

# THE CHANGING ECONOMIC SCENARIO: A STUDY OF MANUFACTURING AND SERVICE SECTOR

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## ABSTRACT

The present paper is an attempt to study multiple economic variables and their relationship with the economic growth of a nation. The study mainly resolves around a comparative analysis between manufacturing and service sectors as major contributors to the economic development. It's largely believed by policy makers that an economic model oriented towards producers' goods now and consumer goods later would support a long-term well-being of both the sectors, thereby helping economy grow at a fast pace. However, this mechanism emphasizing capital goods production has yet to be implemented in Indian context. Nonetheless the country is doing considerably well in services, while manufacturing sector push is need of the hour. The study also tests role played by small industries in overall well-being of the country and the status of policy reforms in manufacturing sector.

**KEYWORDS:** Economic Growth, Manufacturing Sector, Service Sector, Economic Scenario.

## INTRODUCTION

Industrialization has historically been one of the biggest drivers of economic growth ever since the Industrial Revolution in the 18<sup>th</sup> century. Therefore, a robust manufacturing sector is sine-qua-non for any major country. Jamshetji Tata, the great Indian visionary was first of his kind, to introduce the idea of manufacturing in India. He set up the first Indian manufacturing base and started the manufacturing age of India. India followed a path of planned self-reliant development after her independence in 1947 like most other countries in the developing world. Before 1980, based on the perception of Soviet Union success, it was thought that the key

strategy for development was to focus on large and heavy industries under state control and central planning. The policy framework was driven by ideological considerations that the country should be free of economic dependence on the developed countries for its investment goods. It was the belief of the policy makers that an economic model oriented towards producers goods now and consumer goods later would maximize the production of goods and services in the long run. The strategy also involved import substitution, rigid price controls and severe restrictions on private initiatives.

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In India's central-planning era, the Mahalanobis (1955) model of development called for the public sector to be the prime mover of the economy through strong involvement in investment and employment generation. Investments in factories, mining, and power generation expanded greatly in the Second Plan (and thereafter); the mining and power sectors grew relative to the total economy; and within the industrial sector, there was a major shift away from consumer goods toward output of capital goods. Within the broad industrial sector, public activity was growing relative to private activity. By the Third Five Year Plan, the proportion of public investments in factories, power generation, and mining exceeded 70 percent. For a variety of reasons, lack of industrial demand, especially for investment goods, was widely accepted to be the principal reason for the relative stagnation since the 1960s. Reportedly, controls led to widespread inefficiency in resource use, as reflected in poor total factor productivity growth, or rise in incremental capital output ratios in the 1970s.

The Indian Government had undertaken policy reforms since 1980, but the most radical reforms have occurred since 1991, after the severe economic crisis in fiscal year 1990-91. India's manufacturing sector underwent a transformation from a protected environment to one of open trade and global competition but this transformation have failed to make a dent on industrial productivity as Total Factor Productivity growth rate decelerated in post-reform period. The Indian growth story has been unique. Unlike the transformation stories of many of the other developed economies, India's growth story was dominated by the service sector. In contrast manufacturing has been less robust.

Manufacturing has linkages with the all other sectors of the economy. The progress of manufacturing still sets the tone for the overall business cycle and the health of this sector is very

much at the core of India's socio-economic fabric. The manufacturing sector in India is characterized by a duality. Large number of units chooses to remain in the unorganized sector as they will be subjected to a whole host of regulations, the moment they exceeds a certain size. The large informal sector, or unorganized sector or "unregistered" manufacturing is very much a manifestation of the regulatory framework that businesses face in India. Another peculiar feature of the Indian manufacturing is the small size of the manufacturing unit within the formal sector. The process of economic reforms introduced since 1991 has witnessed a gradual dismantling of industrial licensing, removal of import licensing for nearly all manufactured intermediate and capital goods, tariff reduction and relaxation of rules for foreign investment. The reforms in respect to the industrial sector were intended to free the sector from barriers to entry and from other restrictions to expansion, diversification and modification so as to improve its efficiency, productivity, and competitiveness. The main objective of reforming the manufacturing sector was to improve industrial efficiency.

Manufacturing production recovered rapidly from negative growth of -0.8% in the crisis year of 1991-92 to a peak of around 14.1% in 1995-96. It has since declined rapidly to 2.9% in 2001-02 and remained around that level for the next 25 years except for a spondaic increase in 2010-11. The share of the manufacturing sector in the country's GDP has remained stagnant, at about 15-17% for over for almost three decades. Currently, India is contributing to 2.2% of the world's total manufacturing output which is very low. The manufacturing sector in India has the potential to reach \$1 trillion by 2025 and contribute approximately 25-30% to India's GDP which should put India at par with economies like China, Germany, Japan and USA in terms of contribution to GDP. China has grown at a CAGR of 10% over the last three decades reaching per capita GDP (US\$7,000) while India's, growing at

half that pace, is currently at (\$1,500) In spite of similar population sizes and low-cost profiles with a per capita GDP of US\$300 in 1981. China's industrial sector at US\$4 trillion (and still growing), now dwarfs India's which is estimated at US\$300 billion. But China is now trying to re-balance the economy towards the services sector and consumption rather than manufacturing and investment; its competitive advantage has eroded and is likely to continue to do so. That gives manufacturing India the potential to create a cost advantage, with its far more favorable demographics, a huge untapped Labor pool.

India may not be able to imitate China in promoting Labor intensive exports and development is based on several factors including the traditional explanations. India's managerial endowments and nature of education of its citizens are broadly different from that of China's managers and education patterns. It remains somewhat of a puzzle that if the service sector operating under the same regulatory framework, and with the same infrastructure, has shown tremendous growth compared to manufacturing. It could be because the services sector does not face similar regulations like the manufacturing including Labor laws; and their reliance on the infrastructure may be much lesser. These are then factors that explain the services orientation of India's economy and the capital intensive nature of its manufacturing sector. Then we now need to look at the options available for India to cope with relatively high levels of unemployment and poverty. This calls for rapid expansion of the manufacturing sector on a priority basis like:

- Creating local supply chains
- Scaling the Domestic Supply of Human Capital by revamping the education, R&D and skills development
- Attracting Foreign Intellectual Property
- Picking the Right Industries
- Making it easier to do business in all the different phases like:

- Starting a business
- Dealing with licenses
- Employing workers
- Registering property
- Getting credit
- Protecting investors
- Paying taxes
- Trading across borders
- Enforcing contracts
- Closing a business

Labor productivity varies by sub-sectors in manufacturing. While some sectors like metals are capital intensive on account of the nature of production processes required and hence inherently not Labor-intensive, other sectors like textiles and paper are employment intensive. At the same time, it is expected that Labor productivity for all sectors should gradually improve over time. If we were to look at the disaggregated historical growth of the sub-sectors of manufacturing, then a similarly distributed growth of 11-13% would yield an additional 80-120 million jobs by 2025.

