

Garments Industry in India: Some Reflections on Size Distribution of Firms

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The context

There has been a significant relocation of global manufacture followed by a restructuring of global trade in the past two decades. It seems that both in respect to the quantum as well as in terms of mode of participation in the global production process the role of developing countries is undergoing change. And this is happening in a world precisely when the growth of manufacturing value added in developed countries shows a virtual stagnation, i.e., growing at a low 1.1 per cent per annum while that for developing countries it is 7 per cent. The share of developed countries in world manufacturing value added declined from 74.3 per cent in 2000 to 69.4 per cent in 2005 (IDR, 2009). The evolving division of labour either through rigid links of global value chains or by way of specialized trade provides greater scope to developing countries in contributing to the world manufacturing output. New-structuralism perhaps explains the stylized fact of U-shaped relation between specialization and per capita income better in a way that provides greater insights to capture the dynamics of rise in the share of developing countries in global manufacture (Imbs and Wacziarg, 2003). The literature suggests, countries need to change their portfolio of exports as they move up the income ladder and only by such changes fast moving low-income countries are increasing their share in global trade.

Garment is one of the many labour-intensive sectors that provide a gateway for developing countries in entering into the global market. It offers important opportunities to countries to start industrializing their economies and in course of time diversify away from commodity dependence. Forty years ago, the industrialized countries dominated global exports in this area. Today, developing countries produce half of the world's textile exports. Moreover, the economic performance of the apparel and textiles industries in developing countries has large impacts on employment opportunities especially for women, the development of small- and medium-sized enterprises (SMEs) and spillovers into the informal sector (UNCTAD, 2004). Textile production is more capital intensive than apparel production and hence developing countries although

account for a smaller share in textile output but account for a larger share in the labour-intensive production of garments.

Outsourcing in the textile and apparel industry began in the late 1950s and 1960s when Western buyers turned to Japan for the procurement of good quality fabric and textiles at low costs (Amsden, 2001). Later, the motivation of outsourcing to developing countries was not driven by cost considerations alone rather it followed as a response to change in the structure of demand as well. The demand for goods shifted against standardized products more towards customized goods produced in smaller batches and in multiple styles with greater demands for product variety and flexibility and hence giving rise to fragmented markets. With increased volatility in the market producers in developed countries sought for low-skill segments and imports of intermediate inputs in the textile and apparel sectors increased dramatically between the late 1970s and 1980s (Tewari 2006, Feenstra 1998). On the other hand owing to improvement in communication technology and the consequent reduction in transaction costs, possibilities increased to coordinate production across the globe and by way of which reduce costs of inventory. The importance of strict delivery time increased in sourcing and that in a way gave rise to 'lean retailing' where retailers minimize the risks of inventory in volatile and uncertain markets by replenishing items on their shelves in very short cycles.

Garments industry in India is mostly de-linked from the global value chain although significant share of the production is meant for exports. Firms produce garments which cater to various layers of the global market but hardly there are any firms involved in jobs linked to a global production process. This fact assumes importance in the context of size distribution of firms because of the following reasons: a) Linking with the global value chain creates possibilities for firms in reaping benefits of scale economies although they might be involved in a simple piece of work; b) Multiple layers of job workers integrated to global value chains largely influences and conditions the nature of subcontracting as well as the quality of the product. This has its obvious impacts on the production organisation and competitiveness that follows.

Garment industry worldwide is also undergoing significant restructuring since the final phase-out of the Multi-fibre Arrangement (MFA) on January 1, 2005. The changes are taking place in terms of relocating production sites on the one hand and coping with the new competition on the other. India has only recently emerged as a major exporter of apparel on a global scale although

account for very little FDI in the apparel sector compared to China, Mexico and Bangladesh. India ranks sixth after China, EU, Hong Kong, Turkey and Bangladesh in terms of value of exports. Textile and apparel sector in India accounts for 14 per cent of total industrial production and employs around 6 million people directly or indirectly. In this context the paper tries to look into the status of garment industries in India and see how the assumed release of constraints in demand both through liberalization in domestic trade policies and by phasing out of multi-fibre agreement has impacted upon the growth and size distribution of firms in the sector.

The study is primarily focused on two field surveys: one in Tirupur, Tamil Nadu and the other national capital region including Delhi, Noida, Gurgaon and Manesar. Besides looking into the secondary data the paper tries to locate the response of small and medium garment firms in a dynamic perspective that is how the evolving responses of individual firms are embedded in the production organization, labour processes and institutional arrangements related to respective industrial sites. The following section describes the broad trends in output employment and exports of garments in India and aims to situate those in the context of world trade in garments.

I. Garment Sector in India

In 2007 the world apparel market was worth 345 billion US \$ and during the last decade the market grew at an average of 8 per cent per annum. Moreover according to NSS Report on Household Consumption of Various Goods and Services in India, 2007 between 1993-94 and 2004-05, the proportion of households purchasing readymade garments has increased in both rural and urban areas by about 75 per cent, while the proportion purchasing hosiery articles shows a three-fold increase. Apparel Export Promotion Council (AEPC) estimated that in value terms, the size of the Indian textile market was Rs. 1692952 million in 2007 recording a growth of 8.81 per cent.

Table 1 shows the distribution of gross value added (GVA) and employment in garments industry by selected size class of employment in eight major garment producing states as well as in India. The data shows that 80.2 per cent of the GVA in garments industry in India originates in ASI sector and 65.6 per cent from firms employing more than 100 workers. West Bengal appears to be the significant outlier among the eight states in which 90.2 per cent of the GVA is generated from the DME segment. Table 2 shows the distribution of employment in garment industry by size classes of

employment. Three southern states, Andhra Pradesh, Karnataka and Tamil Nadu recorded very high share of employment in the ASI sector while in the case of West Bengal, Maharashtra and Punjab the larger share of employment is recorded in the DME segment of the industry.

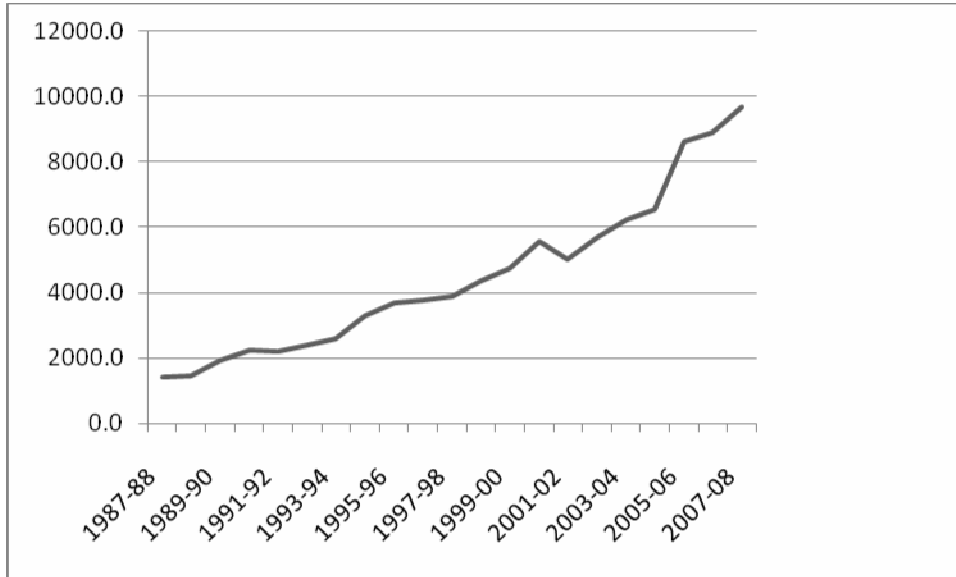
Table 1: Distribution of GVA and Employment across the Selected Size Class of Employment in Garment Industry (code 18101) for ASI 2004–5 and DME 2005–6.

