



Impact of Various Development Expenditure Categories on the National Per Capita Income - An Empirical Evaluation of Experience in Indian Economy During 1990-91 To 2004-05

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ABSTRACT

This paper attempts to examine that how per capita income is a function of various disaggregated development expenditure schemes over a period of time. Cross-sectional relationship is expected between year-wise per capita income and various year-wise development expenditure schemes in India, for the study period 1990-91 to 2004-05. The relation between cross-sectional disaggregated development expenditure schemes and year-wise number of per capita income in India is estimated by a multivariate regression model analysis. It could identify those factors which determine per capita income in the study. Cross-sectional analysis of data from showed significant relationship between year-wise number of per capita income and disaggregated development expenditure schemes in terms of Agriculture and Allied Activities, Rural Development, Irrigation and Flood Control, Energy, Industries and Minerals, Transport, Education, Health Including Medical, and Others Services included together jointly in the model, have positive effect in determination of per capita income in the Indian economy.

Keywords : Per Capita Income, Public expenditure, Development Expenditure Categories

1. INTRODUCTION

Public Expenditure has become very popular in modern times. It is like an electric power without which an Engine of Economic Development cannot run speedily to achieve faster economic growth and development. Public expenditure is an important instrument of economic development and also of the administrative capacity of the Government. There has been lively debate among economic thinkers and writers in India as well as World as a whole about the direct relationship between volume of public expenditure and level of economic development. In India till recently public finance studies were confined only to studies of budgets. But now study of public expenditure behaviour and its impact and contribution to the economic development has become more prevalent. Public expenditure of India has grown up mainly on the British pattern. The British model is apparent in such things as the selection of the financial year from April to March, the form of the budget and the system of its presentation, in the methods of control of expenditure and in the strong central position of the Ministry of Finance. Government budgeting/expenditure took its roots in this country, from where it spread to all other countries. Naturally, Indian financial administration /public expenditure are a direct off-shoot of the British model. Soon after the attainment of independence on the 15th of August 1947, although a new chapter began in the history of Indian public Finance, the system of the British model and the colonial stage of development such as the power and prestige of red tapism, the existence of a strong Central Government, etc are still visible in the sphere of fiscal atmosphere of the Indian government. Therefore, Indian public Finance / expenditure is a direct outcome of the British fiscal model.

Planning Commission Government of India (1951-56) envisaged that Indian economy generally suffers from the problem of inequalities income and wealth distribution that warrants immediate remedy. Growth with justice demands that fruits of economic development should be evenly distributed. Greater production and better distribution have been rightly accepted as the main objectives of planning in India. The Indian Constitution (1959), envisage that there should be establishment of egalitarian society, a true democratic society in real sense. where all have equal opportunities, equal rights, equal status, equal income and there must not be concentration of economic power in few hands.

Until recently in India, the specialists in the field of public finance were confined to the study of effects of budgeting trends, and the development of normative theories focusing at explaining how the behaviors of revenue and expenditure are determined. But the irony of fate is that there has been a general tendency among the economists to think and write only on the problems of All-India scaling and ignore the importance of the study of regional development. It is true that Macro studies (All-India) are essential but it is more true to study the economic changes of the country on Micro level so as to remove the problem of regional disparities in the economy. Therefore, there is need of the present paper to examine contribution of public expenditure in economic development of India during the years of 1990 to 2004.

2. THEORETICAL FOUNDATION

Public Expenditure determines the welfare and standard of living of the people. Higher Government Expenditure increases public utilities. There is no uniform theory of public expenditure effects. Different Economists have different feelings about study of public expenditure. We have discussed some major theories of public expenditure as follows.

The mercantilists gave an important idea on fiscal principles which were that people should "be taxed according to the benefits they received from the state. Since the state had to protect the nation, the expenditure required for the same was only to come from taxation.

The classical approach to the subject of public expenditure was based on the assumption that government is merely an agent for the people and has to spend the people's money directly and sparingly. This approach was based on assumption of non-interference by the Government and therefore there was no need for theory of public expenditure.

Wagner's Law (1883) and the Keynesian Theory (1936) present two opposite perceptions in terms of the relationship between public expenditure and growth in community output. While according to Wagner's approach causality runs from growth in community output to public expenditure. The Keynesian approach assumes that increase in public expenditure leads to growth in community output in times of recessions.

Nurkse (1953) "states that public expenditure assumes a new significance in the face of the problem of capital formation in under-developed countries". Therefore in this context, public expenditure holds the same position in the discussion of public finance as planning holds in the study of economic development.

