. Since one of the principal objective of programmes in this field is to provide opportunities of income and employment in a dispersed manner all over the country, emphasis in the implementation of the programmes in the Third Plan will be encouraging the further growth of industries in rural areas, in small towns as well as in less developed areas having a marked industrial potential".[13]

---

11. Planning Commission, Third Five Year Plan, Government of India, New Delhi, pp.149-150.
12. Ibid.
13. Ibid, p.434.

The results achieved in the first three plans were not considered satisfactory though there had some beneficial effects on the economy of backward regions. Conscious efforts have been initiated for the first time during the Fourth Plan, which states: :In terms of regional development, there has been a natural tendency for new enterprises and investments to gravitate towards the already overendowed metropolitan areas because they are better endowed with economic and social infrastructure. Not enough has been done to restrain this process. While a certain measure of dispersal has been achieved, a much larger effort is necessary to bring about great dispersal of industrial activity".[14]

4.3 WORKING GROUPS

Accordingly in 1968, the Central Government has taken concrete action to reduce the interstate disparities through successive Five Year Plans placing emphasis on balanced development. The Government of India set up two working groups to lay down the criteria for identification of backward areas and to suggest incentives to promote the industrial growth in identified backward

---

14. Planning Commission, Fourth Five Year Plan, Government of India, New Delhi, p.11.

regions. The working groups on 'Identification of Backward Areas'--commonly known as Pande Working Group--appointed with the terms of reference to recommend the objective criteria to be followed in identification of backward regions which would qualify for special treatment by way of incentives for industries to be set up in such regions. Among other things, the broad techno-economic factors which are relevant to the establishment of industries on a regional basis should be taken into account so that the grant of special concessions does not lead to irrational growth in industrial development.[15]

The working group on 'Fiscal and Financial Incentives' for starting industries in backward areas--known as Wanchoo Working Group--was set up with the following terms of reference, "(a) to consider the nature of concessions to be given for encouraging the development of industries in backward regions and in particular to examine procedural financial and fiscal incentives'; (b) to consider the role of state governments and financial institutions in the development of industries in backward regions; and also (c) to examine the type of dis-incentives

---

15. Planning Commission, Report of the Working Group on the Identification of Backward Area, Government of India, New Delhi, 1969.

that should be introduced to avoid concentration in metropolitan or highly industrialised areas".[16]

The Pande Working Group had urged that only 20 to 30 districts be selected for special incentives on the basis of backwardness and availability of infrastructure. The Central Government selected as many as 246 districts/ areas for grant of concessional finance, income tax exemption and for preferential treatment to small scale units for import of raw materials, machinery and equipment etc. Out of these, 125 districts/areas were made eligible for assistance under the central subsidy scheme. Inevitably, the impact of these incentives on the development of backward areas has been largely negligible. The promotion of village, cottage and small scale units was also expected to lead to a more dispersed pattern of industrial development.

On the basis of the Report of these Working Groups, a long term programme was drawn up for the establishment of industries on a rational basis in the backward areas. The Fourth Plan thus provided the major breakthrough in the formation of a national policy for

---

16. Development Commissioner (SSI), Fiscal and Financial Incentives for Starting Industries, Government of India, New Delhi, 1969, pp.2-3.

backward area development in the country. First, it has taken particular care in identifying backward areas. Second, it has evolved special programmes for resolving their special problems. Third, it has suggested certain concrete measures for an efficient execution of the backward area development policy.[17] The Planning Commission has proposed a number of criteria for determining the relative backwardness of states, regions, districts and decided to embark upon the development of the industrially backward districts of the backward states.[18] It has also developed an objective criterion popularly known as Gadgil Formula, for the allocation of central assistance during the Fourth Plan period. Gadgil formula has given weightage to population, backwardness, tax efforts, development project and special problems.

In pursuance of this approach, the Fourth Plan stressed the need to bring about 'greater dispersal of industrial activity and directed development in smaller towns and rural areas'. In order to attain this, the Fourth Plan introduced policy measures of "Concessional

---

17. O.M.P.Mathur, "National Policy for Backward Area Development - A Structural Analysis, Indian Journal of Regional Science, 6, 1974, p.78.
18. Ibid.

Finance and Central Investment Subsidy for promotion of industries in selected backward areas/districts".[19]

The Draft of the Fifth Plan emphasised the need to ensure that the industrial development of backward areas is consistent with the basic economies of location. As regards the overall approach, the plan stated that: "the main constraints in the industrial development of backward regions are that the strategy for the development of these areas has not been completely mapped out in terms of the inherent problems which have accounted for industrial backwardness and the organisational arrangements necessary to spearhead and support the industrial development programmes in backward areas both at the Centre and in the states are inadequate. An integrated approach covering the creation and expansion of basic infrastructure facilities and the provision of an institutional framework to coordinate the essential components of the industrial development programmes constitutes the basic pre-requisite for the more rapid industrial growth of the backward areas".[20]

---

19. Planning Commission, The Mid-term Appraisal of the Fourth Five Year Plan, Government of India, New Delhi, 1971, pp.53-60.
20. Planning Commission, Draft Fifth Five Year Plan, Government of India, New Delhi, pp.133-135.

The broad conclusion that emerges is that the government showed much interest in encouraging industrialisation of backward areas and several promising approaches have been outlined in the plans. However, many of these promising approaches towards dispersal of industries have not in fact been pursued. The facilities provided under concessional finance and central investment subsidy, the two most important segments of the incentive schemes, were not availed to the desired extent and the manner in which it was envisaged.[21] Wanchoo Working Group pointed out that the distribution of funds by the various financial institutions had not served the cause of industrial dispersal in any applicable manner.[22] The Planning Commission decided that the Central Government instead of giving various incentives as suggested by the Wanchoo Committee should give only one incentive in the form of an outright grant/subsidy. The scheme favoured the developed states. This would become clear if one looks at the number of districts declared backward in different states. The five industrially advanced states have a large number of backward areas. Maharashtra (13 out of 26), West Bengal

21. Planning Commission, Evaluation Report on Concessional Finance and Other Incentives in Industrially Backward Areas, Government of India, New Delhi, p.1.
22. Planning Commission, Report of Wanchoo Working Group on Block Development Planning, Government of India, New Delhi.

(13/16), Gujarat (10/19), Tamil Nadu (9/16) and Karnataka (11/19). These states, which contain only about 35.4 per cent of the total population of India, obtained as high as 62 per cent of the total assistance sanctioned by the financial institutions such as IDBI, IFCI, ICICI, SFCs etc. till March 1980.[23] In this context, the Sixth Plan (1980-85) had observed that "Regional imbalances in industrial development have not been corrected to the extent required ... even within the state, industries have tended to gravitate towards existing centres, the backward areas remaining substantially backward".[24]

From the Second Plan onwards the importance of infrastructural investment was approved and forms the main element of the policy package. The observed failure of policy in reducing interstate disparities in the levels of industrial development led to a reassessment and it is only with the Third Plan that particular attention was given to this problem in the plan documents. From the Fourth Plan onwards, subsidies for units located in backward areas and

---

23. M.D.Godbole, Industrial Dispersal Policies, Himalaya Publishing House, Bombay, 1978, pp.67-68.
24. Planning Commission, Sixth Five Year Plan, Government of India, New Delhi, pp.15-19.

restraint on expansion in metropolitan areas played an important role. The growth pole approach is implicit in the Third Plan's vision of large projects as nuclei for regional growth and mentioned quite explicitly in the Fifth and Sixth Plans.

On Location Policy, the Industries Act, 1951, the IPR and the Five Year Plan documents have been equally pertinent in stressing the need for balanced development. On finding that the industrial location in the country has been considerably influenced by the existence of infrastructural facilities, the Planning Commission stated: "It is one of the aims of national planning to ensure that these facilities are steadily made available to areas which are at present lagging behind industrially or where there is great need for providing opportunities for employment, provided the location is otherwise suitable".[25] The need for dispersal of industries as a means of attaining a balanced development of the economy as a whole has also been emphasised in the Industrial Licensing Policy[26] in

25. Planning Commission, Economic Development in Different Regions of India, Government of India, New Delhi, 1962, p.13.
26. R.K.Hazari, Industrial Planning and Licensing Policy, Report to Planning Commission, Government of India, New Delhi, 1967 and Ministry of Industrial Development, Report of the Industrial Licensing Committee, Government of India, New Delhi, 1969.

consonance with the Third Five Year Plan: "Balanced development of every part of the country, extension of benefits of economic progress to less developed regions and wide spread diffusion of industries are among the major aims of planned development.[27]

The mid-term appraisal of the Fourth Plan suggested that a Regional Location Policy may be formulated in order to take advantage of that area which has spare infrastructural factors. Such a location policy must discourage major industries from being located in metropolitan and large cities and, instead, encourage them to be located at medium size cities and towns. Consequently, they could be able to grow to sizes at which their economic viability could be better established. By judging from the measures adopted by the states and the results obtained, it is quite clear that this problem still persists to be a sensitive strategic issue. Evidently, this has again been stressed in the Sixth Plan Draft: "in the matter of regional imbalances a major cause of concern is that state governments have not succeeded in

---

27. Planning Commission, Third Five Year Plan, Government of India, New Delhi, p.138.

preventing the growth of industries within and close to large metropolitan cities adding immeasurably to the problems of urban congestion".[28] In practice, as Jagadish Bhagavati found it, "in the absence of my explicit assurances about the share in total allocations of investments the 'defacto' locational policy of the Indian Government was to degenerate into a political scramble for each industrial target by most states".[29]

The locational decision in relation to major capital intensive industrial projects in the public sector or 'export intensive' projects have not been influenced by political pulls, pressures and intervention on the part of the states. These pressures have certainly influenced the Licensing Committee in allowing for the considerable proliferation of uneconomic scale plants which attended the progress of industrialisation in the country during the plan period. It is again a failure of Indian planners in fulfilling their regional industrial targets either on the

---

28. Planning Commission, Draft Fifth Five Year Plan, Government of India, New Delhi, p.138.
29. Jagadish N.Bhagawati, "International and Regional Development" and the Discussion of the Paper in E.A.G.Robinson and Micheal Kidron, Economic Development in South Asia (ed.), Macmillan, London, 1970, p.543.

basis of economic efficiency or equity for assuring the states of getting some minimum industrialisation or largesse by way of laying down statewise targets of overall industrial investment. Instead, the whole thing was almost entirely to political pressures and hence scramble for most industrial licenses has resulted into dividing up each industrial target among as many states as possible.[30] Moreover, the major industrial projects in the public sector located in industrially backward areas have not produced the desired spread effects and growth and diversification of the regional economy. The Planning Commission had such developments in view when it termed large projects as the 'nuclei' of regional growth.[31]

Another policy measure, that is, the provision of needed infrastructure in order to attract private investors has not succeeded much in many cases. In short, the analysis of location of new industrial units during the plan period has shown the failure of industrial planning in bringing about the necessary industrial dispersal for the balanced growth of regions. This is evident from the

---

30. Jagadish N.Bhagawati and Padma Desai, India: Planning for Industrialisation, Oxford University Press, London, 1970, Ch.II.
31. Planning Commission, Third Five Year Plan, Government of India, p.149.

remarks of the Planning Commission in the Sixth Plan: "It is clear, therefore, that the approach to stimulating industrial development regionally will require to be changed and the same approach will not work on an all India basis. What is needed, therefore, is a strategy which identifies clearly the natural, physical and human endowments and potential in different districts and identifies viable projects which are based on these resources".[32]

As for the pricing policies, the notion of regional balancing was again to be translated into an effective set of policies provided by an efficiently functioning mechanism. According to Lefeber,[33] the investment policies must be responsible to the signalling of the price system--which properly reflects changes in the demand and supply conditions prevailing in the diverse markets. Rational pricing and transportation policies and certain other methods would efficiently allocate industrial investments in the context of a planned economy. In Lefeber's view, the short run regional distribution of resources, treated wholly as a non-political decision, must

---

32. Planning Commission, Draft Fifth Five Year Plan, Government of India, New Delhi, Vol.III, p.138.
33. L.Lefeber, "Regional Allocation of Resources in India" in John R.Friedman and William Alonso (eds.), Regional Development Planning: A Reader, The MIT Press, Cambridge, 1964, pp.642-653.

be effected with "the strictest regard for economic efficiency" in projects which yield immediate high returns.[34] In the context of the Third Plan, he remarked: "extensive efforts to increase 'regional balance' would interfere with the desired rate of development".[35] Because of the adoption of low yield type rural programmes or arbitrary location of industrial investment is, in essence, more a form of transfer payment aiming at 'regional balance' than a contribution to economic development with a larger industrial investments undertaken in the depressed regions the effort required for 'regional balance' depends upon two factors; (i) the minimum level of politically acceptable national growth rate; and (ii) the overall savings that can afford over and above the level which is needed to sustain the desired rate of development. To sum up, there emerges enough evidence from the analysis of India's locational and pricing policies to support Bhagavati's observation: "Planning for regional balance in India has been at best weak and work negligent and negligible".[36]

Industrial Licensing Policy was supposed to regulate the private sector. For this, an Act of

---

34. L.Lefeber, op.cit., p.646.
35. Ibid, p.649.
36. Jagadish N.Bhagawati, op.cit., p.542.

Parliament known as the 'Industries (Development and Regulation) Act' 1951, was enacted and came into force in May 1952. The objectives of the Act were: (i) the regulation of industrial investment and production according to plan priorities and targets; (ii) protection of small enterprises against competition from large industries; (iii) prevention of monopoly and concentration of ownership of industries; and (iv) balanced regional development with a view to reducing disparities in the levels of development of different regions of the economy. The obvious policy, which was expected to be followed to achieve the objective of balanced regional development, was to grant more licences for establishment of industrial units in the lagging regions and controlling the establishment of more units in the leading regions by denying licences to them.

The Industrial Licensing Policy Enquiry Committee appointed in July 1967 under the chairmanship of R.K.Hazari revealed that the four industrially advanced states of Maharashtra, West Bengal, Gujarat and Tamil Nadu benefitted most from the operations of this policy. For example, in the decade 1956-66, these four industrially advanced states accounted for 59.31 per cent of the applications and 62.42

per cent of the licences approved (the share of Maharashtra, West Bengal, Tamil Nadu and Gujarat in total licences approved being 27.37 per cent, 16.47 per cent, 9.69 per cent and 8.89 per cent respectively). On the other hand, the mineral rich states of Bihar and Orissa got a meagre 5.16 per cent and 1.18 per cent respectively of licenses approved. The more disturbing factor is the fact that not only the most industrialised states received a large proportion of licenses issued, the highly industrialised areas within them cornered a very high proportion of licenses. Thus, out of the total number of licenses issued for Maharashtra, about 57 per cent went to the three districts of Bombay Suburban, Thana and Poona alone: while in Bengal, 71 per cent went to Calcutta, Howrah and Hooghly, and in Tamil Nadu about 59 per cent went to Madras and Coimbatore.[37] In effect, however, as successive investigators and official committees have observed, the licensing policy as an instrument for reducing regional imbalances has been a failure.

The above analysis indicates that the industrial licensing policy has all along favoured the already

---

37. Department of Industrial Development, Report of the Industrial Development, Main Report, Government of India, New Delhi, July 1969.

developed states while the claims of the backward states were ignored. Even when recommendations were made to grant more licenses to backward regions, the backward areas of the developed states received a higher preference. At times, licenses for backward areas of the backward states were rejected on the plea that sufficient capacity had already been issued for the industry. In this regard the Industrial Licencing Policy Enquiry Committee felt that the licensing system was not properly organized for the purpose which it was expected to achieve. The Committee while suggesting the need for streamlining the licensing system, felt that "with all its defects, the industrial licensing system has an important role to play in planning industrial development. We, however, envisage a more purposive and rational use of the licensing instrument. It is also essential that licensing should be accompanied by the use of other instrument, financial assistance and fiscal devices, in proper coordination for regulating, guiding and assisting industry in the private sector".[38] Rectification of regional imbalances assumes a crucial importance in the Fourth and subsequent Five Year Plans. It has followed the integrated area development approach to make a deep developmental thrust in the backward regions of the country. One of the

---

38. Ibid, pp.181-197.

most difficult tasks before the Planning Commission was the choice of criteria for determining the level of development of various states and regions. The information was particularly needed for evolving a suitable regional policy for development and evolving of central assistance to various states accordingly.

Recently, a national urbanisation policy[39] has been evolved to suggest comprehensive plans for the development of urban regions by taking into consideration their resource potentialities and limitations. With these added dimensions of regional planning, India has now reached the threshold of a broadly based regional development policy which may emerge in more concrete shape during the successive Five Year Plan periods. In the Fifth Five Year Plan a conscious strategy has been adopted for planning and integration of rural urban development. "Rapid growth cannot be achieved in isolation from urban growth. A rural-urban balance is essential for a mutual healthy growth of both. In the absence of integrated planning of rural growth centres and the development of small and medium sizes towns, large

---

39. Town and Country Planning Organisation, Government of India, "National Urbanisation Policy: An Approach", Indian Journal of Labour Economics, 1974, pp.97-135.

metropolitan areas may develop excessive concentrations of population with their attendent problems, small and medium sized towns may, on the other hand, fail to develop into growth centres, supporting and stimulating the rural hinderlands ... growth centres, rural and urban, will have to be linked in a graded hierarchy. This will help overcoming the constraints to development in the rural areas, caused mainly by the scattered distribution of rural settlements and the diffused dispersal of rural service".[40]

Besides, there is one more important policy measure, that is, the policy of public sector enterprises. In order to appreciate the role of the public sector as a strategic choice for economic development, it might be necessary to recapitulate the state of economy at the time of India's independence in 1947 and the problems confronting the country which needed to be tackled in a planned and systematic manner. The major objectives of public enterprises could be summarised as follows: (1) to help in the rapid economic growth and industrialisation of the country and create the necessary infrastructure for economic development; (2) to earn return on investment and

---

40. Planning Commission, Draft Fifth Five Year Plan 1978-83, Vol.III, Government of India, New Delhi, p.86.

thus generate resources for development; (3) to promote redistribution of income and wealth; (4) to create employment opportunities; (5) to promote balanced regional development; (6) to assist the development of small scale and ancillary industries; and (7) to promote import substitutions, save and earn foreign exchange for the economy.

In the perspective of long term development, spatial planning for socio-economic infrastructural change and organisation of poor people and their concientisation, employment generative investments in the rural sector, and institutional support of various kinds at various levels are needed. So far in India, as also in other Asian and African countries, the development efforts are largely of felt-need type, in that the approach "favours change including mobilisation of the people through technological interventions and organisational innovations, but without disturbing the existing social and political structures."[41] This approach had not succeeded in providing a rallying

---

41. Ranjith Gupta, "Institutional Support" in Planning Commission, Report of the Working Group on Block Level Planning, Government of India, New Delhi, 1978, Appendix V, p.61.

point for the poorer groups to organise themselves to promote and protect their interests.[42]

The effectiveness of the present strategy will eventually be judged by the extent to which it succeeds in reversing the present trend of the metropolitan-centred and city-oriented growth rapidly out-stripping the patience of the rural poor residing in poor regions of villages of India.

---

42. Planning Commission, Seventh Five Year Plan 1985-90, Vol.II, Government of India, New Delhi, p.54.

Chapter 5

TEMPORAL NATURE OF INVESTMENT IN CENTRAL MANUFACTURING PUBLIC ENTERPRISES IN DIFFERENT STATES IN INDIA

5.1 Having discussed the regional imbalances in terms of a number of economic and non-economic indicators among different states in India, now proceed to discuss the temporal nature of investment in central manufacturing public enterprises among states in India.

The term 'investment', like its associated term 'capital', appears to have a simple intutive meaning. Some of the great 'classical' exponents of the pure theory of capital, notably Wicksell, have used the term 'investment' in a manner which could easily confuse the students.[1] From the point of view of investors or suppliers of capital, investment is the commitment of present funds in order to derive future income in the form of interests, dividents, rent or retirement benefits or of appreciation in the value of the principal. Infact, most investments, in the popular sense, are transfers of financial assets from one person to another. Frederick

1. Herbert E.Dougall and Francis J.Corrigan, Investments, Prentice Hall INC, Engelwood Cliff, New Jersy, 1978, p.3.

Amling defined investment as "the purchase by an individual or institutions of a financial asset that produces a yield that is proportional to the risk assumed over some future investment period."[2]

The orthodox economic theory defines 'investment' as expenditure on 'capital', which in turn is usually defined as the value of the stock of physical capital goods (ie., durable assets--machinery, equipment, roads or docks--with an average life of over one year) plus the annual change in business inventories.[3] Experience of developing countries has shown that apart from investment in 'fixed capital formation', there is also considerable expenditure that can be shown to result in income in the future and, therefore, deserving to be considered as justifiable parts of total investment. For example, investment on health, insecticides, family planning, high yielding variety of seeds, technical assistance etc.[4] The fisherian definition was that 'investment' is any outlay

---

2. Frederick Amling, Investments--An Introduction to Analysis and Management, as quoted in Herbert E.Dougall and Francis J.Corrigan, Investments, Prentice Hall, Englewood Cliffs, New Jersey, 1978, p.5.
3. Andrew M.Kamarek, "Capital and Investment in Developing Countries", Finance and Development, No.2, 1971, p.3.
4. These examples are taken from the summaries of the Reports given in various issues of Finance and Development.

made today for the purpose of increasing future income-whatever the asset, tangible or intangible, a piece of machinery or a piece of productive knowledge, a passable road or a functioning family planning organisation that is purchased with the outlay.[5]

Concept of 'investment' under Indian Plans is used as 'financial outlay', 'investment', and 'current outlay'. According to the Planning Commission "investment is expenditure on the creation of physical assets (eg. buildings, plant and equipments) including expenditure on personnel required for putting up these assets. The expression corresponds broadly to expenditure on capital account".[6] The above definitions have come to the conclusion that the term 'investment' includes the use of money/physical capital, yield, risk, reward and the time factor. In the present study the term 'investment' is used to refer to the investment undertaken by the Central Government in central manufacturing public enterprises. One of the basic

---

5. Andrew Kamarck, op.cit., p.6.
6. A.P.Srinivasa Murthy, Investment Allocation in Indian Planning, Himalaya Publishing Agency, Bombay, 1981, pp.19-20.

aims of this is to reduce inter-state disparities and accelerate the economic development of the economy.

5.2 ROLE OF INVESTMENT IN DEVELOPMENT

In the process of development of a developing economy like India, investment has a crucial role, its importance being manifold. The importance can be observed from the view points of the classical, Keynesian, post-Keynesian and some recent growth economists. While the classical economists laid emphasis on the productive capacity creating effect of investments, the earlier Keynesian literature gave great attention to investment as income-generator. The post-Keynesian growth models represented by the Harrod-Domar analysis of steady growth consider the simultaneous performance of investment as both income-generator and productive capacity creator. The more recent discussion on development problems have highlighted the importance of investment in generating employment opportunities. There can be no doubt that investment has a role to play in the process of development though the question of harmonising these several consequences of investment raises some issues for investment policies.

Hirschman[7] puts another dimension to the role of investment in the development process. He stresses the role of investment as pace-setter for additional investment. It is generally held that the road from investment to further investment is rather indirect. Only if the economy expands in such a way as to utilise the additional capacity created by some investment, the additional income based on the increased capacity will result in more savings which in turn permit more investments. But Hirschman points out the importance of taking due account of the direct effect which investment of one period has on that of the subsequent period. He emphasizes the fact that the investments of one period are often the chief motivating forces behind some more investments of the subsequent periods. These sequences are far more important in the process of development especially in a developing country like India. Therefore, according to Hirschman, especially in the early stages of development, the primary objective of development policy should be to give the maximum play to this effect. In this view, the role of investments is greatly emphasised.

---

7. A.O.Hirschman, Strategy for Economic Development, Yale University Press, New Haven, 1960, p.4.

5.3 ROLE OF PRIVATE SECTOR INVESTMENT IN DEVELOPMENT

As seen in chapter 4, the Industrial Policy Resolution has broadly indicated the sphere of activity for the public and the private sectors in industry. To get a full view of total investment under the plans, it should have to consider the investment in industry by the private sector also. At the outset a word about the data relating to private investment in industry is necessary. The Second Plan stated that dependable estimates of total investment in the private sector are not available and it is not possible to present anything more than a broad guess of the likely trends over the next five years.[8] But no official statistical agency seems to have as yet set up a system of monitoring sector-by-sector private investment on an annual basis. However, the plans do give some estimates (targets) for investments in the private sector based on a study of trends of sectorwise investments in the past in the private sector. With all the limitations, however, the data available in the plan documents may be taken to indicate broadly the relative importance of the role of the public and private sectors in the planned industrial development of the country. Table 5.1 furnishes some figures to

---

8. Planning Commission, Draft Second Five Year Plan, Govt. of India, New Delhi, 1956, p.57.

Table 5.1

Investment in Public and Private Sectors During Five Year Plans

Sl. No.	Plan-wise	Public sector	Percent-age	Private sector	Percent-age	Total
1.	I Plan 1951-56	1560	46.4	1800	53.6	3360
2.	II Plan 1956-61	3731	54.6	3100	45.4	6831
3.	III Plan 1961-66	6300	60.6	4100	39.4	10400
4.	IV Plan 1969-74	13555	60.3	8980	39.7	22635
5.	V Plan 1974-79	36703	57.6	27048	42.4	63751
6.	VI Plan 1980-85	84000	52.9	74710	47.1	158710
7.	VII Plan 1985-90	154218	48.0	168118	52.0	322366
8.	VIII Plan 1990-95*	335000	54.9	275000	45.1	610000

Source: Government of India, Ministry of Finance, Indian Economic Statistics, Planning Commission, summary of Seventh Five Year Plan, December 1984.

indicate the place of private sector investments along with the public sector investment in the total plan outlay . It can be seen from Table 5.1 that in the allocation of financial outlays under the several plans, the public sector has had a relatively larger share, varying between 54.6 and 60.6 per cent after the First Plan whereas, it was varying between 45.4 and 52 per cent in the private sector. Only in the First Plan that the private sector had a share of 53.6 per cent as against the public sector's smaller share of 46.4 per cent. In all the subsequent plans, except the Seventh Five Year Plan period, the private sector has had around 40 per cent of the total plan outlay. This is a clear indication of the role of private sector investment in development process of the country.

