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This is to certify that the revisions are made in the thesis as per the suggestion made by the external examiners.

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EXPORT OF INDIAN ENGINEERING GOODS SINCE LIBERALIZATION

Thesis submitted to University of Calicut

for the award of the degree of

Doctor of Philosophy in Economics

By

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This is to certify that the thesis entitled **"EXPORT OF INDIAN ENGINEERING GOODS SINCE LIBERALIZATION"** being submitted by, FLOWARIN A D for the award of the degree of **Doctor of Philosophy**, to Department of Economics, University of Calicut, Dr.John Mathai Centre Aranattukara, is a record of bonafide research work carried out by her under my supervision. The contents of this thesis, in full or in part, have not been submitted and will not be submitted to any other institute or University for the award of any degree or diploma.

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Declaration

I, Flowarin A D, do hereby declare that this written account titled "**EXPORT OF INDIAN ENGINEERING GOODS SINCE LIBERALIZATION"** is a bonafide record of research done by me under the guidance of Dr. K X Joseph, Professor in Economics ,University of Calicut .I also declare that this thesis has not been submitted by me earlier for the award of any degree , diploma, fellowship or any other similar title.

Place: Thrissur
Date: FLOWARIN A D

Dedicated

to

Ammachi.....

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Let me bow my heads before the God Almighty who had made everything possible through his blessings.

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Flowarin A D

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INTRODUCTION

1.1 Overview

Countries all over the world are part of the global economy. No country is independent economically and the main factor for interdependence of nations is the international trade. Early commercial transportation had its roots in African, Arabian and Asian caravans. With colonization, major nations conducted trade from 16th to 18th century with their colonies under principles of mercantilism. Mercantilism emphasized international trade for acquiring gold and silver for the development of the nation. With industrial revolution which paved the way for mass productions, advancements in transport and communication, development of business organizations, banking and insurance stimulated world trade. With the increasing demand for raw materials and search for new markets the growth of international trade is inevitable.

International trade known as world trade or foreign trade permits countries to specialize in production of the commodities in which it has comparative advantage or best suited to produce with resources available. The early half of 20th century witnessed a disturbance in the world trade scenario with the two world wars and the great depression of 1930s. The post war developments, the Bretton woods agreement, the GATT Agreement, the creation of IMF and IBRD, and later formation of regional trade blocs, like European Economic Community (EEC), European Free Trade Association, and Latin American independent associations and so on, promoted and prospered the international trade. The world recession,

fluctuation in oil prices, development problem of less developed countries, strength of U.S dollars etc has been major factor determining international trade.USA, Canada, Western Europe and Japan accounted for nearly 2/3rd of total world export in 1980s. The LDCs accounted for 1/4th of total world trade in 1980s. The general feature of trade was trade within members of the groups. Industrialized countries sold their major share of exports to each other and half of communist countries exported to each other.

History of India indicates that India became a colony of British and other nations as a result of trade. Trade in goods led to the settling of Europeans in India. With industrial revolution in Britain, India become a major market for European finished goods and led to the collapse of traditional agriculture and industrial sector. India mainly exported primary products until 1980s. With the New Economic Policy (NEP) of 1991 and with the globalization initiatives there is a complete change in the pattern and direction of trade.

The study tries to find out the liberalization experience of Indian engineering goods exports. The engineering goods industry made a consistent growth over the years. It provides an infrastructural backup to the country also creates forward and backward linkage to the other sectors. Compared to the pre reform period, the export pattern and direction has changed after reform. The importance of the study will be clear from the empirical works which were done earlier. Here an attempt was made to examine the empirical studies on the liberalization experience on various aspects. At the same time, the review also covers capital goods, engineering goods, manufacturing goods and also industrialization.

1.2 Review of literature

It was in the early 1970s, that the views on export-led growth get more applause as it was worthwhile in the experience of China, Indonesia, Malaysia, South Korea, Philippines etc. India is not an exception. Export plays a dual role as on the one side, it generates the needy foreign exchange for the import of capital goods and on the other it augments the capital goods productivity. (Muhammad, Sampath:1999, Sukumar Nandi, Basudeb Biswas: 1991, Ashwini Thripathy, Ramanathan: 2007,Ganesh Kumar Nidugala:1999,Nirmal Kumar Chandra: 1986, Rama Krishna:1996)

The growth through trade normally calls export led growth even though the trade includes both export and import. It provides sufficient export earnings, enhances employment, industries, and increases in income and improves living standards. Though there is mobility from export to import, no particular direct causality from import to export is proved and increasing export is vital factor in India to expand its foreign trade in particular and overall economic growth in general.

Export led growth argument holds that the import of capital goods, equipments, machinery and raw material are considered as crucial for the development. (Ajith singh, Nirmal Kumar Chandra:1986, Sukumar Nandi:1991, Clive:1982, Kushiro Gulkharni:1992, Attri:1996, Ganesh Kumar Nidugala:1996,Nirupam Bajpai, Jeffrey Sachs:1998, Esfahani :1991, Aswini Thripathy and Ramanathan :2005, Dipendra Singh :2008,Geetanjali Natraj, Pravakar Sahoo and Kamaiah,2001).To facilitate a healthier foreign trade, a

suitable foreign strategy is desired. Policy of industrialization and Liberalization can be considered as the two major policies which have made huge change on India's foreign trade. The trade must be development oriented and development should not be trade oriented .The trade strategy must take in to consideration of the general atmosphere of the world (Frances Stewart, Ejaz Ghani: 1986).

There are mainly two policy proportions of import substitution and export promotion which governed India till 1990. The former view holds that the country must concentrate on import substitution by which the country substitute with those goods which was imported earlier. At the same time, the country should keep protecting the domestic industry with various kinds of protection measures like high tariff and quota on the imported goods. In the long run, the country will be able to export the same to the foreign market. Whereas, the latter view holds that export promotion policy will enhance the production and export of primary and manufacturing goods which provide better competition opportunities. According to Kaldor, export promotes the industries which have better economies of scale. Manufacturing goods sector generates higher economies of scale and so the sector must be developed. It can be pointed out that, as the export of manufacturing goods of India increases to the developed countries, the growth will follow smoothly as there was high income elasticity for the Indian manufactured goods in the developed nations. (Bhavana Kantawala,1996;Attri, 1996).

The planners followed industrialization which create self sufficiency with political sovereignty, emphasized import substitution and gave priority to heavy industries. Till 1975, India followed a policy of import substitution or export pessimism. In the initial stages of the import substitution, industries have made a

substantial growth but in the later half it was proved inefficiency for India's development design. After 1970s, some of the industries mainly iron and steel, petroleum and refinery, non electrical machinery experienced a negative growth which has reduced export substantially and created balance of payment problems in the country resulting a shift in the external policy of India. After 1975-76, the country moved to a liberal import policy emphasizing on export oriented import policy creating export promotion and export led growth linkage effect in-between them specially in the manufacturing goods export. It is often viewed that, export led growth is highly correlated with export of the manufacturing goods where as it shown unfavourable relation between the primary goods export and growth.

The policy of industrialization is considered as the most suitable strategies for accelerating the tempo of economic development in all countries as development is largely correlated with the development of the industry. A better industrial structure would involve the adoption of the best available production technique with emphasize on the capital intensive methods of production. The basic strategy suggested by the planners in India is to insist large firms in the development of capital goods and basic industries, transport and mining and promotes as much as possible capital investment in other sectors without restricting the strategy of consumer goods (BalaKrishna,1957). Industrialization aims at increased per capita income, growth in international trade, higher level of investment and employment generation. For every developing country, the problem of industrial planning is both more complex and highly important (Prasad, 2004).India's industrialization history roots from the inception of industrial policy of 1948. Even though, the industrial policy was followed by different policies of

1956, 1977and 1980, the policy of 1980 was considered as the major one. The policy gained its importance mainly due to the objectives such as optimum use of installed capacity, higher production and productivity, employment generation, economic federalism, effective operational management of the public sector. Among these, the policy specially pointed out the inefficiency in the management of public sector because, Indian industries were severely under the clutches of state. Even though, the planners have given importance to the industrial development in the second five year plan accounting 18.5 percent of the total outlay as against only 7.6 percent in the previous plan, the less capacity utilization of the resources failed to compete in the international market which necessitated a technological up gradation, need for active participation of foreign capital, better policy initiatives (Ashok Desai ,1984).

The situation necessitated a new industrial as well as a foreign policy. Based on that, the new industrialization policy of 1991 and the new economic reforms have launched. The policy was launched in 1991, popularly known as LPG- Liberalization, Privatization and Globalization. Concerned to international trade, it is liberalization which is more associated terminology. By definition liberalization mean free from barriers, free exchange of goods and service between countries. It may be quantitative and qualitative including reduction of tariff and non tariff barriers and quotas .It facilitated countries to specialize in production of goods and service having comparative advantage, expanding economic welfare, improving efficiency, competition, economies of scale in production and provided better specialization.

The attempt of liberating Indian economy was firstly started in the year1966 but it was cancelled in 1967.Later in 1985 it was re introduced by the then Prime Minister Rajiv Gandhi but it again halted in 1987.However, the reform began in only in July 24, 1991. There are different views on the impact of liberalization .Some of the group holds that liberalization has benefited India as it has improved growth through increased competition in the industrial sector, reduced poverty and inequality, improved efficiency in production and reduced balance of payment deficit of the country .The wider liberalization of the trade policies only benefits the economy than increased protection.(Kishore Gulkarni:1992) where as others holds that, liberalization has reduced the importance of agriculture, created more dependence on foreign debt and technology. Also it has increased poverty, unemployment and inequality.

The empirical relation between economic growth and trade liberalization shows that, apart from industrial output and capital formation it has played a favourable impact on economic growth of the country. It was also views that the out ward looking strategy promoted economic growth of India. (Aun Ghosh:1987,G Ramakrishna:2003,Emmanuel Anorou, Yusuf Ahmed 1999,Sridhar kumar Dash:1999,Sandeep Bhargava:1995). The Liberalization has enabled the country to expand its hold over the international market, liberal imports of technology have substituted for local R and D. It revealed that, liberalization policies of the government have facilitated automotive growth in capacity utilization and enabled the group companies to seek re-endorsement of enhanced capacities. It has made the firm to subscribe technology and other financial collaborations. Custom duties, import regulations on raw material and capital

goods were dismantled (Rajesh Chadha2005). New foreign collaborations like Japanese technology has enforced the quality standard of Indian products and also enhanced the competitiveness. It was same in the case of diamond, garment and software industries (Pankaj Ghemawat,Murali patibandla:1998).

The impact on liberalization on various industries was studied by various people on various times. Among the various industries, the manufacturing sector has a prominent place.

India has fewer competencies in manufacturing goods exports. Along with the lack of competitiveness, Indian manufacturing goods lack good quality. Low productivity of the factors, steady rising capital output ratio of manufacturing industry, lack of speed delivery and credit availability and price factors can be attributed for this trend .It faces diseconomies of scale due to the underutilization of resources, inadequacy of demand and managerial fallacies, technological backwardness and low total factor productivity. (Lal Mrigendra Baghel and Neelkanth: 1997, R.G Nambiar and Rajesh Mehtha :1988, Bart Van Arc: 1991)

The excessive doses of capital have not resulted in technological progress and capital intensity is increasing at a decreasing rate. So in order to augment the economic growth, the inefficiencies must be reduced and the export of manufacturing goods must be accelerated .The sector should be freed and also need fitting of an apt industrial policies. So there is a need to promote Research and Development efforts in the manufacturing sector of India to survive in newly emerging era of globalization and liberalization.

To improve the manufacturing sector , new manufacturing policy was introduced in 2011.Compared to the previous trade strategies this policy had a great deal of new ideas, and it may be argued that the 2011 document is an elaboration of several issues envisaged in the former document. The policy aims to increase the share of manufacturing sector in Indian GDP from the present level of about 15 per cent to about 22 per cent by 2022 and in that process it will create 100 million jobs. (Sunil Mani :2011, Mathew Tharakan: 2000).

Concerning to the industry wise analysis and liberalization, the automobiles industry is the prominent one. The Indian automobile industry had an uneven progress till the eighties. But it has made a substantial and rapid growth after 1980 as the liberalization and broad banding policies are strong stimulants. The inability to go beyond indigenization of imported technology to keep it contemporary is not a good design (Surjeet Singh and Irshad Ahmed Khan:1991). Even though, it was found that, Indian automobile industry offers significant growth potential, given its existing low penetration level. Also it offers some significant advantage namely a large pool of well qualified manpower ,which can also be used in fostering local research and development ,availability of enough land and other natural resources iron ore, coal, bauxite etc. decreasing cost of funds and well defined legal environment (Sharma 2006).On the other side, the Indian automobile industry still continues to be plagued by different tribulations such as multiplicity of local taxes, cascading impacts of taxes and duties, high import duties on raw materials, tax on service in addition to corporate taxes and inflexible labour loss. By analyzing the estimate of the total factor productivity in aggregate in manufacturing industry, having adjusted for changes in the relative price, indicates

that, contrary to what is believed ,productivity growth in the 1980s may actually, have been slower than in the earlier decades (Bala Krishna and Pushpangathan :1994, Arun Gosh 1984).The productivity growth and efficiency level of the industries has not improved as expected and the distributive efficiency was also skewed specially in the major industrial groups-chemical, textile, processed food, non-metallic mineral products and electrical machinery.

In the post reform period, the competing capacity of these industries rather reduced except the electrical industry (Chiranjib Neogi, Budhadeb Ghosh:1998).Moving to the computer industry ,the liberalization cannot be considered as the optimum strategy rather it was argued for protection in the 1995(Richard Heeks:1995[42]). Cement industry has performed well but it has lagged by lack of investment in coal and power sector (V Bhanu:1995).It is observed that the import dependence of the industrial sector has increased in the post liberalization period, when compared to that in the pre-liberalization period.(Bharathi Kamath :2007, Padmini Swaminathan:1988).The import dependence has in general increased, but the results vary immensely across industries. The level of dependence is seen to be much higher in case of the machineries, metals, and electronic industries. Thus the real purpose of liberalization is not achieved. More over, the exchange rate volatility followed by the reform has negatively affected Indian exports and it needs a serious concern on the same by the policy makers as export led growth requires a reduced exchange rate volatility (Arun kuar Dash,V Narasimhan :2004,Prabirjit Sarkar:1995) .If the reforms were at cost of public debt ,the desired result of the same cannot be achieved (Parthasarathi shome, Hiranya Mukhopadhyay:1998[48]). It argues that

India has huge potential for growth and need to reduce the dependency on the external world by attaining sufficiency with exportable surplus in the case of capital goods industries. To reduce the dependence on the external help, the credit availability should be enhanced.

1.3 Liberalization and Engineering goods export of India.

Engineering goods industry considered as the largest sector in over all industrial sector of India. It engages 4 million skilled and semi skilled workers of India. Its export stands first in the total export bill of India accounting US dollar 375.91million in 2013-14. The engineering goods mainly comprised of iron and steel, non-ferrous metals, consumer durables etc. Capital goods stands first in the category holding 28 percent (2013-14).Compared to the 1950s, the export of the engineering goods experienced a change in its composition as well as direction. The main reason for this change is attributed to the liberalization. The studies related to engineering goods exports and liberalization is comparatively less. The study follows the commodity classification provided by the Engineering goods Export Promotion Council of India (EEPC).

The major sector under the manufacturing goods which has special mention is the engineering goods sector as it has shown a stable and sustained growth in the production and export where as the other expressed a fluctuating trend. The commodity composition and direction has changed drastically after liberalization. It has emerged as a dynamic and a major contributing sector in the manufacturing as well as total exports of India. Increased investment in the industrial and infrastructure sector made engineering goods as a leading sector in India. It was

mainly comprised of power, steel, automobiles, consumer durable, transport equipment, capital goods, other machinery equipment and light engineering products such as castings, forgings and fasteners etc. Engineering goods played a pivotal role in the industrial resurgence of India since independence. It had given a new dimension to the pace of industrial growth and diversification in the export of the country.

It has emerged as an important element in the nontraditional exports of India since the second five year plan. It had pre-eminent position and higher levels of growth in industrial sector and an impressive export performance especially from 1956-57 to1992-93(Arora: 1990). Engineering goods especially the capital goods sector is the most important for the development of a country and the most cherished goal of rapid industrialization and self reliance could not have been achieved without it. In its absence, a developing nation is considered with a “un biblical cord’’ with the advanced countries which can threaten its very existence by cutting this life time (Sheik Akram 1993).Initially, if the products under engineering goods comprised only railway coaches, mechanical pumps, aluminum utensils etc., it had shifted to cement and chemical machineries, surgical instruments etc. Compared to the last decades it was seen that, India’s trade had shifted drastically from the traditional articles to the non-traditional articles like electronic components, chemical products.

The rate of growth of engineering goods exports in 1968 and 1969 of two years seems to be impressive and higher than the earlier. It was seen that since 1965-66, broadly three major developments have taken place. (1) devaluation in June 1966(2) recession since 1966 and(3)the closure of the Suez canal. Of the

three factors, the devaluation in itself does seem to have had any negative effect on engineering goods exports.The recession and the Suez Canal closure seem to have had a definite positive effect on such exports (Madhav Kacker, Dinesh Trehan :1970).In order to augment the export capacity of India especially in the field of Engineering goods India should diversify its Engineering goods (Raunaqsingh 1973) .Once India obtained this, it can develop in significant dynamism and resentence to go ahead boldly and imaginatively. The same holds good for exports as a whole. But it lags behind on lack of raw material, labour investment pick up in Indian home demand, excessive freight, absence proper warehousing facility sheltered home market etc.

Even though the situation is so ,it was viewed that the future of Engineering goods export in India is full of hope and promised with full fund of technology competence skills in the designs construction and operation of complex machine ,vast natural resources ,abundant manpower and a spirit of understanding and cooperation between the captains of industry and government officials and the sector contributes significantly to the export of the country (Wadhwa and Sharma:1973).The contribution of exports of engineering goods as a dynamic element in Indian exports as India had increased exports of engineering goods manifold. In addition, the degree and magnitude of import substitution that has taken place in the Engineering goods industry during the period 1970-84 and the relative contribution of Import Substitution to output growth in the engineering industry is quite significant.(Abdul Kareem 1989). The Import Substitution's contribution to output group growth is pronounced in those industries which have fared well in Import Substitution.

However, compared to the Import Substitution the performance of engineering goods in the export's contribution is more significant. When import substitution was replaced by export promotion, the commodity composition has witnessed a drastic change but India's performance in commodity diversification is not impressive. It is still largely depends on a few commodities and few markets in Asia and Africa for bulk of its engineering goods exports (Sandhu :1985).India is too late to extend its market and diversify its product. The extended market and product diversification is depends on the increase in the scale of production. Liberalization made India to extend its market which was unexplored earlier.

If the increasing scale of production operates, it will lead to a more than proportionate increase in output thereby reducing the cost of production .This signifies that when increasing production of a given industry has been decided on other considerations, it is better to do so by expanding the existing units other than by setting up new units. There are no substantial capital-labour substitution possibilities, especially in machine tools and printing machineries industries. This means that changing relative factor price may bring about only a marginal substitution of capital for labour input in these industries. Most of these problems are cured with the launching of liberalization .In the early stage of liberalization engineering goods industry sector is benefited the large firms than the medium and small firms by giving a certain amount of monopoly power to them (Murali Pathibandla:1988).On export, it faces high cost of industrial inputs, vast domestic market, inadequate international Price Reimbursement Scheme (IPRS) funding, greater dependence on small-scale units, technological obsolescence and lack of compatibility between marketing efforts and requirements abroad, the shortage of

working capital, which has resulted in low capacity utilization. The delay in working payment is the other factor. In some studies it is found that there exists an idle capacity, inadequacy of working capital, low turnover from inventories; unfavorable purchasing power and mark up policies, mismanagement in sales. (Arora:1988,AshithaRavindran:2002).Simultaneously, tax concession on export profits, Price Reimbursement Scheme (IPRS) benefits, provision of flexibility in the import of raw materials and components available under the import replenishment schemes, availability of numerous capital goods on OGL, disposal of duty –free materials under advance and so on benefits the same.

At the same time, the world demand ,cumulative output ,exchange rate and total factor productivity, policy promotions etc has due role on exports (Biswanath Goldar:1989) .Among these factors, world demands comparatively an important factor in determining export performance and increase in world demand was a major source of growth in engineering goods exports.

Apt policy initiatives help the Indian engineering industry more responsive to the industrial structure and changing requirements of the Indian economy. The core objective of this process is to make the engineering sector competitive, productive and efficient. Hence, the growing emphasis is more than ever before, on promotion of international competition by boosting industrial efficiency and technological up gradation etc. Some of this covers industrial policy liberalization, export import policy, foreign collaborations, development of small-scale units and product specific provisions etc.(Arora:1990,1993). Adoption of Export Polices Resolution conferring priority to export, recognition of Export Houses, Liberalization of imports, simplification of export procedure and documentation,

relaxation of licensing and investment policies, and introduction of numerous export benefits and facilities are the other important policies were to be followed.

The advancements in industrialization is considered as one of the important determinants of economic development of a country which has provided a strong basis for the liberalization. All the developing countries soon after achieving the independence started to formulate plans for the betterment of economic conditions of their people and India is not an exception. As far as India is concerned, it's an economic move to supplement the weak forces of agriculture which is basically farm oriented and having an agrarian base.

Similarities in of purpose of foreign trade policies and government's new economic policies are found that, both are guided by a spirit of liberalization. In particular, the fuller utilization of labour and development of indigenous technological capability will hence forth play second way to the objective of setting up a modernized and outward looking production system (Susmitha Rakshit 1987). It was to some extent has brought a stimulus to the Indian Engineering goods sector. The export behaviour during post reform period by constant market share model (CMS) analysis, is found that there was an improvement in Indian exports.CMS analysis has indicated that the share in exports increased due to increase in the volume of trade and competitiveness in international trade market. The globalization had helped the Indian economy to increase competitiveness of its products in the world market. It is observed that India's share in the world trade has increased to 0.8per cent as at the end of the 2004(Manjappa Hosmane and Bisaliah :2006)

Since the new policy measures have been largely directed towards industries and the external sector of the economy, these are taken up for special examination and attention is focused on the link between Indian Engineering industrial growth and export performance. It was seen that the price effect is found to be large and very significant in both export demand and import demand functions for Engineering goods. The good's export demand and import demand are influenced by the price effect. Also, the domestic inflation has a strong effect on manufacturing goods (ArvindVirmani:1991). Even though, it is argued that with the increase in the share of manufactured in the total export and imports from India to the developed countries will increase at a faster rate. (Bhavana Kantawala :1997).

As exports and imports share long run relationship with each other, policy regarding any of the variables should consider the impacts on investment both at the aggregate level and the manufacturing sector levels. Further process of liberating the import would help in increased investment in engineering goods sector, and there by leading to higher economic growth. (Aswini Thripathy and Ramanathan 2005) . The salient results are that export of the engineering goods emerges both as a leading sector and as a balancing sector in Indian context. To some extent, the policy of liberalization made engineering goods more strong. The liberalization has helped to enabled the group to expand its hold over the market, Liberal imports of technology have substituted for local R and D, while imports of technology may seemingly usher in a competitive climate, the long-term implications for the domestic industrial structure may turn out to be far worse. It is observed that the trade sector in India is performing fantastically, especially after

the period 1991.The analysis of commodity wise composition of exports and imports revealed that the manufacturing sector has performed well. The exporting and importing of primary agricultural product is also significant. The country wise diversification of exports and imports shows that the OECD countries play a major role in Indian trade and the developing countries such as Asian countries also have emerged as Indian trading partners. It was also holds that trade liberalization policy appears to an expected impact on economic growth. Hence, the continuation of such policy with more rigor and commitment and it is recommended to sustain the present growth and even to attain a higher economic growth specially in the engineering goods sector also there is a co integrating relationship between exchange rate volatility and export.(Ramakrishna:2003,Aruna Kumar Dash and Narasimhan :2004, Bharathi Kamath :2007)

Capital goods sector is considered as the other ever-growing sector in Indian manufacturing sector especially under the engineering goods. Mostly it was the sub group of Indian Engineering goods sector. The capital goods sector got its big push through the second five-year plan and marked a strong base for the industries like iron and steel, various consumer goods industries and other intermediate goods. The capital goods export grown till 1980 and relatively strengthened thereafter and commodity composition also changed. The demand factors and supply factors such as income and investment pattern of importing countries ,relative price changes, currency depreciation ,domestic demand pressures, technological development and policy changes has shown that world demand is found to be have a positive impact on capital goods export but not statistically significant. Domestic demand pressures are also found to be having

significant negative impact on capital goods exports. The technological development has a positive but insignificant effect on export growth. (Saikat Sinharay:1995). Moreover, it becomes the major share in the import bill of India as it serves the twin purpose the immediate need of augmenting the indigenous capacity to produce consumer goods at the same time leads to the technological up gradation in the long run((Ramana :1984, Sastry :1975, Arun Goyal :1985) and the demand for India's capital goods exports responds more to world exports than to the world price and thus cannot be actively promoted by price policies alone and the price elasticity of supply and is significantly greater than one that relative profitability has a very important role to play in determining the volume of export(Dillip Rath and Amarendra Sahoo:1990). Also to improve the performance the capital goods sector technological improvement it is also stressed. At the same time, domestic industry should be able to withstand competition and free import of regime for capital goods.(Kocher:1993). The Indian Capital goods industry is going through a process of capital deepening (Deepak Gupta: 1995). It would imply that non-price structural factors such as skills and technology hold the key to improve in productivity as visualized (Sandal: 1993) and it can lead to permanent improvements in competitiveness. At the same time, developing countries can reap special advantage by pursuing import substitution industrialization strategies which are at the same time linked to a policy aimed at harnessing indigenous technological capabilities. In an open era, the growth of the capital goods exports depends considerably upon the exporting countries ability to offer competitive credit terms. It was argued that in formulating policies for export of capital goods on credit, the authorities have to weigh, on the one hand, the disadvantages of the

loss of foreign exchange if the exports are given and on the other the long-range consequences of diversion of domestic production of capital goods to foreign markets.

It was seen that, the liberalization has benefited the large firms than the small firms as it has resulted into more competition, increased quality consciousness, difficulty in marketing, dumping, dumping of cheaper goods by other countries, reduction in profit margin and high level of consumer satisfaction. But units from food products and beverages, leather products believed that new opportunities have come up liberalization (Raj Kumar Gautam: 2012)

Liberalization has helped the Indian economy to increase competitiveness of its products in the world market. It is observed that India's export to these regions has increased during the post reform period specially the engineering goods. It is observed that Indian share in the world trade has increased to 0.8per cent as at the end of the 2004.(Manjappa Hosmane and Bisaliah :2006, Susmitha Rakshit :1987, ArvindVirmani:1991,Bhavana Kantawala: 1997, Aswini Thripathy and Ramanathan 2005, Shahid Ahmed :2010).

Thus it can be concluded that, Engineering goods stand as the crucial commodity in Indian export contributing more than one fourth of the total export. It was seen that, the products has witnessed a huge diversification .India exports more than 1600 products to more than 200 countries (Engineering goods Export Promotion Council).Among the engineering goods the key product is the capital goods. The export of engineering goods has witnessed a drastic changes mainly after the liberalization.(Abdul Kareem :2010). It has led to the expansion of intra-

industry trade. Major highlight of the liberalization experience is that, it made to the diversification of the production, technological improvements as well as the generation of new directions to the Indian trade. The reviews reveal that even though, the positive impacts of liberalization are comparatively less and it has benefited mainly for the large firms than the small firms, it has increased the firms hold over capacity in international market, especially in the automotive sector. Moreover, it has led to the expansion of intra-industry trade. It has made diversification of the production as well as the generation of new markets to the Indian products. Even though, there are lot of study on liberalization on various aspect the study related to the engineering goods export was very little specially, and the commodity classification followed is also different.

There are different commodity classification of engineering goods is available. It was provided by different authorities and site in a different manner but the reliable and apt one is provided by the Engineering Goods Export Promotion Council. It has classified the products in to 27. The data is available from two digit to eight digit. For the study, the data followed two digit classifications. It is because of the vastness of the data, the mainstream studies do not enter in to the same. But for the better trade performance and policy prediction it is necessary to get a macro view on the export trend, pattern direction, composition and the competitiveness.

Thus it can be concluded that, there is general view that liberalization has not made special improvement in overall manufacturing export even though the sector wise analysis shows different picture. The engineering goods sector showed a positive trend since liberalization.

1.4 Significance of the study

The study deals with the liberalization experience of Indian Engineering goods exports. Liberalization has its own relevance even after three decades of its inception. One of the objectives of liberalization is to increase the share of foreign trade of the countries. Engineering goods, the major exporting commodity of India, has witnessed drastic changes direction wise as well as commodity wise. There are lots of studies on liberalization experience of India on diverse aspect. The study on engineering goods export of India and liberalization is nearly zero. The study deals the two digit Products classification .The study based on this kind of product classification is a new attempt. The study examines the changes that happened in direction and magnitude of engineering goods export since liberalization. To get clear picture on the liberalization experience, global competitiveness and the determinant factors of export are also examined.

1.5 Objectives

The study "Export of Indian Engineering Goods since Liberalisation" is based on the following objectives

- To examine the direction and composition of Engineering goods export of India.
- To analyze the global competitiveness of Engineering goods of India.
- To examine the determining factors of the export of Engineering goods of India.

1.6 Data source and Methodology

The study deals with the engineering goods export performance of India since reforms. The performance was analyzed by three objectives namely assessing

the export composition, magnitude and direction, the global competitiveness of Indian engineering goods finally, the determining factors of the export of engineering goods. The first objective was analyzed by the percentagewise export share of India. Relative comparative advantage put forward by Balassa was used as an index to satisfy the second objective. For the final objective, study has mainly taken four major variables like world demand, open index, relative price, and export of manufacturing goods of India. The study follows the commodity groupings given by the Engineering Goods Export Promotion council (EEPC).As per the classification, there are twenty seven products under engineering goods. The study has followed harmonized code system 2013 under two digit classification. Concerned to the period of study, 1987 to 2013 though the liberalization was started on 1991.The leading logic behind the time period is that the harmonized code was started in 1987 and the period from 1987 to 1990 will provide a micro view on the pre reform performance. The study is fully depends on the secondary data. The third chapter which deals with the overall trade performance of India followed the data given by RBI Hand Book on Indian Economy. Engineering Goods Export Promotion Council, Department of Industrial Policy and Promotion, WITS were the other secondary sources which was followed.

1:7 Limitation of the study

It can be said that, the study deals about the export aspect of engineering goods only. The import aspect is equally important as the export aspect which was not considered for study. The period of study also faces limitation as it covers only the period from 1987. The performance before the year is out of the purview. The

reform experience must be analyzed from at least ten years before. But the study starts from 1987 because of the non availability of the data in a prescribed format and also from that year onwards the harmonized code was started.

1.8 Chapter scheme

The chapters were divided in to seven. The first chapter is the introductory chapter and the second chapter comprised of the theoretical background and policy backup. The third chapter deals overall trade performance of India since liberalization. While the fourth chapter deals the trend and pattern of engineering goods export of India, the fifth chapter deals with the global competitiveness of the same. In the sixth chapter the determining factors of the export of engineering goods of India are dealt and in the seventh chapter the conclusions and findings are discussed.

Chapter-2

THEORETICAL BACKGROUND OF THE STUDY

2.1 Theoretical framework of the study

A strong theoretical background of the study decides the success of the study. The theoretical background of the study is dealt in this chapter. The theories which relate directly to the study and in a general facet are discussed here. With this, the chapter discusses the foreign trade policy of the government and it ends with the trade relations with the World Trade Organization (WTO).

Scarcity and the non availability of the goods and service make a country trade. Majority of the theories on international theories deals with how international trade really works? What determines the patterns of trade? Why does trade take place? And who gains from the trade and so on. The mercantilists believed that, the main objective of the trade is the nation building and assumed a favourable balance of trade. The accumulation of gold and silver in the form of bullions is the way of maintaining strong army and consolidate power. By encouraging exports and restricting imports, the government would stimulate national output and employment. They believed in nationalism and hold that nation could gain in trade only at the expense of other nations.

According to Adam smith, it is only through the free trade nation can improve its balance of payment and development. To him, the trade between nations is based on Absolute advantage. When one nation is more efficient than another in the production of one commodity but less efficient than the other nation

in producing a second commodity, then both nations can gain by each specializing in the production of the commodity of it's output with the other nations for the commodity of it's absolute disadvantage. Thus it was seen that while the Mercantilists believed that one nation could gain only at the expense of another nation and advocated strict government control of all economic activity and trade.

Adam smith, on the contrary believed in free trade and Laissez-faire. Absolute advantage, however, can be explained only a very small part of the world trade and was not able to explain the trade between north and north rather north and south especially trade among developed countries could not be explained by Absolute advantage. It was Torrens and David Ricardo, with the law of Comparative Advantage, truly explain the basis for and the gain from trade

Ricardo (1817) strengthened the cause of trade by freeing its restrictive assumption. He said that, a nation could gain from foreign trade even if it had advantages over foreigners in the production of nothing or everything .Ricardo had made the basic point that, trade could follow from difference in commodity cost ratios alone and not depend on the Absolute advantage in terms of inputs. He says that even if one nation is less efficient than the other nation in the production of both commodities, there is still a basis for mutually beneficial trade. The first nation should specialize in the production of and export the commodity in which its absolute advantage is smaller and import the commodity which has the absolute advantage is greater or having the comparative advantage. The empirical test of the theory was done by Mac Dougal in 1951-52 for 1937 (UK and USA) and proved the theory paradoxical and a lot of interpretation has evolved over the law. Later, Haberler explained the same in terms of opportunity cost. Before exploring those

theories, it is better to take a brief look on the Hecksher –Ohlin's (H O) Factor Endowment Theory.

According to theory, the difference in the relative factor endowments and the pattern of factor intensity that makes one country to export one commodity instead of other when trade opens up. But the post war trends have given a formidable challenge to the H-O theory comparative advantage. First one is that, a high and rising share of international trade is taking place between countries with high and similar incomes. Secondly, a high and rising share of international trade consists of two way trade in similar manufactured exports. But concerned to India it was not at all true. India's export data does not support the argument rather India's export bill composed of mainly the engineering goods which is absolutely a capital endowed goods. Even though it has faced these challenges, its two implications can be seen in the Stolper Sammuelson theorem and the Factor price equalization theorm.The two results that have been suggested so far have been proved by adding special assumptions to the model.

Stolper Sammuelson theory argues that ,under the assumption just stated ,moving from in order to free trade unambiguously raises the return to the factor used intensively in the rising –price industry and lowers the returns to the factor used intensively in the falling price intensity ,regardless of which goods the sellers of the factor prefers to consume. Similarly, The Factor price Equalization model stress that, free trade will equalize the commodity price so that all labourers will earn the same wage rate and all units of the factor earn the same rental return in both countries regardless of the factor supplies or the demand patterns in two countries. Even though it had some practical implications, Wassily Leontief (1947)

who made an empirical analysis of the HO theorem, questioned the validity of the same. His test was based on input-output tables of US for (1947) the result was little bit perplexing. The capital intensive country was exporting labour intensive goods and the labour intensive country exporting the capital intensive products which was quite against the H-O theorem. In the case of India, it was seen that, It's export is mainly composed of capital intensive products. The theory is much correlated to the study as it mainly deals with the export of engineering goods of India and it is the major exporting product of India.

In relation with the changed pattern and model of trade the theories also changing in tune with these patterns. Among these one of the important is the technological gap model of Posner. According to the theory, the differences in the technology attainment are the cause of international trade. It can be considered as a different interpretation of the Ricardian model of comparative advantage, - as it is the presumed difference in technology between the two countries. Economists traditionally treated technological change as something apart from the factors of production, portraying it as shifting of the whole production function. Technological progress itself can be thought of as a change in factor endowments. A new technique that is producing a good more cheaply is equivalent to an expansion of factor supplies. The importance of technological change for trade can thus be incorporated smoothly in to the prevailing H-O theory focus on factor endowments and differential factor use as a key determinant of trade patterns.

There are different opinions on technological difference as an explanation of international trade. Some of them are of the opinion that there is no relation between the international trade and the technological difference as the

technological difference is only due to the omission of factors of production. Some holds that any technological difference can only be short term in nature, which eventually being dispersed towards the other countries. Another group of economists argues that, it is the process of continual innovation that a country to stay ahead of it's competitors. To the study concerned, the theory is quite mentionable because, technology is a crucial factor in the export of engineering goods. Even though, the export of engineering goods comprises major portion in the total exports, in the global market it's share is meager. The dynamic technological progress' influence on international trade can be examined by the product cycle Model.

Posner in 1961, through his technological gap model argues that, a great deal of the trade among the industrialized countries is based on the introduction of new products and the new production process. This gives the innovating country a monopoly over the other countries in the international market .The extension of the technological gap model is done by Raymond Vernon in 1966 by his Product cycle model. The model explains when a new product is introduced, it requires highly skilled labour to produce. As the product matures and acquires mass acceptance, it become standardized; it can be produced by mass production techniques and less skilled labour. The comparative advantage in the products shifts from the advanced nation that originally introduced it to less advanced nations, where labour is relatively cheaper. While the technological gap model emphasizes the time lag in the imitation process, the product cycle model stresses the standardization process. Thus the most highly industrialized countries are expected to non standardized products embodying new and more advanced technologies and import products

embodying old or less advanced technologies. In 1967, studies conducted by Gruber, Mehta and Vernon found a strong correlation between expenditure on research and development and export development. In short, the product cycle model tries to explain dynamic comparative advantage for new production process, as opposed to the basic H-O model which explains static comparative advantage. The theory explains the importance of technological advancement which is highly and positively correlated with export.

Majority of international trade now a days are intra-industry trade. In search for more general model of such trade, economists have lead in to the field of imperfect competition ,developing what are called the "new trade theories"involving product differentiation ,economies of scale ,monopolistic competition or oligopolistic behavior and the working of the multinational companies. One of the important model of the intra industry model is that the Neo-Hecksher-Ohlin model. Under this model, trade is based on the factor endowments by linking product specifications to different combinations of the basic factors such as capital and labour.An alternative to the H-O explanations of intra industry trade extends the basic model to include the human capital embodied in skilled labour. The importance of skilled labourers is visible in the Indian engineering goods industries which accommodates four million skilled and semi skilled labourers (2013-14)

Another model which explains the intra industry model is the Neo-Chamberlin models. The basic difference from the previous models to this model is that the goods in question in this model are horizondally differentiated. The Neo-Chamberlin model, by Krugman assumed that there is only one factor of

production that is labour and is fixed in supply. There is large number of firms, each of which produces a different variety of the same good, and firms are free to enter or leave the industry. The form of utility function assumed here is ruled out the possibility that consumers have some preference over the varieties. And it implies that there can never be an excess of varieties. The assumption of the Krugman model also implies that there is no adjustment cost.

Neo-Hotelling model of intra –industry trade is build upon the approach to consumer behavior which was first proposed by Lancaster. Lancaster suggested a variety of trade models incorporating his characteristics –based on product differentiation, which could explain the existence of intra industry trade. The factor endowments in the countries are not so dissimilar that there would be complete specialization with free trade. Lancaster argues that the relatively labour rich country will export both the agricultural good and some varieties of the manufactured products, and will import the other varieties. The labour rich country will produce fewer varieties of manufactured products than the capital rich country, and will be a net importer of manufactures. But it can be see that India is exporting more than 1655 differentiated engineering products to more than 200 countries.

Next to the intra industry models, it is the oligopolistic models which are small number. The first model is the Brander- Krugman model with identical commodity, where one producer in each of the countries each with same cost of production that the domestic demand functions for the good is the same in both countries. The model reaches equilibrium when the firm will produce the same output, and will each sell one half of that out put on it’s domestic market and

export the other half. Concerned to India, it's export of engineering goods specially aims at the export market than the domestic market. Next to that, the theory which has a special mention is the gravity model in international trade is one of the most robust empirical finding. The bilateral trade between two countries is proportional to the respective size measured by their GDP, and inversely proportional to the geographic distance between them. The Gravity model has the origin about Fifty years ago. It was Jan Tinbergen (1962) used an analogy with Newton's universal law of gravitation to describe the patterns of bilateral aggregate trade flows between two countries.

From the theories discussed, study mainly related with the Leontief paradox as India's export's major share was contributed by the manufacturing, and capital intensive products specially the engineering goods which contributes the large share. India exports more than 1600 varieties of engineering products to more than 200 countries thus enjoys the all the benefits of the intra industry trade .At the same time, Most of the Indian engineering goods imports includes a re exports with a standardization process. Thus makes base of standardization theory of Vernon. Moreover, the product diversification theory gives a code of conduct which gives importance to the technological up gradation and product diversification especially to our secondary sector exports. The H-O theorem, which argues for the better utilization of the abundant factor, argues for a proper division of labour which augments the production .In the words of Adam smith, country can reap the gains of international trade is depends upon the degree of free trade.

2.2 Foreign Trade policy of India

Similar to the theoretical background, it is important to discuss on the trade policy of India which was gone through the years. The foreign trade policy of India can be classified in to three heads that is the policy of import substitution, export promotion and the liberalized regime. The import substitution policy comprised for the promotion of the industry which promotes the import substitution. The export promotion policy holds for the earning of foreign exchange through the increased export .Both these policies are characterized by strict bureaucratic control which hiders the trades to some extend that our policy makers thrust to liberalization. It was evident from our experience that as economy gets improved when it was liberated since the 1990. The study mainly deals the policy aspect since reforms as it has made a turning point to the trade structure of India.

