Chapter –II

REVIEW OF LITERATURE

Due to rapid pace of technological developments and intensified competition, small and medium enterprises in India have started realising the significance of improving their productivity levels more than ever before. In this context, the present chapter reviews the literature relating to the study so as to formulate the problem precisely and develop a rationale for its undertaking. The basic objective is to indicate in a general way the type of work done in this direction rather than to give exhaustive review of all the research work done on the problem. The review of various studies done in this chapter provides a broad spectrum about the productivity and efficiency analysis of small scale industrial sector which would be helpful to design the appropriate methodology for the present study.

Various empirical studies have been conducted from time to time to examine the different aspects of growth pattern and performance of small scale industrial sectors in India and in this context, important studies are reviewed below in a chronological order. For this purpose, the chapter has been divided into three sections, Section -I highlights the review of studies relating to the performance evaluation of small scale industrial sector at All India level, whereas, Section-II focuses on the studies pertaining to the performance evaluation of the small scale industrial sector at regional level. However, the last section is concluding in nature and pinpoints the rationale of undertaking the present study.
Section –I

Habib (1972) through his study came to the conclusion that small scale industries play an important role in the economic development by providing numerous chances of income generation and improving the standard of living of the masses. Habib emphasized that it is only the small scale sector through which economic prosperity can reach the remotest sections of the society. From the very beginning since the process of economic development started, the small scale sector has been providing handsome employment opportunities to millions of job seekers in the country. Further, small scale industries use local raw materials, employ local people and thus help in generating employment opportunities for the community.

National Council of Applied Economic Research (1972) conducted a study to examine the economies of selected number of small industrial units operating in different parts of the country. A sample of 159 units spread over 22 industrial groups was selected, of the selected units, 48 were manufacturing consumer products, 76 capital goods and 35 intermediate products. The study showed that besides other problems, the under-utilisation of capacity among most of the units was due to the problems of production as well as marketing. The problems of production were closely associated with scarcity of raw material and inadequate finance. The problems of marketing are by and large attributed to such factors as limited size of operation, practically little or no control over quality, price and weak financial base, restricting the scope for engaging in sustained sales promotion. The problem of sales is more acute where the area of operation is large particularly in case of consumer products or capital goods, where after-sale service is essential. In most of the cases the entrepreneurs are found to be dependent on middlemen for the marketing of their products.
Banerjee (1975) examined the relationship between capital intensity and productivity in the context of Indian manufacturing industry. The analysis has been carried out for manufacturing sector as a whole and five individual industries (viz. cotton textiles, Jute textiles, sugar, paper and bicycle) by using ASI data for the period 1946-64. The study highlighted that the performance of the manufacturing sector was sluggish over the period 1946-64. While labour productivity showed a significant upward trend during this period, but this sector did not indicate the presence of any ‘technical progress’. The hypothesis of constant returns to scale was not rejected. It has been found that elasticity of substitution between capital and labour is near unity in almost all the industries.

The Vidarbha Industries Association (1976) made an empirical survey of sick units in the region and dealt specifically with the major problem of finance, policies and procedures of credit agencies as well as the difficulties that were being faced in marketing. The study asserted that most of the difficulties of small scale sector arise from financial, administrative control, frequent interest changes and recession in demand these tends to make the units sick. Further, the requirements of credit of small scale industries located in far away places are greater than those located at an industrial centre because the former has to maintain higher inventories. The study made specific observations on the low and weak equity base of the units, the unrealistic gestation period allowed by state financial corporations, inadequate loans by commercial banks and these factors emerged as the major causes of sickness in the small scale sector. The study suggested that the moment a danger of sickness appears, action should be initiated and dues of a sick unit should be converted into a long term loan. The study also revealed that financial agencies have not been able to play their role in the development of small scale sector in the under developed regions. It has, therefore, been recommended to set up a regional development corporation which may finance sick units and help them in marketing their products.
Jain (1980) discussed the increasing role of small scale industries in industrial structure of the country along with export potential of small scale industries. The various measures undertaken by the government agencies such as guidance formation, financial support, export house scheme etc. to develop the formation of the consortia for the benefit of the small industries have also been expressed. It has been observed that the operational results of existing consortia may not be very substantial but encouraging. Therefore, a potential of growth of such consortia look immensely favourable.

Mehta (1980) attempted to analyse productivity trends for 27 Indian industries by using 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 labour and capital productivity. Labour productivity was found to have increased significantly in industries like vegetable oil, chemical, 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 total factor productivity of Indian manufacturing sector have declined over a period of time. 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-labour substitution which primarily explained the inter industry growth differentials. The elasticity of substitution was found to be significantly different from zero in many industries.

