CHAPTER 1
INTRODUCTION

Manufacturing industries with their sophisticated techniques and high level of productivity were seen to be a source of both swiftly rising living standards and national prestige in the developed countries (Myrdal 1968). The manufacturing sector can be considered as one of the most important sectors of the Indian economy, both in terms of its expansion and its contribution to income generation, employment creation and foreign exchange earnings. In the context of the prevailing theory of modern economic development, industry is considered as an “engine of development” and is expected to take on a major role in mitigating disparities among different regions (Kaldor 1967). Besides, the manufacturing industry with the limited infrastructural requirement promises a much more rapid growth in productivity and capital accommodation. The hope of the future development clearly lies in the performance of the manufacturing sector as agricultural sector is no longer in position to give a healthy boost to the economy. It is only the manufacturing sector, which has the potential to provide growth and absorb the unemployed and underemployed population. Under such circumstances, it is important to analyse the growth of the manufacturing sector and its pattern of growth to determine the future course of action for the development of the state. It is a proven fact in the economic literature that in due course of time of development; the economy undergoes different structural changes. Economic theory states that the sequence of development order of any economic structure is dominated by agriculture sector in the initial phase of its growth and gradually when the growth accelerates, the manufacturing and service sector pitch in with a greater share (Kuznet1966).

The functioning of the Indian industrial sector has undergone noticeable changes since independence and there have been diversifications of industrial structure along with variations in growth rate. Industrial growth, for the development of the nation, has become a matter of serious concern for the planers and policy shapers. The share of the secondary sector, in total state gross domestic products of India, was 24.70 percent (39.70% in primary sector) in 1980-81 which increased to
38.20 percent (32.20% in primary sector) in 1990-91, later on, it declined to 30.80 percent (23.90% in primary sector) in 2000-01, and further plummeted to 27.50 percent (16.20% in primary sector) in 2008-09 (MOSPI). The low-income elasticity of demand for agriculture products tends to shift this pattern of production in favor of manufacturing of having a high-income elasticity of demand (Fisher 1939). Food, clothing and wood products give way to chemical and metal products and modern manufacturing, which provide the necessary momentum to the growth of the secondary sector. The developed countries have shown a definite pattern of diversification by product structure, from primary processing to the manufacturing of consumer durables and then to the manufacturing of capital goods or from light industries to heavy industries. Produces such as lettuce, vegetable oils, cotton fabric, jute, iron and steel smelting rolling and re-rolling and general engineering were dominant in India during the earlier phases. These manufacturing industries have cornered almost 87.3 percent share of total value added as well as 85.6 percent share in employment (Bhagwati and Desai 1970).

The process of globalization, which resulted in deregulation of the domestic economy, influenced the Indian economy in the last two and half decades. Indian economy was deregulated from the clutches of public interference through the policy of liberalization, privatization and globalization. The deregulation polices are therefore a major contributor to the process of globalization in India because these reforms facilitated the Indian economy progressively to get fused with the world economy. The liberalization resulted in deregulation of the economy and has brought radical transformation in the manufacturing sector of India and contributed to the gross domestic product, employment, capital investment and export.

Due to deregulation policies of the Center, the industries earlier strengthened in a protected and subsidized environment have been suddenly opened to face multinational companies. The era of deregulation associated with globalization, liberalization and privatization has made the Indian companies to develop core competencies in terms of technologies and managing the dynamism and the opportunities that come by over the years. The mode of globalization was expedited in India through deregulation policy mechanism and this was done with the conviction
that globalization or deregulation would help to witnesses’ higher economic growth and would generate employment opportunities by catering labour-intensive growth. The favorable effects of the integration of the domestic economy to world economy probably did take place in the form of increased economic growth, but it has materialized with a lag and was limited to some specific sectors of the economy (www.ihindia.org). As a matter of fact, the manufacturing sector growth rate jumped from 5.3 percent in 2000-01 to 9.8 percent during 2007-08 due to impact of deregulation policies. The manufactured exports as a percentage of GDP have increased from 2.5 percent in 1983-84 to 9.1 percent in 2006-07(Kiran and Kaur 2008).

