CHAPTER 3

GLOBALIZATION AND INDUSTRIES IN INDIA

“Every morning in Africa, a gazelle wakes up. It knows that it must run faster than the fastest lion or it will be killed.

Every morning a lion wakes up. It knows that it must run faster than the slowest gazelle or it will starve to death.

It does not matter whether you are a lion or a gazelle, when the sun comes up, you had better be running.

And for us in Indian industry, the sun came up in 1991 and it continues to become warmer and hotter.” (Quoted in Kumar et al, 2006)

3.1 Introduction

This chapter concentrates on the impact of globalisation in Indian industry in general and steel industry in particular. Globalisation has not had homogenising effects on countries, as discussed in previous chapters. The responses of countries toward globalisation have been varied as adjustment packages in south, reform programmes in the north and transition policies in the former soviet bloc. India’s responses were characterized by “gradualism”, it proceeded on globalisation path gradually, and did not introduce changes abruptly. Initially, fiscal, monetary and industrial policies were amended, leaving reforms in agriculture and labour to be taken up later.

The development strategy adopted in the 1990s was a clear departure from the centrally planned big push and import substitution efforts of the 1950s. The policies based on planning and import substitution lost its relevance in 1970s. That inward looking approach based on domestic capital and resources could not attain sufficient traction or sustainable growth. In its place, the market based economy which emphasized integration with the world economy and based on export led growth and development gained prominence in the 1980s.

Globalization in India is known as economic reforms or LPG model (Liberalisation, Privatisation and Globalisation). India adopted this path in 1980s partially through...
administrative measures (this has been discussed latter in this chapter) and in 1990s as a paradigm shift in term of policies and practices. These initiatives enabled deep integration of the Indian economy with the world economy, and India succeeded to maintain high economic growth in several consecutive years in 1990s and 2000s.

Major policy changes and other structural arrangements that came with LPG brought about competition among Indian industries. The competition so emerged compelled them to restructure their operations for survival and take the advantages of available opportunities. This chapter outlines the changes in policies and practices in India and their effects on the economy in general and steel industries in particular. The chapter further clarifies the term “Globalisation” in the context of economic liberalization, and equates it with competitiveness and industrial restructuring. It also provides a brief account of economic and industrial development in India since 1950 and the major changes occurred in 1980s-1990s. The last part concentrates on the emerging scenario in Indian economy in general and steel industries in particular after 1990.

3.2 Economic Globalization

Globalization as mentioned in previous chapters has different dimensions such as economic, political, social, cultural and environmental. What is taken up in this study is the impact of economic globalization on industries in India. The economic globalization can be understood as a process of integration of goods and capital markets across the world in which barriers to international trade and foreign investment are reduced. It is to a great extent the result of recent technological advancements that helped cut down transport costs, improve information flows and also corresponding policy changes made to reduce protectionism, liberalize foreign investment rules and make integration easier.

It is an economic arrangement between different regions marked by the reduction or elimination of trade barriers and the coordination of monetary and fiscal policies. It helps to reduce costs for both consumers and producers as well as to increase trade between the countries taking part in the agreement. It also reduces the cost due to economies of scale and increased competition. Integration increases the reliance of economies on each other. It provides opportunities to buy and sell in any country in the world and enables the growth of the global market in finance (Nayyar, 2008).
This opportunity is paramount to developing countries for getting technology and cheap capital goods for their development. It is argued that integration has positive growth impact for developing nations. The integration with world economy can free them from binding constraints of capital and technology needed for economic growth. It is perceived as increasing economic growth, wealth creation, and bringing the fruits of modernization, and technological progress to the countries involved. Faster financial integration can also strengthen the domestic financial system, leading to more efficient capital allocation, higher investment and growth.

The increasing trade is considered an important criterion for integration with the world economy. That trade leads to growth, is an old concept. Then, what is unique about economic globalization? It is the degree, volume, composition and technological change that occurred in industrial production and trade after the 1980s. As per Irwin (2008) industrial production around the world has increased by about 30 per cent after globalization while the increase in trade in goods and services has been 80 percent. The composition of trade has also changed. Service sector exports have soared over agriculture and manufacturing.

Technological changes have obligated manufactures to opt for vertical specialization and outsourcing. It has boosted trade in services by making hitherto non-tradable services into eminently tradable services. Increased trade has also brought specialization and lowered production costs. The declining cost of acquiring information has created opportunities for the trade, and methods of a production used in India are now as good as those in the USA. The new world of specialization has reconfigured economic production in rich and poor countries alike. It enables to cut down manufacturing costs, shifting production to low cost countries.

Economic growth, a major outcome of economic integration, is still considered a parameter of economic development and powerful instrument for reducing poverty. The main argument behind this perception is that growth of the national income reduces poverty. As per estimation, if the growth in Gross Domestic Product (GDP) is 2.5 per cent per annum in real terms, income doubles in 28 years, but when GDP growth rate is 5 per cent per annum, income doubles in 14 years. And if this growth rate is 7.5 per cent per annum, income doubles in 9 years (Nayyar, 2008).
Therefore, growth is crucial, and economic integration provides opportunities for increasing GDP growth. Empirically, it has been proved that incidence of poverty and growth is related, where there is the greatest incidence of poverty, there would be the least amount of growth. For example, China’s rapid growth since 1980 has raised the 400 million of its citizens above the poverty line. There are also other indicators of human development, but economic growth dominates among them, due to its centrality in improving the life of a down-trodden people.

It is a well-established fact that economic growth can be accelerated through outward looking and export led development policy as was followed by the East Asian Countries such as Hong Kong, Singapore, South Korea and Taiwan. They achieved phenomenal expansion in manufacturing for export and attained very high, almost unprecedented rates of economic growth (Rodrik, 2007). The impressive economic performance of China during the 1980s was also attributed to economic integration. These success stories helped in building up a consensus among the policymakers about development strategies for the developing countries, named as “Washington Consensus”.

In 1980s, with the emergence of neoliberal ideology, the so-called Washington Consensus dominated development thinking, especially within the IMF, the World Bank and other international organizations. It is a set of neoliberal ideas designed for the developing countries that they should achieve macroeconomic stability by cutting government spending, including subsidies to the poor, deregulate their domestic markets, privatize state enterprises and open economies to foreign trade and finance.