5.4 ROLE OF PUBLIC SECTOR INVESTMENT IN DEVELOPMENT

During the British Raj, only some defence establishments and infrastructural facilities were under the state control. At the time of Independence, it was clear to the Indian leaders as well as planners that India was basically an agrarian economy with a weak industrial base, lack of infrastructure and severe regional imbalances. When the country launched its planning programmes, it was obvious that the private sector would

never be able to cope up the required funds to take risk involved in large investments with long gestation periods. It was recommended in the pre-independence plan that the key and basic industries and services should be started and financed by Central or State Governments. Similarly, defence needs of the country also had to be manufactured in the centrally owned establishments for security reasons. Above all, the government was to establish commercial and industrial enterprises in capital goods manufacturing.

It is in this context, the reservation of core sectors of industries like power, coal, steel, fertilizers, machine building etc. was made for the public sector. Public sector can be defined as an activity of the government at all levels which required them to engage in production of goods, production of services or running public utilities. Accordingly the direct participation of the public sector in the economy was a must, especially in the capital intensive areas. It was a need to deploy the public sector as our instrument of self-reliant economic growth. It was also, necessary to develop the agricultural and industrial base, to diversify the public economy and to overcome economic and social backwardness. In fact, this necessity formed the plank of the Second Five Year Plan.

This idea helped to build up a strong base of capital and intermediate goods along with the basic infrastructure.

The public sector in India has been assuming more and more importance. This is evident from the growth, expansion and diversification of the public sector activities and the increase in the share of public sector in the total plan outlay. Table 5.1 indicates the prominent position of the public sector in our economy.

5.5 GROWTH OF CENTRAL INVESTMENT IN MANUFACTURING PUBLIC ENTERPRISES

The progress of industrialisation over the last three decades had been a striking feature of Indian economic development. The process of industrialisation was launched as a conscious and deliberate policy in the early fifties. In pursuance of this policy large investment was made in building up capacity in a wide range of industries. A significant aspect of industrial development during this period was the predominant role assigned to the public sector in the establishment of basic industries like steel, non-ferrous metals, petroleum, power, coal, fertilizers and heavy engineering. Investments had also been made in consumer industries like pharmaceuticals, drugs, textiles

etc. partly as a result of the need to nurse the sick units which were taken over and nationalised by the government. From only five enterprises in April 1951 with a total investment of Rs.29 crores the number rose to 224 by April 1990 with a huge investment of Rs.99315 crores during the Five Year Plan periods. This can be seen from Table 5.2.

The total investment in paid up capital and long term loans in five enterprises stood at Rs.29 crores in 1951 whereas it rose to 21 enterprises in 1956 with an investment of Rs.81 crores. The growth of investment and enterprises was at a very high speed in 1961. This doubled the number of enterprises and there were more than 10 times increase in investment. A steady and gradual growth can be seen in the following two five year plans. This growth was doubled in the case of investment, and had a steady growth in the number of enterprises during the remaining three five year plans. The total investment in 244 undertakings in 1989-90 was Rs.99315 crores as against Rs.61602.93 crores in 226 enterprises as on 31-3-1987.

The investment in public enterprises has grown appreciably over years. From an amount of Rs.29 crores as on 31-3-1951 in 5 enterprises, the investment stood at

Table 5.2

Growth of Central Investment in Manufacturing Public Enterprises

Sl.No.	Plan periods		No. of enterprises	Total Investment
	At the Commencement of the the			
1.	First Five Year Plan	1-4-1951	5	29
2.	Second Five Year Plan	1-4-1956	21	81
3.	Third Five Year Plan	1-4-1961	47	948
4.	Fourth Five Year Plan	1-4-1969	84	3897
5.	Fifth Five Year Plan	1-4-1974	122	6237
6.	Sixth Five Year Plan	1-4-1980	179	18150
7.	Seventh Five Year Plan	1-4-1985	215	42673
8.	Eighth Five Year Plan	1-4-1990	244	99315

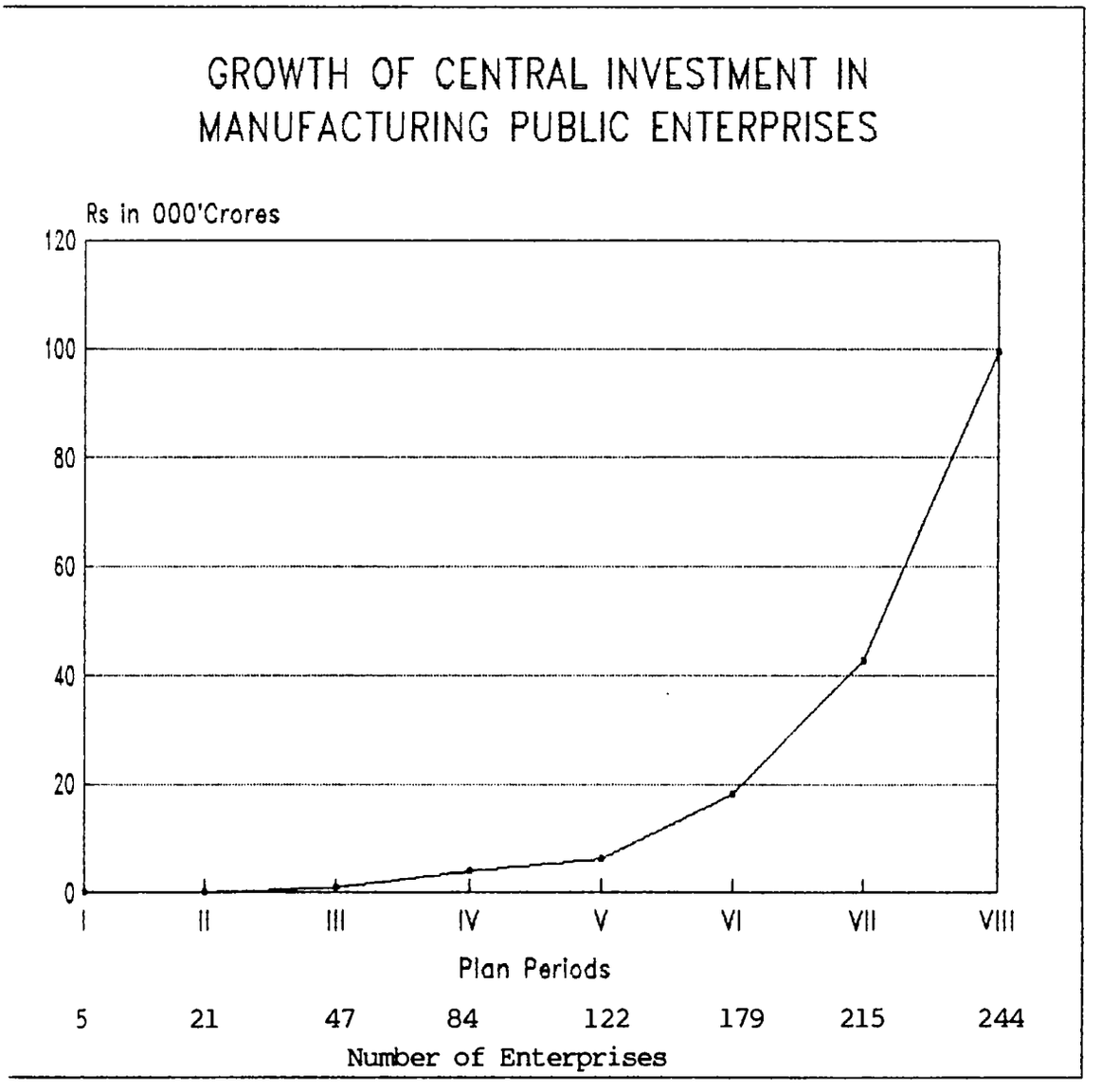
Source: Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt.of India, New Delhi.

Rs.99315 crores as on 31-3-1990 in 244 enterprises and the enterprises increased from 5 to 244. This is graphically presented in Chart 5.1.

5.6 PATTERN OF INVESTMENT

The Seventh Plan has given added emphasis to additional investment in the infrastructural sector consisting of power, petroleum, coal and steel with a view especially to overcome the wide gap between demand and supply position of the infrastructural inputs which has been one of the important constraints for the public enterprises to achieve better capacity utilisation. Beginning with the sixties, the Central Government invested in nine groups of enterprises such as steel, engineering, chemicals, petroleum, mining and minerals, aviation and shipping, financial institutions, building and repairing ships, and miscellaneous items. These groups were expanded and classified into six cognate groups. They were enterprises under construction; enterprises producing and selling goods; enterprises rendering services; insurance companies; financial institutions; and undertakings with Central Government investment but without direct responsibilities for management. Among these cognate groups, enterprises producing and selling are classified

Chart 5.1


GROWTH OF CENTRAL INVESTMENT IN MANUFACTURING PUBLIC ENTERPRISES
Rs in 000'Crores
120
100
80
60
40
20
0
I
II
III
IV
V
VI
VII
VIII
Plan Periods
5
21
47
84
122
179
215
244
Number of Enterprises

into 12 groups such as steel, minerals and metals, coal, power, petroleum, chemicals, fertilizers and pharmaceuticals, heavy engineering, medium and light engineering, transportation equipments, consumer goods industries; agro-based industries and textiles. Enterprises rendering services classified into seven groups such as trading and marketing services; transportation services; contract and construction services; industrial development and technical consultancy services; development of small industries; tourist services; telecommunication services, financial services etc., Investment in various cognate groups as at the end of 1986-87 indicating their respective shares is given in Appendix I.

As on 31-3-1990, there were 226 Central Public Enterprises engaged in production, manufacturing and services activities excluding insurance, banking and financial institutions. These enterprises cover a large spectrum of industrial activities in the country starting from basic and strategic industries on the one side and service activities on the other. List of central public sector enterprises under different states/union territories as their registered offices as on 31-3-1990 is given in Appendix II and list of Central Government Enterprises under

different ministeries as per allocation of business rules as on 31-3-1990 is given in Appendix III.

5.7 REGIONWISE DISTRIBUTION OF CENTRAL INVESTMENTS

Depending upon the level of per capita income, the states are divided into three groups, and these three regions are described as: (1) developed region; (2) semi-developed region and (3) less developed region. This may be seen from Table 5.3 and Table 5.4.

The developed region consists of four states, namely, Gujarat, Haryana, Maharashtra and Punjab. These states have a higher level of per capita income when compared to the all India average per capita income.

The semi-developed region composed of five states, namely, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and West Bengal. These states have an average level of per capita income almost near the National average per capita income.

The less developed region encompasses five states, viz., Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh. These states have a low level of per capita

Table 5.3

Distribution of Central Investment Region-wise

Sl.No.	States	Per capita income	Ranks
1.	Andhra Pradesh	1380	9
2.	Bihar	878	14
3.	Gujarat	1951	4
4.	Haryana	2370	3
5.	Karnataka	1528	6
6.	Kerala	1510	7
7.	Madhya Pradesh	1333	10
8.	Maharashtra	2427	2
9.	Orissa	1231	12
10.	Punjab	2675	1
11.	Rajasthan	1222	13
12.	Tamil Nadu	1498	8
13.	Uttar Pradesh	1278	11
14.	West Bengal	1611	5
15.	All India	1651	

Source: Basic India (Various Issues).

Table 5.4

Per Capita Income of Different States with their Ranks - 1980-81

Sl.No.	Regions	Name of states
1.	Developed Regions	Punjab, Haryana, Gujarat and Maharashtra
2.	Semi-developed Region	West Bengal, Karnataka, Kerala, Tamil Nadu and Andhra Pradesh
3.	Less Developed Region	Madhya Pradesh, Uttar Pradesh, Orissa, Rajastan and Bihar

income when compared to the all India average per capita income.

It can be seen from Table 5.5 that the region I which consists of the developed states received a very little of the total central investment. Region II which consists of the semi-developed states received nearly one-third of the total central investment (ie., 31.4 per cent) whereas region III received the lion's share of the central investment, that is, 59.72 per cent. This is the case in the year 1970-71. But the case of region I showed an increase in the shares from the central investment, they were 14.15 per cent, 20.85 per cent, 25.91 per cent and 27.73 per cent respectively in 1975-76, 1980-81, 1985-86 and 1988-89. In the case of region II, it has reduced to 25.41 per cent in 1975-76 and after that it has received 30.31 per cent in 1985-86. But it reduced to 29.42 per cent in 1988-89. By and large the trend of the share received by region II during the reference period showed a cyclical trend. On the other, region III received a lion's share, during 1970-71 and 1975-76, of the central investment. After that their share showed a decreasing trend, that is, it reached to 42.89 per cent from 60.44 per cent.

Table 5.5

Classification of Regions According to Per Capita Income Level

States/Region	1970-71	1975-76	1980-81	1985-86	1988-89
Gujarat	4.25	5.99	6.23	4.95	6.15
Haryana	0.21	0.72	1.52	1.12	0.99
Maharashtra	3.58	5.15	10.66	18.60	19.62
Punjab	0.95	2.29	2.44	1.24	0.97
Region I	8.99	14.15	20.85	25.91	27.73
Andhra Pradesh	3.11	4.31	5.76	10.90	12.01
Karnataka	2.76	2.93	4.83	3.19	2.67
Kerala	3.45	3.42	2.91	1.90	1.85
Tamil Nadu	9.12	6.91	5.38	6.08	5.94
West Bengal	12.96	7.84	10.13	8.24	6.95
Region II	31.40	25.41	29.01	30.31	29.42
Bihar	25.42	26.09	20.66	12.98	10.24
Madhya Pradesh	15.87	18.93	15.37	14.10	13.95
Orissa	12.88	8.59	6.06	8.39	6.94
Rajasthan	1.13	2.60	2.11	1.48	1.70
Uttar Pradesh	4.42	4.23	5.94	6.82	10.89
Region III	59.72	60.44	52.14	43.77	42.89
Total	100.00	100.00	100.00	100.00	100.00

Source: Computed on the basis of data taken from Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt.of India, New Delhi.

When one takes each state from each group like Maharashtra, Kerala and Bihar the picture is very interesting to note. Maharashtra, the most developed state received a nominal share of 3.58 per cent in 1970-71 has raised to 19.62 per cent in 1988-89. This clearly shows that the developed state like Maharashtra received one-fifth of the total central investment during 1988-89. On the other , Bihar, the resource rich state, received 25.42 per cent in 1970-71, has reduced to 10.24 per cent in 1988-89. This shows that Bihar, the less developed state, received one-tenth of the total central investment in 1988-89. The share of central investment has, year after year, increased in the case of developed state like Maharashtra and decreased in the case of less developed state like Bihar. In the case of Kerala from region II, the most literate and unemployed state, received much less when compared to other states in this group as well as States in region III. Kerala received 3.45 per cent of the total central investment in 1970-71 and it reduced to 1.85 per cent in 1988-89. This share was less than the share of the less developed states and more or less the same of the state of Rajastan.

5.8 DISTRIBUTION OF CENTRAL INVESTMENT-PLANWISE

National planning in India has been essentially aggregative and sectoral. At micro-level it has shown some

concern with spatial aspects of planned development. In India, there are at least three explicit ways in which the spatial dimension is injected into the veins of its planning framework: (1) one of the powerful means through which the Central Government seeks to introduce spatial considerations into State's Five Year and Annual Plans is the allocation of central resources, particularly the quantum of central assistance to states; (2) the distribution of central investments among different states keeping in view both the objectives of techno-economic viability of central investments and the claims of relatively disadvantaged areas; and (3) the regulatory measures for chanalising private and institutional capital through licensing and preferential lending policies also introduce the spatial framework into the Indian planning exercise.[9] The economic and social goals of regional plans are related to the patterns of economic activities in region. The location of large projects and expansion of infrastructural facilities and public amenities in the backward regions will certainly raise their development potential and make them much more attractive for location of industrial activity. In Nath's view "If regional plans

---

9. Planning Commission, Fourth Five Year Plan, Govt. of India, New Delhi, 1969, pp.17-18.

succeed in achieving their social goals, much of the political pressure for uneconomic location of projects, on grounds of 'balanced regional development' or 'accelerating growth in backward region' will be relieved".[10]

Central investment is analysed on quinquanial basis to make it roughly coincidewith the duration of the Five Year Plans. Since the study period started from 1970-71, it coincides with the beginning of the Fourth Five Year Plan. Table 5.6 gives an idea of central investment under plans.

In general, the central investment among the 14 states were under great disparity. The industrially developed state of Maharashtra received a major share in all plan period, except in the Fourth Plan. In the case of Bihar it was decreasing year after year. The case of Madhya Pradesh, Orissa and Rajastan were not different. Andhra Pradesh and Uttar Pradesh have improved their positions. West Bengal and Kerala showed a decrease in the share of central investment. Gujarat, Haryana and Punjab showed a cyclical trend in the central investment.

---

10. V.Nath, "Regional Planning in the National Plan" Artha Vijnana, September 1967, p.60.

Table 5.6

Distribution of Central Investment - Plan-wise

(Rs. in crores)

States	1970-74	%	1975-79	%	1980-84	%	1985-89	%
Andhra Pradesh	875.4	3.56	2480.3	4.67	11479.01	8.44	41652.53	11.8
Bihar	6396.4	26.09	13235.92	24.9	23260.35	17.1	38973.80	11.04
Gujarat	902.4	3.68	3224.67	6.07	6633.00	4.88	18339.33	5.19
Haryana	55.7	0.24	805.50	1.51	1421.83	1.05	3671.63	1.03
Karnataka	695.0	2.83	2170.67	4.08	5402.44	3.97	9969.28	2.83
Kerala	789.1	322	1652.08	3.10	3188.50	2.34	6529.19	1.85
Madhya Pradesh	4781.1	19.50	8665.59	16.28	19583.32	14.39	49249.54	13.94
Maharashtra	969.5	3.96	4201.48	7.89	22543.52	16.57	69983.94	19.82
Orissa	2578.6	10.52	3558.17	6.68	8997.68	6.61	25502.83	7.22
Punjab	227.3	0.93	1295.00	2.43	1952.82	1.44	3629.66	1.03
Rajasthan	455.7	1.86	1420.77	2.67	2081.14	1.53	5738.89	1.62
Tamil Nadu	1778.8	7.26	2891.07	5.43	8235.70	6.05	20827.64	5.89
Uttar Pradesh	993.7	4.06	2629.15	4.94	8842.15	6.50	30430.84	8.62
West Bengal	3016.3	12.3	5016.08	9.42	12424.71	9.31	26406.37	7.48

Source: Computed on the basis of data taken from Public Enterprises Survey (Various Issues). Bureau of Public Enterprises, Ministry of Industry, Govt. of India, New Delhi.

5.9 CENTRAL INVESTMENT IN DIFFERENT STATES

The central investment's active and conscious role in the process of national development may promote a policy of income transfers to the lagging regions of the economy. The geographic composition of public investment can be attracted in favour of backward areas by allocating to them several types of capital intensive investments because sufficiently large regional transfers of private capital may depend upon huge investment in social and economic overhead capital by the state. In Japanese economy the dispersive development of manufacturing industry was found necessary for alleviating the regional inequality and a method of regional development of an 'industry-led' type was evolved for narrowing of inter-regional gaps.[11]

"Economic development, equity, social welfare and political balance are often conceived as the relevant national objectives for regional policy".[12] In formulating regional development programmes, explicit consideration must be given to these goals. But unless the development

---

11. Atshushi Shimokobe,"Concept and Methodology of Regional Development," Developing Economies, August 1970, pp.496-510.
12. John R.Friedman, "Focus on Public Policy" in Earl O.Heady (ed.), Research and Education for Regional and Area Development, Iowa State University Press, 1966, pp.218-19.

goals are specified independently, regional planning itself cannot indicate an optimum policy for a given set of regions as a whole. While 'economic development' is a national goal of efficiency in regional allocation of resources, 'equity' aims at a goal of appropriate equality in per capita income for a given set of regions. By 'social welfare' is meant a goal of improving environmental quality of the space through ~~a~~ adequate provisions for accessibility, mobility and the amenities. The goal of maintaining (or creating) a given area distribution of political power through an appropriate regional distribution of investment resources brings about political balance".[13] Hughes has stressed more precisely that from the point of view of justice alone "the less developed regions might reasonably claim the right to (1) selective regulation of trade and/or; (2) income transfer from developed areas".[14] The above discussion shows that the distribution of central investment in different states has an important role to play in reducing regional disparities.

---

13. John R.Friedman, op.cit., p.219.
14. Rufus B.Hughes, "Interregional Income Differences: Self-Perpetuation", Southern Economist Journal, 28, 1961, p.45.

Recognizing the existence of disparities in economic development among states, the Central Government has invested large quantum of capital among states. Consequently, the states have got direct benefit from Centre on the one hand and to gain manifold advantages in terms of increased employment opportunities, growth of small scale, ancillary industries, development of infrastructural facilities etc. on the other. Besides, in order to accelerate the rate of economic growth and speedy industrialisation, central investment (in Gross Block)[15] in central public enterprises has started in different states.

There has been remarkable increase in the central investment in different states during the reference period. One may observe that the central investment has increased in absolute terms in almost all states during the study period. But in relative terms, there have been severe variations among states. This can be seen from the Charts 5.2, 5.2.1, 5.2.2, 5.3, 5.3.1 and 5.3.2 respectively.

Generally, speaking, more than 75 per cent of the total central investment has been made in the 14 states

---

15. Gross Block Investment represents original cost of procuring and erecting the fixed assets as appearing in the annual accounts of the enterprises at the end of the accounting year and takes into account additions thereto and deductions therefrom by way of sales and transfers.

Chart 5.2

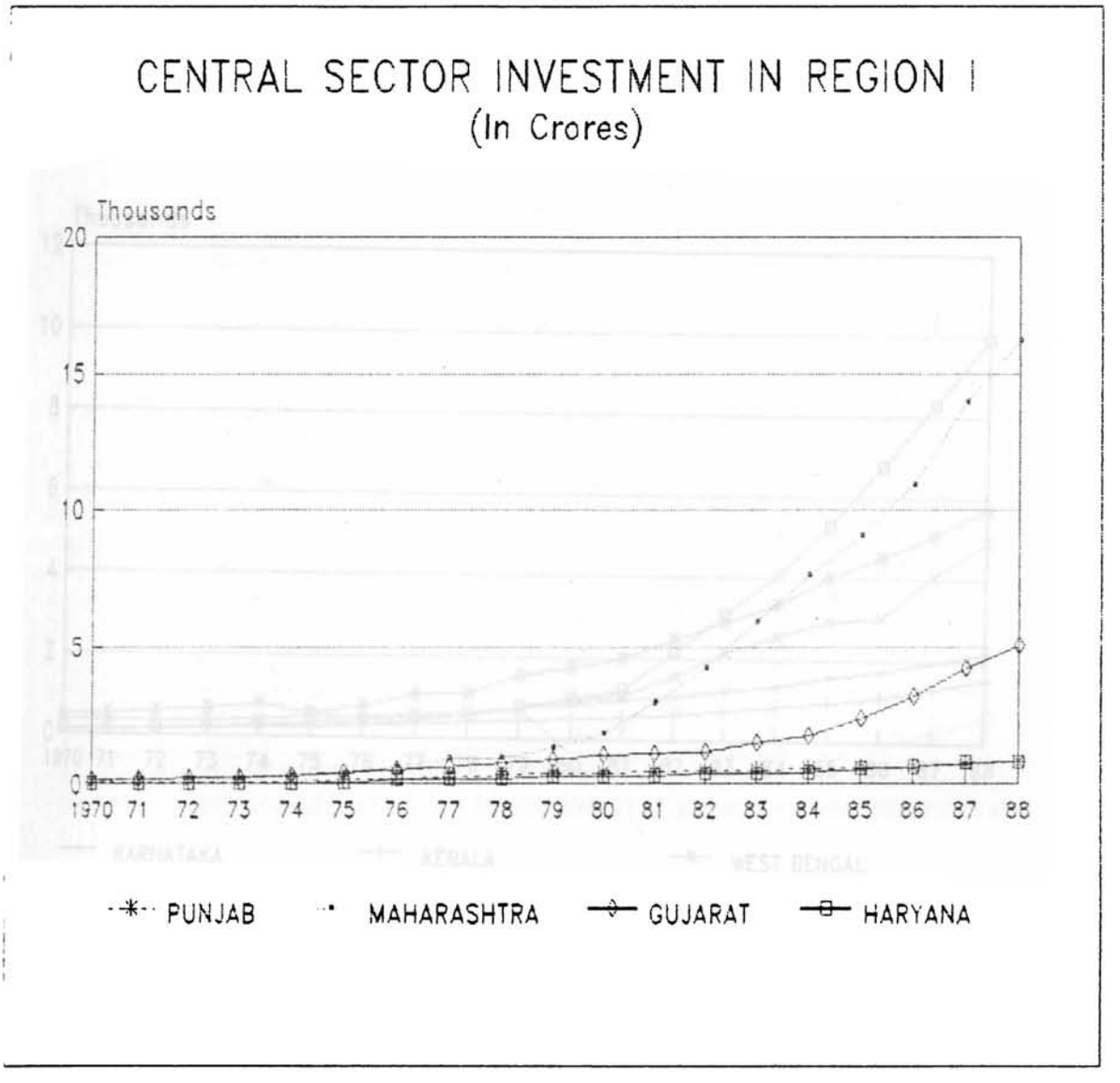

CENTRAL SECTOR INVESTMENT IN REGION I
(In Crores)
Thousands
20
15
10
5
0
1970 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
PUNJAB
MAHARASHTRA
GUJARAT
HARYANA

