Impact of Exports on Manufacturing – A Case Study of Garments Industry in India

Dissertation Submitted to the School of Social Sciences Jawaharlal Nehru University in Partial fulfillment of the requirements for the award of the degree of

MASTER OF PHILOSOPHY

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CERTIFICATE

I, **EKNATH BOSE,** certify that the dissertation entitled "Impact of Exports on Manufacturing – A Case Study of Garments Industry in India" submitted by me for the degree of **MASTER OF PHILOSHOPY** is my bonafide work and may be placed before the examiners for evaluation.

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FOR MY PARENTS

AND

WELL - WISHERS

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Chapter - 1

Introduction

The Textiles and Clothing (T&C) industry holds an important place not only from the national point of view but also it is credited with the unique distinction of being the largest of it's kind in the entire world. The significance of the industry increases manifold when one casts a look at the export performance of India in the last decade or half. Keeping aside the traditional exports in the form of gems and jewelleries which has been India's main export item over this time period, this industry is attributed with the exceptional achievement of being India's most successful as well as consistent foreign exchange earner among all the items exported by India. With a very low import intensity of about 1.5%, it is arguably not only India's largest net foreign exchange earner but also for a decade and half this industry has contributed to as much as 27% of the foreign exchange earnings for the country.

As far as the contribution to employment it should be noted that the T& C sector together accounts for the highest employment not only among the entire spectrum of organized manufacturing sector in the country but it is the second largest employment provider among all the economic activities .The T&C sector together employs approximately 10 lakh workers thereby having a contribution as high as 17% of the entire employment in the organized manufacturing sector. Indirect employment including the manpower engaged in agriculture based raw- material production like cotton and related trade and handling could be stated to be around 60 million. Being the biggest manufacturing sector

in India, it contributes around 4% to the national GDP as well as 14% to the national industrial production on a whole[1].

Taking into account the huge influence this sector has on the Indian Economy as a whole, both export and domestic influence wise it should be noted that the industry is subject to increased global competition in the post 2005 regime on account of the complete removal of the MFA(Multi – Fibre Agreement) restrictions. Though the initial trends[2] as far as the exports of the major products of this sector are very encouraging, however it should be safely said that a consistent trend is yet to emerge and a conclusion on this trends will be a little too pre – mature to make. Also as could be seen from a detailed discussion in the next chapter that experts are of the opinion that the real effect of the MFA could only be understood post 2008 when the voluntary restrictions on China are scheduled to be lifted, on account of which there would be no restrictions on the limited access of the markets they are subject to as of now.

In this context it becomes imperative to understand the linkages between exports and manufacturing in the apparel sector so as to find out clearly the causal mechanisms that has ensured a sustained dominance of Indian apparel exports as could be seen quite clearly in Chapter 2. However, the standard arguments given by economists in the form of 'low wage' based competitiveness have been argued against by many in the literature. This is because of the fact that a country can cling to it's dominance in the global

[1] The figures are taken from the Tenth Five Year Plan Document.

[2] A detailed discussion on the export trends of the apparel products has been made on the chapter on export trends on a 6 digit level. It should be noted that the focus of this dissertation is purely on garments hence the exports trends and the comments are being made keeping apparel in mind.

market till the point the next 'low wage' country is discovered. The apparel exports as the literature suggests, apart from the traditional wage based advantage would also require various other characteristics so as to participate in the global supply chain and to adapt to the ever volatile global demand trends on account of rapid changes in fashion. These include timeliness in apparel sourcing and supply, of flexibility, product diversity, inventory risk and the demand for rapid replenishment and other characteristics of lean retailing as could be found in the writings of Tewari (2005)[3].This particular aspect of the export – manufacturing linkages of garments deserves a deeper introspection as it has serious policy implications.

The fact that is evident from the above discussion is this, that a firm in order to be export competitive has to own 'flexible' means of production., both in terms of labor as well as labor. The evidence regarding this flexibilization emerging as a growing phenomenon needs to be traced in the Indian context[4]. In this dissertation an attempt has been made to approximately quantify this upcoming trend and explain the causal mechanisms between export and manufacturing through this route.

1.1 *The Objective and Scope of the Study*

Though the entire Textile and Clothing's (T&C), sector have shown a major fillip from the late 90s, it should be mentioned here that specifically apparel has been India's major success story among all the exportable items thereby having a substantial share of 12% of

[3] Meenu Tewari (November 2005). "The role of Price and Cost Competitiveness in Apparel Exports, Post - MFA: A Review" ICRIER Working Paper No. 173.

[4] In chapter a detailed discussion has been made in this regard.

all the entire export volume of India. This becomes clearer when one observes that among all the items exported garments is the second largest exporting items exported by India in the last decade and half and ranks only after the traditional exports of India in the form of gems and jewelleries. Given the fact that the clothing industry (represented by the code 181 as per NIC – 98 classification) has always featured among the top 5 employment intensive sectors, a study focusing on the export – manufacturing linkages pertaining to this sector has some serious policy implications. In this context it becomes important to make a closer introspection not only into the exports of this sector but also to have a clearer picture regarding the underlying causal mechanisms which has contributed in enhancing the export competitiveness of this sector for the last decade and half..

Thus, in this backdrop it is a matter of great academic interest as to see not only in a changed trading regime how this sector reacts externally, but also has adjusted adequately in response to the gradual changes. Given its employment generating potential, it is also interesting to observe how the above said adjustments whether have caused any change within the domestic parameters governing the structure of the sector .Thus in this light the research questions posed in this dissertation are the following:

- **How do the trends in global demand influence the exports of garments from India? How competitive are Indian exports vis – a - vis the rest of the world?**
- **How are the exports and manufacturing sector linked? What are the causal mechanisms through which exports influence the manufacturing sector in garments? Hoe does these linkages influence the structural parameters**

namely the composition of employment, the degree of vertical integration etc. within the garments industry?

- **Given the influence of increased exports on the above mentioned structural parameters, how is the garments sector located within the organized manufacturing sector?**

1.2 *The Research Methodology*

As far as the answer to the first question is concerned a detailed analysis as far as the export trends for India has been made in the Chapter on Export Trends (i.e. Chapter 2). The analysis of competitiveness of Indian exports vis – a - vis the rest of the world is calculated through the help of Revealed Comparative Advantage (RCA) indexes. A detailed discussion regarding the theoretical justification of the use of RCA to measure competitiveness of Indian exports as well as the analysis has been made in Chapter 3.

The question on the export – manufacturing linkages has been answered adequately answered in light of these linkages through the help of employment – cum emolument tables of the Garments sector using the ASI data for the time period 1995-6 to 2003-04 as well as the CMIE Prowess data for the period 1990 to 2006. Additionally, the data regarding Net Value Added figures from the ASI summary results for the time period 1990 to 2005 has also been used .It should be noted that the export – manufacturing linkages are explained in this dissertation in terms of the trends of flexibility as observed in this sector in terms of the number of male or female

employed as well as the composition of people employed directly as opposed to those employed indirectly through contractors. In addition to this the amount of sub – contracting that is happening through the informal sector route through the increasing purchase of intermediate goods by the firms have also been taken into consideration as the means adopted by the organized manufacturing sector of the garments to adapt to the highly volatile global demand trends that is quite a common place for this sector. This discussion in a comprehensive manner has been made in Chapter 4.

The third question posed above has been answered with the help of a detailed analysis of the flexibility parameters as defined above for the entire organized manufacturing sector. An attempt have been made to answer the relative position of the garments exports in light of the change in composition of employment as well as the degree of vertical integration through a detailed inter – sectoral analysis of these parameters. The databases used are the 2 digit ASI tables so as to capture sub – contracting (for the purpose of the degree of the analysis of the vertical integration) as well as the 3 digit ASI tables employment – cum emolument tables (for the purpose of the analysis of the change in composition of employment) for the entire organized manufacturing sector.

The five chapters are:

a) **Introduction**

b) **Review of the Policy and Performance of the Textiles and Clothing sector of India.**

c) **Export Trends in Garments for the Period 1990 – 2005**

d) **The Export – Manufacturing Linkages–**

e) **Conclusions.**

Chapter -2

Review of Policy and Performance of the Textiles and Clothing Sector in India

The first chapter in this dissertation has given a brief overview of the Textile and Clothing (T& C) sector of India as well as the objective, scope and a concise idea of the research questions posed in this dissertation. In this chapter we intend to make an assessment of the policy and performance of this sector along with a review of the existing literature debating the various aspects of these policies. An attempt also has been made to outline the various studies which have been undertaken aiming to evaluate the performance of this sector.

The opening chapter has given an idea of the significance of this sector and the inspiration behind this study. In terms of the employment generating criteria it should be noted that this sector along with textiles holds the unique distinction among the entire manufacturing sector of not only being the biggest foreign exchange earner but also the biggest employment generator for the economy. A comprehensive discussion on this has been made in the next chapter.

2.1 *An Analysis of the Structure of the Industry*

The textile industry can be broadly classified into two categories, the organized mill sector and the unorganized decentralized sector. Being a closely monitored sector, the organized mill sector has a complete information base on the organizational set-up, machinery installation, production pattern, employment etc. However, information-base on the decentralized sector on the above parameters is inadequate and policy planning has

so far been based on limited data and rough indirect estimates The organized sector of the textile industry represents the mills. It could be a spinning mill or a composite mill. Composite mill is one where the spinning, weaving and processing facilities are carried out under one roof. On the other hand, the decentralized sector has been found to be engaged mainly in the weaving activity, which makes it heavily dependent on the organized sector for their yarn requirements. This decentralized sector is comprised of the three major segments viz., power loom, handloom and hosiery. In addition to the above, there are readymade garments, khadi as well as carpet manufacturing units in the decentralized sector. In a country like ours where labor is abundant and the unemployment poses a serious threat to the economic growth of the country, there is always a controversy about the production technology to be adopted. The mill sector's competitiveness is at stake given the mushrooming of a large power loom sector that has production-function advantages. The textile production in case of the later entrants like power looms has therefore upset the entire production scenario. The power looms and mills are able to go for mass production with better quality products. In spite of the fact that the industry could assimilate high technology levels for better quality production in the market, it has never adapted to the modern technology and, therefore, has remained obsolete. In the advent of globalization, the Government of India, as per the plan outlays as a part of its modernization efforts, has decided to induct about 50,000 shuttles less looms and upgrade2.5 lakh looms into automatic and semi automatic power looms and makes it cost effective[4]. If we shift our focus mainly into the garments sector, we see that though it happens to be one of the most successful stories, in the external sector, we can see that most if the production structurally is organized in the informal set up. Ready-

[4] National Textile Policy - 2000

made garment exports from India have grown rapidly over recent decades. Garment exports were virtually non-existent prior to 1960. Between 1970 and2000, garment exports grew from 1.89% to 12.95% as a percentage of total exports. However, after 2000 a slight fluctuation could be observed as far as this ratio is concerned (refer to table 1 in appendix). A closer look at table 1 in appendix reveals the fact that the ratio of garments exports as a percentage of total exports experienced a slight fall to 8% in 2004 from which it has again improved in 2005 to range around 9 percent in 2005.A detailed analysis of the export trends have been done both in the aggregate as well as in the disaggregate level in Chapter 3.As far as the regional spread of this industry is concerned it should be noted that the garments industry is mainly concentrated at eight cities namely Delhi, Mumbai, Kolkata, Chennai, Bangalore, Jaipur, Tiruppur and Ludhiana. The NSSO, under the 55^{th} round conducted during 1999 – 2000 estimated that the number of garment units present in India as 7.8 lakh. Employment in these workshops is estimated to be 14.46 lakh including all workers on their own account, proprietary firms as well as partnership and seasonal enterprises. Of the 14.46 lakh informal garment workers, 11.7 lakh (approximately 81 percent) are men and 2.72 lakh (roughly 19 percent) are women. Given the fact that the garment sector accounts for 1.81 percent of the total informal sector workers in India, male informal garment workers comprise 1.84 percent of total male informal workers, and female informal garment workers comprise1.68 percent of the total workforce. Thus what comes out is the fact that the informal sector of the garments though in itself a very significant sector but is indeed not a major informal sector in the Indian context as far as its contribution to employment is concerned.

The ASI, which covers larger factories under the Factories Act[5], estimated in 2004 -05 the number of factories in operation as approximately 3386 in the factory sector. These enterprises approximately provide employment to approximately 3, 78,000 workers in 2003 - 04.As far as the break up of employment is concerned it should be noted that among the total number of persons employed approximately 3, 27,000 are workers (which include both directly employed as well as contractual workers), 49,941 are employees other than workers (which include both supervisory and managerial staff and other employees) and a total of 1549 unpaid family members. The garment industry in India comprising the informal sector and the factory sector, employs roughly a total of 17.45 lakh workers – 12.97 lakh men (74.31 percent), 4.48 lakh women (25.68 percent) and 151 children. Thus what comes out is the fact that the informal sector within the garments industry holds an important position.

The extent of influence the unorganized sectors have on the production as well as export of the commodity could be easily understood by the following observation made by Barrientos[6] et al taking Delhi as a case study for their research for IDS, Sussex. According to them, it is estimated that in 1999-2000 there were approximately 30,472 garment enterprises in Delhi. Of these, 675 garment enterprises were registered under the Factory Act and 29,797 were unregistered garment enterprises. Thus nearly 98% of the estimated garment units in Delhi were in the unorganized sector. Delhi accounted for a

[5] These include factories employing 10 or more workers and using power – driven machinery and those employing 20 or more workers and using manually operated machinery.

[6] Stephanie Barrientos, Atul Sood, Kanchan Mathur (2006) , "The ETI code of labor practice: Do workers really benefit?" Institute of Development Studies, University of Sussex Publication

little over13% of the all-India registered sector garment enterprises and 3.84% of the unregistered enterprises. In terms of the value of all-India production, Delhi produced roughly 19.20% of the total output in the registered sector and 16.54% of the output in the unregistered sector. However, it should be noted that though the importance of the informal sector within the garments industry cannot be ignored but the emphasis on this dissertation has been primarily on the formal sector. It is because of the fact that if we consider the total informal sector enterprises present in India, then the contribution of the garments informal sector both employment as well as value added terms comes out to an trivial amount. This has been discussed above. Moreover it should be mentioned here at the sake of being repetitive that the main focus of this dissertation has been to bring out the export – manufacturing causal mechanisms for the garments sector in India which cannot be successfully done if one tries to incorporate the informal sector in the proposed framework on account of lack of reliable data sources.

2.2 *A Review of the Export Policies and Competitiveness of this Industry*

The history of manufacturing of textiles and garments in India dates back as far as the First World War. It brought an unexpected boom for the Indian industry as the imports from UK has been curtailed. Not only their production expanded rapidly but also these mills prospered even further on account of the tariff protection they enjoyed since 1917. Before independence, the Indian Textile industry has consolidated its foundation. After Independence, the Indian textile industry started catering to domestic and export markets. In 1950, India became the world's largest exporter of cotton textiles but her exports of cotton fabrics have stagnated, so that her share in world exports has been progressively

decreasing since 1950. The export promotion measures introduced by the Government of India didn't result into any fruitful conclusions.

As far as the history[7] regarding international regulations are concerned it should be noted that developments regarding trade in T&C goes back to 1961 whereby a multi – lateral agreement was formulated between the major exporting and importing countries under the auspices of the General Agreement on Tariffs and Trade popularly known as GATT. It then led to the formation of the Long Term Agreement (LTA) whereby a stipulated 5 percent increase in exports was accompanied by the grant of unilateral right to the importing countries to restrict import if they found or believed that the imports were responsible in disrupting the structure of the domestic markets. Quota restrictions under LTA and MFA have affected exports from developing countries, but even so the Asian NIES increased their exports of man-made fibers and garments after 1974 and became the main exporters of garments .However, it should be noted that, in contrast exports of ready made garments has increased rapidly since the 1970s against the background of export promotion measures which highlights the fact that the reason export promotion measures produced different measures for cotton fabrics as opposed to ready – made garments may be because of the persisting difference in the industrial

[7] For a detailed discussion regarding the history of international regulations, one can have a look at 'Liberalization in Trade and Finance: India's Garment Sector' by Narsharan Singh and Mrinalini Kaur Sapra (2007in 'The Liberalization and India's Informal Economy' edited by Barbara Harris White and Anushree Sinha. Oxford University Press.2007.)and also the wto website www.wto.org

structure that exists. The situation however changed during the late 1960 s when developed countries faced competition in the man – madefibre (sic!) garment and the made – up sectors. To curtail the import growth, developed countries enlarged the scope of the LTA through Arrangement Regarding International Trade in Textiles (**better known as MFA**) in 1974.According to this agreement annual quotas were not to exceed 6 percent every year and importing countries could impose QRs on imports , if their domestic markets were being adversely affected. In addition to these after the onset of the oil-shocks and global recession, among others the European Economic Community (EEC) intensified their protectionism, and the provision through which they achieved the same was called as the 'Reasonable Departure Clause'. The early 1980 s saw the removal of the 'Reasonable Departure Clause' which coined the period under consideration as MFA (III).Here in lieu of the removal of the 'Reasonable Departure Clause' a new provision was introduced such that the importing countries could restrict imports even before the export quotas had been filled by the exporting country, subject to imports from the exporting country rising substantially. This was an obvious impediment to the rise in the growth of exports from the developing countries. In 1986, however the 'Reasonable Departure Clause' was re – introduced. The final round of the GATT known as the Uruguay Round was the longest ,lasting from 1986 to 1994.It proposed the setting up of an international organization to oversee world trade and envisaged the addition of agriculture, services ,trade related intellectual property rights , technology and non – tariff barriers. This round

was responsible for the birth of the World Trade Organization (WTO), a body to oversee the trade rules. The initial ten years of WTO'S life has seen the complete phase – out of the trade distortionary measures such as Quotas starting from 1995. The complete phase – out has occurred as per schedule by 2005.

As far as the exports are concerned it can be seen that the NIE s are losing competitiveness due to rapid increase in wage costs. On the other hand India's exports of cotton fabrics stagnated so that her share in world exports fell between 1974 and 1992. Indian mils have not diversified and upgraded products actively. As most mills belong to business groups they preferred investment in more profitable industries to cotton textiles. This can be explained through the rationale that a ' business group' with a highly diversified set of interests, it would not only compare the relative profitability of investment in exports against production for domestic profitability of investment in exports against production for domestic sale of cotton fabrics, but exports against all avenues of investment available to such a diversified entity. Moreover till the onset of economic reforms, import substitution industries had been protected by high custom duties and import restriction. Naturally it comes as no surprise for the rationale of the 'business group' to opt for these import protection industries as investment sites as compared to this sector. Evidence in this regard could be

found in the works of Uchikawa (1998)[8] as well as in the writings of Chandrasekhar (1981)[9].Moreover, the government had to adopt policies disadvantageous to the mill sector, which was the main export sector, in order to protect the handloom sector. However, it should be mentioned that Indian fabrics still maintain a degree of international competitiveness. After the onset of economic reforms since 1991, India's exports of fabrics have grown faster than ever.

In order to have an approximate assessment of the relative position of the Indian garments exports in context of the global economy, one can have a look for a detailed overview in the study made by the Office of Industries, US International Trade Commission (2001)[10].If one focuses on the literature regarding the export competitiveness of Indian Apparel Exports it should be noted that a mention has to be made of a study made by Samar Verma (2002)[11]. The study has examined India's competitive performance in the US and EU markets for MFA (ATC) product categories that are important in Indian export basket, and has found that Indian exports to the EU and the US are, on the whole, export-competitive. It has also delineated the changing

[8] One can have a look in this regard in Chapter 1 titled as 'India's export performance in textiles' in Shuji Uchikawa's (1998) book "India, textile industry - State policy, Liberalization and Growth", Manohar Publications.

[9] C.P.Chandrasekhar,(1981) "Growth and technical change in Indian cotton –mill industry:1947 – 77", Phd thesis, Jawaharlal Nehru University .

[10] Sunder A. Shetty, US International Trade Commission (2001) "India's Textile and Apparel Industry: Growth Potential and Trade and Investment Opportunities.", Staff Research Study 27, Publication 3401.

[11] Samar Verma, (November 2002) "Export Competitiveness of Indian Textile and Garment Industry", ICRIER Working Paper N.o. 94 ,

landscape in the international trading environment which is likely to significantly impact global textile and clothing trade. To enhance the competitiveness of the industry, the study has highlighted areas requiring government policy intervention. The study concludes that while there is little doubt regarding the immense potential that the Indian industry-specially garment sector- has, several policy reforms are needed urgently in order to unlock this latent capability. Besides, from the emerging nature of global trading environment, it appears that market access would become an increasingly important aspect of translating competitiveness into export performance. An attempt almost on similar lines though not totally has been made by Das (2004)[12] where he has stressed on intra – regional horizontal specialization as the way forward. Through econometric applications he has dispensed the notion that the T&C sector factor intensity wise is a labor intensive sector. With the help of econometric explorations, the paper observes a situation characterized as factor intensity reversal in South Asian countries necessitated by structural transformation within the industry due to increasing use of the scarce factor. The paper argues that implementing such a change in the production process in these countries would not be easy especially in the post – MFA regime and thus regional cooperation in this sector could be one of the ways in meeting the post – MFA challenges. In this context the paper explores the prospect for horizontal specialization and industrial restructuring with the help of strengthening trade – investment linkages in this sector in the SAARC region along with adopting some other policy measures.

[12] Ram Upendra Das (2004):'Industrial Restructuring and Export Competitiveness of the Textiles and Clothing Sector in SAARC in the context of MFA Phase – out.' RIS Discussion Papers.

As could be seen from Section 2.2 the trading regime that awaits the Indian garments exports post 2005 is a completely new one on account of the complete phase – out of the MFA. Thus, this particular paradigm shift in terms of a complete structural revamp of the multi – lateral trading system has attracted maximum interest among economists in terms of the forecasting the possible gainers and losers among the exporting countries. The other major area that has attracted much attention among the economists concerns with the possible welfare effects both from an individual country perspective as well as from a global point of view. Thus it should be noted, that in this context a vast amount of work has been done to capture the post – MFA effects as discussed above using a general equilibrium approach through GTAP base projections. One of the pioneering papers which deserve special mention is a paper by Hertel et al[13]. Here, in this paper they have shown that India's inefficient policies such as cotton export quotas, the hank yarn obligation , and the restrictive policies on foreign investment that have held back productivity in the Indian apparel sector will impose serious costs. The authors consider the implications of reforming these policies in an open trading regime using a multi – region applied general equilibrium model. They find that the costs of these policies increase substantially following the abolition of MFA; the benefits to India from domestic reforms are considerably enhanced when there is global free trade in textiles and apparel. The general perception among the economists is that the removal of quota restrictions will lead to a substantial consolidation of global supply networks, creating winners and losers. The entire conclusion is arrived from the fact that large, low cost

[13] Aziz Elbehri, Thomas Hertel and William Martin (2003), "Estimating the impact of WTO and Domestic Reforms on the Indian Cotton AND Textile Sectors: a General Equilibrium Approach" The Review of Development Economics, 7(3).

supplier countries, such as China, India, and Mexico with stable supply networks, experience in exporting, well-developed capacities for scaling up and the ability to offer a full bundle of services will benefit from the post- MFA reorganization of the global trade in textiles, while smaller countries that had benefited from the limited but guaranteed access to industrial markets under quotas, may well lose out. The most cited paper in this regard is a paper by Nordas[14] where he uses relative prices, cost competitiveness and the degree of pre-abolition quota-restrictiveness faced by individual countries to project that China's post-MFA share in the US apparel market could triple from its current share of 16% to as much as 50% after 2005, and India's could quadruple from about 4% to 15% after the removal of quotas (Nordås 2004). This finding suggests, on the face of it, that China and India's combined export share in the US apparel market could be a staggering 65% post-MFA, compared to their combined share of 20% in 2003.As far as the predictions regarding garments exports are concerned and the possible welfare effects it can have on the various blocks of countries it can be seen there exists substantial literature to suggest that the MFA is a binding constraint on the exporters, as well as the fact that the MFA encourages growth of smaller exporters by restricting from major sellers. Dean (1998)[15] has showed that the MFA is a binding constraint using a pooled data from eight small Asian countries for the time period 1975-84.Irena and Whalley (1990)[16] using an applied general equilibrium model had showed that based on the 1986 data , the annual global gains from the elimination of quotas and tariffs on developed

[14] Nordås, Hildegunn Kyvik. 2004. "The Global Textile and Clothing Industry post the Agreement on Textiles and Clothing." Discussion Paper No. 15, World Trade Organization, Geneva, Switzerland.

[15] Judith M. Dean. 1988. "The effects of the U.S. on small exporters." The Review of Economics and Statistics.

[16] Irene Trela and John Whalley. 1990. "Global Effects of Developed Country Trade Restrictions on Textiles and Apparel". The Economic Journal.

country textile and apparel imports of around $23 billion, whereby the gains attributed to the United States, Canada and the EC are respectively $ 12.3 billion,$ 0.8 billion and $2.2 billion, whereas the developing countries as a whole are getting $ 8 billion which is far more than any partial equilibrium estimate done before. Thus what emerges is a general consensus among economists regarding the fact that a large exporter like India can eventually benefit from an arrangement like MFA. However, a slightly different conclusion, has been reached by Ananthakrishnan and Jai - Chandra[17] in terms of a comparative assessment made in terms of relative gains as far as Indian Apparel Exports is concerned in a situation where we have a complete removal of the safe – guards that have been imposed by US on account of it's accession to WTO as well as the interim period when the safe – guards are yet to be removed. Here by using the computable General Equilibrium Model from the Global Analysis Trade Project (GTAP Version 6) they simulate two scenarios to estimate the impact of the elimination of quotas on India. The first is a complete removal of the quotas, by eliminating the export tax equivalents of the MFA/ATC quota. The second scenario includes a partial reduction of quotas on China (of 50 percent), and a full removal of quotas (or equivalently ETEs) imposed on other countries. This scenario aims to estimate the impact of the liberalization keeping in mind the somewhat more limited liberalization vis-à-vis China, as is permissible under China's accession protocol to the WTO until 2008. Our paper's contribution is to include an analysis of the incomplete liberalization and a focus on the impact on India. In both scenarios the results for exports (prices, volumes, and values), GDP, trade balance, and welfare has been presented. The following results have been noticed:

[17] Prasad Ananthakrishna and Sonali Jai - Chandra (November 2005), "The Impact Of India on Trade Liberalization in the Textiles and Clothing Sector", IMF Working Paper, WP / 05/ 214.

a) World welfare would increase but India's welfare would drop due to a negative terms of trade effect even though there is a positive allocative efficiency effect. The main gains in welfare would accrue to the consumers in the EU and the United States via a reduction in prices. Of the exporting countries, China would stand to gain welfare despite negative terms of trade effect as the increase in allocative efficiency is tremendous. In Scenario II a smaller increase in world welfare due to incomplete liberalization, and a smaller increase in the welfare of the United States, EU, and China is observed. On the other hand, a smaller (than Scenario I) negative welfare effect on other exporting countries such as India, Mexico and Bangladesh is observed.

b) In Scenario I, total world exports would grow only by 0.1 percent only but exports of clothing would grow by 3.1 percent and those of textiles by 0.4 percent (Table 6). There would be an asymmetric impact on Indian exports as textile exports are simulated to grow by 5.6 percent, whereas clothing exports fall by 4 percent under Scenario I. In the next scenario, with the incomplete liberalization vis-à-vis China, textiles and clothing exports from India are to grow at 13 percent and 11 percent, respectively. The higher Indian exports in Scenario II compared with Scenario I shows that some countries, including India, will benefit from the temporary restrictions imposed on Chinese exports. As far as the other studies made in the same area is concerned it should be noted that among the notable are the estimates of the increase in welfare ranging to around billion euros made by Fracois, Glismann, and Spinager (2000)[18].For other developing countries and regions

[18] Francois,J.F.,H.H.Glisman and D. Spinanger (2000), "The cost of EU Trade Protection in Textiles and Clothing", Kiel Institute of World Economics Working Paper 997

such as Mexico, Bangladesh, Indonesia, Philippines and Hong Kong SAR simulations mad by Mlachila and Young (2004)[19] suggest that quota elimination may lead to decline in market share. Recent work include simulations made by Cerra,Rivera,Saxena[20] (2005),Manole[21](2005), using the GTAP version 6 with 2001 as the base year shows a fall in economic welfare for India due to deterioration in the terms of trade.

Nonetheless, if one tries to make a review of the international policies pertaining to the garments sector one cannot forget the growing proliferation of the global value chains as well as the emerging trend of retailing within global trade. A closer look at the literature of the Global Value Chain reveals the fact that the secret to move up the value chain lies in the transformation of production structure of the participant exporting country from being an Assembly Line producer to an Original equipment manufacturer and in turn into an Original Brand name manufacturer as could be found in the works of Gereffi et al(2004)[22].Also evidence could be found in the functioning of the Global Value Chain from the works of Gereffi et al (2001)[23], as well as Sen[24] and Gereffi and Ramaswamy

[19] Mlachila, Montfort, and Yongzheng Yang (2004), "The End of Textile Quotas: A Case Study of the Impact on Bangladesh", IMF Working Paper 108.

[20] Cerra ,Valerie,Sandra A.Rivera and Sweta Chaman Saxena (2005), "Crouching Tier , Hidden Dragon :What are the consequences of China's WTO Entry for India's Trade?", IMF Working Paper 05/01

[21] Manole, Vlad (2005), "Winner or Loser? Effects of Quota Abolition in World Markets for Textile and Apparel," World Bank Policy Research Paper 2721.

[22] Gary Gereffi and Olga Memedovic. "The Global Apparel Value chain: What prospects for upgrading by Developing Countries?"2004. Sectoral studies series, United Nations Industrial Development Organization., Vienna, 2003.

[23] Gary Gereffi, John Humphrey, Raphael Kaplinsky and Timothy J. Sturgeon (2001), "Introduction: Globalization Value Chains and Development" ,IDS Bulletin 32.3, 2001

[24] Alper Sen , "The US apparel industry : a supply chain review"

(2000)[25].Gereffi and Ramaswamy (2000) has shown that the increasing influence of the Global Value Chain on Apparel exports as far the US market is concerned. It should be noted that in the case of apparel these value chains are totally buyer driven and in this case the buyers represent the Big Retailers who as they have aptly coined as 'manufacturers without any factories'. They have given the following table to show the nature and kind of exports to the US happening:

Table 2.1

Type of Importers	Representative Firms	Characteristics of Buyers Orders
Discounters/Outlet stores	Wal – Mart, Kmart , Target	Low – priced store brand products, Huge orders
Mass merchandisers	J.C.Penny, Sears, Woolworth	Good quality, medium – priced goods sold under private labels. Large orders.
Department stores/Specialty stores	The Gap, The Limited, Bloomingdale's ,May Department stores	Top quality, high priced national brands. Medium to Large orders
Brand Name Marketers	Liz Claribone,Calvin Kline, Tommy Hilfiger	Same as department stores.
Brand Name apparel manufacturers	VF Corporation, Sara Lee, Levi Strauss and Co.	National Brands. Medium to large orders.

Here it should be noted that the above mentioned retailers /importers as a practice typically outsource their products to lower wage countries and that is the place where the developing countries fit in the value – chain. This as it stands should be basically the way the dynamics of international trade works as far as this sector is concerned.

[25] K.V.Ramaswamy and Gary Gereffi (2000), "India's Apparel Exports: The Challenge of Global Markets", The Developing Economies XXXVIII – 2 (June 2000).

2.3 *A Review of the Domestic Policies in the T & C Sector*

When one casts a look at the major domestic policies pertaining to this sector and pursued by the government so far brings us to the to the ***Textile Policy of 1985.*** As far as the main motives behind the policy are concerned, it should be noted that it had majorly targeted the increase in production of quality cloth at a reasonable demand so as to cater to the demands of a growing population. Of the major points stressed by this policy includes the removal of freeze on loomage in the mill sector, ensuring the adequate availability of man- made fibers which if need arises can even be supplemented with imports both in the final as well as intermediate stage as well as the subsequent protection as well as promotion of the handloom sector which happens to be one of the most labor – intensive sectors within the industry. However, the policy on account of the structural problems persisting in the industry could not succeed in a big manner on account of which the khadi, handloom, power loom and mill sectors still coexist and compete with each another. Of the other main policies followed included the restriction of garments industry into a small scale industry scale. It should be noted in this context that Kathuria and Bharadwaj[26] (1998), in 'Export Quotas and Policy Constraints in the Indian Textile and Garment Industries' have remarked that on account of the Small Scale structure of the industry, the phenomenon that is most commonly observed is that of sub – contracting of factor services, especially labor which in turn has led to a fall in competitiveness particularly in those tariff lines in the garment industry which

[26] Sanjay Kathuria and Anjali Bharadwaj (October 1998), "Export Quotas and Policy Constraints in the Indian Textile and Garment Industries", SAPSR World Bank.

do not rely upon niche markets. From their individual survey across various countries they have found out that the degree of sub – contracting is much starker in India (74%), as compared to Hong Kong (11%), China (20%), and Thailand (28%). As well as South Korea and Taiwan (36%). Thus on account of these they have concluded that sub – contracting according to them is a "low-risk, low capital strategy" which eventually means that exporters are unwilling to trade this off with an unproven, high risk strategy unless their backs are pushed against the wall requiring a lot more investment. Debate on this explanation still remains as far as nature of economies of scale are concerned as it could be found out from Shuji Uchikawa's book titled 'India, textile industry - State policy, Liberalization and Growth'[27] where he suggests that the Indian textiles has been characterized by over capacity in both spinning and weaving. On account of this according to him the "Indiscriminate takeover of sick mills by the government made necessary obsolete capacity remain. The policy could not protect laborers in the mill sector finally. Conversely over capacity led to under – utilization of capacity and became a sign of structural sickness in the mill sector".