This Consensus comprises a set of policy choices, and was considered as a desirable policy framework for economic growth. The ten policies that constitute the set are listed below. (Rodrik, 2007):

1. Fiscal Discipline
2. Reorientation of public expenditure
3. Tax reform
4. Interest rate liberalization
5. Unified and competitive codes and standards exchange rates
6. Trade liberalization
7. Openness to direct foreign investment
Almost all developing countries traversed the path of economic integration albeit with some modifications to the policies and framework described by the Washington Consensus and the world witnessed deep integration as had never happened in the past, and the international environment has changed drastically since then.

The results of such policies have not had homogeneous effects worldwide, which is deeply disappointing in terms of growth and income per capita throughout the 1980s and 1990s. Financial crises have become regular occurrences in the developing countries. Economist Stiglitz criticized the Washington Consensus, advocating state intervention with some limited controls on the markets. Markets have imperfections due to informational reasons and the state intervention is required to deal with market imperfections in order to improve the performance, he argued.

Despite his criticisms of the Washington Consensus, Stiglitz does not deny the prominent role of the market in economic development. Stiglitz also recommends similar policies such as free trade, privatisation, liberalisation and deregulation for poor countries. The significant differences are the speed, depth and method of reform. He accepts the potential usefulness of localized state intervention in order to correct specific market failures. The economic policies based either on Washington Consensus or Stiglitz’s views seem to have compelled the developing countries to restructure their economy for taking comparative advantages.

The restructuring of an economy has three dimensions in the long run, such as the management of demand, the management of incentives, and the development of capabilities and institutions (Nayyar, 2008). The management of demand is based on fiscal policy and monetary policy combined with exchange rate policy. The management of incentives, motivated by the objective of minimizing costs and maximizing efficiency at a micro level, is based on a set of policies intended to increase competition between firms in the market place. Domestic and foreign competition is sought to be provided through openness in trade, investment, capital and technology flow (Ibid). The development of capabilities and institutions is
essential a foundation for international competitiveness. These can be achieved through education for human resource development, acquisition of technological and managerial capabilities, and the creation of institutions that would regulate, streamline, and facilitate the functioning of markets.

The process of economic reforms through economic integration has been either strategy based or crisis driven. Generally, this has been crisis driven excepting the few examples of strategy based development, as seen in the East Asian countries. The crisis in the economy, mostly on account of external debt compelled the Latin America, Sub-Saharan Africa and South Asia to go for economic reforms based on the Washington Consensus. Economic reform in India has also been crisis-driven. The paradigm shift in several policies was a result of the immediate economic compulsions of crisis management, and not deliberately planned (Nayyar, 2008). The external debt crisis erupted in 1991 was difficult to manage. This crisis paved the way to introduce economic reforms, popularly known as Liberalization, Privatization, and globalization (LPG). Before detailing the paradigm shift in India, this chapter clarifies the concept of competitiveness and restructuring that emerged due to globalization.

3.3 Competitiveness

The rationale for economic integration rests on the orthodox theory of free trade, whose central claim is that competitive free trade will automatically benefit all industries. The international trade will favour those industries able to produce at the lowest real costs. The real costs depend on three factors: real wages, the level of technological development and the availability of natural resources. Industries in developed countries generally have high levels of technology and natural resources, but high real wages often reduces their competitiveness. Industries in developing countries have low levels of technology but possess abundant natural resources and have low real wages. International competition brings these two different set of industries into collision. In each country, internationally competitive industries would gain, through restructuring and changed policies and practices. The competition occurred at three levels. The first was the national level, and hinged on the economic policy, industrial policy and the changing role of the government. The second was at the industry level, adjusting to the changing structure of the economy and the
adoption of novel business practices. The third level involves the inner dynamics at enterprise level, which has brought drastic changes to take competitive advantages.

For instance, the production of Tata Steel is driven by the imperatives of capital accumulation. Capital accumulation is facilitated by favourable supply conditions, such as the deployment of new cost-saving, efficiency-enhancing technologies and innovation in organization structures. The thirst for accumulation or profits is not a matter of the free choice of Tata Steel or any enterprise, but is imposed as a condition for its survival. For survival, enterprises continuously try to innovate and invest to reduce production costs. Obviously, the firm that can produce more cheaply than his competitors can earn higher profits. Every firm has to run ahead in order to stand erect. Competition not only forces firms to innovate and invest in order to increase the productivity of labour and develop new products, it also compels firms to constantly strive to force down wages, intensify labour-extraction and reduce the number employed.

Competition promotes internal and allocated efficiencies, which leads to competitiveness of a firm. It reflects the position of a firm in relation to others by comparing the qualities reflecting superiority or inferiority which are determined by various aspects of performance and potential. So, competitiveness is a long-term performance of a firm, its ability to compensate its employees, and produce products and services of superior quality at lower cost. Gale (quoted in Burange & Yamini 2010) defines firm competitiveness as ‘the basic capability of perceiving changes in both the external and internal environment, and the capability of adapting to these changes in a way that the profit flow generated guarantees the long term operation of the firm’.

Competitiveness appears to be an on-going struggle for survival, and a function of two factors (Ibid). First, it is determined by the extent a firm can identify the value dimensions that their customers expect, and offer them those through product and service package. During the long run, a firm can be competitive only when it is able to create value for their customers. The second factor of a firm’s competitiveness is the sum of resources and capabilities that makes a firm capable to create and deliver the identified value dimensions for the customers. So, competitiveness is a well-defined notion and the long term goal of the firm. Any industry can be uncompetitive, if its
market position is unsustainable, and will cease to exist if it does not improve performance. Three types of competitiveness can be identified in various contexts ((Krugman as quoted in Burange & Yamini, 2010):

1. Economic Competitiveness: The ability of specific firm to compete in the economy, via price and other product attributes.

2. Domestic Competitiveness: The ability of specific firms to compete for market share with other firms in the same country.

3. International Competitiveness: The ability of specific firms to compete for market share with the same business located in other countries.

Further, the competitiveness of a firm has two features, i.e. its relative competitive performance and its potential among industries. These two features help in gaining greater market share and penetration in the international market. This would not be possible without the help of financial and non-financial strategies as sales and marketing, human resource, customer orientation and technological upgradation. In nut-shell all these features of competitiveness depend on success of restructuring in an existing firm.

3.4 Restructuring

Restructuring is an organizational method to catalyse capitalist development in general and reorganization of the firm capacity in particular. It is the result of a conscious investment and innovation strategy, which involve new ways of running the firm by reviewing existing organisational design and structure, system, procedures and organisational philosophy. It also includes values, leadership and criteria of rewarding, recruitment, selection, promotion and transfer.