Chart 5.2.1

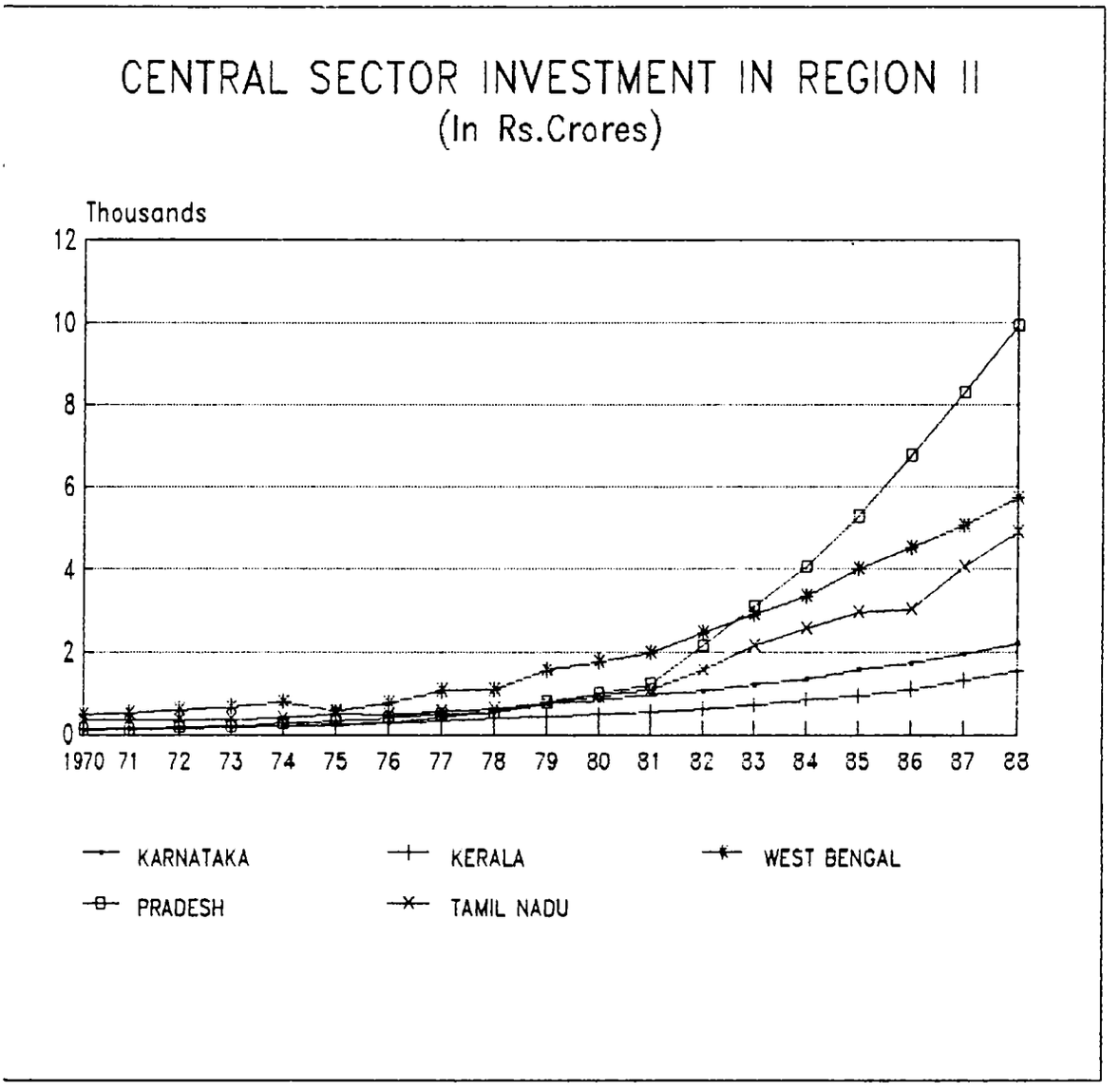

CENTRAL SECTOR INVESTMENT IN REGION II
(In Rs.Crores)
Thousands
12
10
8
6
4
2
0
1970 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
KARNATAKA
KERALA
WEST BENGAL
PRADESH
TAMIL NADU

Chart 5.2.2

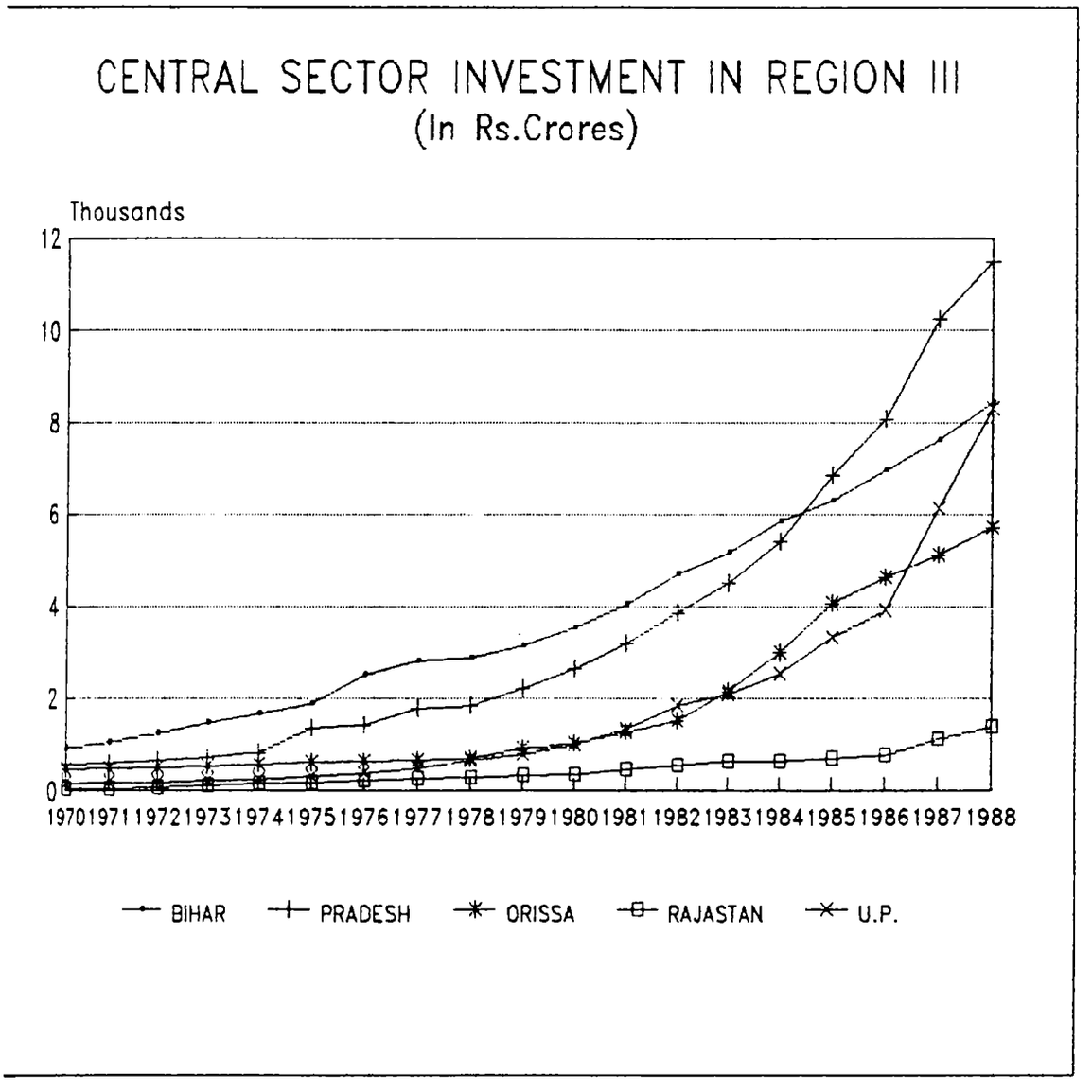

CENTRAL SECTOR INVESTMENT IN REGION III
(In Rs.Crores)
Thousands
12
10
8
6
4
2
0
1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988
BIHAR
PRADESH
ORISSA
RAJASTAN
U.P.

Chart 5.3

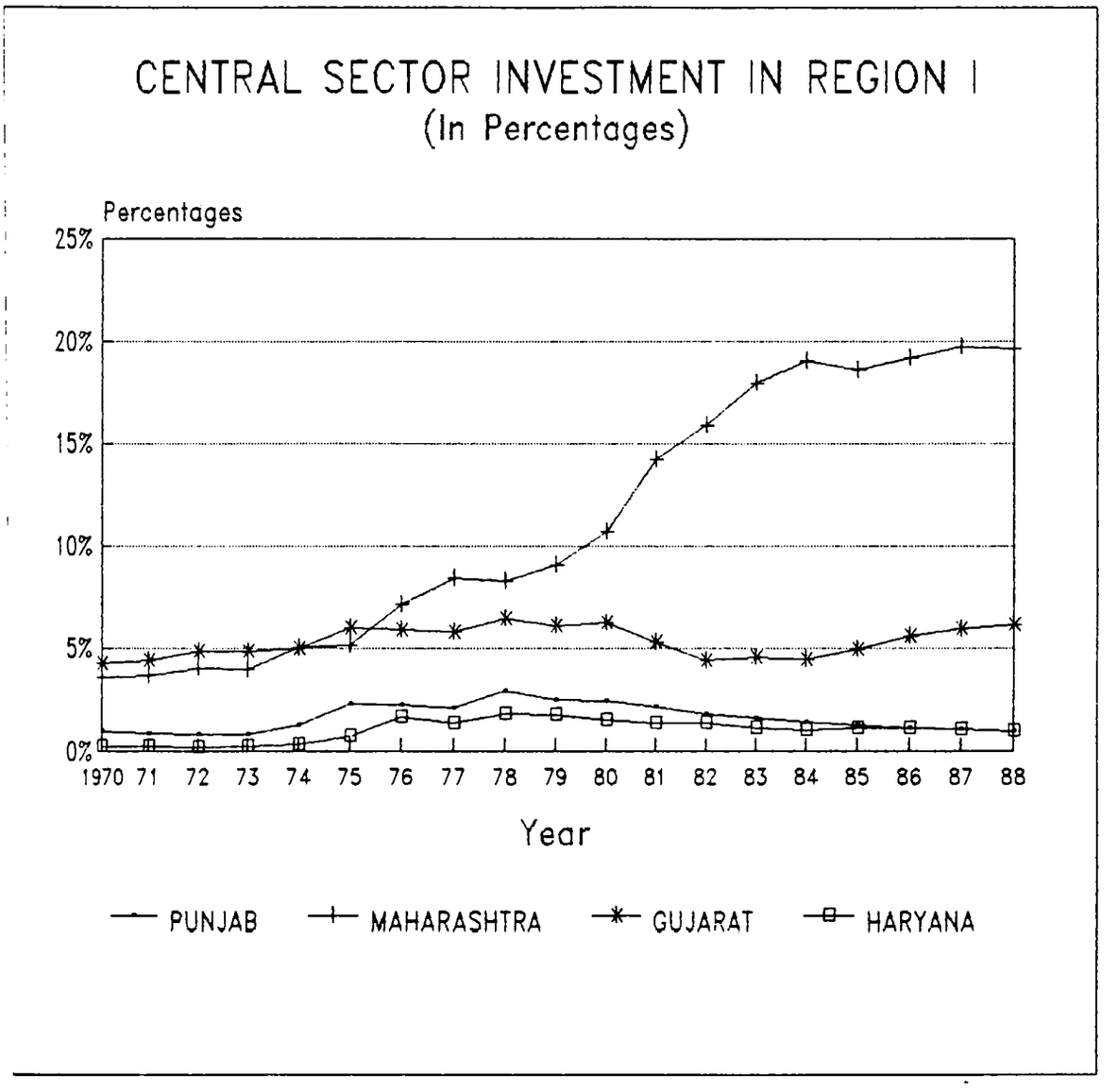

CENTRAL SECTOR INVESTMENT IN REGION I
(In Percentages)
Percentages
25%
20%
15%
10%
5%
0%
1970 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Year
PUNJAB
MAHARASHTRA
GUJARAT
HARYANA

Chart 5.3.1

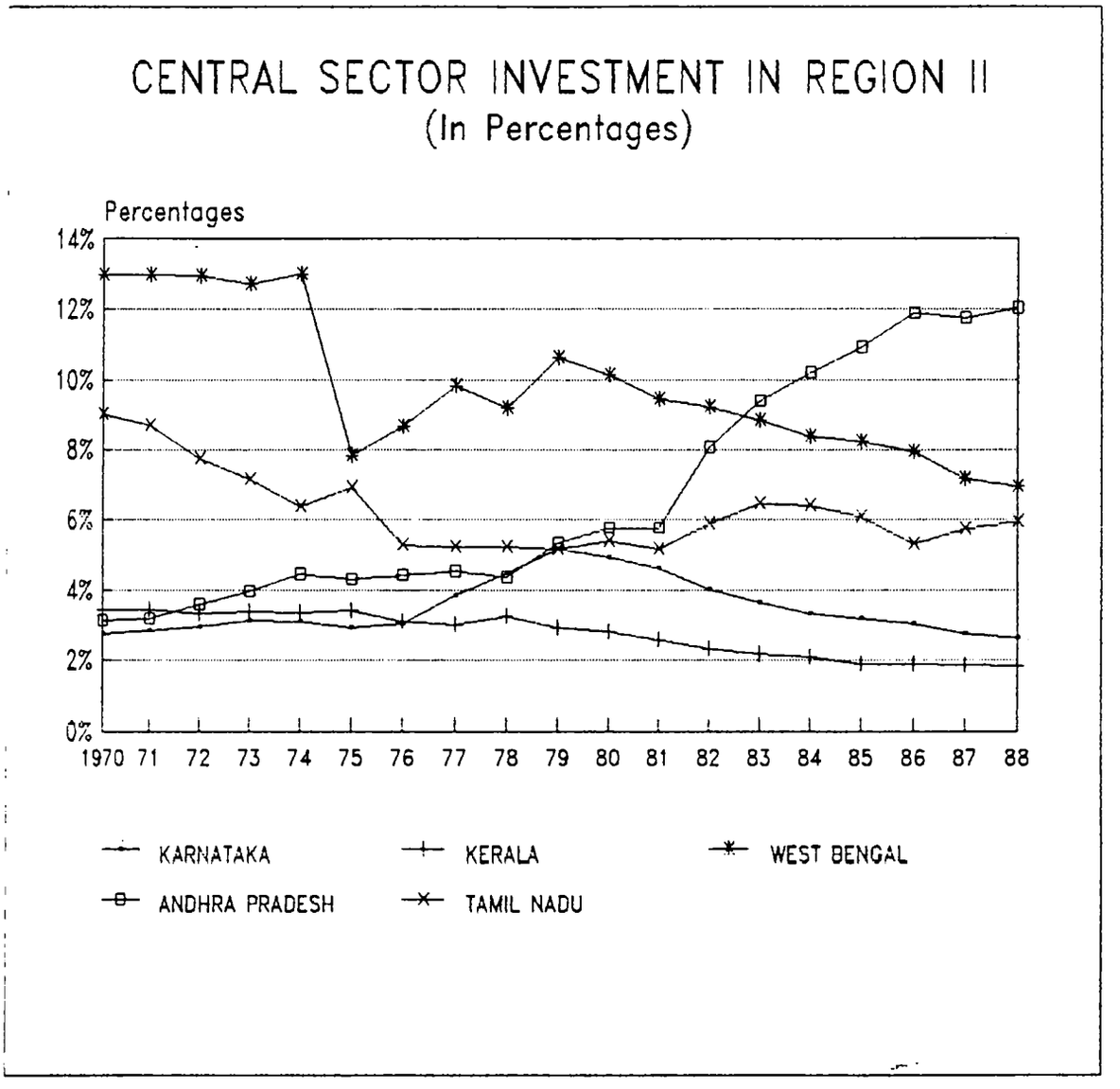
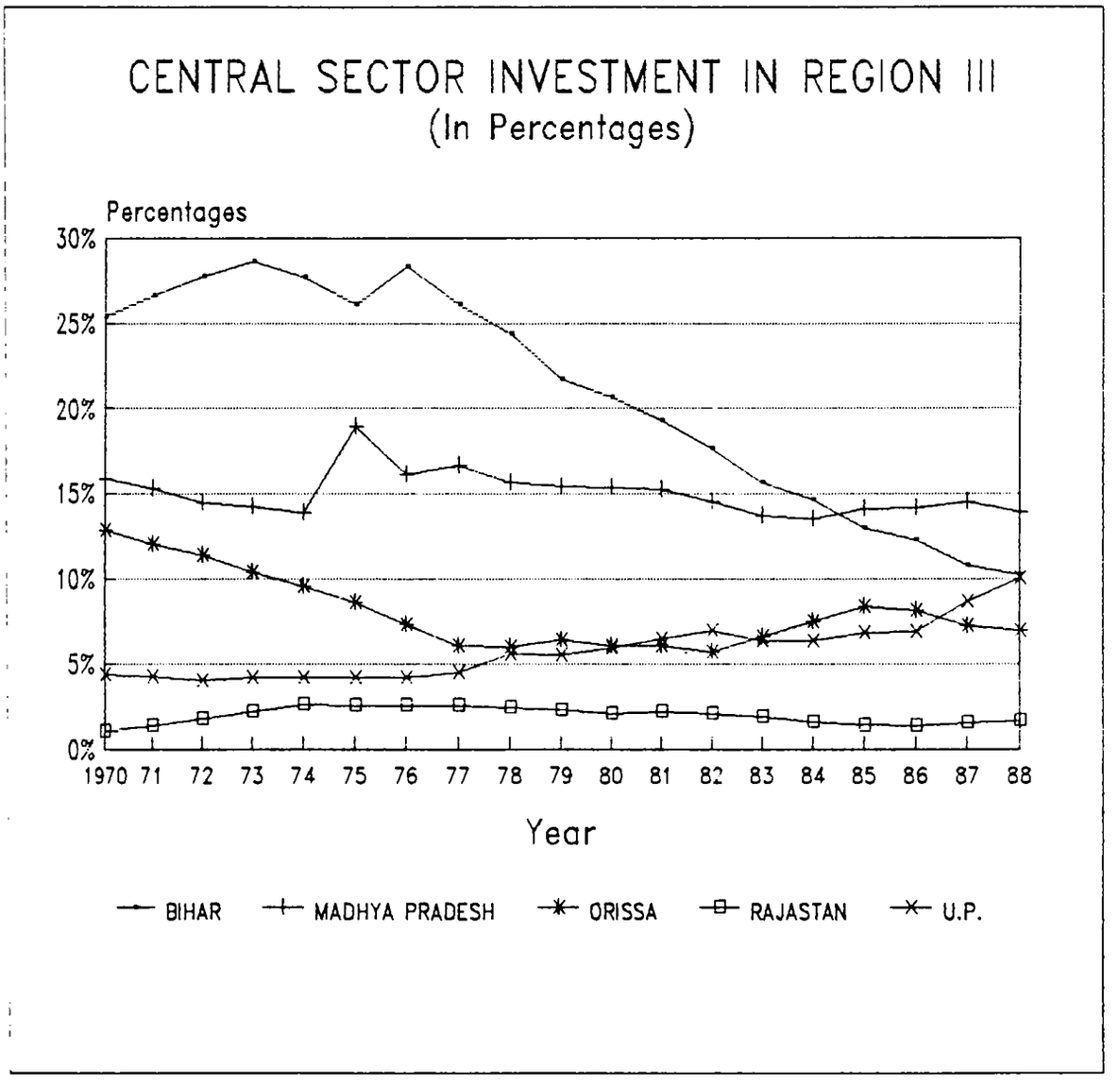

CENTRAL SECTOR INVESTMENT IN REGION II
(In Percentages)
Percentages
14%
12%
10%
8%
6%
4%
2%
0%
1970 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
KARNATAKA
KERALA
WEST BENGAL
ANDHRA PRADESH
TAMIL NADU

Chart 5.3.2


CENTRAL SECTOR INVESTMENT IN REGION III
(In Percentages)
Percentages
30%
25%
20%
15%
10%
5%
0%
1970 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88
Year
BIHAR
MADHYA PRADESH
ORISSA
RAJASTAN
U.P.

under study. During the seventies the backward state of Bihar recorded the highest central investment followed by Madhya Pradesh, Orissa, West Bengal and Tamil Nadu. Haryana recorded the lowest during the seventies followed by Punjab, Rajastan, Karnataka and Kerala. During the eighties, the picture has given another pattern of central investment by recording the highest share by Maharashtra followed by Madhya Pradesh, Andhra Pradesh, Uttar Pradesh and Bihar. This can be observed from Tables 5.7 and 5.8 respectively.

In the year 1970-71 nearly 80 per cent of the total central investment has been distributed among the 14 states. (This 80% is taken as 100% in this context). Of which Bihar, the less developed state, received and recorded the highest share, 25.41 per cent which is more that one-fourth of the total central investment, followed by Madhya Pradesh (15.87%), Orissa (12.88%), West Bengal (12.96%) and Tamil Nadu (9.02%) respectively. In 1975-76 more or less the same trend was showing. The percentage shares of Bihar and Madhya Pradesh have increased while the percentage share of central investment decreased from 12.96 to 7.84 per cent in the case of West Bengal, and to 8.59 per cent from 12.88 per cent in the case of Orissa. Tamil Nadu showed a decrease

Table 5.7

Distribution of Central Investment in Central Public Enterprises in India (in gross block) Among 14 States 1970-71 to 1988-89

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	113.8	310.9	988.08	5294.01	9906.32
Bihar	928.9	1882.8	3541.40	6311.60	8440.32
Gujarat	155.4	432.5	1068.45	2405.54	5071.10
Haryana	7.8	51.6	261.15	545.94	813.67
Karnataka	100.7	212.0	844.64	1546.56	2180.79
Kerala	126.0	246.8	481.96	922.75	1523.81
Madhya Pradesh	579.9	1366.3	2634.67	6844.37	11502.29
Maharashtra	130.8	371.5	1826.80	9029.85	16179.67
Orissa	470.8	619.6	1038.99	4073.18	5719.29
Punjab	34.7	165.2	418.64	602.78	802.35
Rajasthan	41.1	187.7	361.56	717.18	1399.03
Tamil Nadu	329.5	498.6	922.57	2954.10	4897.71
Uttar Pradesh	161.6	305.6	1017.90	3310.36	8295.17
West Bengal	473.7	566.0	1736.40	3999.84	5730.43

Source: Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt.of India, New Delhi.

Table 5.8

Distribution of Central Investment Among 14 Major States (in percentage)

State	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh					
Andhra Pradesh	3.11	4.31	5.76	10.90	12.05
Bihar	25.41	26.09	20.66	13.00	10.18
Gujarat	4.25	5.99	6.23	4.95	5.98
Haryana	0.21	0.71	1.52	1.12	0.95
Karnataka	2.76	2.94	4.93	3.18	2.73
Kerala	3.45	3.42	2.81	1.90	1.80
Madhya Pradesh	15.87	18.93	15.37	14.10	13.28
Maharashtra	3.58	5.15	10.66	18.60	21.05
Orissa	12.88	8.59	6.06	8.39	6.30
Punjab	0.95	2.29	2.44	1.24	0.88
Rajasthan	1.12	2.60	2.11	1.48	1.80
Tamil Nadu	9.02	6.91	5.38	6.08	6.23
Uttar Pradesh	4.42	4.23	5.94	6.82	9.29
West Bengal	12.96	7.84	10.13	8.24	7.48
Total	100.00	100.00	100.00	100.00	100.00

Source: Computed on the basis of Table 5.7.

in her share but not as shown in the case of West Bengal and Orissa. On the other, Gujarat and Maharashtra had improved their positions.

During 1980-81 Bihar, as usual, recorded the first position though its share of central investment has considerably reduced from 26.09 per cent to 20.66 per cent. Madhya Pradesh also showed a decrease but it was a minimum reduction. Orissa and Tamil Nadu again recorded a decrease while West Bengal improved its position from 7.84 per cent in 1975-76 to 10.13 per cent in 1980-81. Gujarat and Maharashtra improved their positions better than the other states. From 1985-86 onwards Maharashtra recorded the first position, ie., 18.6 per cent, and received nearly one-fifth of the total central investment. Andhra Pradesh and Uttar Pradesh had improved their positions while Bihar recorded the third position, ie., 12.98 per cent of the total central investment. Orissa improved its position from 6.06 per cent in 1980-81 to 8.39 per cent of the total central investment in 1985-86. More or less the same picture was drawn in 1988-89. One fifth of the total central investment received was by Maharashtra whereas one-tenth was received by Bihar. Andhra Pradesh and Uttar Pradesh improved their positions and recorded the third and fourth

positions, ie., 12.01 per cent and 10.06 per cent respectively. Orissa, West Bengal, Kerala and Rajasthan recorded especially a decrease in the central sector investment.

The peculiarities observed from Table 5.8 that some states like Kerala and Rajastan showed a decreasing trend from the very beginning. Even if the total quantum of investment in Kerala and Rajastan by Centre is considered, these states ranked the lowest leaving aside Haryana, which is a tiny state, in area as well as population as compared to Kerala and Rajastan. In short, when Gujarat, Andhra Pradesh, Maharashtra and Uttar Pradesh showed an increasing trend, the states like Bihar, Kerala, Orissa, Rajastan, Tamil Nadu and West Bengal recorded clearly a decreasing trend and the remaining three states showed a cyclical movement.

When population is taken into consideration, nearly 95 per cent of the total population have been distributed among these 14 states. In 1970-71, Bihar recorded the highest proportion of central investment when compared to other states, with 25.42 per cent of the total central investment. Though Bihar had given the highest proportion,

she had a second position in her population burden. Paradoxically, this proportion has reduced to 10.21 per cent in 1988-89 but her population was more or less remained unchanged. On the other, Maharashtra, whose rank was recorded as eighth in 1970-71, has received 3.58 per cent of the total central investment. It is interesting to note that this same state became the first in 1988-89, ie., Maharashtra received the highest proportion of the central investment with 19.62 per cent. But her population burden stood more or less the same during the whole period. In the case of the State of Uttar Pradesh, the highest contributor to the total population, ie., 16.17 per cent of the country, received 4.42 per cent of the total central investment in 1970-71. It was very less when compared to other states. The per capita central investment was Rs.18.55. This can be seen from Table 5.9. During 1988-89, Uttar Pradesh received 10.06 per cent of the total central investment. The State of Andhra Pradesh with a slight decrease in the population during the study period, received a increment in the share of central investment, that is, from 3.11 per cent 1970-71 to 12.01 per cent in 1988-89. Though Andhra Pradesh had less percentage of population (7.88%) compared to Bihar and Uttar Pradesh, the contribution of central investment in

Table 5.9

Distribution of Per Capita Central Investment Among Major 14 States

1970-71 to 1988-89

(in Rs.)

States	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	26.48	65.47	187.14	910.54	1371.38
Bihar	167.10	305.75	514.44	823.27	951.76
Gujarat	59.31	145.52	318.37	645.96	1088.81
Haryana	7.91	45.99	205.31	350.64	499.02
Karnataka	34.94	65.57	231.28	379.25	455.21
Kerala	60.03	106.15	191.03	361.44	459.08
Madhya Pradesh	141.82	296.06	511.80	1193.02	1713.93
Maharashtra	26.43	66.74	294.88	1311.53	1953.60
Orissa	218.16	258.60	397.93	1428.18	1728.60
Punjab	25.97	111.55	253.26	329.21	395.03
Rajastan	16.23	64.93	107.77	186.18	277.16
Tamil Nadu	81.46	111.64	192.00	567.88	755.82
Uttar Pradesh	18.55	31.61	93.41	272.73	483.63
West Bengal	108.70	116.63	322.51	672.47	820.30

Source: Computed on the basis of data taken from Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt. of India, New Delhi.