State	Distribution of GVA						Distribution of Employment				
	(1–9)	(10–49)	(1000–above)	>100	ASI Total	DME	(1–9)	(10–49)	(1000–above)	ASI Total	DME
Punjab	0.45	8.22	-	68.01	76.68	23.32	0.34	4.01	-	31.23	68.77
Uttar Pradesh	1.57	14.99	6.36	55.68	94.43	5.57	0.33	8.58	9.11	75.67	24.33
West Bengal	0.16	5.33	-	4.29	9.78	90.22	0.07	1.16	-	1.57	98.43
Gujarat	0.12	6.54	-	66.71	75.68	24.32	0.09	5.40	-	49.29	50.71
Maharashtra	2.86	26.58	-	29.06	67.37	32.63	0.93	10.93	-	26.16	73.84
Andhra Pradesh	(0.01)	2.00	44.69	91.55	100.00	-	0.17	7.65	31.43	100.00	-
Karnataka	0.16	2.32	15.75	93.28	99.78	0.22	0.03	1.91	28.19	99.11	0.89
Tamil Nadu	0.19	20.35	31.81	65.49	96.93	3.07	0.11	3.99	26.66	90.83	9.17
Total	0.84	13.04	14.50	66.27	88.88	11.12	0.23	4.53	17.82	71.80	28.20
India	0.40	6.32	21.51	65.65	80.18	19.82	0.18	3.98	16.81	63.75	36.25

Source: NSSO

India's exports of readymade garments (RMG) accounted for US\$7853.85 million for the period January – September 2008 with an increase of 10.72 per cent compared to the same period in previous year. During the month of September 2008, RMG exports accounted for US\$706.54 million with a slight increase of 0.82 per cent for the same month in the previous year. Figure 1 shows that exports of RMG increased continuously over the years. However if we consider growth of garments exports it is found that there had been considerable fluctuations both in rupee and dollar terms and growth shows opposite trends in years such as 1991/92 and 2007/08 because of exchange rate fluctuations (Figure 2).

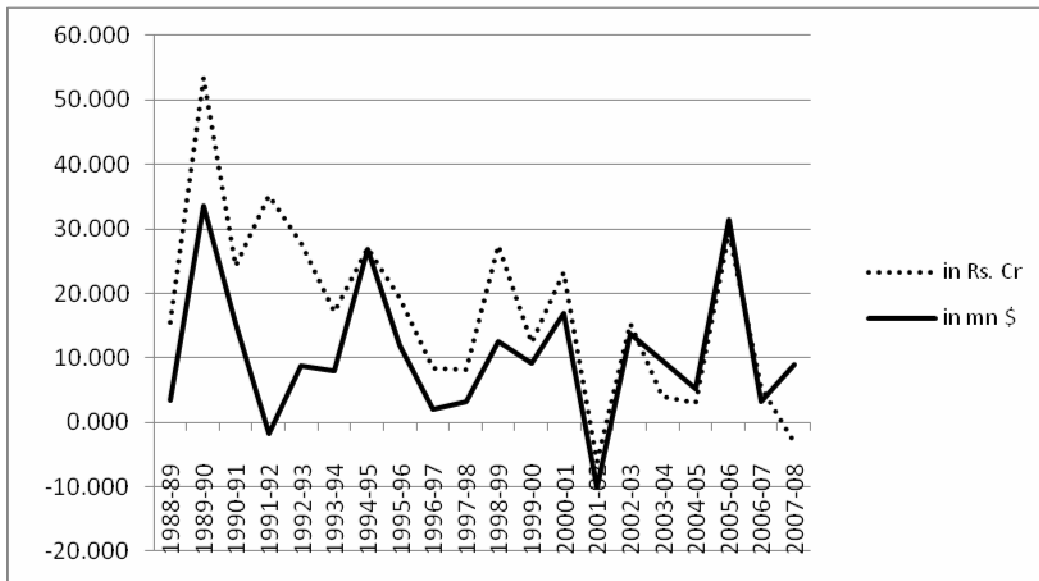
Figure 1 Exports of Readymade Garments in million US \$



Source: Computed from RBI Handbook

In any case the high levels of fluctuations in growth reveal high volatility in the market for garments. On the other hand Figure 3 shows that the share of garments in total exports has declined over the years although the share in that of the textile groups remained more or less same despite significant fall in the year 1998/1999.

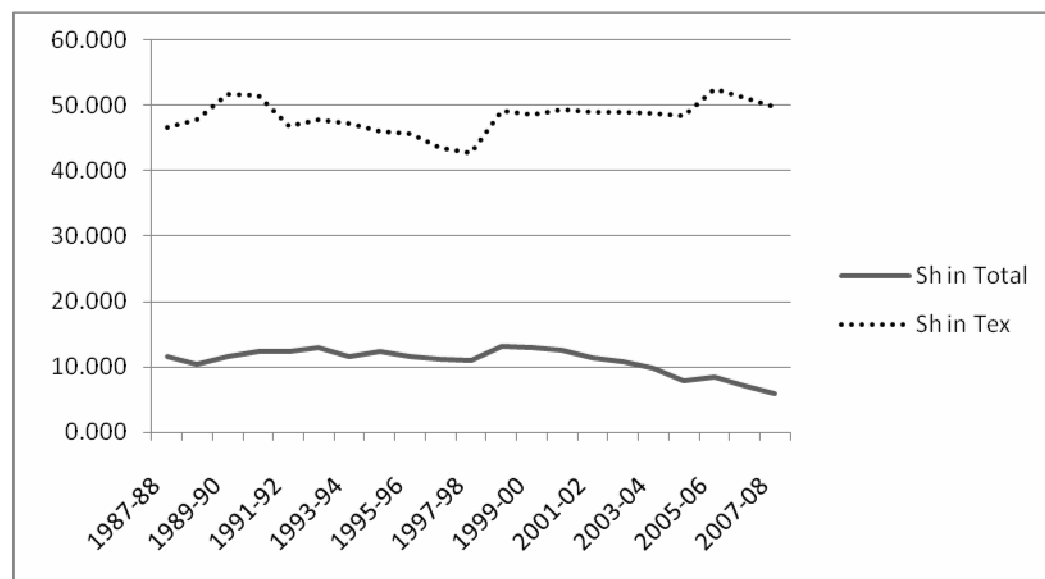
Figure 2 Growth of Exports of readymade garments in Rs. Cr and in million US \$



Source: same as Figure 1

However whether this change is driven by temporary shocks because of the financial crisis or driven by long term changes in the structure of exports is too early to comment upon. In the case of garments the share in total exports declined from 11.6 per cent in 1987/88 to 5.9 in 2007/08 and the fall in the share had been quite consistent since 2000/01 (Figure 3).

Figure 3 Share of Garments in Total Exports and in Exports of Textile Group



Source: same as Figure 1

As regards export from India, USA accounts for 30.54 per cent of the total garments and separately in exports of knitwear and woven garments the share of USA is 29.84 and 31.07 respectively (Table 4).