Papola (1981) studied the impact of concessional finance on industrial development and emphasised that in order to make concessional finance effective, it will be necessary to plan and develop a minimum threshold level of industrial activity preferably with strong inter-relationship between the financial institutions, promotional institutions, state and district administration and potential industrial entrepreneurs, especially for more backward districts. He further emphasised that
almost one half of the fixed and working capital requirements of the units studied have been met by institutional financing and most of the fixed capital financing has been met through concessional finance especially in the backward districts. Units availing concessional finance have experienced a higher rate of growth in output than those without it.

**Goldar (1983)** examined productivity trends in Indian manufacturing sector and estimated Total Factor Productivity (TFP) by applying Solow index and Translog index using firstly 1951-65 data covering all Census of Indian manufacturing 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 labour 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 labour productivity and fall in capital productivity may accordingly be attributed to increasing capital intensity. Substitution of labour by capital seems to be the main feature of industrial growth. The result of Cobb-Douglas function estimation favours the assumption of constant returns to scale implicit in the TFP indices which is in broad agreement with the results of TFP indices especially in terms of the direction of TFP growth. The study has pointed out that the general industrial situation was not conducive to productivity growth. Under-utilisation of capacity, shortage of fuels, power and transport facilities and deteriorating industrial relations had a significant depressing effect on productivity growth. Moreover, gestation lags in the basic and capital goods industries, which accounted for a dominant part of investment in post 1956 period, must have had a depressing effect on productivity growth. A pronounced rising trend in capital intensity was found, which implied that the growth in industrial employment has seriously lagged behind the growth in industrial investment and output. To some extent this
is a result of the changing industrial structure in favour of basic and capital goods industries. It has been observed that metals, chemicals, rubber, petroleum and machinery industries are among the lowest ranked in terms of TFP growth, since these are the industries in which import substitution has been attempted on a considerable scale. Though the policy of import substitution contributed much to the objective of self reliance, yet it has been inimical to productivity growth.

**Ethiopia (1984)** evaluated the importance of small scale industries for providing employment and income generation in the African countries. The focus of the study is on the analysis of efficiency of production and employment and results showed that the artisan and small scale industrial sector are important component of the Ethiopian economy in terms of generation of income and employment. The empirical evidence of factor intensity and production also indicates that many small enterprises are efficient in utilizing scarce resources such as capital and foreign exchange. Small scale industries have also reasonable demand for their products, but strengthening of the linkage between small scale industry and the agriculture sector appears to be necessary. The study revealed that institutional, social and economic constraints impede the development of this sector.

**Khan (1985)** highlighted the role of non-traditional small scale industries engaged in exports from India. The export potentialities of small scale industries on the basis of various studies conducted by different government agencies and by the team of European Economic Community have also been discussed. With regard to export problems of small scale industries, it has been stated that small size of units, finances, managerial skills, technical backwardness and export marketing system are the biggest hazards in fostering the export of small scale units. To increase the exports, it has been suggested that exhibitions solely projecting the small scale industries and overseas visits of delegations of small entrepreneurs should be encouraged. It has been further suggested that State
Trading Corporation, Trade Development Authority and Export Promotion Councils should provide the information to small scale industries about the demands of their products in the foreign market.

Ganpathy (1986) observed in his study that banking and other financial institutions were not playing effective role in the development of small scale industries and in removing the problem of sickness. Study found the causes behind some viable units going sick are bad management, failure to keep abreast of modern technology, political interference, general fall in discipline and apathy to work. It has therefore been suggested that for the removal of problem of sickness not only the financial assistance required but technical and marketing facilities also need to be improved simultaneously.

Little et. al. (1987) discover very little regularity in the pattern of partial and total factor productivity and their relationship with firm size in five small scale industries when size is measured either by number of workers employed, or by the value of fixed assets. An analysis of technical efficiency, based on a three factor translog production function, reveals that there are wide variations in total factor productivity. Within each of the five industries, variation in technical inefficiency (measured by the difference between actual and predicted output) is substantial and there is no systematic relationship between employment size and technical efficiency. Only in Machine Tools industry, technical efficiency is correlated with firm size. As for the sources of variations in technical efficiency, four variables: the average experience of the labor force, the age of the capital stock, the experience of the entrepreneur and the level of capacity utilization, are found to be significant in one or more industries.

Ganguly (1988) studied the performance, policies, problems and prospects of the small scale industrial sector. The study explained that inspite of vigorous efforts being made to promote the small scale industries as a matter of conscious policy decision, the sector does suffer from various problems such as inadequate
availability of raw materials, inadequacy of financial assistance, lack of effective marketing and encroachment of the areas reserved for small scale industries by large and medium sector. It has been suggested that accelerated development of the small scale sector would help in a healthy, speedy and vibrant growth of medium and large scale sector resulting into further strengthening the linkages between these sectors.