Prior to 1985-86, the government followed annual export-import policy. In the 1985-86, a three year EXIM policy was announced for the period of three years on April 12, 1985 for the first time in the history, April 1985 through March 1988 with a view to improving the export incentives and rationalizing import, injecting confidence, among the trading groups to take a long –term investment decisions and providing a reasonable degree of stability to the policy framework. The period of this policy is coincides with the seventh five year plan and the objective of the same is evident from the plan strategy. It gave importance to self reliance and reduces import dependence on aid, building of domestic capabilities and reduces the dependence and import of strategic materials. Achievement of technological competence through liberal imports of technology was also envisaged. While analyzing the trade policy it should have to co-read the seventh plan objectives.

The seventh plan also stressed the necessity of reducing the ever-increasing gulf of difference between the export and imports. The plan recognized the fact that the quantitive restrictions had over –protected the domestic market and without a well –conceived sectors package for sale abroad, and discriminated against export, and import substitutes had been produced at a higher domestic resource cost which has to be corrected. The main step which has introduced during this period is the unified tariff on many capital goods in the 1987-88 budget. Inpsite of these changes, numerous additional reforms were also introduced to increase the competitiveness of our export and to rationalize the import protection .It is because of this objective that ,our next trade policy came to being.

On its expiry, a new EXIM policy for three years 1988-91 was announced in March 1988 which laid greater emphasis on promotion of exports. The policy tried to provide a stable framework so as to minimize year to year uncertainties and enable entrepreneurs to play their activities in the long term perspective. It also gave importance to provide a framework for a flexible and liberal response to the needs of the economy for increasing production and exports, while the import – export policy of the last annual EXIM policy reflected the liberalization trend with considerable relaxation of imports controls and lowering of import duties on capital goods. Moreover, the tariff structure being simplified by reducing the previous eleven auxiliary custom duties. Through this EXIM policy had been under attack with the blame of non–payment of debts and restoration of balance of payment equilibrium. The main attraction of this policy is that it strengthened the trade liberalization. The scope of import replenishment based on the net-value added element in the export products. It also made a conscious effort to reduce the

control on export to the barest minimum both in their coverage and nature of restrictions. Among the exporting item, 26 items had been decanalysed and some of the earlier licensing had been also abolished. The main crux of the policy is that it had given more importance to export promotion and import liberalization and the result is that the export promotion during the seventh period was quite satisfactory. After policy introduction, the policy makers started the five year foreign trade policies with a long term vision, with annual sub policies.

EXIM policy 1992 -97 coincides with the period of Eighth five year plan and EXIM policy 1997-2002 with the period of Ninth five year plan .On August 31st,2004,Government of India announced a foreign trade policy for 2004-2009 to provide a stable policy framework. EXIM policy got incorporated into this comprehensive Foreign trade policy .An annual supplement to the Foreign Trade policy is also announced by the Government, the last being for the year 2008-09.Annual supplement for the year 2009-10 was not announced in view of the general elections held in the country during April-May 2009.A brief description of the objectives, strategies and measures contained in the various policies, starting with the EXIM policy 1992-97 is presented below.

Previous to 1990s Indian economy was in the clutches of high bureaucratic controls. But during Nineties it is observed that ,Indian economy was open to the world, all kinds of regulations and controls were minimized .To reduce controls, simplify procedures and to create a congenial environment for trade ,the government made a statement on trade Policy in Parliament on August 13,1991,ushering a new era in the foreign trade policy of India. Instead of controls and regulations, the focus was shifted to promotion and development of foreign

trade. It will be seen from the various trade policy of India. Firstly we shall deals the EXIM policy of 1992-97.

The Government of India announced the EXIM policy on March 31st, 1992 for a period of five years on May 2nd , 1995,giving new thrust to exports of agricultural and allied sectors and services reflected the continued commitment of the Government to dismantle the quantitive restrictions and avoid regulatory policies to accelerate India's transition towards a globally oriented economy. For that, The EXIM policy further liberalized on March 31st, 1993, and also announced a centrally sponsored scheme to set up industrial parks in different states with Substantial concession had been announced to boost agriculture exports. The planners gave importance to industries and the export of agriculture products .Here the agriculture has a special mention. The Chief Controller of Imports and exports was re designated as Directorate General of Foreign Trade (DGFT) responsible to the execution of export and import policies of India.

The Modified EXIM policies were further lead to the pruning of negative list of imports and simultaneous expansion of items importable under the Open General License (OGL) and special imports License (SIL) and allowed the exporters to import on zero duty basis capital goods thus leading to the import of capital goods and the Export promotion of Capital goods. Moreover, it widened the scope of deemed exports. In order to boost up the consumer goods sector, a large number of consumer goods were allowed to import under OGL and Special Import License (SIL) also introduced.

To consolidate the gains of the previous policy and further carry forward the process of liberalization by deregulating and simplifying procedures and removing quantitive restrictions in phased manner, the new foreign trade policy was introduced with a period of 1997-2002.The main target of the policy is attaining an export level of US dollar 90-100 billion by the year 2002 and achieving one percentage share in world trade.The major objective of this policy is to stimulate sustained economic growth by providing access to essential raw materials, intermediates, components, consumables and capital goods required for augmenting production and to accelerate the country's transition to a globally-oriented vibrant economy to derive maximum benefits from expanding global market opportunities. The policies were revised for the period 1997-98.

It contained many changes to enhance export competition by simplifying procedures, minimizing transaction costs, delays and improving the attractiveness of various schemes. The measures of the modified EXIM policy brought down the threshold limit for Export Promotion of Capital Goods (EPCG) zero duty schemes to augment the export of India's Engineering goods export. The Duty Entitlement pass book Scheme (DEPB) introduced in 1997 allowed the import of any item except the item which are otherwise restricted for imports was modified to neutralize both the basic custom duty as well as special custom duty. Permission was given to set up private ware house for exports and imports. Thus changes in threshold limit for export houses, SIL entitlement were made to provide impetus to exports.

Due to the new government at the centre, which assumed office in March 1998, announced its EXIM policy for the year 1998-99 on April 13, 1998.As part

of the annual EXIM policy modification, the government freed from import restrictions a large number of consumer goods and liberalized all major export promotion schemes. This new dose of liberalization by the new government was necessitated by the commitment made by India at the WTO. The highlight of the policy is Zero–duty Export Promotion Capital Goods scheme was extended to all software exporters by lowering the threshold limit of importable capital goods from Rs. 20crore to 10 lakh. The lowering of the threshold limit was expected to help software companies to proliferate throughout the length and breadth of the country .In other words, they could import any capital goods without paying any import duty and in return sign an export obligation five times the value of capital goods on net foreign exchange earning basis for a period of six years.

In April 1998, WTO Dispute Settlement Panel ruled that India's quantitive restrictions were contrary to the WTO rules. In August 1999, an appellate body of the WTO upheld the early ruling. India had to phase out the quantitive restrictions on 23,300 tariff lines. The items in the Restricted List were reduced to 667. On march 1999, trade policy changes were announced are, the Discontinuation of the convention of publishing negative lists for exports and imports and a new scheme to boost service exports as service became a leading sector with a credit of Rs. 55,527 cores and a debit of Rs. 46,413 with a net income of Rs .9,114 croers in 1999. But in the later years, it showed a negative trend. It allowed a Special status to manufacturing and merchant exporters. One of the special features of the policy is that, it gave importance to the small scale units by giving a Special benefit to direct exports by small scale, tiny and cottage industries. The extension of

additional incentives to the export of products such as bio technology, textiles, engineering and chemicals also made.

In April 1999, the Directorate General of Foreign Trade the (DGFT) was set up a fast track counter to cater to the requirements of exports houses and introduced Advance License and Duty Entitlement Pass Book schemes (DEPB). The ministry of commerce took the initiative to strengthen the infrastructure for Electronic data Interchange and electronic commerce. Thus the interface between the Government authorities and importers and exporters were reduced in order to promote the trade among SAARC countries with effect from 1st August 1998.This move gave a boost to the establishment of South Asia Free Trade Area (SAFTA) as it recognized the fact that Least Developed Countries in the region need to be accorded special and differential treatment commensurate with their development needs.

To dismantle the import control regime and hasten the integration of the Indian economy with the world economy further, the government announced a revised EXIM policy (1999-2000) on March 31, 1999 which came in to force on April 1, 1999.The main strategy of the policy is to remove the physical controls over imports and the only controls over imports was fiscal in nature. While analyzing the EXIM policy it is necessary to review the Budget policy which has introduced in the Budget of 1999-2000.The Budget of 1999-2000 lead to the rationalization of custom duty structure and reduced in duty rates for capital inputs in the information technology sector. The revamping of the schemes of export credit on the foreign currency to revitalize export and bring about major simplification of procedure is another crucial measure. It also set a High Powered

Committee to investigate the issue of high transaction costs for exporters and to make concentrate recommendations for reduction of such costs.

Some important announcement during the period of 1999-2000 that, the import of 894 items were made license free and another 414 items could be imported under Special import License (SIL) and Duty exemption scheme had been made more flexible and Green cards for export and trading Houses were issued. The new EXIM policy of India was announced on March 31st 2000, envisaging a 20 percent export growth in dollar terms in 2000-01, brought about a major rationalization in export promotion schemes and launched a series of sector –specific initiatives. The major thrust were given to the area of Export promotion by creating Special Economic Zone, Sector- Specific Packages, Involvement of State Governments in Export Promotion, Import liberalization.The removal of import restrictions was began in the year 1991, was completed in a phased manner by the EXIM policy 2001-02 with the removal of the restrictions. Government will make efforts to provide improved access to the products of the agriculture and allied sectors in the international market.

The EXIM policy brought about a major rationalization in export promotion schemes and launched a series of sector –specific initiation. Emulating the Chinese model, Special Economic Zones to promote export from India were being undertaken. These SEZ would operate free of all rules and regulations governing import and export unit subject to the condition that what they produce would be exported.The objective was to involve the states in export promotion.

At the stroke of the New Millennium, India's EXIM policy (2001-2002) announced by the Commerce Minister, decided to dismantle quantitive restrictions on the remaining 1,429 items at one stroke, warning thereby the domestic producers to face of the EXIM policy by Improving Import restrictions of the remaining 715 items .Imports of second hand vehicles, Poultry products ,primary agriculture products and textile articles were allowed. At the same time, Imports of farm of products, petrol, diesel, urea and so on had been permitted only through designated state trade agencies. The major change have happened is that, the EPCG scheme and Duty Exemption Scheme (DES) was extended to agricultural exports. Agri –economic Zones would be formed for promotion of agricultural exports.

In early 2002, the Government presented a Medium Term Export Strategy for 2002-07,coinciding with the period of Tenth five year plan, providing a vision for creating a stable policy environment with indicative sector –wise targets ,with a mission to achieve one per cent of global trade by 2007.The EXIM policy of 2002-07 was unveiled on March 31, 2002 by entailing several institutional infrastructural and fiscal measures intended to promote exports which are conducive to the economic development of the country. The EXIM policy (2002-07) sought to usher in an environment free of restrictions and controls. The main feature of the policy is creating of the Special Economic Zone Employment Generation, Technology up gradation, growth oriented strategies .Indian banks were allowed to set up offshore banking units in SEZs.

Further, the policy for improving the productivity and export competitiveness of small-scale cottage and handicrafts sector provided a package

of incentives including exemption from maintaining the average export obligation under the EPCG scheme, permission to achieve lower threshold level for achieving the Export House Status, preferential access to trimming and embellishment for achieving value-added exports. With a view to phasing out of all restrictions on Textiles and Clothing (ATC), the EXIM policy has focused on measure to encourage value added exports in the garment sector. A Procedural simplification has been made in the EXIM policy to further reduce transaction costs covering Directorate General of Foreign Trade, Customs and Banks. Later, Market Access initiative Scheme was widened to include activities considered necessary for a focused market promotion of exports, setting up of "Business Centre" in India missions abroad for visiting Indian Exporters and Businessmen for ensuring a facilitatory environment for exporters. One of the strategic steps in the policy is that, the Focus Africa was launched in April 2002 for a gain in trade for India with sub Saharan African region. During 2001-2002, Indian exports – import statistics accounted for US dollar 108 billion and dollar 1.5 billion respectively.

By the new EXIM policy 2003-04, the EPCG scheme made more flexible and attractive so that even the small scale sector could set up and expand its manufacturing base for the exports, to increase the overall competitiveness of export clusters, a scheme for up gradation of infrastructure in existing clusters or industrial location would be implemented. The provisions incorporated in the EXIM policy are the massive thrust to export of service by introducing duty free import facility for the service sector units having minimum foreign exchange earnings of Rs.10 lakh. By the time, An Encouragement of corporate sector with a proven credential to sponsor Agro –Export Zones for boosting farm exports. The

Fixing of input output norms for status holders in priority basis with in a period of 60 days and permission to status holders in Software Technology Parks India (SPTI)for free movement of professional equipment. The Simplification and codification of rules ,regulations and procedures applicable to SEZ and Export Oriented Units (EOU) by putting all these rules and regulations in one place ,thus greatly facilitating both potential investors and existing units .To increase the overall competitiveness of export clusters ,industrial locations implemented. With this Extension of Duty Free Replenishment Certificate (DFRC) scheme to deemed exports and reduction in it's value addition norms from 33per cent to 25 per cent is of special mention.

Government of India announced a mini EXIM policy on January 28, 2004.It included facilitation and simplification measures to sustain momentum of export growth. The policy was aimed at providing boost to export of gems and jewellery, encouraging tourism and making energy generation cheaper. The restriction on import of electrical equipment lifted. Line licenses and electronic fund transfer facility for exporters aiming to reduce transaction cost for exporters, and make export administration are transparent. The Foreign trade policy (2004-05) announced on August 2004 had the twin objectives of doubling India share in global merchandise from 0.7 per cent in 202-03 to 1.5 per cent in 2009 and of acting as an effective instrument for generation of employment opportunities. It endeavored to develop India as a global hub for manufacturing, trading and services. For the further boosting, the Government of India announced on August 31,2004 a new foreign Trade policy for the period of 2004-09 replacing the hitherto nomenclature of EXIM policy by Foreign trade policy .

The policy aims at a vigorous export-led growth strategy of doubling India's share in the merchandise trade in the next five years, with a focus on the sector having prospects for export expansion and potential for employment generation, constitute the main plank of the policy with a view to enhance international competitiveness and aid in further increasing the acceptability of Indian Exports. It is built around two major objectives of doubling India's share of global merchandise trade by 2009 and using trade policy as an effective instrument of economic growth of with a thrust on employment generation through unshackling of controls and creating an atmosphere of trust and transparency ,simplifying procedures and bringing down transaction costs ,neutralizing incidence of all levies on inputs used in export products ,facilitating development of India as a global hub for manufacturing trading and services and so on .The special initiatives includes the thrust sectors having prospects for export expansion and potential for employment generation. The new export Promotion scheme includes a target plus scheme which allowed the exporters achieving a quantum growth in exports are entailed to duty free credit based on incremental exports substantially higher than the general actual export target fixed. The EPCG scheme has been improved upon by providing additional flexibility for fulfillment of export obligation, facilitating and providing incentives for technological up gradation etc.

The Duty Entitlement Passbook (DEPB) scheme will continue until replaced by a new scheme to be drawn up in consultation with exporters. Policy measures announced to further simplifying the rules and procedures including exemption for exporters with a minimum turnover of Rs.5crores and good track

record from furnishing bank guarantee in any of the schemes ,service tax exemption for exports of all goods and services ,increase validity of all license issued under various schemes uniformly to 24 months ,reduction in number of returns and forms to be filled ,delegation of more power to zonal and regional offices ,and time bound introduction of electronic data interface(EDI) is the structured transmission of data between organizations by electronic means, which is used to transfer electronic documents or business data from one computer system to another computer system, i.e. from one trading partner to another trading partner without human intervention. It is more than mere e-mail messages. It also refers specifically to a family of standards. It is a major step of trade development as it made easy to transmit the information of export and import.

The annual supplement to the Foreign Trade Policy 2004-2009 announced on April 2005, which incorporated additional policy initiatives and further simplified the procedure. Government would be actively involved in providing an enabling environment for boosting international trade. The SEZ bill was passed by the parliament in June 2005.Implement the provisions of this SEZ act 2005, the SEZ rules had been framed and notified.

Further, the annual supplement to the foreign trade policy was issued by giving a big boost to exports from agriculture and manufacturing exports. Push to export of farm, marine, manufacturing and pharmaceuticals, setting up of interstate trade council, infrastructure initiative to reduce port congestion, abolishment of export cess on farm commodities etc are the major highlights of the annual policy. Later, The union Commerce and Industry Minister announced on April 7,2006,the

2006-2007supplement to the five-year (2004-09)Foreign trade policy .With a view to doubling India's percentage share of global trade within 5 years and expanding employment opportunities ,especially in semi –urban and rural areas ,certain special focus initiatives were identified for the agriculture ,handlooms, handicraft, gems &jewelers ,leather and marine sectors .Concerted efforts would be made to promote exports in these sectors by specific sectoral strategies that shall be notified from time to time.

Next to this, an annual policy of 2007-08 was introduced. The major objectives of the annual policy of 2007-08 policy to double the percentage share of global trade within the next five years and act as an effective instrument of economic growth by giving a thrust to employment generation. Facilitating technological and infrastructural up gradation of the all sectors of the Indian economy ,especially through import of capital goods and equipment, thereby increasing value addition and productivity ,while attaining internationally accepted standards of quality. For that, an annual supplement policy of 2008-09 came in to being.

This annual Supplement to the Foreign Trade policy for 2004-2009 proposed several innovative steps, which include the measures like, to promote modernization of manufacturing and services exports, the import duty under the EPCG schemes was reduced from 5 per cent to 3 per cent and refund of tax on a large number of services relating to exports had already been announced by the government .A few remaining issue regarding refund of services tax on exports would also be resolved .The Income tax benefit to 100 per cent EOUs available

under section 10 b of income tax Act was extended for one more year, beyond 2009.The Sports and tots are mainly produced by our unorganized labour intensive sector. To promote export of these items and also to compensate above the credit under Focus Product Scheme was provided. As a relaxation measure, Interest relief already granted for sectors affected adversely by the appreciation of the rupee was extended for one more year. At the same time, The DEPB scheme was allowed to continue till May 2009. Now it is the time to peep in to the most recent foreign trade policy for a period of 2009-14.

For India, to become a major player in world trade, an overall encompassing and comprehensive vision is required for the overall development of the country's foreign trade. Trade is not an ending itself, but a means to economic growth additional development. Coherence and consistency among trade and other economic policies is important for maximizing the contribution of such policies to development. Thus, while incorporating the existing practice of enunciating a stable Five Year Policy, it is necessary to go much beyond and take an integrated approach to the developmental requirements of India's foreign trade. In 2008-09, the world faced an unprecedented economic slow-down and witnessed one of the most severe global recessions in the post-war period that affected countries across the globe in varying degrees. All major economic activities like industrial production, trade capital flows, unemployment, investment and consumption to faced a hit.

The short term objective s of the policy are to arrest and reverse the declining trend of export and to provide additional support to sectors hit badly by

recession in the developed world .The policy also aims to achieve an annual export growth of 15 percent with an annual export target of US dollar200 billion in 2011.The Ministry of Commerce also aims an export growth of 25 percent per annum by 2014 and double the export of goods and service. The long-term policy objective the policy is to double India's share in the global export trade by 2020 which stood at 1.64 per cent in 2008(WTO).

2.3.New Foreign Trade Policy 2013-14

The policy allows several benefits for the exporters of textiles, engineering goods and sports goods. Zero duty EPCG scheme extended to other export sectors goods beyond March 2013 .Specific export obligation reduced by 10 percent to promote domestic manufacturing of capital.134 sub sectors of Engineering included in 2 per cent interest subvention scheme also introduced. Export to Norway and Venezuela to get duty free.126 engineering, electronics, chemicals, pharma and textiles items were included in the focus product scheme. Incremental Export Incentivisation scheme for exports to US, EU and Asia to be continued in the 14^{th} five year plan.

2.3.India and WTO

On global level, it is important to visualize India's trade relation in the WTO scenario. The URUGUAY round of GATT negotiation was formally concluded at the Ministerial conference held in Marrakesh ,Morocco, from 12^{th} and 15^{th} of April,1994. India along with 110 other countries authenticated the result of URUGUASY round by signing the final draft for the WTO. In addition to the

120 countries also signed the agreement establishing the WTO which came in to force from January 1st 1995 and India become the founder member of WTO Agreement on December 30,1994.The final act of URUGUAY Round is a legal international trade treaty among the 120 member countries ,many more countries interested to join the WTO ,to follow GATT laws ,regulations and administrative procedures. To keep international competitiveness for export promotion by a developing country like India is a hilarious task .Prior to the acceptance of Globalization and opening up a big way under the Structural Adjustment Programme (SAP), India pursued for long the goal of self-reliance and import substituting industrialization with liberal and growing reliance on concessional external borrowing, fair measure of protection to Indian industry and regulated technology import and Foreign Direct Investment (FDI). Under the General Agreement on Trade in Services (GATS), India has made commitments in 33 activities (compared with an average of 23 for developing countries) out of a total of 161. In addition, India also took part in the Information Technology Agreement - covering computers, telecommunication equipment, semiconductors, semiconductor manufacturing equipment, software, and scientific instruments.

As far as India's manufactures goods were concerned, several stages of reforms have lifted all licensing restrictions on imports of capital goods, liberalized partially imports of consumer goods and reduced maximum tariffs from over 300 per cent to 45 per cent (including a surcharge of 5per cent). Collection rates, which are a better indicator of protection than declared rates, came down from the level of 47per cent in 1990-91 to 29 percent in 1995-96.The reduction in the import restriction on capital goods has made a positive impact on Indian engineering

goods as it has increased the export. Further, India has committed to WTO to reduce tariffs on capital goods, components, intermediaries and industrial raw material by year 2001 to 40 percent, if tariffs are above 40 percent to limit at 25 percent,.The reduced tariff provides greater opportunities to Indian products for export to developed member countries. Domestic industries will face competition from imported goods flowing freely from other countries due to lower tariff. Goods produced within the country for domestic consumption by foreign companies using their own trademark and technology can also affect domestic producers. Internationally, the Indian industries will face competition from other developing countries and due to non-tariff barriers like environment, health, safety, and prohibition of use of child labour and technical standard requirements.

In terms of WTO tariff commitments, India has bound 67 per cent of its tariffs in manufacturing and 100 per cent in agriculture in consequence of its Uruguay Round commitments. However, most of these bindings are at ceiling levels, ranging up to 300 per cent in agriculture. The bound simple average tariff to be implemented by the year 2005 is 54 per cent, compared with the present applied rate of 35 per cent, itself set to decline further. In the services area, the initial commitments made under GATS are such that the existing policy framework is either more liberal, or equivalent to the bound measures. In both areas, thus, India, like most other developing countries, has put a ceiling on its protective structure, rather than binding it at effective levels, while pursuing unilateral liberalization.

On April 1st ,the government of India has revamped the export subsidy regime with an aim to reduce subsidies for the overseas shipment with a target of

900 billion US dollars in 2019-20.It was expected that, if the target is achieved ,India can grab 3.5percent of the world trade. At the same time, by this policy the capital goods are procured from the indigenous manufacturer, the export obligation can be reduced from 90 percent of the normal export to 75 percent thus promoting export of India

India maintains several plurilateral agreements with countries in the region the Bangkok Agreement, the South Asian Preferential Trading Agreement (SAPTA), and the Global System of Trade Preferences (GSTP). Further concessions to some of these countries are also provided within the framework of bilateral trade agreements. However, the impact of these agreements on India's trade seems to have been minimal. India's merchandise imports resulting from the eighth Bangkok Agreement and SAPTA member countries accounted for only 3 per cent of total merchandise imports and about 7 per cent of its merchandise exports in 1995-96. India's increased openness and integration with the world economy have been important factors in explaining the healthy economic growth recorded in the 1990s. The recent economic slowdown demonstrates the need for continued and even accelerated reform. Transparency in decision-making, especially with regard to foreign investment, should also be increased if India is to reach its foreign investment targets. Continued opening of the trade regime and liberalization of the foreign investment regime are likely to be translated into even higher growth rates than have been experienced so far.

2.4 Conclusion

It can be concluded that, the study is mainly related to the Leontief paradox. Through foreign trade policy analyzed, all the policies aimed to relax the controls and regulations of the previous policies. Among the policies, it is the liberalization attempt has a special mention as it has made severe shift in the pattern, composition and direction of Indian trade. Under the WTO regime, the restrictions relaxed even more and which has enhanced the global competitiveness.

Chapter-3

DIRECTION AND COMPOSITION OF FOREIGN TRADE INDIA SINCE LIBERALIZATION

3.1introduction

India, the largest growing economy after China, experienced a drastic change in the international trade after independence both in direction and magnitude. In the pre independence era, half of India's trade was with Britain and the other half with China, Srilanka, Persia, and Japan etc, exporting primary products and importing finished products. Post independence, along with wide range of traditional and nontraditional items, India imported capital goods, petroleum products, raw materials and chemicals. India's trade faced several issues on account of Partition, Asian Crisis, Rupee Dollar crisis, depletion of sterling balance, devaluation of the Indian rupee and so on. India is also a party to the international trade policies and agreements which has considerable influence on trade scenario of the country.

The import substitution policy was the rule in the post independence Indian trade structure which emphasized the "home grown" and "infant industry argument". This policy was largely based on giving liberal incentives to the firms which produced the imported item that was not domestically produced earlier. At this time, trade had suffered from strict bureaucratic controls and the foreign exchange transactions were tightly regulated by the government and the Reserve Bank of India. The overwhelming presence of the licensing mechanism and high

levels of tariffs isolated Indian economy from the external competition .In 1991, the Government of India introduced a series of reforms with the intention of liberating Indian trade from the bureaucratic shackles and integrate it with the world economy. This was considered as a cornerstone to Indian trade scenario. The new trade policy made a change in the direction followed for decades. Import licensing was totally abolished with respect to imports of machinery, equipment and manufactured intermediate products. Internal reforms included reduced control over location restrictions and industrial licensing. In some sectors controls were reduced on administrative prices. The policy focus was primarily on liberalization of capital goods and inputs for industry, to encourage domestic and export-oriented growth. However, imports of consumer goods remained regulated. There has been no change in the structure of export incentives and subsidies.

This chapter aims to examine the changes in Indian foreign trade since liberalization. It can be seen that the export capacity (quantity and volume of commodities that can be exported) of India has increased since liberalization. The trade trends are generally analyzed by assuming 1990-2000 as the first generation of liberalization and the years from 2001 to till the date second generation years for a better examination.India's share in world trade was 1.78 percent in 1950s and it has reduced to 0.6 percent in 2010-11. Even though, the share of India in the world trade has reduced, India's export has increased continuously after reforms. As per the WTO reports 2013-14, India accounts 1.44 percentage of merchandise exports and 2.12percentage of merchandise imports and 3.34 percentage of commercial service export and 3.13 percentage of the commercial service import of world trade. India is the tenth largest country in the world by nominal GDP and third by

purchasing power parity. Currently India is the nineteenth largest exporter and twelfth largest importer in the world, with export valued US dollar 464.2 billion (US dollar 313.2 billion of merchandise exports and USdollar150.9 billion of service exports) and imports valued US dollar 590.66 billion (US dollar 466 billion of merchandise imports and US dollar124 billion of services imports). Software, petrochemicals, jewellery, engineering goods, chemicals, transporting parts, ores are the major exporting goods of India and the imports include crude oil, precious stones, electrical goods, engineering goods ,chemical, plastic, coal, iron and steel ,vegetable oil etc. While EU (16.7 percentage), US (12.5 percentage), UAE (10.1 percentage), China (4.9 percentage), Singapore (4.2 percentage) constitutes the major exporting partners, China (11.1 percentage), EU (10.6 percentage), Saudi Arabia (5.3 percentage) constitutes the major importing partners of India.

3.2 Export of India: Commodity Composition -an overview

The economic and trade reforms of the 1990s made structural changes in the composition and direction of exports. International factors like the breaking up of Soviet Union and depression in Europe contributed towards this trend .The composition of exports relating to Primary, Manufacturing and Petroleum products are presented in table 3.1.The major exporting product classification includes Primary products, Manufactured goods and Petroleum products. The contribution of the primary sector is declining continuously and manufacturing sector maintains more or less same trend, but the contribution of the petroleum products is increasing considerably in terms of percentage as well as growth wise. The improved refining capacity of our country can be attributed to this trend. It is

pointed out that, the share of primary products in exports declined significantly over the period 1989-90 to 2011-12, from 23.37 percent of the total export to 14.96 percent in 2011-12. The growth rate clearly indicates this down fall .The major reason for this trend is the strict quality restriction of the importing countries, high cost of production and the lack of competitiveness. Most of the developed nations provide large funds as subsidies for their farmers, but the situation is different in developing country like India, which makes the products less competitive. In 2013-14, there is an increase in the export of manufacturing goods export (61.45 percent)

Table3.1

Percentage Share of Export of Principal Commodities.

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Primary products	23.37	19.80	17.71	15.39	14.76	14.96	15.49	15.40
Manufactured goods	72.06	77.49	80.69	73.40	64.43	61.31	60.96	61.45
Petroleum products	2.51	1.58	0.1	8.57	15.74	18.25	20.25	20.05
Others	2.04	1.11	1.47	2.63	5.02	5.46	3.33	3.08

Source: RBI Hand Book on Indian Economy (2013-14)

Indian agriculture has greatly contributed to foreign trade since the early times. Indian Agricultural products have been facing stiff competition from Asian countries. Due to globalization and liberalized regime, this competition is likely to increase further and new initiatives in agriculture development shall have to meet the emerging challenges. Other than a few commodities like rice, cotton, tea, coffee, oilseeds, oil cakes, tobacco and spices, the share of agricultural export of

India in total world trade is insignificant. The share is particularly low in the world trade of fish, meat, chicken, vegetables and fruits.

Table 3.2

Percentage Share of Primary products Export in India's total Export.

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Tea	3.3	1.18	1.11	0.49	0.34	0.28	0.28	0.26
Coffee	1.25	1.27	0.89	0.28	0.23	0.31	0.28	0.25
Rice	1.54	1.45	1.95	1.80	1.32	1.65	2.07	2.47
Wheat	0.00	0.05	0.00	0.38	0.00	0.07	0.64	0.48
Cotton raw including waste	0.46	0.16	0.04	0.11	1.12	1.48	1.24	1.17
Tobacco	0.63	0.30	0.63	0.33	0.51	0.27	0.30	0.32
Cashew including Cashew nut shell liquid	1.32	1.50	1.54	0.66	0.33	0.30	0.25	0.27
Spice	1.00	0.74	1.10	0.50	0.27	0.90	0.94	0.84
Oil Meals	2.20	2.17	1.02	0.84	0.92	0.80	0.01	0.90
Fruits and Vegetables	0.73	0.52	0.40	0.47	0.63	0.39	0.42	0.52
Processed fruits,juice,miscellaneous processed item	0.76	0.43	0.53	0.34	0.38	0.37	0.42	0.49
Marine products	2.48	4.27	3.21	1.72	1.16	1.13	3.15	3.61
Sugar and molasses	0.11	0.07	0.02	0.04	0.01	0.61	0.53	0.38
Meat and Meat preparations	0.47	0.48	0.51	0.50	0.74	0.96	1.09	1.44
Others	0.91	1.38	2.20	1.62	1.44	2.71	2.95	2.16

Source: RBI Hand Book on Indian Economy (2013-14)

Primary products like the tea, coffee, rice, cashew, spices, oil meals and marine products, contribute more than one percent in the total export and it was tea which contributed the major chunk in the pre liberalization period. In 2011-12, only rice, cotton raw and marine products contributes a considerable share in the primary and allied products are increasing slightly. There was tremendous growth in the export of cotton raw and the inverse is visible in the export of wheat.

Compared to the pre liberalization era the export of tea, coffee and cashew is declining continuously. The increase in the export of tea in Kenya and Vietnam, stagnation in the import of tea in traditional tea importing countries such as U.K, aggressive marketing strategy by Kenya and Vietnam with decline in India's global tea competitiveness are responsible factors for India's poor performance of its tea exports. Fluctuating international prices and decreasing unit value realization, especially in the post-reform period is the challenging factor responsible for the poor performance of coffee exports of India. At the same time international quality agreement and competition from Vietnam and Brazil hit Indian cashew exports severely. The data of 2013-14 reveals that the export of Marine products is increasing slightly. The export of tea and spice exhibits a declining trend.

Table 3.3

Percentage Share of Ores and Minerals Export in India's total Export

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Iron Ore	3.35	1.56	1.73	3.92	3.34	1.45	0.54	0.50
Mica	0.10	0.27	0.2	0.01	0.01	0.01	0.01	0.01
Other Ores and Minerals	2.74	2.15	1.72	2.13	1.48	1.20	1.30	1.27

Source: RBI Hand Book on Indian Economy (2013-14)

The liberalization had made an impetus for the export of majority of commodities, like iron and steel, petroleum products and pharmaceuticals which gained both in terms of growth rate as well as share in the export market. In 2011-12 the share of Iron Ore products, Mica and Other Ores and minerals had reduced

to1.45 percent, 0.01percent and 1.20 percent respectively. While the growth rate of iron ore and mica witnessed a declining trend in the first generation and second generation period and there was a positive trend thereafter. The contribution of the mining industry to exports varies from 2.2 percent to 2.5percent. But going by the GDP of the total industrial sector it contributes around 10 percent to 11 percent. Minerals constitute the back-bone of economic growth of India as it has been generously endowed with minerals. In 2013-14, the export of Mica maintained share with 0.01 percent and the export and the export of Other Ores and minerals have increased to 1.27 percent. The export of Iron ore showed a mild rise.

Table 3.4

Percentage Share of Manufactured goods Export in India's total Export

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Leather and Manufactures	7.05	6.11	4.31	2.89	1.88	1.57	1.62	1.82
Chemicals and Related Products	9.35	11.64	12.78	14.89	12.81	12.20	13.01	13.23
Engineering Goods	12.02	13.32	13.99	20.76	21.41	22.02	21.76	22.24
Textile and Textile Products	22.55	27.03	26.67	16.22	11.10	9.19	9.10	10.06
Gems and Jewellery	19.14	17.09	20.37	16.47	16.22	15.39	14.44	13.13
Handicrafts	1.34	1.37	1.81	0.45	0.12	0.07	0.06	0.09
Other Manufactured goods	0.59	0.81	0.74	0.98	0.87	0.84	0.87	0.85

Source: RBI Hand Book on Indian Economy (2013-14)

Chemical and allied products, engineering goods, readymade garments, textile yarn, fabrics and gems and jewellery are considered as the main drivers of the Indian manufacturing goods exports. A small increase is visible in the export of

engineering goods (22.24 percent) in 2013-14 compared to the previous year. Textile and Textile products contributed a considerable share in the 90s. But the share declined drastically and maintained more or less same growth rate since reforms. Both in the first and second generation of the liberalization, the Engineering goods followed positive move of 11.61 percent and 25.18percent respectively.

Table3.5

Percentage Share of Chemicals and Related products Export in India's total Export

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Basic Chemical ,Pharmaceuticals and Cosmetics	6.79	6.69	8.38	8.54	8.82	8.02	8.75	8.80
Plastic and Linoleum Products	0.58	1.81	1.63	3.63	1.87	2.08	2.06	2.16
Rubber ,glass ,Paints ,enamels and Products	1.60	2.40	1.88	2.10	1.53	1.56	1.69	1.72
Residual Chemicals and Allied Products	0.36	0.73	0.87	0.61	0.57	0.53	0.50	0.53

Source: RBI Hand Book on Indian Economy(2013-14)

The export of the handicrafts witnessed a negative trend especially in the second half of the liberalization. Despite the existence of a strong production base and a massive workforce, India has not been able to capture the existing opportunities in the handicraft sector. Analyzing the cause behind this trend of Indian handicrafts in the global market, it was found that the Indian exporters were unable to identify potential overseas market. Other than this, number of constraints faced by the various manufacturing sub-sectors are include stiff competition from other emerging market economies, especially China, high cost of funds, low technology intensity, inadequate infrastructure, scarcity of skilled and semi-skilled

manpower, high input costs, high transaction costs and the slowing down of world demand.

Chemical industry contributes 7 percentage of India's total GDP and is the twelfth largest in the world chemical industries. The major chemical products comprised of Pharmaceuticals and bulk drugs, Agrochemicals, Petrochemicals and organic chemicals, Dyes, Specialty Chemicals, Inorganic Chemicals and so on . Turning to the percentage share of Chemicals and related products, the basic chemicals and pharmaceuticals maintained its share in the total export. Rubber, glass, paints, enamels and products made an incredible growth specifically in the second generation period having a 25.18 percent. Thus, the Chemical industry which was under the protective list in the pre liberalization period, shifted to an open competition in liberalization and made better performance in the international market. In 2013-14, the export of the entire product under chemical and related products has shown a rising trend.

Table 3.6

Percentage Share of Engineering goods Export in India's total Export

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Iron and steel	0.59	2.00	2.26	4.69	2.02	2.11	2.07	2.40
Manufacture of Metals	2.68	2.68	3.32	4.07	3.08	3.15	3.34	3.10
Machinery and Instrument	3.63	2.75	3.21	4.45	5.33	4.17	5.09	5.19
Transport Equipment	1.90	2.92	2.20	3.38	5.49	6.86	6.11	6.86
Electronic Goods	1.82	2.10	1.84	2.19	3.05	2.91	2.68	2.44
Others	1.38	1.39	1.13	1.96	2.40	2.25	2.45	2.24

Source: RBI Hand Book on Indian Economy(2013-14)

In Engineering goods export, the falling share of Ores and Minerals has been offset by the increase in the share of engineering goods within the manufactured goods. India's shipments of engineering goods have increased almost eight fold in the last decade and become the biggest item of exports, ahead of primary products dominated earlier. The contribution of Machinery and Instrument in the export was dominant one till the 90s .The recent trends, indicate that Transport equipment has a shares of 6.86 percent (2013-14). The growth wise details reveal that, iron and steel machinery and instrument and electronic goods were left with almost a same growth rate of around 17 percent.

Table 3.7

Percentage Share of Textile and Textile Products Export in India's total Export

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Cotton Yarn,Fabrics,Made ups etc	5.44	8.48	8.39	4.13	2.06	2.23	2.50	2.85
Natural silk Yarn ,Fabrics Made ups etc, including Silk waste	0.74	0.51	0.66	0.48	0.16	0.06	0.05	0.05
Manmade Yarn ,Fabrics,Madeups etc.	1.12	2.33	2.20	2.34	2.01	1.66	1.50	1.64
Manmade Staple Fiber	0.00	0.09	0.11	0.10	0.19	0.18	0.16	0.18
Woolen Yarn,Fabrics,Made ups etc.	0.10	0.23	0.13	0.08	0.05	0.04	0.04	0.03
Readymade Garments	11.66	12.46	12.94	7.85	5.98	4.49	4.30	4.77
Jute and Jute Manufactures	0.07	0.57	0.34	0.33	0.12	0.15	0.12	0.12
Coir and Coir Manufactures	0.14	0.20	0.12	0.12	0.08	0.06	0.65	0.07
Carpets	1.18	2.12	1.75	0.76	0.41	0.27	0.32	0.33

Source: RBI Hand Book on Indian Economy (2013-14)

Both in the pre and post liberalization, the readymade garments shared major part even though it was 11.66 percent and 4.49in 1989-90 and 2011-12. In 2013-14, it is, Readymade garments Cotton Yarn, Fabrics made ups are the major exporting products under the Textile and Textile products. But the share of readymade garments is declining due to the stiff competition from China. Manmade staple fiber made a significant increase both in the first and the second generation era making 35 percent growth.

3.3 Import of India: Commodity Composition -an overview

Table 3.8 presents the percentage share of import of principal commodities. The structure and pattern of India's import had changed since the opening of Indian economy to the rest. Shift from the import substitution and the promotion of trade relying on the policy distinction between essential imports and the non essentials made a significant change in the import. The following tables elicit the percentage share of import of principal commodities.

Table 3 .8

Percentage share of Import of Principal Commodities

Products	Share							
	1989-90	1994-05	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Petroleum, Crude and Products	20.52	20.68	25.39	26.76	30.21	31.94	33.42	36.69
Bulk Consumption Goods	2.64	3.99	4.86	2.78	3.12	2.37	2.89	2.56
Other Bulk Item	15.86	14.82	9.29	8.47	9.76	9.85	9.38	8.72
Capital Goods	28.16	26.65	18.04	22.53	22.84	20.30	19.32	18.92
Mainly Export Related Item	14.33	15.06	18.35	15.32	10.84	11.13	9.55	10.87
Others	18.46	18.77	24.04	24.10	22.86	24.68	25.40	22.21

Source: RBI Hand Book on Indian Economy (2013-14)

The commodity wise analysis reveals that, Petroleum remains as the dominant item in the Indian import bill. Likewise, the import of Capital and other

intermediate goods had emerged as the leading products aiming a re-export. The increase in the import of petroleum and crude product's share ranges from 20.52percent to 31.94 percent in1989-90 to 2011-12.With the import of Petroleum, crude and products and Bulk consumption goods increased more than 19times,the export related items reported 14.94fold growth rate. But moving to 2013-14 the import is decreasing (22.21 percent).