In context of this background, the history of economic growth of Himachal Pradesh reveals that the State has witnessed 1.6 percent average growth rate during the period of 1951-56 (First Five Year Plan period). Hereafter, the State attained about 3 to 4.6 percent growth rate from the Second Five-Year Plan (1956-61) onwards and up to Fifth Five-Year Plan period (1974-78) respectively. The State economy has recorded a negative growth rate of - 3.6 percent of the two annual plans of 1978-79 and 1979-80, which was followed by a mild recovery during the Sixth Plan period (1980-85). The State economy witnessed all time high growth rate of 8.8 percent during Seventh Plan period (1985-90). The Eighth Five-Year Plan period (1992-97) has brought growth rate of 6.3 percent and which was followed an Annual Plan (1997-98) where it has recorded 6.4 percent growth rate. The state economy registered a growth rate of 6.4 percent during the Ninth Five-Year Plan (1997-2002) and of 7.7 percent during the Tenth Plan period. As a matter of fact the first two Annual Plans 2007-08 and 2008-09 of Eleventh Five-Year Plan (2007-12) has recorded a growth rate of 8.6 percent and 7.7 percent regardless of the recession of the world economy (www.hpplanning.nic.in).

After having the full-fledged Statehood on 25 April 1971, the State made intense efforts in infrastructural development of the industries and industrial belts were set up at Parwanoo, Baddi, Barotiwala, Bilaspur, Shamshi, Nagrota Bagwan, Mehatpur and Chambaghat. In Himachal Pradesh, the economic growth is mostly contributed by the agriculture and allied occupation and Industrialization is a
comparatively recent phenomenon. The process of Industrialization in the State was mainly held back by the harsh climatic conditions, topographical and geographical challenges. In such a sequence of the events, the advantages in the form of inducement and subsidies as well as the development of convenient infrastructure resources become the main gear to captivate the industrial investment in the State. Although the process of industrialization in the State has not been able to gather momentum as compared to the bordering states, e.g. Punjab, Haryana, U.P, and Uttrakhand, yet with enhancement of the economic overhead cost, the state has been able to lessen the location and geographical challenges to an ample degree. The industrial sector in the state has come up with varied industries as rural and traditional handlooms and handicrafts, cottage, micro and small scale industrial units as well as the high-tech textile, telecommunication equipments, sophisticated electronic units, pharmaceuticals, engineering, high-quality precision tools, food processing industries (www.himachal.nic.in).

In the past few years, the State of Himachal Pradesh has made a tremendous progression in the setting of the industries on sizeable scale. The State Government has provided full assistance and advantages to the entrepreneurs in acknowledgement to the swiftly changing economic environment and has also given prime concern to industrial development in the State. At present, celebrated business houses have invested in varied of projects of the agro-processing units, engineering, pharmaceuticals, textiles, information technology and electronic goods. The sole prominence of the State Government is also laid on providing peaceful and pro-business atmosphere, transparent and easily accessible administration, decent power at reasonable tariff, well developed infrastructure such as roads, inland container depot, proposed supply of piped natural gas and compressed natural gas for industrial, domestic, commercial and transport sectors, creation of trade centre, common effluent treatment plant etc. This will definitely give a boost to industrialization in the state. The performance of the sectors such as handlooms, handicrafts, sericulture, mining and geology, store purchase and other labour intensive areas have been of tremendous effects because of the development of these sectors, the benefits of industrialization will also spread to the rural population of the State (www.himachal.nic.in).
However, the deregulation policy process initiated after the year 1991, has supplemented the required forces to embellish the competition, productivity and efficiency. Productivity can be taken as association in-between real output and inputs as well as measures the efficiency with which inputs are revamped into output in the production process. Increased productivity is characterized as more output to be produced with either the same amount of inputs, or with less input, or with little increment in inputs and it can be associated with an enhancement in factor productivity and capital intensity. Empirical evidence has shown that productivity, in turn, reduces unit cost; increase product quality and worker’s wages and offers handsome returns on investment. Productivity is the prime determinant of a country’s level of competitiveness, a higher standard of living and sustained growth in the long run.

As per the official reports, there was a steady growth in industrial set up in the state during the year 2011-12, where about 856 small and medium enterprises were registered on a regular mode with an investment of Rs. 619.09 crores assisting the employment to 7732 individuals. Besides, 16 units were issued a Certificate of Commencement of Production (COP) having an investment of Rs 1879.29 crores and serving employment to 2981 persons under the Medium and Large Scale Sector. In addition, 487 Medium and Large Scale units have also been registered having an investment of Rs. 10797.84 crores employing about 58804 persons (Annual Administration Report of H.P 2011-12).

