

Chapter Eight

SUMMARY AND CONCLUSIONS

In this concluding Chapter, we have summarised the main findings of the present study and suggested some related areas for further research.

I. Main Findings of the Study :

The important findings of the present study are briefly stated below. These findings have already been derived and discussed in Chapter 3, 6 and 7 above.

Thus, to recapitulate, the main findings of the present study are :-

1. The State income inequality in India has declined marginally in monetary terms over the decade 1960-61 to 1970-71. However, the same has increased considerably in real terms over the decade. Price-movements in different States during the sixties had significant counter-balancing effects.
2. In Andhra Pradesh, Bihar and West Bengal, the growth of total production in all the three sectors, viz., the

primary, secondary and tertiary sectors, was found to be less than the corresponding average of all the fifteen States taken together. On the other hand, in Haryana, Karnataka and Orissa, the growth of total production in all the three sectors was found to be above the corresponding average.

3. The growth of population is not significantly correlated either with the growth of total production or with the growth of per capita income in India during sixties. Similarly, the growth of other socio-demographic indicators of development like degree of urbanization, literacy rate and age-composition, was also not found to be significantly correlated either with the growth of total production or with the growth of per capita income in India over the decade.
4. The data on Indian States do not support either of the hypotheses that higher the initial level of development, higher the growth of the economy; or that higher the initial level of development, lower the growth of the economy.
5. The contribution of each one of the three sectors in the observed growth of total product on an average turns out

to be almost equal. However, the experience of different State economies differ widely in this respect.

6. Gujarat is the only State with on the whole favourable sectoral growth and favourable structure of the economy in terms of total product in the base year; while Andhra Pradesh, Bihar, Madhya Pradesh, and Uttar Pradesh are the State with on the whole unfavourable sectoral growth and unfavourable structure of the economy.*¹ Thus, these four States are genuinely starving of economic growth and development.
7. A significant portion of the observed interstate variations in the productivity per worker in the economy as a whole is explained by the interstate variations in the productivity per worker in the primary sector in the base year.
8. The extent of State inequality is found to be greater in the case of product per worker than in the case of capital stock per worker in the base year. Similarly, State inequality in capital stock per person is less than that in product per person in the base year. Moreover, State inequality in capital

*¹ It is important to note that the use of 'favourable' and 'unfavourable' has no normative or welfare implications.

stock per person has declined significantly over the decade which implies that during the decade, the economically backward States were not neglected in terms of investment. However, in view of increasing State income inequality one may deduce that the returns to capital in the economically backward States have substantially fallen during the decade.

9. In the base year 1960-61, data on State economies in India show that (i) capital intensity and labour productivity are significantly correlated; (ii) capital intensity and capital productivity are not significantly correlated except in the primary sector; and (iii) capital productivity and labour productivity are not at all significantly correlated.
10. The secondary sector plays an important part in explaining the interstate variations in the level of per capita income in the base year. Variations in the capital intensity and labour productivity for the economy as a whole are the two major factors which individually explain a significant proportion of the observed variations in the State per capita income in the base year 1960-61.

11. Labour productivity in general, and capital intensity and capital productivity in particular, play a very significant role in the observed interstate income differentials in the base year. Overall worker rate and the industrial structure of the working force contribute only marginally to the observed interstate income differentials in the base year in India. Bihar is the only State in India where all the important factors turn out to be unfavourable, judging from the point of view of the average of the fifteen States.
12. There are no substantial interstate variations in the industrial structure of the working force, while there are marked interstate variations in the sectoral capital intensity in India in the base year. Moreover, the interstate variations in the worker rate and capital intensity have proved to be favourable from the point of view of equity in State income; whereas interstate variations in the industrial structure, capital productivity, and labour productivity turn out to be unfavourable from the point of view of equity in State income in the base year 1960-61.
13. Changes in the overall worker rate over the decade have

proved to be a retarding factor in the growth of per capita real income in each of the fifteen major States of India; and changes in capital intensity (and hence in labour productivity) have turned out to be a significantly positive influence on the growth of per capita real income in each of the fifteen States. In fact, we can say that the per capita real income increased in different State economies, except Rajasthan, only because of the changes which took place in the capital intensity over the last decade.