Till recently, the services sector has remained the key driver of India's economic growth, contributing almost 62% of its gross value added growth (including services associated with construction) in 2015-16 (Economic Survey, 2015-16). This growth trajectory which has been termed 'Service Revolution' seems to be at variance from the previous experience of economic development, which followed the conventional development path, as suggested in the findings of Colin Clark (1951), Simon Kuznets (1966) and Chenery and Taylor (1968). The conventional development path suggests that as development takes place agriculture sector contracts and manufacturing sector expands with the services sector expanding at a much later stage. It is important to mention here that there are two unique characteristics of India's services sector growth. Firstly, services sector picked up the decline of the agricultural sector's share in GDP while manufacturing sector's share has

remained more or less the same. Secondly, in spite of the rising share of services in GDP and trade, there has not been a corresponding rise in the share of services in total employment. The unemployment growth of India's services sector, with no corresponding growth in the share of manufacturing sector, has raised doubts about the sustainability of this service-led growth in the long run.

In India, the importance of services sector has been increasing continuously decade after decade. Economic Survey, 2015-16 observes that "The services sector has emerged as the most dynamic sector of the world economy, contributing almost one-third of world gross value added, half of world employment, one-fifth of global trade and more than half of the world foreign direct investment flows". However, the growth of this sector has moderated to 7.7% in 2015-16 compared to 9.7% achieved in 2014-15, but it continues to be higher than the other two sectors namely, agriculture and manufacturing. The literature on growth in services sector in India suggests operation of both demand side and supply side factors leading to higher growth in the services sector as compared to others. One of the demand side factors contributing to the high growth of this sector has been the high income elasticity of demand for final product services which implies that at any relative price of service, the quantity absorbed rises more than the quantity of commodities, as real income per capita increases. Further, technological progress and availability of high skilled manpower has been major contributory factors in growth of services like information technology (IT) and IT enabled services (ITeS). In addition to this, outsourcing of services by developed countries to developing countries, like India have led to a rise in demand for services from the developing markets. Among other factors, high government expenditure on certain services like 'community, social and personal services' has also led to high growth of services.

Apart from the impact of manufacturing sector on the Indian economy the role of service sector in growth and development of Indian economy shall also be studied in detail. It has been seen that service sector is also of the key pillar of the economy and its contribution in the GDP of the nation had increased over past few decades.

## **THORETICAL FRAMEWORK**

Manufacturing is the production of products for use or sale using labor and machines, tools, chemical and biological processing, or formulation. The term may refer to a range of human activity, from handicraft to high tech, but is most commonly applied to industrial design, in which raw materials are transformed into finished goods on a large scale. Such finished goods may be sold to other manufacturers for the production of other, more complex products, such as aircraft, household appliances, furniture, sports equipment or automobiles, or sold to wholesalers, who in turn sell them to retailers, who then sell them to end users and consumers. Before the Industrial Revolution, most manufacturing occurred in rural areas, where household-based manufacturing served as a supplemental subsistence strategy to agriculture. Entrepreneurs organized a number of manufacturing households into a single enterprise through the putting-out system.

Production is a process of combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption (output). It is the act of creating an output, a good or service which has value and contributes to the utility of individuals. The area of economics that focuses on production is referred to as production theory, which in many respects is similar to the consumption (or consumer) theory in economics.

Stakeholders of production are persons, groups or organizations with an interest in a producing company. Economic well-being originates in

efficient production and it is distributed through the interaction between the company's stakeholders. The stakeholders of companies are economic actors which have an economic interest in a company. Based on the similarities of their interests, stakeholders can be classified into three groups in order to differentiate their interests and mutual relations. The three groups are as follows:

- Customers
- Suppliers
- Producers.

The interests of these stakeholders and their relations to companies are described briefly below:

**CUSTOMERS:** The customers of a company are typically consumers, other market producers or producers in the public sector. Each of them has their individual production functions. Due to competition, the price-quality-ratios of commodities tend to improve and this brings the benefits of better productivity to customers.

**SUPPLIERS:** The suppliers of companies are typically producers of materials, energy, capital, and services. They all have their individual production functions. The changes in prices or qualities of supplied commodities have an effect on company and suppliers production functions.

**PRODUCER:** The incomes are generated for those participating in production, i.e., the labor force, society and owners. These stakeholders are referred to here as producer communities or, in shorter form, as producers. The producer communities have a common interest in maximizing their incomes. These parties that contribute to production receive increased incomes from the growing and developing production.

As India aims to become a top manufacturing hub, India is on the threshold of major reform. India is poised to rank among the top three manufacturing locations by 2020. India boasts a

large engineer and factory worker population, respectable intellectual property protections, and easy access to English-speaking managers and executives. The upcoming legal and tax reforms and significant manufacturing infrastructure investments will only add to this list of goods reasons to manufacture in India.

During the past decade, the Indian economy focused on services rather than manufacturing. The Indian manufacturing industry was stagnant for many years, and for the 2013-2014 financial year showed a negative growth. Because of this, in 2014, the Indian Prime Minister launched the Make in India Campaign. The aim of the Make in India Campaign is to transform India into a global design and manufacturing hub. In pursuit of this, India is focusing on the development of its infrastructure, increasing and/or tailoring its talent pool to the needs of the manufacturing industry, attracting investment through aggressive foreign direct investment initiatives, and increasing the ease of doing business through legal and tax reform.

The secondary sector is often divided into heavy industry and light industry. The secondary sector forms a substantial part of GDP, it creates values (goods) and it is the engine of economic growth and is crucial for all developed economies, although the trend, in most developed countries, is the predominant tertiary sector.