The contribution of the percentage share of the organized manufacturing sector of India, in manufacturing gross state domestic products was 58.58 percent in the year 1980-81, which increased to 65.51 percent during 1990-91, but slightly declined to 61.29 percent in 2000-01 and steadily increased up to 68.61 percent during the year 2008-09 (Papola 2011). Besides, the contribution of the organized manufacturing sector of Himachal Pradesh, in the manufacturing gross state domestic products, was 46.54 percent in the year 1980-81, which increased to 73.09 percent during 1990-91 and has further increased to 79.71 percent in 2000-01 and later on steadily augmenting up to 80.49 percent during the year 2008-09 (Papola 2011). The organized manufacturing sector of Himachal Pradesh contributed less than two
percent share of output and employment each, but has contributed slightly higher 4.5 percent share of fixed capital to the organized manufacturing sector of India during the year 2012-13.

The percentage share of the manufacturing sector, in total gross state domestic product of Himachal Pradesh, has increased from 3.01 percent (13.80% at all India level) to 7.32 percent (16.60%) in between 1980-81 to 1990-91 and further increased to 15.02 percent(17.20%) during 2000-01, but has declined up to 13.64 percent (17.00%) in the year 2008-09 (Papola et al. 2011). The primary sector contributed 71.01 percent share in the State Domestic Products in 1950-51, which declined to 21.34 percent in the year 2008-09. The corresponding figure for the secondary sector has increased from the level of 9.5 percent in the year 1950-51 to 42.11 percent in the year 2008-09. The tertiary sector showed a steep rise from 19.49 percent in the year 1950-51 to 27.41 percent during the year 1970-71, which rose to 36.19 percent during the year 2008-09 (National Account Statistic various years). Since then it has slightly shifted either to primary or secondary sector. This structural shift from Primary to Secondary and Tertiary Sectors is a healthy sign of a growing economy.

The organized manufacturing sector of Himachal Pradesh has realized 38.3 percent per annum growth rate of output and 15.5 percent growth rate of the total person employed during the pre-reform period (1980-81 to 1990-91). The organized manufacturing sector has achieved 16.48 percent growth rate in output and 6.95 percent growth rate of employment during the first decade of the reform period (1991-92 to 2000-01). Nevertheless, the growth rate of output has increased to 23.27 percent and 17.1 percent in terms of employment during the second decade of reform period (2001-02 to 2012-13). As far as the structure of the manufacturing sector is concerned, the basic goods (58.5%), capital goods (27.3%), intermediate goods (34.6%), consumer durable goods (54.9%) and consumer non-durable goods (30.9%) industries respectively have witnessed high output growth rate per annum in the pre-reform period. However, the growth rate of output has decelerated for all use-based industries, during the first decade of the reform period. Nevertheless, the growth rate of output has accelerated for the basic goods (23.39%), intermediate goods (23.60%)
and consumer durable goods (31.64%) industries, but has declined in the capital goods (22.40%) and consumer non-durable goods (16.98%) industries during the second decade of the reform period.

**Objectives of the study**

The study is based on the following objectives:

1. To examine the composition of the organized manufacturing sector of Himachal Pradesh and the changes occurring during the pre-reform period and during the deregulation period (1991-92 to 2012-13).
2. To analyse the trend growth rate of output and inputs of the organized manufacturing sector of the state during the pre-reform period and during the deregulation period (1991-92 to 2012-13).
3. To analyse the trend growth rates of capital productivity, labour productivity and capital intensity in the organized manufacturing sector during the pre reform period and during the deregulation period.
4. To examine the total factor productivity growth of the organized manufacturing sector of Himachal Pradesh during the pre-reform period and during the deregulation period.
5. To explore the determinants of the employment and productivity in the organized manufacturing sector and selected industries during the pre-reform period and during the deregulation period.

**Scope of the Study:**

The present study is confined to the organized manufacturing sector of Himachal Pradesh. Out of the organized manufacturing sector, twelve industries are chosen for the study. These industries are food and food products, beverages, textile, chemical and chemical products, rubber and plastic products, non-metallic mineral products, basic metal and metal products, fabricated metal and metal products, machine and machine tools, electrical machinery and apparatus, medical and optical instruments and furniture and other manufacturing not elsewhere classified (n.e.c). industries. These industries as a group have 86.8 percent share in output and 82.4 percent share in employment in 2012-13, whereas during 1980-81 these shares were 99.8
percent in output and 98.4 percent of employment. Besides this, the organized manufacturing sector has also been assessed with reference to use-based classification of industrial goods, e.g. basic goods, capital goods, intermediate goods, consumer durable goods and consumer non-durable goods industries.

