CHAPTER 1

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1.0 INTRODUCTION

The Indian clothing or apparel industry had its origin during the Second World War mainly for mass production of military uniforms. Over the years, its profile has undergone significant changes. Technology has been gradually upgraded and there is qualitative and quantitative improvement in apparel industry in India. Now India is well known for its fine textile products and emerged as strong destination of all types of high end textile products. India’s garments are exported to almost all parts of developed world. Most of the leading fashion brands are sourcing substantial quantities from India now.

One of the basic needs of civilized mankind is clothes. The garment industry caters to the need of clothing while textile refers to the production of intermediate products like fabric and yarn etc which are used to make the final product i.e. garment. The textile trade around the world has expanded at rapid speed than the GDP growth and trade in international textile and clothing has grown at higher rate than world trade. World textile and clothing industry was around US$ 309 Bn in year 2003 and it was expected that it would be reaching US$ 550 Bn by 2005 (when all quantitative restrictions are gone away) and US$ 856 Bn by 2012. Textile and Clothing (T&C) industry would be the fourth industry to cross trillion dollar mark after Auto, Computer and Pharmaceutical sector. There is immense potential of growth with changing fashion and rising standard of living. US and EU would be the major importer countries of textile products.
1.1 Textile and Clothing Industry of India

Textile and Clothing (T&C) industry is one of the key contributors in the Indian economy. The textile industry accounts for 14% of industrial production, employs 35 million people, accounts for approximately 12% of the country’s total export basket and contributes 4% of GDP. At current prices, the size of India’s textile industry is US$ 55 billion out of which 64% is consumed in the domestic market only (Annual report 2009-10).

As per available WTO data, India’s percentage share in global textile and clothing trade was 4% in textiles and 2.8% in clothing during the year 2007. India’s rank in world trade has been 7th in textiles and 6th in clothing. The vision statement for the textile industry in the 11th five year plan (2007-12) is to secure 7% share in global textile trade by 2012. The export basket consists of a wide range of items comprising readymade garments, cotton textiles, handloom textiles, manmade fiber textiles, wool and woolen goods, silk, jute and handicrafts including carpets. Readymade garments account for almost 42% of total textile exports. Readymade garments and cotton textiles account for nearly 72% of total textile exports (Annual report 2009-10).

Exports of textile and clothing products from India have increased steadily over the past few years, particularly after 2004 when quota in textile was discontinued. In global context, India offers a comparative advantage in textile and apparel sector, with its excellent raw material base, skilled manpower and cost competitiveness. Through exports of textile and clothing products, India earns its major chunk of foreign exchange required to pay off for its imports and minimizes the trade deficit.
The Indian textile industry has already established its name in supplying high quality yarns and grey fabrics to the world markets. However, it is yet to make and impact in finished products. It only makes sense to go in for further value added products such as garments and leverage on the country’s established name in the export markets. Naturally many textiles companies have announced plans to diversify into value added business to target a higher realization and compete better in the export markets (S.V. Arumugam 2006).

The Indian industry as a whole is going through one of its good times with growth rates going up from 5.8% in 2002-03 to 7% in 2003-04 and 8% in 2004-05 (S.V. Arumugam 2006) and 8.5% in 2007-08. Year of 2008-09 has not been so good because of world wide economic meltdown. Where US along with some of the other economies of the world have shown negative growth or contraction in GDP, India has shown positive growth.

Since elimination of quota, the demand for Indian textile product has increased world wide and India has emerged as strong global sourcing destination. Different foreign brands have opened their liaison or sourcing office in India. Most prominent names are Marks and Spenser, Nike, Haggar, Kellwood, Little Label and many more.

1.2 Cotton Demand and Supply Scenario

India is mainly known for its cotton products. It produces wide variety of cotton in different parts. Like DCH32 is long staple fiber super fine quality cotton grown in south
India. Its staple length is in the range of 32mm which is used to produce fine quality fabrics. J34 is medium staple length cotton which is used to produce medium count quality fabrics. It is grown in Punjab, Haryana, Rajasthan, Maharashtra and Gujarat. Also, there is few small staple qualities cotton which is grown in these states. In fact, India is third largest producer of cotton after US and China. According to one estimate, India has already become number 2 in cotton production and China has achieved number 1 position while US has slipped to number 3 position. This is due to diversion of US farmers towards Bio-Fuel and land under cultivation of cotton has shrunk (Own source).