Tendulkar and Bhavani (2001)[28] in 'Determinants of firm level export performance - A case study of Indian textile garments and apparel industry' published in Journal of International Trade and Economic Development' have

[27] Shuji Uchikawa's (1998), "India, textile industry - State policy, Liberalization and Growth", Manohar Publications.

[28] Bhavani, T.A., Suresh D. Tendulkar (2001), "Determinants of firm – level export performance: A case study of Indian textile garments and apparel industry", Journal of International Trade and Development, 10:1, 65 - 92

identified scale economies as a major deterring factor for firms which wish to export.

They used the Census of Small Scale Industrial Units (CSSIU2) data as the industry had been reserved for exclusive production units defined as an undertaking having original investment in plant and machinery not excluding 3.5 million. They then constructed an export decision function and an export performance function at firm level and run a Probit and Tobit regression as in the first case the dependent variables is binary and as in the second equation the dependent variable for non – exporting unit takes a zero value. One of the major conclusions that come out from their studies is the fact that the impact of scale of operation is statistically significant and increases across forms of business organizations. Also scale turning out to be important even among small scale unit even among small scale units implies that garment exports can be increased by permitting large scale firms in the production of garments as they are in a better position to reap economies of scale in bulk purchase of materials (recall high material intensity of units), raise finances and possess ability to access international buyer driven chairs and successfully compete in a market that is both price and quality sensitive. Another paper which needs to be mentioned is a commentary made by Ganesh (2002)[29], where he argues that the Indian textile industry is too fragmented and obsolete to benefit from the market openings which will follow the elimination of quota restrains. Evasion of excise duty, he argues is the basis of competitive advantage in the domestic

[29] S.Ganesh (March 2002), "Indian Textile Industry: Stifled by Warped Policies", EPW Commentary.

textile industry, and this has driven the better units in the organized sector away from the domestic market into exports. But exporting units are vulnerable if they are deprived to access to the domestic market. It may be too that they are deprived of access to the domestic market.

Thus what it comes out from the discussion is the fact that there exists a sizeable literature mainly concerning the scale of operations in the textiles and clothing sector. Verma (2002) have also proposed in his paper that infrastructure as a binding constraint to export competitiveness. In his paper Verma (2002) has listed the various infrastructural bottlenecks ranging from shipping – cum – port, facilities, high energy cost, high interest cost and quality of inland road especially state highways and also the high transaction cost such as the time period required for getting a duty free license e.g. A finding almost on the similar lines can be found in the works of Ananthakrishnan and Jai – Chandra (2005).

Hashim[30] (2005) in a paper tried to measure the cost competitiveness of the textile and garments industry by using a panel data of 16 states in cotton yarn and 13 states in garments for the time period 1989-90 to 1997-98. In order to be more specific in the analysis, the important three digit level industries were chosen from the respective two digit level classification, of the Annual survey of Industries (ASI). He considered 260, 265 & 235 as the three main categories. The estimation of the variable cost function requires data on prices of factors and quantities of input and output. These statistics at the state lever are drawn mainly from the ASI. The state level data on road density, availability of

[30] Danish A.Hashim (January 2005), "Post – MFA: Making the Textile and Garment Industry Competitive", EPW Special Articles.

electricity, credit disbursements by scheduled commercial banks are collected from various publications of CMIE, statistics from NRP and NIB are incorporated from a study by NCAER (2000). Data also have been used from various sources like Chandhok (1990), various publications of monthly index number of wholesale prices, national account statistics and the input – output table. However Badri Narayan G.[31] (2005) has pointed out correctly that Hashim's analysis primarily overlooks specifically the importance that should be given to numerous small-scale industries (SSIs) though 80 percent of the output in the garment sector can be attributed to it.

The National Textile Policy 2000, though having the same intention as that of 1985, i.e. 'the increase in production of quality cloth at a reasonable demand so as to cater to the demands of a growing population', among its many targets, aims to increase it's textile and apparel imports to US$50 billion by 2010 of which the share of garments to be as high as US $25 billion[32]. Among it's other targets include to 'Implement vigorously, in a time bound manner, the Technology Upgradation Fund Scheme (TUFS) covering all manufacturing segments of the industry; Achieve increase in cotton productivity by at least 50% and upgrade its quality to international standards, through effective implementation of the Technology Mission on Cotton ·Assist the private sector to set up specialized financial arrangements to fund the diverse needs of the textile industry; Set up a Venture Capital Fund for tapping knowledge based entrepreneurs of the industry; ·Encourage the private sector to set up world class, environment-friendly, integrated textile complexes and textile processing

[31] Badri Narayan G (February 2005), "Questions on Textile Industry Competitiveness", EPW Discussion.

[32] 'The National Textile Policy- 2000' - Ministry of Textiles.

units in different parts of the country; De-reserve the Garment industry from the Small Scale Industry sector; ·Strengthen and encourage the handloom industry to produce value added items and assist the industry to forge joint ventures to secure global markets; ·Re-design and revamp, during the 10th Five Year Plan, the Schemes and Programmes initiated in the handloom, sericulture, handicrafts and jute sector to ensure better returns for those belonging to the disadvantaged categories, and the North East and other backward regions of the country.' However, as far as the tax policies regarding garments are concerned it should be noted that as per the SSI policy of the government certain units have been exempted from tax under specific schemes. Garments also fell under such schemes until they were removed the list of reserved items. Under the SSI exemption schemes, which covered almost all items specified in the central excise tariff, two streams of exemption were given to SSI units depending on whether the manufacturer wished to avail himself of the input tax credit under the CENVAT scheme , or not. In this context, one should mention the N.K.Singh Report whereby it was said that because of such a policy, the T&C sector have become hugely fragmented. Until very recently the large Indian companies were prevented from investing in the clothing items, hosiery and knitwear as 31 textile products were reserved and exclusively for the production in this sector. In this context, one should mention that the new textile policy in 2000 have proposed the dereservation of the garments sector from the SSI list. It also has paved the way for 100% FDI in this sector subject to the approval of the Foreign Investment Promotion Board (FIPB).

An in – depth review of the labor laws prevailing in the T& C sector reveals the fact that when a factory registers under the factory act , it automatically ensures that various labor legislations are complied with. These includes the Payment of Wages Act (1936), Maximum Wages Act(1948), Workmen's Compensation Act (1946),Employees State Insurance Act(1948),Employees Provident Pension Fund and Miscellaneous Provisions(1952),Employees Pension Scheme(1971), Maternity Benefit Act(1961),Payment of Gratuity Act(1972),Trade Union Act(1926),Industrial Employment (Standing Orders) Act (1946),Employment Exchanges (Compulsory Notification of Vacancies)Act(1959),Apprentices Act1961),Contract Labor(Regulation and Abolition) Act (1970),Equal Remuneration Act(1976) and the Interstate Migrant Workmen (Regulation of Employment Conditions of Service) Act(1979).As far as the employment statistics are concerned it should be noted that as per the ASI 2003 – 04 summary results are concerned one finds that a sum total of 3, 78,000 workers in 2003 - 04.As far as the break up of employment is concerned it should be noted that among the total number of persons employed approximately 3, 27,000 are workers (which include both directly employed as well as contractual workers), of which we have 118684 male workers(among the directly employed workers a percentage of 39.52%) and 181610 female workers(among the directly employed workers a percentage of 60.47%) , 49,941 are employees other than workers (which include both supervisory and managerial staff and other employees) and a total of 1549 unpaid family members. Though it is less well known but it should be noted that these laws apply to all workers irrespective of their Employment Status i.e. either or casual or full – time. The Factories Act applies to all workers, including contract and piece - rate workers .Being registered under the Factories

Act is not a pre – condition for the application of these laws. Most laws generally apply to any establishment. However , it should be mentioned here that there exists a long – standing debate regarding this as Corporate interests have always thought these laws as an impediment to the growth of Investment in the country whereas Trade Union activists have always maintained that Globalization have played a big role in curbing the worker's rights in the last decade or half.

However, in addition to these we have Civil Regulatory Framework for Self – Organization in the Garments sector. Some of the international multiple - stakeholder initiatives that relate to the garments sector are AA 1000,The Clean Clothes Campaign, The Ethical Trading Initiative ,Social Audit 8000,Worldwide Responsible Apparel Production(WRAP)[33].Many of these voluntary initiatives were allegedly developed to improve the conditions of labor in firms located in developing countries, or for the export firms in developing countries. Most multiple – stakeholder initiatives stress independent monitoring as well as auditing. Since 1999, voluntary codes have started developing in the Indian garment industry. This has involved social audits, monitoring by buying houses, and third party monitoring. These regulatory practices have started impacting the production organization in India. As it was found out by Singh and Sapra (2007)[34] after conducting interviews with garment buying agents of the big importing retailers. These people inspect the premises, the working conditions quite regularly. Hours of work,

[33] Additionally in India, RUGMARK and KALEEN are two specific labeling schemes that certify that no child labor has been used in carpet production.

[34] Narsharan Singh and Mrinalini Kaur Sapra (2007). 'Liberalization in Trade and Finance: India's Garment Sector' in 'The Liberalization and India's Informal Economy' edited by Barbara Harris White and Anushree Sinha. Oxford University Press.2007

crèche facilities (where female labor is employed), washrooms, the size and sitting capacity of the industrial premises are regularly inspected and garments manufacturers are already signing declarations ,such as 'prison labor not used' and 'child labor not used in the production of garments'. However, the sad part of it is that firms which only cater to the domestic market do not have to abide to any such rules thus there is hardly any examples of companies manufacturing for adopting codes of conduct dealing with labor. The same is the case with most of the activities happening in the informal sector as well as the home – based activity kind. Home – based and unorganized workers could be covered by codes only in those cases where their implementation is related to the supply chain and where there is a provision for audit and monitoring by a third party or by an exclusive inspectorate within the company.

2.4 *Domestic Policy Framework – A Comparative perspective*

The earlier sections in this chapter have given a clear idea regarding the policy framework existing in India as well as the subsequent changes that have taken place over the years. Here, in this section an attempt has been made to identify the major changes domestic policy wise happening in the other countries that have been identified as our major global competitors.

These countries are mainly South Asian countries namely, Pakistan, Bangladesh, Taiwan Province of China, Phillipines, SriLanka, China as well as Turkey. The common characteristic that evolves after a brief review of the domestic policies pertaining to the T& C sector is the fact that this sector has been treated as a priority sector by all these

countries in the last 5 - 7 years. The main reason that can be attributed to this change in the attitude from the policy makers of these respective countries is related intrinsically to the vast opportunities as well as the threats that the abolition of MFA holds for all these countries. The most wide – spread among all the domestic reforms happening in these countries has been the increasing number of incentives that are being offered by the respective governments. On the tax side, incentives to investors include income tax holidays, additional deduction for incremental labor expenses during the first five years from registration, tax and duty exemption on imported spare parts when brought in through the firm's own bonded manufacturing warehouses, the unrestricted use of consigned equipment, and tax credits for imported raw materials used for exported products. Investments are strongly encouraged in the areas of manufacturing, dyeing, printing, and finishing promoting competitiveness. In addition to these there has also been a continuous streamlining of export and import procedures designed to improve the speed to market capability. Procedural simplifications include the new electronic visa system and the integration of garments and textiles forms. Apart from these, other innovative schemes are also been applied to boost the investment scenario as could be seen from the setting up of Textiles park in Karachi by Pakistan and similar industrial parks by Sri Lanka as well. Like India, Philippines have also implemented social responsibility in manufacturing. Under this program, garment exporters are mandated to follow internationally accepted labor standards in manufacturing to meet the demands of the market for "clean clothes", i.e., free of child labor. Apart from these some specific policies as well as targets have been implemented by individual countries. For example , Bangladesh now have a cash compensation scheme for domestic suppliers to export

oriented ready-made garment units equivalent to 10 percent of the value added of exported garments has been put in place (Mlachila and Yang 2004). The government is also focusing on upgrading its port, restructuring the energy sector, and facilitating training and marketing programs; China also had set an ambitious target of $ 70 – 75 billion as the total value of their textile and apparel exports for 2005. Along with these emphasize has been given by the Chinese government to the development of brand apparel, children's apparel, garments for middle-aged and old people, and special garments; research and development of ecological, health-care garments; development of garments suitable for rural consumption to adapt garment making to the multilayered consumption demands of the domestic market, and expanded exports.

2.5 *The Meaning of Flexibility*

The primary focus of this dissertation is mainly to deal with the notion of flexibility that is very much evident in the garments sector. A review of the existing literature in the garments industry, as well as the entire organized manufacturing sector reveals the fact that there has been no specific attempt to analytically capture flexibility. The notion of flexibility as far as the garments industry is concerned, has been explained in terms of usage of contractual labor by factories as well as the increasing use of intermediate inputs through sub – contracting. This argument is built on the rationale that, more the volatility of the global demand, the easier it is for the firm to adjust and survive in this kind of environment if it resorts to the usage of labor for a limited period of time (contractual labor) as well as sub – contracts the major part of its production process from outside (through the usage of intermediate inputs). An attempt, though not what has been attempted in this dissertation in this regard has been

made by Das (2003)[35], where he argues that like many other studies on India and globally, this paper finds negative TFP growth, based on invested capital, in many industries over certain periods. It is difficult to conceive of negative technical change (exogenous or endogenous) and therefore negative TFP change must represent underlying structural and cyclical factors that need to be investigated and understood. Such structural factors would include exit restrictions arising from inability to dismiss workers or declare bankruptcy. Such exit restrictions result in accumulation of sick firms that pull down the industry TFP growth into negative territory. Thus for garments, as it can be found out from his analysis that there has in fact has occurred an increase in Total Factor Productivity Growth (TFPG) as compared to 1986 -90, in the time period 1995 - 2000 .However it should be noted that a negative TFPG was noticed for the period 1990 -95 which shoes the shift to Contractualisation has happened after 1996.A much more profound evidence of flexibility being the determinant factor could be found in the works of Meenu Tewari. The emerging characteristics that come out are the growing importance of timeliness in apparel sourcing and supply, of flexibility, product diversity, inventory risk and the demand for rapid replenishment and other characteristics of lean retailing as could be found in the writings of Tewari (2005)[36]. This paper reviews a growing body of literature that focuses on the institutional organization of global trade networks and production chains. It shows that firms today face altered conditions of competition that are pushing them to compete on the basis of factors other than price and cost competitiveness. In an environment with fragmented demand and volatile markets buyers are increasingly demanding good quality, variety, and timely delivery in addition to price. Even the largest buyers (e.g., Wal-Mart) require their suppliers to replenish their stocks rapidly – e.g., weekly and in short cycles. Under these conditions large scales of

[35] DebKusum Das (2003): "Manufacturing productivity under varying trade regimes – India in the 1980 s and 1990 s", ICRIER Working Paper N.o. 107.

[36] Meenu Tewari (November 2005). "The role of Price and Cost Competitiveness in Apparel Exports, Post - MFA : A Review" ICRIER Working Paper No. 173

operation can add to costs unless they are embedded within other capabilities of timely supply and low inventories that the environment demands. The paper also argues that the attribution of China's remarkable export performance in textiles and apparel to its low unit costs and large scales of production is, in part, a misreading of the China story. China's costs are low, and its production scales enormous, but they are embedded within crucial abilities that lower the "costs" of large scales of operation (i.e., of rigidity) in the context of uncertain markets. China's low cost producers are deeply embedded within the marketing, distribution and supply management networks of locally rooted Hong Kong, Taiwanese and South Korean 'triangle manufacturers' who understand global markets well and have a long history of doing business with the most demanding of industrial markets, and who have mastered the capability to manage diversified production networks to deliver a wide range of quality products to its buyers in a timely way. These factors make China much more than a mere low-cost producer apparel exporter. The end of quotas and the ongoing churning in the global division of labor in apparel and textiles can be an opportunity for apparel producing firms in India with their severe handicap arising from labor policy induced rigidities, to chart an alternative growth path. This paper provides a view of this alternative.

If we endeavor specifically to find evidence of flexibility from the existing literature, it comes out as no surprise, that there is an increasingly growing evidence regarding creating a production process which is fragmented and in formalized. Singh and Sapra (2007)[37] as mentioned above has made two interesting case studies of The garments cluster in Tirupur as well as Noida where they have found out among the common characteristics that can be seen in both the clusters is the fact that through arrangements

[37] Narsharan Singh and Mrinalini Kaur Sapra (2007). 'Liberalization in Trade and Finance: India's Garment Sector' in 'The Liberalization and India's Informal Economy' edited by Barbara Harris White and Anushree Sinha. Oxford University Press.2007.

of contracting in and out firms have reduced more and more of their responsibility towards an expanding work force in response to the demands of a highly volatile international fashion garments fashion industry. It is found out that these people learn skills at their own cost, subsist without rights at work, or rights to social security ands toil to make the industry competitive in the international market. Though not totally on similar lines, but another paper by Munshi and Banerjee (2004)[38] that attracts our attention in this context. This paper studies the effect of community identity on investment behavior in the knitted garment industry in South India, Tirupur.What comes out as a major finding is the fact that a very large and systematic differences in both levels of capital stock and the capital intensity of production in firms owned by people from two different community groups. From there, they argue that the differences in investment cannot be explained by productivity differences alone. As suggested by authors what comes out clearly is the fact that the two communities differ in their access to capital.

As far as the cluster surrounding Greater NOIDA in Delhi is concerned it can be seen that the organization of production for the garments export industry is highly diversified. As, found out by Singh and Sapra (2007), it could be seen that large factories and small workshops coexist. On the one hand, are mechanized factories that produce standard items for the global market while on the other hand, exists a wide network of sub-contracting used in the production of export items requiring higher, labor - intensive operations. The resultant risk- sharing is at the heart of Delhi's advantage in the global

[38] Abhijit Banerjee and Kavyan Munshi (2004)."How efficiently is Capital Allocated? Evidence from the Knitted Garments Industry in Tirupur", Review of Economic Studies (2004)71, 19 – 42.

market considering that trade is highly volatile and characterized by fluctuating and seasonal demand. Thus, what comes out as a common factor from the study of both the clusters is the fact that flexibility either in terms of sub – contracting of work or in terms of the growing trends of the casualisation of employment or in terms of strong linkages between formal and informal sector has emerged as the key factor for all these units in catering successfully to the global market.

Though, not totally on similar lines but similar evidence could be found out or the Woolen Knitwear Industry based out of Ludhiana. Tewari (1999)[39] made a detailed study of the Woolen Knitwear Industry on the basis of a fieldwork spanning approximately 12 months during 1990, 1991 ,1992 and January 1998 where she had interviewed almost close to 110 firms in the region's key sectors, of which around 25 firms were engaged directly or indirectly in Ludhiana's woolen knitwear industry. The fact that comes out from her extensive study in this region is the existence of a hugely diversified structure of the industry present there. She found out that the region's woolen hosiery industry has over 10,000 formal and informal firms, employing around 200,000 workers directly or indirectly. The region's knitwear industry has about 50 large firms employing between 900 and 2,500 workers, about 150 medium – sized firms employing from 50 to 500 workers, and 400 – 500 small knitting and woolen garment manufacturing firms. Besides manufacturing firms, there are 9,000 or so small fabricators, or independent job workers who own basic knitting and fabricating equipment and knit or process woolen garments for other firms, but do not 'finish' them themselves. Also included in this group are

[39] Meenu Tewari (1997). "Successful Adjustment in Indian Industry: the Case of Ludhiana's Woolen Knitwear Industry". World Development, Vol. 27, N.o. 9.

hundreds of home based workers who do embroidery and related tasks. Thus what comes out is the fact that this industry has a strong history of cross- industry linkages which re-enforces our claim of increasing flexibility via the route of sub – contracting. She also stresses in her paper among the many causal factors which had contributed in the cluster's success story, the existence of a strong and growing domestic market as one of the key reasons for the firm's successful survival in the export market as it not only served as a strong, secure cushion for all the firms geared towards exports but also a good testing ground for the firms to try out new production arrangements in order to cater to the high quality, for the upper end domestic market as opposed to the low end high volume export market which mainly centered around the erstwhile Soviet Union in this case. Thus, she argues even after the collapse of the Soviet Union Market the main reason why the exporting firms not only could hold ground but where easily able to adapt to the changing global demand trends and cater to the OECD countries is because of mainly among other reasons basically due to their strong simultaneous presence in the domestic market. Tewari (2005)[40] have again argued the same point for Indian Apparel Exports in general by describing this phenomenon as a case of 'Blurring of the boundaries between domestic and export markets'. However slightly contradictory evidence could be found in the works of Authokorala, Jayasuriya and Oczkowski (1995)[41].They have used the data for Srilankan economy and have used the Lee and Maddalla model to predict that no significant relationship could be found between Multi National Enterprise affiliations

[40] Meenu Tewari (July 2005): 'Post – MFA adjustments in India's Textile and Apparel Industry: Emerging Issues and Trends.' ICRIER Working Paper N.o.167

[41] Premachandra Authokorala, Sisira Jayasuriya and Edward Oczkowski (1995): "Multinational firms and export performance in developing countries: Some analytical issues and new empirical evidence", Journal of Development Economics, Vol. 46(1995) 109 – 122

with the degree of export orientation of the exporting firms. However, what could be established, according to them is the fact that multinational affiliation is an important determinant of whether a firm is an exporter or not. They in their analysis especially have take garments as a dummy indicator for representing industry characteristic to see whether the export level depends crucially on it or not. There on they have gone to conclude as far as Sri Lanka is concerned, that it is rare to find firms which attempts to supply both the domestic as well as the export markets in a systematic way. However, they have also suggested that there results might be because of a difference in economic environment and thus may not hold in LDCs with large domestic markets like India and Brazil. As far as the theoretical justification of sub – contracting is concerned it should be noted that Sayeed and Balakrishnan (2002)[42] have distinguished between two different kinds of sub – contracting namely Push and Pull. They through an analytical model have showed that in a situation that firms are pulled into sub – contracting because of the fact that unit labor costs are reduced. In contrast, firms can be pushed into sub – contracting. A push into subcontracting is based on unit labor cost minimization solely through cost minimization without any attendant productivity improvements. This is in contrast to the pull kind of sub- contracting which they have argued create conditions for improvement in returns to labor over time. Whereas, according to them a push into subcontracting is purely exploitative and cannot lead to improvement in wages and working conditions for the workers involved. Thereafter, they proceed to explain in details the nuances of each kind of sub – contracting. After comparing with the existing literature what, becomes evident is the fact that the garments industry in particular exhibit a push kind of

[42] Asad Sayeed and Radhika Balakrishnan (August 2002) 'Why do firms disintegrate? Towards an Understanding of the Firm Level Decision to Sub – Contract and its impact on Labor' CEPA Working Paper 2002 – 12.

contracting wherein home – based workers are in a majority on account of which cost reduction is the sole aim behind such an activity thereby making it maximum exploitative in nature. Thus, for Garments industry alone the percentage of home workers to total workers accounts for 38 percent in Thailand, between 25 – 29 percent in the Philippines, 30 percent in one region in Mexico, between 30 – 60 percent in Chile and 45 percent in Venezuela. The implications regarding the after effects that casualization of work force can bring via the 'increasing fondness to flexibility' route is the fact that the people employed become more concerned with the certainty of the availability of work rather than the physical conditions on which they work as could be found in the survey conducted by Stahl and Stalmaker (2002)[43].Among the other findings that come out from their analysis as a by product for the increasing phenomenon of feminization of the workforce is the fact that though there is no disparity as far as the wages paid to both men and women but it was as clear as daylight that women were majorly employed in activities which require less skill. A finding that Ghosh (2002)[44] has also found out. In this context it is worth mentioning the works of Carr and Chen (2001)[45] who have argued that on account of the increasing volatility of the garments industry, it's the home – based workers in the form of women who are most affected .Stahl and Stalmaker (2002) have also argued that the impact of the ETI code on the working conditions could be positively felt for all those firms catering to the export market, but firms which only cater to the

[43] Stahl and Stalmaker (2002), "A case study illustrating the relationship between core labor standards and trade, international competition and its impact on the working conditions in the Indian garment export industry", Unpublished Masters Thesis in International Public and Labor Law at the School of Economics and Commercial Law , Goteborg University.

[44] Jayati Ghosh (2002), "Globalization, Export Oriented Employment for Women and Social Policy – A case study of India"Social Scientist, Vol. 30, N.0. 11/12, pp – 17 – 60

[45] Marilyn Carr and Martha Alter Chen (2001), "Globalization and the Informal Economy: How Global Trade and Investment impact on the working poor", WIEGO Publication.

domestic market on account of the fact that they do not have to necessarily comply with this code haven't shown any such improvement which could be also found in the works of Barrientos, Sood and Mathur (2006)[46]. Thus the fact that becomes clear from the above discussion is the fact that employment trends in the garments sector are taking a shift towards 'a more flexible as well as desirable direction' from the point of view of an employer. This however has been solely on account of the fact that Indian garments exports have gained substantially in the last decade or so, which from a holistic point of view taking into consideration the larger picture is really a problem to ponder about .

Thus, what comes out is the fact that, there has been substantial evidence regarding flexibility and its possible implications on both the individual as well as the economy in the literature. However, no such attempt has been found which quantifies the phenomenon and establishes it as a causal factor in the increase in exports. In this regard it should be noted that Dholakia and Kapur[47] have tried to find the effect of Macroeconomic policy reforms on the export performance of the firms. This paper examines the export performance of firms with the help of balance sheet data of 557 firms for the years 1980 – 81 to 1995 – 96.Applying panel Tobit model; it explains the improved export performance through change in various firm – level variables as well as economic environmental factors derived from the existing literature on experiences of different countries. The paper also draws certain strategic and policy implications likely to be relevant for emerging economies from its findings in India. As far as the analysis in

[46] Stephanie Barrientos, Atul Sood, Kanchan Mathur (2006) , "The ETI code of labor practice: Do workers really benefit?" Institute of Development Studies, University of Sussex Publication

[47] Ravindra H. Dholakia and Deepak Kapur : "Determinants of Export Performance of Indian Firms – A Strategic Perspective"

the dissertation is concerned, it should be noted that a panel regression of 97 firms for the time period 1990 – 2006 has been attempted to bring out the necessary causality between the increasing tendency of adopting flexible means of production by the employer and the ever burgeoning exports. The results as well as the research methodology have been discussed in Chapter 4.

2.6 *Summary*

This chapter has comprehensively tried to make a review of the policies pertaining to the T& C sector both domestically and internationally thereby highlighting the various debates that have taken place in the light of these. The existing literature confirms a mixed pattern of both organized manufacturing as well as informal sector enterprises present in this sector. Being a export oriented sector, the T& C sector's exports in general and the garments sector in particular have really swollen in the last decade or half. The international trading regime as, is evident have also undergone a continuous change, thereby reaching the culmination point with the removal of the MFA.A deeper introspection of the export success story brings the focus into the secret behind this new found competitiveness.

The point that becomes clear from the literature is the fact that Indian firms have been able to adjust to the volatile global demand trends on account of the existing flexible production structure. This has partly to do with the small sector reservation policy followed by the government as well as through the use of contractual labor to cater to a particular seasonal demand as could be seen from the literature. Additionally, the Indian

manufacturing entities have benefited on account of the ties they have with the informal sector enterprises present in this sector , which have facilitated sub – contracting a substantial part of their work. Given this backdrop, one needs to have a clearer insight of the export items where the Indian exports have been most competitive as well as the reasons behind it. An attempt has been made in Chapter3&4 to provide a plausible explanation to these questions.

Chapter - 3

Export Trends in Garments for the period 1990 - 2005

Among all the export – oriented sectors Textiles and Clothing singles out to be the sector which earns the maximum foreign exchange amongst the entire manufacturing sector. The importance of this sector from the point of view of the well – functioning of the economy is immense keeping in the fact that together (i.e. adding up both textiles and clothing) they employ the maximum number of workers amongst the entire manufacturing sector. A detailed analysis in terms of employment has been made in the next Chapter. However after a detailed introspection of the export performance of all the sectors of the economy, the picture that comes out crystal clear is the fact that Apparels (i.e. including both Textiles and Clothing) has historically being the biggest success story from an Indian context if we leave out the traditional exports of India, namely in the form of Gems and Jewelleries for the last decade and half. The importance of this sector gets multiplied by the fact that this happens to be the sector which has the minimum import intensity, a figure approximately as small as 1.5 %.In Table 1 of appendix we have made a detailed analysis of Indian exports of all the items in an aggregate 2 digit level. What comes out as a major finding is the fact that by considering the HS 1988/92 nomenclature we find out that among the entire set of 99 two digit tariff lines, the two tariff lines comprising apparels, namely 61 and 62 not only consistently features among the top ten tariff lines, export value wise but also the fact that leaving out gems and jewelleries (i.e.

71) it can be safely said that both in terms of absolute export value as well as percentage of exports of that tariff line as a percentage of total Indian exports , the two clothing tariff lines together accounts for the highest foreign exchange. The share of apparel in total exports has been roughly on an average being in the 12 – 13 % range for the entire time span of 1990 – 2005. The primary focus for this chapter has been the Garments Sector, which attracts a lot of attention after the final phase – out of the impending MFA restrictions. In this chapter an attempt has been made to trace the export trends of the major tariff lines in a disaggregate level for the products which are of prime importance for India for the time

span 1990 – 2005.The various major issues purely from an export point of view are , the increasing proliferation of an increasing number of Regional Trading Agreements as well as the increasing importance of being an active participant in the Global Supply Value Chain, which is essentially Buyer Driven and also the importance of short product cycles so as to cover up for the volatile fluctuations in the global demand for apparel and the growing importance of the concept of retailing which to an extent determines the nature of trade flows happening in this sector. A closer look at the literature of the Global Value Chain reveals the fact that the secret to move up the value chain lies in the transformation of production structure of the participant exporting country from being an Assembly Line producer[52] to an Original equipment manufacturer[53] and in turn into an Original Brand name manufacturer[54] as could be found in the works of Gereffi et al.[55]

[52] Assembly is a form of industrial subcontracting, in which garment sewing plants are provided with imported inputs for assembly, most commonly in export processing zones.

So far as the literature regarding the implication of the removal of quotas on the dynamics of world trade is concerned, it should be noted that the general perception among the economists is that the that removal of quota restrictions will lead to a substantial consolidation of global supply networks, creating winners and losers (Gereffi 2004, US ITC 2004, Nordås (WTO) 2004, Knappe 2003). A detailed discussion regarding this has been made in the earlier chapter where an in – depth analysis of the existing literature has been attempted and the important predictions has been stated. The entire conclusion is arrived from the fact that large, low cost supplier countries, such as China, India, and Mexico with stable supply networks, experience in exporting, well-developed capacities for scaling up and the ability to offer a full bundle of services will benefit from the post- MFA reorganization of the global trade in textiles, while smaller countries that had benefited from the limited but guaranteed access to industrial markets under quotas, may well lose out. As far as the predictions regarding garments exports are concerned and the possible welfare effects it can have on the various blocks of countries it can be seen there exists substantial literature to suggest that the MFA is a binding constraint on the exporters, as well as the fact that the MFA encourages growth of smaller

[53] An Original Equipment Manufacturer (OEM) is a form of commercial subcontracting. The supplying firm makes a product according to a design specified by the buyer; the product is sold under the buyer's brand name; the supplier and buyer are separate firms; and the buyer lacks control over distribution.

[54] An Original Brand name Manufacturer (OBM) is the upgrading by manufacturers from the production expertise of OEM to first the design and then the sale of their own brand products

[55] "The Global Apparel Value chain: What prospects for upgrading by Developing Countries?"2004. Sectoral studies series, United Nations Industrial Development Organization., Vienna, 2003. Gary Gereffi and Olga Memedovic.

exporters by restricting from major sellers which could be found well documented in the works of Dean (1998)[56], Ananthakrishnan and Jai – Chandra (2005)[57] and Irena and Whalley (1990)[58] whereby the conventional methodology has been to use an applied general equilibrium model to predict the possible welfare effects in a world where all the quota restrictions pertaining to MFA has been lifted. In this context it should be noted that the works of Ananthakrishnan and Jai – Chandra (2005) gets special mention as they have made an attempt to measure the welfare effects through simulations whereby they have come into the conclusion that the Indian exports of Textile and Clothing (T& C) would be on a rise till the point the safe guards on China on account of their accession to WTO is lifted i.e. in a post 2008 era. This is very important keeping in mind the fact that experts more or less come to a consensus to the fact that the real effect of the final [phase – out of the MFA could only be completely analyzed post 2008 whereby China will effectively have no restrictions on the export volumes. As far as this analysis is concerned we here concentrate on the export performance of garment tariff lines and the trends that has been observed in garments exports for the time span 1990 – 2005 .The necessary forward linkages in the form of predictions regarding welfare implications could not be done on account of paucity of time as well as resources are thus to be considered outside the scope of this dissertation. However, as far as the trend of garments exports are concerned, it should be said that if one has to understand the effect

[56] Judith M. Dean. 1988. "The effects of the U.S. on small exporters." The Review of Economics and Statistics.

[57] Prasad Ananthakrishna and Sonali Jai - Chandra (November 2005), "The Impact of India on Trade Liberalization in the Textiles and Clothing Sector", IMF Working Paper, WP / 05/ 214.