Thus, the principal role of public expenditure in the economic development of underdeveloped economies is to expand productive capacity by raising the level of real capital as compared to its role in developed countries, where it has to expand both productive capacity as well as the level of monetary demand. It implies that in expanding productive capacity of contributing to the growth of investment, fiscal dynamics in underdeveloped countries has to keep the demand-generating effect of growing investment in control. Thus, modern theory of public expenditure makes it clear that no economy can go ahead in the race of economic development, without accepting the importance of the role of public expenditure in the economy.

In conclusion, one may say that there is only one principle of public expenditure, which states that the State should incur its expenditure in such a manner as to achieve maximum benefit for the whole economy. The phenomenon of public expenditure growth has been subject for researchers to find out what causes expansion of public expenditure

3. OBJECTIVES OF THE STUDY

The main objective of this paper is to empirically evaluate the relationship of national per capita income among various development expenditure schemes / categories in India during the period of our study associated with infrastructural development such as, increase in energy and rural development, increase in the level of education and also improving in the health of the people and various development expenditure schemes towards development of agricultural sector, industrial sector and service sector in the Indian economy.

4. HYPOTHESES OF THE STUDY

The present paper aims at examining empirical relationship of various development expenditure and economic development/ per capita income of which may have the following important hypotheses:

- (1) Development expenditure has promoted the growth of marginal and average rate of savings and investment in the economy by raising per capita income of the people of India and mobilized the public resources for investment.
- (2) Development Expenditure has determined a reasonable measure of economic stability and the maximum rate of growth of the per capita income.
- (3) Development Expenditure has promoted development of Agriculture, Industry and Service sectors', infrastructure, transportation energy/ electrification, irrigation, flood control, banking and insurance which have raised per capita income in India.
- (4) Development Expenditure has increased the level of education, health, and rural development which leads to economic development or per capita income in India.

5. METHODOLOGY OF ANALYSIS

In this paper, empirical analysis is undertaken with a view to establish cross-sectional relationship between per capita income and various development expenditure schemes in India for the study year 1990-91 to 2004-05. This has been carried out with the help of year-wise secondary data.

For this purpose, the statistical regression models analysis have been adopted. This paper has been designed so as to examine the hypotheses as mentioned earlier in this study.

Here, statistical regression is employed as a tool for the analysis of relationship between the variables which we are predominantly concerned with. The dependent variables in this model is the year-wise total number of Per Capita Income (PCI) (in Rs. Crores) over fourteen years in India. On the oth-

er hand, the independent variables are the year-wise number.

In this study, we have estimated a Multivariate Model and fitted double natural logarithmic (log) equations for disaggregated development expenditure schemes / categories below with the corresponding statistical values of students t-statistics, R², F-value, D-W Statistics and the regression coefficients.

6. SOURCES OF DATA

The sources of data are exclusively built on secondary survey. The required statistical information (secondary data) would be collected from various sources, and has been used for analysis purpose, and those are from the following sources:

- (1) Reserve Bank of India (RBI), Annual Reports.
 - (2) Economic and Financial statistics Review (Reserve Bank of India)
 - (3) Indian Economic Survey (Fiscal and Real Sector), the Ministry of Finance, "Government of India" New Delhi.
- And also data collected from other reliable sources.

7. REVIEW OF LITERATURE

Many studies have been carried out in India and abroad which are of greater significance. Among a few significant studies on public expenditure and economic development, mention may be of following works:

Shantayanan, Vinaya, and Heng-fu Zou (1996) focused on the link between the level of public expenditure and growth, and derive conditions under which a change in the composition of expenditure leads to a higher steady-state growth rate of the economy. The conditions depend not just on the physical productivity of the different components of public expenditure but also on the initial shares that shows that an increase in the share of current expenditure has positive and statistically significant growth effects.

Lekha S Chakraborty(2001) examines the impact of public expenditure on human development across selected developed and developing countries. Using fixed effects model of pooled least squares for the early 1990s, the analysis of the link between per capita public expenditure on health and education and Human Development Index (HDI) revealed that there is a positive functional relationship between the variables. The panel estimates showed the public spending on education and health has a stronger impact on human development than the growth of per capita income.

Rangarajan(2006) concluded We need, to stress simultaneously economic development in the conventional sense of accelerating growth rate and social development in the sense of securing for everyone the basic needs. The two have a mutually interacting beneficial impact and the two must be pursued together. These are the two legs on which the country must walk. Any strategy of development, which ignores any one of the two legs, will only make the country limp along. To achieve higher levels of human development in our country, we need a three pronged approach comprising of higher economic growth, a higher proportion of expenditure, particularly public expenditure on social sectors, and efficient utilization of the funds allocated. Growth and equity should not be posed as opposing considerations. They must be weaved together to produce a coherent pattern of growth. Therein lays the challenge of development.