Table 3.9

Percentage share of Import Bulk Consumption Goods in India's Total import

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-13
Cereals and Cereal Preparations	1.10	0.10	0.44	0.02	0.03	0.01	0.01	0.01
Edible oils	0.59	0.69	3.73	2.21	1.93	1.97	2.28	2.07
Pulses	0.65	0.65	0.16	0.35	0.71	0.37	0.47	3.87
Sugar	0.27	2.53	0.51	0.19	0.43	0.01	0.11	0.08

Source: RBI Hand Book on Indian Economy(2013-14)

Edible oil is the only item which contributed more than one percent in the total import of Indian bulk consumption goods in 2011-12, while it was cereals and cereal preparations in the year 1989-90. India is the largest importer and lowest exporter of sugar. India's importing partners of sugar are Brazil, Germany, Netherland and Pakistan (2013). Wheat, paddy, sorghum, millet, barley and maize etc are the major important cereals of India. Other than sugar, edible oils and cereals are the major importing products of India. As per the 2010 data, India imported cereals worth 90 million dollars. India meets its 50 percentage of edible oil demand by importing from Indonesia and Malaysia. India's import of edible oil stands 11, 57,130 tones in the beginning of 2013. It can be concluded that, when

sugar has a high growth rate of 49.54 percent, the pulses showed a 6.61 fold low growth.

Table3.10

Percentage share of Import Capital Goods in India's Total import

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Manufacture of Metals	0.68	0.71	0.81	0.82	0.83	0.87	0.81	0.90
Machine tools	0.90	0.07	0.52	0.55	0.57	0.61	0.55	0.45
Machinery except Electrical and Electronic	9.09	9.51	5.52	6.11	6.82	6.17	5.62	5.24
Electrical except Electronic Machinery	5.12	0.87	0.88	1.07	1.07	0.97	0.90	0.96
Electronic goods	0.00	4.28	5.63	8.96	7.2	6.66	6.40	6.87
Computer Goods	0.00	0.15	0.39	0.59	0.58	0.33	0.11	0.13
Transport Equipment	4.19	3.88	2.28	3.88	4.05	2.86	3.51	3.33
Project Goods	4.91	6.46	1.98	0.53	1.62	1.79	1.33	1.00

Source: RBI Hand Book on Indian Economy (2013-14)

The share of machinery except electrical and electronic goods was the major importing items .The recent tendency conveys that, the share is declining continuously as a step towards reduction of dependency on the developed nations. The import of electronic goods has also reached the identical share which was almost zero in the 1990s. It made 72.29 fold growth rates making a 142.59 times growth in the first half and 22.36 times growth in the second half of the reform. In 2012-13, India imported about Rs 1.55 lakh crore worth capital goods machinery and thus necessitated the creation of "make India" fund by the government. Major importing partner of India's capital goods are China and South Korea. In 2013-14,

Electrical except electronic machinery remained the highest sharing product under the category.

Table 3.11

Percentage share of Import Other Bulk Item in India's Total import

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-13
Fertilizers	5.10	3.67	2.81	1.23	2.37	2.35	1.85	1.44
Non Ferrous Metals	3.35	2.50	1.10	1.17	1.04	0.99	1.04	1.21
Paper, Paper boards, Manufactures including news prints	0.98	0.85	0.90	1.65	0.52	0.05	1.03	0.55
Crude Rubber, including synthetic and reclaimed	0.49	0.41	0.28	0.36	0.35	0.51	0.54	4.73
Pulp and Waste paper	0.86	0.70	0.51	0.43	0.30	0.28	0.31	0.03
Metalliferrous ores, metal scrap,etc.	2.68	2.61	1.76	2.21	2.66	2.73	3.05	2.97
Iron and steel	6.37	4.06	1.91	2.39	2.85	2.44	2.23	1.75

Source: RBI Hand Book on Indian Economy(2013-14)

Share in the import of other bulk items like rubber, pulp and paper wood and wood products, fertilizers, metallic ferrous-ores and metal scraps, non ferrous metals and iron and steels are included in the table 3.1. Majority of them made a decline since 1990s. It is the Crude Rubber, including synthetic and reclaimed which claims 17.01 fold growths in the import and the import of iron and steel made -1.83 times reduction. Other major feature is that the import of iron and steel has declined drastically. This trend is mainly due to the increased production of the same and the de licensing mechanism in the post liberalization era. India is the fourth largest producer of steel in the world and the largest producer of sponge iron. In 2013-14,Crude rubber makes the largest share in the import of other bulk item.

Table 3.12

Percentage share of Import of Export related items in India's Total import

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-145
Pearls, precious and Semi precious stones	12.03	5.68	10.94	8.44	5.60	6.23	5.52	5.30
Organic and Inorganic Chemicals	5.43	7.45	5.77	5.11	4.12	3.87	4.71	4.49
Textile Yarn, Fabrics,madeups etc.	0.95	1.15	1.08	1.40	0.88	0.79	0.97	0.90
Cashew nuts	0.23	0.76	0.55	0.36	0.22	0.22	0.23	0.16

Source: RBI Hand Book on Indian Economy (2013-14)

It was in the pre reform period and the post reform period, Pearls, Precious Stone ad semi precious stones maintained the major export related products of India(12.03 percent in 1989-90 and 5.30 percent in 2013-14) . The import of export related items consisting of Pearls, precious and Semi precious stones, Organic and Inorganic Chemicals, Textile Yarn, Fabrics, made-up etc, Cashew nuts is dealt in table3:12 . Pearls, precious and Semi precious stones are highly export oriented and brings a huge amount of foreign exchange to India. It contributed 17 percentage of total export of India in 2009. It was due to the scarcity of raw materials that made India an importer of the Rough diamonds, Gem stones and precious metals. Alkali Chemicals, Dyes, Pesticides and insecticides are the major organic and in organic chemicals imported to India. Asia except Middle East, China and Singapore are the import destinations of India. Other than, the Pearls, precious and Semi precious stones, the other items maintained a steady trend so far.

Table 3.13

Percentage share of Import of other major importing goods in India's Total import

Products	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Gold and Silver	0.00	2.48	9.47	9.99	10.26	12.53	13.61	7.42
Artificial Resins and Plastic Materials, etc..	2.82	2.11	1.44	1.30	1.73	1.53	2.10	2.02
Professional, Scientific controlling instruments,Photographic optical goods	1.90	1.71	1.70	1.37	1.25	0.07	1.30	1.26
Coal oak and Briquittes,etc.	1.59	2.47	0.02	2.86	3.10	3.55	4.15	3.64
Medicinal and Pharmaceutical Products	1.13	1.04	0.75	0.63	0.72	0.61	0.63	0.62
Chemical Materials and Products	0.61	0.70	0.72	0.73	0.79	0.70	0.88	0.82
Non –Metallic Mineral Manufactures	0.48	0.45	0.32	0.42	0.37	0.42	0.50	0.42

Source: RBI Hand Book on Indian Economy (2013-14)

One of the notable features in the import of other major importing item is gold and silver .It was nearly zero in the 90s and it had increased to 12.53 percent in 2011-12 and reached a major item in the import of other major importing item with a growth rate of 86.65 percent. Even though, it had touched into 192.56 percent growth in the initial stage of liberalization, it had reduced in to 19.08 percent in the later half. In 2013-14 it has reduced to 7.42 percent.

Thus it can be concluded that the most alarming factor of India's balance of Payment is the heavy import of petroleum and crude oil products which increased to 31.94 percent in 2011-12. 33 percent or one third of India's import is crude oil. Between 1990-00, and 2011-12 the growth rate increased from 9.11percent to 29.83percent.This clearly indicates that the balance of payment crisis can be tackled not by reducing the import of petroleum and crude oil products but by improving its refinery capacity and further increasing its export of other products . The necessity of developing alternative domestic fuels and going for an import substitution is very relevant in this context. Another importing item

of the country is capital goods which come to 28.16 percent 1989-90 but declined to 20.03 percent in 2011-12 with intermittent variations. A close examination of the macro trends reveals that, the export seem to be in an unfavorable state not only because of a fall in exports but also due to unprecedented rise in imports. Comparing the import and export tables, a wide gap is visible.

3.4 Direction of Commodity Export of India

The foregoing discussion on the direction of Indian exports from 1987. The commodity wise export distribution elicits a clear picture on the export performance of India since reform. Among the commodity wise distribution, only major commodities are discussed which includes tea, coffee, spices, fish products engineering goods, rice, tobacco, cashew kernels, oil meals and so on.

Table3.14

Direction of Tea Export of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Germany	3.25	7.40	5.92	6.46	3.56	4.80	4.87	5.42
Iran	6.42	0.14	0.99	6.14	7.23	5.55	8.50	12.59
Iraq	1.05	0.00	3.18	8.09	4.17	0.02	0.02	0.02
Japan	2.85	3.05	3.05	3.80	2.54	2.99	3.07	3.20
Kazakhstan	0.00	1.41	2.91	7.01	4.82	5.67	7.24	5.67
Poland	1.10	9.59	4.24	1.73	2.00	1.35	1.24	1.50
Russia	0.59	27.7	39.30	12.71	15.96	13.62	14.67	13.52
UAE	2.28	11.03	9.80	14.78	11.68	9.12	11.48	10.20
UK	9.18	16.60	10.07	10.81	10.90	11.62	11.79	7.46
USA	1.25	4.15	5.07	6.84	8.35	7.66	7.69	8.86
Others	13.09	17.41	15.09	21.63	28.94	36.40	29.37	3.51

Source: RBI Hand Book on Indian Economy (2013-14)

India exports 12 percent of world's tea (2014-15) and is also the major consumer of tea. The period 1989-90 witnessed UK as the main destination of Indian Tea exports and Iran the second. Coming to 2011-12, UK's position was replaced by Russia holding around 13.62 percent of India's tea exports. Moreover, United States is emerging as a major importer of tea recently. Export to Iraq and Poland showed a negative growth in 1990-12. On the other hand USA exposed stable growth in the two decades of liberalization. Russia, the US, the UK, the UAE, Iran, Kazakhstan, Pakistan, Germany, Australia, Japan, the Netherlands, Ireland, Poland are the major markets of India. Among these, Russia (37.18 percent), Iran (18.03percent), UK (17.50 per cent) is the leading markets (2014-15).

It is important to note that in the pre liberalization period, the export of tea towards Kazakhstan was almost zero but it is highest growing tea importing partner of India, particularly in the second generation period of liberalization. It is due to the bilateral trade relations between India and Kazakhstan during the last years. Bilateral trade between India and Kazakhstan in 2010 was around US dollars 313.8 million, an increase of around 23.8 percent over US dollars 253.4 million from 2009 which is the result of Kazakhstan successful overcoming the economic recession. The emerging market for Indian tea is the countries like Russia, Iran, Kazakhstan, U.S. and Egypt.

Table 3.15

Direction of Export of Coffee of India

Countries	Share							
	1980-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Belgium	0.57	1.28	4.95	3.83	4.28	6.39	7.48	6.54
Germany	8.44	18.90	15.94	9.26	6.63	11.18	8.61	10.10
Italy	7.00	16.76	13.56	21.32	20.71	20.17	22.3	23.00
Latvia	0.00	0.77	1.93	1.40	0.78	0.83	0.66	0.66
Netherlands	1.39	1.07	2.41	2.80	2.58	0.94	0.50	0.59
Russia	49.11	13.39	17.12	17.02	14.37	9.92	8.61	4.66
Spain	0.71	1.52	5.73	4.11	2.26	3.22	1.87	1.66
Switzerland	0.67	2.08	1.44	1.87	1.62	0.90	1.00	0.80
UK	038	1.87	1.35	0.93	6.89	0.99	0.84	0.92
USA	6.47	11.45	6.43	3.08	2.55	2.40	3.53	3.6
Others	25.22	30.86	29.08	34.42	45.32	42.46	43.05	47.35

Source: RBI Hand Book on Indian Economy (2013-14)

Although coffee is considered as an export-oriented crop, its performance has not been promising in the post 1991. Coffee, although an important commodity in India's agricultural exports have faced fluctuating international prices and decreasing unit value realization, especially in the post-reform period. The top five export markets for Indian Coffee are the Russian Federation, Italy, Germany, Belgium, and Spain. Italy in 2009 imported US dollars 87,677 thousands of Coffee (43,892 ton at unit price of 1998 US dollars), Germany has imported US dollars 21,446 thousands of coffee (9635ton at unit price of 2226 US dollars), Belgium has imported US dollars 17,636 thousands of coffee (7941ton at unit price of 2221 US dollars) and Spain imported US dollars 11,996 thousands of coffee, (6873ton at a unit price of 1745 US dollars).

In the pre liberalization period, 49.11 percent of Indian coffee was destined to Russia but after the liberalization, a continuous reduction is visible so far due to the disintegration of USSR. In 2011-12, 20.17percent of coffee is exported to Italy .A 32.20 fold growths is seen in the export to Belgium. Next to Belgium it is Spain which has the highest growth in the import of Indian coffee which was zero in the early nineties. In 2013-14,Italy remained the major exporting partner in Coffee.

Table 3.16

Direction of Export of Rice of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Bangladesh	0.00	0.00	11.71	12.36	0.00	1.12	0.24	2.72
France	0.27	0.54	1.09	0.57	0.01	0.32	0.27	0.27
Kuwait	8.93	2.83	4.51	3.92	9.16	5.89	3.48	3.46
Saudi Arabia	38.25	31.06	40.61	27.96	29.73	15.17	12.09	15.46
Singapore	0.15	0.23	0.97	0.56	0.51	0.87	1.19	0.97
South Africa	0.00	0.00	5.14	7.62	0.13	1.88	2.92	2.27
UAE	7.06	5.55	4.78	5.45	27.87	16.31	6.11	4.04
UK	6.20	8.32	5.55	4.19	1.78	2.85	2.67	1.86
USA	4.25	4.13	2.32	1.49	1.52	2.38	1.91	2.14
Republic of Yemen	0.11	0.07	1.81	2.27	2.68	2.40	3.04	2.87
Others	34.66	47.12	21.45	33.57	26.55	50.76	66.01	63.87

Source: RBI Hand Book on Indian Economy (2013-14)

For the past four decades, the global rice market has been dominated by a few exporters, namely, Thailand, Vietnam, the United States, and Pakistan, accounting for 60 to70 percent of the total exports and Thailand has maintained the position of top exporter of the world. Through the years, both China and India, the top two rice producers and consumers in the world, have played a minor role globally with occasional exports and imports. Despite India's rise as an exporter since the mid-1990s, both these countries, which account for half of global rice production, have largely focused on domestic food security. Trade is an afterthought for these two giants and it is mostly used to manage occasional

surpluses and deficits. In 2012, India displaced Thailand from the top spot by exporting 10.4 million tons of rice vis-à-vis 6.9 million tons for Thailand. India's removal of its export ban on the non basmati market in late 2011 after a gap of 4 years, burgeoning domestic stocks, and a weak rupee definitely increased India's export prospects in 2012. But, Thailand's mortgage scheme should get most of the credit for India's rise to the top. Saudi Arabia was the foremost destination of India's rice export sharing 38.25 percent of total rice exports. Currently UAE became the major Indian rice importer followed by Saudi Arabia. Regarding to growth, 37.28 fold growths is visible in the export towards Republic of Yemen especially in the initial stage of the reform period. Bangladesh, France, South Africa showed a negative growth in the later periods of the reform periods. In 2013-14, Saudi Arabia still continue the first position in the export of Rice importer of India.

Table3.17

Direction of Export of Tobacco of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Belgium	4.56	5.17	9.53	9.32	18.07	16.12	16.85	2.61
Germany	7.04	1.84	7.68	5.41	4.46	3.66	3.12	3.52
Netherlands	1.42	2.83	3.22	4.14	5.47	4.56	3.34	3.66
Russia	19.50	6.65	20.31	11.39	5.24	4.44	4.61	4.13
South Africa	11.51	10.08	3.52	3.98	1.68	3.49	3.98	4.51
Singapore	0.95	1.60	3.00	3.44	1.51	1.87	2.16	2.02
UAE	2.56	8.50	3.86	5.77	5.40	6.81	8.04	8.17
UK	18.07	22.81	12.07	6.45	2.67	3.96	2.40	1.48
USA	0.47	2.21	6.05	5.41	3.33	3.32	3.48	3.04
Republic of Yemen	9.01	2.09	1.97	2.78	1.58	1.62	1.40	1.20
Others	24.92	34.31	28.82	41.91	50.55	50.14	50.57	47.62

Source: RBI Hand Book on Indian Economy (2013-14)

India's export of tobacco mainly directed to UAE (2013-14). India was the third leading world producer of leaf tobacco in the recent decade, following China and Brazil and contributes about 4 percent of global tobacco exports. Russia, was

the major tobacco importing partner of India in the pre liberalization periods. After the liberalization the share to Russia had declined drastically, where as the export to Belgium had increased significantly. India's export towards UAE has increased by 17.47 times. A considerable escalation is evident in the export to USA in the first generation period of liberalization of 1990-00 and Belgium in the second generation period. India is getting ready to export tobacco to China from this year (2014-15).

Table 3.18

Direction of Export of Spice of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Bangladesh	0.48	1.12	2.67	4.03	3.68	2.02	1.53	3.03
Germany	5.16	3.69	4.09	4.08	3.65	3.93	3.76	3.06
Japan	3.12	5.17	4.68	4.15	4.01	2.19	1.83	1.58
SoudiArabia	4.20	1.84	2.01	2.92	3.21	3.37	2.68	3.08
Singapore	2.04	2.56	2.79	2.97	3.02	3.71	4.23	2.76
Spain	1.32	0.92	2.05	2.12	0.58	0.97	1.27	1.43
Srilanka	1.68	3.34	2.77	3.92	4.02	2.92	2.05	2.47
UAE	4.38	5.38	4.16	4.93	5.44	5.37	3.84	3.96
UK	4.14	6.10	6.17	6.16	5.79	4.43	4.04	4.23
USA	12.07	28.97	32.90	20.55	14.71	17.89	16.07	15.10
Others	61.35	40.76	35.67	43.06	51.48	53.22	58.60	59.24

Source: RBI Hand Book on Indian Economy (2013-14)

World trade in spices has shown a consistently upward trend over the past 25 years. The Indian spice export was Rs.2.25 lakh tones valued at Rs. 1213 crores during 1996-97. But presently, the spices export has crossed the billion US $ during 2007-08 with Rs 4.44 lakh tones valued at Rs4435 crores from 3.73 lakh tones valued at Rs 3576 crores during 2006-07. The spices export has continued its

growth and during 2010-11 recorded Rs 5.25 lakh tones worth Rs 6840.71 crores, an all time high both in terms of volume and value of spices export from India. Apparently, the export has shown an increase of 23percent in value and 4.5 percent in quantity compared to 2009-10.The major share of export of spices in the pre and the post liberalization is to USA (15.1 percent).It was 12.07 percent in the 1989-90 it touched in to 17.89percent in 2011-12. Even though the share had increased, the growth of export is not at all significant as such. Spain had titled the highest growth experiencing spice importer of India. Bangladesh made a negative growth rate in the early liberalization period.

Table 3.19

Direction of Export of Cashew Kernels Including Cashew nut shell liquid of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Canada	0.95	1.28	1.62	1.08	0.45	0.80	0.65	0.65
France	0.22	0.65	1.90	2.37	3.35	2.44	2.73	2.48
Israel	0.31	1.58	1.25	0.80	0.60	0.56	0.50	0.62
Italy	0.45	0.15	1.00	0.88	0.63	1.25	0.79	0.69
Japan	8.96	7.42	5.24	3.93	5.51	5.41	6.73	6.10
Netherland	19.83	17.14	19.15	12.85	9.15	8.22	8.35	8.24
SoudiArabia	0.18	0.70	1.17	2.20	3.35	4.65	5.64	6.35
UAE	1.53	3.14	3.43	5.42	17.46	13.67	3.42	15.36
UK	1.13	5.31	7.88	5.70	3.85	2.47	2.52	2.32
USA	11.73	36.80	47.84	47.12	57.50	33.73	30.4	29.48
Others	55.07	25.83	9.45	17.59	28.13	26.83	28.15	27.64

Source: RBI Hand Book on Indian Economy (2013-14)

In the pre liberalization period, Netherland was the most important cashew kernel importer of India. After the liberalization, there was a shift in the exporting destination to USA. Compared to the initial stage of reforms, the share to

USA had declined radically and USA still maintains the first position in the Indian Cashew kernel imports (29.48 percent). 20.36 percent fold favourable increases are expressed in the export growth to Saudi Arabia. Now days, A heavy inflow of under-invoiced processed cashew kernels from Vietnam and Brazil has hit the chances of Indian cashew processor and exporters are to capitalize on the domestic demand. Moreover, the international quality agreement is also a major challenge of Indian Cashew exports.

Table 3.20

Direction of Export of Oil Meals of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Bangladesh	0.00	0.06	1.87	9.18	11.59	7.95	5.55	7.74
Indonesia	0.90	16.11	13.41	11.57	6.39	5.40	4.08	4.23
Japan	0.95	1.72	10.58	6.85	1.26	19.00	10.51	4.95
Korea, Republic of	1.60	6.60	12.06	10.69	6.46	4.71	8.54	9.04
Pakistan	0.40	2.46	5.23	6.07	5.30	8.09	9.64	11.19
Russia	42.53	3.84	1.42	0.22	0.02	0.00	0.00	0.39
Singapore	0.46	12.08	8.86	6.60	1.41	0.37	1.76	0.17
SriLanka	0.16	1.32	2.51	3.27	2.61	2.38	2.36	1.79
Thailand	1.88	12.71	7.43	6.79	8.92	8.48	9.61	5.75
Vietnam	0.00	0.36	7.88	15.44	24.79	13.95	10.22	5.18
Others	51.07	42.68	28.70	23.22	22.22	29.86	37.68	49.50

Source: RBI Hand Book on Indian Economy (2013-14)

India's oil meals export in July 2013was reported at 177,011 tons, a decline by 37 percent when compared to the 282,703 tons in July 2012, according to the data released by the Solvent Extractors' Association of India (SEA of India). The sanction-stricken Iran is silently emerging as India's biggest destination for oil meal exports. Iran imported 97,904 tons of oil meals in April 2012 compared to 50,022 tons in April 2011, up by 95.72 per cent making it the largest importer of oil meals from India. There has been a trade embargo on Iran from Europe and US. Turkey too has banned its trade with Iran. Latin America, which was a major supplier of oil meals to Iran, is faced with drought. This made Iran to depend more

on Indian imports. Russia was the crucial importer of Indian oil meals in the first half of the reform period .Around 42 per cent of oil export is directed to Russia in 1989-90 but 2011-12 data reveals that, there is no export any more. The disintegration of the same also affected the oil meals export of India. The notable feature revealed from the table 3.22 is that, Bangladesh is growing as the prominent trade partner of Indian oil importer by making 44.01 percent growth where Russia and Singapore made a negative trend. Furthermore, Japan's rise as the key importer of Indian oil meals is noteworthy. In 2013-14,Pakistan is major importing partner of oil meals (11.9 percent).

Table 3.21

Direction of Export of Marine products of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
China, Peoples Republic of	0.00	2.68	7.41	7.66	11.05	5.32	0.00	3.85
Chinese Taipei	0.09	0.75	0.19	0.63	2.47	1.52	1.60	1.22
Hong Kong	1.01	3.33	1.54	2.36	7.26	2.84	0.02	2.22
Italy	2.95	3.16	1.97	2.59	4.25	3.14	3.19	2.51
Japan	53.76	43.98	41.51	18.93	11.75	12.56	0.31	8.06
Spain	5.96	3.09	3.38	7.09	6.91	5.14	4.94	3.31
Thailand	0.12	2.01	1.98	1.34	4.15	3.67	2.97	3.01
UAE	1.04	8.27	5.35	3.27	3.32	2.88	2.91	2.60
UK	8.33	4.66	3.88	5.65	3.89	2.86	2.65	2.86
USA	11.43	12.85	15.27	23.38	9.83	17.81	21.34	25.23
Others	15.28	15.18	16.75	27.06	34.74	42.21	41.99	45.07

Source: RBI Hand Book on Indian Economy (2013-14)

One fourth of India's marine products are directed to USA(25.23 percent in 2013- According to Marine Products Export Development Authority (MPEDA) data, Fish retained its position as the principal export item in quantity terms and the second largest export item in value terms accounting for a share of about 38.42 per cent in quantity and 20.42 per cent in dollar earnings. Growing demand was also noticed in the African markets in the period under consideration, compared to previous years. According to MPEDA, export of marine products could reach US

dollar 4 billion in this financial year (2012-13). Marine product exports crossed all previous records in quantity, rupee value and US dollar terms. Exports aggregated to 928215 tons valued at Rs. 18856.26 corers and US dollar 3511.67 million. Compared to the previous year, seafood exports recorded a growth of 7.68 percent in quantity, 13.61 percent in rupee and 0.1 percent growth in US dollar earnings respectively. Around 53.76 percent of Indian marine products are destined to Japan in 1989-90 periods but the liberalization had made a drift in the export to the same making a negative growth rate of -1.20 percent whereas the export to other countries had increased considerably. By making 76.34 percent and 9.85 percent in the first and second generation period of the liberalization, China has the highest growth experiencing country of Indian marine products.

Table 3.22

Direction of Export of Iron-Ore of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-13	2013-14
Belgium	0.66	0.50	0.55	0.19	0.00	0.00	0.00	0.00
Chile	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00
China, Republic of	0.26	13.60	21.97	81.90	85.53	90.16	85.67	76.74
Chinese Taipei	0.39	2.20	10.06	0.57	0.00	0.00	0.00	0.00
Iran	0.39	5.73	9.21	0.04	0.00	0.00	0.00	0.00
Japan	68.69	52.84	35.39	7.64	5.23	5.96	11.26	15.55
Korea, Republic of	11.03	10.07	5.60	1.98	1.05	2.55	0.84	3.20
Pakistan	0.87	1.18	0.58	0.68	0.00	0.05	0.00	6.00
South Africa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Turkey	1.84	2.63	0.92	0.11	0.00	0.00	0.00	0.00
Others	24.54	11.23	6.85	6.84	8.17	1.55	2.20	4.14

Source: RBI Hand Book on Indian Economy (2013-14)

India's biggest destination of iron ore exports is China. India, which has been the third largest iron ore exporter in the world, is expected to become a net importer of iron ore this fiscal. In 2012-13, India exported 15.85 million tons (MT) of iron ore compared to 89.73 MT in 2010-2011, similarly for Japan, iron ore

exports have fallen to 2.16 MT last fiscal from 5.45 MT in 2010-2011 and for South Korea, export of iron ore reached a mere 0.14 MT last year from 1.46 MT in 2010-2011, according to Commerce Department data. Total iron ore exports have come down by a drastic 18.37 MT in 2012-2013 as against 67.74 MT in 2011-2012 and 97.66 MT in 2010-2011. As the case of the export of marine products, the key destination of the export of Iron-Ore also Japan in the1989-90 .More than half of the export is directed towards Japan during that period. After the liberalization, there is a blow is visible in the export to the same. The most striking feature elicited from the table is that, majority shares that is 90.16 percent is moving now towards China and also draw out 41.17 fold growth. Other than Chile, China and Korea the export to all the other countries expressed negative growth.

Table 3.23

Direction of Export of Leather and Manufactures of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
France	4.53	5.09	5.19	5.60	7.53	6.32	6.55	6.9
Germany	21.26	22.42	18.42	14.17	14.53.	15.22	14.86	13.34
Hong Kong	1.60	3.64	3.42	1.22	7.47	7.48	9.02	8.26
Italy	11.90	11.94	10.38	10.32	11.78	10.95	8.94	9.04
Netherland	1.54	1.76	2.77	2.67	4.06	4.10	3.87	3.78
Portugal	1.16	1.14	1.53	1.49	1.17	0.96	0.78	0.90
Russia	15.22	3.45	1.67	0.33	0.20	0.68	0.58	0.90
Spain	1.36	2.21	4.18	7.15	6.49	6.16	5.45	5.38
UK	11.53	11.30	16.53	12.29	13.44	11.24	12.30	11.50
USA	13.33	17.10	16.22	11.46	8.76	9.13	10.71	11.67
Others	11.08	19.89	19.65	24.26	24.53	27.70	28.90	29.00

Source: RBI Hand Book on Indian Economy (2013-14)

Leather is considered as the top ten foreign exchange earner of the country. Unlike to the other products, Leather and Manufacture products of India was mainly absorbed by Germany in the pre reform periods. Even though, the share had decreased in to 13.34 percent (201-14)from 21.26 (1989-90)percent. Germany continues to be the supreme importer of the leather and the

manufacture. Russia is the only country which has shown a negative trend. While Hong Kong and Spain maintained with highest growth, Germany and USA exhibited a lower growth.

Table 3.24

Direction of Export of Gems and Jewellery of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Belgium	17.77	13.79	11.40	9.80	5.66	8.36	5.60	6.51
Hong Kong	11.00	24.21	24.18	19.87	21.49	24.21	24.09	27.18
Israel	2.17	2.20	4.56	5.09	2.58	3.10	2.66	3.19
Japan	18.58	12.88	0.99	3.63	0.88	0.79	0.79	0.85
Singapore	0.90	1.65	1.57	4.09	2.06	1.33	1.46	1.28
Switzerland	2.36	1.35	1.75	1.23	0.36	0.82	0.45	0.85
Thailand	3.70	3.56	2.28	2.13	1.06	1.28	1.45	1.83
UAE	1.59	1.93	3.45	18.43	42.65	38.65	43.00	29.73
UK	2.04	1.50	1.77	1.15	1.20	1.07	1.12	1.04
USA	32.62	33.11	38.96	29.40	16.27	14.43	15.54	19.96
Others	5.21	3.77	0.04	4.70	5.74	5.90	3.67	8.54

Source: RBI Hand Book on Indian Economy (2013-14)

Even though, the gems and jewellery industry made growth rate of 26 percent in 2006-07, the export had witnessed a decreasing trend of 9 percent in 2012-13 with US dollar 39.03 billion dollars which was 43.09 percent in the ,last year. The fall is mainly attributed to the sluggish demand from the developing world especially from USA, Hong Kong and so on due to the crisis. Out of the total export of Gems and Jewellery, 38.65 percent are exported to UAE and stands first as the largest importer and Hong Kong stands second. The growing tourism exposure and the emerging multicultural population are responsible for this trend. In the pre liberalization era it was the USA, the principal exporting centre of gems

and jewellery. There is 34.94 percent growth in the export towards UAE and Japan was the only country which made negative move in the growth both in the first and the second liberalization era. India is now aiming to the new emerging markets like China, CIS countries, Middle East, Far East and the Latin American countries. In 2013-14 also Hong Kong maintains the largest importer of gems and jewellery from India.

Table 3.25

Direction of Export of Chemicals and allied Products of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Brazil	0.11	0.95	2.07	2.39	2.74	2..58	3.02	3.09
China, Peoples Republic of	0.05	22.09	2.91	5.91	3.89	3.98	3.76	3.4
Germany	7.45	8.14	5.40	4.98	3.62	3.56	3.53	3.35
Hong Kong	0.10	3.53	3.75	7.96	0.33	0.23	0.25	0.25
Italy	2.12	2.84	2.05	1.87	2.04	1.70	1.46	1.47
Netherland	2.68	3.74	4.54	2.49	2.64	3.06	2.32	2.47
Russia	38.02	7.78	4.20	2.47	1.85	1.81	2.51	2.14
UAE	1.16	2.72	4.58	2.61	2.94	2.40	2.07	2.27
UK	4.05	4.92	3.87	3.52	3.98	0.30	3.01	3.25
USA	11.07	12.18	9.97	12.02	16.19	18.18	19.18	19.60
Others	31.14	51.34	55.08	60.68	60.33	59.36	58.85	58.62

Source: RBI Hand Book on Indian Economy (2013-14)

Chemical industry was considered as the oldest major domestic industry of India which contributed a large share to the export and GDP. More than 70,000 diversified products are comes from this sector. India is considered as the third largest country of the producer in Asia. The industry shares more than 7 percent of GDP. The export direction of Chemicals and allied Products of India

shows that, 38.02 per cent of share was attributed to Russia in 1989-90 periods. Now (2013-14),19.60 per cent of the export is moving to USA.As far as the growth rate is concerned, China became the sole importer making 37.02 percent of growth especially in the first generation period of 74.04 percent.

Table 3.26

Direction of Export of Engineering goods of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Bangladesh	3.96	4.35	2.60	1.88	1.50	1.17	3.09	1.93
Germany	2.40	4.49	4.06	1.18	4.60	3.89	3.43	3.41
HongKong	0.68	2.18	3.40	1.27	1.25	0.81	3.35	0.53
Italy	0.88	0.62	2.89	3.68	3.24	2.54	0.25	2.37
Malysia	1.46	2.51	3.02	1.69	2.79	1.66	1.47	1.47
Singapore	3.94	6.26	4.33	4.44	6.60	7.58	2.47	4.58
SriLanka	1.09	4.48	3.23	2.63	1.56	2.89	2.14	3.13
UAE	2.90	6.63	7.10	2.55	6.42	7.24	2.27	8.68
UK	4.36	6.17	6.52	5.20	4.51	3.65	3.25	3.91
USA	0.20	14.01	18.08	16.06	11.02	12.16	19.60	10.45
Others	69.06	47.26	44.70	52.37	56.44	56.36	58.62	59.48

Source: RBI Hand Book on Indian Economy (2013-14)

The engineering goods export is the major products in the total exports of India now days.UK was the prime export hub of India in 1989-90 and now it is USA the major export destination of Indian Engineering goods. About 33 percent of exports are headed to EU and North America. UK imports goods worth 2.3 US dollar 2.3 billion South Africa imports over US dollar 1.6 billion. Thailand, Saudi Arabia, Netherlands, Malaysia, Bangladesh Egypt are the other significant contributors. The least Indian Engineering goods importing partner of India is Hong Kong sharing 0.81 percent. Italy is the highest growth experiencing country in the import of Indian engineering goods. The table 3.26 elicits the fact that, in the early liberalization period, Hong Kong witnessed the highest growth of 26.87

percent where as the later half it was Singapore of 30.37percent.Further more, in the second half of the reform period every country experienced a growth rate of more than 10 percent. That means engineering goods made an impressive growth in the post liberalization phase.

Table 3.27

Direction of Export of Cotton, Yarn, made-ups etc. of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Bangladesh	11.58	11.37	5.08	6.03	7.63	1.10	12.41	10.28
Germany	7.47	6.09	4.17	4.17	3.57	3.75	2.68	2.60
Hong Kong	2.34	2.90	5.50	2.74	1.40	1.41	2.09	1.75
Italy	5.02	4.09	4.18	5.48	3.63	2.81	1.79	1.72
Japan	3.86	4.38	3.36	2.63	1.26	1.51	1.06	1.10
Korea, Republic of	2.02	3.66	6.14	5.05	6.16	3.27	2.87	2.33
Mauritius	1.22	2.65	2.95	1.87	0.70	0.65	5.15	0.50
UAE	4.48	3.60	3.17	3.28	2.42	2.05	1.97	1.84
UK	8.55	10.43	6.28	4.48	2.30	2.53	2.51	2.19
USA	12.07	11.65	14.49	17.64	17.12	18.57	18.50	17.00
Others	41.33	38.11	44.63	46.55	53.76	53.29	53.55	58.64

Source: RBI Hand Book on Indian Economy(2013-14)

India is the second largest producer of cotton yarn in the world. USA, Italy, Japan, Mauritius, UK, UAE are the markets for Indian cotton, yarn etc. Moving to the export of Cotton yarn, it was visible that, whether it was the pre and post liberalization, USA was the prime cotton yarn importing country of India. It increased to 18.57 percent in 2011-12 from 12.07 percent in 1989-90. In 2013-14,it is 17 percent. Concerning to the growth rate, Korea is the foremost growth experiencing country compared with the others. Even though, Hong Kong made an impressive growth in the initial stage of liberalization Bangladesh titled the major

cotton yarn importing country and Hong Kong, Japan, Mauritius and UK made a negative trend in these periods.

Table 3.28

Direction of Export of Readymade Garments of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Canada	2.85	3.16	47.27	3.81	2.23	1.89	2.14	1.65
France	5.96	6.10	7.16	7.19	6.65	5.93	5.14	5.11
Germany	15.20	11.55	6.70	6.84	9.87	8.44	7.63	7.95
Italy	3.45	3.51	2.90	4.22	3.83	3.07	2.69	3.01
Japan	3.46	3.37	1.60	1.29	1.23	1.59	1.66	1.46
Netherland	4.23	4.09	3.09	3.12	3.77	4.03	3.30	3.00
Russia	9.09	2.03	5.15	1.59	0.22	0.33	0.34	0.54
UAE	0.35	0.33	10.28	7.96	9.05	9.80	11.07	11.59
UK	11.67	9.65	7.28	10.01	11.96	10.92	11.35	11.11
USA	26.50	32.90	31.02	30.34	24.79	23.26	23.94	22.86
Others	14.48	20.28	20.15	23.37	26.35	77.04	30.63	31.66

Source: RBI Hand Book on Indian Economy (2013-14)

The main competitor of Indian readymade garments are Bangladesh and China .But India can get an edge of the export if the Free Trade Agreement between India and Europe became finalized as it would provide a duty free access to Indian garments in Europe .The growth trend on the export indicates UAE made an impressive growth and Japan registered a lowest growth. It needed a special mention that almost all the importing countries had made an impressive move in the second reform period compared to the early stages of reform other than Russia, Japan, Middle East and South America. In the case of readymade garments also USA was the chief exporting country of India both in the first and second generation period of the liberalization even though the share had reduced to

23.26 per cent in 2011-12 from 26.50 percent in the 1989-90.It is 22.86 percent in 2013-14.

Table 3.29

Direction of Export of Jute, Manufactures, including floor covering of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	09-10	2011-12	2012-13	2013-14
Australia	1.23	2.05	3.81	1.69	3.00	2.73	2.40	2.29
Belgium	5.56	24.10	19.64	8.46	4.64	2.32	2.30	1.81
Egypt Arab Republic	1.68	3.65	4.13	4.59	3.29	3.51	2.86	1.8
Germany	2.69	2.58	3.10	4.02	4.64	4.15	1.81	4.61
Italy	0.28	086	1.98	0.65	2.71	1.46	1.48	1.68
Japan	2.69	4.24	5.17	2.57	1.54	1.18	5.09	1.52
South Africa	1.01	2.32	4.13	5.07	4.93	4.42	3.02	4.50
Turkey	0.50	4.91	4.53	7.65	3.48	3.56	0.33	1.55
UK	7.41	10.22	8.27	5.80	8.32	6.11	5.82	7.63
USA	10.9	16.93	20.36	22.40	21.87	13.69	16.80	19.23
Others	66.4	28.15	24.90	35.13	41.62	56.86	54.30	52.68

Source: RBI Hand Book on Indian Economy (2013-14)

Table 3.29 exhibits the export direction of Jute, Manufactures, including floor covering. Similar to the export of the cotton yarn and readymade garments, the export of Jute, Manufactures, including floor covering is exporting to USA. Bangladesh is the largest producer of jute in the world. Out of the total production of the world, India exports more than 80 percent. At the same time India face severe competition from Bangladesh. The export share had varied from 10.9 percent to 13.69 percent from 1989-90 to 2011-12. Italy made an impressive growth in the liberalization period with 16.56 and 7.34 percent in the pre and post liberalization period and the export to Japan had registered a negative trend.

Moving to 2013-14, the export share has increased from 16.80 in 2011-12 to 19.23 percent in 2013-14.

Table3.30

Direction of Export of Carpets of India

Countries	Share							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Australia	1.47	1.92	1.70	1.88	2.35	2.98	3.04	8.36
Canada	3.40	2.25	1.82	1.74	1.98	2.02	1.94	0.63
France	2.25	2.00	2.97	2.58	1.78	1.85	1.60	1.57
Germany	39.68	29.87	24.10	18.06	19.84	13.96	11.39	9.61
Italy	1.92	2.98	1.62	2.44	2.51	2.36	1.42	1.33
Japan	0.75	7.23	2.65	1.67	1.26	3.10	1.34	1.03
Spain	0.26	0.67	1.48	1.92	1.57	1.28	0.17	0.84
Sweden	1.95	2.96	2.15	1.43	1.23	1.35	1.34	1.18
UK	3.53	2.94	4.06	6.74	5.05	5.13	9.21	6.58
USA	28.29	33.62	44.86	44.47	32.62	38.96	4.37	4.26
Others	16.39	13.53	12.57	17.30	29.49	28.84	26.43	3.58

Source: RBI Hand Book on Indian Economy (2013-14)

India is the largest producer and exporter of carpets in the world. Out of the production, 90 percent are destined to the export covering more than 100 countries. Indian carpet export found major market as Germany in the year 1989-90 shared 39.68 percent and in 2011-12 the USA emerged as the key market of Indian carpets sharing 38.96 percent. More than 11.74 fold growth is experienced in the export of Spain. It was 24.26 percent in the early reform period and 3.49 percent in the later reform period. At the same time, Sweden, Japan and Germany showed a negative growth.

3.5 Region wise Export of India: an overview

It was seen that, during the pre independence India's trade relations were confined mainly to Britain and the other Common Wealth countries. After the Independence, USA, Germany, Japan, Russia and Middle East countries have emerged the major trade destination of India. The destination profile of India's exports shows that the developing countries have gained considerable prominence over the years. The commodity composition of import is affected by various factors such as trade policy, changes in the domestic demand and international price fluctuations .The sourcing pattern of import has also witnessed a change favouring the developing countries.