Andhra Pradesh was much higher than Bihar and Uttar Pradesh. The same was the case of Maharashtra when compared to Bihar and Uttar Pradesh. This can be seen from Table 5.9. When Kerala, Tamil Nadu, Orissa and West Bengal showed a decrease in their population percentage, their percentage share of central investment has reduced correspondingly. In the case of the states like Gujarat, Haryana, Madhya Pradesh, Punjab and Karnataka showed a stagnant nature in population and share of central investment. Rajastan's case was very interesting. When her population increased from 4.7 per cent in 1970-71 to 5.21 in 1988-89, her share of central investment decreased from 2.65 per cent to 1.69 per cent in 1988-89. The contribution of population in different states can be seen from Table 5.10.

In short, it is evident from the above analysis, the Central Government has not given due consideration to the less developed and semi-developed states while distributing the central investment especially during eighties. Large share of central investment, by and large, have benefited only the richer and developed states. This attitude of Central Government has greatly hampered the growth and development of public enterprises and the

State-wise Distribution of Population 1970-71 to 1988-89

States	1970-71	1975-76	1980-81	1985-86	1988-89
Andhra Pradesh	7.95	7.87	7.82	7.74	7.88
Bihar	10.32	10.20	10.20	10.21	10.27
Gujarat	4.86	4.93	4.97	4.96	4.97
Haryana	1.83	1.86	1.89	1.94	1.94
Karnataka	5.35	5.36	5.41	5.43	5.41
Kerala	3.90	3.85	3.74	3.67	3.54
Madhya Pradesh	7.59	7.65	7.63	7.64	7.78
Maharashtra	9.18	9.22	9.18	9.17	9.30
Orissa	4.01	3.97	3.87	3.80	3.78
Punjab	2.48	2.45	2.45	2.44	2.43
Rajastan	4.70	4.79	4.97	5.13	5.21
Tamil Nadu	7.51	7.40	7.12	6.93	6.76
Uttar Pradesh	16.17	16.02	16.14	16.17	16.55
West Bengal	8.09	8.04	7.97	7.92	8.03

Source: Currency and Finance (Various Issues), Govt. of India, New Delhi.

industrial development of the states like Bihar, Orissa and Rajastan. It is interesting to note that while the volume of central investment in the central public enterprises has increased, the share of less developed and semi-developed states has been decreasing.

Chapter 6

CENTRAL SECTOR INVESTMENTS AND REGIONAL IMBALANCES IN INDIA

6.1 Nearly all poor countries of the world are now striving, with varying degrees of determination and diligence, to develop economically.[1] By the term 'poor countries' it generally means countries with low levels of income and capital per head of the population. The poor countries of the world are also known as underdeveloped or developing countries. "An underdeveloped country has been defined as a country which has good potential for economic development and enthusiasm of its people for economic development and enthusiasm of its people for using more capital or more labour or more available natural resources, or all of them combined, to achieve a higher standard of living for its people."[2]

Truly, one cannot talk about economic development without discussing the purpose it is intended to serve.

---

1. A.H.Hanson, Public Enterprise and Economic Development, Routledge and Kegan, London, 1965, p.1.
2. D.S.Nag, Problems of Underdeveloped Economy, Laxmi Narain Agrawal, Agra, 1970, p.6.

So, it will be better to assume that development is aimed at achieving the goal which always appears prominently in the declarations of government policy--the allocations of resources for the purpose of improving the standards of living of the masses. As a matter of fact, development is an aim common to all the governments with different meanings. "Colonial governments turn to place their main emphasis on the expansion of agricultural, extractive and processing activities. On the other hand, the independent governments, by no means neglecting these aspects of development, tend to find their 'summum bonum' in the creation of manufacturing industries which have brought power and prosperity to the more advanced countries."[3]

By industrialisation the underdeveloped countries hope to find a solution to the problems of their poverty, insecurity, population, explosion and backwardness. For them it is a panacea for all the evils of their economic and social backwardness. In fact, the crux of economic development of an underdeveloped country lies in the growth of industrialisation. This is because of the insufficient

---

3. S.L.Jiaswal, Public Sector in India. S.Chand & Co., New Delhi, 1978, pp.1-17.

agricultural growth, and industry and agriculture are interdependent. Industrialisation gives mankind greater control over the means of production, increased freedom, enables it to escape drudgery and servitude, provides leisure and luxury and yet gives large employment to the people. Thus industrialisation has become the magic word of the mid-twentieth country and industrial development of the underdeveloped countries has become one of the great crusades of our times.[4] As such, increasing state intervention in the economic life of the people has been a characteristic feature of the twentieth century.

The industrial evolution in India under the colonial rule had taken a very unsymmetrical shape concentrating industries mainly in coastal regions.[5] The pattern of industrial development has traditionally been attributed partly to the differences in locational advantage arising out of differences in raw material costs, transport facilities, natural resources and market availability, and partly to the strong linkages.[6] Besides,

---

4. K.R.P.Singh, State and Industrialisation of Developing Countries, Sterling Publishers, New Delhi, 1969, p.13.
5. United Nations Industrial Development Organisation (UNIDO), Industry and Development, No.8, New York, p.1.
6. R.Nurkse, Problems of Capital Formation in Underdeveloped Countries, Oxford University Press, New York, 1953; W.A.Lewis, Theory of Economic Growth, Allen and Unwin, London, 1956.

the packages of policy support provided by the Central Government have also played an important role in industrial development. The policy assistance in various forms encompasses the combined efforts both of the state as well as the Central Government. Thus, the different levels of industrial development among states are the outcome of both these factors.[7]

Certain states like Bihar, Orissa, Madhya Pradesh, Rajastan etc., which had been generally backward in more than one way, could not take a quick start as conspicious as they are in developed states like Maharashtra, Gujarat etc. In this context, a drive for diversification of economy through rapid industrialisation was considered necessary to ameliorate the basic conditions of providing employment to growing population, raising the standards of living of the people and attaining self-sufficiency in the economy besides reducing inter-state disparities.[8]

The effort in this direction commenced effectively with the Second Five Year Plan. Along with the Industrial Policy Resolutions of 1956 we followed the 'Basic Industry' approach, and owing to lack of domestic entrepreneurs and dearth of capital,development of the

---

7. Hemalata Rao, "Inter-state Disparities in India", Paper presented in Seminar on Development and Inter-Regional Disparities in India held at Giri Institute of Development Studies, Lucknow from 19 to 21 March, 1983, pp.15-16.
8. R.T.Tewari, "Inter-Regional Pattern of Industrialisation in India", in Development and Change in India, ed. by R.T.Tewari and A.Joshi, Ashish Publishing House, New Delhi, 1988, p.64.

public sector was conceived as the principal element in our drive for industrial development.[9] But the effects of such investments were finally mopped up and impounded by the urban and rural conglomerates.[10] During the Third Plan, a more rigorous programme of industrialisation was started with the major focus on creating environment for industrial development and achieving the objective of spatial diversification of industries.[11] For this purpose, the measures adopted comprised the development of infrastructure, expansion of small scale industries, enforcement of industrial licensing policy and public sector projects etc. in backward areas.

It was, however, realised that the aforesaid measures, no doubt, led to some favourable impact on growth and dispersal of industries, but induced--industrialisation could not be achieved in the absence of post-natal measures. Moreover, regional disparities in levels of industrial development, instead of reducing, showed a tendency of growing divergence, effecting the agglomerated pattern of industrialisation. The expectation that a massive investment in public sector projects would have a

---

9. Planning Commission, Second Five Year Plan, Govt. of India, New Delhi.
10. R.T.Tewari, Changing Pattern of Development in India, Ashish Publishing House, New Delhi, 1984, p.2.
11. It was thought that efforts to create conditions favourable for industrial development would help in providing the proper framework of Social Overhead Capital (SOC). And once such a framework is created, spontaneous private industrial investment will follow and subsequently the objective of true industrialisation will be achieved. See, Walter Isard and John H.Cumberland (eds.), Regional Economic Planning: Techniques of Analysis for Less Developed Areas, OECD, Paris, 1961, p.25.

wide ranging 'trickling down' effect on stimulating small and ancillary industries, particularly in backward areas, failed to materialise in many states. Even within states, industries tended to gravitate towards existing urban centres. With the result, peripheries suffered severely from the backwash effects and the dispersed pattern of industrialisation could not be achieved.[12]

However, before arriving at some conclusions, an indepth analysis is needed. The following paragraphs give us the empirical data on industrial and economic indicators. Regional disparity in economic development may be measured using various indicators such as state domestic product, power consumption, distribution of factories, employment, value added by manufacture, industrial gross output, central sector investments and distribution of industrial licences. In order to find out the nature of interstate variations Theil's Inequality Index is used in all variables independently except in the distribution of industrial licences. The results of decomposition of Theil's inequalities have also been diagramatically presented.

---

12. Amitabh Kundu and Moonis Raza, "Indian Economy: The Regional Dimension", 1982.

6.2 CENTRAL GOVERNMENT INDUSTRIAL LICENCING POLICY

Industrial development in India, as a matter of fact, was given an impetus with the Second Five Year Plan. During the same period, in 1956, an important development took place in the form of industrial policy which provided constitutional framework for the development of public sector undertakings.

As regards the industrial licences issued, there were about 11966 in the country during 19 years from 1970-71 to 1988-89; Of which 11308 industrial licences were distributed among the 14 states, ie., 95 per cent of the total licences. This can be seen in Table 6.1.

In general, the figures showed a clear disparity among states in the distribution of industrial licences. The distance between the state with the highest number of licences (Maharashtra) and the state with the lowest number of licences (Orissa) was twenty five times in 1970-71, and has increased to forty five times in 1988-89. In the case of Bihar and Maharashtra, it was only five times in 1970-71, and it has increased to 26 times in 1988-89. The case of other less developed states, except Uttar Pradesh, was

Table 6.1

State-wise and Year-wise Breakup of Industrial Licenses: 1970-71 to 1988-89

States	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	Total
Andhra Pradesh	14	39	28	29	61	61	51	27	17	17	42	39	26	63	45	70	40	38	29	746
Bihar	22	24	18	9	24	15	17	16	12	3	4	10	9	29	26	20	9	9	3	282
Gujarat	37	67	61	75	89	97	83	60	46	48	85	79	69	115	82	69	86	49	34	1331
Haryana	27	33	38	27	23	63	27	23	13	16	20	21	21	59	46	46	36	25	30	622
Karnataka	17	22	42	46	66	64	43	45	26	24	40	25	34	65	49	69	42	45	30	770
Kerala	10	7	12	10	19	25	25	16	7	11	11	15	9	22	21	24	13	7	5	269
Madhya Pradesh	2	20	12	11	45	35	18	8	8	7	18	15	9	30	36	39	34	18	16	382
Maharashtra	106	168	138	171	265	256	143	150	101	111	107	114	95	171	140	134	96	86	84	2635
Orissa	4	8	3	1	12	11	7	2	2	6	8	5	10	14	15	25	12	8	2	155
Punjab	11	15	16	15	46	43	25	23	9	13	18	17	14	169	94	72	37	19	19	675
Rajastan	7	16	18	8	36	24	16	17	10	26	15	26	14	25	25	38	19	16	8	364
Tamil Nadu	35	52	35	63	99	141	61	32	28	26	37	30	41	76	85	177	61	41	32	1152
Uttar Pradesh	26	48	53	60	116	72	55	41	26	33	30	24	22	98	80	79	69	40	30	1005
West Bengal	41	84	54	41	107	74	56	40	23	30	23	34	27	71	93	51	21	25	22	920
All India	363	627	563	596	1099	1027	662	548	348	365	475	476	432	1075	905	985	618	472	360	11308
	359	603	528	566	1008	981	627	500	328	371	458	467	400	1007	837	913	575	426	334	11288

Source: Handbook of Industrial Statistics, Department of Industrial Development, Ministry of Industry, Government of India, New Delhi, 1991.

not different. Kerala is also giving the same picture. Disparity became more pronounced year after year. The less developed states like Bihar, Madhya Pradesh, Orissa and Rajastan, as well as some of the semi-developed states, were continued to be far away from the developed states and all India level during the reference period. This can be seen from the Table 6.2.

The developed states of Gujarat, Haryana, Maharashtra and Punjab recorded and received an increased share of total number of the industrial licences distributed during the reference period. Whereas, a decrease was recorded in the distribution of industrial licences, except for Uttar Pradesh, in the case of less developed states. Uttar Pradesh recorded an increase over years. In semi-developed states' group, except Kerala, all states received comparatively a better share of Industrial licences. Kerala showed a downward movement throughout the whole period. Tamil Nadu improved its position and recorded the first position in 1985-86.

Table 6.3 gives an idea of region-wise distribution of industrial licences. In the year 1970-71 region-I received half of the total distribution of

Table 6.2

State-wise and Year-wise Breakup of Industrial Licensis
(in percentages)

States	1970	1975	1980	1985	1988
Andhra Pradesh	3.9	6.22	9.17	7.67	8.68
Bihar	6.13	1.53	0.87	2.19	0.90
Gujarat	10.31	9.89	18.56	7.56	10.18
Haryana	7.50	6.42	4.37	5.04	5.99
Karnataka	4.74	6.52	8.73	7.56	8.98
Kerala	2.79	2.55	2.40	2.63	1.50
Madhya Pradesh	0.56	3.51	3.93	4.27	4.79
Maharashtra	29.53	26.10	23.36	14.68	25.15
Orissa	1.11	1.12	1.75	2.74	0.60
Punjab	3.06	4.38	3.93	7.89	5.69
Rajastan	1.95	2.45	3.28	4.16	2.40
Tamil Nadu	9.75	14.37	8.08	19.39	9.58
Uttar Pradesh	7.24	7.34	6.55	8.65	8.98
West Bengal	11.42	7.54	5.02	5.59	6.59
	100.00	100.00	100.00	100.00	100.00

Source: Computed on the basis of Table 6.1.

Table 6.3

Region-wise Distribution of Industrial Licenses

1970-71 to 1988-89

Years	Region I	Region II	Region III
1970	50.40	32.60	16.99
1975	46.79	37.20	16.01
1980	50.22	33.40	16.38
1985	35.15	42.84	22.01
1988	47.00	35.33	17.67

Source: Calculated from Table 6.2.

industrial licences, whereas region-III got only one-sixth of the total industrial licences. Region-II received one third of the total industrial licences. In the second point of time, ie., 1975-76, the position of region-III has not changed. Whereas the position of region-II has improved from 32.6 per cent to 37.2 per cent. Although region-I recorded a decrease in its percentage share, it still stood at the first position. In 1985-86 while region-II and region-III improved their positions, region I recorded a decrease. By receiving 47 per cent, region-I improved and recorded the first position whereas region-III marked a clear decrease to 17.67 per cent from 22.01 per cent in 1985-86 of the total distribution of the industrial licences.

The above analysis ~~came to~~ the conclusion that the Central Government has not given due consideration to the less developed states while allocating industrial licences.

As such, the distribution of industrial licences to backward areas also was showing the same picture. This can be seen from Table 6.4. In the year 1982, the developed states like Gujarat and Maharashtra received one-third of the total industrial licences. In 1985 the

Table 6.4

Distribution of Industrial Licenses to Backward Areas

States	1982	1985	1986	1987	1988
Andhra Pradesh	9	37	22	22	17
Bihar	0	3	3	0	2
Gujarat	25	34	46	26	15
Haryana	4	13	11	5	4
Karnataka	16	23	18	14	8
Kerala	6	15	8	3	1
Madhya Pradesh	5	29	25	12	15
Maharashtra	21	43	28	20	25
Orissa	2	6	3	4	1
Punjab	3	15	6	2	4
Rajastan	9	25	12	7	4
Tamil Nadu	15	68	23	14	15
Uttar Pradesh	5	44	34	23	20
West Bengal	8	15	9	9	6
All India	145	427	278	192	153

Source: Handbook of Industrial Statistics, 1991, Department of Industrial Development, Ministry of Industry, Govt.of India.

developed four states received one-fourth of the industrial licences issued to the backward areas. In the case of region-III, the less developed states recorded a decrease, except Uttar Pradesh, in this regard. It is interesting to note that the less developed states have very little backward areas whereas in the developed states the number of backward districts and areas were high during the reference period. The less developed states received only 8 per cent of the total distribution of industrial licences issued to backward areas in 1982-83. But it was again reduced to 4.58 per cent in 1988-89.

Issue of industrial licences and share of industrial licences to backward areas, by and large, have benefitted only the richer and industrially developed states. Rathar than economic considerations, political consideration and pressures prevailed in deciding industrial locations and setting up of projects.

There have been many instances of ignoring the demands of less developed states while granting licences in the public sector. Developed states continued to get preferences at the cost of less developed states. The centre's indifferent attitude can be illustrated by

reference to Madhura Refinery, fertilizer complex based on pyrite and phosphate, drugs units etc., in the case of Rajastan.

6.3 CENTRAL SECTOR INVESTMENT

Investment is said to be the 'sine qua non' of economic development. The temporal analysis of the central investment among 14 states reveals that during seventies the less developed states recorded nearly 50 per cent of the total central investment whereas it was decreasing during eighties. At the same time, the developed states received ~~the~~ higher shares of the total distribution of central investment. It can be seen from chapter 5 that more than one-fifth of the total distribution of central sector investment was received by the developed state of Maharashtra in 1988-89; whereas it was only one-tenth of the total central investment that received by the less developed state like Bihar. The cases of Orissa and Rajastan were not different. All the available evidences lead to the conclusion that instead of a deliberate slant being introduced in favour of backward states including Uttar Pradesh, the flow of resources has taken place in the reverse direction on the plea of maximisation of returns,

continuation of historical trends, and economies of agglomeration.

The compound rate of growth of central sector investment in the country is given in Table 6.5. It can be seen that the country registered compound rate of growth of 18.01 per cent per annum during the period 1970-71 to 1988-89. States in the developed states' group recorded relatively a higher level as compared to the all India position as well as other groups of states. During the study period seven states recorded compound rate of growth above the all India average. Of which, three states of Uttar Pradesh, Andhra Pradesh and Karnataka belonged to less developed states' group and semi-developed states' groups respectively. During the seventies there were eight states which recorded above the national average, whereas there were only six states during eighties. Maharashtra, one of the developed states, recorded the highest growth rate of 29.30 per cent annum during the reference period followed by Haryana (27.81 per cent per annum), Andhra Pradesh (26.24%), Uttar Pradesh (22.46%), Punjab (18.84%) and Karnataka (18.39%) respectively. On the other hand, Bihar recorded the lowest rate of growth, ie., 12.17 per cent per annum followed by Kerala (13.9%), Orissa (15.16%),

Table 6.5

Compound Rate of Growth of Central Sector Investment Among Major 14 States - 1970 to 1989

States	1970-80	1980-89	1970-89
Andhra Pradesh	21.01	29.72	26.24
Bihar	14.35	10.61	12.17
Gujarat	20.41	21.16	18.74
Haryana	46.40	15.08	27.81
Karnataka	21.90	11.80	18.39
Kerala	14.25	23.08	13.90
Madhya Pradesh	16.60	8.01	17.37
Maharashtra	27.67	14.34	29.30
Orissa	6.45	18.82	15.16
Punjab	31.17	26.12	18.34
Rajastan	23.46	14.67	17.24
Tamil Nadu	8.93	20.49	16.16
Uttar Pradesh	18.44	24.79	22.46
West Bengal	11.44	15.24	14.88
All India	15.83	19.73	18.01

Sourced: Calculated on the basis of data from Public Enterprises Survey (Various Issues), Bureau of Public Enterprises, Ministry of Industry, Govt. of India, New Delhi.

Tamil Nadu (16.16%), Rajastan (17.24%) and Madhya Pradesh (17.37%) respectively.

The compound rate of growth of central investment in Andhra Pradesh as compared to those of Kerala, Tamil Nadu, Karnataka and West Bengal, was relatively at a higher level(26.24 per cent per annum)during the reference period. The growth of central investment in Andhra Pradesh was more than that of all India average. More or less the same picture can be observed in the case of Uttar Pradesh which is the only state coming in the group of less developed states. It's position was also far better than those of the semi-developed stated, except Andhra Pradesh, in this regard.. The compound rate of gorwth of central investment in Uttar Pradesh, as compared to Tamil Nadu, West Bengal, Rajastan, Bihar, Orissa, Madhya Pradesh and Kerala, was relatively higher (22.46 per cent per annum) during the study period.

6.4 DECOMPOSITION OF THEIL'S INEQUALITY--CENTRAL SECTOR INVESTMENT

In order to examine the trend in regional imbalances in respect of central sector investment in

manufacturing public enterprises, Theil's inequality index is used. Table 6.6 gives the decomposition of Theil's inequality with respect to central sectoral investment.

It is obvious from Table 6.6 that the values of Theil's Index of total inequality, with respect to central sector investment, are showing a cyclical movement. Though increased from 5.84 in 1970-71 to 8.28 in 1975-76, yet it fell down sharply to 3.84 in 1988-89 implying a sharp reduction in total inequality. But, the total inequality is still high as the value of the index is higher than zero.

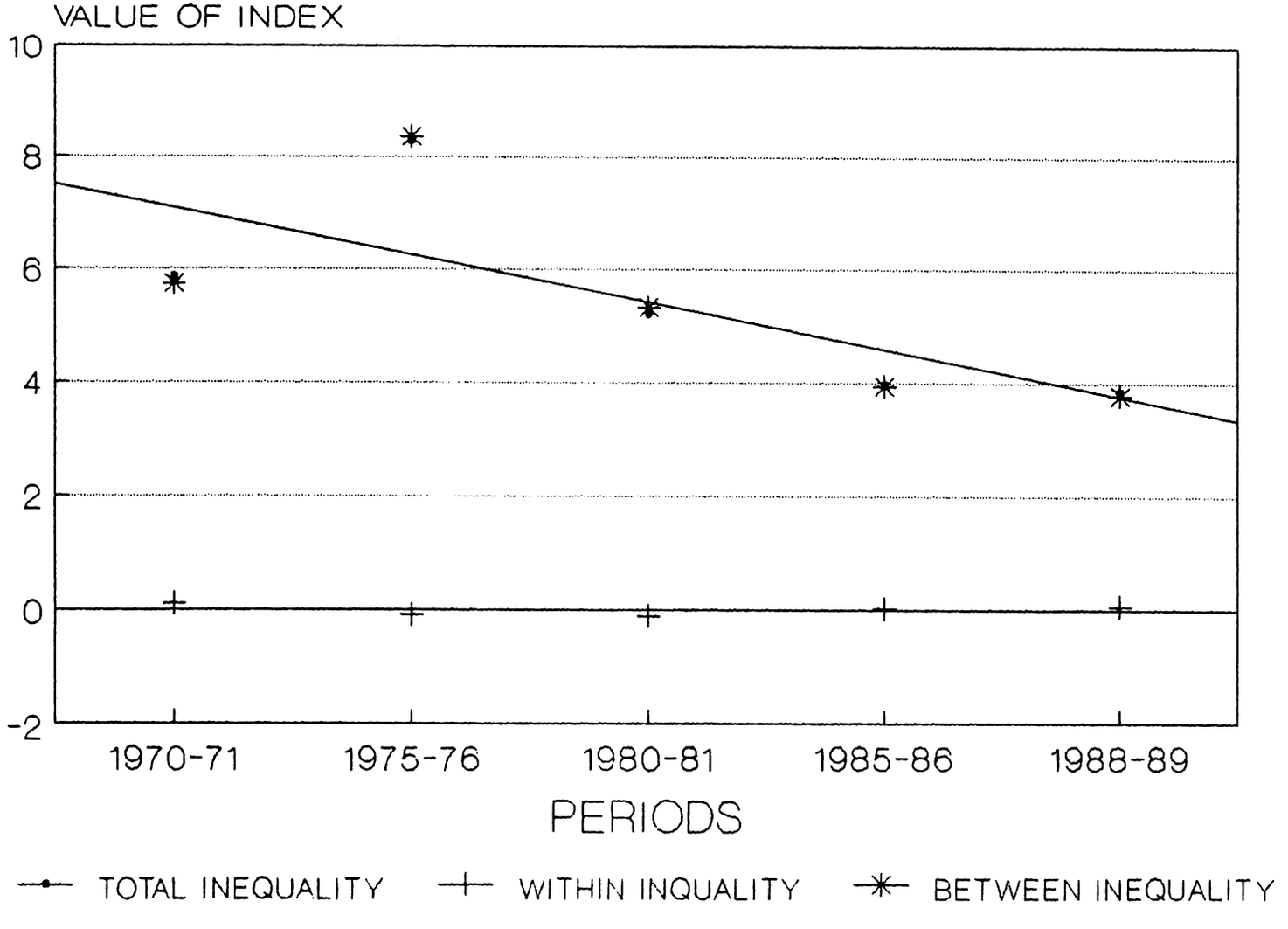
As is clear from the same table that the most important cntributor to the total inequality is 'between inequality'as its contribution comes to the tune of 99.75 per cent, on the average, of total inequality. This means that, in fact, there is no 'within-inequality'. Therefore, these findings point to the fact that there is still wide variations among different regions, and not states within regions, in the distribution of central sector investment in manufacturing public enterprises. This is more evident from Chart 6.1.

Table 6.6

Decomposition of Theil's Inequality - Central Sector Investment

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	5.839721	0.111304	5.728416	98.094	1.906
1975-76	8.279168	-0.07918	8.358350	100.9563	-0.95639
1980-81	5.217261	-0.11101	5.32872	102.1277	-2.1277
1985-86	3.960583	0.027633	3.932950	99.30229	0.6977
1988-89	3.839099	0.064959	3.774140	98.30796	1.692037

DECOMPOSITION OF THEIL'S INEQUALITY
CENTRAL-SECTOR INVESTMENT



The 'within inequality' in each region with respect to central sector investment is given in Table 6.7. It shows that the 'within-inequality', though registered some irregularities during mid-points, remained almost stable over the years. But it declined heavily in the case of region-II. And region-III registered a slight increase.