14. Broadly speaking, four types of different growth patterns were observed in the Indian States during 1960-61 to 1970-71. (a) Haryana, Karnataka, and Rajasthan had favourable changes in all the factors except worker rate; (b) Gujarat and Maharashtra had favourable changes in all factors except worker rate and capital productivity; (c) Andhra Pradesh, Orissa, and Punjab had favourable changes in all factors except worker rate and industrial structure; and (d) Assam, Bihar, Kerala, Madhya Pradesh, Tamil Nadu, Uttar Pradesh, and West Bengal had unfavourable changes in all the factors except capital intensity and labour productivity.

15. Interstate variations in the growth of capital productivity plays the most important part in explaining the interstate variations in the growth of per capita income in India during 1960-61 to 1970-71. It is the primary sector, and not the secondary sector, which appears to be more important in explaining the interstate variations in the economic growth in India. Growth of capital intensity and growth of per capita income are not significantly correlated. The level and growth of only overall labour productivity are highly correlated with the level and growth of per capita income respectively. Otherwise, the set of factors important in explaining the interstate variations in the level of per capita income is totally different from the set of factors important in explaining the growth of per capita income among different States in India.
16. Growth of labour productivity and growth of capital productivity are significantly correlated, whereas the growth of labour productivity and the growth of capital intensity are negatively but not significantly correlated. The growth of capital productivity and the growth of capital intensity are negatively and significantly correlated.

17. The growth of total product and the growth of working force are significantly correlated, while the growth of total product and growth of capital stock are not at all correlated. The maximum explanation provided by the growth of labour and capital does not significantly exceed 50% of the observed variations in the growth of total product ^{during} the sixties. This implies that the 'residual' factors or technological factors play a statistically significant role in explaining the observed regional or interstate variations in the growth of total product in India.
18. Growth of worker rate and industrial structure play relatively less important part in most of the States in explaining the observed deviation of the actual growth of the State economy from the average growth of fifteen State economies taken together. Except Andhra Pradesh, Bihar, Gujarat, and Tamil Nadu, the growth of capital productivity turns out to be more dominant as compared to the growth of capital intensity in explaining the deviation between the actual growth of the State economy and the average growth.

19. Karnataka and Haryana have experienced a favourable growth of every factor under consideration as compared to the corresponding average; while West Bengal experienced an unfavourable growth of every factor as compared to the corresponding average.
20. No systematic hypothesis about the favourability or otherwise of the level and the favourability of the growth of any of the five factors considered in the present study can be proposed on the basis of the Indian experience during the sixties. This may be the result of deliberate policy of the Government.
21. Except worker rate, the observed growth in each of the factors under consideration over the last decade is unfavourable from the point of view of equity in State income, the least unfavourable factor being the growth of capital intensity, and the most unfavourable factors being the growth of capital productivity and changes in the industrial structure.
22. Interstate variations in the growth of capital productivity and changes in the industrial structure are unfavourable from the point of view of equity in State income; whereas interstate variations in the growth of

worker rate, capital intensity and labour productivity are favourable from the point of view of equity in State income. The interstate variations in the growth of capital intensity is most favourable, and interstate variations in the growth of capital productivity is most unfavourable from the point of view of equity in State income in India.

II. Areas for Further Research :

It needs to be emphasized while concluding the present study, that it is largely experimental. It is only the first step, with all the implications, in a direction which has a lot of potentialities for further research. The greatest handicap in the process, as we have seen and faced in the preceding pages of the work, is the dearth of adequate data at the State level. A bold attempt is made in the present work to overcome this difficulty by generating our own estimates of the necessary aggregates, which we feel are fairly comparable and consistent. However, these estimates, it is clearly recognised, are not perfect - they probably cannot be. It is always possible to find faults with these estimates and prepare another set of estimates, based on more

detailed work, which can again be challenged and replaced by some other set of estimates and so on. Unless the estimates ('comparable and consistent') are given by some official agency and unless the data bear a stamp of being official, it is always possible to quarrel with the specific set of estimates prepared by an individual or an institution. Even for the official estimates, "a cynic was heard to remark that the only species of statistics coming out of an underdeveloped country that he is prepared to take on trust are data on variations in foreign exchange reserves and those on movements in urban prices. Beyond these two, he asserted, we are in a world of make-believe, and the rest of the statistics are weighted averages of your guess, my guess and our neighbour's guess. This may be unkind, but is largely true".^{*2}