In year 2000-01, India produced 140 lakh bales of cotton having 85.76 lakh hectare of land under cultivation with average yield of 278 kgs per hectare. In year 2001-02, the land under cotton cultivation increased to 87.30 lakh hectares with production of 158 lakh bales with an average of 308 kgs per hectare. In next year, the land under cotton cultivation decreased to 76.67 lakh hectares in year 2002-03 giving output of 136 lakh bales and average output of 302 kgs per hectare. While in year 2003-04, cotton cultivation remained sluggish with cultivation area of 76.30 lakh hectares and output of 179 lakh bales with outstanding output of 399 kgs per hectare. This is due the use of BT cotton in Punjab and other parts of country. Since then the land under cotton cultivation is on the rise. In year 2007-08, cotton out put remained record 315lakh bales with average output of 560 kgs per hectare and 95.55lakh hectare land under cultivation. For year 2008-09 the output is expected to touch 322 lakh bales with average of 591kgs per hectare and approx.92.60 lakh acres will be used for cotton cultivation. As it is obvious
that since 2001, cotton output per hectare has increased almost 100% from 278kgs per hectare to 590 kgs per hectare in year 2008-09.

On the other hand demand of cotton is also gone up substantially during this period because of increasingly expanding textile and apparel industry in India. Since 2005 with the liberalization of quota under WTO, this demand has increased substantially, because massive investment has been done in textile sector looking at the bright future of Indian textile sector. The domestic textile industry is one of the largest industries in the country and has witnessed a phenomenal growth in the last two decades in terms of installation of spindles for yarn production. The significant features of this growth include installation of open-end rotors and setting up of export-oriented units. Technology-wise, Indian spinning industry has been able to keep pace with the international technology trends to a fair degree and this pace of modernization received a pace after launching of "Technology Up-gradation Fund" by the Government of India in April 1999.

The rapid growth of spinning industry and its modernization has led to sustained growth in cotton consumption especially during the last few years when country harvested good crop production. In year 2000-01 the cotton consumption in the country was 160 lakh bales. In year 2001-02 and 2002-03, it was 159 lakh bales and 154 lakh bales respectively.
### Table 1.1- Area under Cotton Cultivation
Area in lakh hectare/Production in lakh bales/Yield kgs per hectare

<table>
<thead>
<tr>
<th>Year</th>
<th>Area under cultivation</th>
<th>Change in area cultivation (%age)</th>
<th>Production in Lakh Bales</th>
<th>Change in production (%age)</th>
<th>Yield in Kgs. per Hectare</th>
<th>Change in Output per hectare</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997-98</td>
<td>89.04</td>
<td></td>
<td>158</td>
<td></td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>1998-99</td>
<td>92.87</td>
<td>4.30</td>
<td>165</td>
<td>4.43</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>1999-00</td>
<td>87.91</td>
<td>-5.34</td>
<td>156</td>
<td>-5.45</td>
<td>302</td>
<td></td>
</tr>
<tr>
<td>2000-01</td>
<td>85.76</td>
<td>-2.45</td>
<td>140</td>
<td>-10.26</td>
<td>278</td>
<td>-7.95</td>
</tr>
<tr>
<td>2001-02</td>
<td>87.30</td>
<td>1.80</td>
<td>158</td>
<td>12.86</td>
<td>308</td>
<td>10.79</td>
</tr>
<tr>
<td>2002-03</td>
<td>76.67</td>
<td>-12.18</td>
<td>136</td>
<td>-13.92</td>
<td>302</td>
<td>-1.95</td>
</tr>
<tr>
<td>2003-04</td>
<td>76.30</td>
<td>-0.48</td>
<td>179</td>
<td>31.62</td>
<td>399</td>
<td>32.12</td>
</tr>
<tr>
<td>2004-05</td>
<td>87.86</td>
<td>15.15</td>
<td>243</td>
<td>35.75</td>
<td>470</td>
<td>17.79</td>
</tr>
<tr>
<td>2005-06</td>
<td>86.77</td>
<td>-1.24</td>
<td>241</td>
<td>-0.82</td>
<td>472</td>
<td>0.43</td>
</tr>
<tr>
<td>2006-07</td>
<td>91.44</td>
<td>5.38</td>
<td>280</td>
<td>16.18</td>
<td>521</td>
<td>10.38</td>
</tr>
<tr>
<td>2007-08</td>
<td>95.55</td>
<td>4.49</td>
<td>315</td>
<td>12.50</td>
<td>560</td>
<td>7.49</td>
</tr>
<tr>
<td>2008-09</td>
<td>92.60</td>
<td>-3.09</td>
<td>322</td>
<td>2.22</td>
<td>591</td>
<td>5.54</td>
</tr>
</tbody>
</table>

Source: Cotton Corporation of India. [www.cottoncorp.gov.ac.in](http://www.cottoncorp.gov.ac.in)