Table 3.31

Percentage Share of various Regional Groups Export in Total Export of India

Regional Groups	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OECD	55.9	58.65	57.32	43.68	35.88	33.80	34.80
OPEC	6.65	9.22	10.57	15.80	21.06	19.02	19.38
Eastern Europe	19.27	4.01	3.51	21.31	1.00	1.06	1.18
Developing Countries	15.60	26.46	28.40	37.82	39.21	40.71	41.46
Other	2.55	1.63	0.18	0.54	2.83	5.38	3.15

Source: RBI Hand Book on Indian Economy (2013-14)

From table 3:31, it is observed that, the export to OECD countries has been declining due to the drift in the export share to the European Union and Japan. The export share towards USA had increased and so as to OPEC and Latin American countries. With respect to East European countries the share had declined continuously due to the slowing down of export to Russia primarily due to

the termination of rupee trade and its adverse impact on export of agriculture products such as tea, tobacco and spices .At the same time, the export to the developing countries had brought an increasing trend. It is the Eastern European Countries which made a drastic fall of export having -40.49 percent .At the same time, huge improvements of 20.85 fold growths are visible in the export towards the OPEC countries. In 213-14, the export to developing countries has made an increment of one percent compared to 2011-12 (40.71 percent to 41.46 percent)

Table 3.32

Percentage Share of various Regional Import in Total Import of India

Regional Groups	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OECD	60.24	51.41	43.01	35.85	32.64	29.66	25.58
OPEC	14.28	21.11	25.87	8.98	32.08	35.43	39.52
Eastern Europe	8.39	3.37	2.00	2.25	2.13	1.74	1.72
Developing Countries	17.05	24.08	29.24	25.64	32.49	32.25	3.17
Other	0.01	0.00	0.00	27.24	0.69	0.89	0.99

Source: RBI Hand Book on Indian Economy (2013-14)

Imports from OECD countries had declined from 60.24 percent to 29.66 percent from 1989-90 to 2011-12.At the same time, import from OPEC countries have improved. This trend is not followed by the East European and the developing countries. Major importing item of India is the petroleum products from the OPEC Countries. OPEC countries are comprised of Iran, Iraq, Kuwait, and Saudi Arabia. As per the reports, 81 percent of the oil reserves are held by the

OPEC Countries and around 61 percent under Middle East. Out of total imports, more than 32 percent are shared for the petroleum products. The trend will be clearer from the following discussion.

Table 3.33

Percentage Share of OECD Countries Export in Total Export of India

Regional Group	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OECD	55.9	58.65	57.32	43.68	35.88	33.80	34.80
EU	24.91	26.70	25.48	20.99	21.09	17.24	16.54
North America	17.64	20.08	24.37	17.51	11.52	11.93	13.17
Asia and Oceania	11.54	9.22	5.84	3.52	2.93	2.98	3.00
Other OECD Countries	2.73	2.64	1.62	1.65	1.32	1.63	2.08

Source: RBI Hand Book on Indian Economy (2013-14)

Table 3.33 illustrates that, in the pre liberalization era the share was 55.9 percent and it has increased to 58.65 percent and 57.32 percent in 1994-95 and 1999-2000 respectively. But in the later half exports to the OECD countries declined .The main reason attributed to this trend is reduction of export to the European Union, North America, Asia and Oceania. It is the Asia and Oceania which expressed the lowest growth in the exports. Even though the export share had decreased in the first half of the reform, there is a growth in the export in the second generation period of the reform.

Table 3.34

Percentage Share of OECD Countries Import in Total Import of India

Regional Group	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OECD	60.24	51.41	43.01	35.85	32.64	29.66	25.58
EU	33.30	24.82	22.08	16.78	13.29	11.70	10.96
North America	13.58	11.06	7.94	6.97	6.61	5.30	5.66
Asia and Oceania	10.70	10.57	7.47	6.44	6.79	5.69	4.47
Other OECD Countries	2.86	4.93	5.51	5.66	5.93	6.96	4.48

Source: RBI Hand Book on Indian Economy (2013-14)

Imports from the OECD countries are expressed in the table 3:34. Similar to the export trends, the import from the OECD countries is also declining. Even though, the share of import decreased drastically, the import is witnessing an improved growth rate in the later half of the reform periods. Growth wise data reveals that export towards other OECD countries and Asia and Oceana countries are increasing particularly in the second generation period of liberalization.

Table 3.35

Percentage Share of Regional Groups Country's Export in Total Export of India

Regional Groups	Share						
	1990-00	2001-12	1990-12	1990-00	2001-12	1990-12	2013-14
OECD Countries	55.9	58.65	57.32	43.68	35.88	33.80	34.80
EU	24.91	26.70	25.48	20.99	21.09	17.24	16.54
Belgium	4.35	3.75	3.71	3.00	2.09	2.34	2.03
France	2.30	2.21	2.43	2.01	2.21	1.51	1.63
Germany	6.40	6.63	4.72	3.33	3.02	2.59	2.40
Italy	2.74	3.25	3.04	2.73	1.89	1.59	1.68
Netherlands	1.91	2.22	2.32	1.92	3.57	3.00	2.57
UK	5.78	6.14	5.52	4.04	3.47	2.82	3.14
North America	24.99	26.70	25.48	20.99	21.09	17.24	5.66
Canada	0.95	1.01	1.57	1.03	0.62	0.66	0.65
USA	16.16	7.78	22.79	16.47	10.89	11.27	12.51
Asia and Oceania	11.54	9.22	5.84	3.52	2.93	2.98	4.47
Australia	1.21	1.35	1.09	0.86	0.77	0.81	0.73
Japan	6.86	7.69	4.57	2.54	2.02	2.08	
Other OECD Countries	2.73	2.64	1.62	1.65	1.32	1.63	4.48
Switzerland	1.31	7.69	0.96	0.64	0.32	0.36	2.08

Source: RBI Hand Book on Indian Economy (2013-14)

The detailed examination of export of major countries in regional groups is discussed in this head. Compared to the early liberalization stage, the export in the later half witnessed a considerable decline. In terms of the growth trend, there are two digit growths in the same period. Among the European Union countries, it was Belgium which expressed largest share. Moving to the North American region, USA has the major share. More than 11 percent of North American exports are held by USA. Japan remains the major share holder in the groupings of Asia and Oceana and it stands at 2 percent. The major other OECD country, Switzerland has an export growth of 8 percent in the post reform period.

Table 3.36

Percentage Share of Regional Groups Country's Import in Total Import of India

Regional Groups	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OECD Countries	60.24	51.41	43.01	35.85	32.64	29.66	25.58
EU	33.30	24.82	22.08	16.78	13.29	11.70	10.96
Belgium	7.63	4.21	7.41	4.11	2.08	2.13	2.37
France	4.55	2.14	0.09	1.69	1.44	0.78	0.79
Germany	7.88	7.63	3.70	3.60	3.57	3.21	2.83
Italy	2.18	2.58	1.49	1.23	1.33	1.10	0.92
Netherlands	1.55	1.34	0.94	0.70	0.73	0.55	0.64
UK	8.40	5.44	5.44	3.19	1.54	1.54	1.32
North America	13.58	11.06	7.94	6.97	6.61	5.30	5.66
Canada	1.28	0.92	0.76	0.69	0.72	0.5	0.72
USA	12.07	10.14	7.17	6.27	5.89	4.78	4.93
Asia and Oceania	10.70	10.57	7.47	6.44	6.79	5.69	4.47
Australia	2.53	3.19	2.17	3.42	4.28	3.03	2.23
Japan	7.97	7.11	5.10	2.90	2.33	2.49	2.10
Other OECD Countries	2.86	4.93	5.51	5.66	5.93	6.96	4.48
Switzerland	1.03	2.87	5.22	5.32	5.06	6.59	4.14

Source: RBI Hand Book on Indian Economy (2013-14)

Like the export trend, the import towards OECD countries has decreased drastically in the post reform period. Even though a mild improvement is visible in the export to Australia, is not an impressive one. The major importer from the OECD country is Germany. Other than Japan, in the export share, the chief importing partner of the Asia and Oceana countries is Australia. Switzerland, the other OECD country shares 6.59 percent of the total other OECD countries import. In the post reform period, it is Switzerland which has made an appreciable growth.

Table 3.37

Percentage Share of OPEC and Eastern European Countries country's Export in Total Export of India

Countries	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OPEC	6.65	9.22	10.57	15.80	21.06	19.02	19.38
Indonesia	0.35	1.05	1.95	1.59	1.72	2.19	1.56
Iran	0.47	0.59	1.11	1.47	1.03	0.78	1.57
Iraq	0.45	0.00	0.35	0.15	0.26	0.25	0.29
Kuwait	0.71	0.50	3.54	0.50	0.99	0.38	0.34
Saudi Arabia	1.55	1.65	4.32	1.69	2.18	1.85	3.90
UAE	2.56	4.80	4.06	8.79	13.36	11.77	9.76
Eastern Europe	19.27	4.01	3.51	21.31	1.00	1.06	1.18
Romania	0.44	0.06	0.10	0.12	0.00	0.00	0.00
Russia	16.12	3.06	1.28	0.75	0.54	0.58	0.68

Source: RBI Hand Book on Indian Economy **(2013-14)**

Contrary to the aforesaid facts, export to the OPEC and the East European countries are making an improvement throughout even though, Iraq, Kuwait, Romania and Russia do not follow this trend. It is the export to the East European Countries that made a great blow in the growth making -4.31and -62.99 fold

declines in the first and second generation periods. In the pre liberalization it was Eastern Europe the key OPEC exporting partner of India and moving to 2011-12, it was replaced by UAE. Compared to the pre liberalization period, Romania has improved its position. In the pre liberalization era its share is nearly zero and it has gained to 11.77 percent where as Eastern Europe has witnessed a negative growth.

Table 3.38

Percentage Share of OPEC and Eastern European country's Import in Total Import of India

Countries	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
OPEC	14.28	21.11	25.87	8.98	32.08	35.43	39.52
Indonesia	0.25	1.12	0.88	2.34	2.99	2.97	3.30
Iran	1.10	1.87	0.41	0.36	3.99	2.78	2.31
Iraq	1.30	0.00	0.13	0.00	2.43	0.86	4.09
Kuwait	3.28	5.16	0.41	0.27	2.84	3.37	3.79
SoudiArabia	4.08	5.47	2.01	0.92	5.89	6.35	8.12
UAE	4.03	5.34	5.65	4.16	6.70	7.28	6.41
Eastern Europe	8.39	3.37	2.00	2.25	2.13	1.74	1.72
Romania	0.30	0.16	0.03	0.15	0.00	0.00	0.00
Russia	4.03	1.76	2.57	1.18	2.23	0.97	0.86

Source: RBI Hand Book on Indian Economy (2013-14)

The import from the OPEC countries is increasing, though not in a considerable manner. Romania is the lowest importing country especially in the latter half of the reform period. Again UAE stands as the chief trading partner of India as it holds 7.28 percent of the import of the OPEC countries. Also Eastern Europe expressed a decline trend in the import of India. The import from Iraq had shown considerable improvement in the import relation with India. It can be said that the import from the OPEC countries are continuously increasing.

Table 3.39

Percentage Share of Developing country's Export in Total Export of India

Developing Countries	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
Asia	13.20	21.67	22.28	29.88	29.78	29.59	28.97
SAARC	2.51	4.61	3.78	5.31	4.67	4.29	5.56
Afganistan	0.00	0.00	0.00	0.00	0.25	0.16	0.15
Bangladesh	1.65	2.44	1.72	1.95	1.35	1.24	1.94
Bhutan	0.00	0.04	0.02	0.10	0.06	0.06	0.96
Maldieves	0.02	0.05	0.01	0.05	0.04	0.04	0.03
Nepal	0.29	0.45	0.41	0.88	0.85	0.82	1.04
Pakistan	0.18	0.21	0.25	0.62	0.85	0.50	0.76
SriLanka	0.35	1.39	1.35	1.69	1.21	1.43	1.46
Other Asian Developing Countries	10.68	17.06	18.49	24.57	25.11	25.29	23.41
China,People's Republic of	0.14	0.96	1.46	6.72	0.64	5.93	4.80
Hong Kong	3.23	5.76	6.81	4.41	4.39	4.23	4.08
South Korea	0.96	1.26	1.29	1.24	1.90	1.41	1.34
Malysia	0.63	1.08	1.21	1.29	1.59	1.30	1.34
Singapore	1.68	2.92	1.82	4.78	4.23	5.48	3.96
Thailand	1.14	1.54	1.22	1.07	0.97	0.97	1.18
Africa	1.96	3.33	4.22	5.36	5.82	6.72	8.42
Benin	0.05	0.26	0.07	0.05	0.12	0.21	0.24
Egypt, Arab Republic of	0.50	0.45	0.64	0.53	0.78	0.80	0.82
Kenya	0.27	0.46	0.31	0.51	0.81	0.75	1.25
South Africa	0.00	0.00	0.00	1.71	1.14	1.55	1.62
Sudan	0.06	0.06	0.19	0.37	0.25	0.23	0.27
Tanzania	0.14	0.24	0.22	0.20	0.51	0.52	1.10
Zambia	0.13	0.10	0.06	0.06	0.04	0.06	0.12
LatinAmerican Countries	0.44	1.46	1.90	2.57	3.60	4.40	4.06
Others	2.55	1.63	0.18	0.54	2.83	5.38	3.15

Source: RBI Hand Book on Indian Economy (2013-14)

The exports to the developing countries are visible in table 3.39. Compared to the pre liberalization phase the exports to the developing countries are improving optimistically. Among the Asian countries, the SAARC countries maintained more or less same position except a slight improvement from 2 percent to 4 percent in the pre and post liberalization era. It was China and Singapore which stands first and second as the export partners of the other developing countries groupings. Africa has made an amazing performance in the post reform period as a developing country exporting partner of India especially South Africa. Zambia is the only country which has shown a negative growth.

Table 3.40

Percentage Share of Developing country's Import in Total Import of India

Developing Countries	Share						
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2013-14
Asia	12.52	17.76	20.1	20.24	52.63	25.84	24.75
SAARC	0.29	0.61	0.80	0.85	0.57	0.50	0.54
Afganistan	0.00	0.00	0.00	0.05	0.04	0.02	0.04
Bangladesh	0.05	0.13	0.15	0.06	0.08	0.11	0.10
Bhutan	0.00	0.06	0.03	0.00	0.05	0.04	0.03
Maldieves	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Nepal	0.00	0.12	0.37	0.31	0.15	0.08	0.11
Pakistan	0.15	0.18	0.13	0.08	0.09	0.08	0.09
SriLanka	0.06	0.17	0.08	0.33	0.13	0.14	0.15
Other Asian Developing Countries	12.22	17.15	2.59	19.39	25.06	25.34	24.20
China,People's Republic of	0.18	2.65	2.59	6.36	10.67	11.77	11.34
Hong Kong	0.70	1.00	1.64	1.55	1.63	2.16	0.62
South Korea	1.61	2.19	2.86	3.14	2.96	2.68	0.37
Malysia	1.84	1.71	4.07	2.06	1.79	1.95	2.04
Singapore	2.54	3.13	3.08	2.37	2.23	1.73	1.51
Thailand	0.28	0.59	0.65	0.77	1.01	1.10	1.19
Africa	2.49	3.62	7.33	3.52	5.50	3.97	3.33
Benin	0.00	0.01	0.08	0.07	0.04	0.05	0.03
Egypt, Arab Republic of	0.03	0.79	0.89	0.13	0.58	0.61	0.52
Kenya	0.04	0.48	0.04	0.04	0.02	0.02	0.02
South Africa	0.00	0.00	0.00	1.97	1.96	2.03	1.31
Sudan	0.01	0.04	0.01	0.20	0.16	0.08	0.09
Tanzania	0.10	0.18	0.25	0.11	0.08	0.04	015
Zambia	0.59	0.19	0.05	0.2	0.03	0.03	0.05
LatinAmerican Countries	2.04	2.69	1.86	1.87	2.56	2.42	4.08
Others	0.01	0.00	0.00	27.24	0.69	0.89	0.99

Source: RBI Hand Book on Indian Economy (2013-14)

Entering to the import details of the same, it is observed that, imports from these countries are making a positive run so far. The chief importing partner of India in the developing country is China. Second to China, the import from Africa is also increasing. The import from South Africa is zero in the initial stages of reform but it has improved to 2 percent of the other major developing nations. It was not only South Africa most of the African countries are expressing the same trend. The trend is mainly attributed to the improved trade relations among India and Africa in the post reform period.

3.6 Conclusion

Thus it can be concluded that the liberalization made India to resettle its trade to a new dimension and also make it more competitive, even though there exists diverse opinions on the same. It made India to find new markets and diversify its products. It is said that, liberalization doesn't provide any positive impact on agriculture, rather it adversely affected the export of the same due to the international agreement on sanitary and phyto sanitary conditions and the huge subsidy payments by the developed nations thus made a setback in the export of primary products (Parvathy P :2016)In addition to this, the export of manufactured products made a better performance compared to the primary products especially the engineering goods export. Likely, the direction wise shifts explain that, the export towards and imports from the OECD countries are declining continuously and is increasing in the case of developing and the OPEC countries. The detailed examination of trend and pattern of engineering goods is visible in the coming chapters.

Chapter 4

EXPORT OF ENGINEERING GOODS FROM INDIA

4.1 Introduction

Import substitution followed by the development of a strong and vibrant engineering and capital goods is the core of industrial strategy in India. The indigenization and self sufficiency goals of the import substitution had made momentum to the growth of Indian Engineering goods sector. The policy shift followed by the import substitution emphasized the importance of technological improvement and competitiveness of the Indian Engineering goods sector. Thus Engineering industry became one of the dynamic sectors in India. As per the Engineering Goods Export Promotion Council Report 2010-11, it weights more than 30.5 percent of the total industrial production and 29.9 percent of the total investment and 62.8 per cent share in the foreign collaborations and became the largest in over all industrial sector in India providing employment for more than 4 million skilled and unskilled workers in India. Moreover, the sector makes a forward and backward linkage fuelling growth in key end user industries and many projects such as railway, power and infrastructure. Capacity creation in sectors such as infrastructure, oil and gas, power, mining, automobiles, auto components, and steel refinery and consumer durables are also getting augmented.

The key growth drivers of the engineering goods market in India are the growth of the chief user industries such as power, infrastructure and manufacturing and so on. It has been strengthened by heavy engineering goods of India. Similarly,

due to the requirement of small parts like roller bearing, steel castings and pipes in the assembly of heavy engineering machinery, the demand for light engineering goods has rise up. The Government interventions in the field of power and construction and the measures undertaken by the Indian government for the development of this industry like elimination of tariff, protection on capital products, allowance of 100 percent FDI, reduction in custom duties of various goods, de-licensing of heavy electrical industry and infrastructure expansion and so on which has augmented the development of the sector. Moreover, concerned to the foreign investors, India is an outsourcing market for various engineering goods. The chief attraction of outsourcing is India's cost effective labour force which has brought down the production cost of the machinery effectively. The growing energy need of the country is also met by the engineering goods sector as energy generating equipment is produced indigenously to reduce the production cost.

In addition, the diversification of engineering goods into oil and gas extraction machinery also allowed more companies to enter in to the industry. Government initiatives for the development of core industries emphasized the boost of capacity utilization of key raw materials like coal, cement and iron ore. It is viewed that the investments and industrial growth will push demand in the energy generation sector. The government is making serious efforts to develop generation equipment within the country which has created better opportunities for the heavy electrical equipment industry. All these facts lead to the importance of engineering goods and the engineering industry. The exports of engineering goods is as much important to India as the exports of the product contributes more than one fourth of the total exports. This chapter intends to study about the composition

and change in the direction of engineering goods exports of India after liberalization. The following paragraphs deal the composition and direction trend of engineering goods exports of India.

The word Engineering goods are differently used by different organizations and there are differences in the classifications also. As per the Annual Survey of Industries (ASI), 2008-09, which is the latest data available, there are 155,321 factories in India employing nearly 9 million workers and over 11 million total persons engaged. Of this, the engineering industry has the largest number of factories, accounting over 29 percent of total factories in the country. Directorate General of Commercial Intelligence and Statistics classifies the Engineering goods as Manufacture of Metals, Machinery and Equipment, Transport Equipment, Iron and Steel and Electronic Goods, whereas, the CMIE follows another classification. According to their classification, the Engineering goods are Aluminum other than Products, Ferro Alloys, Iron and Steels, Machine tools, Machinery and instrument, Non –Ferrous metals, Primary and Semi finished instrument, Transport Equipment and Residual Engineering goods. Other than these definitions, the Department of Industrial Policy and Promotion**,** classifies the Engineering goods in to two- Heavy and Light Engineering goods .Light Engineering goods comprised of Welded Steel Pipes and Tubes Process Control Instrument, Process Control Instrument, Antifriction Roller Bearing Plain Paper copier etc. Heavy Engineering goods are comprised of Cement Machinery, Sugar Machinery, Rubber Machinery, Metallurgical Machinery, Machine Tools, Material Handling Equipment, and Mining Machinery. The Engineering industry in India manufactures a variety of products, with heavy engineering goods accounting for

majority of the production .Most of the leading players in the heavy engineering goods segment manufacture with high value heavy engineering goods using high end technologies.

On the other hand, manufacture of light engineering goods use medium to low- end technologies. The entry barrier is low, owing to relatively lower requirement of capital and technologies .This segment is characterized by dominance of small and organized players which manufacture low value added products .It is also characterized by small capacities and high levels of competitions.

Compared to all other classifications, The **Engineering goods Export Promotion Council of India** categorization of Engineering goods are dependable as the data is suitable to the study, avoids confusion and the ensures accessibility of the data. It is better explained in table 4:2.

4.2 Engineering Goods and India- An Overview

Engineering goods showed a spectacular improvement in the exports by making high levels of growth momentum and competitiveness, and bringing considerable foreign exchange to India. Backed by the Import Substitution policy and following strong protective mechanism, India was able to make a growth in engineering goods export valued, Rs 1,432 crores in 1987-88 from 5.16 crore in 1956-57.It was seen that, the export of Indian Engineering goods had witnessed its best periods in the sixties and the seventies with maximum growth rate. But the export of India of the same had decreased in to Rs 1000 crores in the eighties.

During this period, the Government of India had introduced a number of measures to overcome stagnation. Even though, these policies did not make any significant change in immediate effect, the glimpse of progress is visible in the 1990s.The situation had become more dynamic by liberalization and followed by international competition. By these time, the nature of Indian engineering exports has also changed over the years .The profile of India as a supplier of low value items to an exporter of capital goods, plant and machinery, high-end engineering services and so on, is a reflection of its growing engineering excellence. Today, out of total engineering exports, capital goods and machinery account for around 38 percent as against 12 percent in the year 1956-57.As per the estimate of Engineering goods Export Promotion Council in 2010-11, India exports Engineering Goods valued US dollar 125 billion and is also the largest foreign exchange earner .Around 60 percent of the products are mainly moving in to the European markets and United States. The major markets for Indian engineering goods are Saudi Arabia, Thailand, Czech Republic, Bangladesh, Egypt, Singapore, United Arab Emirates, United Kingdom, China, Malaysia, Indonesia and Netherlands. Compared to 2012-13, the export of Indian Engineering goods expressed growth rate of 21.7 percent exporting goods worth US dollar 375.91 million in 2013-14 which was US dollar 308.83 billion in 2012-13 (EEPC:2013-14) .Capital goods(28 percent),Primary iron and steel(17.92 percent) ,Non-ferrous metals(17-8 percent), consumer durables(14.93 percent) showed better growth rate in the export of the same.

4.3 Export of engineering goods of India

The relative importance of engineering goods in the international trade increased at an appreciable rate in the early 70s and a major share of Engineering

products were exported from the developing countries. Around more than one percent of the global share of Engineering goods are exported from the developing countries and these countries made a tremendous growth in these days. With the progressive liberalization of trade restriction on engineering goods by the developed nations on regional as well as the global basis, the proportion of domestic demand met by imports increased. In spite of this liberalization mechanism and the improved trade by the developing nations, India maintained as the marginal exporter in international market. It was seen that in 1970s India's exporst of engineering goods was Rs 85 crores which accounted about 0.2 percent in the world trade.The total export of engineering goods stood at US dollar 56.7 billion in the fiscal year 2013-14 and it has rose to US dollar 70.7 billion in 2014-15. As mentioned earlier, the liberalization in the 90s made a significant change in the direction and composition in the export of Indian engineering goods. As per the Engineering Goods Export Promotion Council report, with a 0.8 percent share of world engineering exports in 2008, India ranked 30th position in the global engineering exports. When compared to non-engineering exports, engineering exports have grown at a relatively lower compound growth of 12.7 percent. Germany is still the top engineering exporter with a share of 15 percent and is faced with strong competition from China which has become the second largest exporter in the world. India's emergence as a low-cost partner, has aided the strong growth of engineering exports from the country. During 2004–2008, India overtook Australia, South Africa, Ukraine and Malaysia to become the 30th largest exporter of engineering goods in the world. India continues to be one of the fastest growing exporters of engineering goods, growing at a growth of 30.1

percent, trailing only China among major engineering exporters, but well above the global engineering average export growth of 13 percent. Significantly, the country's engineering export growth rate has been higher than its overall exports .In 2008, India's goods export reached US dollars182 billion (CAGR of 23 percent over 2004-2008),with its engineering exports contributing 21.49 percent of its total exports of goods, reaching US dollars43.13 billion (growth of 30 percent over 2004-2008).However, the country's share of engineering exports in its total exports like the developing countries of Asia and Latin America continue to be much lower when compared to developed countries .

Moving to 2010, the growth had declined to 18.7 per cent owing to the global recession with a fall in its share in the total exports. The export of Engineering goods have bounced to US dollar 59.78 billion in 2011, recording a growth of 84 per cent over 2010 and 48 per cent above 2008-09 exports .Thus the export of Engineering goods have shown a steady rise from 1999-2000 to the first half of 2012 going by 84 per cent and 43.6 per cent in 2011 and the half of the 2012 respectively mainly due to the faster growth of two major items of Machinery and instrument and transport equipment. The share of engineering goods export to the total exports increased from 11.9 per cent in 1999-00 to 23.8 per cent in 2011.

For 2013-14, as against the target of US dollar 125 billion it was estimated that only US dollar 36.50 billion could be achieved. The major reason for the short fall of the export from India can be attributed to various reasons. Among this the major reason is the decline in the import by the major markets and the entry of the new market. European Union, major markets which accounted for 24 percent of

the export has fallen to 19 percent similar is the case for North America which is the major market. The Chinese engineering goods exporter has benefited from this trend. The fall in the global demand coupled with inflation interest rates augmented the severity of the situation.

Table 4.1

Percentage Share of Export of Engineering goods in the Total Export of India

Products	Products							
	1989-90	1994-95	1999-00	2004-05	2009-10	2011-12	2012-13	2013-14
Iron and steel	0.59	2.00	2.26	4.69	2.02	2.11	2.07	2.40
Manufacture of Metals	2.68	2.68	3.32	4.07	3.08	3.15	3.34	3.10
Machinery and Instrument	3.63	2.75	3.21	4.45	5.33	4.17	5.09	5.19
Transport Equipment	1.90	2.92	2.20	3.38	5.49	6.86	6.11	6.86
Electronic Goods	1.82	2.10	1.84	2.19	3.05	2.91	2.68	2.44
Others	1.38	1.39	1.13	1.96	2.40	2.25	2.45	2.24

Source: RBI Hand Book of India (2013-14).

It was seen that the export of transport equipment shares the largest in the total export of the engineering goods. Table 4.1shows that , in 1989-90, the share of machinery and instrument to the total engineering goods exports showed a small portion in total engineering goods. But moving to 2011-12, the share has increased, and particularly the export of Transport Equipment shows a consistent trend. Growth wise analysis shows that, it had made a 17.22 per cent growth in the 1990-

12 period with 35.13 times of growth in the second half of liberalization. The falling share of Ores and Minerals has been offset by the increase in the share of engineering goods within the manufactured goods. India's shipments of engineering goods have increased almost eight fold in the last decade to become the biggest item of exports, ahead of primary products that used to dominate earlier. The contribution of Machinery and Instrument in the export had considered as a major one till the 90s .The recent trends however indicate that, the Transport equipment shares a major share having 6.86 per cent. The growth wise details reveal that, iron and steel machinery and instrument and electronic goods were left with almost a same growth rate of more than 17 percent. In 2013-14 it can be seen that the transport equipment remains the top in the export of engineering goods of India at 6.86 percent.

Table 4.2

Engineering Goods under the classification of Engineering goods Export Promotion Council of India

Sl no:	Product code	Product description
1	**25**	Salt; sulphur; earths and stone; plastering materials, lime and cement.
2	**66**	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof.
3	**68**	Articles of stone, plaster, cement, asbestos, mica or similar materials
4	**72**	Iron and steel
5	**73**	Articles of iron or steel
6	**74**	Copper and articles thereof
7	**75**	Nickel and articles thereof
8	**76**	Aluminum and articles thereof
9	**78**	Lead and articles thereof
10	**79**	Zinc and articles thereof
11	**80**	Tin and articles thereof

Sl no:	Product code	Product description
12	**81**	Other base metals; cermets; articles thereof
13	**82**	Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal
14	**83**	Miscellaneous articles of base metal
15	**84**	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
16	**85**	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts.
17	**86**	Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical
18	**87**	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.
19	**88**	Aircraft, spacecraft, and parts thereof
20	**89**	Ships, boats and floating structures
21	**90**	Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof
22	**91**	Clocks and watches and parts thereof
23	**92**	Musical instruments; parts and accessories of such articles
24	**93**	Arms and ammunition; parts and accessories thereof
25	**94**	Furniture; bedding; mattresses; mattress support; cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc.
26	**95**	Toys, games and sports requisites; parts and accessories thereof.
27	**96**	Miscellaneous manufactured articles

Source: Engineering Goods Export Promotion Council (EEPC)

The product classification of the engineering goods under the Engineering goods Export Promotion Council is exhibited in table 4.2. There are mainly twenty seven products under the classification. The percentage share of the export of Indian engineering goods in the world export in the pre and post liberalization is discussed in the following tables.

4.4 Trend and composition of engineering goods export of India

Under this head engineering good export of India in various aspects such as its composition and its export are dealt with. A percentage wise analysis of export of Indian engineering goods export, its growth rates and its share in the world engineering goods export also discussed along with this. The data were collected from World Integrated Trade Solution (WITS:2013)

Table 4.3

Percentage share of engineering goods export of India to the engineering goods of the world

year	25	66	68	72	73	74	75	76	78
1988	7.142	0.168	1.260	0.528	0.788	0.695	0.025	0.681	0.074
1989	3.634	0.093	0.957	0.486	0.963	0.461	0.016	0.570	0.100
1990	3.260	0.138	1.067	0.512	1.060	0.258	0.033	0.611	0.151
1991	2.621	0.683	1.338	0.599	0.809	0.231	0.060	0.696	0.173
1992	2.367	0.135	1.314	0.826	0.942	0.247	0.205	0.871	0.226
1993	2.705	0.243	1.570	1.115	0.860	0.281	0.030	0.567	0.067
1994	2.450	0.130	1.388	0.731	0.660	0.251	0.038	0.472	0.234
1995	1.943	0.098	1.316	0.696	0.592	0.182	0.040	0.302	0.222
1996	1.880	0.065	1.407	0.743	0.665	0.191	0.061	0.391	0.180
1997	1.394	0.105	1.455	0.809	0.693	0.193	0.069	0.459	0.158
1998	1.332	0.084	1.295	0.562	0.720	0.245	0.056	0.253	0.046
1999	2.105	0.022	1.551	0.848	0.922	0.260	0.054	0.434	0.049
2000	2.587	0.027	1.902	0.958	1.070	0.393	0.027	0.457	0.049
2001	2.801	0.069	1.775	0.835	1.182	0.550	0.071	0.504	0.118
2002	2.947	0.052	1.902	1.215	1.153	0.942	0.034	0.660	0.064
2003	3.068	0.092	2.004	1.511	1.308	1.303	0.057	0.487	0.127
2004	3.235	0.107	1.691	1.432	1.447	1.410	0.046	0.458	0.287
2005	3.589	0.127	2.180	1.565	1.633	1.768	0.099	0.645	0.526
2006	3.534	0.116	2.412	1.602	1.578	2.128	0.092	0.577	0.430
2007	3.749	0.061	2.435	1.442	1.778	2.011	0.069	0.679	0.683
2008	2.800	0.050	2.248	1.610	2.067	1.640	0.100	0.778	0.685
2009	3.423	0.055	2.654	1.636	1.971	1.504	0.098	0.911	1.488
2010	3.121	0.050	2.716	1.863	2.698	3.579	0.121	0.947	1.932
2011	3.689	0.040	2.385	1.707	2.235	1.676	0.129	0.858	2.370
2012	4.058	0.043	2.610	1.852	2.611	1.756	1.162	1.059	1.623
2013	5.799	0.063	3.225	3.021	2.792	2.227	2.154	1.539	3.417

Source: World Integrated Trade Solutions(2013)

Table 4.4

Percentage share of engineering goods export of India to the engineering goods of the world

year	79	80	81	82	83	84	85	86	87
1988	0.064	1.555	1.710	1.410	0.892	0.348	0.226	0.658	0.193
1989	0.015	0.159	0.087	1.478	0.708	0.302	0.238	1.138	0.180
1990	0.022	0.245	0.059	1.249	0.709	0.298	0.184	1.202	0.176
1991	0.019	0.232	0.038	0.930	0.703	0.173	0.155	0.543	0.202
1992	0.082	0.290	0.073	0.910	0.637	0.161	0.107	0.563	0.211
1993	0.101	0.146	0.045	0.950	0.639	0.156	0.105	0.474	0.204
1994	0.228	0.260	0.093	0.763	0.457	0.133	0.109	0.249	0.204
1995	0.023	0.352	0.112	0.774	0.479	0.127	0.125	0.114	0.208
1996	0.112	1.135	0.097	0.777	0.465	0.145	0.141	0.156	0.197
1997	0.136	0.816	0.121	0.697	0.438	0.146	0.130	0.126	0.166
1998	0.117	0.440	0.148	0.651	0.411	0.119	0.119	0.065	0.134
1999	0.018	0.685	0.091	0.755	0.583	0.122	0.116	0.048	0.132
2000	0.102	0.731	0.082	0.836	0.545	0.138	0.126	0.078	0.154
2001	0.064	0.727	0.090	0.883	0.569	0.186	0.166	0.272	0.159
2002	0.184	0.650	0.105	0.896	0.564	0.195	0.170	0.104	0.171
2003	0.285	0.726	0.090	0.967	0.544	0.223	0.190	0.115	0.215
2004	0.578	0.262	0.142	1.021	0.590	0.246	0.173	0.118	0.272
2005	0.434	0.305	0.185	1.277	0.580	0.309	0.210	0.119	0.359
2006	3.261	0.845	0.264	1.316	0.626	0.333	0.255	0.248	0.368
2007	2.102	0.338	0.192	1.075	0.645	0.356	0.302	0.203	0.353
2008	3.474	0.487	0.199	1.123	0.723	0.434	0.377	0.203	0.497
2009	3.819	0.384	0.324	1.084	0.722	0.504	0.698	0.169	0.694
2010	5.155	0.156	0.249	1.199	0.768	0.484	0.513	0.171	0.879
2011	5.333	0.088	0.427	1.452	0.796	0.557	0.634	0.318	0.827
2012	3.823	0.099	0.478	1.455	0.776	0.587	0.581	0.299	0.965
2013	4.996	1.444	0.523	1.718	0.971	0.779	0.674	0.560	1.178

Source: World Integrated Trade Solutions(2013)

Table 4.5

Percentage share of engineering goods export of India to the engineering goods of the world

year	88	89	90	91	92	93	94	95	96
1988	0.150	0.001	0.250	0.009	0.281	0.042	0.106	0.660	0.478
1989	0.045	0.001	0.289	0.055	0.530	0.067	0.045	0.595	0.500
1990	0.041	0.251	0.185	0.027	0.380	0.033	0.040	0.573	0.578
1991	0.032	0.107	0.104	0.059	0.216	0.006	0.047	0.318	0.424
1992	0.018	0.003	0.065	0.082	0.221	0.027	0.053	0.238	0.423
1993	0.010	0.005	0.067	0.124	0.256	0.016	0.049	0.257	0.741
1994	0.012	0.035	0.061	0.153	0.287	0.009	0.035	0.285	0.708
1995	0.010	0.001	0.062	0.168	0.286	0.007	0.032	0.254	0.751
1996	0.010	0.114	0.075	0.196	0.306	0.019	0.032	0.256	0.764
1997	0.050	0.179	0.081	0.163	0.236	0.076	0.032	0.228	0.619
1998	0.011	0.134	0.087	0.171	0.250	0.008	0.036	0.211	0.642
1999	0.028	0.200	0.125	0.252	0.211	0.017	0.052	0.176	0.772
2000	0.054	0.116	0.134	0.303	0.201	0.025	0.072	0.171	0.849
2001	0.071	0.115	0.167	0.391	0.189	0.145	0.074	0.204	0.935
2002	0.087	0.122	0.191	0.356	0.175	0.056	0.090	0.192	0.873
2003	0.071	0.220	0.201	0.415	0.164	0.072	0.139	0.214	0.971
2004	0.046	0.556	0.203	0.378	0.190	0.045	0.210	0.231	0.850
2005	0.050	0.960	0.223	0.309	0.211	0.016	0.244	0.256	0.970
2006	0.037	0.926	0.224	0.218	0.182	0.076	0.289	0.252	0.992
2007	0.209	1.256	0.235	0.189	0.191	0.051	0.330	0.182	0.965
2008	0.781	1.865	0.265	0.173	0.187	0.135	0.314	0.180	0.992
2009	0.883	2.665	0.341	0.167	0.281	0.195	0.374	0.198	1.217
2010	1.157	2.504	0.324	0.163	0.238	0.124	0.437	0.229	1.293
2011	1.531	3.870	0.361	0.189	0.255	0.324	0.485	0.262	1.342
2012	1.070	2.786	0.375	0.190	0.405	0.380	0.496	0.287	1.547
2013	2.415	2.828	0.487	0.215	0.317	0.635	0.607	0.414	1.845

Source: World Integrated Trade Solutions(2013)

The table 4.3, 4.4, 4.5 explains the percentage share of Indian engineering goods export to the export of the same products in the world. Other than certain products (25,92,86), the percentage share export of majority of the products(66,72,73,74,75,76,78,79,83,84,85,87,88,89,90,92,93,94) are increased

drastically. The rise in the export mainly credited towards the increased export of the same from India. As per the tables, it is Salt; sulphur; earth and stone; plastering materials, lime and cement (25) the major engineering goods export of India and Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66) is the least one.

Table 4.6

Growth rate of engineering goods export of India

Year	Export of engineering goods	Growth rate	Percentage share in the world exports
1988-89	1772.072754	_	0.35
1989-90	2292.351216	29.36	0.33
1990-91	2433.298922	6.15	0.31
1991-92	2551.001845	4.84	0.24
1992-93	3145.969284	23.32	0.24
1993-94	3537.355654	12.44	0.25
1994-95	4177.077853	18.08	0.21
1995-96	5070.918326	21.40	0.21
1996-97	5688.851972	12.19	0.22
1997-98	5980.957581	5.13	0.22
1998-99	5062.644566	-15.35	0.18
1999-00	6031.42748	19.14	0.21
2000-01	7459.860892	23.68	0.23
2001-02	8110.513783	8.72	0.26
2002-03	9470.660641	16.77	0.30
2003-04	12710.63203	34.21	0.34
2004-05	17198.02757	35.30	0.38
2005-06	23360.42479	35.83	0.47
2006-07	30135.03813	29.00	0.52
2007-08	36303.86943	20.47	0.55
2008-09	48343.40551	33.16	0.67
2009-10	44008.15675	-8.97	0.81
2010-11	58829.36931	33.68	0.88
2011-12	69644.18642	18.38	0.91
2012-13	68926.61594	-1.03	0.91

Source: World Integrated Trade Solutions(2013)

From table 4.6 it was seen that in 1989-90 the export has shown 29 percentage growth where as moving to the next year the export growth is falling.But again in the later years it grows commendably. It was only in the year 2009-10 that the export growth witnessed a negative trend due to a fall in the export of manufacturing goods. As per the RBI report, the export of manufacturing goods has fallen from US dollar 123841.9 million in 2008-09 to US dollar 115180.7 million in 2009-10. Again the export growth declined in 2012-13 owing to the same grounds of fall in the export of manufacturing goods from US $ 185422.6 million in 2011-12 to US dollar 182952.4 million in 2012-13. Other than three years that is 2012-13, 2009-10, 1998-99, all the years exhibited a robust growth. Almost three quarter years expressed a double digit growth. India's emergence as a low-cost manufacturing hub has aided the strong growth of engineering exports from the country. During 2004-08, India leapfrogged Australia, South Africa, Ukraine and Malaysia to become the 30th largest exporter of engineering goods in the world. Table 4:6 also shows that the engineering goods export contributes only 0.91 percent in the world exports. Thus it can be inferred that even though, one fourth of India's total export is contributed by engineering goods, India was not able to increase its share to one percent. The low share is mainly attributed towards the export of the competing countries. For example, Germany is still the top engineering exporter with a share of 15 per cent and is with strong competition from China which has become the second largest exporter in the world. China, the largest exporter of manufactured goods in the world with a10.4 percent share of global trade (2010-11).