**Vepa (1988)** examined the association between the growth of small industries and growth of resources, author viewed that small industries have strong linkage with the total development of raw material and human resources. If these natural resources are not exploited properly, the industrial development can not be accelerated which will adversely effect the economic growth. For this purpose, author suggested that the small sector should be developed from the grass root level, proper development of small units facilitates optimum use of raw material, infrastructural facilities and human resources, thereby contributing to the growth of large and medium units in a big way. Further, author argued that the small sector has been accepted as an effective instrument in the development of backward areas.

**Ramaswamy (1990)** estimated the partial productivity of labour and capital and relative efficiency using unit level data for four industries: Motor Vehicle Parts, Agricultural Machinery and Parts, Machine Tools and Parts, and Plastic Products. He uses the same relative efficiency index as Goldar (1985) does. His analysis indicates that capital intensity and partial productivity are sensitive to alternative measures of firm size and there is little regularity in the behavior of capital labour ratio and employment size. Partial factor productivity of labor and capital do not exhibit any significant relationship with firm size when size is measured in terms of employment, however, a positive relationship is observed between capital-labour ratio and investment size of the unit. Labour productivity rises while capital productivity falls as the investment size of the unit increases.
further, efficiency indexes show neither systematic nor substantial differences between employment or investment size classes of units. Ramaswamy’s analysis suggests existence of increasing returns to scale and thus rejects the assumption of constant returns to scale.

Sharma and Diwan (1994) provided a comprehensive insight into the small scale sector of India and observed that over the years, this sector has exhibited a tremendous amount of resilience, ability to diversify and improve its performance. Further, the process of liberalisation and market reforms has provided tremendous opportunities for growth of small enterprises. This will however, depend upon the ability of small scale sector to take advantage of its inherent strengths of quick response, innovation and flexibility. Further in the study, to assess the response of small scale sector and its ability to reposition itself in the changed business environment a SWOT (Strength, Weakness, Opportunity, Threat) analysis of small scale sector was carried out. It was observed that with the opening up of the economy, there is a big opportunity for small scale sector to enter into profitable relationships with large and medium units.

Chattopadhyay (1995) with the help of primary and secondary data discussed the causes and solutions of industrial sickness in India. By using various mathematical and statistical tools like financial ratios and multiple regression, it has been observed that sick industrial units have been suffering from managerial inefficiency, demand recession, obsolete plant and machinery and labour problems. Amongst these problems, it has been found that managerial inefficiency is the most serious one, followed by demand recession or market constraints. Further, study observed that causes of sickness of small scale industries are different from those of large sector. Small scale sector is being deprived of financial aid by the financial institutions, they lend them only when the security of their loan is guaranteed. Study made empirical analysis especially for textile and engineering goods industries and concluded by suggesting that mere
recommendations and enactment of policies is not enough unless proper implementation is ensured. Therefore, government should take necessary steps to tackle the problem.

**Jain (1996)** observed that liberalisation had compelled Indian firms to improve product quality, internal productivity and reduce costs through a combination of organisational restructuring, downsizing, process re-engineering and computerisation. These measures will be inadequate in the next century as firms will face different kinds of competition in globalised era. Global firms move towards creating knowledge products by using superior human and organisational skills and state of art technology. Indian firms should use innovation, entrepreneurship and information technology in strategy and corporate philosophy to create competitive challenges in global success.

**Nath (1996)** performed inter-state comparison of relative efficiency in small scale industry of India using the data culled out from the reports in second all India census of small scale industrial units conducted in 1988-89. However, the state level data was obtained from corresponding state wise volume of the report. The study comes up with the results that in Maharashtra and Madhya Pradesh, most of the small scale industries are relatively more efficient than in other states. However, in Andhra Pradesh, Bihar, Kerala, Tamil Nadu and West Bengal they were relatively less efficient. Use based classification of industries revealed that consumer durable industries had some of the highest average efficiency indices and relatively smaller coefficient of variations whereas, the intermediate product industries and the consumer non-durable industries had wider variation in their relative efficiency indices across states.

**Justus (1997)** pointed out that small scale industry play an important role in the economic development of a country. The promotion of small scale industry has been widely recommended as one of the most appropriate means of industrialising the industrially backward region or countries. The small scale
sector has certain inherent advantages like low capital intensity, high employment
generation, more equitable distribution of income and wider dispersal of
industries. The author revealed that the growing incidence of sickness in small
scale sector is a matter of concern. Since this sector is a vital part of the industrial
structure.