Table 4: Trends and Composition of India's Export of RMG in 2007 and 2008 (Top 5 countries)

	% Share in Different Types of			RMG Exports		Knit-apparel Exports		Woven-apparel	
	All	Knit	Woven	Sept	Sept	Sept	Sept	Sept	Exports
World	100	100	100	700.83	706.54	319.46	315.52	381.37	391.03
USA	30.54	29.84	31.07	207.52	197.68	101.78	97.16	105.74	100.52
UK	12	10.78	12.95	97.82	77.64	48.3	32.67	49.52	44.97
Germany	8.31	11.05	6.22	56.88	51.01	36.62	29.78	20.26	21.22
France	7.26	8.27	6.48	29.22	32.91	16.07	17.34	13.15	15.57
UAE	6.79	5.69	7.63	62.05	82.98	19.21	30.49	42.84	52.49

Source: AEPC

Table 5 shows the share of top six selected countries in US imports of garments. China records the highest share of 32.03 per cent followed by Vietnam, Indonesia, Mexico and Bangladesh. The share of India in US imports accounts for 4.3 per cent. During the period 2007/08 and

2008/09 there had been a decline in US imports of apparel showing a percentage change of (-) 6.97 and (-) 3.18 respectively. Despite the fact that there had been global recession, during this period China Vietnam and Bangladesh registered a positive growth in their exports of garments to US, while India, Mexico and Indonesia recorded a decline.

According to International Trade Administration, Department of Commerce, US out of the 25 categories of cotton garments sourced from India by the US, 14 shows a positive growth during the period 2008 and 2009 while import of the rest 11 categories declined during the same period. The largest decline being in the case of Cotton Sweater (345) and the highest increase in imports happened to be in the case of Cotton Skirts (342). As shown in the figure of year ending 7/2009 the following items records a larger share: Cotton Dresses (336); W/G N-Knit Blouse (341); Cotton Skirts (342); Pillowcase (360); Cotton Sheets (361); Pile Towels (363) and Other Cotton Manufactures (369). A comparison of the present product coverage of India and China in one of the biggest global market, the USA shows that of the 104 apparel items imported by USA, China has presence in 102 items, i.e. 98 per cent of the import basket of USA, while India supplies around 66 items, i.e. 63 per cent of the market.

Table 5: Import of Apparel by US from Ten Selected Countries (Value in million US\$)

	2007	2008	% Share in US Import	Year ending 2008	Year Ending 2009	% Change in 2007/08	% Change in 2008/09
World	73,923	71,568	100	72,534	67,480	-7.0	-3.2
China	22,745	22,923	32.0	22,161	23,275	5.0	0.8
Vietnam	4,359	5,223	7.3	4,831	5,222	8.1	19.9
Indonesia	3,981	4,028	5.6	3,997	3,955	-1.1	1.2
Mexico	4,523	4,015	5.6	4,262	3,636	-14.7	-11.3
Bangladesh	3,103	3,442	4.8	3,206	3,559	11.0	10.9
India	3,170	3,073	4.3	3,134	2,923	-6.7	-3.1

Source: International Trade Administration, Department of Commerce, US

Table 6 shows the trends in imports of readymade garments from EU. During the year 2008, EU's import of RMG accounted for 109.82 billion Euros with an increase of 1.26 per cent from the previous year. In 2008 China, Bangladesh & India were the top three apparel supplier countries to EU. However the share varied to a large extent viz. China accounting for the largest share 22.97 per cent followed by India with a share of 3.55 per cent. During the period 2008/09 in EU's import of garments China & Bangladesh recorded high growth rate of 36.33 & 8.74 per

cent respectively. On the other hand India and Indonesia saw a decline of 0.49 per cent and 4.06 per cent respectively. In 2008, India's share in EU's import of woven apparel accounted for 3.46 per cent while that of China still records the highest share of 24.72 per cent.

The share of China in world imports increased over the years and this is sometimes explained by the low relative wage in China. But this argument is only partial and ignores the fact that besides low wages, China has increased capacities over the years by huge investments in technology and not only increased the scale of operation but the scale increased along with increased flexibility in production organization. This perhaps explains the fact that despite the wages in garments sector in China is almost 3 to 4 times higher than that in Bangladesh China emerges as the major exporter among the developing countries group (Figure 4). Hence it would be too simplistic to argue that the only source of comparative advantage that China derives over other exporting countries flows from the low wages. Rather for all developing countries what could be a sustainable strategy to remain buoyant in the world market is to increase the portfolio of export goods and move up the value chain such that production does not remain confined in the low-wage-low-skill segment.

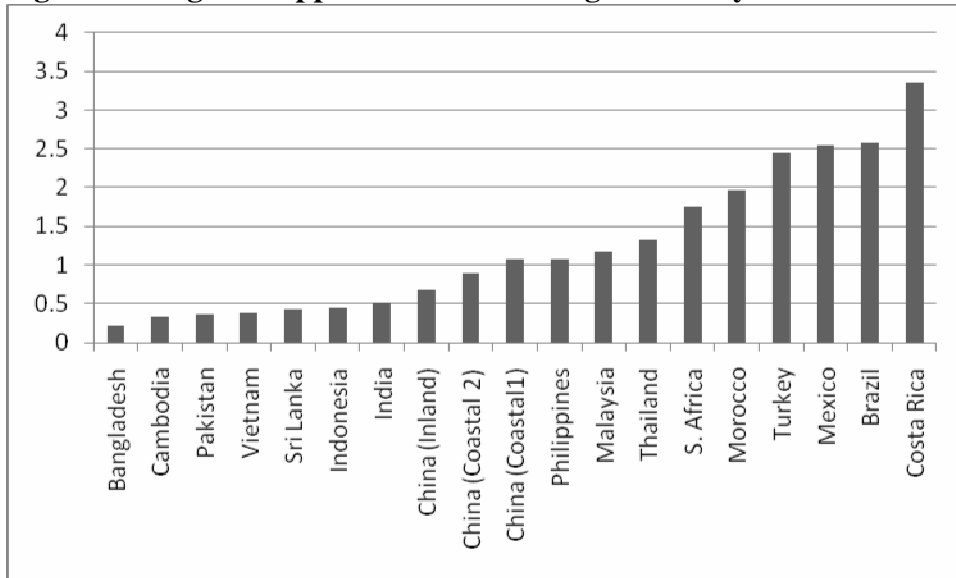
Table 6 Import of RMG from European Union during the Period 2007 to 2009 (value in Euro millions)

PARTNER/PERIOD	Total Imports		Percentage Share Year 2008	% Change in Imports 2008/2007	Jan-08	Jan-09	% Change
	2007	2008					January 2008 to
							Jan-09
EU Total	108,452	109,820	100	1.26	9,769	10,127	3.7
EU27 Extra	58,036	59,321	54.0	2.2	5,487	5,891	7.4
EU27 Intra	50,416	50,499	46.0	0.2	4,282	4,236	-1.1
Bangladesh	4,404	4,729	4.3	7.4	409	445	8.7
China	21,860	25,227	23.0	15.4	2,132	2,906	36.3
Indonesia	1,196	1,122	1.0	-6.1	108	104	-4.1
India	3,833	3,895	3.6	1.6	376	374	-0.5

Source: AEPC

In the context of this larger canvass of garments industry in India we introduce two clusters of small and medium enterprises engaged in the production and exports of garments in the following section. The sections those follow discuss the issues of production organization and labour processes in the two clusters namely Tirupur and NCR. Issues related to size distribution

Figure 4: Wages in Apparel Manufacturing in 2008 by selected countries (US\$/ Hr.)



Source: computed from [http:// www. emergingtextiles.com](http://www.emergingtextiles.com)

of firms are in a way subsumed in the nature of the production relations and labour processes those evolve in the clusters. Possibilities of subcontracting and reliability in terms quality largely defines the way firms would respond to changing demands. In the final section we draw some implications in regard to policies analyzing the trends in a comparative framework.