The finding that the strong perference of the Centre for developed region in the distribution of central sector investment can be corroborated by Table 6.8. It is clear that though the share of developed region (region-I) in the total population remained almost stable over the years, its share in the total central sector investment registered a drastic growth from 8.99 per cent to 28.86 per cent during the study period. However, the case of region-II in this respect is almost constant. But, the share of less developed states (region-III) in central sector investment declined sharply while its share of total population increased. This again points to the previous finding that the plea of less developed states are not heeded by the Centre.

Table 6.7

Region-wise Within Inequalities - Central Sector Investment

Years	Region I	Region II	Region III
1970-71	0.123587	0.121505	-0.01470
1975-76	0.077720	0.032467	-0.07365
1980-81	0.007313	0.027405	-0.11335
1985-86	0.114487	0.054905	-0.09235
1988-89	0.122148	0.079674	-0.08815

Table 6.8

Distribution of Central Sector Investment and Population Among Regions

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	8.99	18.35	31.3	32.80	59.70	42.79
1975-76	14.14	18.46	25.42	32.52	60.44	42.63
1980-81	20.85	18.49	29.01	32.06	50.14	42.81
1985-86	25.91	18.51	30.30	31.69	43.79	42.95
1988-89	28.86	18.64	30.29	31.62	40.85	43.59

A. Share of 14 states in the total distribution of Central Sector Investment.
B. Share of 14 states in the total population.

On examination of the state-wise shares in the Central Sector Investment over the five time points, Table 6.9 shows that the shares of states in region-I have either remained constant or increased. The shares of states in region-II have either remained constant or declined, except for Andhra Pradesh. Considering the states in region-II, all states have recorded a decrease, except Rajastan and Uttar Pradesh. The distribution of central investment in three states, ie., Andhra Pradesh, Maharashtra and Uttar Pradesh, has remarkably increased over two decades. On the other, the less developed states' share of central sector investment (like Bihar, Madhya Pradesh, Orissa) have considerably reduced.

6.5 PER CAPITA INCOME

Per capita income is considered an important indicator for judging the levels of economic development in the country. This helps to make a comparative analysis and to find the position of a state amongst the different states of the country. Regional imbalances and disparities may also be measured with the help of per capita income analysis. Punjab recorded the highest position during the reference period followed by Haryana, Maharashtra, Gujarat

Table 6.9

State-wise Distribution of Central Sector Investment and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	4.25	4.86	5.99	4.93	6.23	4.97	4.95	4.96	5.98	4.97
Haryana	0.21	1.83	0.71	1.86	1.52	1.89	1.12	1.94	0.95	1.94
Maharashtra	3.58	9.18	5.15	9.22	10.66	9.18	18.60	9.17	21.05	9.30
Punjab	0.95	2.48	2.29	2.45	2.44	2.45	1.24	2.44	0.88	2.43
Region II										
Andhra Pradesh	3.11	7.95	4.31	7.87	5.76	7.82	10.90	7.74	12.05	7.88
Karnataka	2.76	5.35	2.94	5.36	4.93	5.41	3.18	5.43	2.73	5.41
Kerala	3.45	3.90	3.42	3.85	2.81	3.74	1.90	3.67	1.80	3.54
Tamil Nadu	9.02	7.51	6.91	7.40	5.38	7.12	6.08	6.93	6.23	6.76
West Bengal	12.96	8.09	7.84	8.04	10.13	7.97	8.24	7.92	7.48	8.03
Region III										
Bihar	25.41	10.32	26.09	10.20	20.66	10.20	13.00	10.21	10.18	10.27
Madhya Pradesh	15.87	7.59	18.93	7.65	15.37	7.63	14.10	7.64	13.28	7.78
Orissa	12.88	4.01	8.59	3.97	6.06	3.87	8.39	3.80	6.30	3.78
Rajastan	1.12	4.70	2.60	4.79	2.11	4.97	1.48	5.13	1.80	5.21
Uttar Pradesh	4.42	16.17	4.23	16.02	5.94	16.14	6.82	16.17	9.29	16.55

A. Share of 14 states in the total distribution of Central Sector Investment.
B. Share of 14 states in the total population.

and Andhra Pradesh. On the other hand, Bihar recorded the lowest rank followed by Uttar Pradesh, Orissa and Madhya Pradesh during the period from 1979-71 to 1988-89 (Table 3.2).

The compound rate of growth of per capita income in the country recorded at 6.46 per cent per annum during the study period. This can be seen from Table 6.10. There were four states which recorded the rate of growth above the all-India average growth rate of 8.73 per cent per annum. Maharashtra recorded the first position with 11.25 per cent per annum followed by Punjab (10.34), Haryana (9.48) and Gujarat (9.35) respectively, all are belonging to the developed states' group. All other states have recorded rates below the all-India average growth rate.

6.6 DECOMPOSITION OF THEIL'S INEQUALITY (SDP)

Table 6.11 gives the decomposition of Theil's inequality in respect of state domestic product (given in Table 6.14). It is obvious from above table that the values of Theil's Index of total inequality clearly showed a sharp increase over the years. It has increased from 1.63 in the year 1970-71 to 4.86 in 1988-89. As is clear from Table 6.11 that the most important component to the

Table 6.10

Compound Rate of Growth of Per Capita Income Among Major 14 States - 1970 to 1989

States	1970-80	1980-89	1970-89
Andhra Pradesh	7.377	11.49	9.429
Bihar	7.944	10.332	9.105
Gujarat	9.359	11.828	9.843
Haryana	9.484	8.735	9.862
Karnataka	8.157	9.737	9.763
Kerala	8.661	10.285	9.512
Madhya Pradesh	6.959	9.466	9.658
Maharashtra	11.248	10.314	10.701
Orissa	6.884	9.721	10.101
Punjab	10.343	11.143	10.682
Rajastan	7.447	12.059	8.277
Tamil Nadu	8.021	9.756	10.370
Uttar Pradesh	8.075	11.088	9.487
West Bengal	7.950	9.321	9.743
All India	8.737	2.614	6.464

Source: Calculated on the basis of data from -
(1) H.L.Chandok and the Policy Group, India Data Base - The Economy, Vol.I
(2) A.N.Agarwal et. al., Basic India 1991-92.

Table 6.11

Decomposition of Theil's Inequality - State Domestic Product

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	1.633364	0.543787	16.78985	98.86282	3.137177
1975-76	1.644342	0.521596	16.92183	97.00977	2.990220
1980-81	1.615268	0.497613	16.65507	97.09891	2.901083
1985-86	3.423790	0.803292	28.43461	97.25256	2.747436
1988-89	4.860837	1.121723	89.88664	97.26464	2.735351

total inequality is 'between inequality' as its contribution comes to the tune of more than cent per cent, ie., 130 per cent, on the average, of total inequality. This means that, in fact, there is no 'within inequality'. Therefore these findings point out that there is very large variations among different regions, and not among the states with a region, in the distribution of state domestic product. Chart 6.2 gives a clear cut picture of this trend in the distinction of state domestic product.

The 'within inequality' in each region with respect to state domestic product is given in Table 6.12. It shows that the 'within inequality' remained almost stable over years. But, region-I registered a slight increase in this regard.

Table 6.13 explains the state-wise contribution of state domestic product and population among the region. It can be observed from Table 6.14 that the region-wise distribution of population over the period under study has remained more or less constant, whereas the distribution of state domestic product has undergone changes. The share of region-I has increased from 27.27 per cent in 1970-71 to

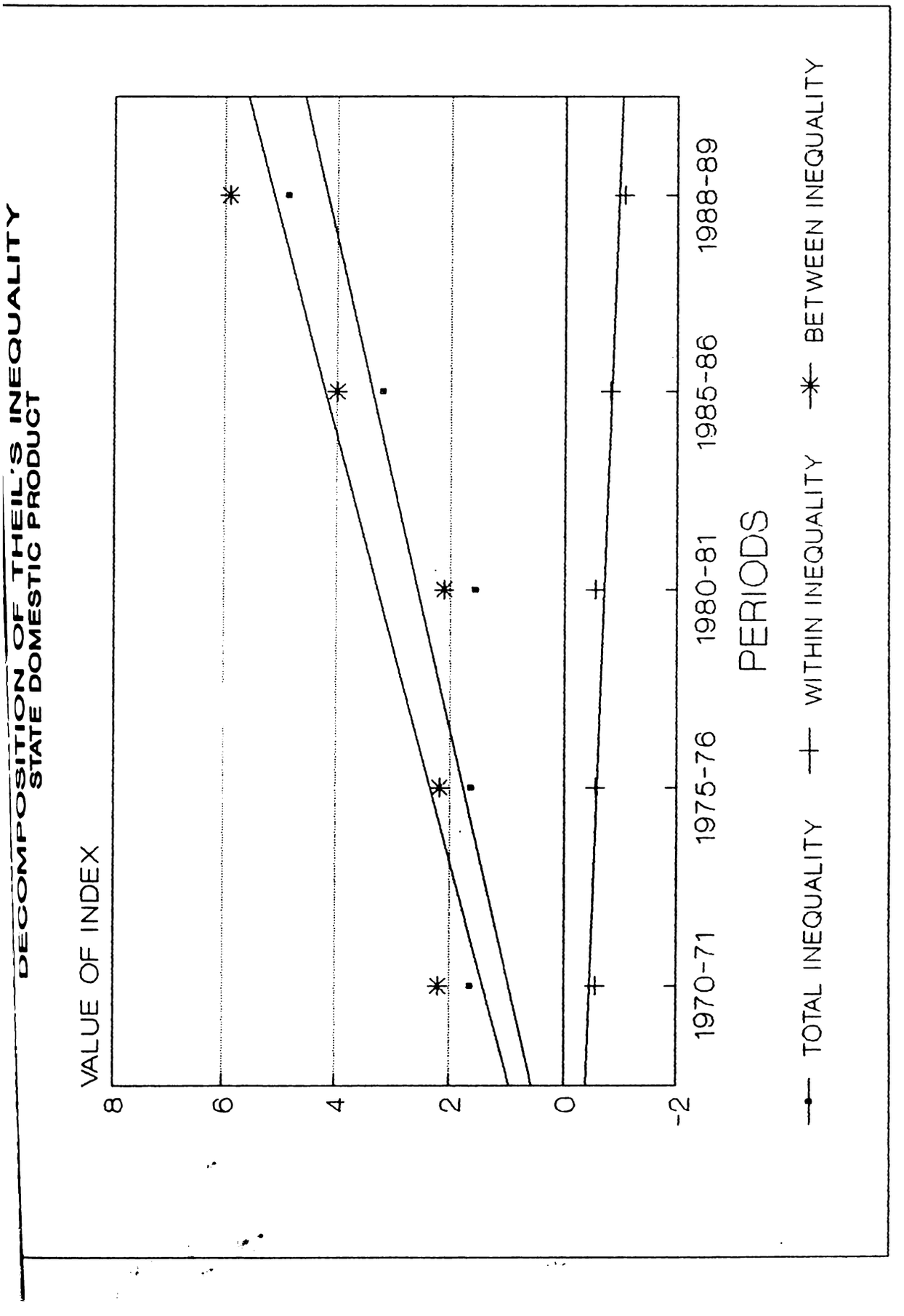

DECOMPOSITION OF THEIL'S INEQUALITY
STATE DOMESTIC PRODUCT
VALUE OF INDEX
8
6
4
2
0
-2
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

Table 6.12

Region-wise Within Inequalities - State Domestic Product

Years	Region I	Region II	Region III
1970-71	0.005921	0.004085	-0.46516
1975-76	0.005798	0.006437	-0.46726
1980-81	0.005601	0.001492	-0.46199
1985-86	0.008749	0.003620	-0.46770
1988-89	0.012058	0.003997	-0.47162

Table 6.13

Distribution of State Domestic Product and Population Among Regions

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	27.27	18.35	36.49	32.80	36.44	42.79
1975-76	29.32	18.46	35.09	32.52	35.58	42.63
1980-81	30.32	18.49	34.00	32.06	35.89	42.81
1985-86	30.19	18.51	34.57	31.69	35.23	42.95
1988-89	30.56	18.64	34.44	31.62	35.01	43.59

A. Share of 14 states in the total distribution of State Domestic Product.
B. Share of 14 states in the total population.

State-wise Distribution of State Domestic Product and Population

States	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	7.10	4.86	6.90	4.93	6.84	4.97	6.81	4.96	6.79	4.97
Haryana	2.83	1.83	3.02	1.86	3.15	1.89	3.27	1.94	3.23	1.94
Maharashtra	12.67	9.18	14.53	9.22	15.71	9.18	14.97	9.17	15.06	9.30
Punjab	4.67	2.48	4.87	2.45	4.62	2.45	5.14	2.44	5.48	2.43
Region II										
Andhra Pradesh	8.20	7.95	7.89	7.87	7.61	7.82	7.59	7.74	8.28	7.88
Karnataka	6.04	5.35	5.78	5.36	5.83	5.41	5.84	5.43	5.78	5.41
Kerala	4.08	3.90	4.17	3.85	3.98	3.74	3.68	3.67	3.28	3.54
Tamil Nadu	7.68	7.51	6.98	7.40	7.52	7.12	7.75	6.93	7.12	6.76
West Bengal	10.29	8.09	10.27	8.04	9.06	7.97	9.71	7.92	9.98	8.03
Region III										
Bihar	7.31	10.32	7.60	10.20	6.31	10.20	6.99	10.21	6.83	10.27
Madhya Pradesh	6.47	7.59	6.80	7.65	7.17	7.63	6.75	7.64	6.94	7.78
Orissa	3.42	4.01	3.29	3.97	3.58	3.87	3.36	3.80	3.29	3.78
Rajastan	5.39	4.70	4.78	4.79	4.28	4.97	4.83	5.13	4.70	5.21
Uttar Pradesh	13.85	16.17	13.11	16.02	14.55	16.14	13.80	16.17	13.25	16.55

A. Share of 14 states in the total distribution of State Domestic Product.
B. Share of 14 states in the total population.

30.56 per cent in 1988-89. While the region-II has registered a decrease from 36.49 per cent in 1970-71 to 34.44 per cent in 1988-89, and region-III showed a slight decrease during the reference period.

To sum up, Theil's inequality results and the relative shares of population and state domestic product show that the inequality among regions are not declining though the inequality among states within a region decreased. The total inequality has increased as the 'between inequality' increased. When one looks into the relative shares of population and distribution of state domestic product, one can observe that the contribution of region-I in total state domestic product is more than one and half times of its share of population. But region-II recorded almost same relative positions though downward changes occured in both variables. But the contribution of region-III to total state domestic product has decreased when the share of its population increased. This shows that the share of state domestic product of region-III comes to only about 8.3 per cent of its population share. All these lead to the conclusion that the disparity in economic development is highly increasing in the case of state domestic product.

On examination of the state-wise shares in the State Domestic Product over the five time points, it can be seen from Table 6.14 that the shares of states in region-III have either remained constant or declined. The shares of states in region-II have also given the same picture implying that the growth in the contribution of state domestic product within each region has more or less remained constant. Considering the states in region-I, the share of Maharashtra and Punjab have constantly increased, while that of Gujarat has declined. The contributions of Gujarat and Maharashtra are together more than one fifth of the total state domestic product.

To sum up, the performance of region-III is something good eventhough the share of central sector investment in this region has declined. This leads to the conclusion that the attention of central government as well as the planning authorities may be urgently needed to increase their due share.

6.7 POWER CONSUMPTION

Generally speaking, the per capita consumption of electricity is an accepted index of progress of an economy. In this context, it is observed that during the study period 1970-71 to 1988-89, the per capita

consumption of power in the country increased by nearly three times. Among the states, punjab had the highest increase, where the per capita consumption of power increased by nearly four times (Table 3.3) in 1988-89 as compared to that in 1970-71. The state of Punjab was followed by Andhra Pradesh, Rajastan, Madhya Pradesh and Haryana respectively. The lowest position was recorded by West Bengal followed by Bihar, Kerala and Orissa respectively.

The compound rate of growth of power consumption recorded in the country was 5.042 per cent per annum during the reference period. Among states, Andhra Pradesh recorded the highest growth rate of 8.604 per cent per annum followed by Punjab (7.22), Madhya Pradesh (7.45), Rajastan (7.08), Haryana (6.17) and Gujarat (6.15) respectively. This can be seen from Table 6.15. During the study period eight states had recorded above the all-India average of which four states of Andhra Pradesh, Madhya Pradesh, Rajastan and Uttar Pradesh belonged to semi-developed and less developed states' group. The lowest growth rate was recorded by West Bengal (1.278) per cent per annum followed by Bihar (2.81), Kerala (3.88), Karnataka (4.17) and Orissa (4.36).

Table 6.15

Compound Rate of Growth of Power Consumption Among Major 14 States

States	1970-80	1980-89	1970-89
Andhra Pradesh	6.460	9.871	8.604
Bihar	3.963	4.031	2.811
Gujarat	6.511	6.959	6.145
Haryana	7.768	5.092	6.167
Karnataka	3.930	5.469	4.172
Kerala	2.884	4.549	3.889
Madhya Pradesh	6.771	10.033	7.449
Maharashtra	4.488	5.518	4.936
Orissa	1.945	7.322	4.362
Punjab	5.507	8.849	7.722
Rajastan	7.843	8.267	7.080
Tamil Nadu	2.940	5.494	4.773
Uttar Pradesh	5.495	7.249	5.473
West Bengal	-0.500	2.109	1.278
All India	4.638	6.872	5.042

Source: Calculated on the basis of data from -
(1) Central Electricity Authority, Ministry of Energy, Govt. of India, New Delhi.
(2) Confederation of Engineering Industry, The Power Scenario, New Delhi, April 1990.

The compound rate of growth of power consumption in Andhra Pradesh, as compared to Kerala, Tamil Nadu, Karnataka and West Bengal was relatively at a higher level, 8.604 per cent per annum, and it was much more as compared to that of all India average. More or less the same picture can be observed in the case of less developed states. Madhya Pradesh, Rajastan and Uttar Pradesh have improved their positions and recorded above the all-India average and had rates relatively better than the growth rates of developed states.

6.8 DECOMPOSITION OF THEIL'S INEQUALITY--POWER CONSUMPTION

Table 6.16 gives the decomposition of Theil's inequality in respect of power consumption. It is obvious from above table that the values of Theil's inequality index clearly showed an increasing trend. It has increased from 0.056 in 1970-71 to 0.061 in 1988-89. Of which, the 'within-inequality' increased from 0.049 in 1970-71 to 0.055 in 1988-89. It is clear from above table that the major contributor to the total inequality is 'between inequality' as its contribution averaged at 90.17 per cent whereas the 'within-inequality' is weak, and also shows a highly cyclical trend. This leads to the conclusion that

Table 6.16

Decomposition of Theil's Inequality - Power Consumption

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	0.056840	0.007305	0.049534	87.14666	12.85333
1975-76	0.002464	0.000483	0.001980	80.38614	19.61385
1980-81	0.089163	0.003555	0.085608	96.01208	3.987914
1985-86	0.054947	0.001314	0.053632	97.60682	2.393177
1988-89	0.061581	0.006341	0.055239	89.70183	10.29816

there is still variations among regions while variations among states in a region is less. This is more evident from Chart 6.3.

Table 6.17 gives the 'within inequality' of each region at different time points with respect to power consumption. Over the period, the 'within inequality' in respect of regions II and III has reduced. This indicates that the disparities within regions have decreased significantly. The 'between-inequalities' increase over years from 0.049 in 1970-71 to 0.085 in 1980-81, and then declined to 0.055 in 1988-89 (Table 6.17). This means that the imbalances in industrial development among the regions are not only still existing but also seem to have accentuated further during the period 1980-81 to 1988-89. These findings can be more conspicuous from Table 6.17.

Table 6.18 explains the consumption of power and population among the regions. It can be seen that the region-wise distribution of population over the period under study has remained more or less constant whereas the consumption of power has undergone changes. Though the share of developed region in the total population remained almost stable over the years yet its share in the total

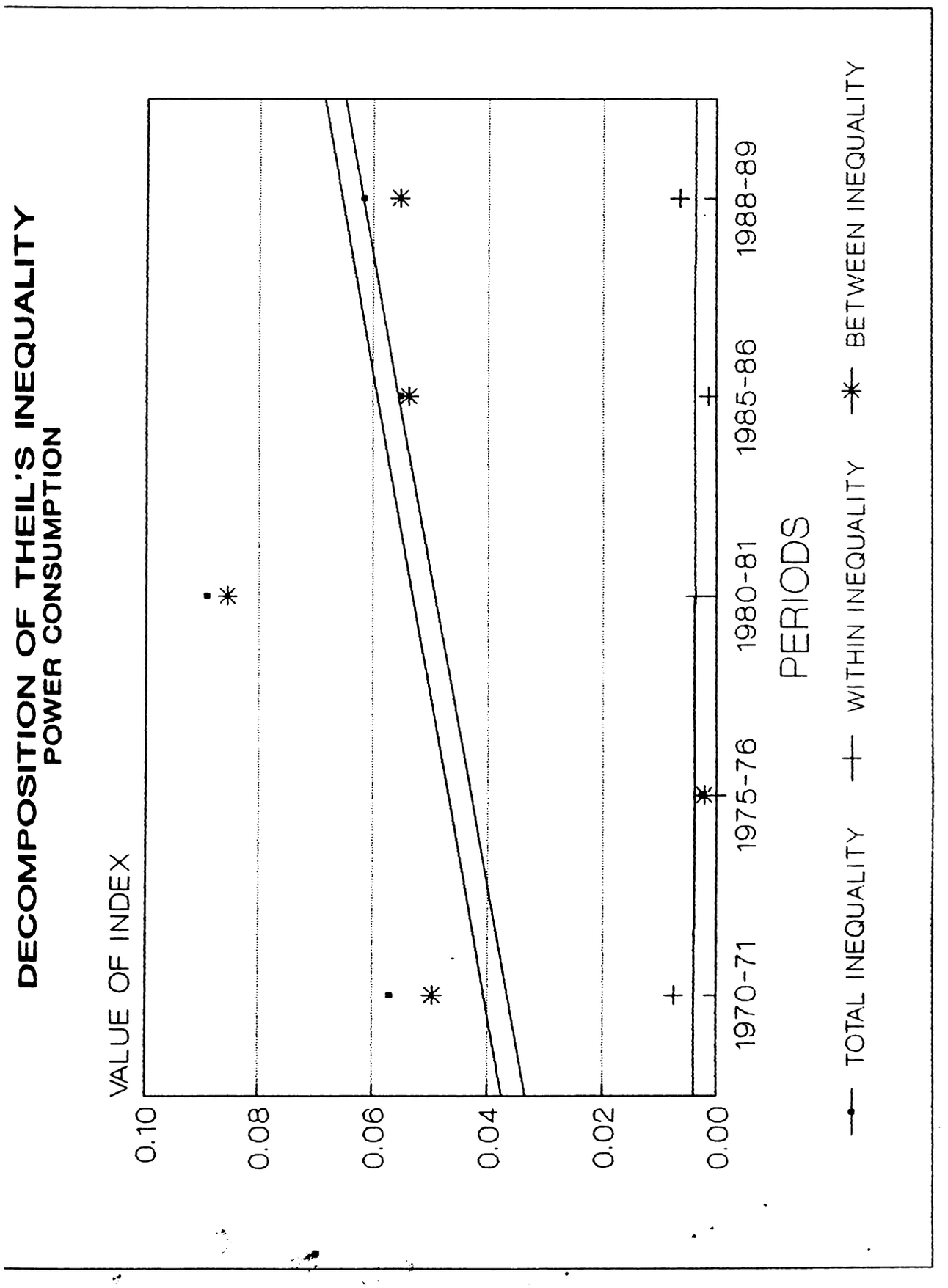

DECOMPOSITION OF THEIL'S INEQUALITY
POWER CONSUMPTION
VALUE OF INDEX
0.10
0.08
0.06
0.04
0.02
0.00
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

Table 6.17

Region-wise Within Inequalities - Power Consumption

Years	Region I	Region II	Region III
1970-71	0.008602	0.045587	-0.01113
1975-76	0.007667	0.026344	-0.04876
1980-81	0.005296	0.031851	-0.02245
1985-86	0.009614	0.018268	-0.02959
1988-89	0.013761	0.040339	-0.00959

Table 6.18

Distribution of Power Consumption and Population Among Region

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	31.38	18.35	37.47	32.80	31.06	42.79
1975-76	33.43	18.46	34.11	32.52	33.46	42.63
1980-81	37.39	18.49	32.04	32.06	29.58	42.81
1985-86	35.17	18.51	32.77	31.69	32.06	42.95
1988-89	36.03	18.64	30.93	31.62	33.05	43.59

A. Share of 14 States in the total power consumption.
B. Share of 14 States in the total population.

power consumption registered an appreciable increase from 31.88 per cent in 1970-71 to 36.03 per cent in 1988-89. However, the case of region-II in this respect has showed a decrease from 37.47 per cent in 1970-71 to 30.93 per cent in 1988-89. But the share of less developed states (region-III) in power consumption registered a slight increase from 31.06 per cent in 1970-71 to 33.05 per cent in 1988-89. In short, the developed region recorded the first position in the power consumption.

On examination of the state-wise shares in the power consumption over the five time points, it can be seen from Table 6.19 that the shares of states in region-III have either remained constant or slightly increased, except for Bihar and Orissa. The shares of states in region-II have decreased substantially, except for Andhra Pradesh, thereby implying a decline in growth in power consumption. Considering the states in region-I, the shares of Maharashtra has remained more or less stable while those of Gujarat and Punjab have improved. The consumption of power of the two states of Gujarat and Maharashtra together accounted for one fourth of the total power consumption. All these findings lead to the conclusion that the developed states have a strong pressure on central government in the distribution of power.