Since 1990, restructuring has emerged as the main strategy for Indian industries in search of excellence and competitive edge as also experimenting with various tools and ideas. The national and international environment is changing drastically, and restructuring assuming paramount significance. Without restructuring, survival of any firm looks difficult. Globalization influences firms in both ways: either they take it as an opportunity to leverage the benefits and capitalization or as a challenge to compete with new competitors' products with high quality and low cost. Both ways lead to restructuring.
Restructuring is also associated with the growth of an industry. Growth could be organic or inorganic or both. Any firm can grow with enhanced customer base, higher sales, and increased revenue through more deployment of men, money, material and machine with existing installed capacity, known as organic growth, or through expansions of existing capacity and mergers, acquisitions, takeover of other industries, known as inorganic growth. Organic growth has limited scope and could be helpful in the short term. Given the ever increasing changes in world, this growth does not seem enough to survive in the market. So, inorganic growth is needed to beat competition together with organic growth. For both types of growths, restructuring is inevitable.

The restructuring processes provide opportunities for rebuilding or rearranging of a firm. It is a comprehensive process, by which a firm can consolidate its business operations and strengthen its position for achieving its short-term and long-term objectives. In the highly regulated in closed economy that existed before 1990, firms had faced several limitations in restructuring including regulatory interventions from the government side.

The restructuring policies at macro level enabled the integration of the national economy with the global economy after 1991, and it compelled the Indian industry to reshape and reposition itself to meet the challenges and seize the opportunities that emerged due to integration. Also, Indian industries were forced to concentrate on quality, range, cost and reliability of product and services, which was a welcome departure from the norms followed before 1990. Managements are now more focused on their strength and sort out weakness to set priorities. Such introspection has helped them to focus on core competencies or identify loss making units for sale or outsource. To sum up, restructuring is advisable for the following reasons:

1) To expand the business or operation of the industry;
2) To carry on the business of the industry more economically or efficiently;
3) To focus on its core strength;
4) Cost reduction, by deriving the benefits of economies of scale;
5) To have access to better technology;
6) To have a better market share;
7) To become globally competitive.
Generally, restructuring can be categorised into three types, i.e. Portfolio, Financial, and Organizational/Operational. Portfolio restructuring involves ‘matching business requirements with internal capabilities’, ‘achieving and sustaining competitiveness’, and ‘developing long-term internal and core competencies’, while financial restructuring involves coordinating management of money with growth. It strives to enlarge the size of the cake in order to increase the share of the equity holders. It also ensures competitive cost structure and optimizing return on investment through an appropriate mix of debt and equity. Organizational/Operational restructuring consists of continuous examination of the requirement of competent management and manpower at all levels and matching the same through induction, training and development. It is an on-going exercise, in line with changes in the nature of business (Kumar & N, 2013).

Currently, the Indian industrial scene is dominated by family-based enterprises like Tatas, Birlas, Ambanis, and Jindals (Gupta & Mundhra, 2006). Globalization has provided the most opportune time for these industries to revitalize their strengths, reform their structures and strategies and re-launch themselves aggressively in global markets. Post reforms, they seemed more focused on defending domestic markets and finding opportunities abroad. Mergers and acquisitions helped to increase their business aboard through which they have gained significance in post-liberalized era. Most Indian industries are found to have selected this path for acquiring new business and new market (Saraswathy, 2010).

Competition due to globalization has reduced the product life cycles, and the industries are compelled to bring out new products quickly in the market unlike in the past. Shortened product cycles meant high R & D intensity, new technology, and innovation of a new product. These circumstances prompted industries to engage in various kinds of agreements to reduce the high risk associated with innovation. Mergers and acquisition strategy has helped to reduce this risk some extent. This trend has benefitted Indian industries as well, and several industries aboard have been acquired by Indian industrial houses in recent years. Some overseas acquisitions by Indian private steel industries are listed in table 1.3.
Table 3.1 Overseas acquisition by Indian Steel Company

<table>
<thead>
<tr>
<th>Industry</th>
<th>Year</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tata Steel</td>
<td>2005</td>
<td>Nat Steel Asia, Singapore</td>
</tr>
<tr>
<td>Tata Steel</td>
<td>2006</td>
<td>Millennium Steel, Thailand</td>
</tr>
<tr>
<td>Tata Steel</td>
<td>2007</td>
<td>Corus, UK</td>
</tr>
<tr>
<td>Essar Group</td>
<td>2007</td>
<td>Minnesota Steel</td>
</tr>
<tr>
<td>Essar Group</td>
<td>2007</td>
<td>Algoma Steel</td>
</tr>
<tr>
<td>JSW Group</td>
<td>2005</td>
<td>Euro Ikon Iron and Steel</td>
</tr>
</tbody>
</table>

Source: Company websites

Restructuring involves both economic and social aspects and the process takes long periods of time to fructify, from several months to several years. It has far-reaching effects on firms and the organization of work within the firms. It involves a complex and interrelated set of processes, with multiple repercussions. For industrial workers, restructuring seems heighten their insecurity and precariousness.

The following points capture the cause and consequences of restructuring (Gazier & others, 2008).

- **Massive labour rationalization**- it includes widespread compulsory redundancies, job insecurity and low staff morale. Many redundant staff has been forced into lower paid, lower skilled and less permanent employment.

- **Strategic change**- the previously bureaucratic and inflexible firms have become more reflexive, market-responsive organizations, seeking expansion into international markets.

- **Cultural change processes**- these involve a transformation from bureaucratic management culture into a modernized HRM approach incorporating the full range of current management discourse.

- **Rationalization and consolidation of production technology and capacity**- this involves the introduction of new technologies, the use of new production control techniques and the reorganization of employment into new business units.

The Indian industries in general and Tata Steel in particular have experienced the restructuring processes after 1990. It cannot be perceived well without knowing the history of economic and industrial development in India since independence as well as the causes behind the paradigm shift in 1991.
3.5 Economic development (1950-91)

The process of economic development in India was initiated with a view to achieve real economic freedom from Western domination and to become a self-sufficient country. India’s first Prime Minister, the late Jawaharlal Nehru believed that economic independence was indispensable to retain political independence. He emphasized on heavy industry and inward looking policies which would promote domestic production via direct public sector participation and licensing of private sector investment to substitute imports.