II. Tirupur and NCR: An overview

Tirupur Cluster

Tirupur emerged as a small industrial town in erstwhile Coimbatore district in Tamil Nadu producing knitwear garments and a vibrant centre of activities related to knitwear. The town is 50 kms east of Coimbatore and located in the middle of the cotton belt in Tamil Nadu. As a result the region historically had high concentration of ginning, weaving and spinning mills and had long been a thriving centre of sale and processing of raw cotton (Sreenivasan, 1984). The price of seed cotton for the state is fixed at Tirupur exchange only. The first knitwear unit in the town came up in the year 1925 and growth was incremental till 1930s. Strikes in knitting factories located in neighbouring towns of Salem and Madurai resulted in relocating firms at Tirupur. However, all these firms were composite mills, very different from what we find at present, a web of subcontracting relations between large, medium and small firms. The evolving

of Tirupur as the 'T-shirt' town in India, high growth in output and employment, investments in technology and so on was never a result of a smooth continuous process rather there has been sharp rise in the growth of the cluster once it had been linked to the global market. The cluster was primarily confined to the domestic market producing simple white inner garments till the late 1970s. Export started in 1978, when Verona a garment importer from Italy came through dealers operating in Bombay to Tirupur in order to source white T-shirts. Gradually, importers from Europe recognized the potential of Tirupur and there was a surge in exports.

The growth of the cluster was very much influenced by government's intervention in promoting exports during the quota regime. Providing cheap credits from public sector banks for technology and infrastructural development helped small firms to grow and produce according to international demand. The cluster produces gents T-shirts, sweat shirts, track suits, sportswear, ladies and children wear, undergarments, embellishments and embroidery items. There are 1500 knitting units; 700 units related to dyeing and bleaching; 500 units involved in fabric printing; 300 units are involved in compacting and calendaring; 2500 units are assembling the final product and these are the exporters; around 250 units linked to embroidery activities and another 500 units deal in other accessories. There are small number of units in Tirupur employing less than 50 workers and the median size in terms of employment are those employing 50 to 100 workers. In the aggregate 30 to 35 per cent of the produce of Tirupur are fashion garments and the rest can be considered as basic garments.

According to Tirupur Exporters' Association (TEA) 55 per cent of the exports from Tirupur goes to EU, 35 per cent to US and the rest 10 per cent to Middle East, South America and Australia. Most of the leading international brands such as Nike, Cutter & Buck, Adidas, GAP, Tommy Hilfigure, Katzenberg, Vanhussain, Fila, Arrow and leading retail chain stores such as C&A, Wal Mart, Target, Mothers Care, H&M source garments regularly from Tirupur. Jerseys for last FIFA World Cup Football were also sourced from Tirupur. The share of fashion garments in the aggregate sale is gradually on the rise although the larger share in the case of Tirupur is still the basic garments with an average realisation price in the range of \$ 1.75 to 4 per garment as against a fashion garment that might be sold at \$ 15 to 30 per garment depending upon the work involved. Besides quality of the fabric value addition largely depends on the embroidery work involved in the garment.

Table 7 shows the growth of output in Tirupur since mid-1990s to 2004, a smooth upward trend in export share over the years. Since the phasing out of import quotas from 1st. January, 2005 firms in Tirupur are no longer having advantages of reserved market. It seems that knitwear exporters in Tirupur by the time has gained capabilities in competing in the global market and despite withdrawal of quotas Tirupur exported garments of Rs. 11,000 crores in 2006-07, the figure was only Rs. 10 crores in 1984. Most of the garment producers or exporters generally confine to stages such as cutting stitching and finishing activities and get the prior stages done by specialized firms. The first stage can be termed as fabrication or knitting. The kind of knitting required depends on the design of the garment and that also determine the appropriate machine to be used.

Table 7: Share of Tirupur in Total Output of Garments in Quantity and Value

Year	Total Garment Produced Qty. India (In lac pcs)	Total Knit-Garment Produced Qty. India (In lac pcs)	Total Garment Produced Qty. Tirupur (In Rs. crore)	Total Knit-Garment Produced Qty. Tirupur (In Rs. crore)	Share of Tirupur in Knit-garments (output)	Share of Tirupur in knit-garment , (value)
1996	11,847	5,377	2,574	2,574	47.87	38.16
1997	13,014	6,324	2,983	2,943	46.54	37.81
1998	13,377	6,820	3,461	3,385	49.63	37.79
1999	14,044	7,584	3,764	3,680	48.52	48.49
2000	15,048	8,227	4,243	4,104	49.88	37.30
2001	12,643	7,186	3,831	3,724	51.82	40.30
2002	12,316	8,527	3,555	3,448	40.44	41.78
2003	12,425	8,787	3,804	3,704	42.15	43.61
2004	12,814	7,376	4,098	4,004	54.28	45.79

Source: AEPC, Tirupur

Summer garments are usually fabricated by single jersey machines and winter garments by double jersey knitting machines. Then depending on the length of the fabric required and yarn counts applied machines of different diameters and gauges are used. Hence, what is important is that a large variety of machines with various specifications should be available to produce various types of knitwear garments. This requirement itself creates the possibility of a large array of subcontracting relationship between firms where garment producers outsource the knitting activity to different knitting units in order to get the fabric done according to the specific requirement. The knitted fabric is then sent to processing units which include operations such as mercerization, dyeing and compacting. Dyeing can be of two types, yarn dyeing and fabric dyeing and the number of firms involved in the first kind is less than those in the latter. A related

processing activity is compacting that includes drying or dehydrating, raising, stone washing, and calendaring. These processes are related to curing the fabric in a way such that shrinking can be kept to a tolerable limit. The printing job in Tirupur mostly depend upon manually operated or in some cases semi-automatic machines. Compared to other segments of operation, printing operation is less developed. In the last few years several printing firms have procured modern automated machines. But hardly one-fifth of all printing firms have automated machines. At present the start up cost of automated printing factory is Rs. 2-3 crores.

The participation of the exporting firm in the production process is not in any case fixed. There are large exporting units having their own knitting and processing units but such integrated units are few in number. Otherwise final stages are managed and closely monitored in a well structured assembly line in an exporting unit. Checking is done in each of the stages such as knitting, printing and so on but these are done by the units involved in the respective conversion job. In the final stage the exporter ensures that the quality of the good, look and cleanliness is maintained according to the specification of the buyer and finally delivered at a stipulated time.

NCR Cluster

Since mid-eighties National Capital Region that includes Delhi, Noida and Gurgaon has emerged as the major site for production and exports of readymade garments. In NCR there is not much variation in size categories in garment units and this is primarily because firms were set up at plots having stipulated size defined by the respective state governments. Production of garments in NCR includes a process of arranging raw materials and intermediate products from different parts of the country and rendering the core activities such as cutting, stitching and finishing in-house. The knit fabric used by firms in NCR come from Ludhiana, yarn-dyed fabrics are sourced from Chennai while cotton cloth are produced at Delhi. Dyeing and printing jobs are largely done by firms located at Sahibabad and Faridabad and sometimes firms get polyester printing done from specialized units located at Ahmedabad and Surat. Printing of tags, stickers and barcodes required for garments are also produced in the same cluster and there are some specialized embroidery units doing job work for the garments unit located nearby. Firms in Delhi, Noida and Gurgaon mostly produce ladies' and kids' woven garments. However, production of knitwear garments is on the rise because of the general trend throughout the world.

The use of knitwears increased, firstly, because of changes in climate and extended summer due to global warming and, secondly, because of cultural change that allows a shift towards casual wears. On the other side, one may find in Noida and Gurgaon a few firms specializing in the production of home furnishing, the demand for which has increased in European countries over the years.