Below is the list of some of the prominent industries of secondary sector:

- Automotive Industry
- Electrical Industry
- Chemical Industry
- Energy Industry
- Metallurgical Industry
- Construction Industry
- Food Industry
- Glass Industry
- Textile and clothing Industry
- Consumer goods Industry (all consumables)

The service sector, also called tertiary sector, is the third of the three traditional economic sectors. The service sector provides services, rather than producing material commodities. Activities in the service sector include retail, banks, hotels, education, health, social work, computer services, recreation, media, communications, electricity, gas and water supply. Services are defined in conventional economic literature as "intangible goods".

According to some economists, the service sector tends to be "wealth consuming", whereas manufacturing is "wealth producing". The tertiary sector of an economy involves the provision of services to businesses as well as to final consumers. Services may involve the transport, the distribution and the sale of goods from the producer to a consumer as might happen in wholesaling and retailing, or might involve the provision of a service, such as in pest control or in entertainment.

Since the 1960s, there has been a substantial shift from the other two sectors namely the primary sector and the manufacturing sector to the tertiary sector in the industrialized countries. The service sector consists of the "soft" parts of the economy such as insurance, government services, tourism, banking, retailing and education. In soft sector employment, people use much of their time to deploy knowledge assets, collaboration assets, and process engagement to create productivity (effectiveness), performance improvement potential (potential) and sustainability.

Technology, specifically information technology systems, is shaping the way businesses in the service sector operate. Businesses in this sector are rapidly placing more focus on what is becoming known as the knowledge economy, or the ability to surpass competitors by understanding what target customers want and need, and operate in a way that meets those wants and needs quickly with minimal cost.

Services possess three main characteristics, which differentiate them different from goods. Like:

- They are intangible.
- They are non-storable.
- They have high degree of demand fluctuations.

The development strategy of an economy has two important basic objectives, namely - economic growth and creation of new employment opportunities. The service sector fulfills these two objectives to a very large extent. It makes a large percentage contribution to the GDP of the country as compared to the other two sectors. There is also enough scope for labor absorption in the services sector. In an underdeveloped country, the share of agriculture has the largest proportion in the gross domestic product of the country. As the country develops, there is an increase in the percentage share of services' sector.

All the various services are grouped by the Central Statistical Organization (CSO) under four major industrial categories for which it regularly publishes the GDP series. These are:

- Trade, Hotels and Restaurants
- Transport, Storage and Communication
- Financing, Insurance, Real Estate and Business Services
- Community, Social and Personal Services.

A National Manufacturing Plan cannot be merely an aggregation of policies for sub-sectors of Manufacturing. The country is developing and implementing fairly successful policies for sub-sectors such as automobiles, petroleum. However, the connection of these policies with the growth of other critical sectors, such as machine tools is insufficiently understood until the whole of Manufacturing is considered together. Similarly, policies for the power sector and telecom sector effect the growth of the

manufacturing capabilities required to support the growth of those sectors. Therefore, a more holistic view must be taken. Sustainable growth of the manufacturing sector will be achieved by the growth of internationally competitive enterprises in the country. Therefore, the policy-makers role is to create conditions for the growth of such enterprises. This requires that constraints within the country on their growth and competitiveness must be addressed. Policy makers need to collaborate with the manufacturers for evolving appropriate strategies and policies.

Experience has shown that countries gain by prioritizing investment of effort and resources in industries which have strategic significance. This would enable the economy to get the maximum benefit from investment of limited resources. This would also enable the government to address its critical strategic needs in the shortest possible time. The right business regulations enable good ideas to take root, leading to the creation of jobs and to better lives. But where business regulations make it difficult to start and operate a business, good ideas may never see the light of day and important opportunities may be missed. Budding entrepreneurs, daunted by burdensome regulations, may opt out of doing business altogether or, if they have the resources, take their ideas elsewhere.

The irony of India's structural growth dynamics is the fact that the sector with the highest growth rate was the one which we were most ignorant of. The services sector in India is extremely amorphous and also highly heterogeneous in its nature. In India the services sector had always been considered as a residual sector and its growth was considered merely as a by product of the developments in agriculture and industry and their supporting infrastructure service such as irrigation, power and transport, besides the normal expansion of the state administrative services and its social services.

While in advanced countries the new "service" culture had already become deeply ingrained, it had still been a relatively new phenomenon in countries like India. The main reason behind such a poor and late performance is, ironically, not so much due to resource constraints but rather due to a total lack of service orientation in the economic activities. Firms and organizations functioning in both the manufacturing and the service industries were able to carry on with inadequate services partly due to the fact that there was no worthwhile competition within the country until recently and partly that the customers themselves were not very demanding. However, with India opening up her economy to the outside world and as competition intensified, these organizations had realized that while a good and flawless product was important for their success, they should also provide certain services in order to win and become forerunners. In fact, these services should be able to enhance the value of the core product to a level which cannot be reached by its competitors. This realization certainly had resulted in a favorable impact on many Indian industries, both in the manufacturing and the service industries, and is definitely changing the entire approach to the marketing of the products in most industries.

Due to the growing importance of the service sector, academics and consultants, worldwide, have made efforts towards improving the management of the service businesses. Similarly, in India, also the service sector had been developing rapidly over the last decade or so and the trend is likely to continue in future also. One should describe an economy in terms of its major economic sectors, then India had experienced the transition from agricultural economy into a service economy since 1979.

## **LITERATURE REVIEW**

A review of literature provides the meaningful context of a project within the universe of the already existing research. "Meaningful Context"

could elevate the research study from disconnected observations or number crunching to a level of significance in the field of investigation. The review of studies done under this chapter provides a brief overview about the productivity and efficiency analysis of manufacturing and service sector which would be helpful to design the appropriate methodology for the present study.

## **LITERATURE REVIEW OF STUDIES CONDUCTED IN MANUFACTURING SECTOR**

Although manufacturing industries continue to straddle the industrial sector round the world, the literature on their varied functioning are not many especially with reference to changing perspectives. In this purview, the current chapter reviews the literature relating to the study so as to formulate the problem precisely and develop a rationale for its undertaking.