Import substitution strategy was the dominant policy-plank at that time for newly independent country like India to promote economic and industrial development. The Second Five Year Plan also endorsed this view through this statement. “It is only by developing basic industries that a secure foundation for capital formation can be laid and the country made more and more independent of imports of critically needed plant and equipment.” The objective of this strategy could be seen as promoting a production structure through planning and industrialization that would eliminate the need for imports, and free the country from the threat of closure of the world markets. There is little doubt that this strategy worked well initially, and India achieved 4.1 per cent growth in the first 14 years after independence as against the less than one per cent growth in the pre-independence era.

One drawback of this growth was that it was based on borrowings from abroad and expansionary fiscal policies at home meant to boost public investment. Evidently, it was not a sustainable strategy and it had led to a crisis situation. Two consecutive droughts in 1965-66 and 1966-67 and other major imperatives like foreign exchange budgeting to tighten imports as well as investment, nationalization of banks, oil companies and coal mines resulted in the growth rate plummeting to just 2.6 per cent in the period 1965-75 from 4.1 per cent during 1951-65. By taking the population growth at 2.3 per cent per annum for that period, it meant a per-capita income growth of just 0.3 per cent (Panagariya, 2008).

By the middle 1970s, it was becoming increasingly clear that the strategies the government adopted such as deepening import substitution and ever-tightening licensing policy would scuttle the industrial production and efficiency given also the lack of competition and inefficient management. In contrast, South Korea had
initiated outward oriented policies initially which helped the country to extract the export potential from labour intensive sectors in the early 1960s and South Korea witnessed a rise in growth rate from four percent in the 1950s to eight nine per cent range in the 1960s.

The Indian government did realize the problem, though it did not publicly acknowledge, yet started to ease the controls through administrative measures. These measures included capacity expansions, increase in the threshold level of investment below which no license was required, and de-licensing some selected sectors.

The mid 1980s also saw more acceleration in liberalization with continued fiscal expansions through external borrowing though partially, as a result of which the economy achieved a significant rate of growth of 7.6 percent in 1988-89. However, it was followed by a balance of payment crisis and the growth rate in 1991-92 came down to 1.2 percent. This necessitated a paradigm shift in economic policy and resulted in the introduction of the New Economic policy in July 1991. The New Policy enabled the government to bring about drastic changes in economic policy in regard to Indian industries.

3.6 Industrial development (1950-91)

Industrial development in India was in conformity with the industrial policy enacted by the government from time to time since independence, and consisted of three consecutive ideological phases such as the dominant role of the public sector, regulation of private sector through licensing, and distribution and price control. Initially, heavy industry got prominence and was considered crucial for infrastructure development to avoid dependency on external sources. However, this policy had its limitations, as inability to generate adequate employment opportunities because of its capital intensive nature. So, production of consumer goods was left to households or the private sectors. The Industrial Policy Resolution (IPR), 1948 also endorsed this concept, the stipulations of which are as follows (Panagariya, 2008):

1. The state will have monopoly over atomic energy, arms and ammunitions, and railways,

2. The state would have the exclusive right in Iron and Steel, Shipbuilding, Mineral oils, coal, aircraft production and telecommunication for new investment. It could invite private sector production in the national interest.
3. Eighteen industries were categorized for regulation and licensing of private sector.

4. All other industries would be open to the private sector without constraint.

The Industrial Policy resolution 1956 which replaced the IPR, 1948 expanded the scope of public sector and created three categories of Industries: Schedule A had 17 industries including all nine industries in categories (1) and (2) of the IPR, 1948.

Under this, the state had the exclusive right of new investment, but also allowed the existing private firms to operate and expand in the national interest. Twelve industries were listed in Schedule B and opened to the private sector with ensuring that the state would also increasingly establish new undertakings in them. The remaining industries were included in the third Schedule and considered to develop through the initiatives and endeavours of the private sectors. The state had a right to enter these industries also. Both resolutions increased the role of the public sector and its share in total investment rose from 46 percent to 61 percent between First Five Year Plan and Second Five Year Plan periods (Panagariya, 2008).

The Development and Regulation Act (IDRA), 1951 was introduced for regulating the private sectors. This Act was sought to encourage “small” enterprises, achieve regional balance in industrial development, spell out the circumstances under which the government could take over private firm’s management and control, and regulate distribution and prices of products. The provisions of IDRA applied to those industries where manufacturing processes were carried on either by the aid of power and by at least 50 workers, or without the aid of power and by at least 100 workers. It made mandatory to all private undertakings to register with the central government and license was required for capacity expansions (ibid).

Apart from registration and licensing, this act empowered the central government in terms of investment in plants and machineries, the number of employees, the quality and cost of the product. It also empowered direct control of the private undertakings under certain circumstances. Obviously, the IDRA 1951 provided the central government broad power to regulate private sector industry. The government had powers to control imports, distribution and prices of industrial products. The idea behind these controls was to ensure allocation of an adequate supply of inputs to priority sectors at reasonable prices to bring equity in distribution and to control
inflationary pressures (Panagariya, 2008). For example, iron and steel was subject to both distribution and price controls to make this important input available to priority sectors at reasonable prices.

During the 1960s, some measures of liberalization were initiated such as devaluation of rupee and delinquency-prevention of some industries, but it did not yield positive outcomes. The consecutive major droughts, Indo-Pak war, etc. also made the government unpopular. So, Central government came with certain stringent regulatory measures for protecting small sectors and further increasing control on large firms. The Monopolies and Restrictive Trade Practices (MRTP) Act, 1969 was introduced for controlling large firms and the Foreign Exchange Regulation Act (FERA), 1973 for tightening restrictions on foreign investment and foreign firms. The government reserved certain products for small-scale enterprises in 1967, and further tightened the licensing regulations through the Industrial Licensing policy, 1970 and through the press notes on industrial policy dated February 2 and 19, 1973. These initiatives cut the inflow of foreign investment and technology, and some major multinationals like IBM and Coca-Cola wound up their businesses in India and left. Efficiency and product quality of industrial products also suffered, and the country witnessed a measly two percent annual growth during 1970-75 (Panagariya, 2008)).