Kumar (1997) brought out that the small scale sector has played a vital
role in the overall economic development of a country like India where millions of
people are unemployed or underemployed and most of the entrepreneurs are
capable of making only small investment. The small scale enterprises are also
considered as an important instrument for promoting rapid industrial growth by
providing greater employment opportunities, reducing regional disparities and
removal of economic backwardness of the rural and underemployed segments in
the country. The study concluded that the small scale sector performed extremely
well in all spheres of industrial activities i.e. production, investment and export
during the period from 1973-74 to 1993-94. The small scale sector achieved all the
employment targets of eight five year plan. In the globalisation era, small scale
sector demonstrated its capability to withstand the forces of competition the results
showed that substantial structural changes have taken place in the structure of
employment and gross fixed capital of small scale sector. The results further
indicate that a significant technological change has taken place in the small scale
sector during 1972-1988 and also process of capital deepening in small scale
sector has been observed.

Gangopadhyay and Wadhwa (1998) analysed the changing pattern of
labour productivity, labour costs and TFP in Indian industries over the period
1973-74 to 1993-94 at the disagreed level. 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 labour productivity. The rate of
growth of labour productivity was consistently higher in the second sub-period in all industries. The study also explored that gains in labour productivity have been associated with falling unit labour costs over the period. In four major exports driven industries, namely, textiles, leather, metal products and other manufacturing, the rising labour productivity, capital deepening and falling labour 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. The analysis of estimates of TFPG obtained from Translog index showed that the front-runner in the TFPG performance is the export driven industries. The only industry in which TFP fell during the period 1974-93 was wood and wood products. The most of industries experienced a turnaround in the early 1980s in respect of TFPG but there seems to be a reversal in the later years. The results of panel estimation of the Translog production function with and without industry effects showed: (1) TFP grew at the rate negative two percent during the period 1973-74, and (2) technical change was not Hicks-neutral, but capital augmenting. The author mentioned that their results are in contrast of the results of the Ahluwalia’s (1991) in following respect; (i) the present study confirmed a labour saving bias in technical change while the Ahluwalia’s study found a capital-saving, bias (ii) Ahluwalia found a structural break in TFPG since 1982-83 while no such structural break in TFPG from 1980 to 1992 has been noticed.

Singh (1998) highlighted that the small scale enterprises is the seed of industrial growth and while process germinates in the small enterprises. This sector is the next only to agriculture in providing opportunities for gainful employment. Study also revealed that the small scale industries often provide the soil and opportunities for innovation, research and increasing efficient ways of doing business. No doubt, this will help the Indian industry to become
internationally competitive to achieve higher growth rate than that achieved so far. According to the author, the empirical evidence of research studies and over all trends has repeatedly shown that the small scale industry is competitive on its own. These industries would relate to up gradation of technology levels, quality consciousness, international competitiveness and better management practices.

Kumar (2000) viewed that small scale sector plays a vital role in socio economic development of the country, very less discussion have been made on its role in the Post-WTO era and there is a need to have thoroughly study of existing policies and programmes and initiate a comprehensive WTO compliant policy for development and promotion of small scale sector. Author suggested a follow up action plan and along with this, emphasised on easy accessibility of small scale industries to information and awareness of national and international scenario prevailing. He suggested quick identification of grey areas and adoption of remedial measures to remove bottlenecks, adoption of modernisation, technical-up gradation, providing infrastructural and other facilities like easy access to credit, transfer of technology, simplifying rules, tapping and ensuring optimum use of available resources and involving non government organization in decision making and implementation process.

Kumar (2001) endeavoured to analyse regional variations in technical efficiency of Indian manufacturing sector using the method of SFA. The results revealed wide variations in the technical efficiency of manufacturing sectors of different states. The highest level of technical efficiency has been observed in the manufacturing sector of Maharashtra. The states of Maharashtra, Karnataka, Gujarat and Haryana operate close to maximum technically feasible production levels since their manufacturing sectors realised more than 90 percent of their technical potentials. In the remaining 11 states including the industrially developed states of West Bengal and Tamil Nadu, the level of technical efficiency
has been observed to be less than 80 percent. It has been found that the mean technical efficiency for 15 states was 77 percent.

**Vasudeva (2001)** discussed the role, challenges and opportunities for small scale sector under WTO regime. The small scale industry in India must brace itself for the challenges ahead or there will be dislocations in some of the highly protected sectors. Author explained that the concern of the small sector enterprises development in India has generally been expressed in term of parts rather than whole, technology, credit, raw materials, etc. have often been highlighted as problem areas and several public institutions, ranging from government agencies down to FDI, have justified their role as problem solvers rather than as active agents of change. Today it is imperative to have a clear vision of small enterprise economy which can contribute positively to the employment target. The removal of remaining quantitative restrictions would lead to an anomalous situation in the case of products reserved for SSI sector, as the reserved items could be imported freely. It would not make any sense therefore, to continue with reservation of product lines alongside free imports. What is not understood is the government’s continuous reluctance to do away with the reservation of items for SSI sector even when the reserved items will face an open competition from imports and reservation shall become meaningless.