**Commen and Evenson (1977)** attempted to measure scale economies, elasticity of substitution and total factor productivity growth using various forms of Cobb-Douglas and CES production functions (viz. CD (conventional), CD (scale version), CES (Kmenta approximation), SMAC relation, Scale modified SMAC relation) in the seven major agro-based industries with thirty-one subindustries in India using ASI data. The data for three-digit level industries covered a period of three years.

**Rao (1977)** used Factor Analysis to develop the composite index by finding out the 'Principle Components' of the groups consisting of various variables. In all she took 24 variables for 14 states to identify the backward states and for industrial disparities she took only 8 variables. She compared the disparities at three points of time, namely, 1956, 1961 and 1965. during the study period it was found that inter-state disparities in agricultural sector increased whereas in the industrial sector the variations decreased, through these continue to be very glaring. The

most developed industrial states were West Bengal, Maharashtra and Gujarat whereas Madhya Pradesh was least developed in 1956 while in 1961 and 1965, Rajasthan was at the bottom.

**Mehta (1980)** attempted to analyze productivity trends for 27 Indian industries by using adjusted CMI and ASI data for the period 1953-65. The results revealed that there was a considerable diversity in the experience of different industries regarding trends of labor and capital productivity. Labor productivity was found to have increased significantly in industries like vegetable oil, chemical, tanning, glass and glassware and insignificantly in matches, iron and steel and cement industries. However, capital productivity has not increased appreciably, rather the reverse was true in most industries. The TFP of Indian manufacturing sector was found to have declined. The study noticed that most industries exhibited the presence of constant returns to scale and diseconomies of scale had not set in. The study demonstrated that there were inter industry differences with respect to ease of capital-labor substitution which primarily explained the inter industry growth differentials. The elasticity of substitution was found to be significantly different from zero and one in many industries.

**Subramaniyan (1982)** utilized CMI and ASI data spanning over the period 1953 to 1969 to explore regional efficiency in Indian sugar industry using Cobb- Douglas production function. The study reported labor as a more important factor than capital in terms of 'factor elasticity', 'marginal productivity' and relative contribution to output growth in India, Uttar Pradesh, Bihar and Maharashtra. However, in Tamil Nadu and Andhra Pradesh, capital had been found to be a more important factor than labor. Constant returns-to-scale was observed in the states of Tamil Nadu, Maharashtra and Andhra Pradesh, whereas decreasing returns-to scale was observed for all India as well as for UP and Bihar.



Further, the study found Maharashtra to be the most efficient state compared to all other states under evaluation.

**Goldar (1983)** examined productivity trends in Indian manufacturing sector and estimated Total Factor Productivity (TFP) by applying Solow index and trans log index using firstly 1951-65 data covering all Census of Indian manufacturing (CMI) industries except "general engineering and electrical engineering" industry for 1951-58 and Annual Survey of Industries (ASI) data for 1959-65 and secondly, during the period of 1959-78 based on ASI data. This analysis shows a rising trend in labor productivity and capital intensity and a falling trend in capital productivity during this period. Growth in TFP seems to have been rather sluggish and its contribution to output growth is quite small. The observed rise in labor productivity and fall in capital productivity may accordingly be attributed to increasing capital intensity. In association with this **Rao (1983)** examined the inter-state disparities for 16 states by taking 51 variables for eight sectors viz., agriculture, general industrial sector, small scale industrial sector, banking, power, transport, health and education. She employed the technique of Factor Analysis and subsequently Composite index of development was derived by using various sectoral indices for the years 1975-77. The study reveals that the state of Punjab, Haryana, Tamil Nadu, Uttar Pradesh, Kerala and Gujarat were the agriculturally developed states, whereas the state of Madhya Pradesh, Assam, Orissa, Karnataka, Jammu and Kashmir and West Bengal were the agriculturally backward states and Rajasthan, Andhra Pradesh, Bihar and Maharashtra were the average states.

**Sharma (1986)** measured the regional disparities in industrial development in India during the period 1960-61 to 1979-80. However, the detailed analysis has been carried on at three points of time, namely 1960-61, 1970-71 and 1979-80. Mainly tabular analysis has been used to analyze the level, growth and pattern of

industrial disparities. Correlation and multiple regression techniques have also been used to examine the relation between variables. Thirteen indicators were selected to reflect the different facets of industrial disparities in the State of India. To derive the objective weights for different indicators for formulating a composite index, Factor Analysis was used and each indicator was assigned weights as per the factor loadings obtained.

**Desai and Shah (1986)** studied the tendency of Indian industries over a period of time (1969 to 1980-81) with the help of Location Quotient, Coefficient of Localization and Regional Concentration Index. The analysis has been carried out for sixteen major States industry groups at 2-digit level and other minor industry groups were clubbed together. The data base was Annual Survey of Industries, census sector for the year 1969-70 and 1980-81. It was found that the value of Regional Concentration Index were very low probably due to diversified inherent nature of industrial base. The structural changes in the concentration of industries over time were examined through rank-correlation coefficients giving ranks to the values of Regional Concentration Index in descending order for both the years.

**Ahluwalia (1991)** analyzed the TFPG performance of Indian manufacturing sector at a detailed level of disaggregation (for 63 industry groups of manufacturing at one level and for used-based sectors, i.e. intermediate goods, consumer non-durables, consumer durables and capital goods, at another level) by using ASI data for the period 1959-60 to 1985-86. The analysis of trans log index of TFPG clearly brought out the poor performance with respect to TFPG up to the end of the seventies. She found a structural break in the TFPG in early eighties, which she called a 'turnaround' in TFPG behavior. An important feature of the improvement in TFPG in the first half of the eighties was that it largely reflected improvements in labor productivity. Capital

productivity showed neither an increase nor a decrease.

**Gajanan (1995)** measured the technical efficiency of the industrial groups affiliated under the 3-digit classification of Food and Tobacco, Cotton Textiles, and Non-metallic Metals, Machinery and Electrical Equipment industries. Using the stochastic production frontier approach, the findings revealed that average technical inefficiency measures increased for each industry during the year 1985 in comparison to the year 1976. Moreover, the analysis of relative measure of inefficiency reveals that each industry has become more inefficient over time. Likewise, **Goldar (1995)** estimated the TFP growth in organized manufacturing sector during the period 1970-71 to 1990-91. He used single deflated value added. According to these estimates TFP in Indian manufacturing grew at the rate of 1.55 percent per annum in the period 1970-71 to 1980-81, which rose to 3.85 percent per annum during 1980-81 to 1985-86 and further to 5.05 percent per annum during 1985-86 to 1990-91.