The Government changed its attitudes during the 1980s and started piecemeal reforms through Open General Licensing (OGL) for import and the list of items mentioned in it was gradually expanded. The improved growth rate made policy makers to realize that liberalization could yield better outcomes, politically feasible and also good for the common man. The collapse of the Soviet Union and success of outward-oriented policies in China, more populous than India, created the environment for liberalization in India. The balance of payment crisis in 1991, and a large jump in oil prices due to Persian Gulf War became the immediate cause to launch the New Economic Policy (NEP). In a single stroke, the statement of industrial policy dated July 24, 1991 removed the several hurdles in liberalising the economy (Panagariya, 2008).
3.7 India after 1990

The economic reforms in 1991 fundamentally altered the development strategy, though it has not been an easy task. Being a democratic country, India experienced strong resistance from powerful groups such as farmers fearing loss of subsidies; protected industrialists fearing foreign competition and political leaders fearing the loss of rents because of abandoning of licensing. Liberalisation in India is an open ended process and the policy landscape has continued to evolve. The main feature of this pattern is the gradual reform on any single issue. This involves a strategy of carefully laying foundation by using less transparent means of initiating change in an effort to avoid direct political confrontations for as long as possible. The objective is to provide more conducive circumstances, under which further changes can be effected at a later date (Jenkins, 1999).

Major reforms have taken place in the area of trade, industrial policy and foreign direct investment and portfolio investment since 1991. Successive rounds of tariff reductions brought tariff levels down from over 300 percent in early 1990-01 to 65 percent by 1994-05, and then down to 40 percent by 1997-98. Liberalisation of foreign direct investment and foreign portfolio investment is another area in which reforms have been constantly demanding further actions. The government, early in the reform process, had permitted automatic approval of foreign investment up to 51 percent of equity holdings in thirty-four industries.

3.7.1 Industrial reforms (1991)

Industrial reforms have been the central focus of India’s economic reforms which warranted amending several policies. These amendments were related to industrial licensing, foreign investment and foreign technology, Monopolies and Restrictive Trade Practices (MRTP), and Public Sector policy. In these reforms (Panagariya, 2008), licensing was abolished in respect of all but excluding five industries. This was justified on grounds of health, safety, and environment, and the restricted ones included (a) arms and ammunition, explosive, and allied items of defense equipment, defense aircraft, and warships; (b) atomic substances; (c) narcotics and psychotropic substances and hazardous chemicals; (d) distillation and brewing of alcoholic drinks; and (e) cigarettes/cigars and manufactured tobacco substitutes.
Industrial de-licensing in India has facilitated rational investment decisions by private sectors about new projects, expansions of existing projects, changing product/s, and re-location of the existing projects. The industries reserved for public sectors such as iron and steel, heavy plant and machinery, telecommunication and telecom equipment, minerals, oil, mining, air transport services, electricity generation and distribution were thrown open to private sectors. Only three industries, defence-production (aircrafts and warships), atomic energy generation and railway transport were reserved for the public sector. Also, the policies related to external sector such as devaluation of the rupee, liberalization of the trade regime, encouraging foreign direct investment (FDI) and technology inflows, and permitting domestic companies to access foreign capital markets provide both challenges and opportunities to Indian Industry in their quest to modernize and become cost competitive (Panagariya, 2008).

The import substitution policies related to imports and custom duties were amended and the quantitative restrictions on imports of capital goods, intermediates and raw materials abolished. The reduction of tariff on most capital goods, plants and machinery were lowered. These liberalization initiatives has now reduced the cost of Indian Industry, relieved bottlenecks, promoted technology up gradation and export orientation. This has also enabled the Indian Industry to adjust to the new situation and accept the need for restructuring to survive in the on-going change.

The process of approving FDI was expedited by providing a window of automatic approval of FDI. The MRTP act, which was introduced to have additional control over large houses and to prevent concentration of economic power, was also abolished. This Act had reduced the potential competition among industries. Abolition of these controls gave Indian industries much greater freedom and flexibility to expand existing capacity, or to set up new units in a location of their choice and to increase the pressure of competition as well as the ability to face competition. The MRTP Act was replaced by a new competition law which had provisions to regulate anticompetitive behaviour of private industries (Ahluwalia, 2002).

The increased integration brought about by the new Act has pushed up competition in the market. Competition between domestic firms, between domestic firms and foreign firms, and between the public sector and the private sector also increased. Industrial deregulation that removed barriers to entry of new firms and limits on the expansion
of existing firms has led to increased competition between domestic firms. Trade liberalization, which reduced restriction or tariffs on imports, has led to competition between domestic and foreign firms. The dismantling of public sector monopolies has led to competition between the public sector and the private sector (Nayyar, 2008). Such competition between firms in price and quality has created efficiency among industries, and they were compelled to restructure to survive in a competitive open market. To sum up, this change has both positive and negative consequences for Indian economy, manufacturing sector and steel industries.

3.7.2 Indian economy and industry since 1990

The integration with world economy resulted in quick and efficient recovery from the acute economic crisis of 1991. The real GDP growth and Trade after 1990 increased at a very impressive rate. Over the last two decades, India’s economy has become increasingly open and integrated. Fig.3.1 shows the growth trends in GDP, FDI and exports.

**Fig. 3.1. Trade (% of GDP) and FDI**

![Graph showing trade (% of GDP) and FDI](image)

Source: (Dev, 2013)

Though the industries had benefitted initially from the administrative measures taken in 1980s what it experienced in 1991-92 was a negative trend in growth. Though the situation did improve subsequently, the growth of industries in 1990s remained similar to that in the 1980s. In the 2000s, industries attained an average growth of seven per cent, which is almost identical to the growth in Real GDP (Fig. 3.2.).
The major concern is that of employment has not grown as predicted by the policymakers in 1991. Though employment growth showed some improvement for some time after 1991, after 2004-05 it registered a drastic decline, which was not compatible with an impressive growth rate of the economy. This era is known as “Jobless growth” in India. Overall growth in employment, employment elasticity followed the same patterns. (Fig. 3.3).

Although manufacturing sectors performed positively after 1990s, its contribution in GDP and employment share did not increase significantly. It remained almost same
even after 1990 like pre-1990, employment generation ranged between 8 to 12 per cent and industry contribution to GDP ranged between 13 to 16 per cent. It could not generate sufficient employment to absorb surplus workers in the agriculture sector.

**Fig. 3.4. Manufacturing contribution in GDP and Employment (%)**

![Graph showing manufacturing contribution in GDP and Employment](image)

Source: (Dev, 2013)

The organized manufacturing industries which have been a driver for industrial growth showed a negative trend in term of permanent employment in the initial years of liberalisation, and resorted to retrenching workers through various separation schemes. It was after 2002-03 that the situation improved and employment growth registered a growth of about five percent. However, the overall growth in the number of regular workers was negligible at 0.38 percent. In contrast, the number of contract workers increased by more than eight percent in industries in last two decades, which include the 12 per cent growth after 2003-04. It shows the increasing utilisation of contract workers in the production process. The number of workers in the upper rungs also seems to have increased, implying that demand for skilled and knowledgeable workers has gone up over time (Table 3.2.)

