Chapter - I: Introduction

1.1   Determinants of Economic Growth

Economic growth means the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP. Of more importance is the growth of the ratio of GDP to population (GDP per capita). The ratio of GDP to population gives an indication of the level of general welfare due to economic activity (if we ignore the inequalities among the population). NDP is calculated by deducting capital depreciation from GDP. In recent years, NDP has become a more relevant measure for tracking the potential output and prospects for non-inflationary growth.

India is a large country and different states of the Country have different levels of economic development due to historical and geographical reasons and the rates of economic growth of different states are also different. The problem is to find out ways and means for accelerated economic growth of different states of the country within the limited means available at the disposal of the Government.

Achieving high economic growth is one of the main objectives of economic policy makers. There have been numerous prescriptions for achievement of this objective. The Classical Growth theory of Adam Smith (1776) which was later modified by David Ricardo (1817) proposed that an "invisible hand" guides the individuals in society, acting in their own self-interest, in their economic endeavors, to create the greatest good for the greatest number of people, and generate economic growth. Subsequently, John Stuart Mill (1848) improved upon this theory. Later Karl Marx (1867) gave his theory wherein "the people" (that is, the workers) own the means of production and thus have no need to exploit labor for profit.

John Maynard Keynes (1936) gave his theory about people's propensity to spend or to save their additional money as their incomes rise, and the role of government in a capitalist economy. Other economic growth models include the Harrod-Domar Model (1939, 1946), the Solow-Swan Growth Model (1956), Salter Cycle and Endogenous Growth theories of 1990s.

Amongst these theories was The Big Push theory (1943) given by Paul Rosenstein-Rodan. The Big Push theory suggested that large investments in infrastructure and education coupled with private investments would move the economy to a more productive stage through a virtuous circle. Further contributions were made later on by Murphy, Shleifer and Robert W. Vishny in 1989.

1.2 Objectives

While most of the theories are based on capital accumulation, the Big Push theory highlighted the importance of infrastructure in economic growth. It is proposed to study the correlation of Per Capita Net State Domestic Product of different states with the level of physical infrastructure available in the states such as Electricity generation, Telecom density, Road Density and Railway Route Length density. It is also proposed to study the correlation of Per Capita Net State Domestic Product of different states with the social welfare infrastructure such as Schools and Hospitals/ Hospital Beds available in the state.

1.3 Rationale

The study of the correlation of the growth of output of a state's economy vis a vis the physical and social welfare infrastructure available in the state would be helpful in showing the way forward for accelerated economic growth of the States which are presently lagging behind the rest of country. The study of correlation of Per Capita Net State Domestic Product of states with the level of infrastructure available in the state will help in formulation of strategies for maximizing the general welfare. The study will indicate the relative contribution of different forms of infrastructure in the economic

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growth. This will also indicate the most optimum allocation of scarce resources for different infrastructure sectors.

1.4 Statement of the Problem

The problem is to identify the determinants of growth of output of a state's economy in the form of physical and social welfare infrastructure. Further the dependence of output of different sectors of an economy such as agriculture, industry and services on infrastructure is also sought to be studied.

1.5 Research Questions

1. Whether the Per Capita Net State Domestic Product of states is dependent on the level of economic infrastructure such as Electricity generation/ consumption, Telecom density, Road Density and Railway Route Length density of the state?

2. Whether the Per Capita Net State Domestic Product of states is dependent on the level of social welfare infrastructure such as Schools and Hospitals/ Hospital Beds available in the state?

3. Whether the growth of output of different sectors of a state's economy such as agriculture, industry and services is dependent on the level of economic infrastructure such as Electricity generation/ consumption, Telecom density, Road Density and Railway Route Length density of the state?

4. Whether the growth of output of different sectors of a state's economy such as agriculture, industry and services is dependent on social welfare infrastructure such as Schools and Hospitals available in the state?

1.6 Scope/ Limitations/ Delimitations

Primarily, the study is based on statistical analysis of data published by various Government Departments and agencies from time to time and the relevance of the outcome of the study is dependent upon the accuracy of data. The scope of this study is limited to and limited by the data for Gross

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State Domestic Product, Net State Domestic Product and the per capita GSDP and per capita NSDP of states as well as the data on level of infrastructure available in the state available for analysis.

Many researchers have pointed out the problem of non-availability of data for sufficiently long time in respect of all parameters to be studied. Although data is available from certain private websites and sources, the authenticity of such data is always suspect. The data series regarding Per Capita Net State Domestic Product for different states for different years is available but the contribution of various sectors to Gross State Domestic Product is not available in Per Capita terms. The same had to be calculated by using the population figures of states. The population figures are available for census years only. Therefore, the calculation of contribution of various sectors to Per Capita Gross State Domestic Product has to be calculated on the basis of assumption of uniform population growth rate.

Some of the states in the country are very large and there are regional differences within different regions of these states also. However, for the purpose of this study, the states have been assumed to be having uniform growth rates and infrastructural distribution.

1.7 Literature Review

Relationship between infrastructure and economic growth has been subject of many studies in the past. The subject has come into focus once again because of the numerous econometric studies wherein the aggregate production function is studied with infrastructure as an input. Different researchers have used different parameters to denote infrastructure. While the researchers are almost unanimous about strong linkage of infrastructure and economic growth, there are different views about relative importance of different types of infrastructure.

The relationship between infrastructure and economic growth has been studied using various methods like production function, cross country

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regressions, cost functions, and growth accounting. The dependent variable was usually taken in terms of output, productivity, poverty or regional inequality. Two types of independent variables were used, either in terms of some measure of public capital or in the form of some physical indicators.

The available literature on the subject shows that there is a broad consensus amongst researchers that there is linkage between infrastructure and economic growth. However, the existing studies have tried to study the effect of infrastructure on the output as measured in terms of GDP as a whole. There are no significant studies on the linkage between specific types of infrastructure with specific sectors of economy, such as dependence of contribution of services sector to State GDP on the telecom infrastructure available in the State. Moreover, some of the researchers have focused solely on GDP as the main yardstick of economic growth, while some others have based their empirical studies on Net Domestic Product (NDP) or Per Capita Net State Domestic Product. In the current study, linkage of various components of infrastructure with both the Per Capita Net State Domestic Product as well as on contribution of various sectors to Per Capita Gross State Domestic Product has been studied.

1.8   Methodology

The study is based on statistical analysis of data published by various Government Departments and agencies from time to time. The first step was to collect and collate the data from different sources. The websites of various ministries and departments, annual economic survey and data maintained by the Planning Commission were the main sources of data regarding available infrastructure and Gross State Domestic Products. The websites of infrastructure sector regulators/ agencies such as TRAI and NHAI also display data pertaining to the sector. The first and foremost requirement was to have state-wise segregated data of different types of infrastructure. For a meaningful comparison, the data has to pertain to

same period for all the states. Therefore, data had to be appropriately tabulated to meet this criterion.

1.9 Chapterisation Scheme

The dissertation has been divided into the following chapters: -

I.   Introduction
II.   Literature Review
III. Indian States – differences in Development, Growth and Infrastructure
IV.   Analysis
V.   Conclusion and Recommendations
      Appendix – Data Tables