The garment units in NCR region are largely concentrated at Noida Sector 6, 10, 57, 58, 59 and Hosiery Complex at Noida Phase-II; Udyog Bihar Phase I to VI in Gurgaon and Manesar. Firms in NCR are largely exporting units those came up during the period 2000-2003. These are firms either relocated from Delhi, new start-ups or extended and multiple plant of an existing unit. In NCR one can easily find several cases where the single owner owns 3 to 8 similar sized firms located in the same area as separate legal entities. This is perhaps also the reason why the firms did not grow in terms of employment and output over the years. Because of restrictions on floor space, the expansion of firms got manifested in horizontal expansion through multiple firms rather than vertical integration reflected through expansion in size. Firms reported employment of 250 to 450 workers on an average although there are firms of larger size employing 1500 to 6000 workers considering all its subsidiaries. There are a few firms engaged in both export and producing or doing job work for the domestic market.

In NCR garments produced for both domestic and export markets are of low and high fashion intensities. The cost of production of an average garment to be sold in the domestic market turns out to be around Rs. 550 per unit including labour cost of Rs.135 to Rs.160 and the average realization price of that garment would be in the range of Rs. 895 to Rs. 1495. The average realization price of a garment to be exported is of the range \$5 to \$15 per unit. These estimates are, of course, crude averages and do not capture the variations in fashion intensity in the cluster. High fashioned garments usually fetch high economic rents and many of the firms try to create a niche in fashion designing. Exporters purchase goods through their buying agents located in source country and these agents mediate between producers and purchasers to strike out a low supply price. For average products even importers are quite aware of the cost of production of a standardized good but for high fashioned goods it is not easy to guess the actual cost of production. This helps producers to earn windfall gains in specialized products.

Garments produced in NCR are sold to brands such as Stopper, Pantaloons, Rituwear, Lifestyle, Shapes, H&M, TNG, GAP, Diesel, Adidas and so on. Firms are competing with those producers located in low wage countries such as Bangladesh, Cambodia, Vietnam, Sri Lanka, Pakistan and Indonesia. Most of the firms sell their products either to USA or to European countries. In the case of orders from USA there would generally be bulk orders of more standardized designs, while European purchasers usually give orders in relatively smaller batches and with varying designs.

III. Production organization

Tirupur can be easily identified to the notion of industrial cluster that typifies an organic relationship between firms both horizontally and vertically is because of the fact of the dense network of production organization that exists within the region. The production of garments in the cluster is segmented into separate modules and firms participate in different portions of the value chain. Everywhere in the small town one can easily notice how activities revolve around the production and sale of knitwear garments. There are a large number of suppliers selling different grades of yarn and these yarns are procured by producers to initiate the production process. Most of the garment producers or exporters generally confine to stages such as cutting stitching and finishing activities and get the prior stages done by specialized firms. The production organization in Tirupur includes wide variety of subcontracting or outsourcing relationship between firms. The job-working as it is often referred to might be of three different types:

- a. The production process is segmented in several parts such as knitting, dyeing, processing, printing and so on and then outsourced to units those are specialized for such activities. This may be termed as outsourcing or out-contracting in which case the exporter who coordinates the production process assign specific jobs to relatively smaller specialized units.
- b. The second version can be termed as in-contracting which is separating parts of the production process those performed by separated dedicated sections of the same unit but run semi-autonomously by respective managers. This happens in larger units where there is fairly high level of integration. This is possibly another way of manoeuvring books of

accounts in such a way to show the sections of the same unit as independent SSI units and thus avail advantages there from.

- c. In some cases the bigger firms integrate the production process for the sake of their control over the production. But in such situations the capacities created in different sections especially knitting and processing may not be exhausted by the production of the firm alone. Hence the exporting firm besides doing jobs for their own garments work for others as job-work in order to utilize the installed capacity.

The subcontracting networks in various forms help both the bigger and smaller firms as follows. First, the larger firms can avoid large investments required for integrated arrangements. In order to attain control over the production in view of maintaining the strict time frames as well as stipulated quality standards it is not always necessary to depend on vertically integrated firms. Out-contracting has evolved in such a way in Tirupur that it can easily deliver the advantages of integrated units. In most of the cases the owners of job-working units and those of the exporting firms belong to the same caste and kinship that in a way help developing a trust upon which they can mutually rely upon. In addition to that it is very difficult to build up capacities for different types of garments. This is precisely because only for the knitting section one would require large variations of machines to cater to different types of fabrics and therefore high chances of unutilized capacity remain depending on the variations in demand. In any case in garments ideal capacity utilization is around 75 per cent and in case of a fully integrated unit it is very difficult to attain such capacity utilization in all operations in a uniform manner.

Second, for the smaller firms the cost of entry to the industry declines because of the availability of subcontracting jobs. In many of the printing units and in some knitting units we found the owners themselves or their parents used to be workers in a garment unit. Entry to ownership starts from job-working and graduates to successful exporters in many of the cases. On the other hand since no job-worker is linked to a single parent firm rather works for a number of exporters the dependence is not much exploitative as it generally happens to be when there are few buyers and large number of sellers.

Finally, these relationships provide ample scope for flexibility in the production process and the cluster could not have to depend on rigid standardized production lines which suits well for mass

production. At the same time it helps managing a large number of workers in a decentralized manner and get rid of the liabilities and responsibilities attached to large employment. Hence in some sense, it also helps reducing the costs of production through outsourcing a mode widely practiced in other industries as well.

In contrast to Tirupur the agglomeration in NCR although appears somewhat like an industrial cluster in the conventional sense of the term but actually it has little resemblance to what an industrial cluster really means. Indeed the geographical concentration helps sharing the physical infrastructure that had been created in a planned manner but that is true also for other firms involved in producing engineering goods, ceramics computer software or hard ware and located in these areas. The industrial site was developed keeping in mind the notion of industrial estate which accommodates firms of various sectors in one place providing adequate physical infrastructures such as roads, power and water supply. However the dynamics of industrial cluster is rooted in collective efficiency which presumes a dense network of production organization within firms. In this connection one can easily find that in case of NCR in terms of production linkages firms are more or less similar to stand-alone firms those basically share some common facilities created for the industrial estate. Production of garments is organized in the following phases: First, samples are produced by firms and the approved designs are set for production. Patterns of those designs are made by computerized machines and then layers of fabric are made and cut according to the design. Tailors with imported sewing machines do the required tailoring job thereafter and this phase may involve a number of sub-phases. There is a lot of supervision involved in this phase where the master tailors look after the sewing job. Then there is a phase of thread cutting and trimming which makes the garment smooth and reduces extra threads. The produced garments are then compacted through ironing and undergo checking and alteration, if required. The final product is then packed and made ready for delivery.

In most of the exporting units in NCR the production process is organized in an assembly line that is, the production of the whole garment is broken up to a number of phases and detailed sub-phases in which several categories of labour are employed. The length of the assembly line in terms of activities involved is somehow directly related to the number of machines involved as well as the complexity of the garment produced. The length of the production chain varies from those involving 12 to 13 people to that in large factories especially those involved in making

trousers the assembly line might be involving around 100 to 140 people. The increased division of labour although increases the productivity of labour but this also depends on the size of orders of specific designs. If the orders of specific designs are small relative to the production chain or the length of the assembly line optimal productivity of the labour would not be reached. This also possibly explains the fact why labour productivity in firms producing for the domestic market is relatively low compared to those in exporting units. The domestic market is much more fragmented in that way and batch sizes are relatively small compared to export orders. This also has its obvious impact upon size variation between exporting firms and those producing for the domestic market. The reason behind why most of the large and medium scale firms are engaged in exports and not so much inclined to produce for the domestic market is manifold. First, in case of exports the producer does not have to set up its own marketing arrangement to sell the products and can realize the value of products by the single act of delivery to the exporting agent. Second the circulation time in export market is relatively less than that in the domestic market. Third, the payment is relatively more secured in exports than that from multiple buyers in the domestic market. Hence the peculiar absence of large producers of garments in NCR selling for the domestic market is a result more of an institutional failure than that of market.