**Kumar (2002)** attempted to look into change in the growth patterns, levels of efficiency and technological changes which textile industry observed overtime. The capital efficiency in the industry has been deteriorating overtime as is reflected by the rising capital output ratio. The textile industry continues to bear the pains encountered during the macro adjustment process which call for changes in product mix as well as organisation in the face of changing demand and supply factors in the domestic market in particular and international market in general.

**Rajesh and Duraisamy (2002)** analyzed the effect of economic reforms on Indian unorganized sector in general and on the manufacturing sector of Indian
states in particular. The study identified that one of the major problems confronting the India unorganized manufacturing sector is to increase the level of production through improvement in productivity, leaving the employment-generation capacity of the sector untouched. Further, in productivity growth and efficiency aspects, a wide gap is noticed across the Indian states. A subsequent regression shows that there is a tendency towards convergence in the productivity growth rate across the Indian states. It suggests that technological up gradation needs to be prioritized if the output of the unorganized sector has to be improved.

Jain (2004) analysed the growth of small scale sector, government policy towards small scale sector along with problems faced by them due to globalisation in the pre and post liberalisation 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 globalisation this sector is now exposed to severe competition both from domestic and foreign firms. In the post reforms 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 revealed that the problems of small scale sector are multi-dimensional especially in the liberalised 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 suggested 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.
Nikaido (2004) attempted to present some policy implications for the better development of small scale industrial sector which after the liberalisation of Indian economy in 1991, was recognised as a growth engine of the economy. The technical efficiency of this sector was measured by using a stochastic production frontier model. The impact of firm size and geographical agglomeration on the measured technical efficiency was also examined in the study. The industry state wise data for industrial sector were drawn from the Second All India census of small scale units. Variables such as production, employment, fixed investment, capacity utilisation and the number of units were utilised. It was observed that due to competition with large industries and foreign firms, small scale industry has not had the incentive to grow into larger units and has therefore ignored the quality of its goods. Moreover, agglomeration of firms was found to be positively affecting the measure of technical efficiency, while the firm size had a negative effect on it. Thus, the supporting policy itself might have prevented the potential capacity and innovative nature of small scale industrial sector. It was suggested that for the promotion of clusters, the government needs to support infrastructure around clusters and technological upgrading. Moreover, promotion of links with external agents like buyers and export traders can provide management know how, improved designs and new techniques for the better development of small scale industrial units.

Subrahmanya (2004) highlighted the impact of globalisation and domestic reforms on small scale industrial sector and found that small industry had suffered in terms of growth of units, employment, output and exports. Further, author highlighted that the policy changes had also thrown open new opportunities and markets for the small scale industrial sector and suggested that the focus must be turned to technology development and strengthening of financial infrastructure in order to make Indian small scale industry internationally competitive and contribute to national income and employment.
Latha (2005) highlighted that small scale industrial 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, incentives and encourage innovative activities of entrepreneurs for the development of this sector during the era of globalisation and competition.

Mahambare and Balasubramanyam (2005) analysed the impact of trade liberalisation 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. Improved access to imported technology in the post-reform period seems to have had a positive impact on the efficiency. Although foreign owned firms continue to be the most-efficient, yet their advantage in technical efficiency seems to have declined in the late 1990s. Technology acquisition, efficient utilisation of resources and infrastructure development were considered some of the factors which possibly contributed to the increase in total factor productivity growth.

Kumar (2006) estimated 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 post-reform period (1991-92 to 2001-02). The total factor productivity growth (TFPG) is estimated using Translog
model with three inputs, viz. labour (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. Within the sub sectors, the worst affected was the fertilizer industry as the TFPG declined significantly in the post-reform period. Results further showed that the productivity differentials were found at firm level as well as in chemicals industry.

**Rathod (2007)** evaluated the impact of globalisation on small scale industrial sector and found that this sector exhibiting a striking export performance and showed export had grown up to double digit from the last ten years. The study concluded that both opportunities and challenges were raised as the impact of globalisation on Indian Industry as a whole and the small scale sector in particular. The study found that a major portion of our exports would have to gear up to the new era of boundary less economy. Author suggested that there was need for simplified legal and regulatory framework, good governance, sufficient and accessible finance, suitable infrastructure and competitive environment for the development of this sector.

**Dinesha (2008)** described the importance of MSMEs and its contribution to social and economic development objectives like labour absorption, income distribution, rural development, poverty eradication, regional balance and promotional of entrepreneurship. The main finding of the study was industry and government agencies can play a significant role in educating small units about the
changes in the business environment and the necessity of going in for technological upgradation to succeed in the era of globalisation, liberalisation, WTO regime and with the slowing down of United State economies and European Union on the one hand and ever increasing competition from Chinese economy.