**Table 3.2. Growth Rate by Category of Workers in Organised Manufacturing**

<table>
<thead>
<tr>
<th></th>
<th>1995-96 to 2002-03</th>
<th>2003-04 to 2009-10</th>
<th>1995-96 to 2009-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directly Employed Workers</td>
<td>-3.15</td>
<td>5.11</td>
<td>0.38</td>
</tr>
<tr>
<td>Employed through Contractor</td>
<td>5.35</td>
<td>12.37</td>
<td>8.70</td>
</tr>
<tr>
<td>Managerial Staff</td>
<td>0.34</td>
<td>8.24</td>
<td>2.69</td>
</tr>
<tr>
<td>Total Persons Engaged</td>
<td>-1.47</td>
<td>7.10</td>
<td>2.21</td>
</tr>
</tbody>
</table>

Source: Annual Survey of Industries, various years as quoted in (Sood & others 2014)
Since, this study is focussed on Indian steel industry; it would be interesting to study similar developments in steel industries elsewhere. Let us take a look at the steel industry scenario in the period 1950 till the onset of reforms (provided briefly in the following paragraphs) before revisiting its position after 1990.

3.8 Steel industry in India

Like other core industries, steel industry was opened for private sector participation in 1991. Steel industry performed significantly well after reforms and the production of crude steel increased to 81.54 million tons in 2013 from 14 million tons in 1991. Several new private steel makers and long-existing public steel makers are now involved in steel production in globalised era and India achieved fourth position in crude steel production in 2013. Its contribution to the country’s GDP is over two percent and employs over 0.6 million people. Steel producers in India are grouped into three categories as Main, Major and Other producers. The Steel Authority of India (SAIL), Tata Steel Ltd and Rastriya Ispat Nigam Ltd (RINL) are the main producers. JSW Steel Ltd, Ispat Industries and Essaar Steel Ltd emerged as major steel producers after 1990 and currently enjoy a sound position in steel production. Jindal Stainless, Bhushan Steel Ltd and the rest belong to the category ‘Other producers’.

3.8.1 History of Steel production

Steel had been produced in India for centuries, but the modern method of steel making came to India with the establishment of Tata Iron and Steel Company (TISCO) in 1907. Later a few more steel companies emerged on the Indian scene, which include Steel Corporation of Bengal established by the British firm Burn & Co in 1918 and its subsidiary by Indian Iron & Steel company started in 1937 through buying the assets of the bankrupt Steel Corporation of Bengal, and the Mysore Iron and Steel Company, (latter known as a Vivesvaraya Iron & Steel Ltd) established in 1923. All these companies were in the private sector and the total steel production was about 1.25 million tons in 1947.

State ownership of steel plants in India began in the 1950s. The Industrial Policy Resolution, 1948 and the Industrial Development and Regulation Act, 1951 stipulated that new ventures in the iron and steel were to be started only by the government in the public sector and without disturbing the existing private industries. After
independence, with commencement of Five Year Plans, the government established four integrated steel plants at Rourkela, Durgapur, Bhilai and Bokaro. Latter a three Million tons integrated steel plant was established at Visakhapatnam.

As steel is used in all manufacturing and infrastructure development, rise in steel prices tends to be inflationary. The state maintained low steel price under the “cost plus margin” principle. Regulated price was ensured for down-stream users which benefited from cheap steel, even if it meant heavy losses for state-owned firms. Due to institutional incapacity, technological obsolescence, excess employment and low productivity, the overall production costs in state owned industries increased alarmingly. Capacity utilization now averaged 90 percent though for several years it had been hovering around 40 percent of the installed capacity (Costa, 1999).

Though the entire steel industry was beset with challenges, Tata Steel could show much better performance than others commercially. Its commercial successes rested not only on its managerial autonomy but also on its participation in the state-led price cartel in a sheltered domestic market. It too faced technological fragmentation, with several small, ageing blast furnaces, and a steel melting shop using obsolete Open Hearth Furnaces or more recent Basic Oxygen Furnaces. Tata Steel could register a high capacity utilization of over 97 percent and higher profits, even with low productivity compared to other steel plants the world over (Costa, 1999).

Against the targeted production of six million ingot production in 1950s, Tata Steel was allowed for two million tons expansion, but restricted entry into flat products. The Indian state sector controlled roughly 48 percent of flat products in 1979-80. Tata Steel also produced flat products, but 57 percent of its total output was devoted to long products as bars and rods. Indian steel plants were then unable to produce quality steel. The successful Maruti-Suzuki automobile joint venture (Government of India and Suzuki Motors of Japan) did not purchase steel from Indian steel plants on grounds of quality, and all press steel requirement of Maruti had to be sourced from Japan. It is a reflection of not only the incapacity of Indian steel industry to produce steel of specified quality but also the abysmal state of technology in existing plants during the period(Costa, 1999).
Indian Steel industry was waiting for an opportune time for modernisation and restructuring. The new economic policies provided that opportunity, and India became fourth steel producer in world by 2013. Given this, it would be interesting to take a comprehensive look at the technological and commercial aspects of steel industries in India.

3.8.2 Reforms in Steel industries

As stated earlier in this paper, prior to 1991, the steel industries in India were under a strict regime of controls, such as reserving large capacity plants only for public sector under capacity control measures; price regulation; foreign investment restriction; and restrictions on imports as well as exports. It was later proved that business confined to public sectors and other initiatives as mentioned above had not been beneficial for the steel industry. However, after economic reforms, steel industry was freed from the shackles of control. The major policy measures taken under LPG in regard steel industry are as follows (Burange & Yaminı, 2010):

1. The steel industry was removed from the list of industries reserved for the public sector, and also exempted from the provisions of compulsory licensing.
2. The industry was included in the list of ‘high priority’ industries for automatic approval for foreign equity up to 51 percent. Latter it was increased to 100 percent.
3. Price and distribution of steel were deregulated from January 1992.
4. The trade policy was liberalized whereby import and export was freely allowed.
5. Levy on account of the Steel development fund was discontinued from April 1994, thereby providing greater flexibility to main producers to respond to the market.
6. System of freight ceiling was introduced in place of the freight equalization scheme.