The labour intensity of garment production being high, the share of wages in total cost of production has been the major consideration if not the defining factor in choosing the place of production. Wage difference between Delhi Gurgaon and Noida and places in neighbouring states does not make much difference. But the price of land is increasing much faster, pushing up the rents for factory spaces in places in NCR that possibly tend to eat out the little margin attained in periods of recession. The other issue that becomes important is specific tax and other reliefs provided by respective state governments in order to attract new industries. In response to those policies garment units are relocated to spaces where cost of infrastructure turns out to be low giving rise to net benefits in business. On the other side, in the case of garment production, commissioning of a new unit takes relatively less time—often even less than a month to shift from one place to another given the fact that factory sites are occupied on rent. Earlier garment units were relocated from Delhi to Gurgaon and Noida primarily because of civic regulations but later on there has been a growing trend to set up industries in Manesar, Sonapat, Panipat, Jaipur, Bhiwandi and even in Bangladesh. These shifts are mainly driven by the purpose of reducing

labour cost and the costs related to infrastructure. Besides these factors many of the producers having units in Dehli and Gurgaon purchased factories in Manesar that they got at a very low price and intended to extend their production capacity in booming times during 2000 to 2003. The excess capacity created can only be properly utilized when there would be a large demand for exports. Otherwise even the full capacity is not utilized; the owners do not really bother since they treat it as an investment in assets that are expected to give high returns in future. Indeed the impact of global recession had hardly hit the garments industry but the effects are interestingly unevenly distributed. Since firms in Manesar are mostly extensions of firms in Gurgaon and Delhi and the site basically hosts the second or third unit of the core firm, these are the very firms which had to bear the effect of declining demand in the first instance. This precisely explains the fact that the effect of recession is much more intensive and visible in Manesar compared to Delhi, Noida or Gurgaon. One can see the dismal picture in and around Manesar where factories, one after another, have been shut down and the large numbers of fabricating units related to such parent firms have also been closed.

IV. Labour Processes

Tirupur garments cluster employs large number of workers who migrate from 18 southern districts of Tamil Nadu and Kerala. In the recent past workers from other parts of India, viz. U.P. Bihar, Orissa, Manipur, Nagaland and also from Nepal used to come and work in Tirupur. Women workers are employed in large numbers in exporting units involving them in stitching, folding, checking and packaging jobs. In the knitting and embroidery workshops the share of female workers is less but in a large number of firms they do the checking job. There use to be four basic occupational grades in every unit in Tirupur, viz., helper, machine operator, supervisor and foreman. Vertical mobility is higher in knitting units but workers also choose to shift from working in knitting to dyeing and printing units because knitting job requires relatively hard work. Right to association and other trade union rights, though legally exists but at the enterprise level there is no trade union in Tirupur. However, at the district level at least at the wage negotiation process trade unions use to play a significant role. In regard to benefits, ESI facilities and Provident Fund are provided to a core segment of workers and these facilities are available to not more than 20 per cent of the total workforce. In record shifts are always mentioned as eight hours of work but in actual terms normally it is twelve hours, that is one-and-a-half shift

and beyond that although overtime is paid but it is not double wages as stipulated by labour laws. Payment of wages is generally on a weekly basis and in most of the units, as stated by owners' representatives, it is paid on the basis of minimum wages as declared by the government of Tamil Nadu. However, this is only partially true because there used to be a complex procedure of maintaining records of wages and benefits received by the workers and in most of the cases it is doctored according to the legal liabilities binding upon.

Many employers reported a shortage of labour perceived in recent times, the possible reasons of such shortage of labour might be the following:

a. After the implementation of NREGA and provisioning of rice at Rs.2 per Kg (a special programme run by the Tamil Nadu government) the opportunity cost of working as a migrant worker in garment units have increased and this may have also impacted upon the supply of workers;

b. There are seasonal factors related to agricultural production those influence the employment pattern in Tirupur.

c. Because of appreciation in rupee the export units are hardly hit and also because of the financial crisis in US and Europe both owners and workers anticipated a decline in orders in the near future. This prompted a section of workers not to return back from their villages apprehending decline in job opportunities.

d. Finally over the years there has been a surge of investment in technology in Tirupur. Owners are interested in investing in machines while employing labour at a low wage and that seems to be compatible with the deskilling process. However because of increased opportunities of work even for the unskilled workers, the claim of wages to which they can agree upon to work has increased reflecting in a shortage of labour in the going wage rate.

There is at present much talk on social auditing in Tirupur exporting firms. Since the opening of the market in the 1980s and the phasing out of the Multi-Fibre Arrangement (MFA) between 1995 and 2005, there has been a surge of subcontracting relation across the globe in textile and garment industries that has radically drawn in severe price competition across the globe. On the other hand there has been increasing concern on labour standards in source countries especially from the global buyers and international retail chains. Indeed, because of this external pressure use of child labour has been totally stopped in exporting units if not also in subcontracting

workshops, nonetheless this process of social auditing in any case has raised the entry barrier in export activities in the cluster. This is precisely because compliance of generic codes involves investments in additional physical infrastructures such as canteen, hostels, crèche and so on as well as in detailed documentation and administrative costs. Second, these issues become more important in the negotiation with the buyer even after required level of quality has been achieved that is in a sense these provide additional leverage to external buyers in negotiation. Moreover none of these costs are borne by the buyer hence in a way the exporters are facing a market that demands low supply price but higher compliance to labour standards. The outcome however is something different. Notwithstanding the fact that the use of child labour has declined if not completely stopped in the cluster because of the fear of third party auditing, and at least in the very few big exporting units the labour norms are more or less maintained, compliance of these standards has little impact upon the overall labour market of the cluster.

Most of the subcontracting workshops are actually out of the ambit of social auditing and hence flouting the labour laws has nothing to do with getting orders from the parent firm. And because for most of the exporters all the initial phase of knitting, dyeing, compacting as well as printing are outsourced these laws hardly affects the majority of the labour force. On the contrary, in order to accommodate the additional margin of cost on social auditing and given the fact that the seller is virtually operating in a buyers' market there is always a tendency to reduce labour cost, even though the share of which has declined in the total cost of production gradually over the years. In this view and also because of the paucity of land there are two kinds of responses on the side of the big exporters. Some are now situating their new plants in places far away from the town where they get easy access to workers from nearby villages. In others employers provide hostels for workers who are long distance migrants and women workers. This provisioning of accommodation is also done in dyeing and processing units because the process of production is a continuous one and once the boiler is heated to produce steam several operations need to be done in one go and that requires an uninterrupted supply of labour. Hence what is implicit in these facts and what one can easily guess visiting the units that regulation on working hours, scheduled overtimes and so on are although maintained in books it has little relevance to the real life of the worker in Tirupur.

In the case of NCR the region is endowed with a regular flow of a large number of migrant labour who come from neighbouring districts of UP, Bihar and also from Orissa and West Bengal. As reported by a labour contractor in Gurgaon the owners do not prefer to employ local residents in their units. This is primarily because local residents might have some connection with the legal or illegal power entities of the locality and that might add to their bargaining strength vis-à-vis the owner. In this context owners prefer migrant labourers because they are more vulnerable and hence more docile. Since there is no trade union, labour rights can be easily ignored if the share of migrant labour increases in the workforce. On the other hand migrant workers are less concerned about their rights and welfare rather inclined to earn more even if it involves higher exploitation and coercion.

In the case of Manesar it is reported that availability of labour for the garment factories becomes a problem and that is because of the underdeveloped civic amenities in the emerging industrial centre. People moved away from Delhi and Gurgaon and set up new factories in Manesar because of the low price of land, larger size of plot and infrastructure but people who would work in these factories do not have proper low cost places to stay. Some of the factories carry their workers from places such as Gurgaon regularly by dedicated buses but this involves higher transportation costs on the one hand and on the other reduces flexibility in the production because workers stop work in order to avail the scheduled bus service. Firms requiring longer hours of work to meet strict delivery schedule or pressure of work for large orders often make workers stay at shop floors against extra allowance and make them work for longer hours.