Lozi (2008) examined the role of small scale industry in the economic development of Jordan and found that growth of small scale industry in terms of employment, production and sales has increased due to globalisation and domestic liberalisation, but not as planned therefore, small scale industry should be encouraged to make a sustainable contribution in national income, employment and exports. Further, author suggested some recommendation for the development of this sector; establishment of government centers in all districts of Jordan to provide the needed services and facilities to small scale industry; specialised training centers; fostering technology development through either technology transfer or technological innovations or inter-firm linkages should be emphasized; through seminars and workshops at the local level; adequate inflow of credit; strong linkages between small and large scale industries; encourage to employ more Jordanians women. However, author identified marketing as one of the major problem of the small scale industries in Jordan.

Suresh and Shashidhar (2009) have conducted a study which highlights the importance of small scale industries and its role in economic development in the era of economic reforms and observed that significant contribution was made by this sector in employment generation as well as rural industrialisation. It has also been noted that under the changing economic scenario, the small scale sector has the opportunities to explore through cost effectiveness, improving quality of the product and diversifying the production process, however, the challenges can be confronted by enhancing competitiveness at both intra- and international levels. The intra-national competition has come from the large industrial sector, whereas,
the international competition is to be faced from the large multinational corporations.

**Arora (2010)** examined capacity utilization, technical efficiency and total factor productivity growth in Indian sugar industry using the data for 31 years spanning over the period 1974-75 to 2004-05. Using the linear programming based data envelopment analysis, the study concluded underutilisation of capacity to the tune of 13 percent per annum. Alongside, there exists high technical inefficiency to the tune of 35.55 percent per annum. The major cause observed for such amount of technical inefficiency is managerial technical inefficiency. The analysis of TFP growth reflects that the technical progress is major source of output growth in Indian sugar industry during the post-reforms period. The analysis of impact of economic reforms delineates a precipitous decline in capacity utilization and technical efficiency during the post-reform period in comparison to the pre-reform period.

**Dasanayaka (2011)** conducted a study pertaining to global challenges for SMEs in Sri Lanka and Pakistan in comparative perspectives and found that small and medium scale enterprises/industries (SMEs) function as a lifeline in informal sectors of Pakistan and Sri Lanka due to their immense contribution in areas such as employment generation, exports, equitable income distribution, social stability, efficient domestic resources usage and regional development. However, a large number of SMEs in both countries are struggling to survive in today's global competitive market. Their sustainable growth is threatened by the impact and challenges of rapid globalization. Absence of any networking and cooperation among the SMEs and lack of linkages with large scale industries have aggravated these problems. In spite of the various policy reforms, establishment of SME related apex bodies, incentives and assistance offered by the national governments in both countries, SME sector has suffered in many fronts. Author suggested
coherent policies and strategies to develop SMEs to their full potentials both in Sri Lanka and Pakistan under intense globalization move.

Section –II

Qommen (1972) conducted a survey of randomly selected 45 small scale units in Kerala to investigate the marketing assistance provided by the government to this sector along with assistance of finance and services. The study undertook to examine the modernisation, industrial estates programmes and rural industries project with regard to small scale industries in Kerala. It has been observed that 44 percent of the units sell their products throughout India, 28 percent at state level and remaining 28 percent sell their goods in the local market. Most of the units sell their products through retailers, wholesalers, commission agents, government, ancillaries, sub-contracting etc. The study also revealed that there are various marketing assistance schemes such as marketing research, quality marketing, ancillary development, export promotion and direct government purchase programme, but small units could not take desired advantage of these programmes due to ignorance and lack of communication. It has been observed that the state of Kerala faces a peculiar marketing problem of 'distant cost' in the purchase of inputs as well as sale of output and so special strategy is desirable in this regard.

Brahma and Subas (1979) examined the development of small scale industries in India with special reference to its development in Pune region. In this regard the data was collected from 276 modern units and 98 traditional units. The main focus of the study was to find out the problems of development of small scale industrial units, along with other problems, the study indicated that the problems of raw material and marketing by small scale units are the major problems. The irregular supply and low quality of raw material are very common, with regard to marketing, delay in payment and exploitation at the hands of middlemen are the other noteworthy problems mentioned in the study.
Kaur (1982) conducted a study of Haryana during the period 1966-78 and found that there was overwhelming concentration of industrial units and employment opportunities in Gurgaon, Ambala and Sonepat districts and the relative change in the number of units, output and employment observed during the study period. Further, author indicated that inter district disparities in the growth of industries had widened and with the help of location quotient and coefficient of localisation, a high degree of spatial concentrations was observed in wool, silk and synthetic fiber, wood and wooden products, food manufacturing, beverages and cotton textile industry group.