Table 4.7

Percentage wise composition of engineering goods export of India

Products	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
25	8.119	7.772	7.446	6.993	6.838	7.386	7.653	6.152
66	0.008	0.005	0.008	0.047	0.021	0.039	0.024	0.017
68	1.692	1.489	1.870	2.639	2.790	3.136	3.980	3.909
72	7.964	8.711	8.252	10.292	14.188	19.450	14.808	16.533
73	8.341	9.936	11.277	9.986	11.610	10.086	9.458	8.989
74	2.020	1.724	1.312	1.250	1.351	1.341	1.456	1.351
75	0.012	0.016	0.035	0.067	0.219	0.030	0.038	0.047
76	3.337	3.976	3.998	5.373	6.469	3.938	4.132	3.087
78	0.019	0.022	0.044	0.045	0.062	0.016	0.064	0.068
79	0.028	0.016	0.020	0.014	0.073	0.070	0.183	0.020
80	0.040	0.096	0.108	0.021	0.120	0.045	0.074	0.107
81	0.477	0.027	0.019	0.021	0.039	0.023	0.066	0.096
82	3.972	3.865	3.576	3.138	3.297	3.145	2.867	2.969
83	1.455	1.201	1.324	1.670	1.697	1.664	1.542	2.969
84	27.387	24.296	26.120	20.192	18.233	17.637	17.389	16.843
85	13.926	14.982	12.274	13.610	9.581	9.894	11.900	0.219
86	0.859	1.765	1.778	0.978	1.115	0.762	0.597	0.219
87	12.717	12.514	0.234	16.984	17.434	15.758	17.399	17.790
88	0.464	0.236	0.234	0.649	0.318	0.157	0.192	0.132
89	0.005	0.006	1.463	0.764	0.019	0.037	0.258	0.008
90	4.270	4.498	3.022	2.503	1.583	1.604	1.564	1.575
91	0.036	0.179	0.100	0.224	0.304	0.475	0.589	0.593
92	0.301	0.400	0.284	0.185	0.171	0.180	0.199	0.184
93	0.012	0.019	0.011	0.007	0.034	0.019	0.010	0.006
94	0.367	0.211	0.220	0.308	0.392	0.358	0.362	0.337
95	1.384	1.264	1.380	1.090	1.072	1.157	1.418	1.268
96	0.770	0.750	0.976	0.841	0.908	1.577	1.713	1.707
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Table 4.7 deals the percentage wise export of engineering goods exports of India. In 1988-89, Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (84) stands first in the export sharing 27 percent of the total exports. Coming to the other product, Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85),Vehicles other than railway or tramway rolling stock, and parts and accessories thereof(87) shares more than 10 percent. Other than Salt; sulphur; earths and stone; plastering materials, lime and cement(25),

Articles of stone, plaster, cement, asbestos, mica or similar materials(68),Iron and steel(72),Articles of Iron and steel(73) Copper and articles thereof(74), Aluminum and articles thereof(76), Lead and articles thereof(78), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82), Miscellaneous articles of base metal(83), Nuclear reactors, boilers, machinery and mechanical

Table 4.8
Percentage wise composition of engineering goods export of India

Products	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04
25	5.593	4.018	4.303	5.711	5.583	5.587	5.279	4.649
66	0.009	0.017	0.018	0.004	0.004	0.009	0.005	0.008
68	3.946	3.949	4.152	4.233	4.157	3.562	3.481	3.155
72	15.210	16.548	13.072	14.884	15.752	11.335	15.632	18.904
73	9.415	10.062	12.647	12.600	12.222	12.804	11.417	11.193
74	1.192	1.254	1.622	1.395	2.040	12.804	3.363	3.968
75	0.078	0.084	0.069	0.062	0.036	0.072	0.032	0.465
76	3.649	4.341	2.814	4.122	3.936	3.877	4.508	2.830
78	0.063	0.048	0.015	0.014	0.011	0.023	0.011	0.017
79	0.335	0.137	0.121	0.016	0.083	0.041	0.095	0.122
80	0.335	0.233	0.144	0.188	0.178	0.127	0.097	0.096
81	0.086	0.121	0.175	0.088	0.067	0.071	0.062	0.046
82	2.698	2.611	0.289	2.970	2.773	2.720	2.416	2.151
83	1.443	1.407	1.616	1.971	1.550	1.498	1.377	1.138
84	18.381	19.263	18.716	16.510	16.453	19.514	17.913	17.448
85	15.073	14.747	16.006	14.430	15.303	16.289	14.664	13.863
86	0.274	0.220	0.165	0.092	0.123	0.392	0.132	0.155
87	15.849	13.487	13.488	11.584	11.436	10.747	10.969	11.904
88	0.126	0.747	0.246	0.513	0.714	0.926	0.986	0.596
89	0.731	1.097	1.099	1.325	0.615	0.615	0.595	0.906
90	1.805	2.019	2.579	3.368	3.319	3.721	3.675	3.440
91	0.579	0.453	0.526	0.609	0.585	0.662	0.539	0.512
92	0.175	0.149	0.171	0.120	0.098	0.080	0.065	0.050
93	0.018	0.065	0.009	0.015	0.014	0.071	0.025	0.025
94	0.323	0.331	0.462	0.605	0.715	0.676	0.753	1.015
95	1.213	1.173	1.252	0.921	0.741	0.801	0.715	0.642
96	1.581	1.369	1.609	1.635	1.480	1.420	1.181	1.105
Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Source: World Integrated Trade Solutions(2013)

appliances; parts thereof(84), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85), Vehicles other than railway or tramway rolling stock, and parts and accessories thereof(87), Optical, photographic

cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof(90), Toys, games and sports requisites; parts and accessories thereof(95) all the other products contributes less than 1 percent .

Moving 1996-97, Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (84) remain first in the export sharing 18 percent of the total exports even though it share has reduced from 27 in 1988-98. Compared to 1988-89, majority of the products of export has increased their share other than Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal (82), Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (84), Salt; sulphur; earths and stone; plastering materials, lime and cement (25), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof (90).

In 2012-13, the share of Salt; sulphur; earths and stone; plastering materials, lime and cement (25) is decreased continuously and it declined to 2.50 from 8.11 in 1988-89. It was visible that while the export share of the 8 products increased on one hand the other 8 products showed a decline. The products like Iron and steel(72),Articles of Iron and steel(73) Copper and articles thereof(74), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85), Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.(87), Aircraft, spacecraft, and parts thereof(88), Ships, boats and floating structures(89) Furniture; bedding; mattresses; mattress support; cushions and

similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc(94) are included in the group where its share increased .

Table 4.9

Percentage wise composition of engineering goods export of India

Products	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
25	4.298	3.940	3.472	3.342	2.614	2.408	1.927	2.297	2.506
66	0.008	0.008	0.006	0.003	0.002	0.003	0.003	0.002	0.002
68	2.388	2.569	2.584	2.503	16.959	1.921	1.678	1.461	1.639
72	2.388	18.551	17.218	16.481	16.959	9.967	11.892	11.380	11.171
73	11.802	11.764	10.718	12.273	12.803	9.746	10.824	9.335	11.139
74	4.922	5.646	9.295	7.992	4.807	3.477	0.054	4.249	4.098
75	0.045	0.077	0.079	0.080	0.060	0.039	0.054	0.057	0.444
76	2.388	2.812	2.555	2.859	2.580	2.225	2.257	2.044	2.291
78	0.043	0.070	0.059	0.129	0.092	0.170	0.210	0.263	0.156
79	0.222	0.145	1.859	1.114	0.859	0.784	1.138	1.135	0.731
80	0.048	0.044	0.102	0.047	0.065	0.036	0.016	0.010	0.011
81	0.080	0.093	0.125	0.088	0.080	0.074	0.058	0.104	0.110
82	1.979	1.984	1.781	1.359	1.205	0.961	0.992	1.230	1.252
83	1.103	0.897	0.865	0.860	0.773	0.676	0.626	0.632	0.629
84	16.979	11.307	16.442	16.842	16.699	16.285	13.853	15.441	16.061
85	11.401	11.307	12.453	12.963	12.929	21.857	14.787	16.855	15.605
86	0.150	0.119	0.212	11.233	0.156	0.096	0.097	0.193	0.190
87	13.072	13.720	12.130	11.233	12.448	12.991	15.784	14.762	17.699
88	0.314	0.268	0.193	1.030	3.091	2.474	15.784	3.306	2.577
89	1.985	2.778	2.597	3.553	5.417	8.551	7.179	2.577	5.984
90	3.207	2.942	2.615	2.423	2.266	2.862	2.449	2.577	2.945
91	0.395	0.250	0.149	0.126	0.100	0.086	0.079	0.103	0.113
92	0.050	0.042	0.029	0.028	0.023	0.032	0.022	0.023	0.036
93	0.014	0.004	0.016	0.010	0.023	0.038	0.019	0.041	0.051
94	1.338	1.257	1.289	1.434	1.118	1.197	1.201	1.294	1.466
95	0.563	0.533	0.460	0.331	0.289	0.288	0.546	0.287	0.307
96	0.819	0.734	0.639	0.589	0.497	0.584	0.546	0.537	0.632
Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

Source: World Integrated Trade Solutions(2013)

The products like Salt; sulphur; earths and stone; plastering materials, lime and cement (25), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66), Aluminum and articles thereof(76), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82), Miscellaneous articles of base metal(83), Nuclear reactors, boilers,

machinery and mechanical appliances; parts thereof(84), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof (90) Toys, games and sports requisites; parts and accessories thereof(95) are included in the group where its share decreased. All the other products kept the same trend during the period study considered.

4.5 Direction and Magnitude of engineering goods export of India

The export direction of engineering goods of India is discussed under this head. The direction of export was mainly taken to a decadal basis as the change in direction is clearly visible in a decadal manner. A brief picture of the pre liberalization period can be seen by the direction trend from 1989-1991.The major eight counties were taken for the analysis. The tables were formed as 2013-14 as the base year.

Table 4.10
Direction of export of Salt; sulphur; earths and stone; plastering materials, lime and cement (25.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
China	0.01	0.01	0.08	11.16	27.62	34.78
United Kingdom	3.25	3.26	3.56	1.59	5.37	5.93
Saudi Arabia	0.23	0.19	0.31	0.69	3.64	5.27
United States	10.99	9.67	5.95	5.68	3.09	5.21
Sri Lanka	0.12	0.14	0.35	5.84	2.87	4.99
United Arab Emirates	1.33	1.04	1.13	4.57	3.41	3.26
Bangladesh	4.28	4.11	5.85	9.86	2.97	3.24
Nepal	1.76	3.03	3.37	0.70	7.42	3.02
Others	78.03	78.55	79.40	59.91	43.62	34.30
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

India's export of Salt; sulphur; earths and stone; plastering materials, lime and cement mainly flows to China. Around 35 percent of the export of the same is

directed towards China which was only 0.08 percent in 1990-91. Other than US and Bangladesh the export to all other countries has improved so far. Saudi Arabia and Sri Lanka made a considerable improvement in the export of Indian engineering goods.

Table 4.11
Direction of export of Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof.(66.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Sri Lanka	2.04	0.00	0.00	1.26	26.59	32.19
United Arab Emirates	14.17	2.32	0.00	15.63	28.16	20.77
United States	22.16	7.26	55.91	17.02	4.12	9.34
Nepal	0.00	0.00	0.00	0.37	5.91	8.06
Djibouti	1.59	0.00	0.00	0.00	0.80	3.65
United Kingdom	4.63	11.36	12.91	3.23	5.07	2.70
Tanzania	0.00	0.00	0.00	0.00	0.14	0.02
Canada	0.00	0.00	0.00	0.14	0.50	1.73
Others	55.40	79.05	31.18	62.34	28.73	21.53
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

It was seen that, there is huge shift in the export of Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof from India .Table 4.4 exhibits that, Sri Lanka (32.19 percent) and UAE(20.77 percent) are the major importers of Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts. They were not importers in the early reform period. USA is the major importer of the same in these periods sharing 55.91 percent. Now the share of USA has declined to 9.34 percent. Next to USA, UK followed same trend. From 12.91 per cent, it has reached to 2.70 percent from 1990-91 to 2013-14.One of the striking feature visible is that, Tanzania emerged as the rising importer of the same.

Table 4.12

Direction of export of Articles of stone, plaster, cement, asbestos, mica or similar materials(68.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	13.47	21.81	27.37	24.56	19.73	25.81
Turkey	0.03	0.10	0.08	0.40	4.89	5.87
Germany	2.62	2.79	3.33	7.01	6.23	5.71
United Arab Emirates	0.71	3.80	3.07	5.26	5.64	5.50
United Kingdom	11.65	8.15	8.31	5.99	4.92	4.82
Libya	0.00	0.00	0.00	0.00	0.86	3.12
Saudi Arabia	0.14	0.00	0.09	2.37	1.20	2.98
Canada	2.69	3.03	3.53	2.15	2.49	2.46
Others	68.70	60.32	54.23	52.26	54.05	43.72
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

India's export of Articles of stone, plaster, cement, asbestos, mica or similar materials is mainly directed to USA. It remained the major destination of India's export of Articles of stone, plaster, cement, asbestos, mica or similar materials since 1990s.Concerned to the other countries, the export towards Turkey and Germany increased where as Libya emerged the new trading partner of Articles of stone, plaster, cement, asbestos, mica or similar materials.

Table 4.13

Direction of export of Iron or steel(72.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United Arab Emirates	0.499	3.114	3.356	5.346	5.164	5.929
Italy	3.18	1.99	3.77	5.72	5.49	5.58
United States	11.13	9.45	13.27	26.62	6.10	5.52
Thailand	0.97	2.25	3.44	2.13	1.44	5.45
Korea, Rep.	2.41	3.31	3.44	2.44	4.54	4.77
Belgium	1.65	9.86	4.99	1.74	8.58	4.54
Vietnam	0.00	0.00	0.00	1.18	0.36	4.23
China	0.00	0.00	0.06	1.10	10.57	3.65
Others	80.15	70.04	67.68	53.72	57.75	60.33
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Iron and steel was considered as one of the major exports of India. USA the major importer of Indian Iron and Steel sharing 37.2 per cent, but it can be seen that the import is gradually declined to 5.52 percent. Now UAE became the major importer. Compared to the early periods, Vietnam became one of the major importers. Nearly 60 percent of the export moves to the other major countries.

Table 4.14
Direction of export of Articles of iron or steel(73.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	47.94	37.52	30.63	29.47	19.46	20.35
United Arab Emirates	3.67	5.79	5.61	12.34	8.49	12.01
Germany	0.91	0.79	1.29	3.11	4.15	6.36
United Kingdom	0.91	0.79	1.29	3.11	4.15	6.36
Saudi Arabia	6.37	3.67	2.46	1.86	11.12	3.63
Canada	1.18	1.44	1.34	1.89	1.24	3.06
Italy	0.76	0.43	0.32	1.31	1.46	2.88
France	0.68	2.11	0.22	1.08	1.15	1.96
Others	33.72	42.81	51.34	42.07	48.90	44.41
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

From table 4.14 ,it was clear that, the share of the export of the articles of iron and steel towards USA and UAE are 20.35 percent and 12.01 percent respectively. While the export towards UK declined, the export to the other countries has increased. The export towards Canada, Italy, France, and Germany improved tremendously. Concerned to the direction, it was clear that although, the export was mainly to USA, its share has declined more than twice and it has also diversified to the other countries especially towards UAE, Germany and UK.

Table 4.15

Direction of export of Copper and articles thereof.(74.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
China	0	0	16.62	10.37	66.91	63.91
Malaysia	0.48	0.56	0.63	1.73	4.12	9.65
United Arab Emirates	0.78	0.83	1.29	6.72	11.07	5.58
United States	10.25	9.84	13.43	14.42	0.98	3.75
Saudi Arabia	0.76	0.66	1.16	11.73	1.67	1.48
Mexico	0	0	0	0.02	0.03	1.41
Germany	4.77	4.81	8.77	3.40	0.46	1.17
United Kingdom	9.57	8.75	8.19	6.94	0.27	1.08
Others	73.39	74.55	49.91	44.67	14.48	11.98
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

A major share of the export of Copper and articles thereof are moving to China. In 1990-91, USA and China are the major destinations but the export towards UK has decreased continuously. Share towards UK reduced to 1.08 percent. In table 4.15 it is visible that, Germany emerged as the rising partner of India now days. The chief trend visible is that China is becoming the unavoidable trading partner of India and during eighties it didn't have any trade relation with India.

Table 4.16

Direction of export of Nickel and articles thereof.(75.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Singapore	2.55	20.41	2.76	8.83	0.91	72.11
United Arab Emirates	11.46	32.61	14.83	6.15	0.61	14.71
Netherlands	0.00	0.00	21.13	3.68	4.27	2.54
United Kingdom	0.00	1.46	0.00	6.10	1.20	2.50
Malaysia	3.68	7.46	3.91	1.65	2.33	2.47
United States	18.19	2.06	4.71	14.81	15.54	1.41
Saudi Arabia	0.00	4.92	1.62	2.03	2.52	0.45
Japan	0.00	0.00	0.00	0.81	4.07	0.36
Others	64.12	31.08	51.04	55.95	68.56	3.44
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Around 72 percent of the export of Nickel and articles thereof are heading to Singapore. Next to Singapore, UAE stands second with a percentage share of 14.71.The key factor revealed form the table 4.16 is that the export direction is diversifying to more countries. UAE, Netherlands, UK, Saudi Arabia and Japan can be considered as the new diversified markets .The striking feature which has a special mention is the rise of Singapore with a lion share (72.11 percent in 2013-14) which was only 2.76 per cent in 1990-91.

Table 4.17

Direction of export of Aluminium and articles thereof(76)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Korea, Rep.	0.83	11.95	8.16	0.53	0.21	19.16
United States	2.97	1.40	1.78	11.32	4.69	9.70
Mexico	0.01	0.00	0.10	0.03	0.23	8.81
China	0.00	1.65	0.04	2.29	2.08	5.75
United Arab Emirates	2.72	10.61	6.81	5.46	4.30	5.08
Nigeria	0.16	0.21	0.18	0.59	4.92	2.99
Bangladesh	8.72	10.27	4.50	4.78	2.81	2.59
Germany	0.97	0.29	0.78	2.18	1.89	2.43
Others	83.62	63.61	77.65	72.82	78.88	43.48
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Even though, Korea's share of import of Aluminum and articles thereof from India is declining gradually, Korea remains main destination of export of India. While export to UAE, Bangladesh has shown a declining trend, export to Mexico, Germany, US, Nigeria and Germany has increased slightly. Table 4.17 reveals that in the pre reform period majority of the trade is directed towards the other nations than the eight nations mentioned. (83 percent) but in 2013, more than 50 percent of the export directed to more nations. It indicates that the export horizon is widening in the post reform period also it express the direction shift which was happened in the post reform period.

Table 4.18

Direction of export of Lead and articles thereof(78.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Korea, Rep.	0.00	0.00	0.00	0.13	0.19	43.59
United States	0.00	0.00	0.00	0.68	0.20	10.95
Saudi Arabia	4.25	0.00	0.00	0.81	9.01	7.22
Germany	0.00	0.00	0.00	0.07	0.31	5.03
Bangladesh	1.66	3.69	0.54	5.49	0.05	4.70
United Arab Emirates	36.35	34.10	21.66	8.75	0.52	3.32
Indonesia	0.00	0.00	0.38	0.00	22.96	3.24
Thailand	0.00	0.00	0.10	0.02	2.90	2.94
Others	57.74	62.21	77.33	84.05	63.86	18.99
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Table 4.18 shows that, there is a great shift in the export of Lead and articles thereof from India. It is clear that, Korea is the major importer of Lead and articles from India. It was also visible that, Korea was not at all a trading partner of India on of India .Moreover, UAE was the major importer of the same in 1990s.But coming to 2013,its 1990s.It was not only Korea but US, Saudi Arabia and Germany was also not been the export market share is reduced to 3.32 per cent .

Table 4.19
Direction of export of Zinc and articles thereof(79.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
China	0.00	0.00	0.00	73.81	10.43	21.59
Other Asia, nes	0.00	0.00	0.00	0.00	10.33	17.63
Korea, Rep.	0.00	0.00	0.00	0.00	20.25	12.55
United Arab Emirates	0.84	1.29	17.08	1.82	5.07	7.72
Nigeria	0.00	0.38	0.00	1.64	4.60	6.50
Indonesia	0.00	0.00	0.00	0.00	3.59	5.68
Belgium	0.00	0.00	0.00	0.16	0.81	4.20
Kenya	1.35	0.00	0.00	0.04	1.85	3.06
Others	97.81	98.33	82.92	22.54	43.06	21.07
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Like, Lead and articles thereof, the export of Zinc and articles thereof of India, the direction of export of India, is also shown a drastic shift. China is the chief importer of Zinc and articles thereof from India sharing 21.59 percent. But compared to 2000-01, the share is declined in 2013.The export to China, Other Asian countries, Korea, Nigeria, Indonesia, Belgium and Kenya was zero in 1990-91 . But in 2013, the export to these countries became an emerging market of export of Zinc and articles thereof of India.

Table 4.20
Direction of export of and articles thereof(80.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Singapore	0.28	0.14	0.71	0.14	13.85	92.32
South Africa	0.00	0.00	0.00	0.00	2.31	0.98
United Arab Emirates	60.63	74.67	91.11	18.09	4.88	0.90
United Kingdom	3.38	0.15	0.30	0.06	9.00	0.71
China	0.00	0.00	0.00	0.00	4.28	0.69
Nigeria	4.21	2.23	0.00	0.00	0.05	0.63
Zambia	0.00	0.00	0.00	0.00	1.22	0.52
Nepal	0.62	0.00	0.00	0.00	1.42	0.44
Others	30.88	22.81	7.88	81.70	63.01	2.81
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013).

Table 4.20 indicates that**,** Singapore is the foremost destination of India's export of Tin and articles thereof. It is seen that, the Singapore imports 92.32 percent of India's export. In the place of Singapore, it was UAE which shared 91.11 per cent in 1990-91. The African countries never became the importer in 1990s. But in 2013, African countries like, South Africa, Nigeria, Zambia started the new markets for India.

Table 4.21

Direction of export of Other base metals; cermets; articles thereof(81.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	0.44	3.97	0.00	9.79	16.42	25.59
Germany	32.32	0.00	5.04	2.92	6.46	19.51
Pakistan	0.00	0.00	2.29	0.00	1.16	7.49
Japan	42.43	0.00	0.00	0.10	3.05	5.97
Poland	0.00	0.00	0.00	1.60	1.99	4.29
Israel	0.00	0.00	0.00	0.00	0.18	2.97
Italy	0.38	0.39	0.00	3.51	1.44	2.96
United Arab Emirates	0.00	0.00	0.83	6.58	2.12	2.60
Others	24.43	95.64	91.84	75.50	67.17	28.62
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions (2013)

Table 4.21 shows that, USA and Germany are the key destinations of India's export of Other base metals; cermets; articles thereof of India having a share of 25.59 and 19.50 respectively.USA, Poland, and Israel were not a market of India in 1990. It was also seen that, Pakistan became promising partner of India now a days. In the pre reform period, Japan, one of the sole importer of the same and shares only 5.97 per cent. Like the other product, the diversification of destination of export is also visible in this product also.

Table 4.22

Direction of export of Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal.(82.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	13.78	10.95	10.87	18.28	18.72	16.55
United Arab Emirates	3.61	2.87	3.49	11.79	8.59	11.38
Germany	10.49	8.33	14.57	6.45	7.52	5.85
United Kingdom	12.20	9.69	13.05	10.63	6.32	5.44
Netherlands	1.97	1.57	2.67	3.44	4.13	5.08
Russian Federation	0.00	0.00	0.00	0.29	1.65	3.16
Singapore	1.64	1.30	2.06	1.70	4.74	2.89
Saudi Arabia	2.49	1.98	1.63	1.60	1.29	2.49
Others	53.81	63.31	51.66	45.82	47.05	47.16
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions (2013)

Germany, UK and USA were the major destination of export of Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal of India in 1990-91 (table 4.22). USA remained the main partner of India in 2013. UAE, stands the second major importer after USA .The import share of USA is 16.55 percent and UAE is11.38 percent. The notable feature of table 4.22 is that the export towards UK is declining where as to UAE it is increasing.

Table 4.23

Direction of export of Miscellaneous articles of base metal.(83.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United Kingdom	50.60	40.74	40.56	30.99	18.74	19.01
United States	8.91	8.91	9.55	14.83	12.50	10.55
United Arab Emirates	3.52	4.67	4.68	7.56	7.10	6.28
Germany	1.24	0.95	9.55	2.10	4.45	3.92
Russian Federation	0.00	0.00	0.00	3.04	0.34	3.59
South Africa	0.00	0.00	0.00	1.27	2.70	2.94
Saudi Arabia	3.59	3.83	3.44	3.45	2.53	2.70
Kenya	0.26	0.38	0.52	3.04	1.60	2.34
Others	31.88	40.51	31.70	33.71	50.05	48.67
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions (2013)

The export of miscellaneous articles of base metal of India is explained in the above table 4.23. It is visible that, UK remained the most powerful partner of India since decades even though its share declined from 50.60 per cent in 1990-91 to 19.01 percent in 2013-14.Table 4.23 also explains that, South Africa and African country like Kenya are emerging as the major trading partner of India. More than 5 per cent of the total export is directed towards these countries jointly

Table 4.24
Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.(84.)

Country	1988-89	1989-89	1990-91	2000-01	2010-11	2013-14
United States	6.90	6.64	7.02	3.63	13.00	13.11
United Arab Emirates	0.93	1.39	1.33	0.69	6.03	5.53
Germany	2.40	2.66	3.18	1.64	5.41	4.88
United Kingdom	3.49	2.97	3.09	1.60	4.44	4.76
China	0.36	0.01	0.00	0.00	3.44	3.87
Singapore	4.11	6.74	5.65	2.93	4.43	3.65
Saudi Arabia	1.06	1.03	0.98	0.51	2.08	3.55
Malaysia	1.23	1.41	1.57	0.81	1.59	2.64
Others	79.51	77.14	77.19	88.19	59.58	58.01
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions (2013)

Compared to 1990-91, the export towards USA, UAE, Germany, UK, China, Saudi Arabia and Malaysia has shown a rising trend in 2013-14 even though it was not in a remarkable manner. The export towards Singapore showed a declining trend. From 6.74 percent in 1990-91 it has reduced to 3.65 percent in 2013-14.Other than Singapore, the export towards all other countries were increased continuously.

Table 4.25
Direction of export of Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts.(85.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	5.55	4.17	5.87	0.70	14.82	12.80
United Arab Emirates	1.36	1.65	1.74	5.68	6.99	9.17
Netherlands	0.35	0.26	0.71	2.19	4.18	4.75
Germany	1.31	1.05	2.24	4.56	6.82	4.56
United Kingdom	2.09	2.08	4.02	6.61	3.33	3.67
Saudi Arabia	0.81	0.70	0.95	1.08	1.66	3.16
China	0.07	0.00	0.08	1.15	2.37	2.70
South Africa	0.01	0.00	0.01	0.70	1.64	2.56
Others	88.45	90.08	84.37	77.33	58.18	56.62
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts is the other major export of India. Around 13 percentage of India's export destined towards USA and UAE follows the second position with a share of 9.17 percent in 2013-14.The export towards South Africa is also increasing.

Table 4.26
Direction of export of Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical(86.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Bangladesh	3.25	0.42	0.75	2.45	0.04	37.62
Myanmar	6.12	0.55	0.62	4.81	1.37	11.03
Sri Lanka	1.21	2.76	2.61	4.96	17.73	10.02
United States	2.39	3.60	4.80	17.71	11.54	9.32
Singapore	0.01	1.26	1.52	1.51	0.41	4.31
Mozambique	0.00	0.00	0.00	0.00	2.35	3.22
Germany	0.00	1.22	0.88	8.97	5.85	2.13
Austria	0.00	0.00	0.00	0.01	4.82	1.75
Others	87.03	90.19	88.81	59.58	55.88	20.60
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

USA the major importer in 1990-91 was replaced by Bangladesh in 2013-14.Bangladesh shares nearly 38 percent of India's over all export of the same (Table 4.26). Myanmar's share is increasing presently with importing share of 11.03 percent which was the major importer of the same in 1988-89. At the same time, Germany, Mozambique, Austria became the growing market which was quite unexplored by India.

Table 4.27
Direction of export of Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.(87.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	4.79	4.62	4.98	12.17	7.47	8.13
South Africa	0.12	0.00	0.14	1.48	5.03	7.74
United Kingdom	5.11	4.47	4.34	7.06	4.91	6.83
Mexico	1.49	2.48	3.23	2.07	0.99	4.82
Nigeria	4.78	4.20	3.38	3.68	2.48	3.62
Turkey	0.23	0.42	1.22	2.76	2.52	3.38
Algeria	0.01	0.01	0.00	0.35	3.90	3.36
Bangladesh	6.18	7.39	4.91	6.80	2.69	3.33
Others	77.28	76.41	77.80	63.63	70.01	58.77
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Compared to the other markets, India's exports of Vehicles other than railway or tramway rolling stock, and parts and accessories thereof is directing toward African country like Nigeria., The export towards South Africa has increased to 7.74 percent from 0.14 percent in 1990-91.The export trend shows that export is converging to the above mentioned countries than to the other countries.

Table 4.28

Direction of export of Aircraft, spacecraft, and parts thereof(88.)

Country	1988-89-1	1989-90	1990-91	2000-01	2010-11	2013-14
Sri Lanka	0.00	0.00	0.00	0.04	0.08	22.40
United Arab Emirates	0.07	0.00	0.00	0.15	0.69	17.40
Singapore	5.86	3.43	0.64	9.36	9.83	12.40
United States	9.01	19.30	22.59	34.59	36.32	9.54
China	0.00	0.00	0.00	0.00	0.88	6.00
France	5.44	1.99	1.39	17.80	13.10	5.80
Netherlands	0.27	0.48	1.04	4.10	0.38	3.75
United Kingdom	24.64	49.16	40.28	8.88	11.67	3.33
Others	54.71	25.65	34.06	25.09	27.04	41.77
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

The export of Aircraft, spacecraft, and parts thereof of India is mainly destined towards Sri Lanka followed by UAE. It was seen that, 22 percent of the export of India is directed to Sri Lanka and 17.40 percent is towards UAE (Table 4.28). Sri Lanka became the important trade partner of now days. It signifies the improved trade relation of India with Sri Lanka.

Table 4.29

Direction of export of Ships, boats and floating structures(89.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Singapore	16.02	12.43	0.04	0.0005	18.21	47.43
United Arab Emirates	74.57	79.58	0.23	0.0007	7.79	29.54
Sri Lanka	7.55	0.00	0.01	0.0003	2.79	6.47
Oman	0.00	0.00	0.00	0.0000	0.03	4.23
Indonesia	0.00	0.00	0.00	0.0002	0.17	3.47
Netherlands	0.00	0.00	0.01	0.0004	0.61	3.06
Italy	0.00	0.00	0.00	0.0000	0.40	1.81
Belgium	0.00	0.00	0.00	0.0001	0.00	0.98
Others	1.85	7.99	99.71	99.9978	70.01	3.01
Total	100.00	100.00	100.00	100.0000	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Like, Vehicles other than railway or tramway rolling stock, and parts and accessories thereof export, Ships, boats and floating structures is heading towards the markets of Sri Lanka and UAE. While Sri Lanka absorbs 47.43 percent of India's export, UAE shares 29.54 per cent (Table 4.29). Oman, Indonesia, Italy and Belgium are the promising markets of the India in future concerned to this product.

Table 4.30

Direction of export of Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof;(90.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	9.54	6.17	8.58	17.77	22.40	14.97
Singapore	0.52	0.44	2.97	3.89	13.22	8.06
Germany	1.82	2.02	2.91	5.20	6.80	7.11
China	0.00	0.11	0.07	4.53	5.55	6.95
France	1.19	0.54	1.03	4.53	2.55	4.78
United Kingdom	2.11	1.26	2.34	5.52	4.41	3.77
United Arab Emirates	0.59	0.57	0.55	4.45	3.53	3.73
Australia	0.53	1.30	0.95	0.76	3.07	3.03
Others	0.81	0.78	0.70	0.09	0.01	0.01
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof; export of India flows mainly to USA. Around 15 percent of the export of these products is destined to USA (Table 4.30). From 1990-91 and 2013-14, USA remained a reliable market for India even though, its share has declined.

Table 4.31

Direction of export of Clocks and watches and parts thereof.(91.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
Switzerland	2.55	0.64	0.89	2.29	0.00	26.07
Hong Kong	6.91	74.92	58.54	9.45	15.87	12.48
United Arab Emirates	4.07	2.02	6.97	56.66	10.79	11.65
Singapore	0.82	3.74	0.08	5.31	16.45	10.08
Saudi Arabia	0.00	0.27	0.33	1.79	6.66	4.87
United States	15.34	5.71	7.99	4.21	2.57	3.24
Iraq	0.24	0.00	0.00	0.00	2.38	3.07
France	0.00	0.04	0.00	0.88	3.00	2.75
Others	70.06	12.66	25.20	19.40	42.27	25.79
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Clocks , watches and parts are the other engineering goods export of India.2 6.07 percent of India's export is going to Switzerland(Table 4.31). Hong Kong was the main importing country of India in 1990-91 having 58.54 percent. The share towards UAE, Singapore, Saudi Arabia has increased considerably. Compared to 1990s, Iraq and France are the new markets of India in 2013-14.

Table 4.32

Direction of export of Musical instruments; parts and accessories of such articles(92.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	14.15	12.45	14.34	38.04	29.48	27.78
Japan	48.57	52.45	40.88	6.48	5.95	12.07
Germany	1.85	4.51	3.06	4.53	8.45	10.73
Netherlands	0.29	0.72	0.84	0.30	4.22	6.88
Korea	2.89	10.33	13.94	7.95	10.14	4.17
UK	7.77	6.94	9.78	11.27	2.76	3.16
China	0.00	0.00	0.55	1.32	4.13	3.61
Canada	0.47	0.84	0.95	1.80	3.66	3.50
Others	24.00	11.76	15.66	28.31	31.21	28.09
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Japan was the major trading partner of India in the export of Musical instruments; parts and accessories of such articles covering a percentage of 40.88 percent in 1990-91.Moving to 2013-14, the direction was shifted to USA with 27.78 percent. It was also witnessed that recently the export towards Korea has declined drastically . China and Canada are the growing partners of India now a days.

Table 4.33

Direction of export of Arms and ammunition; parts and accessories thereof.(93.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United Kingdom	44.52	26.96	37.34	65.88	0.94	0.80
United States	26.29	2.46	32.27	11.43	41.26	41.88
Australia	8.44	10.18	15.07	0.90	0.04	0.35
Switzerland	10.57	3.48	9.77	0.59	0.00	0.11
Norway	0.00	1.75	2.64	0.00	0.00	0.01
France	0.00	0.00	2.02	2.54	0.28	1.11
Sweden	0.24	0.00	0.34	0.00	0.00	0.02
Canada	0.00	0.00	0.29	0.54	0.37	0.41
Others	9.92	55.16	0.26	18.13	57.11	55.31
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

India's most important importer of Arms and ammunition; parts and accessories thereof is USA and is around 41.88 percent of India's export .India's export to UK has fallen significantly from 37.34 percent to 0.80 percent in 2013-14 from 1990-91 (Table 4.33).While Norway has shown a fluctuating trend till the date, export to Australia, Switzerland, France has declined considerably.

Table 4.34

Direction of export of Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc.(94.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	7.02	4.44	7.02	32.07	27.39	35.34
Germany	1.75	0.78	1.75	2.72	10.76	9.53
United Kingdom	3.61	3.70	3.61	17.60	8.67	7.41
France	0.25	0.00	0.25	4.65	8.88	6.98
Australia	1.80	0.40	1.80	2.53	3.12	3.17
Netherlands	0.06	0.50	0.06	4.12	3.34	2.85
United Arab Emirates	7.76	13.68	7.76	4.37	3.17	2.41
Canada	1.49	1.12	1.49	0.77	1.13	1.83
Others	76.26	75.38	76.26	31.16	33.54	30.48
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

USA, the sole importer of India's Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc.35.34 percent of India's export is points to USA (Table 4.34). Other than UAE, all the other countries made a small increment in the export from India.

Table 4.35

Direction of export of Toys, games and sports requisites; parts and accessories thereof(95.)

Country	1988-1989	1989-90	1990-91	2000-01	2010-11	2013-14
United States	4.71	5.31	5.99	0.30	14.63	19.01
Bangladesh	0.83	0.82	0.27	0.80	0.09	0.47
United Arab Emirates	0.92	1.08	0.82	3.37	10.36	12.42
Netherlands	1.92	3.00	3.21	3.38	1.94	1.54
Germany	7.15	6.03	6.87	7.33	3.83	4.18
Thailand	0.06	0.10	0.07	0.12	0.23	0.13
United Kingdom	22.67	21.56	21.87	20.23	22.70	19.86
Pakistan	2.26	3.19	2.69	0.30	0.87	0.23
Others	59.47	58.92	58.22	64.19	45.35	42.17
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

Toys, games and sports requisites; parts and accessories thereof of mainly imported by USA and UK. Concerned to UK and USA, both are the traditional partners of India. The direction shift is visible in the UAE. There is leap is visible in the export to UAE. It was about to zero in the nineties but gradually it has increased to 12.42 of the total export of the product.

Table 4.36

Direction of export of Miscellaneous manufactured articles.(96.)

Country	1988-89	1989-90	1990-91	2000-01	2010-11	2013-14
United States	12.00	12.46	12.86	13.75	18.42	15.44
Bangladesh	0.95	0.97	0.47	1.77	3.80	8.46
United Arab Emirates	9.49	6.33	4.22	7.99	5.99	6.06
Netherlands	0.12	0.71	1.12	1.24	4.82	4.86
Germany	10.73	13.95	12.37	10.41	5.70	4.14
Thailand	0.00	0.09	0.23	1.20	3.04	3.33
United Kingdom	2.36	1.72	1.66	10.41	4.13	3.04
Pakistan	0.37	0.20	0.55	0.11	1.86	2.26
Others	63.98	63.58	66.51	53.11	52.23	52.42
Total	100.00	100.00	100.00	100.00	100.00	100.00

Source: World Integrated Trade Solutions(2013)

As India's major trading Partner, USA imported 15.44 percent of Indian Miscellaneous manufactured articles. In 1990-91, it can be seen that, USA, and Germany were the major importers. In 2013-14, Germany made a considerable set back while USA made small edge. Here also, the export towards to Pakistan is worth mentioning as the absorption has increased from 0.55 per cent in 1990-91 to 2.26 percent in 2013-14.

4.6 Conclusion:

One of the striking features of the direction wise analysis is that traditional market is losing its importance and the new markets getting an edge. More over

despite the high growth achieved in the recent years, India‘s engineering export share is still lower than other major developing countries like Brazil, China, Russia, Mexico and Thailand. It indicates that India has not been able to completely exploit its multitude of advantages in terms of engineering skills, a burgeoning domestic market, an established raw material base and availability of a large pool of skilled labour. Moreover, the European Union, major markets of India , accounted for 24 per cent of export has declined to 19 per cent. Similar is the case for North America, which is another major market. The fall in global demand has also impacted the domestic production with associated issues like inflation interest rates etc. Although the initiative have been taken by the Department to stimulate the exports ,Engineering goods have long gestation periods and take time to establish new markets .Tariff and non tariff barriers have also been introduced by some of the major markets. Various procedural bottle-necks and policy initiatives have also affected the export.

Chapter 5

GLOBAL COMPETITIVENESS OF ENGINEERING GOODS OF INDIA

5.1 Introduction

Engineering industry provides strong base of heavy and capital goods industries, and competitive cost structures. The infrastructure development and industrial production of a country depends on this sector. It creates high demand for products across the engineering sector from machinery and automotives to power equipment, electronics, and advanced manufacturing. Moreover one fourth of India's total export was comprised of the engineering goods. In this chapter the global competitiveness of Indian engineering goods especially after reform are examined.

There are more than 2500 firms in the engineering sector in different areas such as casting and forging, automobile parts, machine tools, electrical machinery, pumps, textile machinery, etc. At the same time, Indian engineering exports has been facing stiff competition from other countries. China, Mexico, Hungary, Czechoslovakia and Korea which have emerged as the fastest growing engineering exporting countries and provide tough challenges and severe competition to Indian engineering exports. The inability to compete shows the inability of India to completely exploit its multitude of advantages in terms of engineering skills, a growing domestic market, and an established raw material base and availability of a large quantum of skilled labour. The share of European Union major markets

which accounted for 24 per cent of export has declined to 19 per cent. Similar is the case for North America, which was the other major market. The Chinese engineering goods exporters have benefited during this period. In order to improve the export of the same, the export competitiveness of the products must be improved.

Low competitiveness attributed the poor export performance of India in the international market. Competitiveness may be defined as advantages in price, quality, product design, reliability, salesmanship, delivery times, after-sales etc. While elements of non price competitiveness have an important effect on the volume of trade, the price competitiveness also makes a significant impact on the export performance. Non price competitiveness is an intangible and difficult to measure and there is no single comprehensive index to measure it.

There are several measures to analyze the competitiveness. The Relative Export Price Index is the first among them. It is the ratio of the unit value index of Indian export s and its competitors. The Relative whole sale price index is the other one .India's wholesale price index divided by a weighted average of the indices of its competitors wholesale prices, which is a useful proxy for domestic costs. In profitability of Exports Index, the ratio of India's export unit value to its wholesale price index. The assumption behind this measure is that higher export price relative to wholesale price means the producers are more likely to export rather than sell in the domestic market. This measure suffers from the drawback that wholesale price refer to current production while export prices are at the custom post and thus refers to production at sometime in the past. The wholesale price index incorporates some indirect taxes and is generally considered a poor

proxy for the incentive to produce for the domestic market. Nevertheless, this index of competitiveness is attractive since data are readily available and no other countries are needed. The Relative Profitability of Export Index, the profitability index of India divided by weighted profitability index of her competitors. The Index of import price competitiveness is measured by India's wholesale price index divided by its unit value index of imports. The index measures the competitiveness of import substitutes.

There are number of studies which deal with the competitiveness of India's exports. Among these one of the important studies was the study India's Trade Competitiveness and Exchange Rate Policy, Bhatt (2008). The objective of this paper is to measure India's trade competitiveness in relation to its competitors and to examine the effectiveness of the exchange rate policy on the trade competitiveness. A simple regression was carried out to examine the effectiveness .The trade competitiveness index was regressed on the nominal effective exchange rate (NEER) and the real effective exchange rate (REER) over the period .The result indicates that when nominal and real exchange rate appreciates, export price competitiveness (Real Export Price) improves, but the competitiveness of profitability (Relative Profitability of Exports and Profitability of Export Index) deteriorates.