**Data Sources:**

A major source of data for the present study is the Annual Survey of Industries (ASI), which is conducted under the collection of statistics Act 1953 and collection of statistics (Central) rule 1959. It covers all the factories registered under the Indian Factory Act, 1948 and relates to the two separate sectors: Factory Sector and Census Sector. Census Sector includes where 50 or more workers with power and 100 or more worker without power, remaining are covered by ‘Non-Census’ or ‘Sample Sector’. Factory Sector includes census sector and sample sector, i.e. 10 or more persons with power or 20 or more persons without power. The various issues of an Annual Survey of Industries are used to get detailed information of selected variables of present study such as the number of units, number of employees, value of output, gross value added, employment, capital assets, emoluments and wages. This information is available at national and state level. The state level information has been used to generate the manufacturing data at two and three digit level group. To convert the nominal value of output and gross value added to real values, the yearly current value has been deflated by the Wholesale Price Index (WPI). The sector specific Wholesale Price Index (WPI) has been employed in the corresponding manufacturing industries. The Wholesale Price Index for transport and machinery has been used to deflate the nominal value of fixed capital. Consumer Price Index (CPI) has been used to deflate the emoluments and wages. The wholesale Price Index has 2011-12 as the base year, whereas for Consumer Price Index the base year is 2010-11.

**Period of the Study**

The present study spread over the period from 1980-81 to 2012-13 as the period coincides with the pre-liberalization phase in the eighties and a comprehensive liberalization program introduced in 1990-91. In view of this, along with making the combined analysis for the entire study period, it has been divided into the pre-reform period (1980-81 to 1990-91) and post-reform period (1991-92 to 2012-13) to capture
the impact of deregulation of the economy. For a better assessment of the deregulation regime, the post-reform period is itself demarcated as the first decade of the reform period (1991-92 to 2000-01) and second decade of the reform period (2001-02 to 2012-13).

Variables Defined

The value of output: is the aggregate market value of products manufactured for sale, work done for customers and sale value of goods sold in the same condition as purchased and adjusts for the difference in stocks of semi-finished goods at the beginning and the end of the survey year.

Labour (L), the alternative measures of labour input often used are:

(1) Man-hour worked
(2) Man-days worked
(3) Workers
(4) Employees, etc.

Number of workers: are defined to include all persons employed directly or through any agency, whether for wages or not and engaged in any manufacturing process or in cleaning any part of the machinery or premises used for manufacturing process or in any other kind of work incidental to or connected with the manufacturing process or the subject of the manufacturing process.

Number of employees: include all persons receiving wages and holding clerical or supervisory or managerial positions engaged in the administrative office, store keeping section and welfare section, sales department as also those engaged in purchase of raw materials etc. or purchase of fixed assets for the factory as well as watch and ward staff.

Total person employed: include the employees as defined above and all working proprietors and their family members who are actively engaged in the work of the factory even without any pay, and the unpaid members of the co-operative societies who worked in or for the factory in any direct and productive capacity.

As obviously, the size of man-hour worked as also that of man-days worked will vary accordingly to the definitions. The choice, therefore, would ultimately lie
between the workers and employees. Total person employed is taken as the measurement of employment. As both workers, working proprietors and supervisory/managerial staff can affect productivity. Besides, the number of workers and number of employees are also taken separately for better assessment of their role in the manufacturing sector of the state.

Gross value added: The nominal value of gross value added is calculated by adding the depreciation value to net value added as provided by ASI.

Emoluments: The total emoluments primarily constitute wages to workers, provident fund and other benefits and so on. To estimate the real emoluments the nominal value as provided by the Annual Survey of Industries (ASI) has been converted into real value through the use of relevant price deflators.

Factories: The total number of units (enterprises) in organized manufacturing sectors as reported by the ASI is taken as the number of factories units.

Capital Stock (K): In the absence of a universally applicable methodology, the estimation of capital stock often poses a problem in this type of studies. We have here followed a version of the perpetual inventory accumulation method. This method is based on estimating the capital stock in a particular year by accumulating the additions made to the capital stock in each of the previous years and adding this sum of current year’s additions to capital. It has the following steps:

(a) The initial (base) year’s capital stock has been obtained by doubling the fixed capital figures as provided in the Annual Survey of Industries. This is denoted by $K_0$.