State-wise Distribution of Power Consumption and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	7.81	4.86	8.25	4.93	9.32	4.97	8.99	4.96	9.57	4.97
Haryana	2.09	1.83	2.93	1.86	3.07	1.89	2.86	1.94	3.11	1.94
Maharashtra	16.89	9.18	18.67	9.22	19.10	9.18	17.17	9.17	16.62	9.30
Punjab	4.59	2.48	3.58	2.45	5.90	2.45	6.15	2.44	6.73	2.43
Region II										
Andhra Pradesh	5.18	7.95	5.65	7.87	6.34	7.82	8.41	7.74	8.23	7.88
Karnataka	6.47	5.35	7.81	5.36	6.50	5.41	6.12	5.43	6.44	5.41
Kerala	3.45	3.90	3.61	3.85	2.89	3.74	3.04	3.67	2.58	3.54
Tamil Nadu	11.36	7.51	8.46	7.40	10.35	7.12	9.01	6.93	8.81	6.76
West Bengal	11.11	8.09	8.58	8.04	6.96	7.97	6.19	7.92	4.87	8.03
Region III										
Bihar	7.80	10.32	7.55	10.20	5.93	10.20	5.72	10.21	5.05	10.27
Madhya Pradesh	4.77	7.59	6.33	7.65	5.72	7.63	7.65	7.64	7.68	7.78
Orissa	4.47	4.01	3.37	3.97	3.43	3.87	3.04	3.80	4.25	3.78
Rajastan	2.73	4.70	3.70	4.79	3.76	4.97	4.37	5.13	4.37	5.21
Uttar Pradesh	11.29	16.17	11.51	16.02	10.74	16.14	11.28	16.17	11.70	16.55

A. Share of 14 states in the total power consumption.
B. Share of 14 states in the total population.

In short, the results of the Theil's inequality index with respect to power consumption lead to the conclusion that the total inequality is increasing as the 'between inequality' increases. The shares of region-I in total power consumption have increased two times while its share of population remained constant. In the case of region-II, the shares of population and its power consumption recorded almost an equal position though both of them decreased. And the shares of region-III in power consumption has recorded a slight increase along with its increased share of population. However, the staggering point to note here is that the population share of region-I is only half of its share in total power consumption whereas the share of population in region-III is far ahead of its share in power consumption. These evidences show that the imbalances among regions are not only existing but seems to have accentuated over years in this respect.

6.9 DISTRIBUTION OF FACTORIES

As regards the inter-state variations in respect of number of factories for the year 1980-81, it can be seen that (Table 3.7) out of 96503 factories in the country, Maharashtra accounted for 16.14 per cent followed by

Gujarat with 11.61 per cent, Tamil Nadu with 10.66 per cent and Andhra Pradesh with 9.80 per cent, occupying the first four positions. On the other, the less developed state like Orissa accounted for only 1.62 per cent followed by Rajastan with 2.79 per cent, Madhya Pradesh with 3.61 per cent and Bihar with 4.4 per cent respectively for the same year.

It can be observed from Table 6.20 that the compound rate of growth of factories in the country was recorded at 3.35 per cent per annum during the reference period 1970-71 to 1988-89. There were five states which recorded a growth rate above the all-India average. Andhra Pradesh, Haryana, Tamil Nadu, Rajastan and Uttar Pradesh recorded above the national average as well as above the growth rate of other states. Whereas West Bengal registered a negative growth rate. The other states in the lowest ladder were Orissa, Kerala, Madhya Pradesh, Bihar and Karnataka.

6.10 DECOMPOSITION OF THEIL'S INEQUALITY-DISTRIBUTION OF FACTORIES

Table 6.21 gives the decomposition of Theil's inequalities with respect to distribution of factories.

Table 6.20

Compound Rate of Growth of Distribution of Factories Among Major 14 States

States	1970-80	1980-89	1970-89
Andhra Pradesh	10.776	3.274	6.738
Bihar	7.522	-2.373	2.556
Gujarat	6.044	-0.950	3.087
Haryana	8.598	1.260	6.375
Karnataka	4.897	0.582	2.645
Kerala	3.003	-0.210	1.777
Madhya Pradesh	4.269	1.189	2.317
Maharashtra	3.544	-0.478	2.216
Orissa	3.342	-0.749	1.828
Punjab	3.036	0.274	2.569
Rajastan	8.770	0.453	5.479
Tamil Nadu	4.973	0.758	4.723
Uttar Pradesh	6.435	0.596	4.423
West Bengal	0.358	-0.689	-0.327
All India	5.173	0.7544	3.3509

Source: Calculated on the basis of data from Annual Survey of Industries (Various Issues).

Table 6.21

Decomposition of Theil's Inequality - Distribution of Factories

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	0.0100600	0.005027	0.095573	95.00295	4.997042
1975-76	0.085668	-0.00077	0.086445	100.9061	-0.90621
1980-81	0.098315	0.007829	0.090485	92.03628	7.96375
1985-86	0.093187	0.011196	0.081991	87.98546	12.01453
1988-89	0.113056	0.29457	0.083599	73.94453	26.05546

It is obvious from above table that the values of Theil's Index of total inequality are showing a cyclical movement. Though decreased from 0.10 in 1970-71 to 0.08 in 1975-76, it went upward to 0.11 in 1988-89 implying an increase in total inequality. Of the two, the most important component of the total inequality is the 'between inequality' as its contribution comes about, on the average,89.975 per cent. But it reduced significantly in 1988-89. Whereas 'within inequality' has substantially increased from 4.99 per cent in 1970-71 to 26 per cent in 1988-89. Eventhough the share of 'within inequality' increased, still the major share to total inequality is accounted 'between inequality'. This purports that though the inequality between different regions fell down, the inequality among states is widening. A clear picture of these movements can be obtained from Chart 6.4.

Table 6.22 gives the 'within inequality' of each region at different time points regarding the distribution of factories. Over the period, the 'within inequality' in respect of regions-II and III has increased. In case of region-I, the 'within inequality' has declined from 0.024 in 1970-71 to 0.018 in 1988-89. Region-II registered an increase from 0.011 in 1970-71 to 0.085 in 1988-89 and

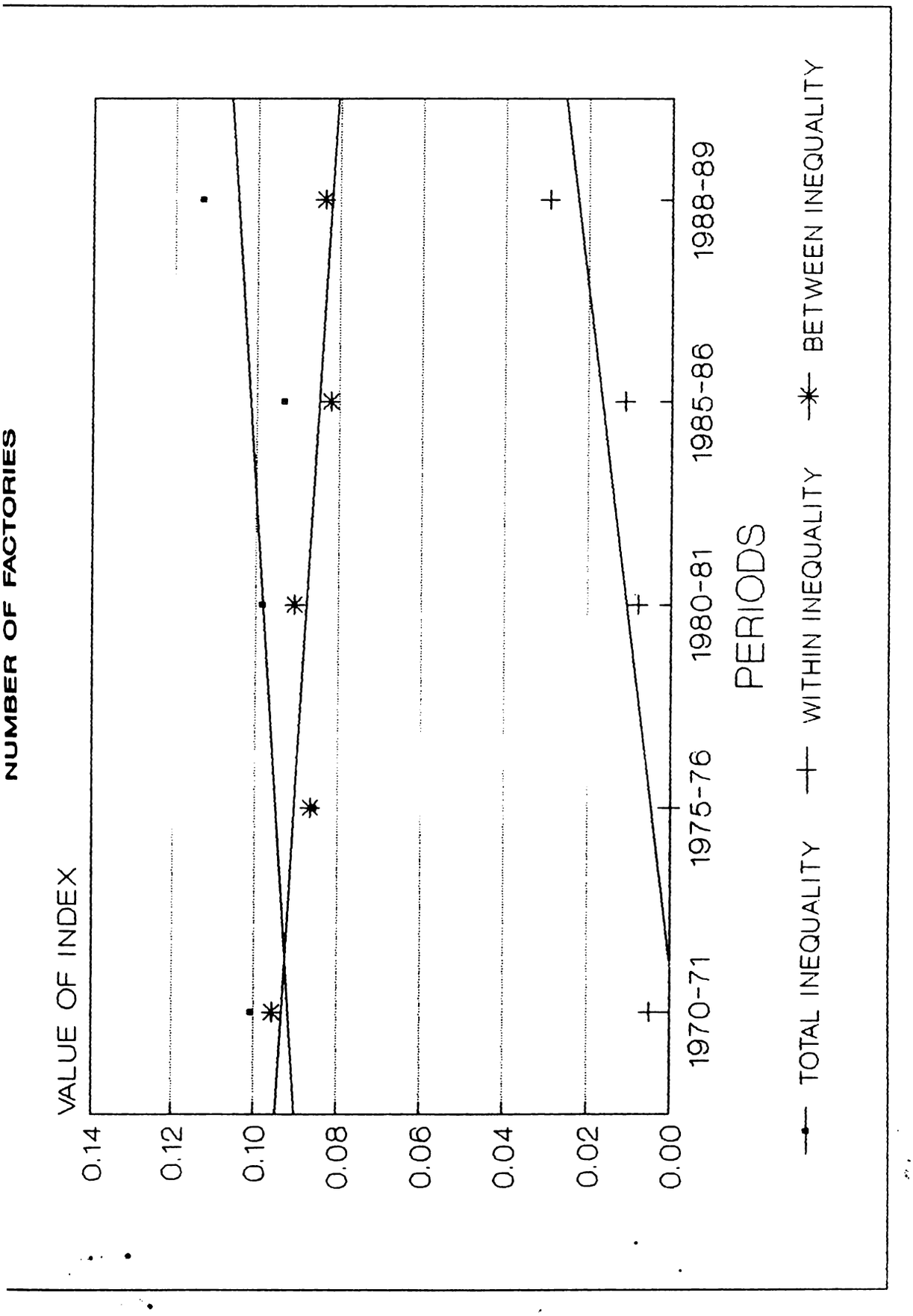

NUMBER OF FACTORIES
VALUE OF INDEX
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

Table 6.22

Region-wise Within Inequalities - Distribution of Factories

Years	Region I	Region II	Region III
1970-71	0.024504	0.011000	-0.01407
1975-76	0.016847	0.009381	-0.08467
1980-81	0.015831	0.033976	-0.00373
1985-86	0.011221	0.067874	-0.03340
1988-89	0.018356	0.085020	0.247160

region-III recorded an increase from 0.014 in 1970-71 to 0.247 in 1988-89. Here, in this respect, the share of inequality among states in a region has increased except in region-I. At the same time the shares of 'between inequality' to total inequality is decreasing though the contribution is still remaining high. This shows that the decline in inequality indicates the reduction in the industrial concentration.

It can be observed from Table 6.23 that the region-wise distribution of population over the period under study has remained more or less constant whereas the distribution of factories has undergone changes. The share of region-I in the distribution of factories has declined from 39.47 per cent in 1970-71 to 35.85 per cent in 1988-89, while region-II has registered an improvement as its share increased from 40.41 per cent in 1970-71 to 42.55 per cent in 1988-89 and that of region-III from 20.12 per cent in 1970-71 to 21.60 per cent in 1988-89.

On examination of the state-wise shares in the Distribution of Factories over the five time points it can be seen from Table 6.24 that the shares of states in region-III have either remained constant or declined, except for Uttar Pradesh and Rajastan. The share of state

Table 6.23

Region-wise Distribution of Factories and Population

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	39.47	18.35	40.41	32.80	20.12	42.79
1975-76	39.11	18.46	39.19	32.52	21.71	42.63
1980-81	38.70	18.49	40.11	32.06	21.19	42.81
1985-86	36.05	18.51	41.71	31.69	22.23	42.95
1988-89	35.85	18.64	42.55	31.62	21.60	43.59

A. Share of 14 states in the total number of factories.

B. Share of 14 states in the total population.

Table 6.24

State-wise Distribution of Factories and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	11.61	4.86	11.77	4.93	12.41	4.97	10.92	4.96	11.38	4.97
Haryana	1.80	1.83	2.32	1.86	2.75	1.89	3.21	1.94	2.83	1.94
Maharashtra	19.32	9.18	18.50	9.22	17.24	9.18	15.87	9.17	15.50	9.30
Punjab	6.74	2.48	6.52	2.45	6.30	2.45	6.05	2.44	6.14	2.43
Region II										
Andhra Pradesh	8.99	7.95	9.20	7.87	12.35	7.82	13.51	7.74	14.64	7.88
Karnataka	5.72	5.35	6.41	5.36	5.96	5.41	5.78	5.43	5.79	5.41
Kerala	3.80	3.90	3.68	3.85	3.37	3.74	3.29	3.67	3.15	3.54
Tamil Nadu	11.34	7.51	10.99	7.40	11.39	7.12	13.17	6.93	13.42	6.76
West Bengal	10.56	8.09	8.91	8.04	7.04	7.97	5.96	7.92	5.55	8.03
Region III										
Bihar	4.23	10.32	5.51	10.20	4.70	10.20	5.29	10.21	3.53	10.27
Madhya Pradesh	4.38	7.59	4.31	7.65	3.86	7.63	4.25	7.64	3.73	7.78
Orissa	1.94	4.01	1.93	3.97	1.73	3.87	1.55	3.80	1.47	3.78
Rajastan	2.16	4.70	2.64	4.79	2.93	4.97	3.14	5.13	3.24	5.21
Uttar Pradesh	7.41	16.17	7.32	16.02	7.92	16.14	8.00	16.17	9.63	16.55

A. Share of 14 states in the total number of factories.
B. Share of 14 states in the total population.

in region-II have increased substantially thereby implying a growth in the number of factories. Considering the states in region-I, the shares of Gujarat and Punjab have remained more or less stable while that of Maharashtra has declined. The contributions of these three states together have accounted more than one-third in the total distribution of factories.

6.11 DISTRIBUTION OF FACTORY EMPLOYMENT

On considering another growth indicator, ie., number of employees worked in the factories covered under factory sector (Table 3.8) it is observed that Maharashtra accounted for 17.34 per cent of the total employment in the country followed by West Bengal (12.34%), Tamil Nadu (10.3%), Uttar Pradesh (9.99%) and Gujarat (9.07%) for the year 1980-81. The states with lower positions were: Orissa with 1.73 per cent, Rajastan with 2.48 per cent Kerala with 3.63 per cent, Madhya Pradesh with 4.21 per cent and Bihar with 4.95 per cent respectively.

The compound rate of growth of employment recorded in Punjab and Haryana were 5.77 per cent and 5.15 per cent respectively per annum during the period 1970-71 and 1988-89 which are far ahead of the all-India average and are

relatively higher than those of other industrially developed states. The positions of Rajastan and Andhra Pradesh were showing almost the same picture. This can be seen from Table 6.25.

6.12 DECOMPOSITION OF THEIL'S INEQUALITY—DISTRIBUTION OF FACTORY EMPLOYMENT

Table 6.26 gives the results of Theil's Index of total inequality with respect to distribution of factory employment. It clearly showed a decreasing movement. The total inequality gradually decreased from 0.103 in 1970-71 to 0.081 in 1988-89. The decline in total inequality in due to both the reduction in 'within inequality' as well as in 'between inequality'. The percentage share of the 'between inequality' increased reinforcing the already existing high contribution to total inequality fell down slightly from 15.08 per cent to 12.39 per cent. This comes to the conclusion that the ineuqality between regions has increased while inequality among states in a region decreased considerably. This can be seen from Chart 6.5 clearly.

Table 6.27 gives the 'within inequalities' with regard to the distribution of factory employment of each

Table 6.25

Compound Rate of Growth of Employment - 1970 to 1989

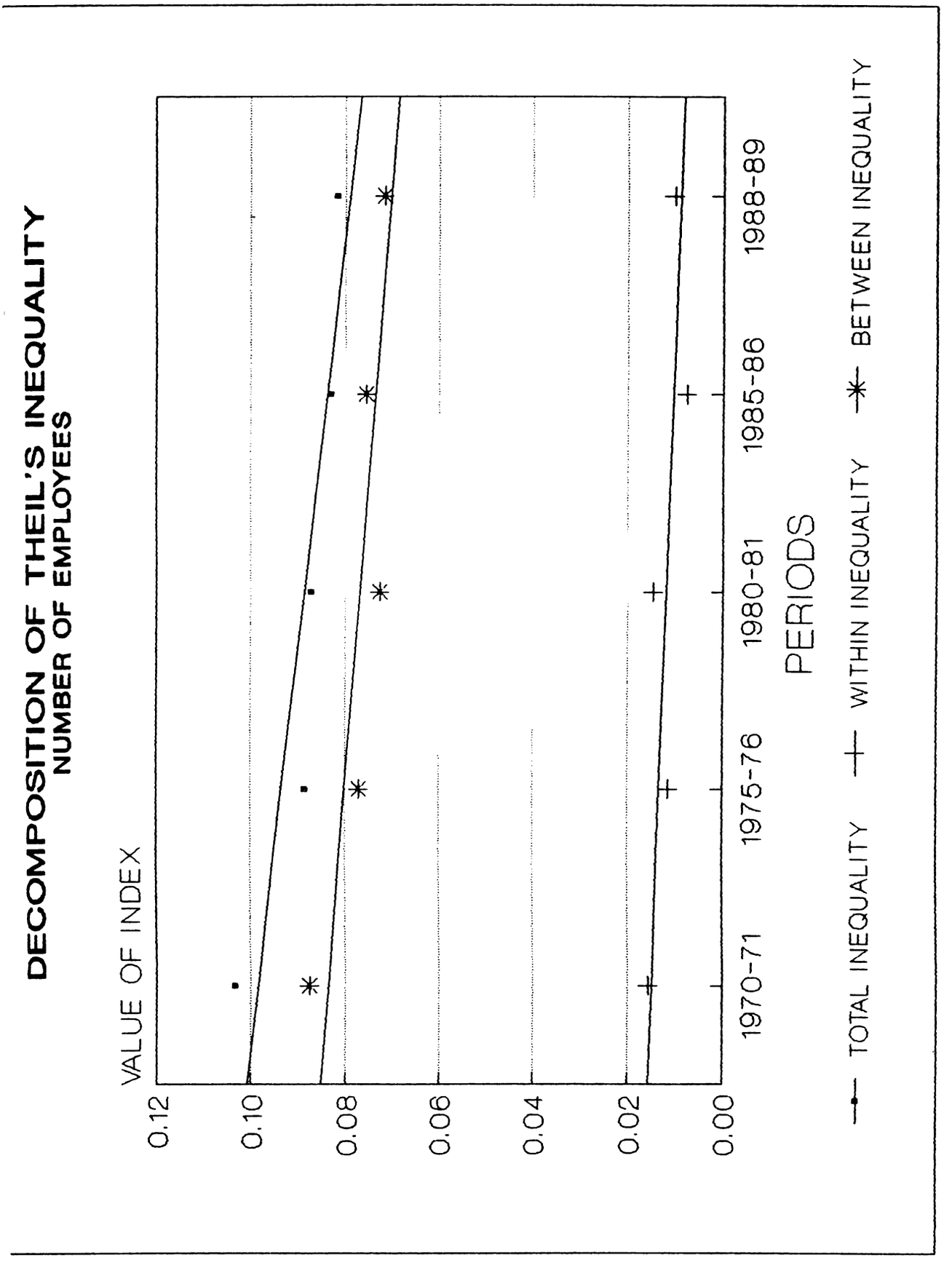
States	1970-80	1980-89	1970-89
Andhra Pradesh	9.064	0.004	4.597
Bihar	4.471	0.104	1.820
Gujarat	4.468	-0.973	2.115
Haryana	3.559	3.060	5.155
Karnataka	4.394	0.334	2.341
Kerala	3.362	-2.429	0.523
Madhya Pradesh	4.889	0.525	3.315
Maharashtra	3.093	-1.237	0.974
Orissa	3.240	2.216	3.268
Punjab	6.986	2.341	5.770
Rajastan	6.289	0.523	4.744
Tamil Nadu	3.647	3.315	2.936
Uttar Pradesh	7.599	0.974	3.792
West Bengal	1.133	3.268	-0.561
All India	4.304	-0.123	2.311

Source: Calculated on the basis of data from Annual Survey of Industries (Various Issues).

Table 6.26

Decomposition of Theil's Inequality - Factory Employment

Year	Total inequality	Within inequality	Between inequality	As Percentage to Total	
				Between inequality	Within inequality
1970-71	0.103153	0.015557	0.087595	94.91774	15.08225
1975-76	0.088402	0.011443	0.076958	87.05520	12.94479
1980-81	0.087192	0.014661	0.072531	83.18473	16.81526
1985-86	0.083017	0.007529	0.075487	90.92974	9.070252
1988-89	0.096668	0.005242	0.091425	94.57652	5.423473


DECOMPOSITION OF THEIL'S INEQUALITY
NUMBER OF EMPLOYEES
VALUE OF INDEX
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

. Table 6.27

Region-wise Within Inequalities - Factory Employment

Years	Region I	Region II	Region III
1970-71	0.028730	0.068950	-0.01989
1975-76	0.025703	0.036831	0.022805
1980-81	0.014518	0.019425	0.160041
1985-86	0.000365	0.025428	0.051147
1988-89	0.002410	0.025045	0.090884

region at the different time points. It shows that over the period, the 'within inequality' in respect of regions I and II has reduced indicating that the disparities withinregion have decreased. In the case of region-III 'within inequality' among its states has increased from 0.01 in 1970-71 to 0.09 in 1988-89. This means that the disparity among the states of less developed group has increased whereas that among states of developed and semi-developed groups has declined significantly.

It can be observed that from Table 6.28 that the region-wise distribution of population over the period under study has remained more or less constant, whereas the distribution of factory employment has undergone changes. The share of region-II has declined from 44.63 per cent to 41.11 per cent, and that of region-I frm 34.60 per cent to 33.83 per cent, while region-III has registered an improvement as its share increased from 21.32 per cent to 25 per cent. These point to the conclusion that the distribution of employment was somehow in accordance with the distribution of population.

On examination of the state-wise shares in the Distribution of Factory Employment over the five time points, it can be observed from Table 6.29 that

Table 6.28

Region-wise Distribution of Employment and Population

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	34.60	18.35	43.63	32.80	21.32	42.79
1975-76	33.79	18.46	42.79	32.52	23.41	42.63
1980-81	33.30	18.49	42.12	32.06	24.58	42.81
1985-86	34.06	18.51	39.92	31.69	24.55	42.95
1988-89	33.83	18.64	41.11	31.62	25.05	43.59

A. Share of 14 states in the total distribution of factory employment.
B. Share of 14 states in the total population.

State-wise Distribution of Factory Employment and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	9.55	4.86	9.70	4.93	9.54	4.97	9.39	4.96	9.10	4.97
Haryana	2.07	1.83	1.92	1.86	2.31	1.89	3.34	1.94	3.10	1.94
Maharashtra	20.18	9.18	19.22	9.22	18.24	9.18	16.92	9.17	16.52	9.30
Punjab	2.80	2.48	2.95	2.45	3.21	2.45	4.41	2.44	5.11	2.43
Region II										
Andhra Pradesh	7.10	7.95	7.69	7.87	9.09	7.82	9.32	7.74	9.86	7.88
Karnataka	4.99	5.35	5.43	5.36	5.40	5.41	5.31	5.43	5.46	5.41
Kerala	4.03	3.90	4.02	3.85	3.81	3.74	3.29	3.67	3.20	3.54
Tamil Nadu	11.46	7.51	10.57	7.40	10.84	7.12	12.08	6.93	12.21	6.76
West Bengal	17.05	8.09	15.08	8.04	12.98	7.97	11.38	7.92	10.38	8.03
Region III										
Bihar	5.31	10.32	5.80	10.20	5.21	10.20	4.85	10.21	5.19	10.27
Madhya Pradesh	4.09	7.59	4.49	7.65	4.43	7.63	4.87	7.64	4.33	7.78
Orissa	1.80	4.01	1.78	3.97	1.82	3.87	2.14	3.80	2.11	3.78
Rajastan	2.25	4.70	2.38	4.79	2.61	4.97	3.06	5.13	3.14	5.21
Uttar Pradesh	7.87	16.17	8.96	16.02	10.51	16.14	9.63	16.17	10.28	16.55

A. Share of 14 states in the total distribution of factory employment.
B. Share of 14 states in the total population.

the shares of states in region-III have either remained constant or declined, except for Uttar Pradesh. The shares of states in region-II have increased substantially except for West Bengal. This means that there has been a growth in the distribution of employment and thereby industrial development. Considering the states in region-I, the share of Gujarat has remained more or less stable, while that of Maharashtra has declined. Punjab and Haryana have improved their positions. The contribution of the two states of Maharashtra and Gujarat ranges between 25-30 per cent in the total distribution of employment. The above findings regarding distribution of employment suggest that the government's particular attention is urgently needed especially in favour of the less developed states.

6.13 INDUSTRIAL GROSS OUTPUT

The total industrial gross output of all the units in India considered for the survey was Rs.61084.03 crore in 1980-81 (Table 3.10). Of which, Rs.58100.26 crore (95.12%) was contributed by the major 14 states. Maharashtra alone accounted for 23.58 per cent. Although its has reduced to 21.18 per cent in 1988-89, still Maharashtra occupied the first position in the contribution of industrial gross output. There are eight states which recorded below the

all-India average, of which Uttar Pradesh, Orissa and Bihar recorded the lowest ranks.

The compound rate of growth of industrial gross output in the country is given in Table 6.30. It can be observed that the country registered compound rate of growth of 12.38 per cent per annum during the reference period. There were ten states which recorded the rate of growth above the all-India average growth rate of 12.38 per annum. Punjab recorded the first position with 14.94 per cent per annum followed by Haryana (14.51), Rajastan (14.17), Orissa (13.54), Uttar Pradesh (13.51) and Tamil Nadu (13.50) respectively. The lowest growth rate was recorded by West Bengal (8.76 per cent per annum) followed by Maharashtra(11.44)and Karnataka (12.28) respectively.

6.14 DECOMPOSITION OF THEIL'S INEQUALITY--INDUSTRIAL GROSS OUTPUT

Table 6.31 gives the decomposition of Theil's inequality regarding industrial gross output. Total inequality in this regard is showing a downward movement reducing from 0.103 in 1970-71 to 0.096 in 1988-89. Although there is a slight increase in 1988-89, it is less than the figures showed in 1970-71. It shows that though

Table 6.30

Compound Rate of Growth of Industrial Gross Output Among Major 14 States

States	1970-80	1981-89	1970-89
Andhra Pradesh	13.59	13.57	13.43
Bihar	13.74	9.62	12.46
Gujarat	14.11	9.76	13.01
Haryana	14.88	11.93	14.51
Karnataka	13.67	9.76	12.30
Kerala	15.52	14.84	12.54
Madhya Pradesh	12.10	10.92	13.14
Maharashtra	12.46	8.47	11.44
Orissa	14.59	13.81	13.54
Punjab	16.06	13.38	14.94
Rajastan	16.24	12.34	14.17
Tamil Nadu	14.44	11.75	13.51
Uttar Pradesh	11.89	14.05	13.51
West Bengal	9.40	6.67	8.75
All India	13.04	10.94	12.38

Source: Calculated on the basis of data from Annual Survey of Industries (Various Issues).