Poter's (1990) analysis shows that a nation's competitiveness depends on the capacity of its industry to innovate and upgrade technology, management of exchange rate, interest rate and trade may not be able to promote national competitiveness .The only meaningful concept of competitiveness at the national level is productivity , that is the value of output produced by a unit of labour or

capital .Competitiveness at the national level is to understand the determinants of productivity and the rate of productivity growth. Again, the focus should be not on the economy as a whole but on specific industries and industry segments.

Other than all these measures, the prominent one is the Revealed Comparative Advantage. The revealed comparative advantage is an index used in international economics for calculating the relative advantage or disadvantage of a certain country in a certain class of goods or services as evidenced by trade flows. It is based on the Ricardian comparative advantage concept. It most commonly refers to an index introduced by Béla Balassa in 1965

$RCA = (E_{ij} / E_{it}) / (E_{nj} / E_{nt})$
Where:
E-Exports
i-Country Index
n-Set of countries
j-Commodity index
t-Set of commodities.
That is, the RCA is equal to the proportion of the country's exports that are of the class under consideration (E_{ij} / E_{it}) divided by the proportion of world exports that are of that class (E_{nj} / E_{nt}).A comparative advantage is “revealed” if RCA>1. If RCA is less than unity, the country is said to have a comparative disadvantage in the commodity or industry.

The advantage of using the comparative advantage index is that it considers the intrinsic advantage of a particular export commodity and is consistent with changes in an economy’s relative factor endowment and productivity. The disadvantage, however, is that it cannot distinguish improvements in factor

endowments and pursuit of appropriate trade policies by a country. In this chapter, the competitiveness of the engineering goods export is discussed.

5.2 Global Competitiveness of Indian engineering goods export

The Engineering Goods Export Promotion Council has classified the Engineering goods into 27 products which were discussed in the last chapter. Besides commodity description, products' codes has been used for convenience. The competitiveness is exhibited in the following tables that are tables 5:1, 5:2, 5:3 .In each tables, nine products were dealt.

Table 5.1

Global competitiveness of engineering goods export of India

year	25	66	68	72	73	74	75	76	78
1988	4.05	0.10	0.72	0.30	0.45	0.39	0.01	0.39	0.04
1989	2.56	0.07	0.67	0.34	0.68	0.32	0.01	0.04	0.07
1990	2.51	0.11	0.82	0.39	0.82	0.20	0.03	0.47	0.12
1991	2.78	0.72	1.42	0.63	0.86	0.24	0.06	0.74	0.18
1992	2.78	0.16	1.55	0.97	1.11	0.29	0.24	1.02	0.27
1993	3.28	0.29	1.90	1.35	1.04	0.34	0.04	0.69	0.08
1994	3.35	0.18	1.90	1.00	0.90	0.34	0.05	0.65	0.32
1995	2.76	0.14	1.87	0.99	0.84	0.26	0.06	0.43	0.32
1996	2.70	0.09	2.02	1.07	0.95	0.27	0.09	0.56	0.26
1997	2.04	0.15	2.13	1.19	1.02	0.28	0.10	0.67	0.23
1998	2.04	0.13	1.98	0.86	1.10	0.37	0.09	0.39	0.07
1999	3.00	0.03	2.21	1.21	1.31	0.37	0.08	0.62	0.07
2000	3.68	0.04	2.70	1.36	1.52	0.56	0.04	0.65	0.07
2001	3.70	0.09	2.34	1.10	1.56	0.73	0.09	0.67	0.16
2002	3.58	0.06	2.31	1.48	1.40	1.15	0.04	0.80	0.08
2003	3.69	0.11	2.41	1.81	1.57	1.57	0.07	0.58	0.15
2004	3.67	0.12	1.92	1.62	1.64	1.60	0.05	0.52	0.33
2005	3.47	0.12	2.11	1.51	1.58	1.71	0.10	0.62	0.51
2006	3.32	011	2.26	1.50	1.48	2.00	0.09	0.54	0.40
2007	3.33	0.05	2.17	1.28	1.58	1.79	0.06	0.60	0.61
2008	2.31	0.04	1.85	1.33	1.71	1.35	0.08	0.64	0.57
2009	2.25	0.04	1.74	1.08	1.30	0.99	0.06	0.60	0.98
2010	2.00	0.03	1.74	1.19	1.73	2.30	0.08	0.61	1.24
2011	2.07	0.02	1.34	0.96	1.25	0.94	0.07	0.48	1.33
2012	2.30	0.02	1.48	1.05	1.48	1.00	0.66	0.60	0.92
2013	2.45	0.03	1.36	1.27	1.18	0.94	0.91	0.65	1.44

Source: World Integrated Trade Solutions(2013)

Table 5.1 deals the competitiveness of nine products which includes salt; sulphur; earths and stones; plastering materials, lime stone and cement(25), Umbrellas, sun umbrellas, walking sticks, seat sticks ,whips, riding crops and parts thereof(66),Articles of stones, plaster ,cement ,asbestos, mica or similar materials(68),Iron and steel(72),articles of iron and steel(73),Copper and articles thereof(74),Nickle and articles thereof(75),Aluminum and articles thereof(76),Lead and articles thereof(78).Concerning to the first product, the competiveness is better than the other products, but when compared to the early periods it has declined .The index value which was 4 in the pre liberalization period declined to 2.Coming to the second column it was seen that the liberalization has not made any improvement on the product. It was 0.10 in the pre liberalization period and it was 0.03 in 2013. More over it can be said that the competitiveness was declining during these periods even though it was microscopic value.

Next to that, it is Articles of stone, plaster, cement, asbestos, mica or similar materials. Compared to the pre liberalization era the export competence has increased considerably. It has increased from 0.72 to 2.70.If it was plotted in a diagram; it will take a shape of an inverted “U”curve. In 2013-14, it has reached in to1.36. Moving to iron and steel, reforms literally made an improvement over the competency. The number ranged from 0.30 to 1.27.The picture is not different in the case of article of iron and steel. 1992 is considered as the beginning of the improved performance of these products. It was in the year that the product reached the absolute competency. Even though Copper and articles thereof has improved from the year 2002,it again declined in 2009.After, 2009 it was shown a fluctuating trend as it fluctuated from 0.99 to 0.94 in 2013.In the case of Nickel

and articles thereof, reform did not made any particular improvement .In 1988 it was 0.01 and it was only 2013,it reached to 0.91.Moving to Aluminum and articles thereof ,the competency has not improved so far except in the year 1992.Eventhough in later years the competency has improved t does not reached in to the absolute level. In 2013, it was reached to 0.65.Lead and articles thereof are the other product which comes under the consideration. It was only in the recent years that the product reached to the global competency while it was 0.04 in 1988, it became 1.44 in 2013-14.

Table 5.2

Global competitiveness of engineering goods export of India

year	79	80	81	82	83	84	85	86	87
1988	0.04	0.88	0.97	0.80	0.51	0.20	0.13	0.37	0.11
1989	0.01	0.11	0.06	1.04	0.50	0.21	0.17	0.80	0.13
1990	0.02	0.19	0.05	0.96	0.55	0.23	0.14	0.93	0.14
1991	0.02	0.25	0.04	0.99	0.75	0.18	0.16	0.58	0.21
1992	0.10	0.34	0.09	1.07	0.75	0.19	0.13	0.66	0.25
1993	0.12	0.18	0.05	1.15	0.78	0.19	0.13	0.58	0.25
1994	0.31	0.36	0.13	1.04	0.63	0.18	0.15	0.34	0.28
1995	0.03	0.50	0.16	1.10	0.68	0.18	0.18	0.16	0.30
1996	0.16	1.63	0.14	1.12	0.67	0.21	0.20	0.22	0.28
1997	0.20	1.20	0.18	1.02	0.64	0.21	0.19	0.18	0.24
1998	0.18	0.67	0.23	1.00	0.63	0.18	0.18	0.10	0.20
1999	0.03	0.98	0.13	1.07	0.83	0.17	0.16	0.07	0.19
2000	0.14	1.04	0.12	1.19	0.77	0.20	0.18	0.11	0.22
2001	0.09	0.96	0.12	1.17	0.75	0.25	0.22	0.36	0.21
2002	0.22	0.79	0.13	1.09	0.68	0.24	0.21	0.13	0.21
2003	0.34	0.87	0.11	1.16	0.65	0.27	0.23	0.14	0.26
2004	0.66	0.30	0.16	1.16	0.67	0.28	0.20	0.13	0.31
2005	0.42	0.30	0.18	1.24	0.56	0.30	0.20	0.11	0.35
2006	3.06	0.79	0.25	1.24	0.59	0.31	0.24	0.23	0.35
2007	1.87	0.30	0.17	0.96	0.57	0.32	0.27	0.18	0.31
2008	2.87	0.40	0.16	0.93	0.60	0.36	0.31	0.17	0.41
2009	2.51	0.25	0.21	0.71	0.47	0.33	0.46	0.11	0.46
2010	3.31	0.10	0.16	0.77	0.49	0.31	0.33	0.11	0.56
2011	2.99	0.05	0.24	0.81	0.45	0.31	0.36	0.18	0.46
2012	2.17	0.06	0.27	0.82	0.44	0.33	0.33	0.17	0.55
2013	2.11	0.61	0.22	0.72	0.41	0.33	0.28	0.24	0.50

Source: World Integrated Trade Solutions(2013)

Product like Zinc and articles thereof(79), Tin and articles thereof (80),Other base metals; Cermets; articles thereof (81),Tools implements, cutlery, spoons and forks, of base metals; parts thereof (82),Miscellaneous articles of base metals (83),Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof(84),Electrical machinery and equipments and parts thereof sound recorders and reproducers, television images and sound recorders and reproducers and parts thereof(85),Railway or tramway locomotives ,rolling-stocks and parts thereof; railway or tramway track fixtures and fittings and parts thereof ;mechanical (86),Vehicles other than railway or tramway rolling stock ,and parts and accessories thereof(87) are discussed in table 5:2. From the table, it can be seen that, Zinc and articles thereof showed a positive trend in recent years. It was not in the early periods of reform but, from 2006 onwards the product have shown a tremendous improvement in its competency and it has reached in to 2.11(2013). Moving to Tin and articles thereof, a fluctuating trend is visible. In 1988, the figure is 0.88 and it reached in to 1.63 in 1996 but it again fallen in to 0.67 in the following years. In 2013, it came to 0.61.Other base metals; Cermets; articles thereof is the next product under consideration. When the year wise performance of competency is analysed, reform has nothing to do in this product or it can be said that the reform is neutral in the case of other base metals; cermets; articles thereof. In the case of tools implements, cutlery, spoons and forks of base metals; parts thereof, the figure express different pictures. In the pre reform period it can be seen that the competency is fluctuating but in the initial stage of reform it has improved continuously till 2007 but after 2007, again the competency has declined continuously. Next to that, miscellaneous articles of base metals are under

consideration. In the pre and post reform period, the product has not made any considerable change. It has remained more or less same performance. Nuclear reactors, boilers, machinery appliances; parts thereof followed the same trend. The competency is very low and it has remained as it is till the date in spite of a minute increment. Electrical machinery and equipment and parts thereof ;sound records and reproducers ,television image and sound recorders and reproducers and parts thereof shown that The competency is 0.13 in 1988 and the same is 0.28 in 2013.Even though there is a minute improvement in export is visible over the periods, it was not attained competency at all. In the case of Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof mechanical etc shown an irregular move rather it can be said that it has made a negative trend. It was varied from 0.37 in 1988 to 0.24 in 2013.It was similar in the case of Vehicles other than railway or tramway rolling stock and parts and accessories thereof. The competency of the product has increased since reform but not reached in an appreciable position. Till 2013, it was only reached in to 0.50 even though it is the major engineering goods export of India.

Table 5.2 covers the products like Aircraft ,space craft and parts thereof (88),Ships boats and floating structures(89),Optical, photographic cinematographic measuring ,checking precision medical or surgical inst and apparatus parts and accessories thereof (90),Clocks and watches and parts thereof (91),Musical instruments ;parts and accessories of such articles (92),Arms and ammunition ;parts and accessories thereof (93),Furniture; bedding ,mattress mattress supports, cushion and similar stuffed furnishing ;lamps and lighting

fittings not elsewhere specified or inc(94),Toys, games and sports requisites ;parts and accessories thereof (95),Miscellaneous manufactured articles(96).When the performance of Aircraft ,Space craft and parts thereof analyzed it was seen that, competency is continuously increasing since reforms.

Table 5.3

Global competitiveness of engineering goods export of India

year	88	89	90	91	92	93	94	95	96
1988	0.08	0.00	0.14	0.01	0.16	0.02	0.06	0.37	0.27
1989	0.03	0.00	0.20	0.04	0.37	0.05	0.03	0.42	0.35
1990	0.03	0.19	0.14	0.02	0.29	0.03	0.03	0.44	0.45
1991	0.03	0.11	0.11	0.06	0.23	0.01	0.05	0.34	0.45
1992	0.02	0.00	0.08	0.10	0.26	0.03	0.06	0.28	0.50
1993	0.01	0.01	0.08	0.15	0.31	0.02	0.06	0.31	0.90
1994	0.02	0.05	0.08	0.21	0.39	0.01	0.05	0.39	0.97
1995	0.01	0.00	0.09	0.24	0.41	0.01	0.05	0.36	1.07
1996	0.01	0.16	0.11	0.28	0.44	0.03	0.05	0.37	1.10
1997	0.07	0.26	0.12	0.24	0.35	0.11	0.05	0.33	0.91
1998	0.02	0.20	0.13	0.26	0.38	0.01	0.05	0.32	0.98
1999	0.04	0.28	0.18	0.36	0.30	0.02	0.07	0.25	1.10
2000	0.08	0.16	0.19	0.43	0.28	0.04	0.10	0.24	1.21
2001	0.09	0.15	0.22	0.52	0.25	0.19	0.10	0.27	1.23
2002	0.11	0.15	0.23	0.43	0.21	0.07	0.11	0.23	1.06
2003	0.09	0.26	0.24	0.50	0.20	0.09	0.17	0.26	1.17
2004	0.05	0.63	0.23	0.43	0.22	0.05	0.24	0.26	0.97
2005	0.05	0.93	0.22	0.30	0.20	0.02	0.24	0.25	0.94
2006	0.03	0.87	0.21	0.20	0.17	0.07	0.27	0.24	0.93
2007	0.19	1.12	0.21	0.17	0.17	0.05	0.29	0.16	0.86
2008	0.64	1.54	0.22	0.14	0.15	0.11	0.26	015	0.82
2009	0.58	1.75	0.22	0.11	0.18	0.13	0.25	0.13	0.80
2010	0.74	1.61	0.21	0.10	0.15	0.08	0.28	0.15	0.83
2011	0.86	2.17	0.20	0.11	0.14	0.18	0.27	0.15	0.75
2012	0.61	1.58	0.21	0.11	0.23	0.22	0.28	0.16	0.88
2013	1.02	1.19	0.21	0.09	0.13	0.27	0.26	0.17	0.78

Source: World Integrated Trade Solutions(2013)

It was 0.08 in 1988 and gradually improved to 0.86 in 2011 and in 2013 it has attained the competency of 1.02.This increased trend is mainly attributed towards the increased export of the same in the global market. It provides a bright future ahead if it follows the same trend. It was in the later half of the reform that the export of ship, boats and floating structure attained a better position in terms of

competence. It was quite interesting to see that the competency of the product is nearly zero in 1988 as its export constitutes only 90.75 thousand million .But after that the export of the same is continuously increasing. The product experienced major twist in the 2007 as it attained the competency of 1.12.From there onwards the competency is improving so far. By comparing the pre and post liberalization performance of Optical, Photographic, cinematographic measuring, checking precision, medical or surgical inst and apparatus parts and accessories thereof shown a neutral behavior. The low export growth can be cause for this gloomy trend. The index shown as 0.14 in 1988 and it was followed by 0.08 in 1994 later it was shown 0.21 in 2013.Clocks and watches and part thereof also elicits the same trend over the years of liberalization. Here also the export of the same is not at all impressive. This low export trend of India in comparison with the world exports led the product become less compititive. The index shown a maximum point of 0.50 in 2003.In 2013 it was 0.09.The following products such as Musical instruments; parts and accessories of such article, arms and ammunition; parts and accessories thereof , Furniture; bedding ,mattress mattress supports, cushion and similar stuffed furnishing ;lamps and lighting fittings not elsewhere specified including Toys, games and sports requisites ;parts and accessories thereof except Miscellaneous manufactured articles was not able extract the benefits of the liberalization. All the products did not provided any hope of competency in terms of reforms. The miscellaneous manufacture articles come last in the product classification. In the early span of liberalization the competency was not impressive and in the middle half the competency has improved instantly with 1.17

in 2003 but in the later years the growth got retarded. In 2013, the index fell in to 0.78.

5.3 Global Competitiveness of Indian engineering goods export in the pre and post reform period-a Comparison

Thus it was seen that different products showed quite different trend in the pre and post reform period. The picture will be clearer from the following table 5:4.The table explains the engineering goods export performance and competency pace in the pre and post reform periods. The table comprised of two split up-as pre and post reform conditions. R>1 shows improved competency and R<1 indicates less competency.

Table 5.4

Comparison of Global competitiveness of engineering goods in the pre and post reform periods

No	Products	Pre reform period	Post reform
1	Salt; sulphur; earths and stone; plastering materials, lime and cement.	R>1	R>1
2	Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof.	R<1	R<1
3	Articles of stone, plaster, cement, asbestos, mica or similar materials	R<1	R>1
4	Iron and steel	R<1	R<1
5	Articles of iron or steel	R<1	R>1

No	Products	Pre reform period	Post reform
6	Copper and articles thereof	R<1	R>1
7	Nickel and articles thereof	R<1	R<1
8	Aluminum and articles thereof	R<1	R<1
9	Lead and articles thereof	R<1	R>1
10	Zinc and articles thereof	R<1	R>1
11	Tin and articles thereof	R<1	R<1
12	Other base metals; cermets; articles thereof	R<1	R<1
13	Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal	R<1	R>1
14	Miscellaneous articles of base metal	R<1	R<1
15	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	R<1	R<1
16	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts.	R<1	R<1
17	Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fictures and fittings and parts thereof; mechanical	R<1	R<1

No	Products	Pre reform period	Post reform
18	Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.	R<1	R<1
19	Aircraft, spacecraft, and parts thereof	R<1	R<1
20	Ships, boats and floating structures	R<1	R>1
21	Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof	R<1	R<1
22	Clocks and watches and parts thereof	R<1	R<1
23	Musical instruments; parts and accessories of such articles	R<1	R<1
24	Arms and ammunition; parts and accessories thereof	R<1	R<1
25	Furniture; bedding; mattresses; mattress support; cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc.	R<1	R<1
26	Toys, games and sports requisites; parts and accessories thereof.	R<1	R<1
27	Miscellaneous manufactured articles	R<1	R<1

Source: World Integrated Trade Solutions (2013).

It is visible that the competency of the products are less than one in the pre reform period except one commodity that is Salt; sulphur; earths and stone; plastering material,lime and cement .While 13 products shown no change in the competency and 6 products shown declining trend in the same, the reform has brought better performance in the case of seven products. The improved competency product comprised of Articles of stone, plaster, cement, asbestos, mica or similar materials(68), Articles of iron or steel(73), Copper and articles thereof(74), Lead and articles thereof(78), Zinc and articles thereof(79), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal (82)and Ships, boats and floating structures(89).

5.4 Global Competitiveness of Indian engineering goods export of India as a whole

An overall performance of Indian engineering good export is exhibited in the following table 5.5.the table shows that, the competency increased continuously since reforms. It was 0.27 as the index value in 1988-89.Later it was improving so far but it was visible that India was not able to attain the improved index value of 1.Till now India attained only the maximum index value of 0.95.From 0.27 index value, it has reached the highest value reached is 0.95 in the year in 2003.But moving to the following years, it decreased continuously. In 2013, the index declined to 0.37.This trend was not accounted to the fall in the export but because of the increased share of the world exports and thus comparatively low share in the world engineering goods exports. Even though, India’s export is mainly comprised of engineering goods, its share in the Global market is comparatively low and it was even less than one.

Table 5.5

Global competitiveness of engineering goods export of India as a whole

Over all Global competitiveness of Indian Engineering goods export			
Year	**RCA**	**Year**	**RCA**
1988	0.27	**2001**	0.90
1989	0.35	**2002**	0.85
1990	0.39	**2003**	0.95
1991	0.56	**2004**	0.95
1992	0.66	**2005**	0.83
1993	0.72	**2006**	0.86
1994	0.80	**2007**	0.82
1995	0.84	**2008**	0.81
1996	0.91	**2009**	0.61
1997	0.93	**2010**	0.63
1998	0.87	**2011**	0.48
1999	0.86	**2012**	0.50
2000	0.93	**2013**	0.37

Source: World Integrated Trade Solutions(2013)

Thus it can be said that even though engineering goods export performance of India is commendable, it was not appreciable in the global scenario. It was visible that, the export competency has increased; the list was comprised in seven products only. Majority of the products are still below the competency threshold. The performance will be significant if and only if the improvement is spread in to more than half the products. It can be said that the openness or reform has made improvements in the competency in the international market but it was not complete.

5.5 Conclusion

From the above discussion it can be visible that, even though, engineering goods export contributes more than one fourth of the total production,in the international market, the contribution of the same is insignificant. Only the products of the Export of, lime and cement, Articles of stone, plaster, cement,

asbestos, mica or similar materials, Iron and Steel, Articles of iron or steel, Lead and articles thereof, Zinc and articles thereof, Ships, boats and floating structures are competitive as per the competitive index. Some products have improved its competency after liberalization and the inverse happened to some other products even though their number is very less. Broadly it can be seen that, the competency is improving if and only if the export growth matches with the world exports. It indicates that, India had a long way to go in terms of technology and quality. Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof(86), Toys, games and sports requisites; parts and accessories thereof.(95), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66), Salt; sulphur; earths and stone; plastering materials(25), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82)., Tin and articles thereof(80) are the products which has special mention that were not improved by reform.

Chapter 6

DETERMINING FACTORS OF ENGINEERING GOODS EXPORT OF INDIA

6.1 Introduction

In this Chapter the determining factors of engineering goods export of India are dealt. There are a lot of variable which influence the export of India. Normally, the factors which influencing the export can be classified in to supply factors, demand factors, price and non price factors. In detail, the factors includes product quality, technological features, marketing strategies, adapting process, domestic market conditions, world demand, relative price of the exportable, real income of the trading partner, factor productivity and so on.

There is a few studies which deals the determining factors of export of Engineering goods . In the study of Bishwanath Goldar (1989), the demand side and supply side determinants of export performance of the engineering goods are separately analyzed. Total factor productivity, cumulative output, exchange rate, world demand for engineering products exports, domestic demand pressures and time are taken as the independent variables. The analyzes was carried out at the aggregate level by estimating n export function using time series data for the period 1960-79.The results indicates that world demand, cumulative output ,exchange rate and total factor productivity are important determinants of export. There was some evidences that domestic demand pressures affected export performance adversely .The finding of the study can be noticed that the world demand is an important determinant of export performance and increase in the world demand was a major source of growth in engineering exports. From this

finding, it can be derived that, the engineering exports from India constitutes a very small fraction of the global engineering exports. The slow growth in the world demand may become a serious constraint on the expansion of India's engineering goods exports. By orienting the export strategy into those products and markets in which growth in demand is relatively faster, export performance can be improved. Harinarayana (1983), Rao (1980) concludes the same result.

Riedal, Hall , and Grawe (1984) viewed that ,the price variable is an un important variable in explaining variations in exports. According to them, for sustainability and growth of the export of engineering goods from India, attention must be given to the competitiveness of Indian products 'exports. They concludes that, the Indian engineering goods will be more price competitive if the industry become more efficient in the use of resources , low cost of input used in the industry or changes the exchange rate favourably. It is implied that, government should take policies relating to technology, scale of production, imports of intermediate inputs and exchange rate.

6.2 Determinants of Engineering goods export of India

As far as the study is considered, it taken important four factors such as export of manufacturing goods as exporting capacity, world engineering goods export as world demand, open index as openness of the country, real effective exchange rate as relative price as the independent variables of the export of engineering goods. The data of engineering goods export is collected from World Integrated Trade Solutions (WITS).It provides product wise, segregated data based on harmonized code classification. The manufacturing goods export data is

collected from RBI Hand Book on Indian Economy (2013-14).Unlike WITS, it does not follow any harmonized product classification even though, it gives authentic data on engineering goods. The relative price of export in the world market is composed through Real Effective Exchange rate from RBI Hand Book. The outward orientation of the economy is expressed through the open index. The open index is calculated as ratio of sum of export and import to GDP. Theoretically, there is positive relation between world demand, openness, export capacity that is manufacturing goods exports and a negative relation with the real effective exchange rate.

6.3 Empirical model and result

The multiple regression model is used to analyze the determining factors of the export of engineering goods. It is given as

$$\mathbf{Y=\alpha+\beta_1 x_1+\beta_2 x_2+\beta_3 x_3+\beta_4 x_4+U}$$

In the model, Y stands for the export of Engineering goods exports as dependent variables and X_1 stands for World Engineering goods export, X2 stands for Export of Manufacturing goods, X_3 indicates Real Effective Exchange rate, and X_4 shows Open Index as independent variables.

Table 6.1
Determinants of Export Intensity of Engineering goods Export

Products	World engineering goods exports	Export of manufacturing goods	Real Effective exchange rate	Open index	Constant	R^2	DW
25	-4.79 (-0.93) *[0.36]*	0.00 (1.78) *[0.08]**	-0.68 (-0.35)*[0.72]*	46.02 (3.59) *[0.00]****	-433.65 (1.89) *[0.07]**	0.98	1.64
66	-3.67 (-1.38) *[0.18]*	-4.56 (-2.19) *[0.04]***	0.00 (0.57) *[0.57]*	0.146 (2.19) [0.04]**	-1.65 (-1.39) *[0.17]*	0.59	1.78
68	8.47 (2.39) *[0.02]***	0.00 (2.43) [0.02]**	-0.91 (-0.68) *[0.50]*	6.78 (0.76) *[0.45]*	-80.80 (-0.51) *[0.61]*	0.98	1.79
72	0.00 (0.46) *[0.64]*	0.00 (0.92) *[0.36]*	-17.12 (-1.16) *[0.25]*	193.59 (1.99) *[0.05]**	-1772.73 (-1.02) *[0.31]*	0.96	1.94
73	0.00 (1.35) *[0.19]*	0.02 (3.45) *[0.00]****	-16.39 (-1.73) *[0.09]**	4.64 (0.07) *[0.94]*	679.09 (0.61) *[0.54]*	0.80	1.86
74	0.00 (1.06) *[0.29]*	0.02 (2.39) *[0.02]***	-6.05 (-0.33) *[0.74]*	-117.03 (-0.97) *[0.34]*	1219.71 (0.56) *[0.57]*	0.80	1.86
75	-1.78 (-0.49) *[0.62]*	0.00 (1.80) *[0.08]**	-0.68 (-0.51) *[0.60]*	0.08 (0.01) *[0.99]*	54.96 (1.12) *[0.27]*	0.46	1.58
76	5.44 (1.12) *[0.27]*	0.00 (5.79) *[0.00]****	-3.25 (-1.77) *[0.09]*	3.22 (0.26) *[0.79]*	177.75 (0.82) *[0.41]*	0.98	1.74
78	-9.82 (-1.09) *[0.21]*	0.00 (8.84) *[<0.00]****	-0.33 (-0.99) *[0.33]*	-3.15 (-1.41) *[0.17]*	8.84 (0.22) *[0.82]*	0.93	2.41
79	1.96 (0.26) *[0.79]*	0.00 (2.99) *[0.00]****	-1.30 (-0.47) *[0.64]*	-6.45 (-0.35) *[0.64]*	90.87 (0.27) *[0.78]*	0.85	1.81
80	7.80 (2.19) *[0.04]***	-0.00 (-3.74) *[0.01]****	-0.16 (-1.23) *[0.23]*	0.30 (0.33) *[0.73]*	6.95 (0.43) *[0.66]*	0.67	2.04
81	-3.5 (-0.75) *[0.45]*	0.00 (3.14) *[0.01]****	-0.08 (-0.44) *[0.66]*	1.04 (0.88) *[0.38]*	-8.18 (-0.38) *[0.70]*	0.91	1.62
82	1.33 (-0.42) *[0.67]*	0.00 (2.81) *[0.01]***	-0.17 (-0.14) *[0.88]*	15.42 (1.97) *[0.06]**	-141.45 (-1.01) *[0.32]*	0.97	1.02
83	2.57 (3.84) *[0.00]****	0.00 (5.01) *[0.00]****	-0.40 (-1.63) *[0.11]*	1.92 (1.18) *[0.25]*	2.04 (0.07) *[0.94]*	0.99	1.62
84	-0.00 (-1.30) *[0.25]*	0.04 (9.33) *[<0.00]****	-15.17 (-0.64) *[0.11]*	139.91 (2.30) *[0.30]*	-738.20 (-0.68) *[0.50]*	0.99	1.36
85	-0.00 (-1.54) *[0.13]*	0.082 (7.15) *[<0.00]****	-0.90 (-0.04) *[0.96]*	71.88 (0.54) *[0.59]*	-907.35 (-0.38) *[0.70]*	0.96	2.24
86	-1.48 (-1.27) *[0.21]*	0.00 (2.50) *[0.02]***	-0.47 -(1.08) *[0.29]*	2.81 (0.97) *[0.34]*	28.08 (0.54) *[0.59]*	0.80	1.65
87	0.00 (0.87) *[0.01]**	0.08 (12.34) *[<0.00]****	-0.18 (-0.01) *[0.98]*	-5.33 (-0.06) *[0.94]*	-3.15 (-0.00) *[0.99]*	0.98	1.68
88	-0.00 (-0.80) *[0.42]*	0.02 (6.5) *[<0.00]****	-0.34 (-0.05) *[0.95]*	-27.20 (-0.72) *[0.47]*	287.81 (0.43) *[0.06]*	0.91	2.00
89	-0.00 (-1.26) *[0.21]*	0.04 (4.28) *[0.00]****	-9.03 (-0.66) *[0.51]*	-17.71 (-0.19) *[0.84]*	-533.05 (-0.33) *[0.74]*	0.93	2.87
90	-7.94 (-1.62) *[0.11]*	0.01 (10.04) *[<0.00]****	-1.44 (-0.24) *[0.81]*	17.04 (1.40) *[0.17]*	-118.65 (-0.54) *[0.59]*	0.98	1.67
91	2.46 (2.46) *[0.01]**	-2.02 (-1.33) *[0.19]*	-0.72 (-0.76) *[0.45]*	0.83 (0.43) *[0.66]*	0.11 (0.78) *[0.43]*	0.35	1.94
92	-1.60 (-0.97) *[0.34]*	0.00 (0.86) *[0.00]****	-0.04 (-0.72) *[0.47]*	0.10 (0.26) *[0.79]*	1.99 (0.27) *[0.78]*	0.74	1.37
93	-3.24 (-1.18) *[0.25]*	0.00 (4.23) *[0.00]****	0.00 (0.04) *[0.96]*	0.08 (0.11) *[0.90]*	-0.24 (-0.02) *[0.98]*	0.83	1.60
94	-4.18 (-1.89) *[0.07]*	0.00 (1.87) *[<0.00]****	-1.52 (-1.87) *[0.07]*	7.07 (1.32) *[0.20]*	-29.86 (-0.31) *[0.75]*	0.99	1.42
95	-8.60 (-1.21) *[0.23]*	0.00 (3.47) *[0.00]****	-0.42 (-1.62) *[0.12]*	3.66 (2.13) *[0.04]***	-53.01 *(-1.72) [* 0.09 *]**	0.97	1.40
96	3.51 (0.26) [0.79]	0.00 (6.84) [1.20]	-0.97 (-1.90) [0.07]	-1.11 (-0.33) [0.74]	-54.36 *(-0.90) [0.37]*	0.97	1.68
Total	-0.12 (-2.07) *[0.05]*	0.96 (9.94) *[<0.00]****	-0.13 (-0.99) *[0.33]*	1.00 *(3.94) [0.00]****	-1.70 *(-0.2.92) [0.00]****	0.99	1.86

Figures in single brackets are t value and in the double brackets are p values.*p<0.01;**p<0.05;and *p<0.10**

The multiple regression result of the determinants of the engineering goods are shown in table 6.1.the product wise analysis is done from 1988 onwards due to the introduction of Harmonized code was started from 1987. Most of the products under consideration satisfy the theoretical relation that is positive relation with the world demand, outward orientation to the world and the export capacity and a negative relation with the relative price. At the same time, the result also expressed a deviation from the theoretical relation. The inverse relation with the world demand and the export capacity is due to the low percent share in the export of the concerned products in the engineering good export of India and the world. Most of the products' share which has shown negative relation with world demand and export capacity is less than one. The products which shows a negative relation with the world demand are Musical instruments; parts and accessories of such articles (92), Arms and ammunition; parts and accessories thereof (93), Aircraft, spacecraft, and parts thereof (88), Furniture; bedding; mattresses; mattress support; cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc (94), Ships, boats and floating structures (89), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof (90) Salt; sulphur; earths and stone; plastering materials, lime and cement.,(25), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof (66), Nickel and articles thereof (75), Lead and articles thereof (78), Other base metals; cermets;(any of class of heat–resistant material made of ceramic and sintered metal) articles thereof (81), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and

reproducers and parts (85), Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (86).All these products are sharing less than one percent in the world exports except other base metals; cermets; articles thereof (81) and Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (86) and the export of these two products are increasing recently, the share is very low. Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof (61) is the only one product that has shown a negative trend to the export capacity. It's share in the export of the world is only 0.06 percent in 2013-14 and it is 0.002 percent in the engineering goods export of India in 2012-13.The trend shows an reduced export capacity of the product. The other entire product elicited a positive trend with the export capacity and the relation is highly significant too. Almost all products shown a negative relation with the exports and real effective exchange rate.

Open index the next important variable under consideration. Except Copper and articles thereof (74),Miscellaneous manufactured articles (96), Ships, boats and floating structures (89), Aircraft, spacecraft, and parts thereof (88), Zinc and articles thereof (79), Lead and articles thereof (78) and Vehicles other than railway or tramway rolling stock, and parts and accessories thereof (87) the other products exhibited a positive approach to the outward orientation. It symbolizes the global competitiveness of the products are improving continuously. The improved competency is mainly visible in the post reform period.

The relation of total engineering goods exports and the independent variables of export capacity, relative price and openness relation satisfy the

theoretical relations excluding world demand. The Model expresses a negative relation between world demand and total engineering goods exports. Even though, the engineering goods export of India shares more than one fourth of it's total export, in the world market, the share of export of engineering goods of India is less than one (0.91) in 2012-13.This low share in the exports makes negative trend with world demand. The export capacity is the major and significant factor which influences the engineering goods export of India.

6.4 Conclusion

The determinant factors of export of engineering goods export of India shows most of the products fulfills the theoretical relation of dependent and independent variables. The independent variable includes world demand, relative price, export capacity and outward orientation of the products. Among these some products, some of the products showed a deviation from the theory. The poor performance and low export share in the Indian engineering goods export and in the world is the main reason for this trend.

Chapter-7

SUMMARY, FINDINGS AND POLICY SUGGESTIONS

7.1 Summary

The study deals with the liberalization experience of export of Indian engineering goods. Liberalization made India to resettle its trade to a new dimension and also more competitive. It has made India find new markets with diversified products. Concerned to the manufacturing goods export of India, it can be seen that the export share has maintained more or less same trend in the export. Among these the engineering goods have made a change in the direction and composition of export, also it is one of the products which have shown a consistent and upward trend in the exports. The study tries to find out the liberalization experience of engineering goods export of India and followed three objectives. It includes direction and composition of engineering goods export of India. This objective is mainly aimed to understand the changes that have happened to the direction of export after the reforms. It is the global competitiveness which decides the performance of a product. The performance of engineering goods in a global level is examined by the index relative comparative advantage and second objective deals with this. In an open era, there a lot of variables which determines export. The third objective deals with the important factors which determine the performance of engineering goods export. The objectives were analyzed in three chapters. The findings of all the chapters are summarized under the single head.

The findings, policy suggestions, conclusion, contribution by the researcher area for further research and so on are dealt in this chapter. The findings were arranged in 4 chapters basis. The objectives of the study were

1. To examine the direction and composition Engineering goods export of India.

2. To analyze the global competitiveness of Engineering goods of India.

3. To examine the determining factors of the export of Engineering goods of India

The first objective was analyzed by the percentage wise export share of India. Relative comparative advantage put forward by Balassa was used as an index to satisfy the second objective. For the final objective, study has mainly taken four major variables like world demand, open index, relative price, and export of manufacturing goods of India. The study follows the commodity groupings given by the Engineering Goods Export Promotion council (EEPC).As per the classification, there are twenty seven products. The study has followed harmonized code system 2013under two digit classification. The period of study is from 1987 to 2013 though the liberalization was started on 1991.The leading logic behind the time period is that the harmonized code was started in 1987 and the period from 1987 to 1990 will provide a micro view on the pre reform performance. The study fully depends on the secondary data. The third chapter which deals with the overall trade performance of India from the data obtained from RBI Hand Book on Indian Economy. Engineering Goods Export Promotion Council, Department of Industrial Policy and Promotion, the Engineering goods etc were the other secondary sources which was followed in the fourth, fifth and sixth chapters.

7.2 Findings

The study is comprised of seven chapters. In the first chapter the introduction and the empirical studies on the concerned area are discussed. The second chapter, the theories and policy backgrounds on the related arena are dealt. An overall picture on trade of liberalized India is given in the third chapter. It is said that, liberalization doesn't provide any positive impact on agriculture products rather it affected the export of the same negatively due to the international agreements and policies of sanitary and phytosanitary agreements and the huge subsidy payments by the developed nations .It made a setback in the export of Primary products of India. In addition to this, the export of manufactured products and services made improvements in post liberalization period especially the engineering goods export.

The share of primary products exports declined significantly over the period1989-90 to 2011-12.In 1989-90 the primary products contributed 23.37 percent of the total export .The share had declined to 14.96 percent in 2011-12.The major reason for this trend is mainly attributed towards the strict quality restriction of the importing countries, high cost of production and the lack of competitiveness with the international market. The chemical and allied products, Engineering goods, readymade garments, textile yarn, fabrics and gems and jewellery are considered as the main drivers of the Indian exports. Even though ,the sector faces a number of constraints including stiff competition from other emerging economies like China, high cost of funds, low technology intensity, inadequate infrastructure, scarcity of skilled and semi-skilled manpower, high input costs, high transaction costs and the slowing down of world demand an increase in export is

visible in the export of engineering goods (22.02 percent). The commodity wise analysis reveals that, Petroleum remains as the dominant item in the Indian import bill to meet the developmental needs. Other than sugar, edible oils and cereals are the other major importing products of India. Concerned to the direction of trade, the export to OECD countries has been declining due to decrease in the export share to the European Union and Japan. The export share towards USA had increased and so as to OPEC and Latin American countries. At the same time, the export to the Developing countries brought an increasing trend. Out of total imports, more than 32 percent are shared for the petroleum products (2013-14).

The fourth chapter deals the direction and composition of engineering goods export of India. The study follows the product classification given by the Engineering goods Export Promotion Council of India. As per the classification, there are twenty seven engineering products in the two digit classification. The chapter concentrates the percentage wise analysis export of the same in direction and composition. It was found that the demand in the engineering goods sector is currently fuelled by power and the mining industries. It was seen that the export of transport equipment shares the largest in the total export of the engineering goods. During 1980-90, the machinery and instrument showed an edge even though, the share of all the products showed a small portion in total engineering goods. In 2011-12, the export of Transport Equipment showed a consistent and increasing trend. It had made a 17.22 per cent growth in the 1990-12 period with 35.13 times of growth in the second half of liberalization. The falling share of Ores and Minerals has been offset by the increase in the share of engineering goods within the manufactured goods. India's shipments of engineering goods have increased

almost eight fold compared to the last decade and became the biggest item of exports, ahead of primary products that was dominated earlier. The contribution of Machinery and Instruments in the export had been considered as a major one till the 90s .The recent trends however indicate that, the Transport equipment shares a major share having 6.86 per cent. The growth wise details reveal that, iron and steel machinery and instrument and electronic goods were left with almost a same growth rate of more than 17 percent. In 2013-14, the transport equipment remains the top in the export of engineering goods of India standing 6.86 percent.

While examining the export growth of engineering goods as a whole, it was seen that in 1989-90 the export has shown a 29 percentages growth rate, where as moving to the next year the export growth is starts falling .But again in the later years it increased commendably. In 2009-10, the export growth witnessed a negative trend due to a fall in the export of manufacturing goods. As per the RBI report, the export of manufacturing goods has fallen from US $ 123841.9 million in 2008-09 to US $ 115180.7 million in 2009-10. Again the export growth declined in 2012-13 owing to the same grounds of fall in the export of manufacturing goods from US $ 185422.6 million in 2011-12 to US $ 182952.4 million in 2012-13.Other than three years 2012-13,2009-10,1998-99, all the years exhibited a robust growth. Almost three quarter years expressed a double digit growth. At the same time it can be inferred that even though, one fourth of India's total export is contributed by engineering goods; India was not able to increase its share to one percent.