This is not to deny the importance of further research work, purely at the level of generating comparable and consistent set of data. But everybody working under one or the other constraints, has to draw a dividing line or decide about the trade-off between the sophistication of the procedures to be adopted for deriving the estimates and the nature of findings and conclusions of the study. Since the present study does not aim at very precise and exact nature of the findings,

*2 Ashok Mitra: "Underdeveloped Statistics", in Economic Development and Cultural Change, Vol.11, No.3, Part I, April 1963.

but rather aims only at broad conclusions with more emphasis on the direction than on the extent, some less detailed procedures for the purpose of estimation of various aggregates are followed than might possibly be followed with more resources and longer time. At this stage, it is worth-while to note, as Fuch points out, that "economists are very far from a complete understanding of differences in growth rates among nations, and interregional differences within a nation are also difficult to explain conclusively."^{*3}

Some related but largely unexplored areas for further research in important regional aspects of Indian economy, suggested by the present study, could include the following specific problems :

1. A detailed study of the sectoral price-movements over a period of time and across States in India is a field with great potentialities for further research. In a developed country, the interregional differences in price-levels and price-movements may not be so important

^{*3} V.R. Fuchs: "The Determinants of the Redistribution of Manufacturing in the United States since 1929", in Review of Economic and Statistics, Vol.64, No.2, May, 1962.

as in underdeveloped countries.*⁴ Such a study in India would certainly have a very high degree of interest and utility.

2. The urban-rural dimension of the economic inequality has also largely remained a neglected field of research in India. Differences in the level and movements of prices in urban-rural areas also is an interesting and important field for a detailed inquiry.*⁵
3. Just as estimates of capital stock in different State economies in India at two points of time are prepared in the present study, one can probably make an attempt to construct the estimates of the income shares in different State economies at two or more points of time. Even preparing an estimate of the average wage-rate in different State economies would have great utility. Once a reasonably reliable set of comparable and consistent data on the wages and property income is available, much

*⁴ Cf. J.G. Williamson: "Regional Inequality and the Process of National Development: A Description of the Patterns", in Economic Development and Cultural Change, Vol.13, No.4, Part II July 1965; and A. Hurwitz and C.P. Stallings: "Interregional Differentials in per Capita Real Income Change", in NBER: Regional Income, Studies in Income and Wealth, Vol.21, 1957.

*⁵ For some interesting hypotheses on the subject, see S.Kuznets: "Quantitative Aspects of Economic Growth of Nations-II. Industrial Distribution of National Product and Labour Force", in Economic Development and Cultural Change, Supplement to Vol.V, July 1957; and N.Koffsky: "Farm and Urban Purchasing Power", in NBER: Studies in Income and Wealth, Vol.13, 1949.

light can be thrown on the process of economic growth and the interregional factor-movements.*6

4. Interstate migration of population and workers in India is again a field which is comparatively less explored. The causes and effects of such migration of people from one State to another is an interesting field for research from the practical viewpoint. Whether such migration adds or reduces the tensions of interstate income and growth inequalities,*7 is a matter which has not received the attention of the research scholars that it deserves.
5. Subject to further availability of data, one can always take the help of input-output framework and the programming techniques of analysis.*8 Work on constructing exhaustive regional input-output tables can prove to be quite fruitful.

*6 For further details see, G.H.Borts: "The Equalization of Returns and Regional Economic Growth", in American Economic Review, June 1960; and N.Kaldor: "The Case for Regional Policies," in Scottish Journal of Political Economy, Nov.1970.

*7 Cf. B.Okun and R.W. Richardson: "Regional Income Inequality and Internal Population Migration", in Economic Development and Cultural Change, Vol.9, No.2, Jan.1961.

*8 Cf. V. Isard and others: Methods of Regional Analysis: An Introduction to Regional Science, (MIT Press, 1972).

6. The regional unit can always be reduced to a district rather than a State for the purposes of such studies. The higher the level of disaggregation for such studies, the greater the value of such studies from the point of view of policy-making.

The list of the areas for further research presented above is certainly not exhaustive. It is merely an attempt to throw some light on the hitherto neglected fields of study. There are no differences of opinion that the data requirements of the above problems are far in excess of the data availability at present. But it is a question of initiating the effort, however rudimentary it may be, with the hope that refinements will take place in future, which, in turn, will add significantly to our existing knowledge. Evidently, the same consideration reflects the rationale and spirit of the present study.