[58] Irene Trela and John Whalley. 1990. "Global Effects of Developed Country Trade Restrictions on Textiles and Apparel". The Economic Journal.

of MFA as well as the competitiveness of the relevant tariff lines in a disaggregate level, from an Indian point of view then the following questions have to be answered satisfactorily:

a) **What are the key tariff lines in a 6 digit level which are important from an export point of view in an Indian context? Which countries are the major global competitors for India in these tariff lines? How competitive are Indian exports in these tariff lines vis – a – vis the main global competitors in these tariff lines?**
b) **Which are the main global import markets for these tariff lines? Which are the main import markets from an Indian perspective? i.e. are we catering to the main demand centers of the world or have we discovered a niche market for ourselves?**
c) **How are we faring in our major import markets? Which countries are our major competitors in these markets?**

In order to answer the above mentioned questions research methodology has been undertaken in this chapter.

3.1 *The Research Methodology*

We here take HS – 1988/92 as the proposed nomenclature system as it has the most elaborate technical specification of products in a disaggregate level for garments (i.e.

at a 6 digit level) for garments. It was found out of the sum total of 220 tariff lines for the period 1990 – 2005, the share of top 10 tariff lines in the 6 digit level attributed to almost 60% of the total garments exports for India. A detailed list of all the Top 20 tariff lines have been provided in Table 2 of appendix whereby the share of Top 20 as well as Top 10 has been calculated as a percentage of total apparel exports. Any tariff line which came under the Top 10 bracket was taken as an important tariff line for this study. Following this methodology, a total of 14 tariff lines were short listed. The list of the 14 selected tariff lines along with the product description are the following as could be seen from Table 3.1:

Table 3.1

Sl. N.o.	Product Code	Product Description
1.	620462	Women's or Girls Trousers, breeches
2.	620640	Women's or Girls blouses, shirts
3.	620520	Men or Boys shirts of cotton
4.	610610	Women's or Girls blouses,etc
5.	620630	Women's or Girls blouses, shirts
6.	620442	Dresses of cotton
7.	621490	Shawls , Scarves ,mufflers, mantilla
8.	610910	T- shirts, sing lets other vests
9.	610831	Women's or Girls nighties...etc
10.	620449	Dresses of other Textiles, nes...
11.	620342	Men or Boys trousers, breeches
12.	620452	Shirts & Divided skirts of cotton
13.	610510	Men or Boys shirt, knitted or cotton
14.	620453	Shirts & Divided skirts of synthetic fibers

Now, for all these tariff lines[59], we find out the major global competitors for India on the basis of the share of the particular country's exports as a percentage of world exports. Here, for each tariff line, the five major exporting countries has been listed on the basis on the basis of the share of the particular country's exports as a percentage of world exports.Any country coming in the top 5 bracket at least thrice has been identified as India's major competitor. Now, by following this procedure we can easily answer the first of the three questions posed before. The question regarding the competitiveness of the Indian exports in this tariff line has been answered by taking help of the Revealed Competitive Advantage (RCA) index whereby we calculate the relative competitiveness of Indian exports in these tariff lines via – a vis the major global exporters in this tariff line. The RCA as designed by Balassa (1965) in determining the competitiveness of a country when there exists no data on factor costs have been used by various economists as could be seen from the works of Ferto and Hubbard (2003)[60], Ferto (1998)[61], Goldin (1990)[62], Leishman, Menkhaus, Whipple(1998)[63] .

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[59] A tariff line is the product code taken in the proposed nomenclature upon which tariffs are imposed.

[60] Imre Ferto and L.J.Hubbard.2003 "Revealed Comparative Advantage and Competitiveness in Hungarian Agri – Food Sectors" The World Economy, Volume 26, Issue 2, Pages – 247 - 259

[61] Imre Ferto.2007 "The Dynamics of Trade in Central and Eastern European Countries" Managing Global Transitions Volume 5 (2007), maintained by the University of Primorska, Faculty of Management Koper.

[62] Ian Goldin .1990. "Comparative Advantage: Theory and Application to Developing Country Agriculture" Working Paper No. 16, OECD Development Centre.

[63] David Leishmann, Dale J. Menkhaus and Glen D. Whipple. 1998 "Revealed Comparative Advantage and the Measurement of International Competitiveness for Agricultural Commodities: An Empirical Analysis of Woolen Exporters" Presented at Western Agricultural Economics Association Annual Meeting, July 11 – 13, Frago, ND.

Ferto and Hubbard (2003) have used the RCA to measure the competitiveness of the Hungarian agri – food sectors where they apart from calculating the RCA, they have also calculated the Revealed Trade Advantage (RTA) so as to bring out the real picture given the high import sensitivity of the concerned paper in their paper. An analysis of the similar kind is not necessary as textiles and clothing happens to be the sector in which we have the minimum import penetration. Ferto (2007) have done a similar analysis to measure the trade pattern as well as the competitiveness of the Central European countries using the RCA.A similar evidence could be found from the works of Leishman, Menkhaus, Whipple (1998) where they have used it to measure the wool, exports of the US.

As far as the debate regarding the use of RCA is concerned it should be noted that Goldin (1990) had said in his paper that though the RCA in application is theoretically correct but from a policy making point of view it is difficult to apply. Also evidence could be found from the works of Oosterhaven and Hoen (2006)[64] as well as Laursen (1998)[65] that the main problematic property with the RCA happens to be the fact that this RCA ranges from 0 to ∞ as well as the fact that it has a moving mean on account of which they have suggested the application of Additive RCA or a Revealed Symmetric Comparative Advantage (RSCA).However, the fact that RCA is still the basis of competitiveness in

[64] Alex R. Hoen and Jan Oosterhaven.2006. "On the measurement of Comparative Advantage", The Annals of Regional Science, Springer Vol. 4, 40 (3), Pages 677 – 691.

[65] Keld Laursen.1998 "Revealed Comparative Advantage and The Alternatives as Measures of International Specialisation", DRUID Working Paper N.o. 98 – 30

this dissertation because of the fact that there exists no consensus as far as the choice of index as well as the fact that the problem arises only when there exists multiple sectors, which is not the case here and also because of the sheer simplicity of the rationale as opposed to the more complicated other indices as suggested above.

To answer the second question posed above, one needs to have a close look at the import data of the top 5 global importers as well as the top 5 importers from India for the relevant tariff lines. The two lists now have to be tallied so as to find out whether the importing countries which are important from an Indian perspective are globally an important market for that relevant tariff line.i.e. Are we catering to the Major Demand Centers of the World or not?

Lastly, an attempt has been made to answer the third question as well. Here, we take a close look at the four major export markets of India and find out the countries which are our major competitors in that market for that tariff line. This analysis is important because of the fact that it brings out India's most important competitors in that tariff line who might not necessarily be the major global exporters in that tariff line.

In the following sections by following the research methodology as prescribed above, an attempt has been made to first bring out some general conclusions common for all the identified tariff lines and then product code specific characteristics unique to that particular tariff line has been presented.

3.2 *Some General Conclusions regarding Major Competitors, Major Markets and Exports Share*

a) For the comprehensive list of 14 tariff lines the export data shows that there has been a drastic decline in the share of the Top 5 Major Exporters for as many as 8 tariff lines ranging from 18 to 20 percent. These tariff lines are namely 620449,620342,610610,620520,610910,620453,610510.There has been a moderate decline in 5 tariff lines namely,620630,620452,620462,620640, and 610831.This shows that Top Heaviness is more a myth than a reality nowadays showing that the number of countries have increased amiably over the given time frame. Only one tariff line (i.e. 621490) which basically comprises of traditional exports like Shawls, Scarves,Mufflers,Mantillas have maintained it's top heaviness on account of the niche markets that particular product has.

b) The trends in global demand can be seen in these 14 tariff lines. There are 4 tariff lines namely 621490,610910,620520,620462 in which there has been a secular increase in global demand, whereas in 7 tariff lines an 'almost secularly increasing' trend can be noticed. Fluctuations can be seen in 3 tariff lines namely 620640,620442 and 610510. Whereas the former two has shown a fluctuating and declining trend, the last tariff line has shown a fluctuating and increasing trend.

c) Another interesting fact that comes out after analyzing major competitors across tariff lines is the fact that India mostly competes with a common set of countries namely, Germany, Hungary, Italy, France, UK, Portugal , Switzerland in the EU , Mexico and US from NAFTA, Tunisia and Morocco in Africa, Bangladesh,

Korea Republic, Thailand, Indonesia and China in Asia. However, what comes out is the fact that China is India's major competitor in the garments sector as a whole, and even in India's respective markets, as it can be seen it is competing with India in as many as 11 tariff lines followed by Germany in 8 tariff lines.

d) Of the 14 product codes it was found out after tallying the top 5 global importers & top 5 importers from India in any given year on an average both the list tallies for 3 similar countries in the case of 7 tariff lines, namely 620640, 620449, 620462, 610510, 610610, 620453.The least among all tariff lines where found out to be for 610831 where on an average the two lists tally for one or two countries. Very high similarity was found for 5 tariff lines, namely 621490,620520,620452,620342,610910 where the two lists tally for almost 4 countries. The highest degree of similarity was found out for only one tariff line namely 620442 where the list showing Top 5 Global importers and top 5 importers from India tally almost completely. It should be noted that higher the degree of similarity, the more is the scope for expansion of the country as more is the case that countries export destinations match with the top markets globally. Thus for the selected 14 tariff lines the picture that comes out is the fact that more or less we are catering to the top markets of the world except for one tariff line namely 610831.

e) It has been found out that China is India's major competitor in as many as 11 tariff lines out of a sum total of 14 tariff lines. Since our major markets more or less coincides so it is highly likely that the threat from China looms large in a post

quota regime as far as the garments sector is concerned especially in markets of US and EU.

f) One of the most interesting results that come out of the analysis is the fact that after the abolition of quota via MFA a significant improvement can be noticed as far as global demand is concerned as well as India's exports volume. An improvement is noticed in not only India's global exports share but also in India's respective market share in the various markets in 12 out of the 14 tariff lines analyzed here.

g) India apart from catering to the major markets of the world have developed a niche market in Canada as well as France where among all competing countries Morocco and Tunisia emerges as India's major competitors.

3.3 *A Product Code Specific Analysis*

In addition to making some general conclusions regarding our analysis with respect to the key research questions posed in this chapter we also proceed to make a tariff line specific analysis s so as to make our study further comprehensive as well as detailed thereby attempting to bring out individual export product code specific characteristic. The product code specific analyses are as follows:

1. 620452 *(Shirts & Divided skirts of cotton)*

India started off well in 1990 but there was a secular decline in India's share in global exports. This is to an extent is on account of a fall in the growth of India's exports vis – a – vis the global exports. Fluctuations in global demand can also be noticed. A huge rise in global demand has been noticed after 2004 which had led to ma subsequent rise in India's share as well. In this tariff line China, Hong Kong, Italy and Germany are the major exporters. Germany happens to be both India's major competitor as well as an important export destination for India on account of which there might be a case of re - exports happening here. As far as the markets are concerned, in US, Indian exports apart from China, Hong Kong, also have to compete with exports from Cambodia, SriLanka, which though are not the major exporters but have enjoyed a fair share in the US market. The huge gain in Global exports is almost reflected by a similar gain in the US market. As far as the UK market is concerned a huge gain is noticed here as well. China, Hong Kong as well as Turkey are India's major competitors here. India as it seems has gained at the expense of. China, Hong Kong and Turkey in the last five years. In the French market, Morocco and China are India's major competitors; a huge gain has been noticed after 2004 where till 2002 a secular fall is noticed. As far as Germany is concerned China, Italy and Turkey are the major players. India basically here is a marginal player but improvement can be noticed after 2004.

2. 620462 *(Women's or Girls Trousers, breeches)*

India is only a very marginal player in this tariff line. China, Hong Kong, Mexico, Turkey being the major exporters. In the respective markets India is reduced to a marginal player having an average 2 to 3 percent of the total market. India is on an average competing with the major exporters but Morocco is emerging into an important player.

3. ***620449 (Dresses of other Textiles, nes...)***

India majorly falls in this tariff line in the 5 to 7 percents of global exports bracket. China is the biggest exporter followed by Hong Kong, Italy, France and Germany. In India's major markets India on an average has 8 to 9 percent share. China happens to have a virtual monopoly with an average of above 50 percent share in all the markets. Post MFA a slight improvement is seen in all the markets as well as Global Exports share wise. In the markets also China is followed by Italy.

4. ***620342 (Men or Boys trousers, breeches)***

This tariff line shows a trend that is almost similar to that found in 620462.The major exporters being China, Mexico, Hong Kong, Germany and Italy. Italy is both a major exporter as well as a major export destination for India which shows there is a distinct possibility of re- exports. In the US market, Mexico holds the maximum share which shows clear signs of Regional Trading Agreements

(RTAs).Morocco, Tunisia and Turkey happens to be the other major exporters with India reduced to a status of marginal exporter. Assembly Line production which is more of a high volume nature is evident from this data as China holds a significant advantage.

5. ***621490 (Shawls , Scarves ,mufflers, mantilla)***

As far as this tariff line is concerned India remains the major player along with the fact that this is India's traditional exports so it maintains a consistent top position. India maintains a sizeable share in its own markets as well. China and Italy emerges as the major global exporters and India's main competitors both in the Global scale as well as in the respective markets. Yugoslavia, apart from others is the major player in the UK market apart from the major global exporters. Like in other tariff lines here also Indian exports are experiencing a slightly healthier growth after the complete removal of the MFA.

6. ***620640 (Women's or Girls blouses, shirts)***

The global exports share for India in this tariff line has followed a path of secular decline for the period 1990 – 95. It averaged around 5 percent during 1995 – 2000 and continued in that fashion till 2004 after which like all other tariff lines it also has shown an increase almost relatively and absoloutely.China & Hong Kong are the major players followed by countries like Germany and Romania. As far as market similarity is concerned the major export destinations with the exception of Japan remains the same for the world as well as India. As far as the market

analysis is concerned it is observed that apart from Germany, India' markets share ranges from 9 to 11 percent. China, Hong Kong, Romania and Morocco are India's major competitors in these markets.

7. 610510 *(Men or Boys shirt, knitted or cotton)*

India in this tariff line is arguably one of the biggest exporters and only after Hong Kong. The other major global competitors happen to be Pakistan, Peru, Philippines and Thailand. As far as the market compatibility is concerned it can be easily said that among the selected tariff lines this happens to be one of the tariff line where the export destinations of India vis -a - vis the world is barely matching. India is exporting mainly to some niche markets like Canada, France and Switzerland as compared to the major markets like UK, Hong Kong and Japan. As far as India's performance in the respective markets are concerned it can be seen apart from Canada where India is the leader with more than a third of the entire market, India roughly has 9 to 10 percent of the total market size. Pakistan, Hong Kong, Peru, Thailand is India's major competitors apart from countries like Morocco, Tunisia, Bangladesh and Turkey.

8. 610831 *(Women's or Girls nighties...etc)*

Indian exports after showing a secular increase from 1994 onwards has shown a fall in the year after 2003 onwards. India ranks globally third or fourth in most of the years. The major global competitors being Turkey, Germany, China and

Hungary. A market wise analysis shows that market similarity wise India has acquired a couple of new markets in Canada and Italy. In all the other global markets India caters to except for Hong Kong. Market wise analysis shows that India is maintaining the market leader's position in 3 markets competing with China, Turkey, Hong Kong who are the major global; exporters. However unlike other tariff lines here India's share has fallen as a percentage of total global exports as well as in the respective markets in the post- MFA era.

9. 610610 *(Women's or Girls blouses, etc)*

A secular decline could be noticed in India's exports share for the period 1990 – 97.Post 1997 the global share of exports for India has been fluctuating. The major global competitors are Hong Kong, Greece, Korea Republic, Mexico and Turkey. However, a market wise comparison of the top Indian and Global markets shows that India supplies to 3 of the 5 top Global markets namely, US, Germany and UK. However, Hong Kong and Japan remains neglected exports focus wise. A market – wise analysis shows that India has on an average 10 to 15 percent of the total market except for the US where its share is in the range of 2 to 3 percent. Among the major competitors we have Hong Kong, Greece, Turkey along with Guatemala. Post MFA an improvement has been noticed.

10. 620442 *(Dresses of cotton)*

India has been the major exporter right from the very beginning year of the time span considered here. Its major competitors globally are China, Hong Kong,

Indonesia, Italy and Philippines. Market compatibility wise there isn't any difference as far as the Global and Indian markets are concerned. A study of the 4 major markets reveals the fact that apart from the US market where China has overtaken India, in all other markets namely Germany, UK and France, India's market share ranges on an average between 15 to 20 percent and also it could be easily seen that India as far as the initial signs are concerned is even doing in a post – MFA era which surely making this as the product code to bank upon in the coming years.

11. 610910 *(T- shirts, sing lets other vests)*

India is a marginal player among the major exporters in this tariff line. On an average India ranks third or fourth in this tariff line with a market share of 5 to 6 percent. The major exporters being China, Hong Kong, Turkey, Mexico and US. A market compatibility analysis shows that we cater more or less to the demand hubs of the world with the exception of Japan where the Indian exports have not been able to penetrate. In the respective markets apart from US where the effects of NAFTA are clear and distinct, it could be seen that the total imports have been on an average 4 to 6 percent of the total market. On an average India holds the third position with Turkey, Bangladesh, Greece, and Mauritius being its main competitors. However, what is evident is the fact that like all other tariff lines here also post MFA an improvement can be noticed.

12. 620453 *(Shirts & Divided skirts of synthetic fibers)*

India is again a marginal player in this tariff line. India averagely ranks fourth in this tariff line. China, Hong Kong, Germany and Romania are the major exporters in this tariff line. A market compatibility analysis shows that India is catering more or less to the demand centers of the world. A huge growth can be observed in the post – MFA year in all the markets. India has a consistent average market share of 3 to 5 percent with China, Romania, Turkey, Morocco, Tunisia and Guatemala being the major competitors. Though in all the markets India have made a steady progress but it is placed on an average third in all the markets.

13. 620630 *(Women's or Girls blouses, shirts)*

India is the major player in this tariff line. It is by far the biggest global exporter among all its competitors. India has averagely 20 to 25 percent share of the entire market. A market compatibility analysis brings out that we feature in four of the five major markets of the world. An analysis of the major markets for India in this tariff line shows that India commands 20 to 25 percent of the entire market. Its major competitors being Hong Kong, Morocco, China and Bangladesh. The major global exporters competing with India globally are Hong Kong, China, Germany, Italy and Turkey. India as it could be seen commands the top position in the respective markets as well which clearly indicate this as the tariff line to look forward to. Like other tariff lines India has shown a major growth in this tariff line in a post – MFA era.

14. 620520 *(Men or Boys shirts of cotton)*

This again is a tariff line where India happens to be a marginal player. India has averagely 10 to 12 percents of the world exports with the major competitors being China, Hong Kong, Italy, Bangladesh and Turkey. The market similarity analysis shows we cater to the major demand centers of the world with the golden exception of Japan. In the respective markets also we command a share in the range of 10- 12 percent with Bangladesh, Turkey, Morocco, Hong Kong, Indonesia being our major competitors. However, unlike all other tariff lines India hasn't done well in the post – MFA era. .

A tabular representation of the above product specific analysis has been given below for the sake of convenience for the reader.

Table 3.2

Product Code	Product Description	Major Global Exporters (Other than India)	Major Global Importers	Major Markets
1) 620452	Shirts and Divided skirts of cotton	China, Hong Kong, Italy, Germany	US, Germany, France , Japan	US, UK, Germany and France
2) 620462	Women's or Girls Trousers , Breeches	China, Hong Kong, Mexico , Turkey	Germany, US , UK,Hong Kong	Germany, US , UK, Italy
3)	Dresses of	China, Hong Kong,	Germany, US ,	Germany, US , UK,

620449	other textiles,nes	Italy, Germany	UK,Hong Kong, France	France, Saudi Arabia
4) 620342	Men's or Boys Trousers , Breeches	China, Hong Kong, Italy, Germany, Mexico	US,UK,Germany, France , Italy	US,Germany,France, UK, Italy
5) 621490	Shawls, Scarves, mufflers, mantilla	China, Italy	Germany,UK,Saudi Arabia, Italy ,Singapore	France, Spain, UK, Italy, Germany
6) 620640	Women's or Girls blouses, Shirts	Hong Kong, China, Germany, Romania	USA, UK, Japan, Germany	USA, UK, France, Germany
7) 610610	Women's or Girls blouses, etc	Hong Kong, Greece, Korea Rep, Mexico, Turkey	USA, UK, Japan, Germany, Hong Kong	USA, UK, France, Germany
8) 620630	Women's or Girls blouses, shirts	Hong Kong, China , Germany, Italy, Turkey	US , Japan, Germany, Hong Kong, UK	US, France Germany, UK
9) 620442	Dresses of Cotton	China, Hong Kong, Indonesia, Italy, Philippines	US , Japan, Germany, UK	US, France Germany, UK
10) 610910	T- Shirts, Singlet and Other vests	China, Hong Kong, Mexico, Turkey, US	US, France Germany, UK, Japan	US, France Germany, UK
11) 620453	Shirts and Divided	Hong Kong, China, Germany,	US, France Germany, UK,	US, France Germany, UK

	Skirts of Synthetic Fibers	Romania	Japan	
12) 610831	Women or Girls nighties	Turkey, Germany, China, Hungary	US, France Germany, Hong Kong	UK, France, Italy, Canada
13) 610510	Men or boys shirts of cotton, knitted	Hong Kong, Pakistan, Peru, Phillipines,Thailand	US, Hong Kong Germany, UK, Japan	US, Canada, Germany, France, Switzerland
14) 620520	Men or boys shirts of cotton	China, Hong Kong, Italy, Bangladesh, Turkey	US , Japan, Germany, UK, France	US, France Germany, UK

3.4 *The RCA Analysis for competitiveness of the relevant tariff lines*

Here we attempt to do an analysis of competitiveness so as to bring out the real picture of the performance of Indian exports vis - a - vis it's major competitors in that tariff line. However, it should be noted that RCA on its own doesn't bring out the real picture, apart from seeing the RCA one needs to have a look at the export share a country commands as a percentage of total world exports. Thus it might be such that a country like China might not have a commendable RCA but on account of the extent of market share it commands in that tariff line it might emerge as India's major competitor in that particular tariff line. The above point made would become clearer after the formula of RCA is written.

The RCA according to the paper by Bayliss is defined as:

$RCA_{X\,ih} = (X_{ih} / X_i) / (W_H / W)$

Where,

X_{ih} = exports of commodity h from Country i to the rest of the world,

X_i = Country i's total exports,

W_h = World total of commodity h exports,

W = World total exports.

Here, as our analysis in this dissertation is concentrated mainly to the Garments exports of India on account of which we for the sake of meaningful interpretation have defined World as the total garments exports happening which effectively means the summation of all exports happening in the disaggregate 2 digit level of 61 and 62.As far as the term X_{ih} is concerned we here basically take the value of exports happening in that tariff line. The in – built rationale for considering RCA as a means of competitiveness lies in the fact that when the relative factor costs between the competitor countries are unknown or cannot be relied upon and if one only considers the exports volumes, then this index happens to be the only basis for comparison. Thus RCA above unity for a particular product that is exported by a particular tariff line that is exported by a particular country implies that the country exports that product more intensively than the rest of the world, and hence enjoys a comparative advantage in that product.

Thus as suggested a country like China might not fare very well in the RCA front on account of the fact that though the denominator term remains the same for all the countries in a particular tariff line but the fact that tariff line might not be an important

export item from that particular country's point of view might push the RCA down on account of a fall in the numerator. Nevertheless, the fact that it commands the maximum market share makes it India's major competitor.

The RCA values for India as well as the respective competitors as identified in table 3.1 for the relevant tariff lines have been displayed as Table 3 in Appendix. The main findings from the RCA analysis (as could be seen from table 3 of appendix) after tallying it with our earlier analysis on the basis of market share in world exports gives us a complete picture regarding the competitiveness of Indian exports vis – a – vis its main competitors in the respective tariff lines which have been clearly illustrated in Table 3.3.The major findings are as follows:

Firstly, the threat from China looms large on India sheerly on the basis of market share. However when one observes its performance based on competitiveness it is found out that apart from two tariff lines namely 610831 and 620442, it ceases to be India's main competitor. This can be attributed to the fact that the tariff lines identified as the major export oriented ones for India might not have much importance from a Chinese perspective.(Please refer to Table 3.1 below)

Secondly, after making an analysis of both competitiveness as well as market share what becomes clear is the fact that apart from China the major cause of concern has been the increasing prominence of two countries namely Mexico and Hong Kong. Not only these

two countries have a higher market share but show a healthy RCA as well and in some cases more than India. It should be noted here, that threat from both of these countries looms large as both are a part of various Regional Trading Agreements (RTA), which aggravates the situation further. This is because of the fact that a country like Mexico, might proceed to consolidate its already advantageous position further by gaining free access to US which also happens to be a major market for Indian apparel exports on account of it's affiliation to NAFTA. India, however it should be mentioned here till date is not a participant to any RTA with any country (Please refer to Table 3.1 below).

Thirdly, apart from these India competes with various countries in specific tariff lines which vary from one to three tariff lines sheerly on the basis of competitiveness. These are namely Germany (620449, 620453, and 620640), Romania (620453, 620640), Philippines (610510, 620442), Pakistan (610510), Peru (610510), Greece (610610), Turkey (610910), Indonesia (620442), and Bangladesh (620520). (Please refer to Table 3.1 below).

Fourthly, in three tariff lines namely 610831, 620342, 620462, India's performance have been very dismal both RCA as well as market share wise(Please refer to Table 3.1 below).

A tabular representation of the above analysis is as follows.

Table 3.3

	Competitor on the basis of RCA	
Competitor on the basis of Market Share	Mexico(610610,610910,620342,620462),Hong Kong(610610,620449,620452,620630,620462), China(610831,620442)	China (620453,620452,620449,620462,620342,621490,620640,610610,620630,610910,620520)
	Pakistan(610510),Greece(610610),Peru(610510),Turkey(610910), Philippines(610510,620442),Indonesia(620442), Germany(620449,620453,620640)Romania(620453,620640), Bangladesh(620520).	**Non – Performing Tariff Lines For India** 610831,620342,620462

3.5 *Summary*

As it could be seen from the above analysis that India's performance have been witnessing an upswing post – 2004, a fact which reiterates a finding made by Meenu Tewari[66](2005) . Thus, one can safely conclude as far as the data is concerned that MFA on a whole has proved to be beneficial to India (apart from a couple of tariff lines) as far as apparel is concerned though it is too early to consider it as a consistent trend However, as far as the literature regarding[67] India gradually becoming a high quality, low volume player and China excelling in the high volume can be only partially established as what comes out is the fact that Indian exports have all, but continued with the trend established

[66] Meenu Tewari, July 2005. "Post MFA Adjustments in India's Textile and Apparel Industry", ICRIER Working Paper N.o. 167.

[67] For Example, "The role of Price and Cost Competitiveness in Apparel Exports, Post MFA: A Review.", ICRIER Working Paper N.o. 173, Meenu Tewari, November, 2005.

before. Thus, though it comes out clear is the fact that China has done exceptionally done well in tariff lines which require assembly line production such as 610910 (T-Shirts) or 620520 (Men or Boy's Shirts), but the same cannot be said with conviction as far as India is concerned. For example a tariff line like 620630(Women or girl's blouses, shirts), India has been a major exporter throughout and have shown a vast improvement post – MFA but the same doesn't hold true for a tariff line like 620453 (Shirts and divided skirts of synthetic fiber) though both of which are supposed to be of the high skill, low volume variety. Apart from China, as is cleared from the discussion in the above two countries namely Mexico and Hong Kong deserves special mention here. The above analysis shows them not only as a serious competitor from the point of view of Indian apparel exports not only in the present scenario but also for the years to come. This is because of the fact that both are a part of various RTAs such as NAFTA etc which facilitates unlimited market access to partner countries like US. India, however till date is still not a part of any kind of bi – lateral arrangements which increases the severity of the situation. Additionally, exports markets wise Canada and France have been India's niche market, whereas Japan though being a major importer in most of the relevant tariff lines from the Indian perspective ceases to be an important export market for India. One of the plausible reasons for such a phenomenon may be because of China. China while being a part of WTO had made a commitment regarding voluntarily curbing its apparel exports till 2008 as far as the US market is concerned. However, a similar clause is not applicable for Japan, on account of which it has emerged as a leading exporter in the Japanese market. Though the market conditions in the context of US might be totally different as compared

to Japan, but it wouldn't be totally inappropriate to say that amidst all speculations one can still get a fair indication regarding the competitiveness of Indian apparel exports in the US market post 2008.

The reason given in this dissertation explaining the export success concentrates mainly on the notion of flexibility which is considered as the most prominent trend as far as this sector is concerned on account of the ever fluctuating demand trends .An attempt has been made in this dissertation to capture the notion of flexibility through the employment generated on a contractual basis as opposed to on a fixed basis as well as the amount of value added happening under a single roof. Though the notion of flexibility as defined in this dissertation is a prevalent and emerging phenomenon for the entire manufacturing sector as a whole however, the details and sector specific attribute of the other sectors where the evidence of contractual employment is high cannot be covered in this dissertation on account of paucity of time and thus cannot be established as a major causal mechanism for the rise of exports for the economy in general. However, an attempt has been made to ascribe the export performance observed in the garments sector with these emerging trends as could be seen from the ASI summary results. A detailed discussion regarding the manufacturing – export linkages has been made in the next chapter.

Chapter – 4

The Export – Manufacturing Linkages

The previous chapter on Export Trends has intended to bring out the shifts that have been happening in the exports of Ready Made Garments over the last decade and half .In this chapter an attempt has been made to bring out the existing linkages between the export sector and the garments manufacturing sector and the causal factors that have played an important role in enhancing the exports from the manufacturing side. As has been discussed in the previous chapter, it is clear that there exists a huge body of literature which suggests that there has been an emerging trend of the powerful role that global retailers play today in shaping the geography of apparel production through their sourcing decisions and the organization of complex global clothing chains that spans the globe. The other emerging characteristics that come out are the growing importance of timeliness in apparel sourcing and supply, of flexibility, product diversity, inventory risk and the demand for rapid replenishment and other characteristics of lean retailing as could be found in the writings of Tewari (2005)[68]. An attempt has been made here to capture the acquired flexibility of The Indian Garments Industry as one of the causal factors in enhancing Exports by through various data sources like the ASI and the CMIE Prowess.

However, before going into the details of the organizational transformation happening in the industry one should first try to understand the significance of this industry for the Indian Economy as a whole. From a macro – economic point of view the importance of

[68] Meenu Tewari (November 2005). "The role of Price and Cost Competitiveness in Apparel Exports, Post - MFA : A Review" ICRIER Working Paper No. 173

this industry could be easily assessed if one casts a look at the employment figures of this industry in general and garments in particular. The total organized sector employment of Textile and Clothing (T&C) industry as per the latest ASI Summary results of 2003 – 04 indicate that together they generate the maximum amount of employment among the entire organized manufacturing sector, a total of around 10 lakh workers. The importance of the sector becomes magnified when we take into account the fact that the T&C sector alone attributes to around 17 % of the entire workers employed in the organized manufacturing sector. Probably the most unique attribute of this industry happens to be the self- reliant characteristic exhibited by this industry, right from the production of raw materials to the delivery of finished products, with substantial value addition at each and every stage as has been well documented in the National Textile Policy[69]. As discussed in the second chapter in detail the Structure of the Garments Industry in particular for India has mixed evidence of both informal and formal sectors co-existing together where according to the estimates based on ASI and NSSO data close to 17.45 lakh people are employed in over 7.8 lakh units, with the informal sector attributing to more than 83 percent of employment and over 99 percent units in 1999 – 2000 as could be seen in the works of Singh and Sapra (2007)[70]. However, it should be noted that though the nature of penetration of the informal sector in this sector is very high as far as the causality between Exports and Manufacturing is concerned one should concentrate more on the Organized Manufacturing Sector as they are the ones which actively participate in the

[69] National Textile Policy – 2000, Ministry of Textiles.

[70] Narsharan Singh and Mrinalini Kaur Sapra (2007). 'Liberalization in Trade and Finance: India's Garment Sector' in 'The Liberalization and India's Informal Economy' edited by Barbara Harris White and Anushree Sinha. Oxford University Press.2007

global market, and the main channel for the un- organized sector to participate in this process is through the linkages they develop with the formal sector.

A comprehensive review of the literature of flexibility reveal the fact that there exits substantial evidence regarding creating a production process which is fragmented and informalized. Singh and Sapra (2007) as mentioned above has made two interesting case studies of The garments cluster in Tirupur as well as Noida where they have found out among the common characteristics that can be seen in both the clusters is the fact that through arrangements of contracting in and out firms have reduced more and more of their responsibility towards an expanding work force in response to the demands of a highly volatile international fashion garments fashion industry. Though, not totally on similar lines but similar evidence could be found out or the Woolen Knitwear Industry based out of Ludhiana. Tewari (1999)[71] made a detailed study of the Woolen Knitwear Industry on the basis of a fieldwork spanning approximately 12 months during 1990, 1991 ,1992 and January 1998 where she had interviewed almost close to 110 firms in the region's key sectors, of which around 25 firms were engaged directly or indirectly in Ludhiana's woolen knitwear industry. The fact that comes out from her extensive study in this region is the existence of a hugely diversified structure of the industry present there. She also stresses in her paper among the many causal factors which had contributed in the cluster's success story, the existence of a strong and growing domestic market as one of the key reasons for the firm's successful survival in the export market as it not only served as a strong, secure cushion for all the firms geared towards exports but

[71] Meenu Tewari (1997). "Successful Adjustment in Indian Industry: the Case of Ludhiana's Woolen Knitwear Industry". World Development, Vol. 27, N.o. 9.

also a good testing ground for the firms to try out new production arrangements in order to cater to the high quality, for the upper end domestic market as opposed to the low end high volume export market which mainly centered around the erstwhile Soviet Union in this case. Thus, she argues even after the collapse of the Soviet Union Market the main reason why the exporting firms not only could hold ground but where easily able to adapt to the changing global demand trends and cater to the OECD countries is because of mainly among other reasons basically due to their strong simultaneous presence in the domestic market. Tewari (2005)[72] have again argued the same point for Indian Apparel Exports in general by describing this phenomenon as a case of 'Blurring of the boundaries between domestic and export markets'. However, a slightly a different kind of evidence comes out after the reviewing the works of. Das (2004)[73] whereby he after running a cross- country regression across an entire spectrum of developed and developing countries have come out to the conclusion that there has been a distinct case of factor intensity reversal from a labor- intensive mode of production to a Capital Intensive one. A theoretical justification of subcontracting could be found in the literature from the works of Sayeed and BalaKrishnan (2002)[74] where they have distinguished between two different kinds of sub – contracting namely Push and Pull. They through an analytical model have showed that in a situation that firms are pulled into sub – contracting because of the fact that unit labor costs are reduced. In contrast, firms can be

[72] Meenu Tewari (July 2005): 'Post – MFA adjustments in India's Textile and Apparel Industry: Emerging Issues and Trends.' ICRIER Working Paper N.o.167

[73] Ram Upendra Das (2004):'Industrial Restructuring and Export Competitiveness of the Textiles and Clothing Sector in SAARCi n the context of MFA Phase – out.' RIS Discussion Papers.