(b) For each year, the addition to gross capital stock has been computed by subtracting the fixed capital of the preceding year from the fixed capital of the current year. Each year depreciation allowance has been added to it to arrive at an estimate of net addition to capital stock. Thus,

Net addition to capital stock in year $t - 1_i$

\[
= \frac{FC_i - FC_{i-1} + D}{WPI_{FC_i}} \times 100
\]
Where \( FC_t \) = Fixed capital in year \( t \)

\( FC_{t-1} \) = Fixed capital in year \( t-1 \)

\( D_t \) = Depreciation in year \( t \)

\( WPIC_t \) = Wholesale Price index of capital and machinery in year \( t \) with base 2011-12 = 100.

For year \( t \), the estimate of capital stock \( (K) \) is obtained by using the following equation.

\[ K_t = K_0 + (l_t - 0.02 K_{t-1}) \]

The data on all the relevant variables are provided by the ASI at current prices and these have been converted into constant prices of 2011-12 =100 by using appropriate price Deflators in order to obtain the real values of these variables.

**Methodology:**

The present study has been carried out for the assessment of the performance of the organized manufacturing sector of Himachal Pradesh at three digit level. For this purpose, twelve manufacturing industries are taken out of the organized manufacturing sector of the state. Besides, the organized manufacturing sector is assessed as per the use-based classification; i.e. basic goods, capital goods, intermediate goods, consumer durable goods and consumer non-durable goods industries. To track the performance of these industries, we have split the 58 three digit manufacturing industry into eight basic goods, eighteen capital goods, twelve intermediate goods, twelve consumer durable goods and eight consumer non-durable goods industries. The various ratios, percentage and statistical techniques have been used. The change in the products mix pattern and percentage share of the important variable of selected industries over time has been estimated by dividing the variables of entire organized manufacturing sector at three digit level. Inter-industry percentage share has been calculated and their comparison has been made. Further, intra-industry percentage share of selected variables has also been calculated. For the calculation of the growth rate and to find out the changes in growth pattern of various output and inputs variables in the organized manufacturing sector of Himachal Pradesh and its
three digit manufacturing industries the semi log linear regression analysis is used. We have National Industrial Classifications (NIC) of Industrial goods with different base years. The study has included the NIC-1970, NIC-1987, NIC-1998, NIC-2004 and NIC-2008. These are concorded by splitting method to get a NIC with base year 1998. The concordance table for the NIC-1970 and NIC-1987 has been taken from MoSPI and the same has been concorded with NIC-1998. After this we have concorded the NIC-2004 with NIC-1998 and same procedures if followed for NIC-2008. At last we are left with table of all manufacturing goods classified under National Industrial Classification (NIC-1998).

Industrial growth depends upon performance of productivity and the capability with which these factors are utilized. It can be stressed here that the role of efficiency or productivity has been established as much more significant in the process of achieving a higher growth rate as compared to the factor accumulation. In fact, in neo-classical growth theory, it has been stressed that long-term growth can be realized by the technical progress or improvements in productivity and if the growth is induced by factor accumulation only, the growth would hold on when diminishing returns set in motion.

Productivity being a technical concept refers to the ratio of output to an input and it is also a measure of the efficiency with which the input is used in production. It is a useful tool as much as it throws significant light on whether the productivity of particular factor has been rising or declining. This concept refers to partial factor productivity as it relates to the single factor of production. In this regard, labour productivity and capital productivity have been calculated and their growth rate has been presented. Labour productivity is calculated by dividing the gross value added with employment level and capital productivity is calculated by dividing the gross value added with fixed capital. Capital deepening i.e. capital intensity has also been calculated by dividing the fixed capital with employment level.

But still a more comprehensive measure of productivity is the total factor productivity, which takes into account all factors of production. The total factor productivity, then, is the ratio of output to the weighed sum of inputs. The concept of total factor productivity as pointed out by (Denisen 1967) is an inclusive one and it
takes into account the technical efficiency, which reflects a number of factors, including managerial efficiency, human capital and skill, economies of scale and research and development.

It may be worthwhile here to strike the difference between technical progress and the growth of total factor productivity as emphasized by (Goldar 1986). Accordingly, the technical progress represents the advances in knowledge relating to the state-of-the-art of production means. The total factor productivity on the other hand is a more comprehensive concept, which is caused not only by technical progress but also by better organization of different activities in the production process, which may lead to more efficient utilization of factors of production. It is in this sense that total factor productivity at a point of time is caused by technological progress and technical efficiency or the efficiency with which the factors of production are used.

Several methods have been suggested to estimate total factor productivity index. The difference in these indices essentially lies in the scheme of assigning weights to the inputs. In most empirical studies either the Kendrick Index or the Solow Index has been used. In some of the recent studies we observe the use of Translog Index. For the calculation of total factor productivity we have employed Translog Index Number. We turn to the discussion of these indices now.