**Ray (1997)** used the non-parametric method of Data Envelopment Analysis to measure Malmquist productivity indices for manufacturing in the different states of India during 1969-84. The analysis shows an overall average decline at the rate of 2.89 percent per annum. At the individual level, although most states experienced productivity decline, considerable regional variations were evident. A non-parametric decomposition revealed that regressive technical change accounts for most of decline in productivity. A multivariate regression analysis has been carried out with average annual productivity growth rate in a state as dependent variable and a number of socio-political and economic variables as regressors. The results of regression analysis showed that while an increase in degree of urbanization and the capital labor ratio increased productivity growth, while a higher proportion of non-production employees

to production employees hindered the productivity increase.

**Gangopadhyay and Wadhwa (1998)** analyzed, at the disaggregated level of two-digit industrial classification, the changing pattern of labor productivity, labor costs and TFP in Indian industries over the period 1973-74 to 1993-94. They divided the entire study period into two sub periods, 1973-84 and 1984-94. It has been found that the increase in capital intensity was accompanied by gains in labor productivity. The rate of growth of labor productivity was consistently higher in the second sub-period in all industries. The study also explored that gains in labor productivity have been associated with falling unit labor costs over the period. In four major exports driven industries, namely, textiles, leather, metal products and other manufacturing, the rising labor productivity, capital deepening and falling labor costs were accompanied by a rise in the rate of growth of employment and wages. Total factor productivity growth (TFPG) estimated were obtained by two methods, the growth accounting approach and the production function approach.

**Mitra (1999)** estimated the time-variant technical efficiency and TFPG by using panel data for 15 major states and 17 two-digit industry groups. He used 'within' estimation procedure for capturing TFPG and its components with the help of Cornwell et al. (1990) model. A value-added and a four input-output function for each of the 17 industry groups using both Cobb-Douglas and Trans log specifications have been estimated.

**Unni et al. (2001)** analyzed the trends in growth and efficiency in the utilization of resources in the Indian manufacturing industry before and after the introduction of economic reforms. The study used a comparative analysis of the Indian figures with Gujarat, one of the most industrially developed states of the country for four period of time 1978-79, 1984-85, 1989-90 and 1994-95. The data has been taken from the Annual Survey

of Industries (ASI) and National Accounts Statistics using the growth accounting technique for four data points. The results showed that the growth in manufacturing sector in Gujarat was more efficient than the average all-India growth after the reforms. The average TFPG in India was negative during this period. Gujarat's strategy of physical infrastructure development, leading to industrialization has been the main reason for the growth of the state's manufacturing sector.

**Jain (2004)** analyzed the growth of small scale sector, government policy towards small scale sector along with problems faced by them due to globalization in the pre- and post-liberalization periods. Since small scale industry constitutes a very important segment of Indian economy and has emerged as a dynamic and vibrant sector of the economy, therefore, new policy initiatives since 1991 by the government caused a shift in focus from protection to promotion. Before the introduction of economic reforms the small scale sector was overprotected and with globalization this sector is now exposed to severe competition both from domestic and foreign firms. In the post-reform period the government took a number of steps including partial de-reservation, change in investment limits, and facilities for foreign participation, establishment of growth centers, marketing assistance and incentives for quality improvements. The study reveals that the problems of small scale sector are multi-dimensional especially in the liberalized environment which would further be intensified with the arrival of multinational companies and removal of quota restrictions in the textile sector. In this context, the study suggests that the government should give priority to the timely and adequate loans to the small scale industries along with time-bound promotional concessions, up gradation of technology, marketing assistance through vigorous research and development efforts.

**Latha (2005)** highlighted that small scale sector has acquired a prominent place in the socio-

economic development of the country during the last five decades. It has been assigned an important place commensurate with its potential for employment generation, dispersal of industry in rural areas and export promotion. In this context, small scale sector can be termed as a nursery of economic development. To overcome the problems of small scale sector, government must provide additional facilities, schemes, and incentives and encourage innovative activities of entrepreneurs for the development of small scale sector in the era of globalization and competition.

**Mahambare and Balasubramanyam (2005)** analyzed the impact of trade liberalization on Indian manufacturing sector. The study evaluated the firm level technical efficiency in India since 1991 reforms by estimating Cobb-Douglas production function for thirteen manufacturing sectors. The study revealed the mixed impact of 1991 reforms on the selected manufacturing sector. Average technical efficiency of firms increased in eight out of thirteen sectors studied.

**Kumar (2006)** attempts to estimate the trends in growth of total factor productivity of Indian chemical industries at the sub sectoral level. The study covered the period of 22 years from 1980-81 to 2001-02. The entire period is divided into two phases as pre-reform period (1980-81 to 1990-91) and postreform period (1991-92 to 2001-02). The total factor productivity growth (TFPG) is estimated using Trans log model with three inputs, viz. labor (L), capital (K) and the intermediate inputs (R) raw material consumed. The factor productivity growth rates were computed for the five major sub sectors of Indian chemical industries. The results showed that the impact of economic reforms on the productivity levels of an industry at the aggregate and sub-sectors level do vary significantly. While the net impart of the reforms process on total factor productivity growth was found to be poor at the aggregate level. The sector: drugs and pharmaceutical, paints and vanishes, basic

chemical and dyes and dyes stuff industries greatly benefited from the liberalization process.

**Mishra (2006)** in his study highlighted the working of small scale industries in Orissa during the year 1996-97 the 1998-99 and in the year 2003-04. The period witnessed policy changes at different level, which might have affected the working of manufacturing sector in general and manufacturing small scale industrial units in particular. The study is based on two benchmark studies conducted on the performance of the small scale industrial manufacturing units in five small industrial clusters in Orissa. The performance of small scale industrial units has been assessed by fitting the Cobb-Douglas production function for four financial years. Most of the units taken were raw material intensive and a few labor intensive depending upon the type of product categories. It was observed that no significant growth took place in the factor productivity in any of the product categories over the two periods of time. The incidence of closure of these units in Orissa was found to be very high. The main reasons for the sickness and closure of small-scale industries in the state were lack of demand, tax problem, competition in local markets, financial problems and attitude of the entrepreneurs.