[74] Asad Sayeed and Radhika Balakrishnan (August 2002) 'Why do firms disintegrate? Towards an Understanding of the Firm Level Decision to Sub – Contract and its impact on Labor' CEPA Working Paper 2002 – 12.

pushed into sub – contracting. A push into subcontracting is based on unit labor cost minimization solely through cost minimization without any attendant productivity improvements. Thereafter, they proceed to explain in details the nuances of each kind of sub – contracting. After comparing with the existing literature what, becomes evident is the fact that the garments industry in particular exhibit a push kind of contracting wherein home – based workers are in a majority on account of which cost reduction is the sole aim behind such an activity thereby making it maximum exploitative in nature. A much deeper insightful discussion on the literature of the notion of flexibility, its rationale as well as the trends observed in Indian Manufacturing has been done in Chapter 2.

Thus, what comes out is the fact that, there has been substantial evidence regarding flexibility in the literature. However, no such attempt has been found which quantifies the phenomenon and establishes it as a causal factor in the increase in exports. Thus the research questions attempted are the following:

- **How can flexibility be quantified? Can there be any estimate which shows the change in flexibility for the entire organized manufacturing sector in general and the garments sector in particular?**
- **Can the change in flexibility parameters be linked with an increase in exports?**

4.1 *The Research Methodology*

Flexibility in this dissertation has been defined as a ratio between Value Added to Value of Output Ratio as well as a ratio between Materials Consumed to Value of Output. Additionally wee have also considered the share of contractual Workers as a percentage of the total manpower employed. This is done with the understanding that less that Vale Added to Value of Output ratio and more the value of materials consumed to the value of output ratio more is the flexibility present in that industry. However, one also needs to take in account the factor that there might be huge efficiency gains involved in sub – contracting a part of work outside. However, it is rightly assumed that the positive impact of the efficiency gains cannot surpass the negative impacts on account of a decrease in vertical integration. Here we have arrived into this result on account of the fact that, more vertically integrated a firm is, it is assumed more will be the number of diverse activities happening under one roof thus less will be the flexibility, and even lesser will be the firms equipped to tackle small batches of products. Similarly, the same logic is applied to the employment statistics as well. More is the percentage of contractual workers as a percentage of the total number of worker; the easier it is for the firm to arrange employment for small batches of production[75].

In this chapter we have first tried to make a detailed analysis of flexibility as defined above in general and then proceeded to place the garments sector in the backdrop of this analysis. For this we have attempted to make a detailed analysis of the entire organized manufacturing sector by calculating the net value added to value of output ratio for which

[75] I am grateful to Professor Biswanath Goldar at IEG for helping me to formulate these methodologies. It was only after an elaborate discussion with him that I decided to follow this particular methodology so as to quantify flexibility in the manufacturing perspective.

we have considered the two digit data for the organized manufacturing sector for the time span 1990 – 91 to 2004 – 05.Here we have used the NIC – 87 nomenclature of Industrial Classification. So far as the data regarding the growing incidence of contractual employment is concerned we have used the employment – emolument tables starting from 1998 – 99 to 2003 – 04 to capture this growing phenomenon. From here we have tried to proceed to locate the point of our interest namely the organized garments industry and tried to make a comparative analysis of the garments industry in light of the growing trends of flexibility as has been defined by us.

In an attempt to answer to the research questions posed in this chapter the databases that have been considered are mainly the ASI Summary Results as well as the Prowess Database. The reason behind considering the Prowess Database is precisely because of the fact that the ASI database though caters to our data needs but it doesn't help our research as far as the causality between Exports and Manufacturing is concerned. This is because of the fact that neither the Unit Data nor the Summary Results provide us a figure of total exports as far as any industry is concerned. Thus a firm which is registered under the ASI Factory Act might not necessarily export as it might prefer to sell in the domestic market only. Thus, a need was felt to make use of the Prowess Database though entirely separately. The reason behind not mixing and matching both the databases i.e. breaking up the Prowess data into subsequent regions and then tallying the employment – emolument tables published by the ASI by industry by region so as to have a figure for overall flexibility for the following reasons.

Firstly, the employment – emolument tables by region published by the ASI are only available from 1999-2000 onwards. Thus, the sample size required to arrive at a consistent result is not met properly. Secondly, the persistent problem of tallying the ASI data with the Prowess data sources as the sample of firms taken for Prowess is completely different to that taken for ASI purposes. Thus, the inherent problem still remains, on account of which a firm reporting to ASI might not be at all covered by Prowess or vice – versa.

4.2 The *Findings from the ASI Summary Results for the Entire Organized Manufacturing Sector*

Here, first we have tried to make an overall analysis of the entire organized manufacturing sector (within the purview of the ASI) as a whole and from there on we have proceeded to make a sector wise analysis of the entire organized manufacturing sector. The above analysis has been made intending to capture the flexibility parameters prevailing in the economy in terms of both net value added as a percentage of value of output as well as material consumed as a percentage of value of output. In addition to this as discussed in the theory above we have also taken into consideration the percentage of contractual workers as a percentage of total workers as it is evident that smaller the number of permanent or directly employed workers, the more equipped the firm is to handle the shorter batches of orders.

From the aggregate ASI results on employment emolument tables what becomes evident is the fact that (as could be seen from Table 4 of Appendix) there has been a distinct fall

in the ratio of directly employed persons as a percentage of total workers. Contractual workers, however as a percentage of total workers have shown an increase. In this context it should be mentioned here that Ghosh and Chandrasekhar (2007) [76]using the quinquennnial large sample rounds of the latest 61st round of the NSSO, covering 2004 – 05 has found out that 'while regular employment had been declining as a share of total usual status employment for some time now (except for urban women workers), wage employment had continued to grow in share because employment on casual contracts had been on the increase'. He calculated out of the entire increase in non- farm employment in rural areas of 16 million, nearly 5 million could be attributed on account of the increase in casual employment. A similar evidence could be found from the works of Himanshu (2007)[77]. This explanation would become clearer if one casts a look at table 4.As far as the gender wise composition percent to it is concerned it could be found out that Men as a percentage of the total directly employed workers have fallen from 88.1 percent to 80.5 percent where as the share of women as a percentage of total directly employed workers have increased almost by nine percentage. Thus what follows is the fact that there has been a distinct increase in the number of contractual employment as well as female employment as a percentage of total directly employed workers. To the extent that the second estimate of flexibility is concerned, we see that which here has been defined as net value as a percentage of value as well as materials consumed as a percentage of output, we see that though there have been a fall in the net value added

[76] C.P. Chandrasekhar and Jayati Ghosh (2007) 'Recent employment trends in India and China: An unfortunate convergence' paper presented in the JNU – IIAS conference on 'Making growth inclusive with reference to employment generation', 28th – 29th June, 2007.

[77] Himanshu (2007): 'Employment trends in India: A fresh look at past trends and recent evidence' paper presented in the JNU – IIAS conference on 'Making growth inclusive with reference to employment generation', 28th – 29th June, 2007.

ratio but a similar thing cannot be said for the second ratio as they have remained almost the same. As could be see from Table 5 of Appendix if we take 1990-91 and 2004-05 as the two time points , what could be seen is the fact that net value added as a percentage of value of output has fallen from approximately 19 percent to 15 percent. An inter – sectoral analysis of the above estimates have been made below.

4.3 *An Inter – Sectoral Comparative Analysis*

Here, an inter - sectoral analysis has been attempted so as to bring out the notions of flexibility in a sectoral sense for the entire organized manufacturing sector. As far as the analysis regarding the employment emolument tables is concerned for the entire manufacturing sector (as could be seen from table 6 of Appendix) what have been attempted here is to concentrate on those industrial sectors which together contribute to more than 50 percent of the total workers in the entire organized manufacturing sector. Here, the NIC - 98, 4 digit classification has been taken for the time period 1998 – 99 to 2003 - 04. As -far as the other ratio is concerned we have taken help of the NIC -87 two digit classification by the help of the concordance tables published by the CSO.

The sectors that have been identified on the basis of their share in the total employment of the entire organized manufacturing sector are Preparation and spinning of textile fiber including weaving of textiles (1711), Manufacture of tobacco products (1600),Manufacture of Wearing Apparel (1810), Manufacture of other food products(1549), Manufacture of Basic Iron and Steel (2710), Manufacture of grain mill products (1531), Manufacture of sugar (1542), Manufacture of parts and accessories of

motor vehicles (3430), Manufacture of pharmaceuticals, medicinal plants and botanical products (2423) and Manufacture of plastic products(2520).

As far as the analysis of contractual employment goes it should be noted that as could be seen from table 6 of Appendix that apart from garments where the percentage of contractual workers as a percentage of total workers have more than doubled we see a significant rise in contractual employment only for tobacco products where it has almost increased five times the figure that it was in 1998 - 99 and for basic iron and steel where it has increased by almost nine times. However the net value added ratio as could be seen from table 7 of Appendix doesn't show a significant change infact a fall which doesn't totally support the claim of flexibility completely though the significant increase in contractual employment does give us a hint. The most employment intensive sector amongst the entire organized manufacturing sector in the form of textiles (1711) along with Manufacture of sugar (1542) do not show any significant change in contractual employment at all, though a significant fall in the net value added ratio could be noticed. Among the NIC industrial sectors chosen what becomes evident is the fact that along with wearing apparel (1810), the sectors that do satisfy both the notions of flexibility as defined in the dissertation are Manufacture of grain mill products (1531), Manufacture of parts and accessories of motor vehicles (3430) and Manufacture of plastic products(2520).

However if one casts a more detailed look at the gender composition of employment for the entire manufacturing sector as a whole we see that apart from wearing apparel (1810)

, only tobacco products(1600) have significantly high proportion of female workers as a percentage of total workers. This finding finds support from the works of Ghosh (2002)[78] as well as Stahl and Stalmaker (2002)[79] where they attribute this trend as to a growing tendency of the firms to allocate women to lower value added segments so as to accommodate for 'flexibilization of labor' in reply to the changing global trends. The reason that can be given for such a trend has to do with specific industry related characteristic as well as the fact that in a changing world where the focus is increasingly on the exports sector so as to cater to the world market the emphasis could be seen clearly been given on employing 'hassle free' labor in terms of unionization of the work force which stems from exercising the right of freedom of association, which facilitates the union to bargain with the employer for proper wages, working conditions as well as other social security mechanisms. As far as the percentages of wages paid to the supervisory and managerial staff as a percentage of total wages it could be easily seen that only a marginal increase is being observed apart from the Manufacture of parts and accessories of motor vehicles (3430) sector. However, a study of the shifts in the employment trends for various sectors in the context of this dissertation would require a detailed understanding of the disaggregate export performance of these particular sectors as well as a thorough detailed study of the industry specific characteristics. Here, in this chapter we proceed to make a detailed analysis of the garments industry particularly in the following sections which as could be seen from table 1in Appendix has been India's

[78] Jayati Ghosh (2002), "Globalization, Export Oriented Employment for Women and Social Policy – A case study of India" Social Scientist, Vol. 30, N.0. 11/12, pp – 17 – 60

[79] Stahl and Stalmaker (2002), "A case study illustrating the relationship between core labor standards and trade, international competition and its impact on the working conditions in the Indian garment export industry", Unpublished Masters Thesis in International Public and Labor Law at the School of Economics and Commercial Law , Goteborg University.

major success stories not only among the entire manufacturing sector but also among all the items exported by India apart from our traditional exports of gems and jewelleries.

4.4 *The findings from the ASI Data for the organized garments manufacturing sector*

As discussed above flexibility here has been defined through two measures. Here, first we categorize it as a measure of sub – contracting where, the firm in question completely gets a part of its work done from outside[80], thereby though encountering a fall in net value addition happening under one roof but gaining the expertise in the process increasingly, to match up with the emerging global demand trends which shows abnormal fluctuations, on account of factors such as retailing among other important ones as discussed above. Thus so as to quantify flexibility properly one needs to take into account the ratio of Value Added as a percentage of Value of Output or the value of Materials Consumed[81] as a percentage of value of Output ratio. The rationale being, lower the Value Added as a percentage of Value of Output or higher the value of Materials Consumed as a percentage of value of Output, more is the flexibility of the sector in general. Thus, more the Materials Consumed as a percentage of value of Output, ideally less will be the degree of vertical integration present in the industry and more equipped it will be to adapt to the emerging global trends.

As could be seen from the table5 in garments and the subsequent graphs in the following pages it is evident that, though both the graphs show a fluctuating trend but there has

[80] Basically from the informal sector, as far as this sector is concerned.

[81] As per the ASI definition it represents the total delivered value of all items of raw materials, components, chemicals, packing materials and store which actually enter into the production process of the factory during the accounting year. It also includes the cost of all materials used for construction of building etc. for the factory's own use. It excludes all intermediate products consumed during the accounting year. Intermediate products are those products, which are produced by the factory and are subject to further manufacturing.

been a steep fall in Net Value Added as a percentage of Value of Output once during 1993 – 94 and again during 1996 – 97.A similar trend could also be seen as far as the ratio of Materials Consumed as a percentage of value of Output is concerned. The time – span considered here is for the period 1990 – 2005. It should be mentioned here that, as far as the ratio of Value Added as a percentage of Value of Output is concerned a more or less secular declining trend can be observed from 2001 – 02.However, a secular declining trend can be noticed from 2002 – 03.Thus, though the ratio of Value Added as a percentage of Value of Output supports the claim but the other ratio i.e. value of Materials Consumed as a percentage of value of Output does not totally support the claim made before. One prime reason for an occurrence like this could be because of the fact that the data source chosen in this case is the ASI Summary Results, on account of which a firm – level analysis could not be made which could have made the objective of the analysis more meaningful. To negate this problem, to an extent an aggregate analysis of the similar kind has been done with the CMIE Prowess data. This part will be taken up when the Prowess findings will be discussed. The other reason being, that a close introspection of the materials consumed includes among many components various fixed components as well as chemicals also.

The other part of the flexibility story deals with the Employment aspect. Here, a detailed assessment has been made as far as the employment trends are concerned from the employment – emolument tables taken from the ASI Summary results as could be seen from table 8 in Appendix. The main agenda along with other results is to observe the trends as far as Contractual Employment is concerned. The reason being, that more the increase in contractual employment, the easier will it be for the firms to adapt to the

changing global trends. The time – period considered here is from 1995 -96 to 2003 – 04, the time from which CSO authorities have started publishing the employment – emolument tables. As far as the trends within the work – force what is evident is the fact that across the years there has been an almost secular increase in the number of female workers as a percentage of total directly employed workers employed. Thus, we find that women as a percentage of the total number of workers have increased approximately from 40 percent in 1995 – 96 to a commendable 60 percent as proportion of workforce whereas men as a percentage of total directly employed workforce have fallen from approximately 51 percent to as low as 36 percent. An increase in the number of contractual workers as a percentage of the total workforce comprising of both the Directly Employed kind as well as the contractual kind have increased from 2 percent of the total workforce to as much as 8 percent thereby in absolute terms increasing from a mere 4465 in 1995 -96 persons to almost approximately five times the initial number to approximately 20,000 persons in 2003 -04 i.e. approximately a 500% increase have taken place. In contrast to this the ratio of Directly Employed persons as a percentage of total workforce though not by much but from almost 97 percent to close to 90 percent from the time period 1995 – 96 to 2003 -04.As far as the Wages and Salaries[82] are concerned, it can be seen that as a percentage of the Total Wage Bill the wages and salaries of the Supervisory and Managerial staff have shown a marginal increase from approximately 10

[82] As per the ASI definitions, Wages and Salaries are defined to include all remuneration in monetary terms and also payable more or less regularly in each pay period to workers as compensation for work done during the accounting year. It includes (a) direct wages to salary (i.e. basic wages / salaries , payment of overtime, dearness, compensatory , house rent and other allowances) (b) remuneration for the period not worked (i.e. salaries and wages payable for leave period, paid holiday ,lay – off payments and compensation for unemployment if not paid from sources other than employers (c) bonus and ex – gratia payments paid both at regular and less frequent intervals(i.e. incentive bonuses, profit sharing bonuses, festival or year end bonuses, etc.)..The wages are expressed in terms of gross value i.e. before deduction of fines, damages, taxes, provident fund, employee's state insurance contribution etc.

percent in 1995 -96 to more than 20 percent in 2003 -04 but if we start to se the trend from 1998 onwards any major significant change is not observed. However, the wages and salaries paid to the workers other than Contractors and Supervisors as a percentage of total wage bill, though showing an absolute increase have shown a path of Secular decline from 68 percent in 1995- 96 to close to 68 percent in 2003 – 04.Thus, what is evident from the ASI Results is the fact that there has been an increasing trend of Contractualisation of Employment along with an increasing trend of Feminization of the workforce. The concerned tables for the garments have been provided in the Appendix. (Tables 5& 8)

Thus what comes out from the summary results of the ASI data is the fact that among the two flexibility parameters identified, it can be seen that very strong evidence regarding contractual employment can be clearly found from the data sources of the formalized manufacturing sector. However as far as, evidence regarding sub – contracting of work is concerned, though there exists convincing evidence but definitely can be said with affirmation only after some more analysis.

4.5 *The Prowess results*

The trends as far as the manufacturing sector is concerned are already determined. However, in order to have a causal relationship between Exports and Manufacturing one need to have a look at a database whereby there is data for both Manufacturing and Exports. This is because of the fact that the ASI data does not give us any information on

the nature of Exports happening in any sector. On account of this, the firms which have reported under ASI might not necessarily export at all, thereby catering to the domestic market only. On account of this The CMIE Prowess database is made use of, which not only has data on the relevant data but also have data on the various input cost as well as contains information on exports. Here the time period considered for the period 1990–2006 whereby panel has been created for a sum total of 97 firms. The methodology followed here is the following:

Firstly, we have taken aggregate statistics of a number of important parameters ranging from Sales, Sales Manufacturing, Total Income, and Total Foreign Exchange Earning which gives us a measure of Total Exports as well as various costs components such as costs of various raw materials, costs regarding the purchase of finished goods[83], as well as various other expenditures incurred by the firms such as expenditure on Power and Fuel, Marketing, Distribution, Advertisement and also other variable components of charges such as Wages and Salaries[84], Labor Charges[85] etc. The prowess aggregate results have been displayed as Table 9 in Appendix.

The Prowess aggregate results (Table 9 in Appendix) show that there has been a secular increase in the Total Foreign Exchange earning as well as labor charges with the latter showing a big shift after 2004.The data regarding the purchase of finished goods is

[83] As per the Prowess definition, this includes purchase of finished goods made by an enterprise for resale. For example a liquor company it can aptly represent the amount spent on purchasing from contract bottlers.

[84] As per the Prowess definition Salaries and wages are the total expenses incurred by an enterprise on all employees, including the management. Besides salaries and wages, items such as payment of bonus, contribution to employee's provident fund and staff welfare expenses are also included under wages.

[85] As per the Prowess definition Labor Charges include the expense incurred by companies for getting their manufacturing requirements done from outside parties on job work / assignment basis are referred too as labor charges, processing fees etc.

showing a fluctuating but an increasing trend. The Variable cost component as could be seen in the following pages has shown a phenomenal increase as compared to a moderate one as in the case of the fixed cost component. After this we have run a panel regression, consisting of 97 firms and 17 years. The dependant variable considered here, is Total Foreign Exchange Earning (i.e. the estimate which gives us the total value of exports) and it is regressed on the following independent variables, sales manufacturing, expenditure packaging, purchase of finished goods, power and fuel expenditure, total indirect tax, salaries and wages, labor charges, expenditure on advertising, expenditure on marketing as well as expenditure on distribution. Here, sales manufacturing has been taken into consideration keeping in mind the fact that there exists literature on 'the blurring of boundaries between domestic and foreign market'. It should be noted here that expenditure on packaging , distribution, marketing as well as advertisement have been taken into consideration keeping in mind the emerging trends of retailing. Here expenditure on purchase of finished goods as well as labor charges has been specifically taken as an indicator of stability. Also to see the causal effect of Direct Employment on Exports we have taken the variable salaries and wages. The regression equation considered her does not need to be controlled for the scale of the firm as the Prowess database covers those firms which have annual reports on account of which it is assumed, being big public limited companies the firms considered here are more or less of the same size. Alternatively, a dummy could have been taken for those firms which have output less than 10% of the average output level, but that have been avoided here for the sake of simplicity.

Thus the regression equation looks like:

Total Foreign Exchange Earning $_{it}$ = β_0 + β_1 sales_m $_{it}$ + β_2 exp_pack $_{it}$ + β_3 purfin $_{it}$ + β_4 pfuel $_{it}$ +β_5 tit $_{it}$ + β_6 sw $_{it}$ + β_7 lc $_{it}$ + β_8 exp_adv $_{it}$ + β_9 exp_mark $_{it}$ +β_{10} exp_distr $_{it}$

for i = 1, 2, 3, 4, 5.....97

for t = 1990, 1991, 1992, 1993, 1994.....2006

Here, the symbols in the equation represent the following:

a) sales_m $_{it}$ = sales manufacturing in Rs. Crore for the i th firm in the t th period.

b) exp_pack $_{it}$ = expenditure on packaging in Rs. Crore for the i th firm in the t th period.

c) purfin $_{it}$ = expenditure on purchase of finished goods in Rs. Crore for the i th firm in the t th period

d) pfuel $_{it}$ = expenditure on power and fuel in Rs. Crore for the i th firm in the t th period

e) tit $_{it}$ = total indirect tax in Rs. Crore in Rs. Crore for the i th firm in the t th period

f) sw $_{it}$ = salaries and wages in Rs. Crore for the i th firm in the t th period

g) lc $_{it}$ = labor charges in Rs. Crore for the i th firm in the t th period

h) exp_adv $_{it}$ = expenditure on advertising in Rs. Crore for the i th firm in the t th period

i) exp_mark $_{it}$ = expenditure on marketing in Rs. Crore for the i th firm in the t th period

j) exp_distr_{it} = expenditure on distribution in Rs. Crore for the i th firm in the t th period

The results of the subsequent panel regression run on STATA have been duly attached in the following pages as per the STATA Output module (Please refer to table 4.1 below). However as far as the analysis of the results of the regression are concerned , it should be noted that though both the fixed effects and the random effects give us the same kind of result but on account of successful fulfillment of Hausman test for Specification Bias, the Fixed Effect Model (FE) has been considered here. As far as the goodness of fit is concerned, the R- square within shows a commendable 0.79.Apart from tit and exp_mark every other variable shows a significant co – efficient. The variable sales_m though positive, does not show a very high appreciable change. The same though cannot be said about the variable purfin, which is almost close to 1. However, exp_pack as well as sw and lc show a healthy positive as well as significant coefficient. However, a negative significant coefficient can be seen for pfuel as well as exp_adv and exp_ dist.This might be because of the fact that Indian Exports might be in the lower tiers of the value chain on account of which advertising and distribution really have not been of much help rather have proved detrimental while trying to compete with the more established retail brands. An explanation for the negative advertisement coefficient could be found in the works of Dholakia and Kapur[86] where they have argued that high exports do not necessarily seem to require high advertisement expenditure particularly under the liberalized policy regime. This could be because other better efficient arrangements to save transaction

[86] Ravindra H. Dholakia and Deepak Kapur : "Determinants of Export Performance of Indian Firms – A Strategic Perspective"

costs between established international players and domestic exporters may have become possible , wherein Indian firms are only supplying their products to dominant international players who incur brand development and other advertisement related expenditure. The most interesting part of the result, however as could be seen in the following pages is the fact that the ASI and the Prowess has given almost similar result as far as the identified flexibility parameters are concerned. Labor Charges (lc) has proved to be an important causal factor for total exports and interestingly significantly more than purfin, a result which the ASI summary results support as well.

4.6 *Summary*

The previous chapter on Export trends has given a fair idea regarding the competitiveness of Indian apparel exports. The entire focal point of this chapter was to bring out the backward linkages that exist from the manufacturing side. Here, we have explained the backward linkages from the newly acquired edge in flexibility by the Indian manufacturing sector vis – vis the rest of the world. This explanation regarding the mystery behind the new found competitiveness of Indian apparel exports is definitely a diversion from the standard 'low wage' argument as given mostly by economists. There exists substantial literature that suggests which is of the opinion that competitiveness on the basis of low wages can only be sustained till the point, a new 'low wage' site gets discovered. This in some way does not successfully explain the sustained dominance of the Indian apparel exports in the global markets.

Thus, what becomes evident as could be seen from the discussion in the earlier sections of this chapter is the fact that contractualisation of employment along with an increasing evidence regarding sub- contracting have emerged as an important factor in enhancing exports via the increase of flexibility of the industry route. The Prowess results also support the above arguments. However, the argument posed by Tewari (2005) stating that the similarity between the domestic and the international market demand trends wise as a causal factor in enhancing the competitiveness of Indian exports could not be effectively established from the available data. The broad macro – economic impact of this rising trend of casualisation on the economy as a whole includes lack of stability and certainty from the employee's point of view as well as a negligence of working conditions as well as safety requirements, health facilities, social security mechanisms among others which though is a significant factor enhancing the 'flexibilization of labor' but from a point of view of the economy a major hurdle in achieving development in the proper sense from a holistic point of view. In terms of macro – economic implications a qualitative analysis have been attempted in the concluding chapter.

TABLE 4.1

Random Effects GLS regression Number of obs = 685

Group variable (i): firm Number of groups = 96

R- sq: within = 0.7704 Obs per group: min= 1

Between = 0.9803 avg = 7.1

Overall = 0.9027 max = 17

Random effects u_i – Gaussian Wald chi2 (10) = 6256.23

Corr(u_i, X) = 0 (assumed) Prob > chi2 = 0.0000

tfe	**Coeff.**	**Std. Error**	**z**	**P> |z|**	**[95% Conf. Interval]**	
sales_m	.581653	.0427847	13.59	0.000	.4977965	.6655094
exp_pack	1.519992	.5687164	2.67	0.008	.4053283	2.634656
purfin	.7059142	.1225987	5.76	0.000	.4656252	.9462032
pfuel	-2.543999	.8815667	-2.89	0.004	-4.271838	-.8161595
tit	-.3802837	.5305702	-0.72	0.474	-1.420182	.6596147
sw	1.326439	.2600394	5.10	0.000	.8167708	1.836107
lc	1.788649	.1537469	11.63	0.000	-9.865438	-7.812535
exp_adv	-8.838986	.5237094	-16.88	0.000	-9.865438	-7.812535
exp_mark	2.060145	.468151	4.40	0.000	1.142586	2.977704

exp_distr	-.7115737	.9740885	-0.73	0.465	-2.620752	1.197605
_cons	-.4517308	.8954829	-0.50	0.614	-2.206845	1.303383
sigma_u	0					
sigma_e	18.4498683					
rho	0	(fraction of variance due to u_i)				

Fixed Effects (within) regression Number of obs = 685

Group variable (i): firm Number of groups = 96

R- sq: within = 0.7909 Obs per group: min= 1

Between = 0.9481 avg = 7.1

Overall = 0.8735 max = 17

Random effects u_i – Gaussian F (10,579) = 219.02

Corr(u_i, Xb) = 0.2284 Prob > F = 0.0000

tfe	**Coeff.**	**Std. Error**	**z**	**P> |z|**	**[95% Conf. Interval]**	
sales_m	.6137275	.0623171	9.85	0.000	.4913323	.7361227
exp_pack	1.229125	.745508	1.65	0.1000	-.2351051	2.693354
purfin	.8395158	.1613656	5.20	0.000	.5225824	1.156449
pfuel	-7.094625	1.694202	-4.19	0.000	-10.42216	-3.767095
tit	.3834454	.5646995	0.68	0.497	-.7256637	1.492555
sw	2.221358	.4151118	5.35	0.000	1.406049	3.036666

lc	1.904944	.2049571	9.29	0.000	1.502394	2.307494
exp_adv	-6.441983	.7185779	-8.96	0.000	-7.85332	-5.030646
exp_mark	.9397871	.5576535	1.69	0.092	-.1554831	2.035057
exp_distr	-7.690392	1.224272	-6.28	0.000	-10.09495	-5.285837
_cons	2.362469	1.122398	2.10	0.036	.158001	4.566937
sigma_u	14.802389					
sigma_e	18.449863					
rho	.39161308	(fraction of variance due to u_i)				

F test that all u_i = 0: F (95,579) = 1.94 Prob > F= 0.0000

Chapter – 5

Conclusion

The earlier chapters in this dissertation have given a fair idea regarding the export performance as well as the causal mechanisms which have been responsible for such a phenomenon. In this chapter we intend to summarize our discussion, attempt to draw out some meaningful conclusions as well as aim to provide an insight to future scope of work.

Chapter 4 has clearly shown the importance of the garments manufacturing sector in the context of the entire organized manufacturing sector in India. The fact that this happens to be a sector which has been not only India's highest foreign exchange earner only after traditional exports such as gems and jewelleries but also the fact that it is credited to be the most consistent sector export wise .Given a new trading regime in place sans the MFA, there is room for both opportunities as well as threats. The opportunities come in the way of gaining access to markets which were hitherto inaccessible on account of a constraint imposed in the form of quota. The threats in terms of increasing competitiveness cannot be undermined at all which is especially from the developing countries of South Asia, as well as from China which is a cause of serious concern. Given this backdrop it is a matter of great academic interest to have an estimate of competitiveness for all the important export oriented apparel tariff lines for India vis – vis it's main competitors. On account of lack of reliable data regarding factor costs the Revealed Comparative Advantage (RCA) index has been used for the above purpose. A detailed discussion in this regard have been made in Chapter 3The discussion in Chapter

3 clearly shows China has emerged as India's main competitor in as many as 11 of the 14 tariff lines reviewed here. Apart from China, as is cleared from the discussion in the above two countries namely Mexico and Hong Kong deserves special mention here. The above analysis shows them not only as a serious competitor from the point of view of Indian apparel exports not only in the present scenario but also for the years to come. This is because of the fact that both are a part of various RTAs such as NAFTA etc which facilitates unlimited market access to partner countries like US. India, however till date is still not a part of any kind of bi – lateral arrangements which increases the severity of the situation. Additionally, exports markets wise Canada and France have been India's niche market, whereas Japan though being a major importer in most of the relevant tariff lines from the Indian perspective ceases to be an important export market for India. One of the plausible reasons for such a phenomenon may be because of China. China while being a part of WTO had made a commitment regarding voluntarily curbing its apparel exports till 2008 as far as the US market is concerned. However, a similar clause is not applicable for Japan, on account of which it has emerged as a leading exporter in the Japanese market. Though the market conditions in the context of US might be totally different as compared to Japan, but it wouldn't be totally inappropriate to say that amidst all speculations one can still get a fair indication regarding the competitiveness of Indian apparel exports in the US market post 2008.

Though the initial trends as far as the exports of the major products of this sector are very encouraging, however it should be safely said that a consistent trend is yet to emerge and concluding that these trends can be sustained is a bit pre – mature. A detailed analysis of

these global trends has been made more elaborately in the chapter on Export Trends. It should be mentioned in this regard that the ongoing global demand trends are a reflection of the changing nature of the global demand as a whole where we have an increasing prevalence of Buyer Driven Supply Chains. Here, it should be noted that the concepts of competitiveness on the basis of wage cost is day by day turning out to be an obsolete one as the competitiveness remains till the time a new "lower wage site" gets discovered i.e. till the time a country offering an even lower wage is discovered. This has been a prevalent trend for almost every industry and a development that is even more important in the context of garments as could be found from the existing literature. There exists evidence in the literature stating the fact that the new basis of competitiveness is based not only on low wage cost, but also on factors such as quality, flexibility, product variety, quick turn around times as well as low wage cost so as to adapt to a market as volatile as and prone to fluctuations as that of garments.