As far as the product composition of engineering goods export is examined, it transport equipment shares the largest in the total export of the engineering

goods as per the RBI classification of engineering goods. As per the EEPC product classification, vehicles other than railway or tramway rolling stock, and parts and accessories thereof (87) stands first in export shares. It was visible that in 1988-89, Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof (84) stands first in the export sharing 27 percent of the total exports. Coming to the other product, Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85),Vehicles other than railway or tramway rolling stock, and parts and accessories thereof(87) shares more than 10 percent. Other than Salt; sulphur; earths and stone; plastering materials, lime and cement(25), Articles of stone, plaster, cement, asbestos, mica or similar materials(68),Iron and steel(72),Articles of Iron and steel(73) Copper and articles thereof(74), Aluminum and articles thereof(76), Lead and articles thereof(78), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82), Miscellaneous articles of base metal(83), Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof(84), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85), Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.(87), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof(90), Toys, games and sports requisites; parts and accessories thereof(95) all the other products contributes less than 1 percent .

In 2012-13, the share of Salt; sulphur; earths and stone; plastering materials, lime and cement (25) came down to 2.50 from 8.11 in 1988-89.While the export share of the 8 products increased, on one hand the other 8 products shown a decline. Under the increased products group, products like Iron and steel(72),Articles of Iron and steel(73) Copper and articles thereof(74), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts(85), Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.(87), Aircraft, spacecraft, and parts thereof(88), Ships, boats and floating structures(89) Furniture; bedding; mattresses; mattress support; cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc(94) are included. The products like Salt; sulphur; earths and stone; plastering materials, lime and cement (25), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66), Aluminum and articles thereof(76), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82), Miscellaneous articles of base metal(83), Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof(84), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof (90) Toys, games and sports requisites; parts and accessories thereof(95) are comes in the group of decreased products. All the other products kept the same trend all the period. Moving to the percentage share of Indian engineering goods in the world engineering goods export shows that o ther than certain products (25,92,86), the percentage share export of majority of the products(66,72,73,74,75,76,78,79,83,84,85,87,88,89,90,92,93,94)

are increased drastically. To the international market, the Salt; sulphur; earths and stone; plastering materials, lime and cement (25) is mainly exported by india.Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66) is the least one.

The direction wise analysis shows that major share of engineering good exports directed towards USA and UAE stands second in the order. The other major countries are UK and Germany, Singapore, Netherlands, Bangladesh and so on. South Africa, Nigeria, Kenya, Algeria, Mozambique, Hong Kong, Italy, Saudi Arabia, Oman ,China Pakistan Australia, Korea, France can be considered as the emerging and promising markets for Indian Engineering goods. As the export market provides more opportunities, the Indian Engineering goods tries to contribute significantly to the export. At the same time, India should have to look forward for the unexplored market and the more commodity diversification.

The global competency of Indian Engineering goods export is discussed in the chapter five. The competitiveness is measured by the index of Revealed Comparative Advantage Index (RCA). Even though, engineering goods export performance of India is better, it was not appreciable in the global scenario. It was visible that, the export competency of some of the products has increased after reform. The list was comprised in seven products only. Only the products of the Export of, lime and cement, Articles of stone, plaster, cement, asbestos, mica or similar materials, Iron and Steel, Articles of iron or steel, Lead and articles thereof, Zinc and articles thereof, Ships, boats and floating structures are competitive as per the competitive index. But majority of the product are still below the competency threshold. The openness or reform has made improvements in the competency in

the international market but it was limited to seven products. Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof(86), Toys, games and sports requisites; parts and accessories thereof.(95), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof(66), Salt; sulphur; earths and stone; plastering materials(25), Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal(82)., Tin and articles thereof(80) are the product which has special mention that were reduced their competency after reform.

Moreover, an overall performance of the same indicates that the competency of engineering goods in India is improving but not reached to the competency value of one. It was 0.27 as the index value in 1988-89. Later it was improved so far but it was visible that India was not able to attain the minimum value of 1.Till now India was attained only the maximum index value of 0.95.From 0.27 index value, it has reached the highest value of 0.95 in the year 2003.But moving to the following years, it is decreasing continuously. In 2013, the index fell to 0.37. This trend is not because of the fall in the export of India, but because of the small share in the world engineering goods exports. It was even less than one (0.95)in 2012-13.

To study the determining factors of export of engineering goods export, it has taken important four factors such as export of manufacturing goods as exporting capacity, world engineering goods export as world demand, open index as openness of the country, real effective exchange rate as relative price as the independent variables of the export of engineering foods. The data of engineering goods export is collected from World Integrated Trade Solutions (WITS),

manufacturing goods export data is collected from RBI Hand Book on Indian Economy. The relative price of export in the world market is composed through Real Effective Exchange rate from RBI Hand Book. The outward orientation of the economy is expressed through the open index. The open index is calculated as ratio of sum of export and import to GDP. Theoretically, there is positive relation between world demand, openness, export capacity that is manufacturing goods exports and a negative relation with the real effective exchange rate. The multiple regression model is used to analyze the determining factors of the export of engineering goods.

Most of the products under consideration satisfy the theoretical relation that is positive relation with the world demand, outward orientation to the world and the export capacity and a negative relation with the relative price. At the same time, the result also expressed a deviation from the theoretical relation. The inverse relation with the world demand and the export capacity is due to the low percent share in the export of the concerned products in the engineering good export of India and the world. Most of the products' share which has shown negative relation with world demand and export capacity is less than one. The products which shows a negative relation with the world demand are Musical instruments; parts and accessories of such articles (92), Arms and ammunition; parts and accessories thereof (93), Aircraft, spacecraft, and parts thereof (88), Furniture; bedding; mattresses; mattress support; cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc (94), Ships, boats and floating structures (89), Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof (90)

Salt; sulphur; earths and stone; plastering materials, lime and cement.,(25), Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof (66), Nickel and articles thereof (75), Lead and articles thereof (78), Other base metals; cermets; articles thereof (81), Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts (85), Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (86).All these products are sharing less than one percent in the world exports except other base metals; cermets; articles thereof (81) and Railway or tramway locomotives; rolling and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (86) and the export of these two products are increasing recently, the share is very low.

Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof (61) is the only one product that has shown a negative trend to the export capacity. It's share in the export of the world is only 0.06 percent in 2013-14 and it is 0.002 percent in the engineering goods export of India in 2012-13.The trend shows the reduced export capacity of the product. The other entire product elicited a positive trend with the export capacity and the relation is highly significant too.

Open index the next important variable under consideration. Except Copper and articles thereof (74),Miscellaneous manufactured articles (96), Ships, boats and floating structures (89), Aircraft, spacecraft, and parts thereof (88), Zinc and articles thereof (79), Lead and articles thereof (78) and Vehicles other than railway or tramway rolling stock, and parts and accessories thereof (87) the other products

exhibited a positive approach to the outward orientation. It symbolizes the global competitiveness of the products are improving continuously. The improved competency is mainly visible in the post reform period.

The relation of total engineering goods exports and the independent variables of export capacity, relative price and openness relation satisfy the theoretical relations excluding world demand. The Model expresses a negative relation between world demand and total engineering goods exports. Even though, the engineering goods export of India shares more than one fourth of it's total export, in the world market, the share of export of engineering goods of India is less than one (0.91) in 2012-13.This low share in the exports makes negative trend with world demand. The export capacity is the major and significant factor which influences the engineering goods export of India.

7.3 Conclusion

The study aims to find out the liberalization experience of export of engineering goods export of India. From the discussion it is revealed that the export of engineering goods of India increased since reform. The product wise export data indicates majority of the products have improved their share in the export of India and the world engineering goods exports. The reform has made the country to export its products to the new and unexplored markets than the traditional market keeping trade with the existing traditional market. Compared to the 1950s, Indian engineering goods experienced diversification in the composition. If the products under engineering goods comprised only railway coaches, mechanical pumps, aluminum utensils etc., it had shifted to cement and

chemical machineries, surgical instruments etc. Compared to the last decades it was seen that, India's trade had shifted drastically from the traditional articles to the non-traditional articles like electronic components, chemical products.

Currently India exports more than 1655 products to more than 200 countries. Even though, the products share in the engineering goods export of India and the world is improving continuously, it shares only less than one per cent in the world exports. It implies the improvement in the productive efficiency of the manufacturing sector. The competency data reveals that India was not able to improve the competency of the engineering goods except seven products since reforms. All other products are remained less competent. In an open era, the competency can be improved if the products share of export of India to the world must be increased.

In the seventh chapter the determining factors of export of engineering goods are dealt with. it taken important four factors such as export of manufacturing goods as exporting capacity, world engineering goods export as world demand, open index as openness of the country, real effective exchange rate as relative price as the independent variables of the export of engineering foods. Theoretically, there is positive relation between world demand, openness, export capacity that is manufacturing goods exports and a negative relation with the real effective exchange rate. Concerned to the export determinants, Export capacity, world demand are found as the crucial factors which determines the engineering goods export of India. The independent variable includes world demand, relative price, export capacity and outward orientation of the products. Among these some products, some of the products showed a deviation from the theory especially with

the world demand. The poor performance and low export share in the Indian engineering goods export and in the world is the main reason for this trend.

7.4 Policy Suggestion

Following the discussion, it is clear that the export of engineering goods is the major product from India but its share in the world market is very low. This low share makes India less competent. So in order to compete in the international market, India must increase its production and productivity. By increasing the production, India can expand its market with the existing traditional market.

In an open world, a country can exist if and only if it can supply the products at low price with best quality. The engineering goods sector highly capital oriented sector. This makes country's product in highly price and loses international market. The product can be supplied at low cost and better quality only with technological advancement.

It is viewed that reform measures succeeded in benefitting the large and the small firms were affected negatively by reforms. In order to achieve economic development, the fruits of reforms must be distributed equally. The small firms must be making competent in the liberalized era.

The performance of every sector depends on the infrastructure. The poor infrastructure facility hinders the development of the engineering goods industry and its export. Higher production and productivity can be achieved only by implementing better infrastructure.

7.5 Contribution by the researcher

The study used the product classification based on the Engineering Goods Export Promotion Council. It comprised of Twenty seven products. The directions, Trend, composition, competency, determinants of these twenty-seven products were analyzed separately in the study. None of the previous studies tried to classify the products on the basis of Engineering Goods and the researcher tried to provide a different approach to the study and the same is the most important contribution of the study.

7.6 Area for further research

The study was mainly export oriented and it can be extended to import aspect also. For analyzing the determining factors of export of engineering goods, world demand, export capacity, relative price and outward orientation of the products are taken in to consideration. It can be studied with other variables like technology, domestic demand, foreign investment and so on. The present study focused on the product classification of Engineering Goods Export Promotion Council. There are different classifications provided by different organization. So studies can also be undertaken using other classifications.

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Appendices

Appendix.I

Export and Growth of Salt; sulphur; earths and stone; plastering materials, lime and cement.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	143871.072	13,815,155.52	2014445.562	784,149,785.10	4.05
1989	178157.056	17,010,984.46	4902425.922	1,198,900,840.88	2.56
1990	181189.52	17,858,789.30	5557204.754	1,375,831,053.91	2.51
1991	178397.264	17,873,104.52	6805278.483	1,893,689,709.18	2.78
1992	215115.164	20,679,324.50	9086919.657	2,431,617,872.30	2.78
1993	261270.592	22,206,451.49	9659662.219	2,693,772,113.15	3.28
1994	319658.88	26,309,181.11	13047912.31	3,600,872,070.97	3.35
	311977.152	31,649,921.52	16057602.1	4,496,547,038.12	
1995	***116.84***	***129.10***	***697.12***	***473.43***	2.76
1996	318174.974	33,404,131.49	16927868.1	4,796,036,062.92	2.70
1997	240316.928	34,721,015.12	17237440.82	5,089,292,932.49	2.04
1998	217854.352	33,109,570.48	16351373.51	5,065,836,571.13	2.04
1999	344470.199	36,919,977.14	16362928.33	5,253,446,556.72	3.00
2000	416474.134	42,358,096.16	16100346.42	6,017,872,973.80	3.68
2001	453108.529	43,878,488.72	16174399.14	5,793,112,334.98	3.70
2002	499979.241	50,097,958.25	16966587.9	6,088,876,506.29	3.58
2003	590944.341	59,360,659.09	19263223.34	7,131,751,774.00	3.69
2004	739228.484	75,904,200.37	22848339.47	8,614,899,158.33	3.67
	920341.397	100,352,636.50	25646330.63	9,716,169,696.48	
2005	***195.00***	***217.07***	***59.71***	***116.08***	3.47
2006	1046214.852	121,200,606.22	29604393.56	11,375,108,966.07	3.32
2007	1213311.398	145,898,053.46	32361400.8	12,974,064,009.47	3.33
2008	1263767.056	181,860,898.30	45139787.25	15,008,238,458.46	2.31
2009	1059845.739	176,765,036.34	30962699.29	11,618,011,207.69	2.25
2010	1133547.731	220,408,495.99	36315361.7	14,140,279,485.92	2.00
2011	1599461.107	301,483,250.17	43353066.97	16,910,477,790.15	2.07
2012	1727188.521	289,564,769.45	42558333.93	16,413,045,361.56	2.30
2013	2037434.951	336,611,388.77	35134000.95	14,193,462,832.33	2.45
	121.38	***235.43***	***36.99***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollar

Appendix.II

Export and Growth of Umbrellas, sun umbrellas, walking-sticks, seat-sticks, whips, riding-crops and parts thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	142.435	13,815,155.52	84,929.20	784,149,785.10	0.10
1989	123.294	17,010,984.46	132,466.31	1,198,900,840.88	0.07
1990	202.532	17,858,789.30	147,128.59	1,375,831,053.91	0.11
1991	1,203.03	17,873,104.52	176,218.13	1,893,689,709.18	0.72
1992	647.55	20,679,324.50	478,573.95	2,431,617,872.30	0.16
1993	1,367.00	22,206,451.49	563,204.53	2,693,772,113.15	0.29
1994	1,021.75	26,309,181.11	787,398.40	3,600,872,070.97	0.18
	854.324	31,649,921.52	875,042.94	4,496,547,038.12	0.14
1995	***499.80***	***129.10***	***930.32***	***473.43***	
1996	534.718	33,404,131.49	821,186.36	4,796,036,062.92	0.09
1997	1,022.32	34,721,015.12	971,480.66	5,089,292,932.49	0.15
1998	908.164	33,109,570.48	1,081,004.16	5,065,836,571.13	0.13
1999	214.452	36,919,977.14	969,395.94	5,253,446,556.72	0.03
2000	267.001	42,358,096.16	982,749.13	6,017,872,973.80	0.04
2001	689.996	43,878,488.72	995,022.27	5,793,112,334.98	0.09
2002	486.289	50,097,958.25	940,296.12	6,088,876,506.29	0.06
2003	979.984	59,360,659.09	1,068,392.25	7,131,751,774.00	0.11
2004	1,360.35	75,904,200.37	1,273,683.80	8,614,899,158.33	0.12
	1,767.61	100,352,636.50	1,392,595.36	9,716,169,696.48	0.12
2005	***106.90***	***217.07***	***59.15***	***116.08***	
2006	1,873.01	121,200,606.22	1,609,702.23	11,375,108,966.07	0.11
2007	1,188.27	145,898,053.46	1,941,241.45	12,974,064,009.47	0.05
2008	1,135.83	181,860,898.30	2,269,244.06	15,008,238,458.46	0.04
2009	1,365.21	176,765,036.34	2,496,237.55	11,618,011,207.69	0.04
2010	1,527.87	220,408,495.99	3,031,839.82	14,140,279,485.92	0.03
2011	1,435.72	301,483,250.17	3,552,074.54	16,910,477,790.15	0.02
2012	1,449.50	289,564,769.45	3,390,723.03	16,413,045,361.56	0.02
	2,188.21	336,611,388.77	3,468,598.32	14,193,462,832.33	0.03
2013	***23.79***	***235.43***	***149.07***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.III
Export and Growth of Iron and steel

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	141,133.62	13,815,155.52	26,739,704.63	784,149,785.10	0.30
1989	199,683.10	17,010,984.46	41,050,441.64	1,198,900,840.88	0.34
1990	200,796.16	17,858,789.30	39,203,667.45	1,375,831,053.91	0.39
1991	262,559.99	17,873,104.52	43,836,589.42	1,893,689,709.18	0.63
1992	446,355.41	20,679,324.50	54,053,976.03	2,431,617,872.30	0.97
1993	688,006.85	22,206,451.49	61,697,536.02	2,693,772,113.15	1.35
1994	618,549.18	26,309,181.11	84,646,360.79	3,600,872,070.97	1.00
1995	838,365.70 ***494.02***	31,649,921.52 ***129.10***	120,540,552.08 ***350.79***	4,496,547,038.12 ***473.43***	0.99
1996	865,263.45	33,404,131.49	116,409,387.92	4,796,036,062.92	1.07
1997	989,743.55	34,721,015.12	122,269,475.33	5,089,292,932.49	1.19
1998	661,767.82	33,109,570.48	117,779,507.51	5,065,836,571.13	0.86
1999	897,738.76	36,919,977.14	105,867,147.39	5,253,446,556.72	1.21
2000	1,175,110.09	42,358,096.16	122,724,971.48	6,017,872,973.80	1.36
2001	919,366.37	43,878,488.72	110,065,550.73	5,793,112,334.98	1.10
2002	1,480,495.08	50,097,958.25	121,869,169.82	6,088,876,506.29	1.48
2003	2,402,866.11	59,360,659.09	159,072,590.40	7,131,751,774.00	1.81
2004	3,499,059.06	75,904,200.37	244,402,268.88	8,614,899,158.33	1.62
2005	4,333,672.13 ***416.92***	100,352,636.50 ***217.07***	276,975,180.05 ***129.78***	9,716,169,696.48 ***116.08***	1.51
2006	5,188,770.34	121,200,606.22	323,793,886.08	11,375,108,966.07	1.50
2007	5,983,152.02	145,898,053.46	414,901,005.22	12,974,064,009.47	1.28
2008	8,198,676.34	181,860,898.30	509,115,967.09	15,008,238,458.46	1.33
2009	4,386,432.93	176,765,036.34	268,118,965.07	11,618,011,207.69	1.08
2010	6,996,227.95	220,408,495.99	375,608,623.85	14,140,279,485.92	1.19
2011	7,925,589.29	301,483,250.17	464,263,867.30	16,910,477,790.15	0.96
2012	7,699,795.26	289,564,769.45	415,663,452.14	16,413,045,361.56	1.05
2013	10,206,482.42 ***135.52***	336,611,388.77 ***235.43***	337,799,020.00 ***21.96***	14,193,462,832.33 ***46.08***	1.27

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.1V
Export and Growth of Articles of stone, plaster, cement, asbestos, mica or similar materials.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	29,985.70	13,815,155.52	2,380,167.20	784,149,785.10	0.72
1989	34,136.28	17,010,984.46	3,568,160.39	1,198,900,840.88	0.67
1990	45,506.89	17,858,789.30	4,263,621.25	1,375,831,053.91	0.82
1991	67,333.02	17,873,104.52	5,032,938.56	1,893,689,709.18	1.42
1992	87,772.30	20,679,324.50	6,678,547.23	2,431,617,872.30	1.55
1993	110,935.23	22,206,451.49	7,065,669.45	2,693,772,113.15	1.90
1994	166,259.63	26,309,181.11	11,979,964.20	3,600,872,070.97	1.90
	198,200.85	31,649,921.52	15,060,932.80	4,496,547,038.12	
1995	***560.98***	***129.10***	***532.77***	***473.43***	1.87
1996	224,508.86	33,404,131.49	15,959,455.93	4,796,036,062.92	2.02
1997	236,171.71	34,721,015.12	16,232,912.14	5,089,292,932.49	2.13
1998	210,216.96	33,109,570.48	16,235,283.21	5,065,836,571.13	1.98
1999	255,280.26	36,919,977.14	16,460,800.46	5,253,446,556.72	2.21
2000	310,139.80	42,358,096.16	16,306,378.55	6,017,872,973.80	2.70
2001	288,909.54	43,878,488.72	16,278,305.12	5,793,112,334.98	2.34
2002	329,675.13	50,097,958.25	17,330,036.24	6,088,876,506.29	2.31
2003	400,996.91	59,360,659.09	20,008,503.35	7,131,751,774.00	2.41
2004	410,703.73	75,904,200.37	24,286,973.77	8,614,899,158.33	1.92
	600,238.34	100,352,636.50	27,531,387.90	9,716,169,696.48	
2005	***202.84***	***217.07***	***82.80***	***116.08***	2.11
2006	778,755.15	121,200,606.22	32,287,782.52	11,375,108,966.07	2.26
2007	908,863.37	145,898,053.46	37,329,308.84	12,974,064,009.47	2.17
2008	942,771.87	181,860,898.30	41,947,062.02	15,008,238,458.46	1.85
2009	845,386.97	176,765,036.34	31,849,630.93	11,618,011,207.69	1.74
2010	987,171.78	220,408,495.99	36,350,746.30	14,140,279,485.92	1.74
2011	1,017,412.30	301,483,250.17	42,653,466.24	16,910,477,790.15	1.34
2012	1,129,462.97	289,564,769.45	43,266,313.66	16,413,045,361.56	1.48
	1,390,707.31	336,611,388.77	43,129,046.58	14,193,462,832.33	1.36
2013	***131.69***	***235.43***	***56.65***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.V
Export and Growth of Articles of iron or steel

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	147,800.12	13,815,155.52	18,750,172.34	784,149,785.10	0.45
1989	227,764.50	17,010,984.46	23,661,820.33	1,198,900,840.88	0.68
1990	274,393.70	17,858,789.30	25,882,337.38	1,375,831,053.91	0.82
1991	254,735.18	17,873,104.52	31,499,536.92	1,893,689,709.18	0.86
1992	365,253.11	20,679,324.50	38,785,796.84	2,431,617,872.30	1.11
1993	356,770.90	22,206,451.49	41,461,232.50	2,693,772,113.15	1.04
1994	395,087.72	26,309,181.11	59,878,414.86	3,600,872,070.97	0.90
	455,826.64	31,649,921.52	76,955,830.85	4,496,547,038.12	
1995	***208.41***	***129.10***	***310.43***	***473.43***	0.84
1996	535,583.43	33,404,131.49	80,595,026.30	4,796,036,062.92	0.95
1997	601,818.24	34,721,015.12	86,871,652.84	5,089,292,932.49	1.02
1998	640,253.58	33,109,570.48	88,899,459.37	5,065,836,571.13	1.10
1999	759,961.61	36,919,977.14	82,401,168.29	5,253,446,556.72	1.31
2000	911,760.05	42,358,096.16	85,200,148.43	6,017,872,973.80	1.52
2001	1,038,459.69	43,878,488.72	87,887,840.86	5,793,112,334.98	1.56
2002	1,081,308.81	50,097,958.25	93,815,948.38	6,088,876,506.29	1.40
2003	1,422,646.48	59,360,659.09	108,728,160.24	7,131,751,774.00	1.57
2004	2,029,733.35	75,904,200.37	140,295,844.28	8,614,899,158.33	1.64
	2,748,111.45	100,352,636.50	168,264,845.45	9,716,169,696.48	
2005	***502.89***	***217.07***	***118.65***	***116.08***	1.58
2006	3,229,852.96	121,200,606.22	204,616,704.03	11,375,108,966.07	1.48
2007	4,455,593.83	145,898,053.46	250,620,400.06	12,974,064,009.47	1.58
2008	6,189,305.71	181,860,898.30	299,501,703.36	15,008,238,458.46	1.71
2009	4,289,001.07	176,765,036.34	217,649,308.71	11,618,011,207.69	1.30
2010	6,367,665.82	220,408,495.99	236,027,361.68	14,140,279,485.92	1.73
2011	6,501,244.79	301,483,250.17	290,931,317.78	16,910,477,790.15	1.25
2012	7,677,705.93	289,564,769.45	294,056,578.64	16,413,045,361.56	1.48
2013	7,347,214.14	336,611,388.77	263,179,577.41	14,193,462,832.33	1.18
	167.36	***235.43***	***56.41***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.V1

Export and Growth of Copper and articles thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	35,791.76	13,815,155.52	5,152,625.39	784,149,785.10	0.39
1989	39,512.20	17,010,984.46	8,573,011.23	1,198,900,840.88	0.32
1990	31,930.10	17,858,789.30	12,374,989.23	1,375,831,053.91	0.20
1991	31,876.37	17,873,104.52	13,791,085.10	1,893,689,709.18	0.24
1992	42,513.72	20,679,324.50	17,238,415.97	2,431,617,872.30	0.29
1993	47,437.06	22,206,451.49	16,868,125.68	2,693,772,113.15	0.34
1994	60,823.82	26,309,181.11	24,208,434.57	3,600,872,070.97	0.34
	68,495.18	31,649,921.52	37,548,035.56	4,496,547,038.12	
1995	***91.37***	***129.10***	***628.72***	***473.43***	0.26
1996	67,832.32	33,404,131.49	35,521,069.91	4,796,036,062.92	0.27
1997	74,991.59	34,721,015.12	38,830,109.21	5,089,292,932.49	0.28
1998	82,095.55	33,109,570.48	33,531,659.69	5,065,836,571.13	0.37
1999	84,146.86	36,919,977.14	32,343,804.91	5,253,446,556.72	0.37
2000	152,145.58	42,358,096.16	38,741,859.89	6,017,872,973.80	0.56
2001	189,782.97	43,878,488.72	34,498,454.34	5,793,112,334.98	0.73
2002	318,487.76	50,097,958.25	33,794,525.38	6,088,876,506.29	1.15
2003	504,388.92	59,360,659.09	38,696,868.94	7,131,751,774.00	1.57
2004	846,569.00	75,904,200.37	60,044,090.71	8,614,899,158.33	1.60
	1,318,922.45	100,352,636.50	74,598,793.10	9,716,169,696.48	
2005	***1,825.57***	***217.07***	***98.68***	***116.08***	1.71
2006	2,800,997.76	121,200,606.22	131,596,203.27	11,375,108,966.07	2.00
2007	2,901,347.63	145,898,053.46	144,262,232.14	12,974,064,009.47	1.79
2008	2,323,949.87	181,860,898.30	141,735,978.54	15,008,238,458.46	1.35
2009	1,529,976.16	176,765,036.34	101,727,248.15	11,618,011,207.69	0.99
2010	5,424,571.45	220,408,495.99	151,575,035.29	14,140,279,485.92	2.30
2011	2,959,273.92	301,483,250.17	176,591,247.97	16,910,477,790.15	0.94
2012	2,824,592.33	289,564,769.45	160,877,275.74	16,413,045,361.56	1.00
	3,065,554.43	336,611,388.77	137,664,329.09	14,193,462,832.33	
2013	***132.43***	***235.43***	***84.54***	***46.08***	0.94

source World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.V1I
Export and Growth of Nickel and articles thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	211.666	13,815,155.52	859,818.37	784,149,785.10	0.01
1989	368.033	17,010,984.46	2,321,227.78	1,198,900,840.88	0.01
1990	857.938	17,858,789.30	2,566,626.26	1,375,831,053.91	0.03
1991	1,699.67	17,873,104.52	2,821,772.51	1,893,689,709.18	0.06
1992	6,887.26	20,679,324.50	3,358,851.04	2,431,617,872.30	0.24
1993	1,067.20	22,206,451.49	3,506,027.95	2,693,772,113.15	0.04
1994	1,590.07	26,309,181.11	4,147,408.39	3,600,872,070.97	0.05
1995	2,394.31 ***1,031.17***	31,649,921.52 ***129.10***	6,016,673.79 ***599.76***	4,496,547,038.12 ***473.43***	0.06
1996	4,439.20	33,404,131.49	7,244,589.38	4,796,036,062.92	0.09
1997	5,033.03	34,721,015.12	7,261,504.49	5,089,292,932.49	0.10
1998	3,483.98	33,109,570.48	6,216,629.04	5,065,836,571.13	0.09
1999	3,751.01	36,919,977.14	6,934,300.30	5,253,446,556.72	0.08
2000	2,655.89	42,358,096.16	9,841,022.13	6,017,872,973.80	0.04
2001	5,823.57	43,878,488.72	8,240,879.69	5,793,112,334.98	0.09
2002	3,065.50	50,097,958.25	8,930,528.20	6,088,876,506.29	0.04
2003	5,911.51	59,360,659.09	10,346,988.42	7,131,751,774.00	0.07
2004	7,684.24	75,904,200.37	16,730,242.14	8,614,899,158.33	0.05
2005	17,959.19 ***650.08***	100,352,636.50 ***217.07***	18,205,951.90 ***202.59***	9,716,169,696.48 ***116.08***	0.10
2006	23,716.06	121,200,606.22	25,846,900.93	11,375,108,966.07	0.09
2007	29,033.93	145,898,053.46	41,823,689.71	12,974,064,009.47	0.06
2008	28,852.46	181,860,898.30	28,996,741.12	15,008,238,458.46	0.08
2009	17,265.79	176,765,036.34	17,557,441.20	11,618,011,207.69	0.06
2010	32,026.59	220,408,495.99	26,479,684.93	14,140,279,485.92	0.08
2011	39,684.47	301,483,250.17	30,691,642.98	16,910,477,790.15	0.07
2012	305,830.81	289,564,769.45	26,319,510.94	16,413,045,361.56	0.66
2013	503,077.25 ***2701.22***	336,611,388.77 ***235.43***	23,354,962.34 ***28.28***	14,193,462,832.33 ***46.08***	0.91

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.VIII
Export and Growth of Aluminium and articles thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of the world	RCA
1988	59,129.10	13,815,155.52	8,679,439.73	784,149,785.10	0.39
1989	91,148.48	17,010,984.46	15,997,066.49	1,198,900,840.88	0.40
1990	97,284.79	17,858,789.30	15,933,838.06	1,375,831,053.91	0.47
1991	137,071.00	17,873,104.52	19,705,763.54	1,893,689,709.18	0.74
1992	203,499.20	20,679,324.50	23,361,400.94	2,431,617,872.30	1.02
1993	139,290.83	22,206,451.49	24,550,146.70	2,693,772,113.15	0.69
1994	172,580.53	26,309,181.11	36,569,610.72	3,600,872,070.97	0.65
	156,542.94	31,649,921.52	51,754,942.22	4,496,547,038.12	
1995	***164.75***	***129.10***	***496.29***	***473.43***	0.43
1996	207,604.61	33,404,131.49	53,044,492.48	4,796,036,062.92	0.56
1997	259,654.70	34,721,015.12	56,523,916.75	5,089,292,932.49	0.67
1998	142,482.53	33,109,570.48	56,321,542.66	5,065,836,571.13	0.39
1999	248,642.32	36,919,977.14	57,242,186.06	5,253,446,556.72	0.62
2000	293,623.55	42,358,096.16	64,262,774.05	6,017,872,973.80	0.65
2001	314,472.04	43,878,488.72	62,426,202.39	5,793,112,334.98	0.67
2002	426,921.49	50,097,958.25	64,639,955.83	6,088,876,506.29	0.80
2003	359,652.82	59,360,659.09	73,894,579.60	7,131,751,774.00	0.58
2004	410,609.06	75,904,200.37	89,716,130.38	8,614,899,158.33	0.52
	656,995.98	100,352,636.50	101,932,163.60	9,716,169,696.48	
2005	***319.69***	***217.07***	***96.95***	***116.08***	0.62
2006	770,067.42	121,200,606.22	133,469,839.12	11,375,108,966.07	0.54
2007	1,037,811.24	145,898,053.46	152,954,565.33	12,974,064,009.47	0.60
2008	1,247,398.48	181,860,898.30	160,308,719.53	15,008,238,458.46	0.64
2009	979,112.09	176,765,036.34	107,477,846.21	11,618,011,207.69	0.60
2010	1,328,024.70	220,408,495.99	140,229,265.87	14,140,279,485.92	0.61
2011	1,423,414.69	301,483,250.17	165,980,378.52	16,910,477,790.15	0.48
2012	1,579,450.09	289,564,769.45	149,089,590.44	16,413,045,361.56	0.60
2013	2,063,644.43	336,611,388.77	134,069,672.81	14,193,462,832.33	0.65
	214.10	***235.43***	***31.53***	***46.08***	

source: : World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.1X
Export and Growth of Lead and articles thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	330.543	13,815,155.52	446,728.88	784,149,785.10	0.04
1989	514.992	17,010,984.46	513,722.22	1,198,900,840.88	0.07
1990	1,060.81	17,858,789.30	703,594.94	1,375,831,053.91	0.12
1991	1,156.73	17,873,104.52	670,216.31	1,893,689,709.18	0.18
1992	1,957.38	20,679,324.50	865,671.42	2,431,617,872.30	0.27
1993	555.795	22,206,451.49	832,616.83	2,693,772,113.15	0.08
1994	2,672.88	26,309,181.11	1,144,216.31	3,600,872,070.97	0.32
	3,428.93	31,649,921.52	1,546,465.27	4,496,547,038.12	
1995	***937.36***	***129.10***	***246.18***	***473.43***	0.32
1996	3,596.82	33,404,131.49	1,997,299.29	4,796,036,062.92	0.26
1997	2,887.52	34,721,015.12	1,821,847.99	5,089,292,932.49	0.23
1998	752.928	33,109,570.48	1,640,352.28	5,065,836,571.13	0.07
1999	837.512	36,919,977.14	1,697,271.03	5,253,446,556.72	0.07
2000	797.095	42,358,096.16	1,625,521.93	6,017,872,973.80	0.07
2001	1,846.33	43,878,488.72	1,559,898.80	5,793,112,334.98	0.16
2002	1,021.99	50,097,958.25	1,590,670.89	6,088,876,506.29	0.08
2003	2,113.97	59,360,659.09	1,663,504.22	7,131,751,774.00	0.15
2004	7,332.55	75,904,200.37	2,555,618.79	8,614,899,158.33	0.33
	16,237.79	100,352,636.50	3,086,973.08	9,716,169,696.48	
2005	***373.55***	***217.07***	***99.61***	***116.08***	0.51
2006	17,659.63	121,200,606.22	4,102,402.24	11,375,108,966.07	0.40
2007	46,808.38	145,898,053.46	6,857,586.89	12,974,064,009.47	0.61
2008	44,549.96	181,860,898.30	6,499,045.80	15,008,238,458.46	0.57
2009	74,998.26	176,765,036.34	5,041,071.41	11,618,011,207.69	0.98
2010	123,489.89	220,408,495.99	6,392,657.91	14,140,279,485.92	1.24
2011	183,426.44	301,483,250.17	7,738,511.52	16,910,477,790.15	1.33
2012	107,708.41	289,564,769.45	6,638,340.06	16,413,045,361.56	0.92
	213,168.79	336,611,388.77	6,238,840.16	14,193,462,832.33	1.44
2013	***1212.79***	***235.43***	***102.10***	***46.08***	

source: : World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.X

Export and Growth of Zinc and articles thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	489.402	13,815,155.52	765,123.14	784,149,785.10	0.04
1989	369.486	17,010,984.46	2,420,561.49	1,198,900,840.88	0.01
1990	489.372	17,858,789.30	2,234,826.11	1,375,831,053.91	0.02
1991	360.93	17,873,104.52	1,920,833.84	1,893,689,709.18	0.02
1992	2,298.48	20,679,324.50	2,804,536.45	2,431,617,872.30	0.10
1993	2,481.30	22,206,451.49	2,461,484.11	2,693,772,113.15	0.12
1994	7,629.16	26,309,181.11	3,348,697.67	3,600,872,070.97	0.31
1995	1,009.75	31,649,921.52	4,408,574.39	4,496,547,038.12	0.03
1996	5,164.87 ***106.32***	33,404,131.49 ***129.10***	4,617,685.34 ***476.19***	4,796,036,062.92 ***473.43***	0.16
1997	8,212.25	34,721,015.12	6,031,189.62	5,089,292,932.49	0.20
1998	6,125.08	33,109,570.48	5,255,939.53	5,065,836,571.13	0.18
1999	981.98	36,919,977.14	5,483,801.79	5,253,446,556.72	0.03
2000	6,165.93	42,358,096.16	6,042,435.55	6,017,872,973.80	0.14
2001	3,299.59	43,878,488.72	5,121,574.43	5,793,112,334.98	0.09
2002	9,013.61	50,097,958.25	4,895,639.98	6,088,876,506.29	0.22
2003	15,536.22	59,360,659.09	5,458,465.40	7,131,751,774.00	0.34
2004	38,130.55	75,904,200.37	6,600,309.39	8,614,899,158.33	0.66
2005	33,977.49 ***3,264.93***	100,352,636.50 ***217.07***	7,835,592.75 ***77.74***	9,716,169,696.48 ***116.08***	0.42
2006	560,139.94	121,200,606.22	17,178,085.16	11,375,108,966.07	3.06
2007	404,273.38	145,898,053.46	19,230,094.79	12,974,064,009.47	1.87
2008	415,367.26	181,860,898.30	11,954,847.38	15,008,238,458.46	2.87
2009	345,063.28	176,765,036.34	9,036,247.24	11,618,011,207.69	2.51
2010	669,222.98	220,408,495.99	12,982,961.56	14,140,279,485.92	3.31
2011	790,416.97	301,483,250.17	14,821,496.87	16,910,477,790.15	2.99
2012	503,809.64	289,564,769.45	13,177,154.55	16,413,045,361.56	2.17
2013	495,724.91 ***1358.98***	336,611,388.77 ***235.43***	9,922,795.98 ***26.64***	14,193,462,832.33 ***46.08***	2.11

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.X1
Export and Growth of Tin and articles thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	717.282	13,815,155.52	46,116.18	784,149,785.10	0.88
1989	2,190.31	17,010,984.46	1,381,506.35	1,198,900,840.88	0.11
1990	2,637.83	17,858,789.30	1,076,447.88	1,375,831,053.91	0.19
1991	2,180.95	17,873,104.52	940,140.47	1,893,689,709.18	0.25
1992	3,785.47	20,679,324.50	1,305,618.22	2,431,617,872.30	0.34
1993	1,597.36	22,206,451.49	1,096,597.00	2,693,772,113.15	0.18
1994	3,111.38	26,309,181.11	1,197,130.58	3,600,872,070.97	0.36
	5,412.89	31,649,921.52	1,539,921.57	4,496,547,038.12	
1995	***654.64***	***129.10***	***3,239.22***	***473.43***	0.50
1996	19,060.31	33,404,131.49	1,679,592.79	4,796,036,062.92	1.63
1997	13,951.85	34,721,015.12	1,710,149.35	5,089,292,932.49	1.20
1998	7,291.49	33,109,570.48	1,655,492.31	5,065,836,571.13	0.67
1999	11,345.56	36,919,977.14	1,655,767.12	5,253,446,556.72	0.98
2000	13,282.22	42,358,096.16	1,817,331.50	6,017,872,973.80	1.04
2001	10,262.11	43,878,488.72	1,412,357.28	5,793,112,334.98	0.96
2002	9,225.04	50,097,958.25	1,418,626.44	6,088,876,506.29	0.79
2003	12,202.31	59,360,659.09	1,680,947.82	7,131,751,774.00	0.87
2004	8,210.15	75,904,200.37	3,132,870.59	8,614,899,158.33	0.30
	10,191.28	100,352,636.50	3,344,000.21	9,716,169,696.48	
2005	***88.28***	***217.07***	***117.15***	***116.08***	0.30
2006	30,802.94	121,200,606.22	3,643,611.60	11,375,108,966.07	0.79
2007	17,197.82	145,898,053.46	5,086,702.13	12,974,064,009.47	0.30
2008	31,476.29	181,860,898.30	6,469,610.26	15,008,238,458.46	0.40
2009	15,785.59	176,765,036.34	4,109,300.68	11,618,011,207.69	0.25
2010	9,240.02	220,408,495.99	5,915,325.88	14,140,279,485.92	0.10
2011	7,192.70	301,483,250.17	8,212,557.17	16,910,477,790.15	0.05
2012	7,247.54	289,564,769.45	7,327,630.48	16,413,045,361.56	0.06
	89,253.58	336,611,388.77	6,182,423.57	14,193,462,832.33	0.61
2013	***775.78***	***235.43***	***84.88***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XI1

Export and Growth of Other base metals; cermets; articles thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	8,449.71	13,815,155.52	494,003.38	784,149,785.10	0.97
1989	614.211	17,010,984.46	708,398.41	1,198,900,840.88	0.06
1990	464.346	17,858,789.30	792,537.26	1,375,831,053.91	0.05
1991	527.781	17,873,104.52	1,389,974.90	1,893,689,709.18	0.04
1992	1,236.38	20,679,324.50	1,700,788.74	2,431,617,872.30	0.09
1993	816.486	22,206,451.49	1,813,214.68	2,693,772,113.15	0.05
1994	2,773.10	26,309,181.11	2,978,632.69	3,600,872,070.97	0.13
	4,851.43	31,649,921.52	4,313,441.81	4,496,547,038.12	
1995	***-42.58***	***129.10***	***773.16***	***473.43***	0.16
1996	4,867.56	33,404,131.49	4,992,444.36	4,796,036,062.92	0.14
1997	7,256.61	34,721,015.12	5,977,804.56	5,089,292,932.49	0.18
1998	8,867.02	33,109,570.48	5,980,376.24	5,065,836,571.13	0.23
1999	5,284.55	36,919,977.14	5,791,166.48	5,253,446,556.72	0.13
2000	5,012.31	42,358,096.16	6,112,377.19	6,017,872,973.80	0.12
2001	5,719.50	43,878,488.72	6,323,339.28	5,793,112,334.98	0.12
2002	5,835.16	50,097,958.25	5,566,741.37	6,088,876,506.29	0.13
2003	5,861.05	59,360,659.09	6,529,796.71	7,131,751,774.00	0.11
2004	13,699.77	75,904,200.37	9,623,835.91	8,614,899,158.33	0.16
2005	21,739.02	100,352,636.50	11,776,430.38	9,716,169,696.48	0.18
	348.09	***217.07***	***173.02***	***116.08***	
2006	37,611.24	121,200,606.22	14,234,111.32	11,375,108,966.07	0.25
2007	31,965.73	145,898,053.46	16,665,781.79	12,974,064,009.47	0.17
2008	38,795.22	181,860,898.30	19,462,039.35	15,008,238,458.46	0.16
2009	32,558.32	176,765,036.34	10,033,996.64	11,618,011,207.69	0.21
2010	34,130.57	220,408,495.99	13,699,295.01	14,140,279,485.92	0.16
2011	72,175.27	301,483,250.17	16,889,423.51	16,910,477,790.15	0.24
2012	75,913.65	289,564,769.45	15,867,655.13	16,413,045,361.56	0.27
	73,216.23	336,611,388.77	14,008,152.71	14,193,462,832.33	0.22
2013	***236.80***	***235.43***	***18.95***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.X1II