These initiatives enabled the domestic steel industry to be market oriented and integrated with the global steel industry. It has helped the private industry expand their operations and acquire the new cost effective technologies to increase competitiveness not only in the domestic market but also in the global market. The quest for competitiveness has compelled the steel industry to restructure and be cost competitive through comparative advantages and specialization. The integration with the world economy provided both opportunities to expand as also threats of closure, and brought radical changes in Indian steel industry. The current scenario of steel
production in worldwide would provide sufficient clues on the effect of globalization on Indian steel industries.

3.8.3 World Steel production in globalized era
The world steel industries also witnessed significant changes after 1990. The global steel production per annum reached around 1200 million tons by 2006. Albeit significant fluctuations, steel production had remained steady at around 800 million tons for nearly three decades from 1970. The major developments that came with globalization were the relocation of steel production from developed countries to developing countries, especially Asian countries. In 1975 the USA, the EU (15), USSR and Japan were producing 78 % of the world’s total crude steel, but by 2005, the share of these countries decreased to 43%. Steel production in Asian countries has shown a significant rise, and by 2005 Asia’s share in world crude steel production reached over 50%. China and India emerged as major players in this field (Sato, 2009).

3.8.4 Steel making processes
Currently, two different process routes are available for the manufacture of steel products, namely the blast furnace with oxygen steelmaking process and the electric arc steelmaking process. The process differs with respect to the type of products that can be made, as well as the raw materials used. The blast furnace-oxygen steelmaking route mainly produces flat products, while electric arc steelmaking is more focused on long products. The former uses coke and coal as the main reductant source and sinter, pellets and lump ore as the iron-bearing component, while the latter uses electric energy to melt scrap.

Steel making generally comprises of three stages such as reduction of iron bearing material into pig iron; transformation of pig iron into steel, and the finishing mills to give steel the required shapes and properties. All the above three processes are combined in a steel plant. Previously, steelmaking was done through Open Hearth Furnaces (OHFs). That process became obsolete ceased to be used for steel production. Later OHFs were replaced by Basic Oxygen furnaces. Steel making technology saw further advancement and came with a technology called mini-steel plant, which is now deployed at locations with large scrap supplies, bypassing the constraints of the large integrated plants that require plants to be located near sources
of coal and iron ore. The latest technology Corex is also utilized for steel making in place of BOF and EAF.

**Fig: 3.5 Steel products routes in world**

In India, most steel producers use basic oxygen furnaces, steel making units and finishing plants to produce cold rolled and hot rolled products. The major producer like Essar Steel and Ispat Industries use electric furnace process and JSW produce steel through the latest technology known as Corex. Several technological advancements have now helped to spawn a new kind of entrepreneurship in India that is innovation-based, combining existing technologies with new ones and emulating best-practice standards. For example, Essar links Direct Reduced Iron with EAFs. The Essar Group boasts of the world's largest gas-based Hot Briquetting Iron Plant with downstream operations of two million tons of hot-rolled coils. It has also begun backward integration by undertaking the production of iron oxide pellets used for making HBI. Its steel plant has Level II automation, involving a computerized system for production process and product controls.

**3.8.5 Steel Industry’s performance after 1990**

Prior to 1991, the two major steel units, SAIL and Tata Steel, enjoyed over 60 percent of market share. In the latter period, SAIL’s share decreased from 49 per cent to 22 per cent and other private players gained from it, but Tata Steel could retain its market share at approximately ten percent.
### Table: 3.3 Trends in Market shares (%)

<table>
<thead>
<tr>
<th>Year</th>
<th>SAIL</th>
<th>Tata Steel</th>
<th>Essar Steel</th>
<th>Jindal/JSW</th>
<th>Ispat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>49.84</td>
<td>11.20</td>
<td>0.37</td>
<td>2.25</td>
<td></td>
</tr>
<tr>
<td>1992-93</td>
<td>48.73</td>
<td>10.94</td>
<td>0.58</td>
<td>2.29</td>
<td></td>
</tr>
<tr>
<td>1993-94</td>
<td>49.58</td>
<td>11.38</td>
<td>1.00</td>
<td>2.51</td>
<td></td>
</tr>
<tr>
<td>1994-95</td>
<td>42.57</td>
<td>11.53</td>
<td>2.04</td>
<td>2.45</td>
<td></td>
</tr>
<tr>
<td>1995-96</td>
<td>39.43</td>
<td>11.61</td>
<td>2.74</td>
<td>2.24</td>
<td>2.54</td>
</tr>
<tr>
<td>1996-97</td>
<td>31.54</td>
<td>10.21</td>
<td>5.57</td>
<td>2.10</td>
<td>1.77</td>
</tr>
<tr>
<td>1997-98</td>
<td>30.00</td>
<td>9.36</td>
<td>6.28</td>
<td>2.55</td>
<td>1.83</td>
</tr>
<tr>
<td>1998-99</td>
<td>28.66</td>
<td>8.62</td>
<td>5.02</td>
<td>2.51</td>
<td>2.79</td>
</tr>
<tr>
<td>1999-00</td>
<td>29.49</td>
<td>9.72</td>
<td>5.21</td>
<td>2.33</td>
<td>4.27</td>
</tr>
<tr>
<td>2000-01</td>
<td>28.36</td>
<td>9.30</td>
<td>5.11</td>
<td>3.03</td>
<td>4.05</td>
</tr>
<tr>
<td>2001-02</td>
<td>27.66</td>
<td>9.28</td>
<td>4.36</td>
<td>4.08</td>
<td>3.39</td>
</tr>
<tr>
<td>2002-03</td>
<td>27.04</td>
<td>11.13</td>
<td>5.55</td>
<td>3.70</td>
<td>4.35</td>
</tr>
<tr>
<td>2003-04</td>
<td>27.35</td>
<td>10.85</td>
<td>5.01</td>
<td>3.71</td>
<td>4.51</td>
</tr>
<tr>
<td>2004-05</td>
<td>25.96</td>
<td>10.03</td>
<td>5.86</td>
<td>5.40</td>
<td>5.31</td>
</tr>
<tr>
<td>2005-06</td>
<td>23.53</td>
<td>10.11</td>
<td>5.57</td>
<td>4.96</td>
<td>4.40</td>
</tr>
<tr>
<td>2006-07</td>
<td>22.62</td>
<td>9.48</td>
<td>5.61</td>
<td>4.98</td>
<td>5.31</td>
</tr>
</tbody>
</table>

Source: CMIE

In 1990s, private sector players began steel production and also increased their share significantly. With this, India witnessed a significant increase in production and it ascended to the fourth position in 2013 in world crude steel production from 10th position in 1995. The growth rate has been 5 per cent, second after China, while most of the top 10 producers showed negative growth, their output declined from 2012 level of production.