In a garment unit, different types of workers are assigned work in more or less fixed ratios. Normally in an assembly line of the 25 or 30 workers there would be one supervisor, two checkers and two helpers. This labour-set is multiplied according to the scale of operation. Employment of female labour in these factories is not more than 10 to 15 per cent of the total and this is primarily because of two reasons. First, migrant workers from different parts of the country usually do not come along with their families and hence the pool of female labour itself becomes low. Second in northern part of India unlike the south there is cultural taboo against female going to work in factories along with men. The gender imbalance would probably ease out if owners set up separate assembly lines comprising of only women but that becomes uneconomic in most of the cases.

Wages paid to the workers vary according to their occupational grades. However, according to stipulated minimum wages of respective state governments three categories of workers are mentioned in reference to garment industry. The helper is considered an unskilled worker and in Uttar Pradesh the stipulated minimum wage from 1st April 2009 is Rs. 3372 per month; those workers involved in making layers of fabrics and cutting are considered semi-skilled and their minimum wages should be Rs. 3844 per month; the skilled workers are primarily checkers and supervisors to be paid minimum wages of Rs. 4267 per month. All the employers who responded claimed that they pay at least minimum wages as per schedule and this is also because payment of minimum wages is binding for exporters who have to undergo social auditing by internationally recognized auditors. On the one hand it is true that in most of the factories wages are paid according to minimum wages but on the other the truth is that a working day in reference to which wages are defined in most of the cases does not comprise just eight hours of work rather a one and a half shift is generally considered a day's work. Hence efficiency wages are less than the stipulated minimum wages for various categories of workers. Indeed the procedure of social auditing has resulted in some pressure on the unwilling exporters to pay their workers according to some norm but it has become more an issue of documentation rather than actual compliance with existing norms. Many of the owners argue that some of the health related and space related norms laid down in the Factories Act in the context of labour welfare are simply unrealistic and need immediate revision. Given the fact that firms in the global market have to compete with other countries in selling garments at relatively lower costs, compliance with norms require a better designing of welfare norms that matches with the peculiar character of export industries. The limit of working hours need to be made flexible so that workers could be made to work for longer hours as and when required and would not be considered as forced work as it used to be in the existing act. However, one can revisit the Factories Act in order to evolve a more realistic interpretation in the context of specific industries but in some way or the other the owners are primarily looking for a revision that legalizes their existing practice of flouting the labour laws.

Labour is recruited in the garment units in NCR through advertisements often pasted on the factory gate. The worker who wants to join would be asked to do some job which the company requires and if the worker is capable to perform it reasonably well he or she will be employed. Most of the workers are employed on contract and a small core, basically those who are

experienced skilled workers, are kept in company's payroll. Some of the skilled workers, especially checkers, cutting masters and supervisors receive wages much higher than the stipulated minimum wages for skilled workers. The master cutter receives wages on an average Rs. 11000 to Rs.12000 per month and supervisors receive monthly wages in the range of Rs. 8000 to Rs. 12000 on an average. Hence in the case of skilled workers owners pay efficiency wages in order to retain those skilled workers in their factories. There is high demand for skilled workers and a master tailor can easily get a job. However, because of increased competition firms are more inclined to produce garments at a lower cost and hence of less value addition. This trend resulted in a decline in the relative premium of skilled workers who are capable of making intricate designs.

V. Export Market and Impact of Recession

The future course of growth of Tirupur depends on how the cluster responds to changing demands in various segments of the export market vis-à-vis its competitors. Our survey tried to capture these aspects by interviewing relatively large exporters as well as a number of buying agents who operate in Tirupur. On the basis of these inputs the following observations may be drawn:

First, despite the fact that the share of fashion garments in the total turnover of sales from Tirupur is gradually increasing, nevertheless, most of the exporters survive on the basis of their sales in the basic segment. Export performance primarily depends upon cost, quality and strict compliance to delivery time. In the case of mass market it is more of costs and delivery time that matter, assuming that a reasonable level of quality is maintained. In such a scenario economies of scale become important because higher scale of operation provides the opportunity to reduce per unit costs. In this regard China and Bangladesh are far ahead of India. In Bangladesh the minimum scale of a garment unit involves 450 machines while in Tirupur an average garment unit works with only 25 to 30 machines. And this is possibly the reason that Tirupur bags only 2 per cent of the garments exported to USA.

Second, Tirupur cannot entirely be dedicated to fashion garments because that involves higher risk and uncertainty and at the same time it is very difficult to go ahead of European firms in designs and fashions because of obvious reasons. Besides getting appropriate inputs such as

fabric and colours and higher investments for more sophisticated machines and training workers it is the Western taste that largely conditions the market.

Third, in relatively more value-added segments the competitive advantage based on low labour cost gradually declines. Rather labour needs to be viewed as human capital in which investments need to be made, both in terms of enhancing their technical capacities through training and also by materially enriching them through fair wage.

Fourth, in special reference to Tirupur it has been pointed out by many exporters and buying agents that the greatest weakness in the production process lies in the processing and printing segments.

Fifth, there are also important infrastructural hindrances such as acute shortage in power supply in Tamil Nadu. The production cost increases because use of generators raises the power cost per unit from Rs. 4.70 per unit to Rs.11.50 per unit and the difference is obviously influenced by the rise in diesel price.

In the NCR region the impact of recession on the labour market had been felt by varying degrees. In some of the firms there has been a decline in employment resulting from declining orders. In some, firms refuse to pay double wages for overtime that they were paying earlier and also make payments for 2 to 3 hours of overtime work even though workers are made to work for much longer hours. Firms that are exporting garments to USA are relatively hardly hit compared to those exporting to European countries for quite obvious reasons. But during our survey we didn't find any garment unit that get entirely closed in Noida or Gurgaon because of the recession. On the contrary a large number of factories of some of the reputed brands such as Koutons, Vishal Garments, Jyoti Apparel, Modelema Exports have closed their units located at Manesar. As discussed in the previous section since these units are extended subsidiaries of some parent firms located in Delhi and Gurgaon, as a result, they are the very firms that closed as a response to recession in the first place. A large number of fabricators linked to these garment units have closed subsequently and this has created large-scale unemployment.

VI. Future Challenges and Implications on Size Distribution

In this section we discuss how the dynamics of relations within the garments producing units affect the size distribution in the respective clusters. The future course of growth of garments industry depends on how the clusters respond to changing demands in various segments of the export market vis-à-vis its competitors. Export performance primarily depends upon costs, quality and strict compliance to delivery time. In the case of mass market it is more of costs and delivery time that matters assuming that a reasonable level of quality is maintained. In such a scenario economies of scale becomes important because higher scale of operation provides the opportunity to reduce per unit costs. In this regard China and Bangladesh is far ahead of India. On the other hand producers of Tirupur or NCR cannot entirely be dedicated to fashion garments because that involves higher risk and uncertainty and at the same time it is very difficult to go ahead of European firms in setting trends of designs and fashions because the latter would obviously have a greater grip on culture and likings of their native people. Moreover, in relatively more value-added segments the competitive advantage based on low labour cost gradually declines. Rather labour needs to be viewed as human capital in which investments need to be made both in terms of enhancing their technical capacities through training and also by materially enriching them through fair wage. This in any case requires an altogether different approach to the production process in general and to labour in specific. As a result the optimal strategy of firms could be moving towards a proper mix of targeting both mass and niche markets. This perhaps could be the long term perspective of looking into the structural changes required to meet the challenges in demand in the garments industry.