Mohanty (1983) examined the marketing structure of small scale industrial products by taking a sample of 178 small units of Cuttack. The study revealed that 64 percent of the units sell their products directly to the consumers, while 36 percent sell their products through distributive agencies. It has been further observed that if marketing cost is taken into consideration, it constitutes only a small percentage of the total value of production of small units which indicates that small units do not take pains to develop market for their products, further, it was found that Director General Supplies and Disposal and other Government stores do not purchase items from small units.

Amin (1990) focused on the regional spread and structural set up of small scale industries in Gujarat and examine the regional share of small scale industries in the industrial sector of the state. Further, the author attempt to make an overall assessment of the performance of the industries among three homogenous regions of the state during the period 1965-1985: the study found that the spread of small scale industrial sector across the industrially homogenous regions is positively influenced by basic economic characteristics of the concerned region. The pattern of regional distribution of the SSI sector suggests the growth prospects of SSI sector over a period of time.
Balu (1991) examined the overall financing of small scale industries and also the contribution of the financial institutions and banks in financing small scale units. To facilitate the study, primary data collected through a sample survey of 150 small scale entrepreneurs spread over Madras city. The study gives an integrated view of various sources of initial capital available to the sample entrepreneurs and the problems involved in availing the financial help from the institutions. It has been found that the entrepreneur with non business background relied heavily on external sources like banks and other financial institutions. They face problems like delay in sanction and disbursement, inadequacy of loan, insistence for collateral security, impersonal and non cooperative attitude of the officials. A single agency approach has been recommended as a solution to these problems in the study.

Subrahmanian and Pillai (1994) surveyed small industries in Kerala and compared their performance with the small industries in other major States and with All-India average. On reviewing the relative growth and structural changes of small industries in Kerala, it was found that the major problems encountered by this sector included low capacity utilisation, low factor productivity, unfavourable usage productivity relationship and industrial sickness which emerged due to severe financial and marketing problems. To tackle the performance crisis, a change in the growth strategies is required, which could help the units to reap economies of the scale, sectoral linkages etc. so as to create the environment required for efficiency based growth of small scale industries in Kerala. Further, in post reforms era, one strategic option for Kerala could be the promotion of small industry on organisational patterns, based on inter-sectoral linkages by building up a diversified industrial structure.

Ramesha (1999) in his study discussed the state wise variation in credit advancement to small scale industries by scheduled commercial banks. Exponential function has been used to estimate the compound growth rates while
co-efficients of variation were used for measuring the disparity. The study revealed that credit advancement by commercial banks to the small scale sector has increased overtime. However, this growth is not in proportion to the growth in production of small scale sector, causing a shortage in the supply of credit to the sector. It was further revealed that inter-state disparities regarding distribution of credit have widened over time. Such disparities would have been acceptable if these were in accordance with the state wise contribution of small scale sector in the total output, but the study showed that major contributing states of Madhya Pradesh, Bihar and Orissa are extremely credit-deficit whereas Maharashtra, West Bengal, Karnataka and Punjab enjoy a more credit supply as compared to their contributions to total output. The study confirmed that the regional pattern of small scale industries development and distribution of credit to small scale industries by scheduled commercial banks do not differ significantly. It has been observed in the study that in the long run, flow of credit will depend upon the availability of infrastructure and support services for small scale industries. The study suggested opening up of specialised branches of scheduled commercial banks in credit-deficit states with a special thrust on financing micro enterprises to improve credit flow to this sector.

Rajyalakshmi (2004) reviewed the productivity awareness among small scale industrial units in Visakhapatnam district of Andhra Pradesh at micro level and explored small scale entrepreneurs, how they measured productivity in their units. The study based on primary data collected by using structured schedule through personal interviews. A sample of 200 small scale industrial units has been selected for the study and found that chemical units were more capital intensive and it was low in food and agro units further, productivity awareness was not noticed in the small scale industrial units. The study concluded that success in small industry will be best achieved if the productivity culture will be clearly understood by all the employees.
Mishra (2006) in his study highlighted the working of small scale industries in Orissa during the year 1996-97, 1998-99 and 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 labour intensive depending upon the type of product categories further, 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 and 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. A bottom up approach is need of the hour, such approach will bring an attitudinal change among the entrepreneurs in the state and will also help in the identification, assessment and promotion of small scale units. These small scale units will use the local resources and will have strong linkages with the local and outside markets. In such a way the small units will be sustainable and would help in a positive way in their further development, in a state like Orissa.