**Fig: 3.6. World Steel production in 2013 (Million tons)**

![World Steel production in 2013](image_url)

Source: Annual report of steel industry 2013-14
The quantity of finished steel produced (alloy and non-alloy) increased significantly and reached to 69 million tons in 2010-11 from eight million tons in 1980s. By 2010-11, the quantity of both export and import of steel also increased, which was almost zero in 1980s (Fig. 3.7).

**Fig: 3.7. Finished Steel production (MT)**

![Graph showing finished steel production (MT)](image)

Source: Annual report of steel industry 2013-14

The globalised era witnessed a swap of roles between public and private sector steel makers. Prior to 1990, private sector share in steel production was just 35 per cent, which increased to 76 per cent and public sector’s share declined to 24 per cent from 65 per cent. (Fig 3.8).

**Fig: 3.8. Share (public & private) in crude steel production (%)**

![Graph showing share (public & private) in crude steel production (%)](image)

Source: (Report of steel industry, 2011)
Globalisation has enabled steel industries to induct modern technology in the production processes and thus reduce wastage and increase yield. The industries now utilize low grade coal and fine ore (Blue dust) for production, which was not possible with inferior technology. This has helped to increase productivity and also mass-production in existing units. Fig. 3.9 indicates the increasing trend in the use of electric arc furnaces for production. Currently, over 40 percent of steel mills use electric arc furnaces as against 20 per cent in 1980. However, Basic oxygen furnaces still dominate with a 50 per cent share. The share of Open Hearth furnaces has now come down to six percent from 59 per cent in 1980s. It shows the leap of technological development of Indian Steel Industries.

**Fig: 3.9. Steel production route**

![Steel production route](image)

Source: Sato, 2014

Much like the overall trend of declining employment in Indian economy and industries, after globalization, Steel sectors also experienced a fall in employment compared to pre-globalised era. Employment growth was negative (2.41 per cent) during 1991-2006 as against the positive growth of 0.35 percent during 1975-1991 (Table 3.4).

**Table 3.4. Compound Annual Growth Rate (CAGR) for Steel Industry**

<table>
<thead>
<tr>
<th>Time period</th>
<th>Employment (Percent)</th>
<th>Production (Percent)</th>
<th>Export (percent)</th>
<th>Import (Percent)</th>
<th>Production (MT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975-2006</td>
<td>-1.01</td>
<td>6.85</td>
<td>14.6</td>
<td>5.45</td>
<td></td>
</tr>
<tr>
<td>1975-1991</td>
<td>0.35</td>
<td>4.96</td>
<td>-1.15</td>
<td>4.10</td>
<td></td>
</tr>
<tr>
<td>1991-2006</td>
<td>-2.41</td>
<td>8.11</td>
<td>30.70</td>
<td>6.30</td>
<td></td>
</tr>
<tr>
<td>1982-1991</td>
<td>5.9</td>
<td>8.4</td>
<td></td>
<td></td>
<td>8.48 to 14.23</td>
</tr>
<tr>
<td>1992-2011</td>
<td>8.4</td>
<td></td>
<td></td>
<td></td>
<td>16.89 to 66.01</td>
</tr>
</tbody>
</table>

Source: Report of the working group in steel industry (Nov 2011)
3.9 Conclusion

The preceding discussion on the development of Indian industries brings out two important outcomes of the reform. The policies adopted in 1960s-70s had resulted in deepening the crises in industrial development, particularly steel industry. Firstly, the government policy of regulating price and keeping it below the world level through heavy exercise duties had hampered the steel industry. It created bottlenecks in maintaining efficiency, low cost, quality and product range. Secondly, restriction on the entry of private players and expansion of existing plants further aggravated the already grim situation. Even the Birlas, a family business house, who had maintained good terms with Congress government, was not allowed entry in steel making. The prevailing disappointment and resentment among industrialists against the restrictions on expansion could be seen in following statement by J.R.D in 1970.

“A city like Jamshedpur, with its highly developed and experienced management and operational skills and large township, could support a much greater rate of production than a mere two million tonnes of steel ingots a year. Thus the country’s larger interests are being sacrificed at the altar of ideological dogma.”

The country’s larger interests were sought to be achieved through the new economic reforms. Globalisation blew as a fresh breeze on Indian industrial landscape and allowed enterprises to breathe fresh air in the open and provided opportunities to grow according their capacities and accumulate wealth for further expansion. Reform has been enormously beneficial for Indian economy and industry, and has helped the Indian economy and industry particularly steel industry to grow more than five times in last two decades. After reforms, the private steel industry showed impressive performance and India became the fourth largest steel producer in the world by showing an impressive growth of five per cent per annum.

Rapid industrial development as envisaged by Indian policy makers since independence could not have materialized without adequate investment and appropriate technology. Globalisation has enabled Indian industries to expand and modernise through Foreign Direct Investment and induction of new technology. It also helped to eliminate the trust deficit between the private sector and the government, which had remained unattended for ideological reasons since independence, and especially in the 1960s-70s.
The economic development in the globalised era has been multifaceted. Globalization has now integrated Indian economy with the world economy in several parameters and, proved that trade and growth indeed matter. But it cannot be said that all is well with this model of development. In the Indian context, higher growth could not generate enough employment and the employment so generated if any was lacking the quality aspect. It is worth noting here that the industries that registered the highest growth in the production like Steel industry showed only negative growth in employment in the post-reform period. Such development is not sustainable in the long run. This point must be given due weight in the plans and programmes for future development.

The drastic changes occurred in globalised era brought mass restructuring in several dimensions at the firm level. It is worth noting that restructuring and the consequent cost-cutting and labour saving measures have created series disquiet among workers which often erupted into violence, particularly in modern auto industries. In contrast, Tata Steel Jamshedpur adopted all these strategies for restructuring without any labour unrest. It is not fiction, but fact that Tata Steel could make it possible against several odds. It is a moot point whether it can be used to bench-mark/evaluate others.

The next chapter provides insights into the minutiae of restructuring, its consequences and emerging scenario with particular reference to Tata Steel Jamshedpur on the firm level.

Notes:

1. Vertical specialisation- Any industry has several linkages in production process. Vertical specialisation indicates the achieved specialisation in all linkages or stages for lowering cost and increase efficiency.
2. Employment Elasticity is the ratio of growth rate of employment to growth rate of income/output