In this context the findings from Chapter 4 gains increasing significance. A sector which is so much export oriented after closely introspecting the employment composition what becomes clear is the fact that there has been a distinct increase in both the number of contractual workers as well as an increase in the number of women employed among the number of persons directly employed. Here we reiterate to a finding made by Ghosh (2002)[85] where she asserts the fact that the increasing employment of women is due to the increasing female empowerment of women in the lower value added segments of the industry. In this context it should be noted that in the backdrop of this dissertation along

[85] Jayati Ghosh (2002), "Globalization, Export Oriented Employment for Women and Social Policy – A case study of India" Social Scientist, Vol. 30, N.0. 11/12, pp – 17 - 60

with the point asserted by Ghosh (2002), what becomes evident is the fact that the generally low bargaining power of women workers as opposed to their male counterparts have been a key factor influencing this phenomenon. The increasing percentage of contractual workers not only is an indication of exploiting the 'low wage hypothesis' by the employer but also because of the fact that it is also a consequence of the successful adjustment made by the Indian firms in response to the changing trends of the global export demand. The other point that comes out clearly, is the fact that the increasing trends of female employment within the directly employed workers have an unseen correlation with the growing trend of contractualisation as have been stated above . In other words, the point that is asserted is the fact that the increasing incidence of contractual employment might be more for women as compared to men as it is easier from the point of view of the employer to exploit the former as compared to the latter.Ghosh and Chandrasekhar (2007)[86] using the quinquennnial large sample rounds of the latest 61st round of the NSSO, covering 2004 – 05 has found out that not only the real wages have fallen considerably contractual workers, but what becomes evident is the fact that the gender gap that has been already quite large has been increasing over time. Female casual workers they have calculated get only around 58 percent of the wages received by their male casual workers. This ratio is relatively low even by the standards of other developing countries. One of the underlying reasons for this substantial wage difference according to them is on account of low literacy among the female workers. They found out that illiterate women workers in rural areas faced average wage cuts of 20

[86] C.P. Chandrasekhar and Jayati Ghosh (2007) 'Recent employment trends in India and China: An unfortunate convergence' paper presented in the JNU – IIAS conference on 'Making growth inclusive with reference to employment generation', 28th – 29th June, 2007.

percent, while those who had secondary and higher secondary education faced average cuts of nearly 30percent.It should be noted in this context that in 2004 – 05, more than 66 percent of all rural women workers were illiterate, and 37 percent of urban women workers were illiterate.

This has serious policy implications and to b completely fair, it's a very tight rope to walk. To the extent that the growing evidence of sub – contracting is concerned, it should be noted that this in itself is a good sign because of the simple rationale, that more the formal – informal sector linkage, more the employment enhancing capabilities of the informal sector. Given the fact, that the employment in the informal sector in garments is far greater than the formal sector, this happens to be a very effective employment generating prospect for the economy in general. Additionally stronger the formal – informal sector linkage, stronger is the bargaining power of the informal sector. As far as the point regarding the growing percentage of contractual workers, it should be noted that as discussed in chapter 2 in detail that though it's a rather unknown fact but most of the labor laws in our country holds true for all workers irrespective of their employment status. Thus, from a policy making point of view what is required is a mechanism to ensure stricter enforcement of these laws in the Indian context. This, along with a minimum guarantee kind of a clause could be made mandatory in the contracts of these contract workers whereby the employer has to pay the employee a minimum guarantee amount for a stipulated time period say 2 months, depending upon the duration of employment during the peak period, till the concerned person is able to find employment else where. The fact that for a contract worker the main hindrance as far as the garments

sector is concerned comes more from the uncertainty of the future as compared to payment of minimum wages is well documented in the works of Stahl and Stalmaker (2002)[87].Thus the above specified course of action is a step towards lessening this impact.

5.1 *Questions for Future Research*

The work that could be done as far as the theme of the dissertation is concerned it should be noted that the role of this sector as far as the poverty reducing effect is concerned should be treated with utmost concern. If one casts a look at the employment intensity this happens to be the sector (T&C) which comes only after agriculture. Diao, Somwaru [88](2001) has shown that 1% increase in apparel trade shares is associated with a 3.3% increase in income per person. Using these results Jha et al[89], using the poverty elasticity have calculated that roughly 286,000 people have moved out of poverty leveling the course of the time period 2001 – 2005. Most of the employment in this sector is being generated by the export market and a large part of the employment is casual. This is a poverty sensitive sector of trade as it employs a number of rural and urban poor. Also, they are exposed to changes in international production and trade patterns and policies, due to the large percentage of production exported. Daily wages in agriculture are seen to be lower than that in the textiles and garment industry and hence an increase in employment in this sector will probably have higher poverty alleviation effects. Thus,

[87] Stahl and Stalmaker (2002), "A case study illustrating the relationship between core labor standards and trade, international competition and its impact on the working conditions in the Indian garment export industry", Unpublished Masters Thesis in International Public and Labor Law at the School of Economics and Commercial Law , Goteborg University.

[88] Diaou, Somwaru (2001): "Impact of MFA phase out on the World Economy: An Intertemporal Global General Equilibrium Analysis"

[89] Veena Jha, James Nedumpara and Sarika Gupta. "The Poverty Impact of Doha: India"-United Nations Conference Paper on Trade and Development

from a macroeconomic perspectives, the sub- sector garments within T&C assumes much greater significance and is far more important for major bottle- necks persisting in the economy like unemployment , poverty, etc.In a backdrop like this , it would be interesting to see what influence a change in global trading regime would have on this sector from a development perspective. Making the argument more precise, the main agenda that needs to be introspected in a more detailed and comprehensive way is to analytically capture the influence of adopting 'flexible means of production' on the poverty, unemployment, inequality levels of this country.

5.2 *Limitations*

The major limitation that this dissertation suffers is from the inability to incorporate the informal sector into the current model. Among the garments sector the informal sector attribute for the maximum employment on account of which both from a domestic as well as an international perspective this sector is of utmost importance. However, on account of paucity of time and resources the export sensitivity of this sector could not be gauged. Thus, what needs to be found out is the exact linkages that exist between the formal and the informal sector as well as the participation of this sector directly and indirectly to exports. This would have required a detailed survey of the informal sector garment units spread out in various places which also would have brought out the degree of participation along with the position of this sector in the value chain. However, given the canvas of an M Phil dissertation, on account of the limited time period this could not be done, and as there exists no reliable secondary data source which would effectively bring out this linkage, this work remains not only incomplete from the point of view of this

dissertation but an unexplored area taking into consideration the existing literature.Himanshu (2007)[90] using the 61st round of NSSO estimates have found out that among the industry groups that have seen high rate of industrialization are manufacturing and community and social services. As far as the employment increase on urban areas area are concerned, he finds out that it has been mainly as self employment and the sectors that have contributed majorly are manufacturing and wearing apparel, retail trade, construction and land transport together account for almost 50% of the entire increase. Thus, in this perspective what becomes imperative is the fact that there is an increasing need to devise policies which strengthen the linkages between formal and informal sector in light of the changing trends in export demands on account of which the informal sector can not only effectively contribute but also have significant bargaining power which helps in a large way to eradicate serious social evils like poverty, unemployment and inequality. In addition to this apart from extending the empirical base of work, a concerted effort needs to be made in devising a theoretical justification of the adoption of 'flexible modes of production'. This would require a game theoretic interpretation where after determining the right pay – offs both from the employer and the employee' point of view a sustainable equilibrium should be determined.

However, given the various constraints an honest attempt has been made here to provide a clear picture of the garments sector exports wise as well as the backward linkages from the manufacturing side. Though, the notion of flexibility has been mentioned in the works

[90] Himanshu (2007): 'Employment trends in India: A fresh look at past trends and recent evidence' paper presented in the JNU – IIAS conference on 'Making growth inclusive with reference to employment generation', 28th – 29th June, 2007.

of many economists but an analytical attempt to quantify it hasn't been tried. This dissertation has been geared towards that direction. The important conclusion that comes out from this endeavor is the fact that a growing trend of adoption of 'flexible means of production' can be clearly noticed which have emerged as a major causal mechanism in the successful adjustment as well as sustainability of Indian firms in the international domain. This, however from a holistic point of view taking into consideration the larger picture is really a problem to ponder about.

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APPENDIX (TABLES 1 TO 9)

Table – 1

List of Top 10 export items for India and the share of apparel in total exports for the time period 1990 - 2005

Year	Product Code	Top 10 Exporting items	Share Of Apparel in Total Exports
1990	71	Natural/cultured pearls, prec stone	12.64%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	09	Coffee, tea, matï and spices.	
	26	Ores, slag and ash.	
	84	Nuclear reactors, boilers, mchy & m	
	61	Art of apparel & clothing access,	
	03	Fish & crustacean, mollusc & other	
	27	Mineral fuels, oils & product of th	
	42	Articles of leather; saddlery/harne	
1991	71	Natural/cultured pearls, prec stone	12.60%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	09	Coffee, tea, matï and spices.	
	26	Ores, slag and ash.	
	03	Fish & crustacean, mollusc & other	
	42	Articles of leather; saddlery/harne	
	61	Art of apparel & clothing access,	
	57	Carpets and other textile floor co	
	84	Nuclear reactors, boilers, mchy & m	
1992	71	Natural/cultured pearls, prec stone	
	62	Art of apparel & clothing access, n	17.05%
	52	Cotton.	
	61	Art of apparel & clothing access,	
	42	Articles of leather; saddlery/harne	
	03	Fish & crustacean, mollusc & other	
	57	Carpets and other textile floor co	
	09	Coffee, tea, matï and spices.	
	23	Residues & waste from the food indu	
	27	Mineral fuels, oils & product of th	
1993	71	Natural/cultured pearls, prec stone	11.90%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	03	Fish & crustacean, mollusc & other	
	61	Art of apparel & clothing access,	
	23	Residues & waste from the food indu	
	72	Iron and steel.	
	84	Nuclear reactors, boilers, mchy & m	
	42	Articles of leather; saddlery/harne	
	09	Coffee, tea, matï and spices.	

1994	71	Natural/cultured pearls, prec stone	12.78%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	03	Fish & crustacean, mollusc & other	
	61	Art of apparel & clothing access,	
	09	Coffee, tea, matï and spices.	
	42	Articles of leather; saddlery/harne	
	84	Nuclear reactors, boilers, mchy & m	
	87	Vehicles o/t railw/tramw roll-stock	
	29	Organic chemicals.	
1995	71	Natural/cultured pearls, prec stone	11.87%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	10	Cereals	
	03	Fish & crustacean, mollusc & other	
	61	Art of apparel & clothing access,	
	87	Vehicles o/t railw/tramw roll-stock	
	09	Coffee, tea, matï and spices.	
	84	Nuclear reactors, boilers, mchy & m	
	42	Articles of leather; saddlery/harne	
1996	71	Natural/cultured pearls, prec stone	9.36%
	52	Cotton.	
	62	Art of apparel & clothing access, n	
	03	Fish & crustacean, mollusc & other	
	10	Cereals	
	84	Nuclear reactors, boilers, mchy & m	
	61	Art of apparel & clothing access,	
	23	Residues & waste from the food indu	
	29	Organic chemicals.	
	87	Vehicles o/t railw/tramw roll-stock	
1997	71	Natural/cultured pearls, prec stone	11.52%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	29	Organic chemicals.	
	03	Fish & crustacean, mollusc & other	
	84	Nuclear reactors, boilers, mchy & m	
	09	Coffee, tea, matï and spices.	
	61	Art of apparel & clothing access,	
	72	Iron and steel.	
	23	Residues & waste from the food indu	
1998	71	Natural/cultured pearls, prec stone	13.63%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	10	Cereals	
	61	Art of apparel & clothing access,	

	29	Organic chemicals.	
	09	Coffee, tea, matï and spices.	
	03	Fish & crustacean, mollusc & other	
	84	Nuclear reactors, boilers, mchy & m	
	42	Articles of leather; saddlery/harne	
1999	71	Natural/cultured pearls, prec stone	13.43%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	61	Art of apparel & clothing access,	
	29	Organic chemicals.	
	03	Fish & crustacean, mollusc & other	
	84	Nuclear reactors, boilers, mchy & m	
	09	Coffee, tea, matï and spices.	
	63	Other made up textile articles; set	
	72	Iron and steel.	
2000	71	Natural/cultured pearls, prec stone	12.95%
	62	Art of apparel & clothing access, n	
	52	Cotton.	
	27	Mineral fuels, oils & product of th	
	61	Art of apparel & clothing access,	
	29	Organic chemicals.	
	84	Nuclear reactors, boilers, mchy & m	
	03	Fish & crustacean, mollusc & other	
	85	Electrical mchy equip parts thereof	
	63	Other made up textile articles; set	
2001	71	Natural/cultured pearls, prec stone	11.90%
	62	Art of apparel & clothing access, n	
	27	Mineral fuels, oils & product of th	
	52	Cotton.	
	61	Art of apparel & clothing access,	
	29	Organic chemicals.	
	84	Nuclear reactors, boilers, mchy & m	
	85	Electrical mchy equip parts thereof	
	03	Fish & crustacean, mollusc & other	
	63	Other made up textile articles; set	
2002	71	Natural/cultured pearls, prec stone	11.29%
	62	Art of apparel & clothing access, n	
	27	Mineral fuels, oils & product of th	
	61	Art of apparel & clothing access,	
	52	Cotton.	
	29	Organic chemicals.	
	72	Iron and steel.	
	84	Nuclear reactors, boilers, mchy & m	
	10	Cereals	
	85	Electrical mchy equip parts thereof	

2003	71	Natural/cultured pearls, prec stone	10.01%
	27	Mineral fuels, oils & product of th	
	62	Art of apparel & clothing access, n	
	29	Organic chemicals.	
	61	Art of apparel & clothing access,	
	72	Iron and steel.	
	84	Nuclear reactors, boilers, mchy & m	
	52	Cotton.	
	85	Electrical mchy equip parts thereof	
	87	Vehicles o/t railw/tramw roll-stock	
2004	71	Natural/cultured pearls, prec stone	7.87%
	27	Mineral fuels, oils & product of th	
	72	Iron and steel.	
	62	Art of apparel & clothing access, n	
	26	Ores, slag and ash.	
	29	Organic chemicals.	
	84	Nuclear reactors, boilers, mchy & m	
	61	Art of apparel & clothing access,	
	87	Vehicles o/t railw/tramw roll-stock	
	73	Articles of iron or steel.	
2005	71	Natural/cultured pearls, prec stone	8.53%
	27	Mineral fuels, oils & product of th	
	62	Art of apparel & clothing access, n	
	29	Organic chemicals.	
	26	Ores, slag and ash.	
	84	Nuclear reactors, boilers, mchy & m	
	72	Iron and steel.	
	87	Vehicles o/t railw/tramw roll-stock	
	61	Art of apparel & clothing access,	
	52	Cotton.	

Table – 2

Share of Top 20 and top 10 tariff lines among all the Apparel tariff lines exported by India

Year	Top 20 Product Codes	Share of Top 20	Share of Top 10	Share of Top 5
1990	620630	76.56%	60.38%	46.63%
	620520			
	610510			
	620640			
	620442			
	620530			
	611010			
	610610			
	620452			
	600292			
	620462			
	610910			
	621490			
	611020			
	620453			
	620422			
	620449			
	620463			
	620590			
	621430			
1991	620630	77.58%	62.62%	50.60%
	620520			
	610510			
	620640			
	620442			
	620530			
	620462			
	610910			
	621490			
	620449			
	620452			
	600292			
	610610			
	611020			
	620342			
	620453			
	611010			
	620432			
	620422			
	620610			
1992	620630	79.25%	64.12%	51.89%

	620520			
	610510			
	620640			
	620442			
	610910			
	620452			
	611020			
	620462			
	610610			
	620530			
	621490			
	620449			
	600292			
	611010			
	620432			
	620342			
	610831			
	620453			
	620422			
1993	620520	77.09%	62.97%	49.10%
	620630			
	610510			
	620442			
	620640			
	610910			
	620452			
	621490			
	611020			
	610610			
	620462			
	600292			
	620530			
	610831			
	620453			
	620449			
	611010			
	620432			
	620342			
	620891			
1994	620520	78.29%	63.82%	50.96%
	620630			
	610510			
	620442			
	620452			
	620640			
	621490			
	610910			
	620449			

	620462			
	610610			
	611020			
	600292			
	620453			
	620342			
	610831			
	611010			
	620530			
	620432			
	620332			
1995	620520	79.88%	65.95%	53.20%
	620630			
	610510			
	620442			
	620452			
	620640			
	610910			
	620449			
	620462			
	621490			
	620342			
	620453			
	610610			
	610831			
	611020			
	600292			
	611010			
	620821			
	620530			
	620332			
1996	620520	80.57%	66.90%	54.16%
	620630			
	610910			
	610510			
	620442			
	620640			
	620452			
	620462			
	620342			
	610610			
	611020			
	610831			
	620449			
	620453			
	621490			
	611010			
	600292			

	620432			
	620821			
	620530			
1997	620520	78.72%	64.61%	50.90%
	620630			
	610910			
	610510			
	620640			
	620442			
	620462			
	620452			
	620342			
	620453			
	611020			
	610610			
	620449			
	611010			
	621490			
	620920			
	610831			
	620530			
	620432			
	620821			
1998	620520	76.28%	63.42%	48.06%
	620630			
	610910			
	610510			
	620640			
	620442			
	620462			
	620342			
	620453			
	610610			
	620452			
	610831			
	611020			
	620530			
	621490			
	611120			
	620920			
	620821			
	620891			
	620343			
1999	620520	74.20%	57.27%	42.93%
	610910			
	620630			
	610510			

	620442			
	620640			
	620342			
	620462			
	610610			
	620453			
	610831			
	620530			
	620452			
	611020			
	611010			
	620920			
	621490			
	611120			
	620821			
	621420			
2000	620520	71.17%	57.35%	45.00%
	620630			
	610910			
	610510			
	620442			
	620342			
	620462			
	620640			
	620452			
	620453			
	610610			
	620920			
	610831			
	611010			
	611020			
	621490			
	611120			
	620530			
	620821			
	621420			
2001	610910	73.35%	59.93%	47.00%
	620520			
	620630			
	610510			
	620442			
	620342			
	620462			
	610831			
	620640			
	611120			
	610610			
	611020			

	620920			
	611010			
	620453			
	620452			
	621490			
	620821			
	610721			
	620530			
2002	610910	74.79%	59.73%	47.16%
	620630			
	620520			
	610510			
	620442			
	620342			
	620462			
	620640			
	610831			
	610610			
	610120			
	611120			
	611020			
	620452			
	621490			
	620920			
	610711			
	610721			
	620821			
	610342			
2003	610910	72.20%	58.08%	44.98%
	620630			
	620520			
	610510			
	610610			
	620342			
	610831			
	620442			
	620462			
	620640			
	611120			
	620452			
	611020			
	610711			
	621490			
	620821			
	620920			
	610721			
	610342			
	620453			

2004	610910	71.91%	58.69%	45.30%
	620630			
	620520			
	610510			
	620342			
	610610			
	620452			
	620442			
	610831			
	620462			
	620640			
	611120			
	611020			
	621490			
	610711			
	620453			
	610721			
	620432			
	610342			
	621430			

Table – 3

RCA of India and its competitor countries for the relevant product codes

	Product Code:610510					
	RCA_India	RCA_Pakistan	RCA_Hong Kong	RCA_Peru	RCA_Phillipines	
1990	4.38	NA	NA	NA	NA	
1991	3.95	NA	NA	NA	NA	
1992	5.36	NA	NA	38.57	NA	
1993	6.30	NA	1.34	NA	NA	
1994	6.70	NA	1.49	9.16	NA	
1995	3.31	NA	1.41	20.65	NA	
1996	3.30	NA	1.53	24.83	4.05	
1997	4.90	NA	1.39	18.97	3.97	
1998	3.62	NA	1.14	18.76	3.08	
1999	4.67	NA	1.24	16.51	3.60	
2000	4.33	NA	1.16	13.52	3.03	
2001	5.08	NA	1.14	13.48	3.40	
2002	4.92	NA	1.20	20.19	3.57	
2003	4.39	15.89	1.08	18.95	2.87	
2004	5.20	13.30	1.26	18.66	3.84	
2005	3.57	13.82	1.12	15.08	3.49	
	Product Code:610610					
	RCA_India	RCA_ Hong Kong	RCA_ Greece	RCA_ Korea Rep	RCA_ Mexico	RCA_ Turkey
1990	1.52	NA	6.51	1.85	1.49	1.26
1991	1.97	NA	NA	0.46	1.30	2.73
1992	1.62	NA	8.22	0.29	1.94	2.68

1993	1.88	1.02	10.25	0.57	2.70	2.55
1994	1.81	1.33	14.32	1.44	2.70	4.09
1995	1.84	1.37	13.26	1.25	3.14	2.31
1996	1.78	1.42	12.92	1.31	4.14	2.08
1997	2.35	1.82	13.30	1.30	4.56	1.93
1998	2.34	1.82	16.05	1.62	3.63	1.04
1999	1.61	1.83	14.84	1.20	3.77	0.72
2000	1.33	2.00	19.74	1.30	3.15	0.86
2001	1.95	2.17	17.84	1.57	3.00	1.04
2002	2.81	2.37	26.40	1.72	3.21	1.20
2003	2.27	2.07	18.98	1.45	3.13	1.01
2004	3.61	2.21	16.11	1.66	3.66	1.04
2005	2.27	1.91	16.44	1.51	3.47	0.87
	Product Code:610910					
	RCA_India	**RCA_Hong Kong**	**RCA_Mexico**	**RCA_China**	**RCA_Turkey**	**RCA_USA**
1990	0.386	NA	1.102	NA	2.439	NA
1991	0.441	NA	0.630	NA	2.704	2.152
1992	0.491	NA	0.482	0.96	2.258	1.993
1993	0.554	0.545	1.062	0.99	2.295	2.011
1994	0.560	0.603	1.534	1.02	2.563	2.812
1995	0.558	0.568	1.660	1.08	2.084	2.379
1996	1.357	0.557	1.785	0.92	2.118	2.313
1997	1.445	0.538	1.842	0.88	2.520	2.222
1998	1.361	0.472	2.003	0.74	2.650	2.386
1999	1.592	0.510	1.901	0.75	2.610	2.966
2000	1.347	0.528	1.755	0.73	2.673	2.027
2001	1.805	0.528	1.909	0.78	2.511	1.927
2002	2.011	0.512	1.810	0.77	2.487	2.019
2003	2.133	0.502	1.628	0.70	2.698	1.779
2004	1.766	0.549	1.451	0.73	2.813	1.552

2005	1.844	0.595	1.352	0.83	2.902	1.600
	Product Code:610831					
	RCA_India	**RCA_Turkey**	**RCA_Germany**	**RCA_China**	**RCA_Hungary**	
1990	1.73	0.22	0.83	NA	NA	
1991	1.17	0.21	0.85	NA	NA	
1992	0.73	0.16	0.89	2.15	0.45	
1993	0.54	0.13	0.91	1.93	0.46	
1994	0.47	0.14	0.56	1.59	0.28	
1995	0.43	0.16	0.61	1.74	0.28	
1996	0.37	0.15	0.66	1.84	0.25	
1997	0.58	0.16	0.67	2.01	0.24	
1998	0.42	0.18	0.67	1.39	0.18	
1999	0.32	0.19	0.70	2.00	0.16	
2000	0.41	0.18	0.71	1.67	0.12	
2001	0.25	0.23	0.78	1.44	0.14	
2002	0.26	0.26	0.81	1.50	0.24	
2003	0.23	0.31	0.83	1.26	0.66	
2004	0.23	0.39	0.91	1.05	0.48	
2005	0.30	0.45	0.83	0.98	0.28	
	Product Code:621490					
	RCA_India	**RCA_China**	**RCA_Italy**			
1990	10.65	NA	NA			
1991	13.35	NA	NA			
1992	16.49	0.24	NA			
1993	21.21	0.25	NA			
1994	17.44	0.32	1.20			
1995	13.75	0.49	1.12			

1996	12.53	0.50	1.25			
1997	14.77	0.55	1.67			
1998	12.16	0.88	1.54			
1999	13.66	1.01	1.35			
2000	11.35	1.00	1.72			
2001	10.86	0.84	1.72			
2002	10.35	0.96	1.46			
2003	9.47	0.88	1.60			
2004	10.95	0.89	1.41			
2005	9.61	0.73	1.34			
	Produc0t Code:620342					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Italy**	**RCA_Germany**	**RCA_Mexico**
1990	0.24	NA	NA	NA	1.04	2.16
1991	0.26	NA	NA	NA	0.59	1.87
1992	0.21	0.95	NA	NA	0.61	3.38
1993	0.20	0.79	0.91		0.60	3.44
1994	0.23	0.96	0.91	1.05	0.63	3.07
1995	0.28	0.81	0.90	0.91	0.64	2.90
1996	0.31	0.71	0.96	0.85	0.64	2.72
1997	0.33	0.70	1.01	0.87	0.76	2.79
1998	0.43	0.65	0.93	0.82	0.76	2.75
1999	0.46	0.72	0.89	0.78	0.82	2.79
2000	0.47	0.73	0.84	0.76	0.87	2.93
2001	0.54	0.70	0.79	0.87	1.01	2.79
2002	0.49	0.63	0.72	0.94	1.17	3.18
2003	0.53	0.58	0.69	0.94	1.28	3.36
2004	0.58	0.55	0.71	0.91	1.53	3.40
2005	0.64	0.62	0.74	0.93	1.42	3.72

	Product Code:620442					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Indonesia**	**RCA_Italy**	**RCA_Phillipines**
1990	5.16	NA	NA	0.63	NA	NA
1991	6.27	NA	NA	1.16	NA	NA
1992	6.66	0.58	NA	1.69	NA	NA
1993	7.35	0.67	0.51	3.67	NA	NA
1994	6.89	0.70	0.71	2.17	0.48	NA
1995	6.71	0.62	0.82	2.48	0.54	NA
1996	7.04	0.56	0.82	3.14	0.45	2.80
1997	8.01	0.68	0.93	3.33	0.43	2.92
1998	7.96	0.60	0.95	1.95	0.61	2.68
1999	7.44	0.61	0.95	2.15	0.50	3.14
2000	7.83	0.56	0.91	3.18	0.56	4.21
2001	9.79	0.52	0.84	2.78	0.59	3.53
2002	6.93	0.58	1.03	3.03	0.74	3.11
2003	6.44	0.52	0.90	3.94	0.81	4.12
2004	6.98	0.45	1.02	2.14	0.89	4.90
2005	6.56	0.52	0.88	2.86	0.87	2.71
	Product Code:620449					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Italy**	**RCA_Germany**	
1990	3.36	NA	NA	NA	0.91	
1991	4.93	NA	NA	NA	1.20	
1992	3.98	1.14	NA	NA	0.98	
1993	2.41	1.03	1.56		0.87	
1994	3.61	1.12	1.56	1.07	1.00	
1995	4.47	0.87	1.56	0.98	1.15	

1996	3.39	0.94	1.55	1.15	1.13	
1997	3.51	1.24	1.55	1.35	1.07	
1998	1.77	1.16	1.64	1.58	1.01	
1999	2.14	1.02	1.57	1.87	1.03	
2000	1.98	1.07	1.48	1.83	1.03	
2001	2.08	1.18	1.47	1.86	0.97	
2002	1.98	1.06	1.40	1.70	0.85	
2003	1.32	1.11	1.83	1.68	0.82	
2004	1.49	0.99	1.80	1.64	0.83	
2005	1.29	0.77	1.62	1.87	0.71	
	Product Code:620452					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Italy**	**RCA_Germany**	
1990	3.09	NA	NA	NA	1.15	
1991	3.18	NA	NA	NA	1.30	
1992	4.45	0.92	NA	NA	0.92	
1993	5.66	0.88	1.08		1.21	
1994	7.36	0.94	1.16	0.50	1.49	
1995	5.93	1.18	1.40	0.63	0.99	
1996	5.09	1.10	1.58	0.59	0.98	
1997	5.65	1.02	1.64	0.71	1.24	
1998	5.04	1.04	1.74	0.65	1.04	
1999	4.24	1.12	1.69	0.69	0.78	
2000	3.11	1.19	1.84	0.75	0.93	
2001	1.87	1.19	1.71	0.87	0.85	
2002	1.68	1.05	1.55	0.98	1.07	
2003	1.88	0.92	1.50	0.99	1.40	
2004	2.78	0.89	1.60	0.90	1.15	
2005	5.33	0.86	1.26	0.74	0.89	

	Product Code:620453					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Germany**	**RCA_Romania**	
1990	1.27	NA	NA	2.12	NA	
1991	1.28	NA	NA	2.34	0.23	
1992	1.00	0.45	NA	2.49	1.17	
1993	1.67	0.69	0.38	3.46	1.75	
1994	2.39	0.71	0.48	3.07	1.84	
1995	2.31	0.90	0.49	2.79	1.73	
1996	2.03	0.99	0.53	2.62	1.88	
1997	2.88	1.04	0.60	2.66	2.01	
1998	3.11	1.06	0.59	2.29	1.86	
1999	2.44	0.89	0.67	2.27	1.75	
2000	2.15	0.99	0.79	2.35	2.71	
2001	1.91	1.05	0.71	2.26	2.83	
2002	1.67	0.93	0.78	1.98	2.83	
2003	1.69	0.83	0.71	1.77	3.13	
2004	2.09	0.81	0.88	1.91	3.11	
2005	2.72	0.83	0.77	1.52	3.03	
	Product Code:620520					
	RCA_India	**RCA_China**	**RCA_Hong Kong**	**RCA_Italy**	**RCA_Bangladesh**	**RCA_Turkey**
1990	2.98	NA	NA	NA	2.51	1.07
1991	3.26	NA	NA	NA	2.30	0.83
1992	3.85	0.59	NA	NA	3.62	0.84
1993	3.61	0.63	1.07		3.01	0.83
1994	4.24	0.72	1.11	0.44	3.50	0.97
1995	4.48	0.73	1.14	0.51	3.63	1.11

1996	4.87	0.70	1.18	0.56	3.55	0.99
1997	5.19	0.66	1.23	0.66	2.97	0.94
1998	3.89	0.67	1.12	0.66	2.94	0.80
1999	3.64	0.76	1.09	0.74	NA	0.75
2000	3.99	0.74	0.99	0.67	2.84	0.64
2001	3.52	0.75	1.01	0.75	2.86	0.71
2002	3.41	0.64	1.06	0.87	2.53	0.93
2003	3.17	0.60	1.12	0.96	2.57	1.01
2004	3.39	0.62	1.13	0.89	2.18	1.17
2005	2.71	0.69	1.12	0.85	NA	1.18
	Product Code:620630					
	RCA_India	**RCA_Hong Kong**	**RCA_China**	**RCA_Italy**	**RCA_Germany**	
1990	6.34	NA	NA	NA	0.65	
1991	7.38	NA	NA	NA	0.56	
1992	9.83	NA	0.47	NA	0.44	
1993	7.90	1.23	0.50	NA	0.62	
1994	8.53	1.31	0.49	0.46	0.79	
1995	8.99	1.48	0.57	0.50	0.63	
1996	9.32	1.56	0.58	0.45	0.66	
1997	9.67	1.72	0.51	0.49	0.92	
1998	8.54	1.69	0.59	0.44	0.67	
1999	6.46	1.74	0.74	0.42	0.53	
2000	7.00	1.47	0.76	0.45	0.64	
2001	6.71	1.37	0.79	0.53	0.86	
2002	6.66	1.51	0.68	0.61	1.04	
2003	6.05	1.58	0.61	0.62	1.18	
2004	7.74	1.52	0.60	0.54	1.04	
2005	7.45	1.18	0.60	0.56	0.89	

	Product Code:620640					
	RCA_India	RCA_China	RCA_Hong Kong	RCA_Romania	RCA_Germany	
1990	1.83	NA	NA	NA	1.49	
1991	2.02	NA	NA	0.18	1.56	
1992	2.00	0.41	NA	0.61	1.84	
1993	1.55	0.40	0.91	1.73	2.22	
1994	1.48	0.47	1.03	2.29	2.35	
1995	1.50	0.60	1.05	2.39	2.65	
1996	1.63	0.73	1.12	2.40	2.50	
1997	2.31	0.63	1.11	2.68	2.52	
1998	2.25	0.66	1.10	2.83	2.55	
1999	1.89	0.63	1.05	3.29	2.55	
2000	1.79	0.64	1.07	4.33	2.45	
2001	1.52	0.67	1.09	4.55	2.29	
2002	1.81	0.54	0.98	5.53	1.97	
2003	1.79	0.54	1.03	5.68	1.92	
2004	1.90	0.50	0.95	6.53	2.05	
2005	2.47	0.60	0.94	6.57	1.68	
	Product Code:620462					
	RCA_India	RCA_China	RCA_Hong Kong	RCA_Mexico	RCA_Turkey	
1990	0.88	NA	NA	0.72	2.08	
1991	0.84	NA	NA	1.36	1.61	
1992	0.74	1.28	NA	5.65	1.11	
1993	0.67	1.00	1.43	4.10	1.27	
1994	0.55	1.43	1.30	3.87	1.10	
1995	0.67	0.87	1.63	4.12	1.15	

1996	0.74	0.71	1.78	4.05	1.15	
1997	0.76	0.66	1.77	3.88	1.14	
1998	0.78	0.62	1.55	4.03	1.27	
1999	0.65	0.67	1.50	3.82	1.33	
2000	0.56	0.65	1.32	3.92	1.62	
2001	0.52	0.73	1.38	3.35	1.79	
2002	0.44	0.87	1.45	2.95	1.65	
2003	0.41	0.85	1.38	2.69	1.63	
2004	0.38	0.80	1.40	3.34	1.80	
2005	0.38	0.92	1.45	3.13	1.75	

Table – 4

Composition of Employment and Emoluments for the entire organized manufacturing sector