In our survey although we find some trends towards some degree of vertical integration both in Tirupur and NCR, but in no case this seems to be the dominant trend. And secondly this is happening in the two clusters in two separate ways. Most of the garment units in NCR perform the cutting stitching and finishing jobs in-house. The backward and forward linkages are thin in the sense fabrics are bought from other states. Moreover for the exporting units maintaining quality and also to have greater control over the production process the portion of work subcontracted gradually declines. In the case of Tirupur vertical integration goes with a simultaneous process of in-contracting and hence making the structure more resilient to changes in demand. But at the same time the extent of graduating of firms in terms of size depends on the

nature of product. Since most of the exporters deal with a large variety of garments having separate specifications of fabric that could only be produced by separate machines it is always gainful to rely upon dedicated suppliers than internalizing every phases of production under one roof.

One can also argue that the decline of Fordist structures, primarily because of the shrinking of the stable, standardized mass market and emergence of fragmented and customized demand has its obvious implications in the lower-end of the market as well. Even in the low-value added segments there has been a relative decline in product life-cycles and frequency of offering new styles and shapes has increased considerably. This change in demand pattern requires greater flexibility in the production structure and that could not be taken care of by the one dimensional concern of reducing costs that scale economies could offer. The rise in consumption in recent past that has accompanied if not resulted in higher growth in India is essentially driven by the expansion of the middle class market that happens to be less sensitive to price compared to styles and look. On the other hand there hardly been any increase in real consumption in the lower segment of the income class in our country who constitute the mass market. The dualism in the production structure with a very high degree of polarization between very large enterprises and home based units, captured in the notion of ‘missing middle’¹ in India’s manufacturing has direct correspondence to the pattern of demand that emerges from a skewed distribution of income. In the case of garments in India although differences in costs between exported and those produced for the domestic markets do not always match with distances in technology and skill of workers between the two segments, nevertheless large gaps exist in the quality of the fabric, designs and colours, processes like dyeing, printing, compacting and so on that involves higher costs. It seems that the demand for garments of standards such as basic T-shirts produced for exports is not large enough in the domestic market which could induce larger investments or new start ups at the higher scale.

The issue of size distribution and linkages between large and small enterprises is sometimes contextualized in the scheme of late industrialization. In most of the late industrializing countries new industries normally came up in large industrial enclaves and that happened primarily

¹ See Mazumdar and Sarkar (2007)

because scale and scope economies were already large to start with. Once these enclaves get deep rooted and produce for the domestic market, opportunities for participation in forward and backward linkages opens up for smaller firms especially in the consumer goods sector in which the economies of coordination plateaus down quickly. As a result the average size of industries use to decline in late industrializing countries, contrary to that in advanced ones where more and more artisanal units are drawn into large vertically integrated structures. Hence the rise of the small in developing countries is sometimes viewed as de-integration of established large structures giving rise to ancillaries or a variety of subcontracting relationships. However in the garments industry in India the trajectory is possibly the opposite. Most of the big exporting firms grew up from smaller specialized subcontracting units but what is quite obvious that the number of firms graduating is always considerably less than the number of new start ups as subcontractors. Hence the trends of vertical integration are little compared to diffusion of production. As a result we do not envisage any such clear trajectories rather large exporting firms and smaller subcontracting units simultaneously exist, each complementing the other and there seems to be little signs of overall consolidation in the garments industry.

There are issues related to institutional failures as well. Because of regulatory limits in regard to area allotted to each owner in Noida we find large number of owners having multiple firms in separate sites basically reflecting horizontal expansion. Most of these firms are specializing in one or more of the specific tasks of a job and linked through a network of common management by way of having same or separated legal existence. Hence in essence these firms are vertically integrated and employ much more than thousand workers in total but when considered as separate legal entities those might not come under the middle category in terms of separate enrollment of employment. On the other hand one of the remarkable features in garments industry as well in others such as leather is that the exporting firms go for higher scales while even though large domestic markets exist we find relatively fewer numbers of large firms producing for the domestic market. This is precisely because the domestic demand is less standardized, batches of orders are less and moreover the owner has to have his own marketing network to sell his products, a responsibility which in the case of exports the owner might not have to undertake. For any given level of technology, in order to produce at the lowest cost that is producing at the minimum of the long run average cost curve a minimum volume of order is

required and there seems to be lot of uncertainties in the domestic market. In that way emergence of organized retail networks might provide a more stable demand to those producing for the domestic markets.

Needless to say that clinging to the lower end of the value chain in garments by competing on low labour costs could never be a sustainable strategy. A low wage strategy lasts only as long as the next low wage site comes along. It also discourages long term investments because there always remains the possibility of choosing a new site before the return of such investments been realized and as a result acts as disincentive to upgrade their capacities, products and production processes (Berger 2006). There seems to exist a strong argument in favour of labour market flexibility that primarily says that firms do not increase their scale of operation in order to avoid strict labour regulations. One would hardly subscribe to any such proposition especially in the context of garments industry. There hardly exists any serious concern about labour rights in any of the firms in NCR. In Tirupur there is strong presence of trade unions at the district level that might help in protecting at least the claims of workers once he or she is thrown out of the job but in NCR owners prefer to employ migrant workers instead of local residents finding the former to be more docile. Perhaps the argument of labour market flexibility and its impact on scale should go the other way round and seems to be more plausible. This may be as follows. Because of the presence of large labour surplus together with absence of any substantive presence of labour institutions firms are less inclined to move up the value chain as they are left with the option of competing on the basis of low labour costs and finally driving competition to a 'race to the bottom'.

There can be broadly two kinds of choices left to the firm: one, given there is no constraint in demand a firm would like to bear the costs of regulations including those related to labour only when such costs are outweighed by the gains they make through scale economies and related economies of coordination. The other being a strategy quite suitable in the face of demand uncertainties as well as that of fragmented markets and that is to limit the scale of operations to a smaller establishment although might be operating within a larger network of subcontracting and compete on the basis of low labour costs by taking advantage of the unregulated labour market. Both these strategies would not be sustainable on two separate reasons: the former strategy of large scale employment based industries would gradually drive up the wages, as it happened in

the case of China, wiping out the comparative advantages derived from margins on wage cost. The second strategy of remaining small and catering to relatively customized markets but at the same time deriving advantages from avoiding labour laws would not work for long. This is simply because catering to customized markets would increasingly demand more skills and that would obviously entail higher costs: either in the way of training workers or by employing skilled workers those would ask for higher premium. Hence it is always better to plan for a longer time horizon, create proper infrastructure and skills and move up the value chain such that value realized could be much greater than the cost borne. This is precisely suggesting a gradual transformation to a 'high road strategy' competing on the basis quality and flexibility from the 'low-road' where competition is primarily based on reducing labour costs.

Finally, a word on an appropriate policy mix that might influence the growth of firms in labour-intensive sectors such as garments that we could conceive at least tentatively. There needs to be some tightening of the labour market either by execution of the existing labour laws or by means of active intervention in the labour market through schemes such as NREGA. In response to higher labour costs firms might opt for higher capital intensity in order to replace labour if capital is relatively cheaper. However this change in capital intensity might not always lead to a change in the composition of products in favour of high value added goods. This is precisely because higher capital intensity does not necessarily imply use of higher technology producing high valued goods rather it might be simply reflecting increased use of labour displacing technology accompanied by increased use of deskilled labour. However in sectors of design or fashion intensive consumer goods this might not be the desired strategy towards high road. What is required is a comprehensive sector specific policy to upgrade the capabilities of firms in producing goods with higher skill and design intensity that of course could be meaningful only when located amidst an overall strategy of wage-led growth that would ensure greater demand for high value-added goods in the domestic market as well.

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