**Kendrick Index**

Let us assume that there is one homogeneous output denoted by \( Y \) and there are two factors of production, capital denoted by \( K \) and labour denoted by \( L \). Further, let \( w_0 \) and \( r_0 \) denote the factor rewards of labour and capital in the base year of the study. Then the Kendrick index for year \( t \) may be written as

\[
A_t = \frac{Y_t}{w_0L_t + r_0K_t}
\]

This formula may be adjusted suitably to take into account more than two factors of production. The Kendrick Index may be defined as the ratio of the actual output to the output, which would have resulted from increased inputs in the absence
of technological change. While the Kendrick Index is easy to calculate and understand, it suffers from an important defect that it is based on a linear production function and therefore fails to allow for the possible diminishing marginal productivity of factors.

**Solow Index**

This Index is based on Cobb Douglas production function under the assumption of constant return to scale, autonomous Hicks neutral technological progress and payment to factors according to marginal product. As a result, the following equation may be obtained.

\[
\frac{\Delta A}{A} = \frac{\Delta Y}{y} - \left[ (1-\beta) \frac{\Delta L}{L} + \beta \frac{\Delta K}{K} \right] \quad \text{(1)}
\]

Once the computation of \( \frac{\Delta A}{A} \) is done for different year with the help of equation (1) the Solow Index is obtained using the following identity (taking \( A(0) \) as unity)

\[ A(t+1) = A(t) \left[1 + \frac{\Delta A}{A}\right] \]

It may be pointed out here that the Solow Index and Cobb – Douglas production function assumes elasticity of substitution to be unity.

**Translog Index**

Translog Index numbers are symmetric in data of different time periods and also satisfy the factor reversal test approximately. The Translog Index of technological change is based on a Translog production function, characterized by constant returns to scale. It allows for varying elasticity of substitution and does not require the assumption of Hick-neutrality. Translog Index can be calculated as under.

\[
\frac{\Delta V_t}{V_t} = \log V_{t+1} - \log V_t = \Delta \log V_t
\]

\[
\frac{\Delta L_t}{L_t} = \log L_{t+1} - \log L_t = \Delta \log L_t
\]
\[
\frac{\Delta K_t}{K_t} = \log K_{t+1} - \log K_t = \Delta \log K_t
\]

Where \( V \) is a value added, \( L \) is labour employed and \( K \) is capital

\[
\bar{W} = \frac{1}{2} (W_{t+1} + W_t)
\]

Where \( W = \frac{Emoluments}{GrossValueAdded} \)

\[
r_t = (1 - w_t),
\]

\[
r_t = \frac{1}{2} (r_{t+1} + r_t)
\]

Now

\[
\frac{\Delta A}{A} = \frac{\Delta V_t}{V_t} - \left( \frac{\Delta L_t}{L_t} w_t + \frac{\Delta K_t}{K_t} r_t \right)
\]

Translog Index of total factor productivity

The index for the base year, \( A(0) \) is taken as 1 then the index for subsequent years is computed using the following equation

\[
A_{t+1} = A_t (1 + \frac{\Delta A_t}{A_t})
\]

The ordinary multivariate linear regression technique (Enter Method) has been applied to get the determinants of employment and productivity and significant level has been calculated at one percent and five percent level of significance. To capture the impact of new economic policies introduced in 1990-91 multiplicative dummy variables has been introduced. Statistical package SPSS has been used to get the results.
**Chapter Scheme of the Study**

The present study is organized into six chapters:

A brief introduction, data sources, concepts, definitions of various variables, objectives, scope, methodology and chapter scheme have been presented in the chapter first. In the second chapter, review of literature has been discussed. The percentage share of selected variables in the organized manufacturing sector (OMS), in selected manufacturing industries, selected industry groups and use-based industries are given in the third chapter. An inter-industry and intra-industry analysis as well as comparison has also been done. In the fourth chapter, trend growth rates of selected variables in the organized manufacturing sector, selected manufacturing industries, selected industry as a group and use-based classification of manufacturing industries has been done. Further, the trend growth rate of factor intensity, partial factor productivity and total factor productivity are also presented in this chapter. An inter-industry and intra-industry analysis as well as comparison has also been done here. The regression model of employment and productivity determinants for the organized manufacturing sector (OMS), selected manufacturing industries, selected industry group and use-based classification of manufacturing industries have been presented in the fifth chapter. In the sixth chapter the conclusion, summary, policy implications and limitation as well as scope of future research have been presented.