	1995-96	1996 - 97	1997 - 98	1998 - 99	1999 - 00	2000 - 01	2001 - 2002	2002 - 2003	2003 - 04
Directly Employed as a percentage of total workers	86.25%	84.70%	83.37%	84.49%	80.27%	79.58%	78.22%	76.92%	75.43%
Contractors as a percentage of total workers	14.07%	15.30%	16.63%	15.51%	19.73%	20.42%	21.78%	23.08%	24.57%
Men as a percentage of total directly employed workers	88.10%	85.22%	84.95%	79.59%	82.52%	81.94%	63.29%	80.37%	80.50%
Women as a percentage of total directly employed workers	10.35%	14.75%	15.02%	20.41%	17.46%	18.05%	14.93%	19.62%	19.49%
Workers Salary as a percentage of total Wages	62.02%	6.10%	60.60%	59.13%	58.50%	57.71%	56.69%	56.72%	55.06%
Supervisory and Managerial Staff as a percentage of total Wages	16.52%	21.77%	22.08%	25.13%	25.65%	26.07%	27.05%	27.48%	29.23%

Table - 5															
Net Value Added Ratio for the organized manufacturing sector and the garments sector for the period 1990 to 2005															
All Manufacturing Units															
	1990-91	1991 - 92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Net value added as a percentage of Value of output	19.04%	18.32%	19.33%	20.77%	20.95%	20.79%	21.21%	19.90%	18.56%	17.26%	15.49%	14.99%	15.24%	15.76%	15.54%
Materials Consumed as a percentage of Value of output	61.70%	61.97%	60.69%	59.85%	60.17%	61.20%	55.03%	54.81%	56.71%	58.49%	60.57%	61.09%	61.98%	60.20%	61.24%
All Manufacturing Units for Ready Made Garments															
	1990-91	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	
Net value added as a percentage of Value of output	22.35%	21.78%	31.22%	28.81%	22.86%	23.90%	19.09%	22.43%	21.84%	19.41%	19.95%	18.45%	19.34%	18.84%	
Materials Consumed as a percentage of Value of output	53.41%	53.59%	47.18%	48.63%	54.00%	48.20%	52.84%	49.81%	48.48%	51.58%	51.77%	53.44%	50.73%	49.04%	

Table – 6

Inter – Sectoral employment composition and comparison for the entire manufacturing sector in a 4 digit level for the period 1998 – 99 to 2003 - 04

NIC – 98 classified industrial codes						
0140	**1998 - 99**	**1999 - 00**	**2000 - 01**	**2001 - 02**	**2002 - 03**	**2003 - 04**
Directly Employed as a percentage of total workers	82.03%	76.47%	72.43%	76.62%	76.92%	71.14%
Contractors as a percentage of total workers	17.97%	23.53%	27.57%	23.38%	23.08%	28.86%
Men as a percentage of total directly employed workers	53.66%	58.85%	57.24%	57.64%	80.37%	63.41%
Women as a percentage of total directly employed workers	45.59%	41.15%	42.76%	42.36%	19.62%	36.59%
Workers Salary as a percentage of total Wages	77.90%	80.24%	76.13%	77.05%	56.72%	74.46%
Supervisory and Managerial Staff as a percentage of total Wages	8.75%	7.99%	8.89%	9.22%	27.48%	12.79%
1422						
Directly Employed as a percentage of total workers	95.23%	57.84%	74.94%	43.54%	68.56%	30.92%
Contractors as a percentage of total workers	4.50%	42.16%	25.06%	56.46%	31.44%	69.08%
Men as a percentage of total directly employed workers	87.33%	95.13%	93.85%	99.65%	62.65%	78.93%
Women as a percentage of total directly employed workers	12.67%	4.87%	6.15%	0.35%	37.35%	21.07%
Workers Salary as a percentage of total Wages	79.26%	78.15%	77.04%	85.20%	75.95%	75.19%
Supervisory and Managerial Staff as a percentage of total Wages	7.22%	9.91%	16.95%	7.22%	11.79%	13.31%
1511						
Directly Employed as a percentage of total workers	45.42%	44.35%	42.08%	45.65%	35.53%	39.07%
Contractors as a percentage of total workers	54.58%	55.66%	57.93%	54.33%	64.45%	60.93%
Men as a percentage of total directly employed workers	89.29%	86.58%	80.39%	86.50%	99.09%	85.30%
Women as a percentage of total directly employed workers	10.71%	13.42%	19.61%	13.50%	0.91%	14.70%
Workers Salary as a percentage of total Wages	78.20%	74.85%	68.61%	68.58%	84.19%	72.34%
Supervisory and Managerial Staff as a percentage of total Wages	9.75%	13.05%	16.00%	16.49%	7.30%	14.70%
1512						

Directly Employed as a percentage of total workers	50.96%	35.04%	46.83%	37.08%	36.77%	35.53%
Contractors as a percentage of total workers	49.04%	64.96%	53.17%	62.92%	63.23%	64.47%
Men as a percentage of total directly employed workers	57.11%	55.81%	58.58%	66.56%	55.11%	54.10%
Women as a percentage of total directly employed workers	42.89%	44.19%	41.42%	33.44%	44.89%	45.90%
Workers Salary as a percentage of total Wages	69.19%	61.38%	70.66%	70.31%	71.21%	69.86%
Supervisory and Managerial Staff as a percentage of total Wages	16.38%	23.70%	14.65%	17.19%	17.79%	19.13%
1513						
Directly Employed as a percentage of total workers	69.76%	55.42%	54.12%	58.49%	59.22%	49.01%
Contractors as a percentage of total workers	30.24%	44.59%	45.88%	41.50%	40.79%	50.98%
Men as a percentage of total directly employed workers	50.73%	63.56%	64.08%	55.33%	57.40%	59.99%
Women as a percentage of total directly employed workers	49.27%	36.44%	35.92%	44.67%	42.60%	40.01%
Workers Salary as a percentage of total Wages	55.12%	54.28%	53.80%	52.73%	56.12%	55.46%
Supervisory and Managerial Staff as a percentage of total Wages	27.12%	27.63%	29.96%	27.81%	26.09%	29.88%
1514						
Directly Employed as a percentage of total workers	68.54%	77.71%	69.26%	68.51%	71.77%	60.89%
Contractors as a percentage of total workers	31.46%	22.29%	30.74%	31.49%	28.23%	39.11%
Men as a percentage of total directly employed workers	94.40%	92.96%	92.72%	93.88%	95.63%	95.81%
Women as a percentage of total directly employed workers	5.60%	7.04%	7.28%	6.12%	4.37%	4.19%
Workers Salary as a percentage of total Wages	61.45%	52.00%	54.25%	56.80%	50.75%	55.02%
Supervisory and Managerial Staff as a percentage of total Wages	20.80%	27.79%	22.98%	24.39%	28.55%	25.01%
1520						
Directly Employed as a percentage of total workers	81.32%	76.93%	74.17%	73.18%	75.26%	73.29%
Contractors as a percentage of total workers	18.68%	23.07%	25.83%	26.82%	24.73%	26.71%
Men as a percentage of total directly employed workers	97.50%	96.65%	97.28%	96.78%	94.89%	95.60%
Women as a percentage of total directly employed workers	2.50%	3.35%	2.72%	3.22%	5.11%	4.40%

Workers Salary as a percentage of total Wages	44.34%	45.23%	46.90%	50.10%	48.53%	48.02%
Supervisory and Managerial Staff as a percentage of total Wages	24.40%	23.10%	25.99%	23.37%	23.93%	24.93%
1531						
Directly Employed as a percentage of total workers	59.52%	62.16%	63.27%	60.07%	54.70%	57.82%
Contractors as a percentage of total workers	40.48%	37.84%	36.73%	39.93%	45.30%	42.18%
Men as a percentage of total directly employed workers	79.20%	82.81%	82.51%	82.51%	83.87%	84.14%
Women as a percentage of total directly employed workers	20.80%	17.19%	17.49%	17.49%	16.13%	15.86%
Workers Salary as a percentage of total Wages	69.88%	70.17%	70.16%	69.62%	66.95%	67.79%
Supervisory and Managerial Staff as a percentage of total Wages	13.51%	13.85%	14.37%	13.33%	14.90%	15.50%
1532						
Directly Employed as a percentage of total workers	92.27%	92.94%	88.25%	92.57%	91.97%	87.52%
Contractors as a percentage of total workers	7.74%	7.06%	11.75%	7.43%	8.03%	12.48%
Men as a percentage of total directly employed workers	69.87%	74.96%	67.85%	71.30%	68.34%	75.47%
Women as a percentage of total directly employed workers	30.13%	24.74%	32.15%	28.70%	31.66%	24.50%
Workers Salary as a percentage of total Wages	70.32%	61.75%	69.01%	65.04%	64.70%	65.43%
Supervisory and Managerial Staff as a percentage of total Wages	17.26%	19.54%	18.10%	25.20%	23.61%	23.74%
1533						
Directly Employed as a percentage of total workers	68.19%	62.68%	65.97%	66.32%	65.12%	63.72%
Contractors as a percentage of total workers	31.81%	37.33%	34.02%	33.67%	34.88%	36.27%
Men as a percentage of total directly employed workers	96.43%	93.37%	95.05%	91.49%	93.42%	94.24%
Women as a percentage of total directly employed workers	3.57%	6.63%	4.95%	8.51%	6.58%	5.76%
Workers Salary as a percentage of total Wages	49.90%	53.14%	48.45%	50.71%	49.96%	47.75%
Supervisory and Managerial Staff as a percentage of total Wages	21.90%	22.76%	30.24%	27.55%	27.19%	28.98%
1541						
Directly Employed as a percentage of total workers	91.63%	93.54%	86.92%	87.31%	88.83%	86.97%
Contractors as a percentage of total workers	8.37%	6.46%	13.08%	12.68%	11.17%	13.03%

Men as a percentage of total directly employed workers	83.77%	84.11%	86.29%	85.85%	88.14%	90.01%
Women as a percentage of total directly employed workers	16.23%	15.89%	13.71%	14.15%	11.86%	9.99%
Workers Salary as a percentage of total Wages	63.83%	62.03%	63.56%	61.84%	61.55%	61.38%
Supervisory and Managerial Staff as a percentage of total Wages	19.84%	25.35%	23.56%	24.97%	25.01%	25.44%
1542						
Directly Employed as a percentage of total workers	83.78%	84.67%	82.20%	81.79%	80.54%	80.32%
Contractors as a percentage of total workers	16.22%	15.33%	17.80%	18.21%	19.46%	19.68%
Men as a percentage of total directly employed workers	99.11%	98.92%	99.14%	99.10%	99.46%	99.59%
Women as a percentage of total directly employed workers	0.89%	1.08%	0.86%	0.87%	0.54%	0.41%
Workers Salary as a percentage of total Wages	59.62%	59.09%	57.67%	58.18%	59.11%	58.04%
Supervisory and Managerial Staff as a percentage of total Wages	11.75%	11.88%	12.94%	13.57%	14.05%	14.83%
1543						
Directly Employed as a percentage of total workers	90.31%	91.40%	88.65%	84.46%	79.58%	80.77%
Contractors as a percentage of total workers	9.69%	0.46%	11.35%	15.54%	20.41%	19.23%
Men as a percentage of total directly employed workers	82.94%	91.41%	91.32%	91.69%	90.45%	92.16%
Women as a percentage of total directly employed workers	17.06%	8.59%	8.68%	8.31%	9.55%	7.84%
Workers Salary as a percentage of total Wages	60.32%	57.63%	51.91%	51.29%	48.90%	50.20%
Supervisory and Managerial Staff as a percentage of total Wages	23.05%	31.23%	31.78%	33.95%	28.04%	23.53%
1544						
Directly Employed as a percentage of total workers	90.41%	100.00%	66.67%	61.06%	86.79%	89.26%
Contractors as a percentage of total workers	9.59%	0.00%	33.33%	38.94%	13.21%	10.74%
Men as a percentage of total directly employed workers	93.99%	86.42%	89.53%	96.58%	85.10%	62.94%
Women as a percentage of total directly employed workers	6.01%	13.58%	10.47%	3.42%	14.90%	37.06%
Workers Salary as a percentage of total Wages	46.97%	55.43%	66.54%	75.73%	49.58%	58.55%
Supervisory and Managerial Staff as a percentage of total Wages	40.44%	24.03%	21.67%	14.08%	24.54%	28.73%
1549						

Directly Employed as a percentage of total workers	97.35%	97.33%	97.84%	96.30%	94.70%	96.36%
Contractors as a percentage of total workers	2.65%	2.67%	2.16%	3.70%	5.30%	3.64%
Men as a percentage of total directly employed workers	46.61%	43.81%	43.74%	42.84%	43.80%	38.79%
Women as a percentage of total directly employed workers	53.34%	56.14%	56.18%	57.08%	56.07%	61.16%
Workers Salary as a percentage of total Wages	68.76%	74.17%	72.39%	67.69%	68.01%	66.86%
Supervisory and Managerial Staff as a percentage of total Wages	16.45%	13.55%	14.23%	18.76%	18.19%	19.93%
1551						
Directly Employed as a percentage of total workers	80.65%	70.61%	70.68%	66.23%	64.43%	67.65%
Contractors as a percentage of total workers	19.35%	29.39%	29.32%	33.77%	35.57%	32.34%
Men as a percentage of total directly employed workers	85.94%	87.31%	90.63%	84.85%	84.18%	83.72%
Women as a percentage of total directly employed workers	14.06%	12.69%	9.37%	15.15%	15.82%	16.28%
Workers Salary as a percentage of total Wages	61.40%	62.15%	56.34%	62.12%	62.77%	61.46%
Supervisory and Managerial Staff as a percentage of total Wages	22.39%	20.12%	23.46%	20.61%	21.13%	20.87%
1552						
Directly Employed as a percentage of total workers	69.12%	62.05%	58.98%	56.60%	59.08%	57.33%
Contractors as a percentage of total workers	30.88%	37.95%	41.00%	43.40%	40.92%	42.67%
Men as a percentage of total directly employed workers	70.89%	95.05%	93.21%	98.33%	96.70%	96.04%
Women as a percentage of total directly employed workers	29.11%	4.95%	6.79%	1.67%	3.30%	3.96%
Workers Salary as a percentage of total Wages	53.02%	57.34%	47.01%	55.20%	54.13%	54.46%
Supervisory and Managerial Staff as a percentage of total Wages	22.77%	23.15%	33.26%	27.58%	27.40%	26.97%
1553						
Directly Employed as a percentage of total workers	67.88%	69.41%	72.40%	68.23%	57.98%	58.35%
Contractors as a percentage of total workers	32.12%	30.59%	27.60%	31.77%	42.02%	41.65%
Men as a percentage of total directly employed workers	92.21%	84.70%	83.09%	88.93%	88.28%	90.32%
Women as a percentage of total directly employed workers	7.79%	15.30%	16.91%	11.07%	11.72%	9.68%
Workers Salary as a percentage of total Wages	54.36%	53.73%	55.88%	51.72%	52.35%	53.64%

Supervisory and Managerial Staff as a percentage of total Wages	29.51%	28.17%	28.72%	32.53%	30.98%	30.96%
1554						
Directly Employed as a percentage of total workers	72.04%	78.66%	63.33%	59.79%	59.99%	53.60%
Contractors as a percentage of total workers	27.96%	21.34%	36.68%	40.21%	40.00%	46.40%
Men as a percentage of total directly employed workers	92.06%	87.41%	93.19%	94.06%	84.44%	92.86%
Women as a percentage of total directly employed workers	7.94%	12.50%	6.81%	5.94%	15.56%	7.14%
Workers Salary as a percentage of total Wages	45.89%	44.50%	45.68%	47.92%	47.46%	48.21%
Supervisory and Managerial Staff as a percentage of total Wages	23.09%	31.61%	32.73%	29.38%	29.08%	30.69%
1600						
Directly Employed as a percentage of total workers	87.21%	32.75%	36.61%	40.31%	40.05%	38.80%
Contractors as a percentage of total workers	12.79%	67.25%	63.39%	59.69%	59.95%	61.20%
Men as a percentage of total directly employed workers	12.84%	40.02%	38.27%	27.12%	28.74%	40.11%
Women as a percentage of total directly employed workers	87.16%	59.98%	61.73%	72.88%	71.26%	59.86%
Workers Salary as a percentage of total Wages	85.50%	85.97%	82.42%	83.55%	82.40%	81.83%
Supervisory and Managerial Staff as a percentage of total Wages	7.29%	6.94%	9.39%	8.57%	9.91%	10.52%
1711						
Directly Employed as a percentage of total workers	94.95%	96.10%	95.15%	95.77%	94.52%	93.60%
Contractors as a percentage of total workers	5.05%	3.90%	4.85%	4.23%	5.48%	6.40%
Men as a percentage of total directly employed workers	92.08%	90.91%	90.89%	90.26%	89.35%	87.98%
Women as a percentage of total directly employed workers	7.92%	9.09%	9.11%	9.74%	10.64%	12.02%
Workers Salary as a percentage of total Wages	77.20%	76.06%	76.47%	75.92%	75.02%	73.98%
Supervisory and Managerial Staff as a percentage of total Wages	13.04%	14.03%	14.43%	14.64%	15.25%	15.98%
1712						
Directly Employed as a percentage of total workers	55.65%	68.37%	72.36%	67.69%	65.27%	68.38%
Contractors as a percentage of total workers	44.35%	31.63%	27.64%	32.31%	34.73%	31.62%
Men as a percentage of total directly employed workers	97.78%	95.64%	97.15%	96.94%	95.75%	94.27%

Women as a percentage of total directly employed workers	2.22%	4.36%	2.85%	3.06%	4.25%	5.73%
Workers Salary as a percentage of total Wages	71.84%	69.19%	71.06%	68.25%	67.71%	65.80%
Supervisory and Managerial Staff as a percentage of total Wages	16.92%	19.27%	16.78%	19.62%	19.69%	22.07%
1721						
Directly Employed as a percentage of total workers	89.62%	80.59%	65.34%	81.68%	74.18%	71.31%
Contractors as a percentage of total workers	10.38%	19.40%	34.66%	18.32%	25.83%	28.69%
Men as a percentage of total directly employed workers	82.07%	74.46%	84.03%	68.44%	73.37%	79.86%
Women as a percentage of total directly employed workers	17.93%	25.54%	15.97%	31.56%	26.63%	20.14%
Workers Salary as a percentage of total Wages	73.59%	62.26%	70.46%	60.74%	60.14%	63.51%
Supervisory and Managerial Staff as a percentage of total Wages	14.92%	26.56%	17.78%	23.33%	25.98%	22.27%
1722						
Directly Employed as a percentage of total workers	64.48%	57.20%	66.77%	80.51%	65.94%	71.33%
Contractors as a percentage of total workers	35.53%	42.81%	33.24%	19.49%	34.06%	28.67%
Men as a percentage of total directly employed workers	52.72%	92.30%	91.17%	84.38%	89.70%	88.77%
Women as a percentage of total directly employed workers	47.28%	7.70%	8.83%	15.62%	10.30%	11.23%
Workers Salary as a percentage of total Wages	67.49%	77.43%	63.59%	60.51%	68.17%	65.44%
Supervisory and Managerial Staff as a percentage of total Wages	16.71%	12.70%	19.44%	21.50%	16.87%	16.70%
1723						
Directly Employed as a percentage of total workers	92.79%	81.30%	89.27%	86.10%	87.08%	84.62%
Contractors as a percentage of total workers	7.21%	18.69%	10.73%	13.90%	12.92%	15.38%
Men as a percentage of total directly employed workers	77.73%	73.62%	81.97%	79.35%	78.67%	76.92%
Women as a percentage of total directly employed workers	22.27%	26.38%	18.03%	20.65%	21.13%	23.08%
Workers Salary as a percentage of total Wages	60.25%	69.77%	70.74%	60.92%	63.08%	66.97%
Supervisory and Managerial Staff as a percentage of total Wages	24.75%	19.44%	16.73%	25.70%	24.74%	21.77%
1729						
Directly Employed as a percentage of total workers	83.78%	96.51%	89.39%	89.51%	86.63%	83.41%

Contractors as a percentage of total workers	16.22%	3.49%	10.61%	10.49%	13.37%	16.58%
Men as a percentage of total directly employed workers	86.96%	85.18%	85.70%	84.33%	85.32%	86.17%
Women as a percentage of total directly employed workers	13.04%	14.82%	14.30%	15.67%	14.68%	13.83%
Workers Salary as a percentage of total Wages	63.99%	1574.52%	63.77%	66.38%	63.87%	59.10%
Supervisory and Managerial Staff as a percentage of total Wages	21.36%	698.41%	25.75%	21.37%	22.17%	26.98%
1730						
Directly Employed as a percentage of total workers	93.18%	90.09%	91.80%	83.11%	93.03%	88.32%
Contractors as a percentage of total workers	6.82%	9.91%	8.20%	16.89%	6.97%	11.68%
Men as a percentage of total directly employed workers	64.39%	72.28%	70.85%	73.58%	67.77%	68.72%
Women as a percentage of total directly employed workers	35.61%	27.72%	29.11%	26.42%	32.22%	31.28%
Workers Salary as a percentage of total Wages	69.13%	67.68%	69.98%	71.08%	68.66%	69.35%
Supervisory and Managerial Staff as a percentage of total Wages	16.28%	15.67%	16.68%	14.65%	17.05%	17.15%
1810						
Directly Employed as a percentage of total workers	95.46%	94.98%	94.24%	92.98%	93.23%	91.82%
Contractors as a percentage of total workers	4.54%	5.02%	5.76%	7.02%	6.77%	8.18%
Men as a percentage of total directly employed workers	37.10%	35.18%	36.16%	38.10%	39.34%	39.52%
Women as a percentage of total directly employed workers	62.90%	64.76%	63.84%	61.90%	60.66%	60.48%
Workers Salary as a percentage of total Wages	68.56%	68.91%	67.23%	67.55%	68.14%	68.74%
Supervisory and Managerial Staff as a percentage of total Wages	20.42%	18.44%	20.18%	20.76%	19.87%	20.65%
1820						
Directly Employed as a percentage of total workers	93.05%	100.00%	88.35%	59.78%	62.47%	60.18%
Contractors as a percentage of total workers	6.98%	0.00%	11.57%	40.22%	37.53%	40.04%
Men as a percentage of total directly employed workers	81.25%	96.76%	31.98%	97.47%	96.44%	94.91%
Women as a percentage of total directly employed workers	18.75%	3.24%	68.02%	2.53%	3.56%	5.09%
Workers Salary as a percentage of total Wages	83.86%	77.32%	75.25%	71.51%	66.31%	56.60%
Supervisory and Managerial Staff as a percentage of total Wages	8.92%	9.54%	15.91%	17.04%	16.04%	27.55%

1911						
Directly Employed as a percentage of total workers	93.42%	91.06%	86.49%	89.75%	83.32%	90.82%
Contractors as a percentage of total workers	6.58%	8.93%	13.51%	10.25%	16.68%	9.19%
Men as a percentage of total directly employed workers	91.95%	88.33%	90.28%	89.59%	88.23%	86.68%
Women as a percentage of total directly employed workers	8.05%	11.67%	9.72%	10.41%	11.77%	13.32%
Workers Salary as a percentage of total Wages	68.99%	65.51%	65.65%	68.00%	68.13%	65.51%
Supervisory and Managerial Staff as a percentage of total Wages	19.08%	23.49%	22.63%	21.45%	22.46%	23.95%
1912						
Directly Employed as a percentage of total workers	90.98%	94.83%	93.84%	83.29%	73.67%	72.30%
Contractors as a percentage of total workers	9.02%	5.18%	6.16%	16.72%	26.32%	27.71%
Men as a percentage of total directly employed workers	51.55%	45.43%	45.63%	37.17%	52.31%	59.77%
Women as a percentage of total directly employed workers	48.45%	54.57%	54.37%	62.83%	47.69%	40.23%
Workers Salary as a percentage of total Wages	62.21%	67.17%	66.05%	69.28%	67.54%	64.75%
Supervisory and Managerial Staff as a percentage of total Wages	23.17%	18.53%	18.95%	19.53%	20.97%	23.28%
1920						
Directly Employed as a percentage of total workers	86.60%	85.07%	77.00%	87.80%	83.49%	81.76%
Contractors as a percentage of total workers	13.40%	14.93%	23.00%	12.20%	16.51%	18.24%
Men as a percentage of total directly employed workers	53.99%	59.30%	59.65%	56.81%	66.61%	65.85%
Women as a percentage of total directly employed workers	46.01%	40.70%	40.35%	43.19%	33.39%	34.15%
Workers Salary as a percentage of total Wages	70.19%	65.81%	70.53%	71.09%	63.47%	64.82%
Supervisory and Managerial Staff as a percentage of total Wages	18.41%	20.66%	18.32%	18.59%	15.15%	26.69%
2010						
Directly Employed as a percentage of total workers	98.61%	97.11%	96.56%	96.95%	93.43%	93.42%
Contractors as a percentage of total workers	1.40%	2.89%	3.44%	3.04%	6.57%	6.60%
Men as a percentage of total directly employed workers	70.83%	68.07%	67.94%	73.22%	75.53%	71.50%
Women as a percentage of total directly employed workers	29.17%	31.93%	32.06%	26.78%	24.47%	27.78%

Workers Salary as a percentage of total Wages	70.61%	71.75%	73.10%	73.78%	69.38%	71.15%
Supervisory and Managerial Staff as a percentage of total Wages	18.96%	17.90%	16.63%	16.78%	17.41%	18.59%
2021						
Directly Employed as a percentage of total workers	91.98%	91.65%	90.22%	88.38%	86.42%	85.78%
Contractors as a percentage of total workers	8.02%	8.35%	9.79%	11.62%	13.58%	14.22%
Men as a percentage of total directly employed workers	89.60%	90.70%	92.42%	91.97%	90.58%	94.98%
Women as a percentage of total directly employed workers	10.40%	9.30%	7.58%	8.03%	9.42%	5.02%
Workers Salary as a percentage of total Wages	68.72%	69.65%	62.70%	56.41%	59.92%	58.29%
Supervisory and Managerial Staff as a percentage of total Wages	14.49%	17.82%	20.82%	25.98%	22.75%	26.85%
2022						
Directly Employed as a percentage of total workers	96.02%	91.02%	79.39%	77.19%	84.87%	89.12%
Contractors as a percentage of total workers	3.98%	8.98%	20.61%	22.81%	15.13%	10.88%
Men as a percentage of total directly employed workers	89.46%	93.22%	97.10%	97.67%	95.75%	95.49%
Women as a percentage of total directly employed workers	10.54%	6.78%	2.90%	2.33%	4.25%	4.51%
Workers Salary as a percentage of total Wages	58.25%	73.25%	66.90%	67.71%	65.86%	64.96%
Supervisory and Managerial Staff as a percentage of total Wages	27.00%	14.62%	18.17%	18.32%	18.31%	20.33%
2023						
Directly Employed as a percentage of total workers	91.22%	47.96%	84.08%	81.12%	58.27%	73.49%
Contractors as a percentage of total workers	8.84%	52.04%	15.98%	18.88%	41.78%	26.51%
Men as a percentage of total directly employed workers	99.32%	98.95%	99.87%	99.90%	99.67%	93.48%
Women as a percentage of total directly employed workers	0.68%	1.05%	0.13%	0.10%	0.33%	6.52%
Workers Salary as a percentage of total Wages	67.67%	68.11%	67.45%	63.55%	71.69%	65.23%
Supervisory and Managerial Staff as a percentage of total Wages	22.17%	18.40%	25.00%	25.95%	15.84%	23.97%
2029						
Directly Employed as a percentage of total workers	100.00%	95.88%	89.26%	77.89%	83.62%	63.14%
Contractors as a percentage of total workers	0.00%	4.12%	10.74%	22.14%	16.38%	36.86%

Men as a percentage of total directly employed workers	73.04%	91.24%	83.42%	85.71%	84.86%	88.64%
Women as a percentage of total directly employed workers	26.96%	8.76%	16.58%	14.29%	15.14%	11.36%
Workers Salary as a percentage of total Wages	75.10%	67.74%	56.42%	70.25%	66.72%	68.56%
Supervisory and Managerial Staff as a percentage of total Wages	16.15%	22.77%	25.03%	18.34%	20.06%	23.32%
2101						
Directly Employed as a percentage of total workers	76.25%	74.31%	74.36%	71.39%	67.45%	69.33%
Contractors as a percentage of total workers	23.75%	25.69%	25.64%	28.61%	32.55%	30.67%
Men as a percentage of total directly employed workers	96.96%	97.80%	97.63%	97.03%	98.21%	94.88%
Women as a percentage of total directly employed workers	2.74%	2.20%	2.37%	2.97%	1.79%	5.12%
Workers Salary as a percentage of total Wages	66.31%	64.42%	64.22%	63.90%	61.77%	61.16%
Supervisory and Managerial Staff as a percentage of total Wages	21.24%	22.76%	23.86%	23.54%	24.94%	25.88%
2102						
Directly Employed as a percentage of total workers	90.78%	89.58%	81.82%	85.71%	81.53%	80.21%
Contractors as a percentage of total workers	9.22%	10.42%	18.18%	14.29%	18.47%	19.79%
Men as a percentage of total directly employed workers	87.31%	81.12%	52.38%	86.47%	88.24%	84.97%
Women as a percentage of total directly employed workers	12.69%	18.88%	15.10%	13.53%	11.76%	15.03%
Workers Salary as a percentage of total Wages	60.96%	62.60%	60.02%	55.86%	57.31%	60.19%
Supervisory and Managerial Staff as a percentage of total Wages	26.74%	23.80%	25.06%	26.51%	26.12%	26.23%
2109						
Directly Employed as a percentage of total workers	93.15%	94.87%	92.45%	93.35%	89.59%	89.11%
Contractors as a percentage of total workers	6.85%	5.13%	7.54%	6.66%	10.41%	10.89%
Men as a percentage of total directly employed workers	79.55%	75.21%	72.48%	73.29%	71.00%	74.36%
Women as a percentage of total directly employed workers	20.45%	24.79%	27.52%	26.71%	29.00%	25.64%
Workers Salary as a percentage of total Wages	64.73%	52.29%	58.87%	59.30%	59.05%	54.55%
Supervisory and Managerial Staff as a percentage of total Wages	21.77%	24.62%	25.04%	28.33%	28.28%	30.52%
2211						

Directly Employed as a percentage of total workers	91.28%	95.17%	92.06%	86.92%	92.74%	86.57%
Contractors as a percentage of total workers	8.72%	4.85%	7.94%	13.09%	7.26%	13.43%
Men as a percentage of total directly employed workers	96.14%	91.05%	98.28%	98.17%	96.69%	96.94%
Women as a percentage of total directly employed workers	3.86%	8.95%	1.72%	1.83%	3.31%	3.06%
Workers Salary as a percentage of total Wages	70.53%	57.91%	57.30%	58.26%	53.95%	53.06%
Supervisory and Managerial Staff as a percentage of total Wages	14.31%	14.04%	23.17%	22.42%	25.15%	25.64%
2212						
Directly Employed as a percentage of total workers	95.51%	93.31%	96.64%	92.54%	92.03%	87.74%
Contractors as a percentage of total workers	4.48%	6.69%	3.36%	7.46%	7.97%	12.27%
Men as a percentage of total directly employed workers	98.48%	99.23%	99.30%	99.27%	99.04%	99.44%
Women as a percentage of total directly employed workers	1.52%	0.77%	0.70%	0.73%	0.96%	0.55%
Workers Salary as a percentage of total Wages	31.72%	38.80%	29.72%	30.11%	28.55%	28.58%
Supervisory and Managerial Staff as a percentage of total Wages	31.98%	27.37%	30.91%	31.13%	35.58%	37.20%
2219						
Directly Employed as a percentage of total workers	99.62%	99.87%	95.27%	98.18%	99.47%	95.06%
Contractors as a percentage of total workers	0.40%	0.13%	4.73%	1.82%	0.56%	4.94%
Men as a percentage of total directly employed workers	96.02%	95.28%	95.70%	93.40%	86.66%	84.59%
Women as a percentage of total directly employed workers	3.98%	4.72%	4.30%	6.60%	13.34%	15.41%
Workers Salary as a percentage of total Wages	78.50%	65.02%	62.43%	66.92%	78.25%	78.29%
Supervisory and Managerial Staff as a percentage of total Wages	13.05%	18.50%	21.89%	20.50%	10.87%	13.13%
2221						
Directly Employed as a percentage of total workers	98.50%	95.95%	93.31%	92.80%	85.87%	92.77%
Contractors as a percentage of total workers	1.50%	4.05%	6.69%	7.19%	14.13%	7.23%
Men as a percentage of total directly employed workers	88.93%	92.60%	91.34%	90.42%	91.68%	90.36%
Women as a percentage of total directly employed workers	11.07%	7.40%	8.66%	9.58%	8.32%	9.64%
Workers Salary as a percentage of total Wages	64.50%	62.50%	61.14%	57.40%	57.80%	60.75%