Table 6.31

Decomposition of Theil's Inequality - Industrial Gross Output

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	0.103153	0.015557	0.087595	84.91774	15.08225
1975-76	0.088402	0.011443	0.076958	87.05520	12.94479
1980-81	0.087192	0.014661	0.072531	83.18473	16.81526
1985-86	0.083017	0.007529	0.075487	90.92974	9.070252
1988-89	0.081634	0.010116	0.071518	87.60777	12.39222

decreased slightly, still there is wide variations among states with respect to the contribution to industrial gross output.

Table 6.31 also gives the values of the indices of Theil's inequality for 'between inequality' and 'within inequality'. 'Between inequality', as a part of 'total inequality', is getting more and more significant as its contribution to total rose substantially from 84.92 per cent in 1970-71 to 94.57 per cent in 1988-89. But the 'within inequality' component of the total fell down sharply from 15 per cent to 5.4 per cent during the reference period. This results point out that the imbalances in industrial development among the regions are not only still existing but seem to have accentuated further over the years. This can be observed more clearly from Chart 6.6.

The 'within inequality' in each region regarding industrial gross output can be seen from Table 6.32. This shows that, over the years, the 'within inequality' in respect of regions I and III has increased while region-II registered a sharp decrease.

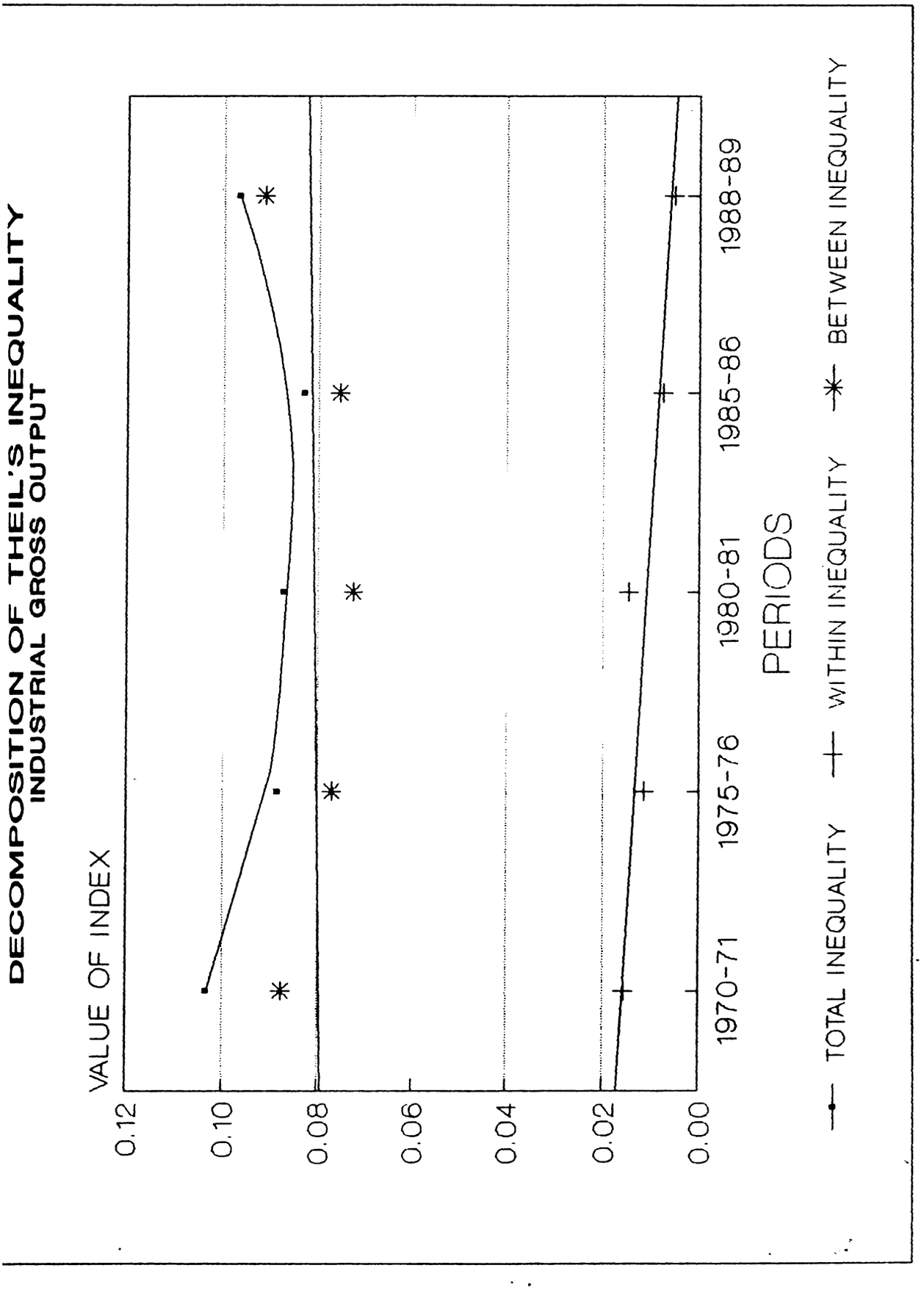

DECOMPOSITION OF THEIL'S INEQUALITY
INDUSTRIAL GROSS OUTPUT
VALUE OF INDEX
0.12
0.10
0.08
0.06
0.04
0.02
0.00
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

Table 6.32

Region-wise Within Inequalities - Industrial Gross Output

Years	Region I	Region II	Region III
1970-71	10.14914	64.09792	41.47549
1975-76	11.56250	49.13790	78.70437
1980-81	11.66484	42.15824	15.36949
1985-86	13.48428	34.29637	29.54936
1988-89	11.87669	33.14592	45.67930

Before arriving at some conclusions, the relative positions of the share of population and the regional shares of total value of gross output have to be ascertained. These are given in Table 6.33.

It can be seen from Table 6.33 that the region-wise contribution of population over the period under study has remained more or less constant whereas the distribution of value of gross industrial output has undergone changes. The share of developed region regarding the distribution of total value of gross output registered an increase from 41.49 per cent in 1970-71 to 42.18 per cent in 1988-89. But it contributed the highest share to the total distribution of value of gross output, and region-II recorded a decline from 37.05 per cent in 1970-71 to 31.98 per cent in 1985-86. But region-III has registered significant growth as its share increased from 21.47 per cent in 1970-71 to 25.84 per cent in 1988-89.

However, it can be seen that the share of region-I in total value of gross output is more than double of its share of population. But the case of region-II in this respect is almost equal, and that of region-III is highly

Table 6.33

Region-wise Distribution of Industrial Gross Output and Population

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	41.49	18.35	37.05	32.80	21.47	42.79
1975-76	41.79	18.46	35.60	32.52	22.61	42.63
1980-81	44.66	18.49	34.75	32.06	20.60	42.81
1985-86	43.55	18.51	33.03	31.69	23.42	42.95
1988-89	42.18	18.64	31.98	31.62	25.84	43.59

A. Share of 14 states in the total industrial gross output.
B. Share of 14 states in the total population.

pathetic as its population share outstepped its contribution to the value of gross output by almost double. These results point to the fact that there is a highly skewed distribution of industrial progress in India.

On examination of the state-wise share in the Industrial Gross Output over the five time points, it can be seen from Table 6.34 that the shares of states in region-III have remained more or less stable, except for Uttar Pradesh. The shares of states in region-II have increased substantially, while that of West Bengal has declined, thereby implying a growth in industrial development. Considering the states in region-I, the shares of all states have increased considerably. The contribution of two states of Gujarat and Maharashtra together ranges between 35 to 40 per cent in the total value of industrial gross output of region-I.

6.15 VALUE ADDED BY MANUFACTURING SECTOR

As regards the inter-state variations in respect of value added by manufacturing sector for the year 1980-81, it can be seen that out of Rs.11928.77 crore, Rs.11433.78 crore (95.85%) was contributed by the major 14 states (Table 3.8). Maharashtra topped the rank followed by West Bengal, Tamil Nadu and Gujarat respectively.

State-wise Distribution of Industrial Gross Output and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	10.12	4.86	10.51	4.93	12.36	4.97	11.76	4.96	11.46	4.97
Haryana	2.42	1.83	2.59	1.86	3.22	1.89	3.55	1.94	3.69	1.94
Maharashtra	25.61	9.18	25.15	9.22	24.79	9.18	23.73	9.17	22.25	9.30
Punjab	3.34	2.48	3.54	2.45	4.29	2.45	4.51	2.44	4.78	2.43
Region II										
Andhra Pradesh	5.21	7.95	5.97	7.87	5.48	7.82	6.42	7.74	6.52	7.88
Karnataka	4.28	5.35	4.32	5.36	4.46	5.41	4.19	5.43	4.56	5.41
Kerala	2.83	3.90	3.08	3.85	3.60	3.74	2.70	3.67	2.77	3.54
Tamil Nadu	10.68	7.51	10.21	7.40	10.90	7.12	11.36	6.93	11.14	6.76
West Bengal	14.05	8.09	12.02	8.04	10.31	7.97	8.36	7.92	6.99	8.03
Region III										
Bihar	5.70	10.32	6.92	10.20	5.35	10.20	5.71	10.21	5.68	10.27
Madhya Pradesh	4.37	7.59	4.40	7.65	4.22	7.63	5.05	7.64	5.00	7.78
Orissa	1.80	4.01	1.80	3.97	1.76	3.87	1.78	3.80	2.50	3.78
Rajastan	2.01	4.70	2.45	4.79	2.77	4.97	3.16	5.13	3.14	5.21
Uttar Pradesh	7.59	16.17	7.04	16.02	6.50	16.14	7.72	16.17	9.52	16.55

A. Share of 14 states in the total industrial gross output.
B. Share of 14 states in the total population.

Examining the value added by manufacturing sector, it is observed that the compound rate of growth of value added by manufacture was recorded at 11.09 per cent per annum during the study period. This can be seen from Table 6.35. There were ten states which recorded the rate of growth above the all-India average growth rate of 11.09 per annum. Punjab recorded the first position with 13.64 per cent per annum followed by Andhra Pradesh (13.45), Madhya Pradesh (13.29), Haryana (12.55), Uttar Pradesh (13.51) and Tamil Nadu (12.01) respectively. The lowest growth rate was recorded by West Bengal, 7.36 per cent per annum, followed by Maharashtra (10.14) Karnataka (10.28) and Orissa (10.88) respectively.

6.16 DECOMPOSITION OF THEIL'S INEQUALITY-VALUE ADDED BY MANUFACTURING SECTOR

The results of the decomposition of Theil's inequality regarding value added by manufacturing sector are given in Table 6.36. It can be observed that the total inequality has declined appreciably from 0.133 in 1970-71 to 0.093 in 1988-89, although recorded an increase to 0.121 in 1980-81, thereby implying a reduction in total inequality. As is clear from Table 6.37, the important

Table 6.35

Compound Rate of Growth of Value Added by Manufacturing Sector Among Major 14 States 1970 to 1989

States	1970-80	1981-89	1970-89
Andhra Pradesh	14.52	-2.39	13.45
Bihar	11.44	13.13	12.11
Gujarat	12.56	10.88	11.57
Haryana	13.64	8.55	12.55
Karnataka	11.03	9.49	10.28
Kerala	12.04	9.92	11.87
Madhya Pradesh	13.20	10.03	13.29
Maharashtra	10.58	10.02	10.14
Orissa	14.05	13.80	10.89
Punjab	16.62	1.92	13.68
Rajastan	16.06	8.77	12.16
Tamil Nadu	12.75	12.55	11.83
Uttar Pradesh	11.60	10.87	12.43
West Bengal	10.89	5.20	7.36
All India	11.79	10.06	11.09

Source: Calculated on the basis of data from Annual Survey of Industries (Various Issues).

Table 6.36

Decomposition of Theil's Inequality - Value Added by Manufacturing Sector

Year	Total inequality	Within inequality	Between inequality	As percentage to Total	
				Between inequality	Within inequality
1970-71	0.133390	0.020633	0.112757	84.53186	15.46813
1975-76	0.105452	0.008546	0.096905	91.89502	8.104978
1980-81	0.121279	0.007607	0.113671	93.72722	6.272779
1985-86	0.110952	0.002427	0.108525	97.81221	2.187781
1988-89	0.093622	0.005167	0.088454	94.48057	5.519422

contributor to the total inequality is the 'between-inequality', ie., the contribution of 'between inequality' increased from 84.53 per cent in 1970-71 to 94.48 per cent in 1988-89. Whereas 'within inequality' reduced from 15.46 per cent in 1970-71 to 5.52 per cent in 1988-89. These findings show that the fall in 'total inequality was at the expense of a fall in 'within inequality', and instead of falling the inequality between regions it increased appreciably. Thus the inequality between regions with respect to value added by manufacturing sector is not only existing but also accentuated over the year. It can be seen more evidently from Chart 6.7.

Table 6.37 explains the 'within inequality' in each region with respect to value added by manufacturing sector. It shows that the 'within inequality' in respect of regions I and II has reduced significantly over the years. The decline was more in region-I than that in region-II. But region-III registered a slight increase.

However, to arrive at a conclusion the position of each region with regard to share in value added vis-a-vis its population share is to be evaluated. This is given in Table 6.38.

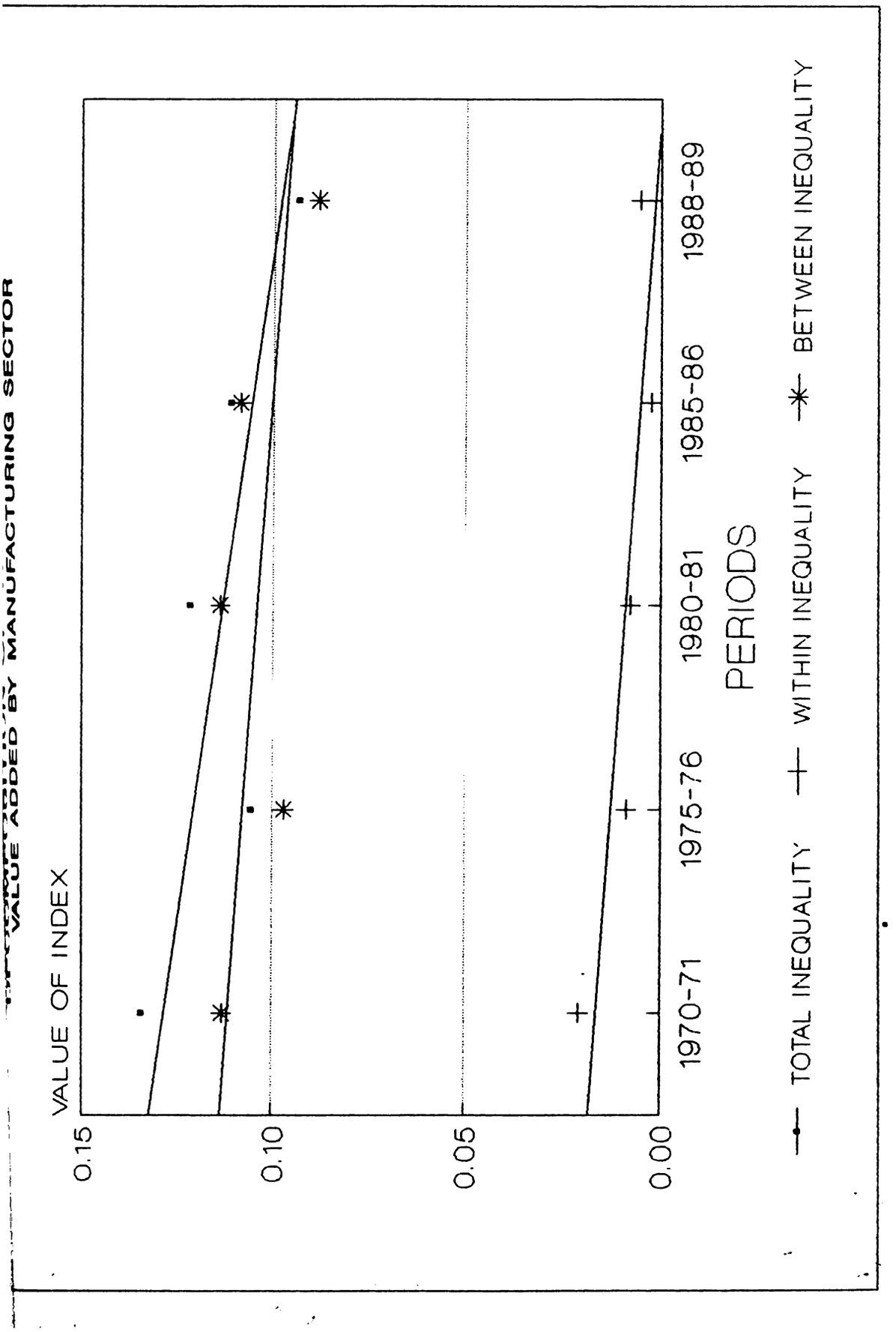

VALUE ADDED BY MANUFACTURING SECTOR
VALUE OF INDEX
0.15
0.10
0.05
0.00
1970-71
1975-76
1980-81
1985-86
1988-89
PERIODS
TOTAL INEQUALITY
WITHIN INEQUALITY
BETWEEN INEQUALITY

Table 6.37

Region-wise Within Inequalities - Value Added by Manufacturing Sector

Years	Region I	Region II	Region III
1970-71	0.69032	0.086967	-0.08967
1975-76	0.047829	0.067994	-0.13731
1980-81	0.033015	0.053049	-0.10590
1985-86	0.038960	0.038047	-0.14713
1988-89	0.027617	0.061382	-0.09923

Table 6.38

Region-wise Distribution of Value Added by

Manufacturing Sector and Population

Years	REGION 1		REGION 2		REGION 3	
	A	B	A	B	A	B
1970-71	42.03	18.35	37.50	32.80	20.48	42.79
1975-76	40.30	18.46	36.02	32.52	23.69	42.63
1980-81	42.52	18.49	36.62	32.06	20.87	42.81
1985-86	44.12	18.51	33.86	31.69	22.57	42.95
1988-89	41.36	18.64	31.31	31.62	27.32	43.59

A. Share of 14 states in the total value of value added by manufacturing sector.
B. Share of 14 states in the total population.

It can be observed from above table that the region-wise distribution of population over the period under study has remained more or less constant whereas the distribution of value added has undergone changes. The share of value added by region-I has remained almost stable, like its population share, over the years. Though the population share of region-II remained constant, by and large, yet its share in total value added fell heavily from 37.5 per cent in 1970-71 to 31.31 per cent in 1988-89. But this decline in the share of value added of region-II can be thought to have been absorbed by region-III as its share rose substantially from 20.48 per cent in 1970-71 to 27.32 per cent in 1988-89. But an important point which can be observed in Table 6.39 is that the share of region I in total value added is well above double of its population share, that of region-II is almost equivalent to its population share, and that of region-III is far below its population share. This clearly points out that the distribution of total value added is highly uneven among regions in India, and it does not bear any relationship with population size.

On examination of the state-wise share in the value added by manufacturing sector over the five time points, it can be seen from Table 6.39 that the

State-wise Distribution of Value Added by Manufacturing Sector and Population

	1970-71		1975-76		1980-81		1985-86		1988-89	
	A	B	A	B	A	B	A	B	A	B
Region I										
Gujarat	9.51	4.86	9.35	4.93	9.97	4.97	0.76	4.96	10.25	4.97
Haryana	2.30	1.83	2.47	1.86	3.03	1.89	3.10	1.94	3.04	1.94
Maharashtra	27.87	9.18	25.71	9.22	26.14	9.18	27.32	9.17	24.84	9.30
Punjab	2.35	2.48	2.77	2.45	3.38	2.45	3.94	2.44	3.23	2.43
Region II										
Andhra Pradesh	4.13	7.95	5.22	7.87	5.11	7.82	5.73	7.74	5.51	7.88
Karnataka	5.98	5.35	5.30	5.36	5.28	5.41	5.32	5.43	4.92	5.41
Kerala	2.98	3.90	2.65	3.85	3.42	3.74	3.07	3.67	2.87	3.54
Tamil Nadu	10.22	7.51	8.91	7.40	10.76	7.12	10.90	6.93	11.37	6.76
West Bengal	14.19	8.09	13.94	8.04	12.04	7.97	8.84	7.92	6.64	8.03
Region III										
Bihar	5.75	10.32	8.14	10.20	4.9	10.20	5.68	10.21	7.79	10.27
Madhya Pradesh	3.69	7.59	4.54	7.65	5.27	7.63	6.19	7.64	5.19	7.78
Orissa	1.97	4.01	1.66	3.97	1.73	3.87	1.53	3.80	2.67	3.78
Rajastan	2.19	4.70	2.55	4.79	2.92	4.97	2.88	5.13	2.67	5.21
Uttar Pradesh	6.88	16.17	6.80	16.02	6.56	16.14	6.29	16.17	9.00	16.55

A. Share of 14 states in the total value of value added by manufacturing sector.
B. Share of 14 states in the total population.

shares of states in region-II have either remained constant or declined, except for Andhra Pradesh. The share of states in region-III has increased substantially thereby implying a growth in industrial development. Considering the states in region-I, the shares of all states have remained more or less stable. The contribution of Gujarat and Maharashtra also ranges between 35 to 40 per cent in the total value added.

The foregoing analysis using Theil's inequality measure with respect to economic and industrial indicators point to the fact that, contrary to the expectation of a decrease on account of policy measures adopted, regional inequality has really aggravated over the years. In the case of all indicators the 'within inequality' as a component of 'total inequality' is negligible, and the share of 'between inequality' is so large that it may be compared to the 'total inequality'. Though 'total inequality' decreased in the case of some indicators, this decrease was, in most cases, at the expense of a fall in 'within inequality'. All these purport that the inequality between developed and less developed regions widened while that among a particular group decreased. This may be compared to the balance in the allocation of penury among

states in the less developed region, and the balance in the allocation of riches among states in the developed region. This again will be corroborated when one considers the shares of each region, in respect of each indicator, vis-a-vis its population share.

Chapter 7

CONCLUSION

Regional economic disparities are a global phenomenon. These economic disparities among different regions or nations of the world have been an object of considerable concern to many, particularly to those who are in power and to the scholars interested in regional economics.

A lot of attention had been focussed in the past few decades on the problem of development of regions-intra and international. Many studies have been conducted to measure or decipher the pattern of regional development in the process of growth of national economies. It is pointed out that, in the absence of deliberate policy measures or government interventions, regional disparities would increase, at least, in the initial stages of economic development. Government intervention to remove regional disparities is hence, perforce accepted as an essential concomitant of public policy in both developed and developing countries. In this context, the problem of regional imbalances is increasingly becoming a matter of greater concern to policy makers in most of the countries, especially in developing countries like India.

One of the important problems of Indian economic development is that regional economic imbalance is fast increasing. Some states are outgrowing in their capacities while some others are remaining poor and backward. More than four-fifth of India's population (80.7%) now live in states with per capita income below the national average.

The problem of regional disparities in economic development is, for India, upto a great extent, an inheritance from the colonial past. For example, in India, the historical factors have guided the development of the port towns of Bombay, Madras, Calcutta and these three cities have in turn worked as nuclei for the development of Maharashtra and Gujarat, and Tamil Nadu and West Bengal respectively which are at present the most industrially advanced states in India. On the other hand, the areas having natural advantages in the form of mineral resources, such as Bihar, Madhya Pradesh, Orissa and Rajastan have lagged far behind in the process of economic development.

Examining regional disparities in India with relevant theoretical background, the previous studies have obtained the following results. One of the major reasons

for regional disparities that may arise in the course of economic development is due to the uneven distribution of natural resources, employment and concentration of industrial activities in a few developed centres. Consequently, the regional disparities can be thought of a problem of industrial location. Since location theories are largely based on the assumption of perfect competition and free market economy, these are not active in a developing country like India. Moreover, these theories, especially the least cost theory, considered to be working in accordance with scale economy arising out of agglomeration advantages. Besides, as these theories are developed in the West, they are not fully aimed at serving our social needs of dispersal of industries and, thereby regionally balanced economic development.

Economic space and poles of development provide a dynamic explanation of the process of regional development. Though the development of pole theory has much attracted the attention of several developing countries, it was a failure in Indian context. It has the advantage of focussing attention on certain promising areas or industries, and consequently advocated that the trickling down effect would help to develop the hinderlands. But

evidence showed clearly that these trickling down effects were not effective in India as strong as they were in developed countries.

The same had happened in the case of industrial complexes also. One of the representatives of the Ministry of Industry, Government of India has analysed the reasons for this limited success and reported to the Estimates Committee of Parliament that "It is a fact that despite large central investment, the industrial development of some of the states had not taken place. It appears to be a fact that the type of industries which have been taken up in the central sector have necessarily been of the kind which did not have the forward and backward linkages, like steel or coal or some of the heavy fertilizers projects etc." It is seen that some of the backward area projects' locations have remained backward and the expectation about these projects have not come true. Some of the large projects have remained islands in the midst of large backward areas. This is what happened and witnessed in the states like Bihar, Madhya Pradesh, Orissa and Rajastan. This is partly because of inadequate advance planning for such industrial complexes, and partly lack of minimum infrastructure and non-availability of skilled labour force.

A number of studies have been conducted on the multifarious aspects of regional imbalances, using the economic and industrial indicators with the help of various statistical tools and methods by scholars. These studies have found that there is a marked degree of inter-regional and intra-regional imbalances among states, areas and districts over years. Some studies pointed out that, in the fifties and sixties the regional disparity was higher than that in the seventies. In other words, this means that imbalances in economic development among regions have declined on account of the policies and programmes implemented by Central Government as well as Planning Authorities.

On the eve of Independence, different states had not achieved the same level of development. The port town states like Maharashtra, Gujarat, Tamil Nadu and West Bengal were developed in many respects than other states of the country. These states were not only industrially developed but they also had most of the industries located in and around their port towns. In this context, removal of regional disparities is an idea which has been expressed in various policy resolutions and successive Five Year Plan

documents. However, the planned developmental effort started in 1951 failed to achieve any significant dispersal of economic activities from the developed to the comparatively less developed regions of the country.