Export and Growth of Tools implements, cutlery, spoons and forks, of base metal; parts thereof of base metal.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	70,391.41	13,815,155.52	4,993,602.24	784,149,785.10	0.80
1989	88,610.76	17,010,984.46	5,995,937.41	1,198,900,840.88	1.04
1990	87,007.18	17,858,789.30	6,965,561.71	1,375,831,053.91	0.96
1991	80,043.48	17,873,104.52	8,608,707.30	1,893,689,709.18	0.99
1992	103,731.80	20,679,324.50	11,403,811.67	2,431,617,872.30	1.07
1993	111,242.32	22,206,451.49	11,710,317.68	2,693,772,113.15	1.15
1994	119,737.05	26,309,181.11	15,685,514.11	3,600,872,070.97	1.04
	150,543.34	31,649,921.52	19,441,637.45	4,496,547,038.12	
1995	***113.87***	***129.10***	***289.33***	***473.43***	1.10
1996	153,490.22	33,404,131.49	19,742,872.85	4,796,036,062.92	1.12
1997	156,162.20	34,721,015.12	22,419,267.28	5,089,292,932.49	1.02
1998	146,178.51	33,109,570.48	22,441,798.84	5,065,836,571.13	1.00
1999	179,149.23	36,919,977.14	23,729,015.18	5,253,446,556.72	1.07
2000	206,874.04	42,358,096.16	24,756,728.43	6,017,872,973.80	1.19
2001	220,576.88	43,878,488.72	24,978,416.10	5,793,112,334.98	1.17
2002	228,826.23	50,097,958.25	25,525,852.82	6,088,876,506.29	1.09
2003	273,430.24	59,360,659.09	28,282,220.62	7,131,751,774.00	1.16
2004	340,313.70	75,904,200.37	33,329,520.70	8,614,899,158.33	1.16
	463,583.63	100,352,636.50	36,291,461.32	9,716,169,696.48	1.24
2005	***207.94***	***217.07***	***86.67***	***116.08***	
2006	536,807.94	121,200,606.22	40,792,594.61	11,375,108,966.07	1.24
2007	493,434.71	145,898,053.46	45,886,778.27	12,974,064,009.47	0.96
2008	582,548.46	181,860,898.30	51,870,366.81	15,008,238,458.46	0.93
2009	422,968.93	176,765,036.34	39,016,469.07	11,618,011,207.69	0.71
2010	583,599.98	220,408,495.99	48,668,839.22	14,140,279,485.92	0.77
2011	856,551.59	301,483,250.17	59,011,115.02	16,910,477,790.15	0.81
2012	862,728.68	289,564,769.45	59,298,159.24	16,413,045,361.56	0.82
	916,029.16	336,611,388.77	53,334,841.63	14,193,462,832.33	0.72
2013	***97.60***	***235.43***	***46.96***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.X1V

Export and Growth of Miscellaneous articles of base metal.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	25,785.49	13,815,155.52	2,890,662.33	784,149,785.10	0.51
1989	27,530.08	17,010,984.46	3,886,320.39	1,198,900,840.88	0.50
1990	32,223.68	17,858,789.30	4,547,360.56	1,375,831,053.91	0.55
1991	42,597.50	17,873,104.52	6,055,583.55	1,893,689,709.18	0.75
1992	53,383.80	20,679,324.50	8,384,488.67	2,431,617,872.30	0.75
1993	58,875.10	22,206,451.49	9,207,034.24	2,693,772,113.15	0.78
1994	64,428.88	26,309,181.11	14,087,175.04	3,600,872,070.97	0.63
	79,378.30	31,649,921.52	16,586,701.18	4,496,547,038.12	
1995	***207.84***	***129.10***	***473.80***	***473.43***	0.68
1996	82,062.70	33,404,131.49	17,651,226.14	4,796,036,062.92	0.67
1997	84,124.24	34,721,015.12	19,224,685.57	5,089,292,932.49	0.64
1998	81,825.95	33,109,570.48	19,896,674.82	5,065,836,571.13	0.63
1999	118,884.31	36,919,977.14	20,394,837.03	5,253,446,556.72	0.83
2000	115,639.82	42,358,096.16	21,226,785.79	6,017,872,973.80	0.77
2001	121,471.38	43,878,488.72	21,335,858.27	5,793,112,334.98	0.75
2002	130,456.23	50,097,958.25	23,148,374.47	6,088,876,506.29	0.68
2003	144,665.45	59,360,659.09	26,600,191.64	7,131,751,774.00	0.65
2004	189,661.84	75,904,200.37	32,129,418.61	8,614,899,158.33	0.67
	209,525.20	100,352,636.50	36,108,303.33	9,716,169,696.48	
2005	***163.96***	***217.07***	***117.69***	***116.08***	0.56
2006	260,566.07	121,200,606.22	41,602,818.29	11,375,108,966.07	0.59
2007	312,235.04	145,898,053.46	48,386,328.23	12,974,064,009.47	0.57
2008	373,817.13	181,860,898.30	51,727,480.04	15,008,238,458.46	0.60
2009	297,625.02	176,765,036.34	41,226,107.48	11,618,011,207.69	0.47
2010	368,560.90	220,408,495.99	47,969,283.78	14,140,279,485.92	0.49
2011	439,958.38	301,483,250.17	55,255,804.52	16,910,477,790.15	0.45
2012	433,279.58	289,564,769.45	55,813,041.45	16,413,045,361.56	0.44
2013	502,597.03	336,611,388.77	51,748,515.33	14,193,462,832.33	0.41
	139.87	***235.43***	***43.31***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XV

Export and Growth of Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	485,317.45	13,815,155.52	139,264,574.99	784,149,785.10	0.20
1989	556,952.37	17,010,984.46	184,722,440.35	1,198,900,840.88	0.21
1990	635,572.19	17,858,789.30	213,542,292.11	1,375,831,053.91	0.23
1991	515,094.17	17,873,104.52	297,809,811.85	1,893,689,709.18	0.18
1992	573,606.58	20,679,324.50	357,111,058.33	2,431,617,872.30	0.19
1993	623,897.99	22,206,451.49	401,144,579.00	2,693,772,113.15	0.19
1994	726,365.58	26,309,181.11	544,394,728.46	3,600,872,070.97	0.18
1995	854,111.47 ***75.99***	31,649,921.52 ***129.10***	674,221,849.45 ***384.13***	4,496,547,038.12 ***473.43***	0.18
1996	1,045,656.38	33,404,131.49	722,124,494.86	4,796,036,062.92	0.21
1997	1,152,084.01	34,721,015.12	786,743,355.26	5,089,292,932.49	0.21
1998	947,500.08	33,109,570.48	797,716,063.13	5,065,836,571.13	0.18
1999	995,775.85	36,919,977.14	818,108,332.53	5,253,446,556.72	0.17
2000	1,227,377.61	42,358,096.16	889,602,409.78	6,017,872,973.80	0.20
2001	1,582,696.49	43,878,488.72	851,392,835.33	5,793,112,334.98	0.25
2002	1,696,455.60	50,097,958.25	867,931,549.31	6,088,876,506.29	0.24
2003	2,217,715.35	59,360,659.09	992,796,045.82	7,131,751,774.00	0.27
2004	2,920,060.72	75,904,200.37	1,189,101,979.80	8,614,899,158.33	0.28
2005	4,059,625.72 ***375.30***	100,352,636.50 ***217.07***	1,313,507,614.38 ***94.82***	9,716,169,696.48 ***116.08***	0.30
2006	4,954,819.03	121,200,606.22	1,487,349,832.16	11,375,108,966.07	0.31
2007	6,114,437.15	145,898,053.46	1,718,966,333.00	12,974,064,009.47	0.32
2008	8,073,080.90	181,860,898.30	1,861,484,556.85	15,008,238,458.46	0.36
2009	7,166,653.43	176,765,036.34	1,422,229,797.98	11,618,011,207.69	0.33
2010	8,149,848.03	220,408,495.99	1,683,134,490.53	14,140,279,485.92	0.31
2011	10,753,453.08	301,483,250.17	1,931,137,481.31	16,910,477,790.15	0.31
2012	11,070,313.47	289,564,769.45	1,885,400,371.13	16,413,045,361.56	0.33
2013	13,126,148.94 ***223.33***	336,611,388.77 ***235.43***	1,685,164,112.32 ***28.29***	14,193,462,832.33 ***46.08***	0.33

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XVI

Export and Growth of Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers and parts.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	246,777.09	13,815,155.52	109,333,888.92	784,149,785.10	0.13
1989	343,440.55	17,010,984.46	144,205,486.12	1,198,900,840.88	0.17
1990	298,664.86	17,858,789.30	162,398,751.02	1,375,831,053.91	0.14
1991	347,179.95	17,873,104.52	224,031,448.95	1,893,689,709.18	0.16
1992	301,421.32	20,679,324.50	280,983,906.71	2,431,617,872.30	0.13
1993	349,987.90	22,206,451.49	334,308,452.22	2,693,772,113.15	0.13
1994	497,082.40	26,309,181.11	457,811,983.71	3,600,872,070.97	0.15
	728,181.89	31,649,921.52	584,433,854.58	4,496,547,038.12	
1995	***195.08***	***129.10***	***434.54***	***473.43***	0.18
1996	857,452.96	33,404,131.49	607,589,734.45	4,796,036,062.92	0.20
1997	882,026.36	34,721,015.12	676,541,962.70	5,089,292,932.49	0.19
1998	810,349.11	33,109,570.48	680,943,888.85	5,065,836,571.13	0.18
1999	870,347.78	36,919,977.14	751,602,720.27	5,253,446,556.72	0.16
2000	1,141,588.86	42,358,096.16	908,234,051.55	6,017,872,973.80	0.18
2001	1,321,087.05	43,878,488.72	793,729,327.90	5,793,112,334.98	0.22
2002	1,388,740.11	50,097,958.25	814,880,243.68	6,088,876,506.29	0.21
2003	1,762,118.14	59,360,659.09	927,423,347.08	7,131,751,774.00	0.23
2004	1,960,750.71	75,904,200.37	1,133,256,854.83	8,614,899,158.33	0.20
	2,641,297.13	100,352,636.50	1,255,984,902.86	9,716,169,696.48	
2005	***262.72***	***217.07***	***114.91***	***116.08***	0.20
2006	3,752,767.00	121,200,606.22	1,469,651,996.35	11,375,108,966.07	0.24
2007	4,706,203.80	145,898,053.46	1,559,863,424.69	12,974,064,009.47	0.27
2008	6,250,141.56	181,860,898.30	1,659,576,975.94	15,008,238,458.46	0.31
2009	9,618,820.83	176,765,036.34	1,378,010,315.64	11,618,011,207.69	0.46
2010	8,699,337.09	220,408,495.99	1,697,245,961.28	14,140,279,485.92	0.33
2011	11,738,206.54	301,483,250.17	1,851,248,739.68	16,910,477,790.15	0.36
2012	10,756,079.83	289,564,769.45	1,852,431,143.45	16,413,045,361.56	0.33
2013	11,235,336.86	336,611,388.77	1,666,673,111.26	14,193,462,832.33	0.28
	325.37	***235.43***	***32.70***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XVII

Export and Growth of Railway or tramway locomotives, rolling-stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	15,223.31	13,815,155.52	2,313,117.18	784,149,785.10	0.37
1989	40,452.12	17,010,984.46	3,553,880.65	1,198,900,840.88	0.80
1990	43,262.06	17,858,789.30	3,599,894.85	1,375,831,053.91	0.93
1991	24,945.09	17,873,104.52	4,593,032.19	1,893,689,709.18	0.58
1992	35,079.51	20,679,324.50	6,226,696.10	2,431,617,872.30	0.66
1993	26,952.37	22,206,451.49	5,681,833.70	2,693,772,113.15	0.58
1994	24,942.48	26,309,181.11	10,018,091.80	3,600,872,070.97	0.34
	11,094.46	31,649,921.52	9,756,926.51	4,496,547,038.12	0.16
1995	***27.12***	***-129.10***	***-321.81***	***-473.43***	
1996	15,603.18	33,404,131.49	9,997,634.51	4,796,036,062.92	0.22
1997	13,182.08	34,721,015.12	10,465,708.22	5,089,292,932.49	0.18
1998	8,332.65	33,109,570.48	12,808,808.58	5,065,836,571.13	0.10
1999	5,542.80	36,919,977.14	11,553,793.05	5,253,446,556.72	0.07
2000	9,148.32	42,358,096.16	11,668,609.91	6,017,872,973.80	0.11
2001	31,780.05	43,878,488.72	11,697,466.34	5,793,112,334.98	0.36
2002	12,458.22	50,097,958.25	12,032,348.80	6,088,876,506.29	0.13
2003	19,653.90	59,360,659.09	17,052,794.40	7,131,751,774.00	0.14
2004	25,826.83	75,904,200.37	21,952,225.22	8,614,899,158.33	0.13
	27,787.56	100,352,636.50	23,409,490.95	9,716,169,696.48	
2005	***150.46***	***217.07***	***139.93***	***116.08***	0.11
2006	63,892.05	121,200,606.22	25,733,424.62	11,375,108,966.07	0.23
2007	64,820.08	145,898,053.46	31,963,003.82	12,974,064,009.47	0.18
2008	75,469.22	181,860,898.30	37,236,039.21	15,008,238,458.46	0.17
2009	42,448.92	176,765,036.34	25,065,579.05	11,618,011,207.69	0.11
2010	56,773.85	220,408,495.99	33,126,680.62	14,140,279,485.92	0.11
2011	134,532.26	301,483,250.17	42,294,618.24	16,910,477,790.15	0.18
2012	130,629.88	289,564,769.45	43,709,760.15	16,413,045,361.56	0.17
2013	192,391.60	336,611,388.77	34,326,371.49	14,193,462,832.33	0.24
	592.37	***235.43***	***46.63***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XVIII

Export and Growth of Vehicles other than railway or tramway rolling stock, and parts and accessories thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	225,357.63	13,815,155.52	116,655,146.75	784,149,785.10	0.11
1989	286,867.71	17,010,984.46	159,020,298.65	1,198,900,840.88	0.13
1990	311,550.85	17,858,789.30	177,326,775.76	1,375,831,053.91	0.14
1991	433,265.84	17,873,104.52	214,524,181.13	1,893,689,709.18	0.21
1992	548,460.76	20,679,324.50	259,753,567.26	2,431,617,872.30	0.25
1993	557,424.61	22,206,451.49	273,097,714.01	2,693,772,113.15	0.25
1994	726,766.26	26,309,181.11	356,434,175.36	3,600,872,070.97	0.28
1995	902,136.10 ***300.31***	31,649,921.52 ***129.10***	432,759,618.82 ***270.97***	4,496,547,038.12 ***473.43***	0.30
1996	901,644.24	33,404,131.49	458,014,399.35	4,796,036,062.92	0.28
1997	806,651.59	34,721,015.12	486,294,511.23	5,089,292,932.49	0.24
1998	682,861.30	33,109,570.48	509,897,667.51	5,065,836,571.13	0.20
1999	698,690.92	36,919,977.14	530,786,008.57	5,253,446,556.72	0.19
2000	853,125.17	42,358,096.16	553,483,015.10	6,017,872,973.80	0.22
2001	871,642.22	43,878,488.72	549,265,230.71	5,793,112,334.98	0.21
2002	1,038,848.73	50,097,958.25	608,286,196.79	6,088,876,506.29	0.21
2003	1,513,055.33	59,360,659.09	705,016,997.12	7,131,751,774.00	0.26
2004	2,248,181.15	75,904,200.37	825,769,219.62	8,614,899,158.33	0.31
2005	3,204,942.80 ***255.26***	100,352,636.50 ***217.07***	893,628,163.07 ***106.50***	9,716,169,696.48 ***116.08***	0.35
2006	3,655,462.73	121,200,606.22	993,419,752.01	11,375,108,966.07	0.35
2007	4,077,858.09	145,898,053.46	1,156,032,726.69	12,974,064,009.47	0.31
2008	6,017,589.10	181,860,898.30	1,209,806,761.34	15,008,238,458.46	0.41
2009	5,717,294.40	176,765,036.34	824,146,712.18	11,618,011,207.69	0.46
2010	9,285,871.54	220,408,495.99	1,055,917,939.73	14,140,279,485.92	0.56
2011	10,280,635.41	301,483,250.17	1,243,370,629.06	16,910,477,790.15	0.46
2012	12,199,644.70	289,564,769.45	1,264,077,028.84	16,413,045,361.56	0.55
2013	13,787,311.43 ***330.19***	336,611,388.77 ***235.43***	1,170,105,626.56 ***30.94***	14,193,462,832.33 ***46.08***	0.50

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XIX

Export and Growth of Aircraft, spacecraft, and parts thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	8,225.23	13,815,155.52	5,498,700.58	784,149,785.10	0.08
1989	5,420.36	17,010,984.46	12,010,501.30	1,198,900,840.88	0.03
1990	5,691.34	17,858,789.30	13,960,961.62	1,375,831,053.91	0.03
1991	16,564.29	17,873,104.52	52,128,115.13	1,893,689,709.18	0.03
1992	10,018.66	20,679,324.50	56,258,715.73	2,431,617,872.30	0.02
1993	5,560.13	22,206,451.49	54,635,155.89	2,693,772,113.15	0.01
1994	7,999.28	26,309,181.11	66,017,020.94	3,600,872,070.97	0.02
	6,689.92	31,649,921.52	67,809,843.21	4,496,547,038.12	
1995	***-100.19***	***-98.71***	***-88.67***	***-95.27***	0.01
1996	7,191.85	33,404,131.49	75,594,960.15	4,796,036,062.92	0.01
1997	44,653.24	34,721,015.12	89,952,771.17	5,089,292,932.49	0.07
1998	12,476.65	33,109,570.48	110,776,710.39	5,065,836,571.13	0.02
1999	30,924.31	36,919,977.14	108,779,320.94	5,253,446,556.72	0.04
2000	53,292.65	42,358,096.16	99,132,759.20	6,017,872,973.80	0.08
2001	75,109.31	43,878,488.72	105,918,319.25	5,793,112,334.98	0.09
2002	93,390.16	50,097,958.25	107,214,081.67	6,088,876,506.29	0.11
2003	75,703.76	59,360,659.09	106,403,899.28	7,131,751,774.00	0.09
2004	53,999.53	75,904,200.37	117,955,212.19	8,614,899,158.33	0.05
	62,561.13	100,352,636.50	125,801,465.24	9,716,169,696.48	
2005	***835.16***	***217.07***	***85.52***	***116.08***	0.05
2006	58,079.39	121,200,606.22	157,490,469.68	11,375,108,966.07	0.03
2007	373,813.27	145,898,053.46	178,869,010.69	12,974,064,009.47	0.19
2008	1,494,271.45	181,860,898.30	191,352,407.42	15,008,238,458.46	0.64
2009	1,088,822.14	176,765,036.34	123,302,075.27	11,618,011,207.69	0.58
2010	1,534,938.75	220,408,495.99	132,714,750.95	14,140,279,485.92	0.74
2011	2,302,532.00	301,483,250.17	150,354,801.40	16,910,477,790.15	0.86
2012	1,776,308.69	289,564,769.45	165,982,544.97	16,413,045,361.56	0.61
2013	4,151,795.28	336,611,388.77	171,934,091.05	14,193,462,832.33	1.02
	6536.38	***235.43***	***36.67***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XX

Export and Growth of Ships, boats and floating structures.

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	90.75	13,815,155.52	7,986,206.43	784,149,785.10	0.00
1989	134.996	17,010,984.46	10,402,577.33	1,198,900,840.88	0.00
1990	35,595.93	17,858,789.30	14,179,907.27	1,375,831,053.91	0.19
1991	19,496.48	17,873,104.52	18,140,957.96	1,893,689,709.18	0.11
1992	596.698	20,679,324.50	23,452,497.35	2,431,617,872.30	0.00
1993	1,307.15	22,206,451.49	26,500,424.83	2,693,772,113.15	0.01
1994	10,790.56	26,309,181.11	31,077,047.50	3,600,872,070.97	0.05
	429.156	31,649,921.52	34,895,437.22	4,496,547,038.12	
1995	***372.90***	***129.10***	***336.95***	***473.43***	0.00
1996	41,607.99	33,404,131.49	36,587,201.43	4,796,036,062.92	0.16
1997	65,637.00	34,721,015.12	36,647,721.27	5,089,292,932.49	0.26
1998	55,640.59	33,109,570.48	41,550,335.30	5,065,836,571.13	0.20
1999	79,914.67	36,919,977.14	39,929,691.57	5,253,446,556.72	0.28
2000	45,857.68	42,358,096.16	39,495,996.31	6,017,872,973.80	0.16
2001	49,847.26	43,878,488.72	43,420,222.31	5,793,112,334.98	0.15
2002	56,388.21	50,097,958.25	46,090,551.91	6,088,876,506.29	0.15
2003	115,196.62	59,360,659.09	52,311,613.27	7,131,751,774.00	0.26
2004	341,318.55	75,904,200.37	61,355,863.75	8,614,899,158.33	0.63
	648,909.46	100,352,636.50	67,594,919.48	9,716,169,696.48	
2005	***151,105.96***	***217.07***	***93.71***	***116.08***	0.93
2006	782,637.62	121,200,606.22	84,480,660.64	11,375,108,966.07	0.87
2007	1,289,958.16	145,898,053.46	102,690,791.32	12,974,064,009.47	1.12
2008	2,618,987.76	181,860,898.30	140,431,062.66	15,008,238,458.46	1.54
2009	3,763,158.44	176,765,036.34	141,211,418.42	11,618,011,207.69	1.75
2010	4,223,337.36	220,408,495.99	168,680,283.51	14,140,279,485.92	1.61
2011	7,048,272.20	301,483,250.17	182,130,427.19	16,910,477,790.15	2.17
2012	4,124,615.24	289,564,769.45	148,041,788.24	16,413,045,361.56	1.58
2013	3,597,491.91	336,611,388.77	127,210,058.41	14,193,462,832.33	1.19
	454.39	***235.43***	***88.19***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXI

Export and Growth of Optical, photographic cinematographic measuring, checking precision, medical or surgical inst. and apparatus parts and accessories thereof;

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	75,659.05	13,815,155.52	30,322,328.21	784,149,785.10	0.14
1989	103,107.21	17,010,984.46	35,663,165.07	1,198,900,840.88	0.20
1990	73,536.86	17,858,789.30	39,786,969.05	1,375,831,053.91	0.14
1991	63,842.16	17,873,104.52	61,501,219.84	1,893,689,709.18	0.11
1992	49,789.29	20,679,324.50	76,534,861.00	2,431,617,872.30	0.08
1993	56,734.51	22,206,451.49	85,202,324.20	2,693,772,113.15	0.08
1994	65,331.84	26,309,181.11	106,630,407.07	3,600,872,070.97	0.08
	79,878.36	31,649,921.52	128,665,910.11	4,496,547,038.12	
1995	***5.58***	***129.10***	***324.33***	***473.43***	0.09
1996	102,666.65	33,404,131.49	136,170,417.75	4,796,036,062.92	0.11
1997	120,756.82	34,721,015.12	149,214,689.01	5,089,292,932.49	0.12
1998	130,589.58	33,109,570.48	150,460,423.78	5,065,836,571.13	0.13
1999	203,167.66	36,919,977.14	162,529,738.35	5,253,446,556.72	0.18
2000	247,619.84	42,358,096.16	184,479,499.39	6,017,872,973.80	0.19
2001	301,784.09	43,878,488.72	180,881,141.89	5,793,112,334.98	0.22
2002	348,077.22	50,097,958.25	182,178,374.11	6,088,876,506.29	0.23
2003	437,210.12	59,360,659.09	217,318,274.78	7,131,751,774.00	0.24
2004	551,599.89	75,904,200.37	271,286,670.37	8,614,899,158.33	0.23
	687,236.04	100,352,636.50	307,643,204.90	9,716,169,696.48	
2005	***760.35***	***217.07***	***139.10***	***116.08***	0.22
2006	787,981.99	121,200,606.22	352,027,228.26	11,375,108,966.07	0.21
2007	879,650.32	145,898,053.46	374,281,768.92	12,974,064,009.47	0.21
2008	1,095,327.43	181,860,898.30	412,827,620.25	15,008,238,458.46	0.22
2009	1,259,567.19	176,765,036.34	369,480,489.09	11,618,011,207.69	0.22
2010	1,440,762.72	220,408,495.99	445,196,463.84	14,140,279,485.92	0.21
2011	1,794,908.95	301,483,250.17	496,944,686.85	16,910,477,790.15	0.20
2012	2,029,760.44	289,564,769.45	540,957,022.64	16,413,045,361.56	0.21
2013	2,289,251.79	336,611,388.77	470,182,038.23	14,193,462,832.33	0.21
	233.11	***235.43***	***52.83***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXII

Export and Growth of Clocks and watches and parts thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	629.348	13,815,155.52	6,963,063.50	784,149,785.10	0.01
1989	4,097.06	17,010,984.46	7,402,031.37	1,198,900,840.88	0.04
1990	2,444.65	17,858,789.30	9,024,532.64	1,375,831,053.91	0.02
1991	5,718.02	17,873,104.52	9,626,346.93	1,893,689,709.18	0.06
1992	9,549.54	20,679,324.50	11,609,934.20	2,431,617,872.30	0.10
1993	16,786.46	22,206,451.49	13,520,513.56	2,693,772,113.15	0.15
1994	24,583.30	26,309,181.11	16,067,161.96	3,600,872,070.97	0.21
	30,078.84	31,649,921.52	17,868,512.77	4,496,547,038.12	
1995	***4,679.36***	***129.10***	***156.62***	***473.43***	0.24
1996	32,933.41	33,404,131.49	16,827,705.81	4,796,036,062.92	0.28
1997	27,119.59	34,721,015.12	16,597,980.70	5,089,292,932.49	0.24
1998	26,637.50	33,109,570.48	15,614,923.70	5,065,836,571.13	0.26
1999	36,705.31	36,919,977.14	14,569,999.61	5,253,446,556.72	0.36
2000	43,675.28	42,358,096.16	14,434,789.55	6,017,872,973.80	0.43
2001	53,669.65	43,878,488.72	13,715,726.90	5,793,112,334.98	0.52
2002	51,034.96	50,097,958.25	14,354,547.71	6,088,876,506.29	0.43
2003	65,093.97	59,360,659.09	15,670,989.63	7,131,751,774.00	0.50
2004	68,015.64	75,904,200.37	17,995,987.01	8,614,899,158.33	0.43
	58,347.01	100,352,636.50	18,889,315.13	9,716,169,696.48	
2005	***93.98***	***217.07***	***5.71***	***116.08***	0.30
2006	44,993.44	121,200,606.22	20,642,137.61	11,375,108,966.07	0.20
2007	45,888.27	145,898,053.46	24,261,963.12	12,974,064,009.47	0.17
2008	48,403.76	181,860,898.30	28,012,771.63	15,008,238,458.46	0.14
2009	37,886.21	176,765,036.34	22,719,719.92	11,618,011,207.69	0.11
2010	46,306.80	220,408,495.99	28,482,999.32	14,140,279,485.92	0.10
2011	72,010.32	301,483,250.17	38,055,698.56	16,910,477,790.15	0.11
2012	78,178.99	289,564,769.45	41,087,984.49	16,413,045,361.56	0.11
	90,546.55	336,611,388.77	42,194,003.45	14,193,462,832.33	0.09
2013	***55.19***	***235.43***	***123.37***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXIII

Export and Growth of Musical instruments; parts and accessories of such articles.

Year	Export of India	Total trade of India	Export of world	Total Trade of world	RCA
1988	5,330.42	13,815,155.52	1,893,615.00	784,149,785.10	0.16
1989	9,177.74	17,010,984.46	1,730,381.25	1,198,900,840.88	0.37
1990	6,915.99	17,858,789.30	1,820,627.02	1,375,831,053.91	0.29
1991	4,715.68	17,873,104.52	2,185,756.84	1,893,689,709.18	0.23
1992	5,384.38	20,679,324.50	2,431,859.89	2,431,617,872.30	0.26
1993	6,377.50	22,206,451.49	2,493,702.86	2,693,772,113.15	0.31
1994	8,308.11	26,309,181.11	2,894,968.43	3,600,872,070.97	0.39
	9,334.72	31,649,921.52	3,262,083.93	4,496,547,038.12	
1995	***75.12***	***129.10***	***72.27***	***473.43***	0.41
1996	9,953.18	33,404,131.49	3,252,505.94	4,796,036,062.92	0.44
1997	8,918.82	34,721,015.12	3,776,383.42	5,089,292,932.49	0.35
1998	8,676.52	33,109,570.48	3,464,078.83	5,065,836,571.13	0.38
1999	7,267.70	36,919,977.14	3,444,779.85	5,253,446,556.72	0.30
2000	7,339.77	42,358,096.16	3,659,961.11	6,017,872,973.80	0.28
2001	6,509.43	43,878,488.72	3,446,906.77	5,793,112,334.98	0.25
2002	6,136.91	50,097,958.25	3,497,799.60	6,088,876,506.29	0.21
2003	6,406.92	59,360,659.09	3,902,626.14	7,131,751,774.00	0.20
2004	8,516.99	75,904,200.37	4,491,782.50	8,614,899,158.33	0.22
	9,820.27	100,352,636.50	4,645,969.21	9,716,169,696.48	
2005	***5.20***	***217.07***	***42.42***	***116.08***	0.20
2006	8,885.17	121,200,606.22	4,882,615.71	11,375,108,966.07	0.17
2007	10,299.38	145,898,053.46	5,404,084.27	12,974,064,009.47	0.17
2008	11,254.88	181,860,898.30	6,009,788.84	15,008,238,458.46	0.15
2009	14,027.17	176,765,036.34	4,988,814.42	11,618,011,207.69	0.18
2010	13,021.78	220,408,495.99	5,461,374.68	14,140,279,485.92	0.15
2011	15,777.91	301,483,250.17	6,197,409.74	16,910,477,790.15	0.14
2012	24,806.72	289,564,769.45	6,127,285.18	16,413,045,361.56	0.23
	17,047.23	336,611,388.77	5,371,255.57	14,193,462,832.33	0.13
2013	***73.59***	***235.43***	***15.61***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXIV

Export and Growth of Arms and ammunition; parts and accessories thereof

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	218.616	13,815,155.52	516,102.98	784,149,785.10	0.02
1989	444.952	17,010,984.46	668,142.69	1,198,900,840.88	0.05
1990	266.08	17,858,789.30	816,230.22	1,375,831,053.91	0.03
1991	180.572	17,873,104.52	3,176,568.07	1,893,689,709.18	0.01
1992	1,054.75	20,679,324.50	3,952,939.54	2,431,617,872.30	0.03
1993	674.494	22,206,451.49	4,341,425.47	2,693,772,113.15	0.02
1994	405.467	26,309,181.11	4,656,453.12	3,600,872,070.97	0.01
	324.507	31,649,921.52	4,990,212.94	4,496,547,038.12	0.01
1995	***48.44***	***129.10***	***866.90***	***473.43***	
1996	1,006.06	33,404,131.49	5,365,531.31	4,796,036,062.92	0.03
1997	3,880.94	34,721,015.12	5,136,525.27	5,089,292,932.49	0.11
1998	472.145	33,109,570.48	5,768,685.48	5,065,836,571.13	0.01
1999	909.797	36,919,977.14	5,406,229.79	5,253,446,556.72	0.02
2000	1,065.13	42,358,096.16	4,312,863.13	6,017,872,973.80	0.04
2001	5,742.86	43,878,488.72	3,970,320.13	5,793,112,334.98	0.19
2002	2,393.13	50,097,958.25	4,287,407.51	6,088,876,506.29	0.07
2003	3,177.73	59,360,659.09	4,385,583.80	7,131,751,774.00	0.09
2004	2,336.10	75,904,200.37	5,168,624.65	8,614,899,158.33	0.05
	869.057	100,352,636.50	5,606,207.26	9,716,169,696.48	0.02
2005	***167.81***	***217.07***	***12.34***	***116.08***	
2006	4,751.13	121,200,606.22	6,251,985.35	11,375,108,966.07	0.07
2007	3,749.85	145,898,053.46	7,327,973.07	12,974,064,009.47	0.05
2008	10,968.89	181,860,898.30	8,105,443.42	15,008,238,458.46	0.11
2009	16,547.49	176,765,036.34	8,501,891.20	11,618,011,207.69	0.13
2010	10,989.52	220,408,495.99	8,873,056.81	14,140,279,485.92	0.08
2011	28,233.63	301,483,250.17	8,712,539.55	16,910,477,790.15	0.18
2012	34,938.00	289,564,769.45	9,203,457.08	16,413,045,361.56	0.22
	63,724.13	336,611,388.77	10,042,696.39	14,193,462,832.33	0.27
2013	***7,232.56***	***235.43***	***79.14***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXV

Export and Growth of Furniture; bedding, mattresses, mattress supports, cushions and similar stuffed furnishing; lamps and lighting fittings not elsewhere specified or inc

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	6,504.14	13,815,155.52	6,130,890.52	784,149,785.10	0.06
1989	4,848.29	17,010,984.46	10,812,523.30	1,198,900,840.88	0.03
1990	5,356.97	17,858,789.30	13,297,624.63	1,375,831,053.91	0.03
1991	7,846.11	17,873,104.52	16,775,138.36	1,893,689,709.18	0.05
1992	12,343.55	20,679,324.50	23,369,362.67	2,431,617,872.30	0.06
1993	12,679.13	22,206,451.49	25,693,602.53	2,693,772,113.15	0.06
1994	15,125.40	26,309,181.11	42,806,472.40	3,600,872,070.97	0.05
1995	17,088.51	31,649,921.52	53,024,075.35	4,496,547,038.12	0.05
	48.44	***129.10***	***866.90***	***473.43***	
1996	18,385.43	33,404,131.49	57,841,415.39	4,796,036,062.92	0.05
1997	19,786.20	34,721,015.12	62,252,538.88	5,089,292,932.49	0.05
1998	23,406.89	33,109,570.48	65,587,984.54	5,065,836,571.13	0.05
1999	36,494.65	36,919,977.14	69,696,118.51	5,253,446,556.72	0.07
2000	53,335.06	42,358,096.16	74,078,983.77	6,017,872,973.80	0.10
2001	54,843.23	43,878,488.72	73,977,566.89	5,793,112,334.98	0.10
2002	71,360.79	50,097,958.25	79,470,862.78	6,088,876,506.29	0.11
2003	129,004.82	59,360,659.09	92,858,571.17	7,131,751,774.00	0.17
2004	230,062.79	75,904,200.37	109,804,041.59	8,614,899,158.33	0.24
2005	293,594.00	100,352,636.50	120,569,493.53	9,716,169,696.48	0.24
	167.81	***217.07***	***12.34***	***116.08***	
2006	388,304.92	121,200,606.22	134,236,650.62	11,375,108,966.07	0.27
2007	520,444.15	145,898,053.46	157,805,832.84	12,974,064,009.47	0.29
2008	540,680.74	181,860,898.30	172,446,474.89	15,008,238,458.46	0.26
2009	526,633.62	176,765,036.34	140,968,662.50	11,618,011,207.69	0.25
2010	706,823.93	220,408,495.99	161,733,641.54	14,140,279,485.92	0.28
2011	901,082.70	301,483,250.17	185,930,402.69	16,910,477,790.15	0.27
2012	1,010,205.30	289,564,769.45	203,657,597.27	16,413,045,361.56	0.28
	1,193,880.51	336,611,388.77	196,566,847.30	14,193,462,832.33	0.26
2013	***7,232.56***	***235.43***	***79.14***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXVI
Export and Growth of Toys, games and sports requisites; parts and accessories thereof.

Year	Export of India	Total trade of India	Export of world	Total Trade of world.	RCA
1988	24,528.40	13,815,155.52	3,718,026.78	784,149,785.10	0.37
1989	28,982.82	17,010,984.46	4,872,324.20	1,198,900,840.88	0.42
1990	33,584.67	17,858,789.30	5,858,281.07	1,375,831,053.91	0.44
1991	27,807.85	17,873,104.52	8,747,049.90	1,893,689,709.18	0.34
1992	33,718.89	20,679,324.50	14,148,421.91	2,431,617,872.30	0.28
1993	40,935.81	22,206,451.49	15,903,293.42	2,693,772,113.15	0.31
1994	59,233.39	26,309,181.11	20,804,913.19	3,600,872,070.97	0.39
	64,276.85	31,649,921.52	25,350,527.20	4,496,547,038.12	
1995	***162.05***	***129.10***	***581.83***	***473.43***	0.36
1996	69,020.87	33,404,131.49	26,935,370.28	4,796,036,062.92	0.37
1997	70,174.40	34,721,015.12	30,830,192.73	5,089,292,932.49	0.33
1998	63,401.10	33,109,570.48	30,046,557.76	5,065,836,571.13	0.32
1999	55,568.72	36,919,977.14	31,578,866.75	5,253,446,556.72	0.25
2000	55,248.18	42,358,096.16	32,261,598.59	6,017,872,973.80	0.24
2001	64,963.64	43,878,488.72	31,768,447.77	5,793,112,334.98	0.27
2002	67,703.37	50,097,958.25	35,279,839.55	6,088,876,506.29	0.23
2003	81,555.48	59,360,659.09	38,117,242.06	7,131,751,774.00	0.26
2004	96,803.31	75,904,200.37	41,961,278.92	8,614,899,158.33	0.26
	124,507.39	100,352,636.50	48,651,804.16	9,716,169,696.48	
2005	***93.70***	***217.07***	***91.92***	***116.08***	0.25
2006	138,541.78	121,200,606.22	55,052,185.91	11,375,108,966.07	0.24
2007	120,063.33	145,898,053.46	65,879,844.00	12,974,064,009.47	0.16
2008	139,809.40	181,860,898.30	77,886,114.23	15,008,238,458.46	0.15
2009	126,837.35	176,765,036.34	64,155,619.18	11,618,011,207.69	0.13
2010	157,840.50	220,408,495.99	68,858,095.25	14,140,279,485.92	0.15
2011	199,806.03	301,483,250.17	76,307,478.65	16,910,477,790.15	0.15
2012	211,777.13	289,564,769.45	73,874,113.78	16,413,045,361.56	0.16
2013	273,739.88	336,611,388.77	66,160,133.00	14,193,462,832.33	0.17
	119.86	***235.43***	***35.99***	***46.08***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars

Appendix.XXVII
Export and Growth of Miscellaneous manufactured articles

Year	Export of India	Total trade of India	Export of world	Total Trade of World	RCA
1988	13,651.48	13,815,155.52	2,854,626.30	784,149,785.10	0.27
1989	17,187.27	17,010,984.46	3,439,284.01	1,198,900,840.88	0.35
1990	23,750.82	17,858,789.30	4,108,782.58	1,375,831,053.91	0.45
1991	21,446.01	17,873,104.52	5,054,116.86	1,893,689,709.18	0.45
1992	28,550.98	20,679,324.50	6,747,262.38	2,431,617,872.30	0.50
1993	55,767.82	22,206,451.49	7,527,955.64	2,693,772,113.15	0.90
1994	71,546.90	26,309,181.11	10,110,829.60	3,600,872,070.97	0.97
	86,582.89	31,649,921.52	11,535,164.16	4,496,547,038.12	
1995	***534.24***	***129.10***	***304.09***	***473.43***	1.07
1996	89,948.94	33,404,131.49	11,770,134.21	4,796,036,062.92	1.10
1997	81,852.27	34,721,015.12	13,219,651.82	5,089,292,932.49	0.91
1998	81,443.63	33,109,570.48	12,687,644.80	5,065,836,571.13	0.98
1999	98,591.19	36,919,977.14	12,769,481.58	5,253,446,556.72	1.10
2000	110,442.75	42,358,096.16	13,007,161.73	6,017,872,973.80	1.21
2001	115,203.68	43,878,488.72	12,319,799.89	5,793,112,334.98	1.23
2002	111,853.70	50,097,958.25	12,809,549.33	6,088,876,506.29	1.06
2003	140,429.66	59,360,659.09	14,462,081.57	7,131,751,774.00	1.17
2004	140,926.98	75,904,200.37	16,573,815.80	8,614,899,158.33	0.97
	171,426.49	100,352,636.50	17,677,816.99	9,716,169,696.48	
2005	***97.99***	***217.07***	***53.25***	***116.08***	0.94
2006	192,426.95	121,200,606.22	19,394,434.70	11,375,108,966.07	0.93
2007	213,658.48	145,898,053.46	22,142,119.81	12,974,064,009.47	0.86
2008	240,458.54	181,860,898.30	24,229,675.33	15,008,238,458.46	0.82
2009	257,075.96	176,765,036.34	21,124,047.52	11,618,011,207.69	0.80
2010	321,019.32	220,408,495.99	24,827,003.38	14,140,279,485.92	0.83
2011	374,071.32	301,483,250.17	27,868,468.79	16,910,477,790.15	0.75
2012	435,486.26	289,564,769.45	28,150,723.23	16,413,045,361.56	0.88
2013	497,615.16	336,611,388.77	26,966,243.95	14,193,462,832.33	0.78
	190.279	***235.429***	***52.543***	***46.081***	

source: World Integrated Trade Solutions (WITS)2013, Value in 000'mill dollars