Junejo (2007) conducted a study of Larkana estate in Pakistan to examine the root causes of sickness in small industries and their solutions. A sample of 83 small scale industries from Larkana estate area was selected and found that 23.25 percent of the units fell sick because of lack of good management, 16.74 percent short fall of working capital, 13.95 percent inadequate feasibility reports and 13.95 percent marketing problems. The impetus of all these endeavours was on the large
scale industries and manufacturing concerns due to high rate of failures, owing to economic slumps, institutional malpractices, political motives and damaging activities of labor unions in that sector, left the formal lending institutions with huge infected portfolios. Further, insufficient and low quality production of this sector to meet the demands of local and international markets, deficit in balance of payments and ever rising unemployment cause sickness in small scale industrial sector. To overcome this difficulties author suggested immediate training in the field of financial affairs, management and marketing and opportunities to their educated children for running the parent industries.

Sivalingam (2008) analysed the performance of micro and small enterprises in Tamilnadu for the period of 1991-92 to 2007-08 by applying regression model. The results based on the trend line shows an annual average increase in MSME units, investment, employment and production. However changes are visible in textile, leather and automobile sectors because due to pressure of competition from domestic and international market. Further analysis shows micro and small enterprises have recorded good performance and meet the expectations of the planner in future as far as employment generation is concerned. Hence, the policy interventions should be based on support of infrastructure, direct catalytic subsidy, technical, information and marketing.

Gupta (2009) studied the future prospects of small scale industrial sector of Punjab by using Auto Regressive Integrated Moving Average (ARIMA) model through Box-Jenkins to generate forecasts regarding variables of small scale industrial sector of Punjab. He expected that number of units and employment would probably grow at a slower pace as compared to investment and production. The forecasts have depicted a bright picture ahead but with low scope of employment opportunities. These forecasts can provide Government and policy
makers a direction to design policies accordingly to pushup growth in this sector. Further, author suggested that catastrophic changes are required so far as industrial policy of Punjab is concerned and Punjab government should announce package of incentives not only for existing industrialists but also for new venturists. Moreover tax benefits, loan on soft terms and infrastructural facilities should be in the priority list of industrial blueprint of Punjab. In addition to that woman entrepreneurship should be promoted in the state at par with leading industrial economies of the world, to provide strong footing to small Scale industry of Punjab.

Kumar (2009) in his study examine the growth pattern and productivity trends of small scale electrical machinery and parts industry in Punjab and find that despite the introduction of liberal policies, the number of units, fixed capital investment, direct employment and production failed to show encouraging results. A massive decline in CAGR of the liberalisation period was observed for number of units and employment. Clear deceleration was noticed in the growth of the other two variables production and fixed capital. Partial productivities of labor and capital have increased significantly, capital output ratio has fallen drastically and capital intensity has registered insignificant growth during the overall period of the study. Further he finds that fiscal incentives provided by some neighboring states coupled with unfavorable and irresponsive approach of the state administration are forcing the industry to relocate their businesses. Authors suggested that the state administration should put in place a healthy, congenial and investment friendly policy and regulatory framework so that the small-scale sector in general, and the electrical machinery and parts industry in particular, can flourish in this fast changing competitive and globalised business environment.

Singh (2010) conducted a study of rail coach factory, Kapurthala and its micro, small and medium ancillary units in Punjab and computed annual
compound growth rate using primary and secondary data and found that the Punjab’s industrial scene is mainly dominated by MSME’s working as ancillary units for various parent firms. RCF and its ancillary units has encouraged employment generation in Punjab further there is no significant wage difference between small and medium units but significant wage difference was between micro and small units on the one hand and between micro and medium units on the other. However, these entrepreneurs are not fully aware about various forms of IPRS. Punjab government has taken various measures for the development of these units for multiple reasons like employment generation and promotion of entrepreneurship. The government of India also contributing a great deal dedicating the rail coach factory to boosting the economy of Punjab.

Section-III

It may be seen from the above reviewed studies that most of the work has been done relating to the overall small scale industrial sector in India and comparatively less attention has been paid to evaluate the efficiency and productivity levels of small scale sector at regional level during the post reforms period. The survey of empirical literature also reveals that there exists scant literature relating to evaluate the growth performance of small scale industrial sector at regional level using the indicators of technical efficiency, scale efficiency and total factor productivity growth. The present study is, therefore, an attempt in this direction and incorporates the major considerations relating to the measurement of technical efficiency and productive performance of small scale industrial sector both at national and regional level.

The review of the existing literature also showed that phenomenon of sickness is the major reason of slowdown in Indian small scale industrial sector
but not much work relating to sickness has been done at the regional level. In the present study, this aspect has been empirically examined to measure the extent of sickness with the help of working capital gap in Punjab, Haryana \textit{vis-a-vis} All India. Further, the productivity performance has also been evaluated for the above said regions to check its growth robustness in the competitive environment imposed upon this sector during post reformed era. Such analysis may have an important bearing on industrial development in general and small scale sector in particular in the post reforms period both at national and regional level. The reform process has posed certain challenges as well as opportunities to the small scale industrial sector especially at the regional level and the present study discusses all the aspects in detail with the help of empirical analysis.