**Kumar and Arora (2007)** endeavored to observe technical and scale efficiency in Indian manufacturing sector using a cross-sectional analysis of 127 manufacturing industrial groups classified at 4-digit level for the year 2003-04. Using the technique of Data Envelope Analysis (DEA), the study concluded that the average Overall Technical Inefficiency (OTIE) is to the tune of 39.7 percent in Indian manufacturing. Only, nine industrial groups are identified to be globally efficient along with 17 locally efficient industrial groups. However, the observed OTIE is dominated by improper management practices i.e., pure technical inefficiency, whereas scale inefficiency is relatively a scant source of OTIE.

**Sidhu (2007)** conducted a study at aggregated and disaggregated levels for manufacturing sector for the period 1973-74 to 2002-03. The study was based on the statistics of Annual Survey of Industries (ASI) using growth accounting method to measure total factor productivity. Results at the aggregated level revealed that growth in productivity was discouraging during 1973-83 period; there was some increase in the growth during 1983-93 and slump during the 1993- 2003 period. However, at disaggregated level, the performance of the industry has varied widely within as well as across the states. There was a sharp decline in the growth of industrially developed state of Maharashtra after the reforms period while the state of Haryana showed improvements. Also, the state of Orissa, which was industrially backward, showed improvement in the reforms period.

**Ray and Pal (2008)** endeavored to analyze trends of Capacity Utilization in Indian Chemical industry. Applying, minimum capital output ratio method along with the estimation of Trans-log cost frontier, the study reported a declining trend of CU over the period of 1979/80 to 2003/04. However, the decline became more noticeable after mid 1990's due to slow increase in actual output. The observed slow increase in actual output is due to stagnated demand and rapid expansion of capacity output as a result of abolition of licensing rule consequent to economic reforms

## **LITERATURE REVIEW OF STUDIES CONDUCTED IN SERVICE SECTOR**

The literature review sets the basis for the Services sector - Trade, Hotel Transportation, Communication Services Finance, Insurance, Real Estate, Business Services, Public Administration, Defense and Other Services discussion or analysis or for contemplation of the implications or for anticipation for further research. A review of the available literature would indicate the various

issues related to the various aspects of the services sector performance. The researcher could apply the principles of analysis in his field in order to evaluate whether the previous research was valid; or to determine whether a previous study was incomplete, methodologically incorrect, one-sided, or biased.

**Smith (1776)** viewed services as the unproductive economic activity. In his view services “perish in the very instance of their performance and seldom leave any trace or value behind them”. This initiates the classification of economic activities into unproductive ‘non-material production’ and productive ‘material production’. The categorization of services as unproductive activity has gradually become less important with economic development and greater realization of the fact that services play very important role in material production not only through transport and trade in the products but also through financing of transactions and many other forms of activity which are really indistinguishable from the organization of production.

**Fisher (1939), Clark (1940) and Fuchs (1978)** expressed their concern over the fact that with the growing share of services in output the share of the same in employment followed, which indicates the slower growth of labor productivity in the service sector compared to that in the manufacturing sector. This formed the basis of the ‘cost disease’ hypothesis by **Baumol (1967)**. The hypothesis describes the inherent dynamics of relative prices in the system, which comes into effect under the presence of sectors with different levels of productivity. The sector with higher productivity growth (supposed to be in industry) induces rise in wages in the sector with lower productivity growth (prominently some services) which in turn leads to chronic tendency for cost and prices of the services to increase relative to goods. . He cited that cost of higher education is continuously rising with rising fees in the educational institutions, while teaching

methods constitute a relatively constant productivity condition.

**Kuznets (1971)** empirical study we find that he visualized that in the earlier stages of development, in most of the economies, the thrust has always been on the manufacturing sector. Though there is no hard and fast rule regarding that, but it has been noticed that with the share of the manufacturing sector reaching almost 50% mark and that of agriculture falling, the share of service sector in output start rising. It has been noticed historically that as an economy matures, the structure of the economy moves from agriculture to industry and then to service over time. Most of the present day developed countries are now service economies. The transition of these economies to service economy has been preceded by economies with higher share of manufacturing in GDP. It is in this context that the growth in the service sector for India comes in striking contrast to that of the other countries in the historical perspective. As we have seen in the history of economic development that the structural changes followed a sequence of shift from agriculture to industry and then to services for most of the modern day developed and also developing countries, for India it wasn't the same. India experienced the growth in the relative share of services quite early contrary to its counterparts. This switchover from an economy where share of industry is well below the 50% mark, to a service economy is a bit interesting in the sense that it is ahistorical.

**Hill (1977)** distinguished services from goods by arguing that they “belong in different logical categories”. He stressed the interaction of the service user and provider, as stock and inventories of services which cannot be accumulated but it was later realized that there are some services which permit a separation of the location of production and consumption. We know at this digital age outsourcing has been the most accessed activity. Accounting works of

foreign companies are done at a cheaper rate in India, patients of countries like India, are treated by doctors of advanced countries but the contrary trend has become more marked recently.

**Khera & Mathur (1984)** analyze the place of tertiary sector in Indian economy and in some developing countries of Asia. It draws its database from the reports of Central Statistical Organization, International Labor Organization and World Bank. The two main objectives of the study are (a) to compare the relative place of tertiary producing sector with the goods producing sector of India; and (b) to compare the relative importance of tertiary sector in the economies of some selected developing countries of Asia. Thus, from the above analysis, it may be concluded that during 1970's the tertiary sector occupied an important place in the 9 developing countries of Asia. In almost all of the countries the growth of tertiary sector was more than the growth of the economy as a whole.