Supervisory and Managerial Staff as a percentage of total Wages	21.67%	21.59%	24.69%	25.65%	23.20%	23.82%
2222						
Directly Employed as a percentage of total workers	91.04%	89.17%	98.39%	97.46%	87.88%	94.18%
Contractors as a percentage of total workers	9.01%	10.83%	1.61%	2.50%	12.18%	5.82%
Men as a percentage of total directly employed workers	97.21%	94.51%	90.12%	95.41%	92.50%	94.22%
Women as a percentage of total directly employed workers	2.79%	5.49%	9.88%	4.59%	7.50%	5.78%
Workers Salary as a percentage of total Wages	67.62%	67.52%	69.12%	75.14%	70.39%	71.18%
Supervisory and Managerial Staff as a percentage of total Wages	16.52%	20.72%	20.18%	15.83%	17.56%	17.27%
2230						
Directly Employed as a percentage of total workers	100.00%	60.43%	93.80%	79.58%	87.60%	76.58%
Contractors as a percentage of total workers	0.00%	39.60%	6.20%	20.49%	12.40%	23.50%
Men as a percentage of total directly employed workers	95.05%	76.07%	79.11%	68.45%	88.77%	82.07%
Women as a percentage of total directly employed workers	4.95%	23.93%	20.89%	31.55%	11.23%	17.93%
Workers Salary as a percentage of total Wages	42.04%	42.32%	31.69%	26.98%	35.18%	33.16%
Supervisory and Managerial Staff as a percentage of total Wages	39.87%	37.38%	46.59%	41.36%	38.14%	43.08%
2310						
Directly Employed as a percentage of total workers	89.34%	88.88%	89.05%	87.47%	86.52%	82.10%
Contractors as a percentage of total workers	10.66%	11.12%	10.95%	12.53%	13.48%	17.90%
Men as a percentage of total directly employed workers	92.32%	92.30%	93.97%	93.40%	93.91%	92.34%
Women as a percentage of total directly employed workers	7.68%	7.70%	6.03%	6.60%	6.09%	7.66%
Workers Salary as a percentage of total Wages	70.68%	69.62%	68.50%	72.52%	70.26%	70.49%
Supervisory and Managerial Staff as a percentage of total Wages	14.01%	16.48%	17.48%	15.15%	16.76%	17.35%
2320						
Directly Employed as a percentage of total workers	73.42%	60.27%	74.69%	59.76%	53.59%	55.18%
Contractors as a percentage of total workers	26.58%	39.73%	25.32%	40.25%	46.40%	44.82%
Men as a percentage of total directly employed workers	98.93%	98.23%	98.51%	98.95%	99.28%	99.01%

Women as a percentage of total directly employed workers	1.07%	1.77%	1.49%	1.05%	0.72%	0.99%
Workers Salary as a percentage of total Wages	51.03%	50.72%	52.13%	53.67%	52.65%	54.30%
Supervisory and Managerial Staff as a percentage of total Wages	35.89%	37.28%	27.91%	30.42%	35.00%	33.54%
2411						
Directly Employed as a percentage of total workers	81.68%	78.15%	73.83%	68.28%	72.29%	69.19%
Contractors as a percentage of total workers	18.33%	21.85%	26.17%	31.72%	27.71%	30.81%
Men as a percentage of total directly employed workers	98.29%	98.03%	99.06%	98.91%	99.09%	98.60%
Women as a percentage of total directly employed workers	1.71%	1.97%	0.94%	1.09%	0.91%	1.40%
Workers Salary as a percentage of total Wages	52.68%	51.65%	50.39%	50.26%	49.25%	49.52%
Supervisory and Managerial Staff as a percentage of total Wages	31.82%	33.16%	33.60%	33.79%	34.20%	33.28%
2412						
Directly Employed as a percentage of total workers	73.56%	74.50%	74.06%	75.18%	69.97%	67.82%
Contractors as a percentage of total workers	26.44%	25.50%	25.94%	24.82%	30.02%	32.18%
Men as a percentage of total directly employed workers	98.95%	98.75%	96.94%	98.43%	98.49%	97.82%
Women as a percentage of total directly employed workers	1.05%	1.25%	3.06%	1.57%	1.51%	2.18%
Workers Salary as a percentage of total Wages	52.84%	46.87%	44.19%	44.23%	44.09%	42.83%
Supervisory and Managerial Staff as a percentage of total Wages	29.67%	32.49%	36.32%	39.44%	37.48%	37.66%
2413						
Directly Employed as a percentage of total workers	69.01%	77.77%	74.69%	81.81%	74.31%	65.86%
Contractors as a percentage of total workers	30.99%	22.23%	25.31%	18.19%	25.70%	34.14%
Men as a percentage of total directly employed workers	99.81%	99.62%	99.03%	99.09%	99.32%	99.28%
Women as a percentage of total directly employed workers	0.19%	0.38%	0.97%	0.91%	0.68%	0.72%
Workers Salary as a percentage of total Wages	52.22%	50.14%	52.49%	44.54%	43.41%	42.85%
Supervisory and Managerial Staff as a percentage of total Wages	33.71%	41.96%	31.16%	40.78%	44.02%	41.41%
2421						
Directly Employed as a percentage of total workers	66.40%	64.04%	74.46%	70.59%	49.94%	58.89%

Contractors as a percentage of total workers	33.60%	35.96%	25.54%	29.41%	50.07%	41.11%
Men as a percentage of total directly employed workers	98.19%	94.99%	96.17%	93.09%	95.64%	97.61%
Women as a percentage of total directly employed workers	1.81%	5.01%	3.83%	6.91%	4.36%	2.39%
Workers Salary as a percentage of total Wages	50.26%	51.46%	43.81%	43.01%	46.72%	42.45%
Supervisory and Managerial Staff as a percentage of total Wages	33.77%	29.88%	37.04%	36.25%	33.88%	38.91%
2422						
Directly Employed as a percentage of total workers	82.91%	84.02%	83.22%	76.37%	71.93%	70.10%
Contractors as a percentage of total workers	17.09%	15.98%	16.78%	23.62%	28.07%	29.90%
Men as a percentage of total directly employed workers	97.09%	95.07%	96.59%	98.26%	96.26%	97.12%
Women as a percentage of total directly employed workers	2.91%	4.93%	3.41%	1.74%	3.74%	2.88%
Workers Salary as a percentage of total Wages	40.86%	42.08%	39.87%	33.59%	33.63%	32.31%
Supervisory and Managerial Staff as a percentage of total Wages	38.20%	32.41%	33.91%	44.49%	39.69%	44.94%
2423						
Directly Employed as a percentage of total workers	82.28%	77.94%	80.93%	75.76%	74.17%	67.07%
Contractors as a percentage of total workers	17.72%	22.06%	19.07%	24.24%	25.83%	32.93%
Men as a percentage of total directly employed workers	84.26%	82.18%	83.92%	84.49%	82.78%	84.90%
Women as a percentage of total directly employed workers	15.74%	17.14%	16.08%	15.51%	17.19%	15.10%
Workers Salary as a percentage of total Wages	36.80%	36.61%	36.88%	35.11%	34.74%	31.94%
Supervisory and Managerial Staff as a percentage of total Wages	31.20%	34.95%	36.17%	36.68%	38.81%	38.41%
2424						
Directly Employed as a percentage of total workers	85.33%	85.49%	81.94%	77.87%	72.75%	75.58%
Contractors as a percentage of total workers	14.67%	14.51%	18.06%	22.13%	27.25%	24.42%
Men as a percentage of total directly employed workers	75.35%	74.07%	78.69%	78.21%	78.99%	77.47%
Women as a percentage of total directly employed workers	24.65%	25.93%	21.31%	21.79%	21.01%	22.53%
Workers Salary as a percentage of total Wages	52.79%	51.92%	56.54%	58.28%	52.79%	56.06%
Supervisory and Managerial Staff as a percentage of total Wages	28.44%	34.52%	29.02%	26.23%	25.93%	28.85%

2429						
Directly Employed as a percentage of total workers	88.43%	90.03%	84.66%	88.45%	83.96%	88.01%
Contractors as a percentage of total workers	11.57%	9.97%	15.34%	11.55%	16.04%	11.99%
Men as a percentage of total directly employed workers	41.36%	45.67%	45.81%	47.36%	47.16%	48.54%
Women as a percentage of total directly employed workers	58.64%	54.30%	54.19%	52.64%	52.84%	51.46%
Workers Salary as a percentage of total Wages	58.48%	52.46%	60.73%	56.90%	54.71%	51.06%
Supervisory and Managerial Staff as a percentage of total Wages	25.21%	31.32%	23.49%	27.34%	30.14%	32.92%
2430						
Directly Employed as a percentage of total workers	85.21%	82.75%	86.56%	83.23%	87.52%	84.50%
Contractors as a percentage of total workers	14.79%	17.25%	13.44%	16.77%	12.48%	15.50%
Men as a percentage of total directly employed workers	99.89%	99.75%	99.64%	98.94%	99.43%	99.66%
Women as a percentage of total directly employed workers	0.11%	0.25%	0.36%	1.06%	0.57%	0.34%
Workers Salary as a percentage of total Wages	65.69%	68.99%	70.97%	65.20%	67.14%	64.75%
Supervisory and Managerial Staff as a percentage of total Wages	21.01%	15.94%	15.48%	19.99%	16.70%	25.39%
2511						
Directly Employed as a percentage of total workers	86.48%	90.70%	92.42%	91.01%	92.78%	86.98%
Contractors as a percentage of total workers	13.52%	9.30%	7.59%	8.99%	7.22%	13.02%
Men as a percentage of total directly employed workers	99.33%	99.50%	99.00%	99.04%	99.46%	99.37%
Women as a percentage of total directly employed workers	0.67%	0.50%	1.00%	0.96%	0.54%	0.63%
Workers Salary as a percentage of total Wages	55.21%	98.53%	61.75%	63.85%	63.25%	64.65%
Supervisory and Managerial Staff as a percentage of total Wages	29.54%	39.49%	24.91%	24.10%	24.01%	22.77%
2519						
Directly Employed as a percentage of total workers	94.29%	93.00%	88.37%	91.56%	89.37%	75.05%
Contractors as a percentage of total workers	5.71%	7.00%	11.63%	8.44%	10.63%	24.95%
Men as a percentage of total directly employed workers	88.75%	87.75%	83.65%	87.30%	85.16%	86.55%
Women as a percentage of total directly employed workers	11.25%	12.25%	16.35%	12.70%	14.84%	13.45%

Workers Salary as a percentage of total Wages	61.83%	60.47%	61.12%	58.96%	60.25%	60.46%
Supervisory and Managerial Staff as a percentage of total Wages	25.71%	24.67%	25.72%	26.01%	26.62%	25.89%
2520						
Directly Employed as a percentage of total workers	88.35%	86.94%	83.69%	81.48%	82.44%	78.28%
Contractors as a percentage of total workers	11.65%	13.06%	16.31%	18.52%	17.56%	21.72%
Men as a percentage of total directly employed workers	90.45%	90.90%	91.14%	91.85%	90.18%	92.10%
Women as a percentage of total directly employed workers	9.55%	9.10%	8.72%	8.15%	9.82%	7.90%
Workers Salary as a percentage of total Wages	45.64%	52.21%	52.65%	53.00%	51.23%	49.13%
Supervisory and Managerial Staff as a percentage of total Wages	37.99%	30.76%	31.39%	29.83%	33.24%	34.90%
2610						
Directly Employed as a percentage of total workers	73.63%	76.97%	77.41%	65.31%	78.19%	74.30%
Contractors as a percentage of total workers	26.38%	23.03%	22.59%	34.69%	21.81%	25.70%
Men as a percentage of total directly employed workers	95.45%	96.07%	91.57%	95.80%	96.13%	97.07%
Women as a percentage of total directly employed workers	4.55%	3.93%	8.43%	4.20%	3.87%	2.93%
Workers Salary as a percentage of total Wages	66.49%	62.40%	61.47%	67.25%	62.42%	59.13%
Supervisory and Managerial Staff as a percentage of total Wages	21.32%	24.88%	24.99%	21.59%	24.60%	28.00%
2691						
Directly Employed as a percentage of total workers	92.65%	89.82%	85.94%	79.60%	84.58%	78.59%
Contractors as a percentage of total workers	7.35%	10.18%	14.06%	20.39%	15.42%	21.41%
Men as a percentage of total directly employed workers	88.82%	87.23%	89.99%	89.85%	88.08%	90.57%
Women as a percentage of total directly employed workers	11.18%	12.77%	10.01%	10.15%	11.92%	9.43%
Workers Salary as a percentage of total Wages	68.33%	66.97%	66.37%	67.89%	63.22%	64.87%
Supervisory and Managerial Staff as a percentage of total Wages	21.38%	22.53%	24.00%	22.38%	25.88%	25.61%
2692						
Directly Employed as a percentage of total workers	86.85%	89.33%	83.94%	76.92%	70.14%	71.29%
Contractors as a percentage of total workers	13.16%	10.67%	16.06%	23.07%	29.85%	28.71%

Men as a percentage of total directly employed workers	92.67%	90.67%	91.70%	92.64%	89.51%	88.15%
Women as a percentage of total directly employed workers	7.33%	9.33%	8.30%	7.36%	10.49%	11.85%
Workers Salary as a percentage of total Wages	64.74%	62.60%	65.31%	64.92%	59.52%	58.73%
Supervisory and Managerial Staff as a percentage of total Wages	21.54%	28.11%	22.91%	24.54%	29.40%	29.15%
2693						
Directly Employed as a percentage of total workers	44.16%	45.24%	48.17%	41.40%	39.42%	43.20%
Contractors as a percentage of total workers	55.84%	54.76%	51.83%	58.61%	60.58%	56.80%
Men as a percentage of total directly employed workers	70.13%	73.01%	76.86%	76.10%	75.67%	77.73%
Women as a percentage of total directly employed workers	29.87%	26.99%	23.11%	23.90%	24.33%	22.06%
Workers Salary as a percentage of total Wages	81.58%	75.86%	72.60%	75.80%	76.39%	69.44%
Supervisory and Managerial Staff as a percentage of total Wages	10.46%	13.77%	16.70%	15.03%	14.38%	18.22%
2694						
Directly Employed as a percentage of total workers	63.47%	58.21%	61.67%	63.67%	59.79%	56.51%
Contractors as a percentage of total workers	36.53%	41.80%	38.33%	36.33%	40.21%	43.49%
Men as a percentage of total directly employed workers	97.91%	96.81%	95.93%	97.42%	95.84%	97.67%
Women as a percentage of total directly employed workers	2.09%	3.19%	4.07%	2.57%	4.16%	2.33%
Workers Salary as a percentage of total Wages	5.59%	53.50%	54.10%	52.21%	51.57%	49.46%
Supervisory and Managerial Staff as a percentage of total Wages	28.06%	29.35%	28.31%	29.91%	30.53%	31.96%
2695						
Directly Employed as a percentage of total workers	77.30%	83.48%	69.79%	75.52%	73.01%	67.42%
Contractors as a percentage of total workers	22.70%	16.53%	30.21%	24.48%	27.00%	32.58%
Men as a percentage of total directly employed workers	92.37%	93.96%	97.32%	98.15%	96.45%	96.02%
Women as a percentage of total directly employed workers	7.63%	6.04%	2.68%	1.85%	3.55%	3.98%
Workers Salary as a percentage of total Wages	63.29%	59.01%	52.54%	69.37%	62.30%	59.53%
Supervisory and Managerial Staff as a percentage of total Wages	21.75%	27.03%	28.66%	19.48%	23.88%	25.37%
2696						

Directly Employed as a percentage of total workers	82.44%	81.39%	86.67%	77.86%	92.43%	73.77%
Contractors as a percentage of total workers	17.56%	18.61%	13.33%	22.15%	7.57%	26.23%
Men as a percentage of total directly employed workers	87.26%	89.50%	90.25%	88.14%	62.88%	90.66%
Women as a percentage of total directly employed workers	12.74%	10.50%	9.75%	11.86%	37.12%	9.34%
Workers Salary as a percentage of total Wages	64.39%	67.12%	62.10%	65.25%	85.67%	67.99%
Supervisory and Managerial Staff as a percentage of total Wages	22.29%	21.54%	22.12%	19.44%	8.30%	18.55%
2699						
Directly Employed as a percentage of total workers	81.42%	79.11%	74.55%	72.09%	80.05%	73.81%
Contractors as a percentage of total workers	18.58%	20.89%	25.44%	27.92%	19.95%	26.20%
Men as a percentage of total directly employed workers	89.24%	92.62%	91.89%	93.43%	93.96%	94.58%
Women as a percentage of total directly employed workers	10.76%	7.38%	8.11%	6.57%	6.04%	5.42%
Workers Salary as a percentage of total Wages	53.70%	59.33%	109.52%	56.29%	56.22%	55.73%
Supervisory and Managerial Staff as a percentage of total Wages	28.75%	26.33%	40.46%	24.94%	26.13%	25.51%
2710						
Directly Employed as a percentage of total workers	77.74%	79.33%	76.26%	75.99%	75.53%	71.95%
Contractors as a percentage of total workers	3.50%	20.67%	23.74%	24.01%	24.47%	28.05%
Men as a percentage of total directly employed workers	96.83%	97.34%	98.22%	98.19%	98.52%	98.75%
Women as a percentage of total directly employed workers	3.17%	2.66%	1.74%	1.81%	1.48%	1.25%
Workers Salary as a percentage of total Wages	60.06%	65.88%	60.51%	58.37%	59.12%	55.14%
Supervisory and Managerial Staff as a percentage of total Wages	27.07%	20.61%	21.67%	23.99%	24.05%	29.40%
2720						
Directly Employed as a percentage of total workers	79.75%	78.06%	78.86%	72.39%	74.21%	72.75%
Contractors as a percentage of total workers	20.25%	21.94%	21.14%	27.61%	25.79%	27.25%
Men as a percentage of total directly employed workers	99.08%	98.08%	98.81%	97.76%	97.89%	97.58%
Women as a percentage of total directly employed workers	0.92%	1.92%	1.19%	2.24%	2.11%	2.42%
Workers Salary as a percentage of total Wages	55.79%	59.21%	61.40%	63.67%	63.37%	56.23%

Supervisory and Managerial Staff as a percentage of total Wages	26.89%	26.88%	27.16%	24.66%	26.38%	33.20%
2731						
Directly Employed as a percentage of total workers	73.96%	77.12%	73.96%	72.95%	72.98%	70.83%
Contractors as a percentage of total workers	26.04%	22.88%	26.04%	27.05%	27.02%	29.17%
Men as a percentage of total directly employed workers	97.95%	99.04%	98.99%	99.01%	99.13%	98.46%
Women as a percentage of total directly employed workers	2.05%	0.96%	1.01%	0.99%	0.87%	1.54%
Workers Salary as a percentage of total Wages	61.81%	64.49%	63.01%	61.58%	64.08%	61.06%
Supervisory and Managerial Staff as a percentage of total Wages	24.96%	22.27%	24.37%	23.71%	24.01%	26.21%
2732						
Directly Employed as a percentage of total workers	97.17%	98.11%	88.17%	80.36%	80.57%	75.53%
Contractors as a percentage of total workers	2.83%	1.89%	11.83%	19.65%	19.43%	24.48%
Men as a percentage of total directly employed workers	98.84%	97.04%	98.72%	98.41%	99.44%	99.55%
Women as a percentage of total directly employed workers	1.16%	2.96%	1.28%	1.59%	0.56%	0.45%
Workers Salary as a percentage of total Wages	57.18%	60.17%	59.39%	56.06%	58.08%	54.94%
Supervisory and Managerial Staff as a percentage of total Wages	18.90%	24.34%	24.74%	26.16%	25.49%	29.18%
2811						
Directly Employed as a percentage of total workers	72.95%	65.28%	63.14%	66.89%	63.67%	54.64%
Contractors as a percentage of total workers	27.05%	34.72%	36.86%	33.11%	36.33%	45.36%
Men as a percentage of total directly employed workers	98.95%	99.01%	99.69%	98.79%	99.74%	98.64%
Women as a percentage of total directly employed workers	1.05%	0.29%	0.31%	1.21%	0.26%	1.36%
Workers Salary as a percentage of total Wages	53.80%	57.00%	54.52%	51.95%	49.13%	53.90%
Supervisory and Managerial Staff as a percentage of total Wages	26.88%	28.46%	30.82%	30.20%	31.76%	30.66%
2812						
Directly Employed as a percentage of total workers	68.25%	63.60%	55.78%	70.17%	56.79%	60.60%
Contractors as a percentage of total workers	31.75%	36.40%	44.22%	29.83%	43.21%	39.40%
Men as a percentage of total directly employed workers	97.45%	96.25%	97.29%	96.45%	95.01%	96.54%

Women as a percentage of total directly employed workers	2.55%	3.75%	2.51%	3.55%	4.99%	3.46%
Workers Salary as a percentage of total Wages	63.42%	57.52%	62.75%	57.94%	56.50%	59.61%
Supervisory and Managerial Staff as a percentage of total Wages	26.21%	29.52%	23.53%	28.01%	28.84%	28.04%
2813						
Directly Employed as a percentage of total workers	76.55%	65.39%	61.22%	66.60%	60.44%	56.65%
Contractors as a percentage of total workers	23.45%	34.61%	38.78%	33.41%	39.56%	43.35%
Men as a percentage of total directly employed workers	98.94%	99.38%	98.62%	99.49%	99.45%	99.41%
Women as a percentage of total directly employed workers	1.06%	0.62%	1.22%	0.51%	0.55%	0.59%
Workers Salary as a percentage of total Wages	55.19%	43.86%	43.35%	44.82%	49.01%	50.11%
Supervisory and Managerial Staff as a percentage of total Wages	35.92%	38.54%	36.59%	35.62%	32.51%	31.04%
2891						
Directly Employed as a percentage of total workers	79.16%	72.07%	70.85%	75.62%	73.79%	71.21%
Contractors as a percentage of total workers	20.84%	27.93%	29.15%	24.38%	26.21%	28.79%
Men as a percentage of total directly employed workers	99.43%	99.29%	99.64%	98.92%	99.19%	99.21%
Women as a percentage of total directly employed workers	0.57%	0.71%	0.36%	1.08%	0.81%	0.79%
Workers Salary as a percentage of total Wages	49.39%	52.43%	52.93%	51.92%	55.01%	56.68%
Supervisory and Managerial Staff as a percentage of total Wages	29.20%	33.92%	35.58%	29.27%	27.68%	25.52%
2892						
Directly Employed as a percentage of total workers	86.98%	66.39%	71.82%	72.58%	76.53%	72.67%
Contractors as a percentage of total workers	13.02%	33.62%	28.18%	27.42%	23.47%	27.33%
Men as a percentage of total directly employed workers	92.79%	94.70%	96.00%	93.24%	93.31%	94.04%
Women as a percentage of total directly employed workers	7.21%	5.30%	4.00%	6.76%	6.69%	5.96%
Workers Salary as a percentage of total Wages	70.80%	62.36%	56.20%	59.83%	58.16%	60.46%
Supervisory and Managerial Staff as a percentage of total Wages	20.86%	28.18%	29.40%	25.48%	29.24%	24.12%
2893						
Directly Employed as a percentage of total workers	94.70%	88.91%	93.14%	81.83%	74.25%	79.59%

Contractors as a percentage of total workers	5.30%	11.09%	6.86%	18.17%	25.75%	20.41%
Men as a percentage of total directly employed workers	97.11%	95.82%	96.85%	96.25%	94.84%	96.01%
Women as a percentage of total directly employed workers	2.89%	4.18%	3.15%	3.75%	5.16%	3.99%
Workers Salary as a percentage of total Wages	52.57%	63.07%	59.39%	62.59%	62.27%	59.43%
Supervisory and Managerial Staff as a percentage of total Wages	28.20%	25.60%	28.06%	24.68%	24.68%	25.96%
2899						
Directly Employed as a percentage of total workers	92.23%	92.20%	76.04%	71.86%	68.30%	63.73%
Contractors as a percentage of total workers	7.76%	7.80%	23.96%	28.14%	31.70%	36.27%
Men as a percentage of total directly employed workers	95.08%	95.52%	96.28%	94.85%	96.17%	96.37%
Women as a percentage of total directly employed workers	4.92%	4.47%	3.69%	5.15%	3.83%	3.63%
Workers Salary as a percentage of total Wages	56.86%	61.92%	59.93%	61.34%	63.42%	60.88%
Supervisory and Managerial Staff as a percentage of total Wages	23.53%	20.38%	25.38%	25.66%	22.63%	25.03%
2911						
Directly Employed as a percentage of total workers	80.43%	85.34%	81.92%	82.20%	89.74%	80.79%
Contractors as a percentage of total workers	19.57%	14.66%	18.08%	17.79%	10.27%	19.20%
Men as a percentage of total directly employed workers	99.45%	99.37%	97.96%	98.47%	98.91%	98.33%
Women as a percentage of total directly employed workers	0.55%	0.63%	2.04%	1.53%	1.09%	1.67%
Workers Salary as a percentage of total Wages	57.52%	44.60%	40.35%	41.77%	46.26%	45.90%
Supervisory and Managerial Staff as a percentage of total Wages	22.69%	40.32%	43.65%	39.05%	35.02%	36.86%
2912						
Directly Employed as a percentage of total workers	85.29%	85.19%	89.09%	82.83%	82.10%	81.14%
Contractors as a percentage of total workers	14.71%	14.81%	10.91%	17.16%	17.90%	18.86%
Men as a percentage of total directly employed workers	98.33%	98.74%	99.16%	98.24%	97.53%	98.23%
Women as a percentage of total directly employed workers	1.67%	1.26%	0.84%	1.76%	2.47%	1.77%
Workers Salary as a percentage of total Wages	44.41%	46.04%	49.58%	44.33%	44.61%	44.81%
Supervisory and Managerial Staff as a percentage of total Wages	37.02%	30.27%	30.42%	35.27%	35.75%	35.79%

2913						
Directly Employed as a percentage of total workers	95.64%	92.55%	92.68%	92.89%	90.10%	86.67%
Contractors as a percentage of total workers	4.36%	7.45%	7.32%	7.11%	9.90%	13.33%
Men as a percentage of total directly employed workers	98.57%	99.36%	98.97%	99.23%	99.06%	99.07%
Women as a percentage of total directly employed workers	1.43%	0.64%	1.03%	0.77%	0.94%	0.93%
Workers Salary as a percentage of total Wages	61.41%	56.24%	59.95%	56.43%	57.89%	56.49%
Supervisory and Managerial Staff as a percentage of total Wages	26.43%	25.66%	27.82%	30.95%	29.55%	30.31%
2914						
Directly Employed as a percentage of total workers	100.00%	90.62%	98.59%	88.66%	77.12%	87.07%
Contractors as a percentage of total workers	0.00%	9.41%	1.41%	11.34%	22.83%	12.93%
Men as a percentage of total directly employed workers	100.00%	98.60%	98.06%	98.73%	96.10%	99.34%
Women as a percentage of total directly employed workers	0.00%	1.40%	1.94%	1.27%	3.90%	0.66%
Workers Salary as a percentage of total Wages	25.93%	28.60%	24.41%	36.77%	39.31%	35.96%
Supervisory and Managerial Staff as a percentage of total Wages	60.99%	42.21%	57.75%	40.16%	39.19%	43.53%
2915						
Directly Employed as a percentage of total workers	98.73%	96.34%	78.88%	88.29%	82.78%	80.50%
Contractors as a percentage of total workers	1.27%	3.66%	21.12%	11.71%	17.23%	19.51%
Men as a percentage of total directly employed workers	98.87%	99.68%	99.78%	99.56%	99.73%	99.07%
Women as a percentage of total directly employed workers	1.13%	0.32%	0.22%	0.44%	0.27%	0.93%
Workers Salary as a percentage of total Wages	42.77%	42.55%	43.22%	44.70%	44.38%	40.24%
Supervisory and Managerial Staff as a percentage of total Wages	33.39%	33.24%	35.35%	36.81%	37.99%	47.47%
2919						
Directly Employed as a percentage of total workers	96.83%	90.71%	88.27%	80.27%	83.02%	81.72%
Contractors as a percentage of total workers	3.17%	9.29%	11.73%	19.73%	16.98%	18.28%
Men as a percentage of total directly employed workers	99.36%	97.79%	98.60%	97.38%	99.08%	98.72%
Women as a percentage of total directly employed workers	0.64%	2.21%	1.40%	2.62%	0.92%	1.28%

Workers Salary as a percentage of total Wages	64.42%	47.11%	41.91%	41.99%	42.14%	40.75%
Supervisory and Managerial Staff as a percentage of total Wages	22.44%	33.51%	37.59%	37.75%	37.94%	38.03%
2921						
Directly Employed as a percentage of total workers	90.61%	93.40%	90.62%	86.40%	85.27%	80.52%
Contractors as a percentage of total workers	9.39%	6.60%	9.37%	13.60%	14.73%	19.48%
Men as a percentage of total directly employed workers	99.79%	99.94%	99.26%	99.84%	99.83%	99.75%
Women as a percentage of total directly employed workers	0.21%	0.06%	0.74%	0.16%	0.17%	0.25%
Workers Salary as a percentage of total Wages	53.06%	51.90%	52.90%	48.65%	51.29%	53.69%
Supervisory and Managerial Staff as a percentage of total Wages	33.23%	33.66%	33.41%	39.01%	36.82%	32.84%
2922						
Directly Employed as a percentage of total workers	93.84%	95.18%	96.41%	92.20%	89.23%	89.76%
Contractors as a percentage of total workers	6.16%	4.82%	3.59%	7.79%	10.77%	10.24%
Men as a percentage of total directly employed workers	98.85%	99.22%	99.84%	99.94%	98.78%	99.75%
Women as a percentage of total directly employed workers	1.15%	0.78%	0.16%	0.06%	1.22%	0.25%
Workers Salary as a percentage of total Wages	52.82%	50.12%	49.39%	43.89%	44.49%	44.01%
Supervisory and Managerial Staff as a percentage of total Wages	33.39%	34.04%	35.74%	38.57%	40.63%	39.63%
2923						
Directly Employed as a percentage of total workers	96.88%	97.54%	56.79%	82.17%	75.84%	72.20%
Contractors as a percentage of total workers	3.13%	2.46%	43.14%	17.83%	24.16%	27.80%
Men as a percentage of total directly employed workers	100.00%	99.83%	99.78%	100.00%	100.00%	99.90%
Women as a percentage of total directly employed workers	0.00%	0.17%	0.22%	0.00%	0.00%	0.10%
Workers Salary as a percentage of total Wages	38.65%	49.71%	28.92%	37.19%	41.65%	41.30%
Supervisory and Managerial Staff as a percentage of total Wages	42.38%	37.92%	45.39%	48.78%	41.22%	45.24%
2924						
Directly Employed as a percentage of total workers	85.36%	90.25%	89.30%	82.34%	82.49%	82.34%
Contractors as a percentage of total workers	14.64%	9.75%	10.70%	17.65%	17.52%	17.67%

Men as a percentage of total directly employed workers	98.78%	99.38%	99.08%	98.90%	99.33%	98.94%
Women as a percentage of total directly employed workers	1.22%	0.62%	0.92%	1.10%	0.67%	1.06%
Workers Salary as a percentage of total Wages	42.60%	45.83%	49.14%	43.52%	46.71%	51.35%
Supervisory and Managerial Staff as a percentage of total Wages	42.79%	36.62%	34.91%	37.97%	41.88%	36.40%
2925						
Directly Employed as a percentage of total workers	83.30%	90.03%	85.67%	82.95%	84.85%	80.14%
Contractors as a percentage of total workers	16.70%	9.97%	14.33%	17.04%	15.15%	19.87%
Men as a percentage of total directly employed workers	99.52%	99.81%	98.97%	99.85%	98.98%	99.65%
Women as a percentage of total directly employed workers	0.48%	0.19%	1.03%	0.15%	1.02%	0.35%
Workers Salary as a percentage of total Wages	36.39%	43.95%	45.03%	42.87%	46.61%	49.47%
Supervisory and Managerial Staff as a percentage of total Wages	39.91%	37.62%	28.64%	35.04%	36.51%	30.62%
2926						
Directly Employed as a percentage of total workers	95.85%	95.33%	92.21%	88.78%	93.71%	93.10%
Contractors as a percentage of total workers	4.15%	4.67%	7.79%	11.22%	6.29%	6.90%
Men as a percentage of total directly employed workers	95.45%	96.29%	96.35%	93.52%	91.62%	94.12%
Women as a percentage of total directly employed workers	4.55%	3.71%	3.65%	6.48%	8.38%	5.88%
Workers Salary as a percentage of total Wages	57.63%	53.14%	53.90%	54.84%	52.88%	53.79%
Supervisory and Managerial Staff as a percentage of total Wages	25.71%	26.39%	30.84%	30.87%	30.40%	27.17%
2927						
Directly Employed as a percentage of total workers	82.56%	90.16%	95.22%	88.98%	96.92%	92.49%
Contractors as a percentage of total workers	17.44%	9.10%	4.83%	11.02%	3.08%	7.51%
Men as a percentage of total directly employed workers	100.00%	99.22%	98.50%	98.35%	95.24%	99.34%
Women as a percentage of total directly employed workers	0.00%	0.78%	1.50%	1.65%	4.76%	0.66%
Workers Salary as a percentage of total Wages	82.70%	67.67%	62.13%	65.10%	65.06%	63.53%
Supervisory and Managerial Staff as a percentage of total Wages	10.03%	19.05%	22.52%	24.96%	23.63%	26.34%
2929						