Deepa Ravat and Chauhan (2007) are of the view that the expansion of secondary and higher education should not be brought about at the cost of reduction in expenditure on primary education. Rather the allocation for secondary and higher education should be filled up by involving the private sector with proper safeguards. The private sector in education should not be allowed to function purely on profit making motives. Hence a highly empowered regulatory framework is required to monitor the working of the private sector in education.

Though this is not an exhaustive survey of the literature that has gone into this area, we feel that it does provide analytical framework for enabling us to undertake the present study.

8 RESULTS AND DISCUSSION

By fitting the double natural logarithmic (Log) relationship as mentioned earlier in this paper to the cross-sectional data (14 x 9) matrix expenditure of disaggregated development schemes / categories for the study years 1990-91 to 2004-05 and having taken these schemes / categories as independent variables and year-wise total number of per capita income as dependent variable, we have obtained the following results.

MULTIVARIATE MODEL

$$\text{Model II : Log PCI} = -0.5639 + 0.0149 \log \text{AGRAAEXP} - 0.1299 \log \text{RDEXP} \\ (-1.3899) \quad (0.7388) \quad (-2.4760)^*$$

$$+ 0.0398 \log \text{IRFCEXP} + 0.1271 \text{ENEXP} + 0.0942 \log \text{INDMEXP} \\ (3.1231) \quad (2.1471)^* \quad (5.1601)^*$$

$$- 0.0365 \log \text{TRANSEXP} - 0.0835 \log \text{EDEXP} + 0.0047 \log \\ \text{HIMEXP} + 0.2513 \log \text{OSEXP} \\ (-0.4803) \quad (-1.5051) \quad (0.4803)^* \quad (4.1580)^*$$

$$R^2 = 0.999 \quad R^2 = 0.998 \quad F(1,9) = 564.942 \quad D-W = 2.527$$

*Significance at 5% level of significance

In the above multivariate regression result, it is evident that among independent variables, year-wise Industries and Minerals Expenditure (INDMEXP), Others Services Expenditure (OSEXP), Irrigation and Flood Control Expenditure (IRFC-EXP), and Energy Expenditure (ENEXP) coefficients are statistically significant and have positive influence over the determination of Per Capita Income (PCI) year-wise in India during the study years of 1989-90 to 2004-05. While the other variable namely year wise Rural Development Expenditure (RDEXP) is significant with negative influence on the determination of Per Capita Income (PCI). Whereas, Transport Expenditure (TRANSEXP), and Education Expenditure (EDEXP) coefficients have negative sign and insignificant. Agriculture and Allied Activities Expenditure (AGRAAEXP), and, Health Including Medical Expenditure (HIMEXP) are insignificant with positive impact on Per Capita Income. The high values of R² and F-test suggest significant effect of the independent variables taken together. The R² value shows that the seven factors included together jointly accounts to

99 % rate on the determination of Per Capita Income in India. D-W statistics is moderate and it indicates absence of auto-correlation among residuals. And the insignificant of some of these variables, year wise indicates the existence of multi-collectivity among the independent variables. This analysis reveals that when more independent variables are included together in the regression model they have a meaningful relationship in the determination of year wise rate of Per Capita Income in India. This result also supports our earlier hypotheses in this paper.

9 CONCLUDING REMARKS

Our Multivariate Model depicts that when more independent variables are included together jointly in the regression analysis, Others Services Expenditure, Energy Expenditure, Transport Expenditure, Health Including Medical Expenditure, Rural Development Expenditure Industries and Minerals Expenditure and Education Expenditure have meaningful relationship and influence in determining the rate of Per Capita Income year-wise in economic development of India. This analysis supports our hypotheses as stated in the paper. And it is also true that the rate of Per Capita Income is related to various development expenditures in India.

In this paper, the empirical analysis already undertaken reveals that various development expenditures have increased per capita income. In the present study, we have already examined empirically the relationship of Per Capita Income among various development expenditure schemes of India. Therefore, in further research, heuristic model could be developed to determine and establish a simultaneous causal relationship of existing and future Per Capita Income associated with various development expenditure patterns over time. The model will attempt to solve the two hypotheses simultaneously as stated in the paper that Per Capita Income in a given country is function of various development expenditure schemes / patterns (Wagner's Law of Economic Growth to growth Public expenditure) and reciprocal proposition that various development expenditure schemes / patterns is function of economic development (Per Capita Income) is also true (Keynes Model of expansion of public expenditure to economic growth). This would be worked out and developed with realistic assumption. Hence, the ability of the model to address practical concern to future economic development should also be considered.

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