**Suryanarayana (1995)** explored the structure, characteristics and role of service sector in economic development of India. The study uses the National Sample Survey Organization data (32nd and 43rd rounds) for the period of 1977-78 to 1987-88. The study found that the share of service sector has increased from 34 percent of the total GDP generated by the economy in 1977-78 to 40 percent in 1987-88. However, the structure of service sector has broadly remained the same over this period except for a small shift from trade, hotels and restaurants to transport, storage and communication. Almost all the sub-sectors have registered high growth rates over the period 1977-78 to 1987-88, except railways, real estate and other business services. During this period, the GDP from service sector has grown at a rate well above that of the economy as a whole. In terms of certain other characteristics, the employment structure of service sector reveals that during the entire period of study from 1977-78 to 1987-88; its

percentage share in organized sector employment registered an increase from 55 percent to 58 percent, while its percentage share in total rural employment grew from 9 percent to 12 percent. The percentage share in total women employment recorded a marginal improvement from 10 percent to 11 percent.

**Sethi & Raikhy (2000)** analyzed the structure of Punjab economy from the period of 1970-71 to 1997-98 on the basis of various issues of Statistical Abstract of Punjab by statistically applying the coefficient of variation to different Indices. The main objective of the study is to analyze the structural change in Punjab economy so as to bring out imbalances in the pattern of growth. The study concluded that both for NSDP and workforce the index of structural change experienced a little decline during 17 eighties as compared to seventies. However, during the nineties the structural change has been quite rapid for NSDP, but fairly slow for workforce. The index of Imbalanced Growth (R) which was worked out on the basis of structural changes in NSDP and workforce indicated that the degree of imbalance in the Punjab economy became much higher during nineties (i.e., the period of liberalization). This may be termed as structural distortion and calls for suitable measures to correct it. The study concluded that both for NSDP and workforce the index of structural change experienced a little decline during 17 eighties as compared to seventies. However, during the nineties the structural change has been quite rapid for NSDP, but fairly slow for workforce. The index of Imbalanced Growth (R) which was worked out on the basis of structural changes in NSDP and workforce indicated that the degree of imbalance in the Punjab economy became much higher during nineties (i.e., the period of liberalization). This may be termed as structural distortion and calls for suitable measures to correct it. The study suggests that with the expanding world market the critical areas of economic reforms which focus on

reorientation of internal trade, policies in tune with export-import measures, farm price, legislative and other policies need to be activated to take advantage of export potential of agro-products. This will provide incentives towards higher production of farm commodities and value added agro-products that would necessitate development of specialized infrastructure services and industrial inputs. These changes along with an increase in per capita income would accelerate demand for industrial and consumer products thereby reinstating a bi-directional growth linkage between primary and secondary sectors.

**Singh (2000)** analyzed the employment generation in India's service sector for a period of 1981 to 1998. The main objective of the study is to examine the changing sectoral share of employment and the role of service sector in the provision of employment in Indian economy. Lastly, the study recommended that for further growth and development of service sector there is need to make rapid progress in telecommunications, strong encouragement to venture capital, provision of easy availability of finance and liberal approach to law and regulations for electronic commerce. So far, the provision of employment opportunities by the public sector is concerned; there is more scope in social services like education, health, child and family welfare, care of the handicapped and old. These areas of social services, if properly developed, will absorb a large proportion of unemployed human resources.

**Bala (2005)** analyzed the structural change with special reference to tertiary sector in India. The main objective of the study is to examine the nature, structure and out-stretched growth of tertiary sector at 1993-94 prices. The study found that in 1950's the primary sector was the dominant sector of the economy and accounted for 59.21 percent in GDP. But after that its share in GDP has been continuously declining from 56.13 percent in 1960- 61 to 48.12 percent in

1970-71 to 41.83 percent in 1980-81 to 34.94 percent in 1990-91 to 26.24 percent in 2000-01 to 24.05 percent in 2003-04. Thus, over a span of 54 years the share of agriculture in particular and primary sector in general has been reduced to less than half. This decline in the share of primary sector with every increase in GDP is an indication of healthy economic development which is also in line with the historical experience of developed countries.

**Chakravarty (2006)** explored the growing services in 16 major states of India on the basis of CSO data for a period of 1980-81 to 1992-93 (i.e., initial phase of liberalization) at 1980-81 prices and the period 1993-94 to 2002-03 (i.e., later phase of 30 liberalization) at 1993-94 prices by using Durbin-Watson statistics. The main objective of the study is to find out the determinants of service sector growth in India during recent years. The study concluded that while a state's own industry turns out to be the most important determinant of service sector growth, the commodity producing sector outside the state does play a significant role as well in determining service sector's performance under certain conditions that basically relate to supply side.

**Dutt (2006)** explored the emerging structure of Indian economy on the basis of Central Statistical Organization data for a fairly long period of 1960-61 to 2000-01. The main objective of the study is to examine the changing economic structure of 17 main states in the process of economic development of India. These states include Punjab, Haryana, Maharashtra, Gujarat, Tamil Nadu, Karnataka, Himachal Pradesh, Kerala, Andhra Pradesh, West Bengal, Rajasthan, Madhya Pradesh, Jammu and Kashmir, Assam, Orissa, Uttar Pradesh and Bihar. The study found that over the period 1960-61 to 2000-01 except in the state of Punjab where there was a relatively slower decline in the share of net state domestic product (NSDP) in agriculture, most of the other states indicated a sharp decline in the

share of agriculture. In 2000-01 Punjab and Haryana, the main beneficiaries of Green Revolution still have higher shares in agriculture in the range of 33 percent to 40 percent. In contrast to that the industrialized states like Maharashtra, Gujarat and Tamil Nadu experienced steep fall in the share of agriculture to a level of 13 percent to 18 percent which is much lower than the all India figure of 24 percent. Now coming to very poor states like Assam, Bihar, Orissa and Uttar Pradesh, their share of agriculture in NSDP declined, but still ranged between 32 to 38 percent.

**Gaur (2006)** analyzed the changing employment scenario in service sector of India for the period of 1989 to 2001. The main objective of the study is to statistically test the hypothesis that whether there exists any correlation between trend of employment and GDP growth rate in the service sector of India. The study found mainly the three factors responsible for growth of employment in the service sector: (a) the Government launched many schemes for poverty alleviation and employment generation; (b) the demonstration effect in India with that of foreign countries created new demand patterns which justified the dominance of service sector in recent years; (c) when income in manufacturing sector increased, then the demand for services had also increased.