Directly Employed as a percentage of total workers	91.41%	87.97%	88.55%	84.08%	74.55%	80.46%
Contractors as a percentage of total workers	8.59%	12.03%	11.45%	15.92%	25.45%	19.54%
Men as a percentage of total directly employed workers	99.15%	99.45%	98.97%	99.10%	99.33%	99.43%
Women as a percentage of total directly employed workers	0.85%	0.55%	1.03%	0.90%	0.67%	0.54%
Workers Salary as a percentage of total Wages	43.54%	40.51%	40.87%	37.93%	42.44%	38.38%
Supervisory and Managerial Staff as a percentage of total Wages	36.59%	42.12%	42.74%	44.61%	40.01%	43.65%
2930						
Directly Employed as a percentage of total workers	89.23%	89.95%	89.86%	91.57%	85.39%	81.64%
Contractors as a percentage of total workers	10.77%	10.04%	10.14%	8.43%	14.61%	18.37%
Men as a percentage of total directly employed workers	90.93%	89.90%	93.38%	90.66%	91.15%	89.70%
Women as a percentage of total directly employed workers	9.07%	10.10%	6.62%	9.34%	8.85%	10.30%
Workers Salary as a percentage of total Wages	54.35%	56.44%	52.69%	56.44%	56.58%	54.48%
Supervisory and Managerial Staff as a percentage of total Wages	27.23%	31.69%	28.73%	26.57%	29.04%	30.11%
3000						
Directly Employed as a percentage of total workers	73.84%	65.56%	53.81%	62.16%	78.58%	75.41%
Contractors as a percentage of total workers	26.16%	34.45%	46.20%	37.84%	21.41%	24.59%
Men as a percentage of total directly employed workers	85.10%	55.03%	74.29%	80.56%	83.15%	79.22%
Women as a percentage of total directly employed workers	14.90%	44.97%	25.71%	19.44%	16.85%	20.78%
Workers Salary as a percentage of total Wages	33.04%	31.93%	29.21%	26.97%	23.36%	27.31%
Supervisory and Managerial Staff as a percentage of total Wages	41.97%	45.68%	52.32%	57.21%	57.40%	51.98%
3110						
Directly Employed as a percentage of total workers	90.75%	88.24%	92.39%	86.37%	83.67%	85.31%
Contractors as a percentage of total workers	9.25%	11.75%	7.61%	13.63%	16.33%	14.69%
Men as a percentage of total directly employed workers	96.68%	95.88%	92.86%	96.44%	96.56%	95.92%
Women as a percentage of total directly employed workers	3.32%	4.12%	7.14%	3.56%	3.43%	4.08%
Workers Salary as a percentage of total Wages	52.68%	53.09%	47.88%	48.65%	48.31%	47.05%

Supervisory and Managerial Staff as a percentage of total Wages	34.50%	34.95%	40.51%	31.75%	38.99%	38.64%
3120						
Directly Employed as a percentage of total workers	89.91%	92.50%	88.94%	90.18%	83.22%	81.27%
Contractors as a percentage of total workers	10.09%	7.50%	11.06%	9.82%	16.78%	18.73%
Men as a percentage of total directly employed workers	88.55%	89.27%	89.05%	89.38%	90.76%	90.36%
Women as a percentage of total directly employed workers	11.45%	10.73%	10.95%	10.62%	9.24%	9.64%
Workers Salary as a percentage of total Wages	51.08%	47.52%	42.42%	42.80%	44.63%	43.77%
Supervisory and Managerial Staff as a percentage of total Wages	31.68%	35.92%	43.78%	41.51%	41.61%	43.28%
3130						
Directly Employed as a percentage of total workers	89.70%	84.46%	80.46%	83.53%	79.85%	77.76%
Contractors as a percentage of total workers	10.30%	15.54%	19.55%	16.47%	20.15%	22.24%
Men as a percentage of total directly employed workers	98.88%	96.48%	97.59%	97.19%	96.58%	96.38%
Women as a percentage of total directly employed workers	1.12%	0.35%	2.41%	2.81%	3.42%	3.62%
Workers Salary as a percentage of total Wages	52.88%	49.09%	56.50%	51.88%	51.07%	49.91%
Supervisory and Managerial Staff as a percentage of total Wages	28.75%	31.91%	28.34%	30.95%	32.97%	33.41%
3140						
Directly Employed as a percentage of total workers	77.20%	87.30%	79.17%	76.48%	73.42%	71.70%
Contractors as a percentage of total workers	22.80%	12.70%	20.84%	23.52%	26.58%	28.30%
Men as a percentage of total directly employed workers	91.75%	93.50%	83.54%	96.95%	95.53%	94.01%
Women as a percentage of total directly employed workers	8.25%	6.50%	16.46%	3.05%	4.47%	5.99%
Workers Salary as a percentage of total Wages	56.55%	52.59%	56.55%	56.03%	55.01%	53.96%
Supervisory and Managerial Staff as a percentage of total Wages	34.11%	31.79%	29.44%	30.47%	31.16%	29.55%
3150						
Directly Employed as a percentage of total workers	85.47%	87.08%	85.43%	76.31%	74.71%	82.98%
Contractors as a percentage of total workers	14.53%	12.92%	14.57%	23.69%	25.29%	17.02%
Men as a percentage of total directly employed workers	77.17%	84.41%	85.00%	83.33%	84.36%	82.40%

Women as a percentage of total directly employed workers	22.83%	15.59%	14.94%	16.67%	15.64%	17.60%
Workers Salary as a percentage of total Wages	60.17%	61.72%	62.34%	60.20%	58.99%	52.54%
Supervisory and Managerial Staff as a percentage of total Wages	25.94%	24.53%	25.09%	28.40%	28.32%	30.58%
3190						
Directly Employed as a percentage of total workers	87.17%	82.44%	89.08%	88.33%	75.59%	83.78%
Contractors as a percentage of total workers	12.83%	17.57%	10.92%	11.67%	24.41%	16.22%
Men as a percentage of total directly employed workers	84.50%	88.54%	84.94%	87.83%	87.23%	79.61%
Women as a percentage of total directly employed workers	15.50%	11.46%	15.06%	12.17%	12.77%	20.39%
Workers Salary as a percentage of total Wages	42.40%	52.20%	49.55%	50.74%	53.59%	52.48%
Supervisory and Managerial Staff as a percentage of total Wages	39.06%	30.56%	31.07%	32.82%	30.32%	33.16%
3210						
Directly Employed as a percentage of total workers	97.17%	91.64%	91.08%	90.62%	88.68%	84.18%
Contractors as a percentage of total workers	2.83%	8.36%	8.92%	9.38%	11.32%	15.81%
Men as a percentage of total directly employed workers	76.54%	65.92%	72.71%	71.25%	74.98%	70.51%
Women as a percentage of total directly employed workers	23.46%	34.08%	27.29%	2.87%	25.02%	29.49%
Workers Salary as a percentage of total Wages	48.68%	43.57%	42.92%	41.81%	42.47%	39.49%
Supervisory and Managerial Staff as a percentage of total Wages	37.07%	43.06%	39.26%	42.53%	43.47%	44.92%
3220						
Directly Employed as a percentage of total workers	98.12%	90.22%	93.49%	82.18%	80.81%	85.00%
Contractors as a percentage of total workers	1.88%	9.78%	6.51%	17.82%	19.19%	15.00%
Men as a percentage of total directly employed workers	88.83%	73.63%	79.52%	81.80%	82.24%	82.91%
Women as a percentage of total directly employed workers	11.17%	26.37%	20.48%	18.20%	17.76%	17.09%
Workers Salary as a percentage of total Wages	40.48%	37.03%	40.71%	35.45%	34.75%	38.37%
Supervisory and Managerial Staff as a percentage of total Wages	47.08%	42.01%	45.80%	50.84%	47.83%	44.31%
3230						
Directly Employed as a percentage of total workers	93.18%	88.44%	87.90%	91.66%	83.53%	78.41%

Contractors as a percentage of total workers	6.82%	3.93%	12.11%	8.34%	16.47%	21.59%
Men as a percentage of total directly employed workers	56.80%	69.32%	61.96%	66.29%	69.81%	71.00%
Women as a percentage of total directly employed workers	43.20%	30.68%	38.04%	33.71%	30.19%	29.00%
Workers Salary as a percentage of total Wages	47.56%	45.88%	42.82%	32.79%	34.57%	32.08%
Supervisory and Managerial Staff as a percentage of total Wages	33.91%	36.28%	41.22%	46.74%	43.39%	46.37%
3311						
Directly Employed as a percentage of total workers	87.89%	96.33%	96.67%	92.67%	94.05%	87.69%
Contractors as a percentage of total workers	12.11%	3.68%	3.33%	7.33%	5.95%	12.31%
Men as a percentage of total directly employed workers	88.50%	79.58%	79.33%	82.75%	84.92%	84.89%
Women as a percentage of total directly employed workers	11.50%	20.42%	20.67%	17.25%	15.08%	15.11%
Workers Salary as a percentage of total Wages	36.22%	35.67%	28.18%	28.95%	24.58%	23.72%
Supervisory and Managerial Staff as a percentage of total Wages	33.60%	42.22%	46.46%	49.07%	53.53%	59.54%
3312						
Directly Employed as a percentage of total workers	99.48%	92.54%	92.26%	99.14%	90.40%	87.87%
Contractors as a percentage of total workers	0.52%	7.47%	7.74%	0.86%	9.60%	12.13%
Men as a percentage of total directly employed workers	83.92%	86.53%	87.86%	95.34%	89.93%	86.86%
Women as a percentage of total directly employed workers	16.08%	13.47%	12.14%	4.66%	10.07%	13.14%
Workers Salary as a percentage of total Wages	39.90%	44.85%	50.84%	30.72%	44.94%	43.05%
Supervisory and Managerial Staff as a percentage of total Wages	39.79%	34.34%	31.94%	36.47%	37.20%	37.57%
3313						
Directly Employed as a percentage of total workers	100.00%	92.39%	98.69%	91.19%	89.62%	96.19%
Contractors as a percentage of total workers	0.00%	7.61%	1.31%	8.84%	10.38%	3.83%
Men as a percentage of total directly employed workers	88.29%	93.41%	96.76%	80.74%	95.04%	94.54%
Women as a percentage of total directly employed workers	11.71%	6.59%	3.24%	19.26%	4.96%	5.46%
Workers Salary as a percentage of total Wages	70.03%	47.13%	44.84%	51.97%	26.33%	38.70%
Supervisory and Managerial Staff as a percentage of total Wages	18.66%	25.53%	30.50%	31.78%	38.99%	40.06%

3320						
Directly Employed as a percentage of total workers	99.31%	90.78%	95.31%	91.19%	96.44%	88.53%
Contractors as a percentage of total workers	0.73%	9.22%	4.69%	8.84%	3.56%	11.47%
Men as a percentage of total directly employed workers	84.00%	84.29%	81.03%	80.74%	68.05%	98.88%
Women as a percentage of total directly employed workers	16.00%	15.71%	18.97%	19.26%	31.95%	1.12%
Workers Salary as a percentage of total Wages	52.59%	52.05%	36.50%	51.97%	61.31%	50.57%
Supervisory and Managerial Staff as a percentage of total Wages	34.69%	33.73%	34.85%	31.78%	32.01%	39.86%
3330						
Directly Employed as a percentage of total workers	97.41%	98.29%	94.51%	97.72%	96.44%	93.94%
Contractors as a percentage of total workers	2.59%	1.71%	5.49%	2.28%	3.56%	6.07%
Men as a percentage of total directly employed workers	61.74%	62.41%	63.13%	68.99%	68.05%	65.88%
Women as a percentage of total directly employed workers	38.26%	37.59%	36.87%	31.01%	31.95%	34.12%
Workers Salary as a percentage of total Wages	55.43%	62.61%	54.91%	51.71%	61.31%	54.97%
Supervisory and Managerial Staff as a percentage of total Wages	34.22%	25.16%	32.59%	36.69%	32.01%	38.23%
3410						
Directly Employed as a percentage of total workers	88.50%	94.23%	95.91%	92.34%	88.50%	88.53%
Contractors as a percentage of total workers	11.50%	5.77%	4.09%	7.66%	11.50%	11.47%
Men as a percentage of total directly employed workers	98.53%	97.40%	98.48%	98.50%	98.53%	98.88%
Women as a percentage of total directly employed workers	1.47%	2.60%	1.52%	1.50%	1.47%	1.12%
Workers Salary as a percentage of total Wages	56.35%	54.52%	53.99%	53.85%	56.35%	50.57%
Supervisory and Managerial Staff as a percentage of total Wages	26.71%	36.63%	37.46%	37.79%	26.71%	39.86%
3420						
Directly Employed as a percentage of total workers	84.86%	70.25%	63.30%	50.13%	42.83%	44.77%
Contractors as a percentage of total workers	15.14%	29.75%	36.70%	49.87%	57.17%	55.23%
Men as a percentage of total directly employed workers	99.53%	99.99%	100.00%	100.00%	100.00%	99.39%
Women as a percentage of total directly employed workers	0.47%	0.01%	0.00%	0.00%	0.00%	0.61%

Workers Salary as a percentage of total Wages	67.80%	65.02%	67.49%	71.01%	69.38%	69.15%
Supervisory and Managerial Staff as a percentage of total Wages	21.12%	20.13%	20.25%	18.38%	21.80%	19.69%
3430						
Directly Employed as a percentage of total workers	89.01%	86.33%	87.31%	82.54%	78.83%	75.83%
Contractors as a percentage of total workers	10.99%	13.67%	12.68%	17.46%	21.17%	24.17%
Men as a percentage of total directly employed workers	96.17%	96.57%	96.05%	95.20%	95.25%	95.61%
Women as a percentage of total directly employed workers	3.83%	3.43%	3.95%	4.80%	4.75%	4.39%
Workers Salary as a percentage of total Wages	62.54%	54.99%	57.20%	55.08%	55.59%	52.34%
Supervisory and Managerial Staff as a percentage of total Wages	25.26%	32.79%	30.47%	32.82%	33.22%	35.43%
3511						
Directly Employed as a percentage of total workers	76.10%	78.50%	68.54%	70.70%	68.15%	55.02%
Contractors as a percentage of total workers	23.91%	21.50%	31.46%	29.31%	31.85%	44.98%
Men as a percentage of total directly employed workers	99.94%	99.97%	99.93%	99.80%	99.83%	99.86%
Women as a percentage of total directly employed workers	0.06%	0.03%	0.07%	0.20%	0.17%	0.14%
Workers Salary as a percentage of total Wages	64.37%	60.14%	62.50%	62.20%	63.59%	64.98%
Supervisory and Managerial Staff as a percentage of total Wages	21.77%	21.45%	23.07%	21.16%	21.15%	19.48%
3512						
Directly Employed as a percentage of total workers	90.23%	100.00%	100.00%	100.00%	100.00%	93.78%
Contractors as a percentage of total workers	9.78%	0.00%	0.00%	0.00%	0.00%	6.22%
Men as a percentage of total directly employed workers	99.74%	100.00%	100.00%	95.95%	93.51%	92.89%
Women as a percentage of total directly employed workers	0.26%	0.00%	0.00%	4.05%	6.49%	7.11%
Workers Salary as a percentage of total Wages	63.66%	58.33%	85.71%	20.34%	86.27%	38.10%
Supervisory and Managerial Staff as a percentage of total Wages	20.54%	25.00%	9.52%	58.59%	8.33%	37.70%
3530						
Directly Employed as a percentage of total workers	100.00%	97.10%	100.00%	98.21%	96.46%	97.51%
Contractors as a percentage of total workers	0.00%	2.90%	0.00%	1.79%	3.54%	2.49%

Men as a percentage of total directly employed workers	84.93%	94.49%	93.50%	98.33%	97.83%	98.70%
Women as a percentage of total directly employed workers	15.07%	5.51%	6.50%	1.67%	2.17%	1.30%
Workers Salary as a percentage of total Wages	38.50%	1.47%	49.14%	45.56%	47.01%	47.05%
Supervisory and Managerial Staff as a percentage of total Wages	53.14%	54.39%	17.01%	27.09%	24.39%	29.02%
3591						
Directly Employed as a percentage of total workers	66.53%	90.13%	87.41%	85.21%	81.09%	76.35%
Contractors as a percentage of total workers	33.47%	9.87%	12.59%	14.79%	18.91%	23.65%
Men as a percentage of total directly employed workers	95.90%	97.69%	97.80%	97.81%	98.44%	97.32%
Women as a percentage of total directly employed workers	4.10%	2.31%	2.20%	2.19%	1.56%	2.68%
Workers Salary as a percentage of total Wages	63.11%	54.88%	53.83%	53.62%	53.60%	51.11%
Supervisory and Managerial Staff as a percentage of total Wages	29.75%	30.73%	29.41%	32.13%	31.82%	38.40%
3592						
Directly Employed as a percentage of total workers	96.79%	97.56%	98.77%	95.72%	95.24%	93.84%
Contractors as a percentage of total workers	3.21%	2.44%	1.23%	4.28%	4.76%	6.16%
Men as a percentage of total directly employed workers	99.52%	99.32%	98.71%	99.53%	99.52%	99.76%
Women as a percentage of total directly employed workers	0.48%	0.68%	1.29%	0.47%	0.48%	0.24%
Workers Salary as a percentage of total Wages	67.25%	690.15%	68.89%	66.68%	66.79%	67.09%
Supervisory and Managerial Staff as a percentage of total Wages	16.67%	17.16%	17.50%	18.27%	17.27%	18.67%
3599						
Directly Employed as a percentage of total workers	90.69%	91.19%	88.89%	85.48%	85.37%	80.11%
Contractors as a percentage of total workers	9.31%	8.81%	11.11%	14.52%	14.65%	19.89%
Men as a percentage of total directly employed workers	94.77%	94.45%	95.34%	90.88%	93.42%	94.03%
Women as a percentage of total directly employed workers	5.23%	5.55%	4.66%	9.12%	6.58%	5.97%
Workers Salary as a percentage of total Wages	63.02%	53.95%	59.61%	53.11%	63.51%	62.85%
Supervisory and Managerial Staff as a percentage of total Wages	24.32%	34.10%	29.39%	31.72%	24.99%	21.89%
3610						

Directly Employed as a percentage of total workers	77.42%	82.87%	79.71%	80.05%	81.21%	80.01%
Contractors as a percentage of total workers	22.58%	17.14%	20.29%	19.95%	18.79%	19.99%
Men as a percentage of total directly employed workers	99.21%	97.48%	96.91%	98.50%	98.38%	98.55%
Women as a percentage of total directly employed workers	0.79%	2.52%	3.09%	1.50%	1.58%	1.45%
Workers Salary as a percentage of total Wages	66.60%	64.27%	54.17%	52.67%	61.09%	57.57%
Supervisory and Managerial Staff as a percentage of total Wages	16.49%	18.91%	25.75%	33.20%	31.30%	32.87%
3691						
Directly Employed as a percentage of total workers	84.14%	88.90%	91.67%	92.77%	93.96%	92.02%
Contractors as a percentage of total workers	15.86%	11.10%	8.33%	7.23%	6.04%	7.98%
Men as a percentage of total directly employed workers	86.53%	77.91%	78.37%	77.24%	79.09%	80.65%
Women as a percentage of total directly employed workers	13.47%	22.09%	21.49%	22.76%	20.91%	19.35%
Workers Salary as a percentage of total Wages	79.31%	76.94%	75.48%	67.30%	69.30%	67.38%
Supervisory and Managerial Staff as a percentage of total Wages	12.21%	16.34%	14.70%	19.48%	18.73%	18.75%
3692						
Directly Employed as a percentage of total workers	97.89%	97.74%	100.00%	100.00%	99.63%	100.00%
Contractors as a percentage of total workers	2.11%	2.26%	0.00%	0.00%	0.37%	0.00%
Men as a percentage of total directly employed workers	100.00%	96.53%	95.77%	96.06%	95.90%	96.10%
Women as a percentage of total directly employed workers	0.00%	3.47%	4.23%	3.94%	4.10%	3.90%
Workers Salary as a percentage of total Wages	23.04%	80.77%	68.10%	70.49%	58.78%	64.60%
Supervisory and Managerial Staff as a percentage of total Wages	50.61%	14.10%	25.00%	20.49%	32.06%	27.95%
3693						
Directly Employed as a percentage of total workers	80.04%	57.23%	82.24%	81.12%	72.90%	70.65%
Contractors as a percentage of total workers	19.96%	42.77%	17.76%	18.86%	27.10%	29.35%
Men as a percentage of total directly employed workers	91.67%	98.04%	88.98%	90.15%	86.30%	88.01%
Women as a percentage of total directly employed workers	8.33%	1.96%	11.02%	9.85%	13.33%	11.99%
Workers Salary as a percentage of total Wages	58.61%	72.49%	60.02%	57.78%	63.43%	65.17%

Supervisory and Managerial Staff as a percentage of total Wages	23.58%	17.46%	28.99%	30.91%	26.73%	24.48%
3694						
Directly Employed as a percentage of total workers	68.02%	82.36%	71.95%	52.16%	71.91%	71.91%
Contractors as a percentage of total workers	31.98%	17.64%	28.05%	47.82%	28.09%	28.09%
Men as a percentage of total directly employed workers	91.42%	77.30%	75.21%	69.84%	85.79%	85.79%
Women as a percentage of total directly employed workers	8.58%	22.70%	24.79%	30.16%	14.21%	14.21%
Workers Salary as a percentage of total Wages	78.31%	53.85%	74.36%	78.90%	75.75%	75.75%
Supervisory and Managerial Staff as a percentage of total Wages	7.35%	32.54%	17.92%	13.58%	17.86%	17.86%
3699						
Directly Employed as a percentage of total workers	88.01%	64.91%	80.08%	85.30%	77.63%	80.22%
Contractors as a percentage of total workers	11.99%	35.09%	19.92%	14.70%	22.37%	19.78%
Men as a percentage of total directly employed workers	65.24%	74.72%	72.73%	56.95%	64.37%	61.99%
Women as a percentage of total directly employed workers	34.76%	25.28%	27.27%	43.05%	35.43%	38.01%
Workers Salary as a percentage of total Wages	54.09%	55.72%	57.29%	49.04%	45.19%	51.49%
Supervisory and Managerial Staff as a percentage of total Wages	24.23%	23.77%	24.39%	28.32%	38.41%	30.23%
3710						
Directly Employed as a percentage of total workers	26.53%	28.08%	57.83%	60.39%	64.73%	76.18%
Contractors as a percentage of total workers	73.47%	71.92%	42.17%	39.61%	35.27%	23.82%
Men as a percentage of total directly employed workers	100.00%	100.00%	98.33%	100.00%	100.00%	97.87%
Women as a percentage of total directly employed workers	0.0%	0.0%	1.7%	0.0%	0.0%	2.1%
Workers Salary as a percentage of total Wages	77.78%	79.10%	77.24%	56.46%	71.51%	74.91%
Supervisory and Managerial Staff as a percentage of total Wages	7.64%	4.48%	11.38%	21.02%	17.53%	16.38%

Table 7															
An Inter - Sectoral Comparision of Net Value Added ratio for the entire manufacturing sector for the period 1990 - 91 to 2004 - 05															
20 - 21	1989 - 90	1990 - 91	1991 - 92	1992 - 9	1993 - 9	1994 - 95	1995 - 96	1996 - 97	1997 - 98	1998 - 9	1999 - 2(	2000- 01	2001 - 0	2002 - 0	2003 - 04	2004 - 05
Materials Consumed as a percentage of value of Output	78.70%	80.26%	80.78%	81.11%	78.09%	78.14%	79.85%	74.68%	73.39%	71.73%	72.98%	71.02%	72.21%	73.37%	72.69%	71.35%
Net Value Added as a percentage of value of Output	12.12%	10.56%	10.29%	9.72%	12.12%	13.36%	11.17%	9.72%	11.17%	11.15%	10.26%	9.94%	10.29%	8.60%	7.88%	8.52%
22																
Materials Consumed as a percentage of value of Output	57.00%	56.25%	55.76%	56.49%	56.89%	55.56%	55.73%	45.65%	51.74%	52.11%	41.65%	47.83%	47.28%	48.22%	46.46%	51.49%
Net Value Added as a percentage of value of Output	24.34%	24.03%	26.05%	25.03%	25.29%	27.02%	25.84%	33.38%	25.88%	25.49%	29.44%	26.38%	29.10%	28.89%	29.47%	25.58%
23 - 24 - 25																
Materials Consumed as a percentage of value of Output	62.27%	61.57%	65.09%	65.03%	62.26%	63.67%	67.00%	58.45%	59.50%	60.33%	169.67%	60.90%	61.63%	58.79%	60.17%	61.64%
Net Value Added as a percentage of value of Output	19.94%	20.42%	17.06%	16.07%	18.83%	18.94%	15.13%	18.22%	14.57%	15.47%	22.57%	13.59%	12.40%	13.65%	12.68%	12.78%
26																
Materials Consumed as a percentage of value of Output	59.96%	57.47%	56.86%	56.56%	51.56%	52.37%	57.28%	50.65%	52.81%	52.14%	41.65%	51.62%	52.58%	53.51%	50.86%	50.92%

Net Value Added as a percentage of value of Output	18.46%	20.59%	21.47%	20.33%	26.89%	25.33%	21.33%	21.70%	17.64%	20.09%	29.44%	17.91%	18.27%	16.67%	16.90%	16.55%
27																
Materials Consumed as a percentage of value of Output	69.07%	64.76%	65.98%	66.30%	63.76%	64.91%	63.71%	54.40%	57.00%	59.82%	55.27%	53.68%	53.43%	57.82%	57.86%	63.09%
Net Value Added as a percentage of value of Output	16.58%	21.35%	21.31%	19.80%	21.87%	20.34%	20.66%	23.22%	18.13%	18.00%	22.67%	14.76%	12.52%	14.27%	13.80%	12.27%
28																
Materials Consumed as a percentage of value of Output	52.96%	53.55%	53.71%	53.79%	50.79%	52.12%	53.17%	51.62%	54.06%	53.96%	52.33%	53.86%	54.29%	52.79%	53.08%	56.59%
Net Value Added as a percentage of value of Output	22.02%	21.67%	21.66%	21.48%	24.76%	24.08%	24.18%	22.40%	18.77%	18.51%	18.74%	21.07%	18.28%	19.69%	20.04%	17.85%
29																
Materials Consumed as a percentage of value of Output	74.55%	72.32%	69.21%	68.57%	64.66%	72.13%	71.17%	67.28%	64.19%	66.73%	63.95%	69.51%	68.24%	68.03%	67.55%	71.00%
Net Value Added as a percentage of value of Output	13.74%	15.15%	17.45%	17.48%	21.17%	14.96%	15.29%	12.10%	15.15%	14.82%	16.23%	11.63%	12.64%	11.78%	11.95%	10.97%
30																

Materials Consumed as a percentage of value of Output	58.57%	58.17%	58.57%	55.04%	54.44%	54.86%	54.43%	47.66%	52.43%	NA	51.72%	56.45%	55.65%	55.99%	55.92%	57.19%
Net Value Added as a percentage of value of Output	17.93%	18.36%	17.90%	21.42%	24.25%	23.78%	26.52%	25.05%	19.55%	NA	23.31%	19.19%	19.03%	20.25%	19.89%	20.26%
31																
Materials Consumed as a percentage of value of Output	77.82%	79.16%	75.54%	73.16%	73.88%	74.66%	75.68%	69.44%	75.77%	68.33%	75.10%	81.05%	78.76%	78.37%	77.49%	78.77%
Net Value Added as a percentage of value of Output	13.10%	12.36%	13.78%	16.50%	16.64%	15.74%	15.28%	17.72%	11.23%	13.30%	12.45%	10.55%	9.49%	12.87%	13.97%	12.89%
32																
Materials Consumed as a percentage of value of Output	39.05%	36.90%	35.98%	38.63%	37.55%	36.74%	36.01%	30.72%	34.49%	33.90%	35.75%	36.06%	35.41%	37.42%	37.92%	38.32%
Net Value Added as a percentage of value of Output	20.92%	24.42%	27.02%	20.12%	2.18%	22.64%	26.18%	31.19%	22.07%	18.68%	22.05%	23.66%	23.22%	20.68%	20.02%	23.14%
33																
Materials Consumed as a percentage of value of Output	62.49%	57.05%	63.36%	62.09%	60.51%	58.43%	57.06%	49.57%	51.39%	51.27%	54.13%	55.32%	58.29%	56.34%	57.40%	59.45%
Net Value Added as a percentage of value of Output	15.25%	16.55%	11.33%	13.85%	17.23%	18.56%	18.22%	22.23%	21.20%	20.66%	18.94%	14.46%	12.60%	15.50%	17.65%	20.12%

34																
Materials Consumed as a percentage of value of Output	64.32%	64.01%	62.86%	61.72%	63.81%	60.09%	61.10%	54.39%	58.07%	55.84%	57.51%	56.25%	56.50%	56.44%	57.95%	57.39%
Net Value Added as a percentage of value of Output	20.00%	18.26%	20.18%	18.67%	19.66%	20.54%	21.80%	22.42%	16.76%	18.61%	20.23%	18.55%	18.37%	16.84%	16.58%	15.54%
35 - 36																
Materials Consumed as a percentage of value of Output	63.10%	62.96%	61.72%	62.20%	60.65%	60.54%	61.88%	56.32%	560.46%	54.07%	56.76%	57.94%	57.18%	58.79%	59.15%	57.67%
Net Value Added as a percentage of value of Output	22.64%	22.33%	23.39%	23.27%	23.13%	24.85%	23.26%	23.62%	21.04%	NA	20.26%	19.46%	19.99%	17.50%	18.14%	19.06%
37																
Materials Consumed as a percentage of value of Output	65.71%	64.03%	60.94%	64.19%	64.68%	66.05%	65.01%	61.94%	60.52%	60.97%	63.95%	62.87%	65.40%	66.21%	64.61%	51.69%
Net Value Added as a percentage of value of Output	20.55%	22.74%	23.17%	20.43%	20.57%	19.70%	22.53%	22.38%	20.05%	20.72%	17.89%	17.19%	15.58%	15.21%	17.87%	13.17%
38																
Materials Consumed as a percentage of value of Output	61.15%	63.37%	61.34%	63.50%	54.82%	63.85%	64.17%	59.40%	54.38%	55.86%	62.42%	58.50%	55.77%	57.87%	63.86%	67.84%

Net Value Added as a percentage of value of Output	23.55%	20.41%	24.52%	20.38%	29.18%	21.38%	22.04%	21.70%	21.12%	19.96%	18.89%	19.51%	15.89%	15.02%	14.22%	14.82%

Table – 8

Composition of employment for the garments sector at a 4 digit level for the garments sector for the period 1995 – 96 to 2003 – 04

	1995-96	1996 - 97	1997 - 98	1998 - 99	1999 - 00	2000 - 01	2001 - 2002	2002 - 2003	2003 - 04
Directly Employed as a percentage of total workers	97.96%	94.25%	97.47%	95.46%	94.98%	94.24%	92.98%	93.23%	91.82%
Contractors as a percentage of total workers	2.04%	5.75%	2.83%	4.54%	5.02%	5.76%	7.02%	6.77%	8.18%
Men as a percentage of total directly employed workers	51.72%	32.07%	33.19%	35.41%	33.42%	34.07%	35.42%	36.68%	36.29%
Women as a percentage of total directly employed workers	47.16%	65.93%	65.94%	62.90%	64.76%	63.84%	61.90%	60.66%	60.48%
Workers Salary as a percentage of total Wages	71.31%	69.00%	68.09%	68.56%	68.91%	67.23%	67.55%	68.14%	68.74%
Supervisory and Managerial Staff as a percentage of total Wages	13.97%	26.78%	28.55%	29.78%	26.76%	30.02%	30.73%	29.16%	30.04%

Table - 9						
Aggregate Prowess Results						
Year	Sales	Sales r	Net sales	Total income	Raw material, stores, etc.	Raw material expenses
1990	46.64	42.74	46.59	50.21	31.85	27.52
1991	93.41	73.21	93.33	100.1	60.8	44.96
1992	149.21	120.03	149.09	154.2	92.49	64.01
1993	186.27	156.82	185.75	199.15	120.27	89.85
1994	296.31	250.07	294.22	312.89	188.86	128.73
1995	474.54	374.52	471.4	497.5	304.73	199.5
1996	716.77	598.47	701.93	759.25	457.29	325.77
1997	809.54	674.41	798.05	833.36	498.91	372.45
1998	1243.33	1016.93	1222.51	1272.47	739.24	578.5
1999	1396.3	1121.93	1377.31	1439	859.44	656.64
2000	1746.94	1438.12	1736.91	1820.95	1088.21	820.31
2001	1990.25	1556.69	1976.74	2055.58	1178.85	849.98
2002	2229.41	1905.6	2178.88	2305.95	1337.21	1013.82
2003	2226.59	1879.44	2168.51	2283.21	1236.96	917.67
2004	2855.4	2483.67	2752.36	2906.32	1523.13	1207.95
2005	3406.76	3024.1	3375.75	3522.03	1834.32	1564.65
2006	3880.96	3598.9	3867.82	4064.95	2132.63	1860.49

Year	Expenses stores, spares	Packaging expenses	Purchase of finished goods
1990	1.04	0	3.29
1991	1.54	0	14.3
1992	0.88	0	27.6
1993	1.47	0	28.95
1994	2.3	1.85	55.98
1995	3.01	5.06	97.16
1996	6.55	12.66	112.31
1997	8.82	12.9	104.74
1998	28.61	14.93	117.2
1999	31.5	21.21	150.09
2000	48.35	19.14	200.41
2001	60.3	24.46	244.11
2002	70.71	40.04	212.64
2003	40.54	60.83	217.92
2004	91.68	49.95	173.55
2005	107.44	43.09	119.14
2006	129.11	59.33	83.7

Year	Advertising expenses	Marketing expenses	Distribution expenses	Net exports	Total Forex Earnings
1990	1.66	0.7	0.2	16.16	21.59
1991	1.35	1.77	1.72	42.68	53.48
1992	2.37	2.73	3.74	75.08	80.38
1993	3.58	4.86	3.68	71.4	82.55
1994	6	6.16	6.39	117.19	145.86
1995	8.61	8.69	10.42	182.51	246.63
1996	14.63	21.33	16.92	224.64	316.61
1997	21.56	24.34	19.81	265.97	325.45
1998	22.89	33.81	25.93	435.69	556.52
1999	26.13	46.4	31.53	533.35	660.83
2000	41.78	69.34	37.34	635.79	861.18
2001	47.43	86.75	42.87	803.45	1053.79
2002	68.12	81.47	37.18	777.79	1104.99
2003	73.28	95.36	50.09	705.22	917.32
2004	86.53	118.66	59.82	725.84	982.29
2005	87.47	101.11	59.57	1366.94	2149.66
2006	92.09	107.57	64.55	1744.96	2647.09