Besides, the legacy of the Colonial Rule, our economic and developmental policies immediately after independence were responsible for the aggravation of the situation. Though our objectives in the first two plans were increased production and more equitable distribution, in fact, we were more interested in quick results, and as such the greatest emphasis was on completion of the projects already started and starting such projects which could be completed within a short period so that the prevailing stagnation in the country could be broken and a start could be initiated for rapid development. Development outlays were fixed according to the capacities of different states to spend and achieve physical targets. Naturally the developed states got more favourable treatment than others. The imbalances which were already there became deep-rooted during this period, and in spite of our attempts at correcting or preventing the growth of regional imbalances during the Third Plan, imbalances continued to grow, and perhaps will not be reversed.

The policy measures implemented by Central Government such as central sector investments, industrial location and investment policies, industrial licensing policies and urbanisation policies were also a failure in reducing regional imbalances. The intense democratic and political ferment and pressures for political cohesion characterise the institutional framework of economic development in India. Robock emphasized decades ago that any realistic discussion of regional and national development in India must recognize a wide range of complex political factors which have significant bearings on the decision regarding the regional allocation of investment in India.

Issue of industrial licences had largely ~~been~~ benefitted ~~by~~ the developed states. Nearly half of the industrial licences were issued in favour of the developed states whereas it was one-third and one-fifth of the total industrial licenses received by region-II and region-III respectively in 1970-71. The picture given in 1988-89 was very pathetic. The share of less developed states in the total industrial licences has reduced from 22.01 to 17.67 per cent. As such identification of backward areas and

incentives to projects in such areas, as recommended by the two Working Groups, also favoured the industrially developed states. It is interesting to note that the less developed states have very little backward areas, whereas in the developed states the number of backward districts and areas are high during the reference period. The less developed states registered a decline from 8 per cent in 1982-83 to 4.58 per cent in 1988-89 in the distribution of industrial licences issued to the backward areas.

Wanchoo Working Group pointed out that the distribution of funds by the various financial institutions had not served the cause of industrial dispersal in any appreciable manner. Sixty two per cent of their total credit had gone to the metropolitan cities. The Central Government grant/subsidy scheme favoured the developed states. These states (industrially developed states) which contained only about 35.4 per cent of the total population of India, obtained as high as 62 per cent of the total assistance. The most disturbing factor is that these industries and projects are largely located in the metropolitan areas instead of backward areas.

Urbanisation policy also was a failure during the reference period. The developed states had a two-third

population in urban areas, while only one-fifth of the total population of less developed states was in urban areas. In states like Orissa and Bihar the rates of urbanisation were below half of the all-India average. The cases of Uttar Pradesh, Rajastan, Madhya Pradesh and Kerala were not different although they were much better than those of Orissa and Bihar.

The application of Theil's inequality measure to economic and industrial indicators has given a conclusion which is different from those of previous studies. As regards the central sector investment among the major 14 states, the measure showed a decrease in total inequality. But this fall was contributed by an almost equal fall in inequality among states in a region while the inequality in this respect between regions remained constant. Besides, the relative position of share of central sector investment vis-a-vis population share explicitly favoured the developed region.

Regarding State Domestic Product among the 14 states, the Index clearly points out an increase in total inequality. The inequality between regions was widening

over years; at the same time the inequality among states within a region was negative.

With respect to power consumption, the measure showed that there is a strong inequality between regions whereas a weak and cyclical inequality among states within a region.

As regards the distribution of factories, the Index showed that there is a reduction in inequality between regions while the inequality among states within a region increased.

Regarding the distribution of employment, the measure pointed out that the inequality between regions has increased while the inequality among states within a region decreased considerably. When one looks into the relative position of share of population vis-a-vis employment share, one can observe that the distribution of employment was concentrating in developed region.

As regards the distribution of industrial gross output, the values of Theil's Index pointed to the fact

that there is a highly skewed distribution of industrial progress in India.

With respect to the distribution of value added by manufacturing sector, though there was a reduction in total inequality the imbalance among the regions are not only still existing but seemsto have accentuated further. The distribution of total value added is highly uneven among regions in India; and it does not bear any relationship with population size.

The conclusion that emerges from this study is that though all the measures implemented by the Central Government has been pertinent in stressing the need for balanced development, they have failed to bring succour to the poor states. All the major instruments of regional policies have failed to arrest or reverse the widening trend in regional disparities in India. They seem to be vying with each other to prove the Biblical saying, "To the rich shall be given; from the poor shall be taken away." Instead of guiding the market forces, these policies were being guided by the market forces. Instead of inducing development, they were only responding to the pressures from the already developed states.

If the attempts are not seriously made to reverse the direction of the central sector investment policies and decisions, it is likely to become a major political issue. Gadgil once observed that, "In a federal polity, you will find it difficult to say you will not give any central assistance. Therefore you have a large question here of adjustment of relations and attitudes between members of a federal polity". In fact, this comment is going to emerge as the touchstone of Indian federal polity. Federal set up cannot survive if the developed states take the attitude of "Am I my brother's keeper?" Nor it can survive for long if some of the poorest states feel that they are "internal colonies" and "strangers of the feast". A federal set up cannot withstand for long by sweeping the regional problem under the carpet as is being done today. The past policy of camouflaging the problem has failed as may be seen in the signs of conflicts between the have and the have-not states. The turmoil in the North-East, Assam, Punjab, cry for Telghana and Jharkhand states and of latest in Uttar Pradesh has its economic undertnes. All these go only to confirm May's observation that the threat to federal polity comes not only from its poorer units but also from its richest.

SUGGESTIONS

A glance at the economic profile of the major 14 states would show that inspite of the concrete efforts made for the development of industry and social services, some of the states like Bihar, Orissa, Madhya Pradesh, Rajastan and Uttar Pradesh are still lagging far behind even the national average in almost all the fronts, and much below the progressive states of the country. The degree of imbalance is higher in states like Bihar, Orissa, Madhya Pradesh and Rajastan when compared to developed states like Maharashtra, Gujarat, Punjab and Haryana. It goes to suggest that instead of macro-planning, area-based planning is required to strike a balance among regions.

In a developing economy, regional economic disparities tend to increase because of scarce investment being concentrated at a few focal points. There is no escape from such a strategy in order to get a maximum return out of limited means for increasing savings and investments in the subsequent periods. Any diffusion of investment at this stage would involve inefficiency and wastage which would retard economic growth. Once the initial phases of development are over, a spatial orientation is needed for investment allocation.

The policy of industrial location should be modified in the light of techno-economic changes that are taking place in the economy as a whole, and particularly in various sectors. Tendencies still persist for industries to be located near large cities. All these needs a new industrial location policy whereby large industrial estates are set up near small towns in backward areas. Besides, all initial facilities should be provided by the concerned state governments.

'Growth points' should be developed in backward regions. This will help attract skilled and efficient young population to such points from neighbouring villages. It will also help reduce construction cost, foster rural development, spread new ideas and knowledge of new production techniques and pattern of living. Growing points may also change the form of market towns in backward areas which may benefit the farmers.

There should be functional linkage between agriculture and industry, between large and small industrial units, and between rural and urban sectors which will enable the heavy central undertakings to produce the

expected spread effects, multiplier effects or leverage effects otherwise they would remain standing like palm trees that are incapable of providing shades to passers by.

A portion of public investment may flow to provide infrastructural facilities in backward areas so that they can attract entrepreneurs, and thereby create new employment opportunities and income streams for the poor. This will ultimately provide a good market for industrial and agricultural products.

An active infrastructure policy is needed for reducing inter-regional imbalances. This may comprise the creation of efficient planning and implementation system at state, district and local levels with considerable decentralised powers on the one hand and the devolution of much large investment from centre to state, state to districts and to blocks and local bodies.

There should be a separate development programme for each region based on region-wise techno-economic surveys. Because balanced regional development implies the optimum use of the potentialities of the area, such

regional development programmes will ensure the optimum utilisation of the resources available in the region.

The attitude of developed states as well as planners against the backward states as 'Trees can never grow as high as heaven' may be changed. Proper policy measures and co-operation from former to the latter are urgently needed.

If the nation is really interested in the removal of inter-state disparities, a strategy of regional development involving the identification of backward regions, the assessment of their growth potential, the formulation of plans to exploit fully the growth potential over a specified time period, and assessment of the fiscal capacity of the state have to be evolved.

The broad guidelines of development strategy outlined above will go a long way in reducing regional disparities in the pace of economic development in India.

The present study did not consider the question of how developed states managed to receive higher shares in the allocation of investment in central public enterprises over the years. Therefore further research is needed in this direction.

BIBLIOGRAPHY

BOOKS

Ahmed, E. and D.K.Singh, Regional Planning with Particular Reference to India, Vol.I, Oriental Publishers and Distributors, New Delhi, 1980.

Amin, S., Accumulation on a World Scale, Monthly Review Press, New York, 1976.

Amling, Frederick, Investments--An Introduction to Analysis and Management, quoted in Hirbert E.Dougall and Francis J.Corrigan.

August, Losch, The Economics of Location, Yale University Press, 1954.

Bagchi, Amiyakumar, Private Investment in India 1990-1939, Cambridge University Press, 1972.

Benjamin, H., Regional Development Planning, The State of the Art in North America, Nagoya, Japan, United Nations

Benjamin, H. and Donald, J. Savoie, Regional Economic Development, Unwin and Hyman Ltd., 1988.

Bhadouria, B.P.S., Disparities and Development Policy--A Regional Perspective, Anmol Publications, Delhi, 1986.

Bhagawati, J.N. and Padma Desai, India: Planning for Industrialisation, Oxford University Press, London, 1970.

Bhattacharya, S.N., Development of Industrially Backward Areas, Metropolitan, New Delhi, 1981.

Boudeville, J.R., Problems of Regional Economic Planning, Edingborough University Press, Edinborough, 1966.

Brown, A.J. and E.M. Burrows, Regional Economic Problems, George Allen and Unwin, Surrey, 1977.

Careless, A., Initiative and Response: The Adaptation of Canadian Federalism to Regional Economic Development, Mc-Gill Queens University Press, Montreal, 1977.

Dholakia, R.H., Regional Disparity in Economic Growth in India, Himalaya Publishing House, New Delhi, 1985.

Dougall, Herbert E. and Francis J.Corrigan, Investments, Prentice-Hall Inc, Englewood Cliffs, New Jersey, 1978.

Earl, Heady O., Research and Education for Regional and Area Development, Iowa State University Press, 1966.

Friedman, J., Regional Development Policy - A Case Study of Venizuela.

Friedman, J.R. and William Alonso, Regional Development Planning: A Reader, The MIT Press, Cambridge, 1964.

Ganguli, B.N. and D.B.Gupta, Levels of Living in India -- An Inter-State Profile, S.Chand and Company, New Delhi, 1976.

George, K.K., Centre State Financial Flows and Inter-State Disparities, Criterion Books, Delhi, 1988.

Gisburg, N.S., Area, Regions and Human Organisations, 21st International Geographical Congress, November 1968, Calcutta.

Godbole, M.D., Industrial Dispersal Policies, Himalaya Publishing House, Bombay, 1978.

Greenhut, Melwin L., Microeconomics and the Space Economy, Illinois, Scott-Foresman, Chicago, 1963.

Hanna, F.A., State Income Differential 1919-1954, Duke University Press, Durham, 1959.

Hanson, A.H., Public Enterprise and Economic Development, Routledge and Kegan, London, 1965.

Hirschman, A.O., The Strategy of Economic Development, Yale University Press, New Haven, 1959.

_____., A Generalised Linkage Approach to Development with Special Reference to Staples, University of Chicago Press, Chicago, 1976.

Isard, Walter and John H.Cumberland, Regional Economic Planning: Techniques of Analysis for Less Developed Areas, OECD, Paris, 1961.

Jalan, Bimal, The Indian Economy--Problems and Prospects, Viking, New Delhi, 1992.

John, Blunder, et. al., Regional Analysis and Development, Harper and Row, New York, 1973.

Joshi, B.M., Infra-Structure and Economic Development in India, Ashish Publishing House, New Delhi, 1990.

Kapila, Uma, Indian Economy Since Independence, Academic Foundation, Delhi, 1991.

Keeble, David., Reasons for Government Intervention, The Open University Regional Analysis and Development Course, Open University Press, Milton Keynes, U.K.

Kemp, Tom, Historical Pattern of Industrialisation, Longman Group Ltd., London, 1978.

Khan, Ziauddin and Kamesh K. Arora, Public Enterprises in India--A Study of the State Government Undertakings, Associated Publishing House, New Delhi, 1975.

Krishnamoorthy, V., Regional Development and Industrial Disparities in India, Chugh Publications, Allahabad, 1990.

Kuchal, S.C., The Industrial Economy of India, Chaithanya Publishing House, Allahabad, 1983.

Lakadawala, D.T., (Ed.) Development of Gujarat--Problems and Prospects, Sardar Patel Institute of Economics and Social Research, Ahmedabad, 1983.

Lefeber, Louis and Mrinal Dutta Chaudhari, Regional Development--Experience and Prospects in South and South East Asia, Manton and Co., Netherlands, 1971.

Lewis, W.A., Theory of Economic Growth, Allen and Unwin, London, 1956.

Mahajan, V.S., Indian Economy and Regional Development, Deep and Deep Publications, New Delhi, 1982.

Marx, K., Capital, 3 Vols., International Publishers, New York, 1967.

May, R.J., Federalism and Fiscal Adjustments, Clarendon Press, London, 1960.

Mishra, J. and Chakradhar Sinha, Regional Structure of Development and Growth in India, Vols.I&II, Ashish Publishing House, New Delhi, 1985.

Mishra, R.P., Regional Planning and National Development, Vikas Publishing House Pvt. Ltd., New Delhi, 1978.

Mishra, R.P., Local Level Planning and Development, Sterling Publishers Pvt. Ltd., 1983.

Myrdal, G., Economic Theory and Underdeveloped Regions, Duckworth and Company, London, 1957.

_____., The Challenge of World Poverty, Penguin Press, London, 1970.

Nag, D.S., Problems of Underdeveloped Economy, Laxmi Narain Agrawal, Agra, 1970.

Nair, K.R.G., Regional Disparities in India, Agricole Publishing Academy, New Delhi, 1981.

_____., Regional Experience in a Developing Economy, Wiley Eastern, 1982.

Nevin, E., Regional Economic Policy, Macmillan, London, 1972.

Nurkse, R., Problems of Capital Formation in Under-developed Countries, Oxford University Press, New York.

Panders, David, Regional Economic Development and Policy--Theory and Practice in the European Community, George Unwin & Allen, London, 1978.

Patnaik, S.C., Economics of Regional Development and Planning in Third World Countries, Associated Publishing House, New Delhi, 1981.

Perloff, H.S., Regions, Resources and Economic Growth, Resources for the Future, John Hopkins University Press, Baltimore, 1960.

Pratap, Rana, Growth and Regional Pattern of Industrial Complexes, Concept Publishing Company, New Delhi, 1985.

Raj, A.B.C., Public Enterprises Investment Decision in India--A Managerial Analysis, the Macmillan Co. of India, New Delhi, 1977.

Rao, Hemalata, Regional Disparities and Development in India, Ashish Publishing House, New Delhi, 1984.

Richardson, H., Regional Growth Theory, Macmillan, London, 1973.

Robinson, E.A.G. and Micheal Kidron, Economic Development in South Asia, Macmillan, London, 1970.

Rothermund, Dietmar and Suranjit K.Saha, Regional Disparities in India: Rural and Industrial Dimensions, Manohar Publications, New Delhi, 1990.

Sharma, R.L., The Role of Government in Industrial Development, Pointer Publishers, Jaipur, 1989.

Singh, K.R.P., State and Industrialisation of Developing Countries, Sterling Publishers, New Delhi, 1969.

Singh, Veena, Regional Disparities in Agricultural Development, Deep and Deep Publications, New Delhi, 1990.

Sinha, R.K., Regional Imbalances and Fiscal Equalisation, South Asian Publishers Pvt. Ltd., New Delhi, 1984.

Sreekantaradhya, B.S., Regional Dispersal of Industries and Industrial Development, Deep and Deep Publications, New Delhi, 1985.

Srinivasamurthy, A.P., Investment Allocation in Indian Planning, Himalaya Publishing Agency, Bombay, 1931.

Srivastava, O.S., Regional Economics Theoretical Issues, Anmol Publications, New Delhi, 1992.

Stillwell, F.I.B., Regional Economic Policy, Macmillan, London, 1972.

Tewari, R.T., Changing Patterns of Development in India, Ashish Publishing House, New Delhi, 1984.

Tewari, R.T. and A.Joshi, Development and Change in India, Ashish Publishing House, New Delhi, 1988.

Theil, H., Economics and Information Theory, North-Holland Publishing Company, Amsterdam, 1967.

Venkataraman, K., Case Studies in Industrial Administration, Committee on Case Studies, The Indian Institute of Public Administration, New Delhi, 1973.

Vakil, C.N. and V.S.Mohan Rao, Industrial Development of India--Policy and Problems, Orient Longman Ltd., New Delhi, 1973.

Webber, Alfred, Theory of the Location of Industries, The University of Chicago Press, Chicago, 1929.

ARTICLES

Alonso, W., "Urban and Regional Imbalances", Economic Development and Cultural Change, Vol.17, No.1, 1968.

Banerjee, Debdas, "Industrial Stagnation in Eastern India--A Statistical Investigation", Economic and Political Weekly, Bombay, February 20, 1982.

Bhagawati, Jagadish, N., "International and Regional Development" in E.A.G.Robinson and Michael Ridron (ed.), Economic Development in South Asia, Macmillan, London, 1970.

Bharadwaj, Krishna, "Regional Differentiation in India--A Note", Economic and Political Weekly, Annual No., April, 1982.

Booth, E.J.R., "Inter-Regional Income Differences", Southern Economic Journal, Vol.31, No.1, 1964.

Borts, G.H., "Review of Richardson's Growth Theory", Journal of Economic Literature, Vol.XII, 1974.

Bos, H.C., "The Spatial Dispersion of Activity and Employment", International Journal of Development Planning Literature, Vol.I, No.2, April-June, 1986.

Centre for Monitoring Indian Economy, Vol.I (All India) and Vol.II (All States).

Dadibhavi, R.V., "An Analysis of Inter-Taluka Disparity and Backwardness in Karnataka State 1975-76", Indian Journal of Regional Science, No.2, Vol.XIV, 1982.

Deman, Suresh, "A Review of Regional Development Theories", International Journal of Development Planning Literature, Vol.2, No.1, Jan. 1987.

Dev, Mahendra, S., "Growth and Instability in Foodgrains Production--An Inter-State Analysis", Economic and Political Weekly, Sept. 26, 1957.

Editorial, "Financial Burdens", Kerala Calling, Vol.8, No.6, April 1988.

Friedman, John, R., "Focus on Public Policy" in Earl O.Heady (ed.), Research and Education for Regional and Area Development, Iowa State University Press, 1966.

George, K.K. and I.S.Gulati, "Central Inroad into State Subject--An Analysis of Ecoservice", Economic and Political Weekly, April 6, 1985.

Gopal, M.H., "Region--As a Development Concept", The Indian Economic Journal, Vol.XIX, No.1 July-Sept. 1971.

Goryacheva, A., "Industrial Complexes in India", Oriental Studies in USSR (No.4), USSR Academy of Sciences, Moscow, 1981.

Government of India, "National Urbanisation Policy: An Approach", Indian Journal of Labour Economics, No.7, 1974.

Hermansen, T., "Development Poles and Development Centres in National and Regional Development", in A.Kuklinski (ed.), Growth Poles and Growth Centres in Regional Planning, Mouton and Company, The Hague, 1973.

Higgins, Benjamin, "Taxation and Trade-off Curves", The Economic Times, Annual No., Bombay, 1974.

Hughes, R.B., "Inter-Regional Income Differences, Self-Perpetuation", Southern Economic Journal, Vol.28, No.1, 1961.

Izard, Walter, "Distance Inputs and the Space Economy: The Locational Equilibrium of the Firm", Quarterly Journal of Economics, No.65, 1951.

Izard, Walter, "Regional Science - The Concept of Region and Regional Structure", Papers and Proceedings of Regional Science Association, Vol.11, 1956.

Kamarek, Andrew M., "Capital and Investment in Developing Countries", Finance and Development, No.2, 1971.

Koropeckyj, I.S., "Equalisation of Regional Development in Socialist Countries", Economic Development and Cultural Change, Vol.21, No.1, 1972.

Kundu, Amitab and Moonis Raza, "Indian Economy: The Regional Dimension", 1982.

Kuznets, Simon, "Quantitative Aspects of the Economic Growth of Nations: VIII - Distribution of Income by Size", Economic Development and Cultural Change, Vol.6, July, 1958.

Lefeber, L., "Regional Allocation of Resources in India", in John R.Friedman and William Alonso (eds.), Regional Development Planning: A Reader, The MIT Press, Cambridge, 1964.

Madhavi, Majumdar, "Regional Income Disparities, Regional Income Change and Federal Policy in India: 1950-51 to 1967-68, An Empirical Evaluation", Occasional Paper, No.7, Dept. of Economics, University of Dundee, August 1977.

Majumdar Grace and J.L.Kapoor, "Behaviour of Income Inequalities in India", Journal of Income and Wealth, Calcutta, Jan. 1980.

Mathur, O.M.P., "National Policy for Backward Area Development--A Structural Analysis", Indian Journal of Regional Science, 6, 1974.

Nair, K.R.G., "Inter-state Income Disparities in India", Indian Journal of Regional Science, Vol.3, 1971.

_____., "Inter-state Income Differences in India: 1970-71 to 1979-80", Man and Development, Vol.5, 1983.

Nath, V., "Regional Development in Indian Planning", Economic and Political Weekly, Annual Number, January 1970.

Nijkamp, P., "Regional Development and Infrastructure", International Journal of Development Planning Literature.

Paradesi, Ghanashyam, "Internal Colony in a National Exploitative System", Economic and Political Weekly, Bombay, July 7, 1980.

Perroux, Frances, "Economic Space: Theory and Application", Quarterly Journal of Economics, Vol.64, No.1, 1950.

Rajkrishna, "The Centre and the Periphery: Inter-state Disparities in Economic Development", Social Action, Jan-Mar. 1982.

Rao, Hemalata, "Identification of Backward Regions and Trends in Regional Disparities in India", Artha Vijnana, Vol.10, 1977.

_____., "Inter-state Disparities in India", Giri Institute of Development Studies, Lucknow, March, 1983.

Rao, K.V. and P.Sundaran., "Regional Imbalances in India: Some Policy Issues and Problems", Indian Journal of Regional Science, No.1, Vol.2, 1979.

Rao, S.A., "A Note on Measuring Economic Distances between Regions in India", Economic and Political Weekly, August 1973.

Reddy, K.N., "Inter-state Tax Effort", Economic and Political Weekly, Vol.X, Dec. 13, 1975.

Richardson, H.W., "Empirical Aspects of Regional Growth in the United States", Annals of Regional Science, July 1974.

Sampath, R.K., "Inter-State Inequalities in Income in India, 1951-71", Indian Journal of Regional Science, No.1, Vol.IX, 1977.

Shimokabe, Atshushi., "Concept and Methodology of Regional Development", Developing Economies, Aug. 1970.

Shourie, Arun, "The Troubles in Punjab", Indian Express, Cochin, May 14, 1982.

Singer, Hans, "The Distribution of Gains Between Investing and Borrowing Countries", American Economic Review, Papers and Proceedings, May 1950.

Thavaraj, M.J.K., "Regional Imbalances and Public Investment in India (1880-1947)", Social Scientist, Trivandrum, Nov. 1972.

Williamson, J.G., "Regional Inequality and the Process of National Development, A Description of the Patterns", Economic Development and Cultural Change, Vol.XIII, July 1965.

GOVERNMENT AND OTHER PUBLICATIONS

Agrawal, et al., India--Economic Information Year Book (Various Issues), National, New Delhi.

Annual Survey of Industries--Various Issues.

Bureau of Public Enterprises, Public Enterprise Survey--Various Issues, Ministry of Industry, Government of India, New Delhi.

Census of India Office, Census Reports of 1961 (Paper 1A(i)), 1971 and 1981, Government of India, New Delhi.

Central Electricity Authority, Ministry of Energy, Government of India.

Centre for Monitoring Indian Economy, Vol.II, Bombay, September, 1980.

Chandok, H.G. and Policy Group, India Data Base--The Economy, Vol.I., L.M.Books, New Delhi, 1990.

Confederation of Engineering Industry, The Power Scenario.

Department of Industrial Development, Handbook of Industrial Statistics--1991, Ministry of Industry, Government of India, New Delhi.

_____., Report of the Industrial Development--July 1969, Ministry of Industry, Government of India, New Delhi.

_____., Report of the Industrial Licensing Policy Enquiry Committee, Main Report, Government of India, New Delhi, July 1969.

Development Commissioner (SSI), Fiscal and Financial Incentives for Starting Industries, Government of India, New Delhi, 1969.

Finance Commission, Report of the Sixth Finance Commission, Government of India, New Delhi, 1973.

Government of India, Currency and Finance--Various Issues.

_____., Annual Report on the Working of Industrial and Commercial Undertakings of Central Government--1972-73.

Hari, R.K., Industrial Planning and Licensing Policy, Report to Planning Commission, Government of India, New Delhi, 1967.

Ministry of Industry, Report of the Industrial Licensing Committee, Government of India, New Delhi, 1969.

National Council of Applied Economic Research (NCAER), Estimates of State Income, New Delhi, 1967.

Planning Commission, Draft, First Five Year Plan, Government of India, New Delhi, 1951.

_____., Draft, Second Five Year Plan, Government of India, New Delhi 1956.

Planning Commission, Draft, Third Five Year Plan, Government of India, New Delhi, 1961.

_____., Draft, Fourth Five Year Plan, Government of India, New Delhi.

_____., Draft, Fifth Five Year Plan, Government of India, New Delhi.

_____., Draft, Sixth Five Year Plan, Government of India, New Delhi.

_____., Draft, Seventh Five Year Plan, Government of India, New Delhi.

_____., Evaluation Report on Concessional Finance and Other Incentives in Backward Areas, Government of India, New Delhi.

_____., Economic Development in Different Regions in India, Government of India, New Delhi, 1962.

_____., Mid-term Appraisal of the Fourth Five Year Plan, Government of India, New Delhi, 1971.

Planning Commission, Report of Wanchoo Working Group on Block Development Planning, Government of India, New Delhi.

_____., Report of the Working Group on the Identification of Backward Areas, Government of India, New Delhi, 1969.

_____., Summery of Seventh Five Year Plan, Government of India, New Delhi, December, 1984.

United Nations Industrial Development Organisation (UNIDO), Industrial Development, No.8, New York.

* * *