## **MOTIVATION AND HYPOTHESIS OF THE STUDY**

The manufacturing sector has been considered as the backbone of the economic growth. Industrial sector plays a vital role in the development of Indian economy because they can solve the problems of general poverty, unemployment, backwardness, low production, low productivity and low standard of living etc. Services alone are not sufficient to create growth to drive mass prosperity for a country the size of India. India's reform program has emphasized gradualism and evolutionary transition rather than rapid restructuring or "shock therapy" and its growth

has not been based on using cheap Labor for Labor-intensive exports, the development path taken by other Asian tigers including China.

India is a young country with over 60% of population in the working age group of 15-59 years. India will have to create nearly 220 million jobs between now and 2025 if it has to exploit its demographic dividend. A large share of these jobs will have to be for the migrating Labor from rural to urban areas which will see rural population decreasing from about 70% in 2010 to less than 63% by 2025. This means about 50-60 million low skilled people will move out of agriculture and related jobs and will be looking at alternate employment options. Thus, job creation in the sector can be a major instrument for reaping the demographic dividend. It is estimated that India could create 60 million to 90 million new manufacturing jobs and become an attractive investment destination for its own entrepreneurs and multinational companies thus lowering the unemployment rate which today stands at 12%.

Over the last fifty years and more, the tertiary sector in most of the developed countries has experienced significant growth. This growth has been termed "a quiet revolution in the composition of economic activity". As noticed, the provision of services has replaced the manufacturing of goods as the predominant production activity in the advanced economies. The economic implications of this transition are deep and fundamental. The same development has also been noticed in the developing countries, where India, too is no exception. The relative share of the service sector for India has grown remarkably during the nineties and more so in the present decade. It was around 29 per cent in 1950-51 and then it rose by about 11.3 percentage points in the next four decades to be around 41 per cent in 1990. It rose further by about a little more than 13 percentage points in the following nearly two decades. The share



crossed the 50 per cent mark by 2000-01 to reach to 54.5 per cent in 2008-09.

This rapid growth of the tertiary sector has created a lot of interest regarding its nature, cause and implications. The rise in the share of the service sector has been phenomenal but quite gradual for the developed economies over the last century and a half. Though this is a development which is worldwide, our endeavor is to understand the phenomenon and study its significance in the Indian context. The phenomenon has become very marked in recent times, say, the last one and a half decade, though it is, more or less, a characteristic of the growth of the Indian economy over the past several decades. Though the experience is something that other similarly placed economies have not gone through to the same extent, India seems to have tackled it quite well in the sense that there is no marked demand - supply imbalance in the development between sectors.

The below-mentioned hypotheses have been framed for the purpose of the present study.

**H1:** There is a linkage between manufacturing sector and the growth of economy.

**H2:** There is a linkage between service sector and the growth of economy.

**H3:** Contribution of service sector to economic growth in India is negligible.

**H4:** Small industries play a relatively insignificant role in economic growth.

**H5:** There are encouraging policy reforms in manufacturing sector.

## **DISCUSSION AND FINDINGS**

In early years of India's independence states including West Bengal, Maharashtra and Gujarat were most developed industrial states while Madhya Pradesh and Rajasthan showed at the bottom. Also, during 1950s and 1960s

productivity of labour increased while there has been downturn in capital productivity resulting in a decline trend in manufacturing industry. Between labour and capital different states showed different trends. As the country moved to late 1980s, regional disparities became more visible in industrial advancements. Labour again showed a higher productivity with capital productivity remaining largely constant during last decade of the century. In addition, as a whole Indian industry reflected no growth or discouraging growth trends till the turn of century. This trend continued as the nation experienced regular downtrend in manufacturing sector across various states and segments. However, increase in capital intensity mostly was accompanied by gains in labour productivity, thereby cutting labour costs which was a positive factor contributing to a higher service performance. By this time a positive value addition of service sector was prominent.

Beginning of the 21<sup>st</sup> century has been marked with sincere government initiatives to boost the performance of small enterprises by exposing it to severe competition, both inside and outside the country. This period also saw abolition of license Raj, raising investment bars and a friendly attitude of government towards FDIs. However, the small industry was still struggling to survive in the face of shortages of capital lack of marketing skill and state incentives. Despite this the smaller and micro units proved as big driver of economic growth with impressive contribution to GDP, exports and employment.

A look into the service sector during this period reveals that in mid 1980s the sector occupied a prominent place in Indian economy with a growth higher than the overall growth of economy. By end of the century the sector has been a major employer leaving manufacturing sector much behind. As we move further, India experienced a big uptrend in telecommunication, education and health, providing impetus to the growth of services. By this time share of primary

sector in GDP had reduced to less than half. This decline accompanied with increasing GDP is a healthy trend indicating overall growth of the economy.

On basis of above discussion when hypotheses testing is undertaken it turns out that first hypothesis is proved as analysis reveals that growth in manufacturing is a strong contributor to overall economic prosperity. Similarly, second hypothesis indicating on a positive relation between economic growth and service industry's contribution, stands with the discussion explained in the previous paragraphs. Also since service sector has been showing a consistent growth and is a big contributor to the GDP, its sufficient evidence disapproving of our third hypothesis. As small industries are referred to as the engine of economic development for every country in the world contributing hugely towards GDP, exports and job creation our fourth hypothesis is disapproved.

As evident in the discussion, the manufacturing sector desperately needs massive policy initiatives and reforms for accelerating the pace of economic growth, though such reforms are regularly happening in service sector. Thus, our fifth hypothesis is not proved.

## CONCLUSION

In a country like India where agriculture is still a major occupation, its growth and contribution to GDP must be combined with a rapid growth in service and manufacturing sectors. No economy can experience competitive growth advantage by merely banking on its agriculture. While Indian service sector is growing at a convincing pace, our tertiary sector has been showing a dismal performance, at times with a negative growth. Manufacturing has great potential to take economies from developing to highly developed ones. The sector works as catalyst of robust economic progress as suggested in previous studies. According to these studies the sector acts

as backbone of nation building as one job created in tertiary sector paves way for 3 jobs in service sector. Manufacturing holds key to a grassroots, fast and a holistic growth of economy and no economy can develop with a dominance of agriculture and service sectors.

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