### Table 1.2: Trends in cotton consumption by the textile industry over the last ten years

<table>
<thead>
<tr>
<th>Year</th>
<th>Cotton consumption</th>
<th>Change in Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity in lakh bales of 170 kgs</td>
<td></td>
</tr>
<tr>
<td>1996-97</td>
<td>158.30</td>
<td></td>
</tr>
<tr>
<td>1997-98</td>
<td>149.78</td>
<td>-5.38</td>
</tr>
<tr>
<td>1998-99</td>
<td>151.77</td>
<td>1.33</td>
</tr>
<tr>
<td>1999-00</td>
<td>158.97</td>
<td>4.74</td>
</tr>
<tr>
<td>2000-01</td>
<td>160.33</td>
<td>0.86</td>
</tr>
<tr>
<td>2001-02</td>
<td>158.70</td>
<td>-1.02</td>
</tr>
<tr>
<td>2002-03</td>
<td>154.05</td>
<td>-2.93</td>
</tr>
<tr>
<td>2003-04</td>
<td>163.39</td>
<td>6.06</td>
</tr>
<tr>
<td>2004-05</td>
<td>180.55</td>
<td>10.50</td>
</tr>
<tr>
<td>2005-06</td>
<td>199.00</td>
<td>10.22</td>
</tr>
<tr>
<td>2006-07</td>
<td>216.15</td>
<td>8.62</td>
</tr>
<tr>
<td>2007-08</td>
<td>226.00</td>
<td>4.56</td>
</tr>
<tr>
<td>2008-09</td>
<td>226.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Cotton corporation of India. [www.cottoncorp.gov.ac.in](http://www.cottoncorp.gov.ac.in)
In year 2003-04, it increased to 163.39 lakh bales, up 6% from last year. In year 2004-05 and 2005-06 it grew at the rate of 10% year on year basis and consumption was 180.55 lakh and 199 lakh bales respectively. In year 2006-07 it rose to 199 lakh bales up 9% from last year. In 2007-08 it was to the tune of 216 lakh bales, up approx 5% from last year. In year 2008-09 it is likely to remain same owing to slowdown in the economic growth.

1.3 ROLE OF GATT AND WTO

International trade in textile and clothing is a classic exception to the objectives of GATT favours liberalization of world trade. GATT was incorporated to facilitate the liberalization of world trade through removal of tariffs. But in case of cotton textile and clothing industry it reciprocated and in stead of removal, tariffs and quotas was imposed on the imports of cotton textile and clothing products from developing countries. After the end of Second World War, restrictions on cotton textiles began to be applied under Voluntary Export Restrictions. At a GATT ministerial meeting in November 1959, US secretary of treasury pointed out that sharp increase in imports over a brief period of tie could have serious economic, social and political repercussions in the importing countries (Samar Verma 2001).

GATT recognized textile and clothing industry as a special case and in 1961; Short Term Agreement came into force. This was an annual agreement. 1962, long term agreement (LTA) came into force which prevailed till 1973. From 1st January 1974, Multi Fiber Agreement came into existence in which under Article XI of GATT (General
Elimination of Quantitative Restrictions), XIII (Non Discriminatory Administration of Quantitative Restrictions) and Article XIX (Emergency action on Imports of Particular Products); principal of most Favoured Nation (MFN) were implemented (Samar Verma 2001). Under MFA, developing and least developed nations were allocated quota to put a cap on their exports to developed nations so that their own textile and clothing industry could survive. These quota restrictions on one hand limited the scope of growth of their textile and clothing industry, on other hand it ensured the minimum quantity to be sourced from those particular nations. So it was incentive for countries which were not able to compete in international markets and provided them platform to establish themselves as source of textile and clothing products.

Initially MFA was applicable to cotton products only, but till 1986, it covered practically all fibers.

MFA prevailed till 31st December 1994 and ceased to exist with the birth of WTO. Under WTO, the rules applying to industrial goods had to extended to textile and clothing.

1.3.1 Agreement on Textile and Clothing:

After a series of negotiations under Uruguay Round (UR), Agreement on textile and clothing came in existence.
Phase-out of MFA:

Quotas are being phased out in two mechanisms:

Mechanism 1 (M1): At the start of each phase, a proportion of quota is integrated immediately (please refer Column 3 of table 1.3):

16 per cent of the total volume of the imports of the listed textiles and clothing products on the date of entry into force of the ATC (1st January, 1995) must be outside quotas.

17 per cent of the total volume of imports of the listed textiles and clothing products on the first day of the 37th month or the end of the third year (1st January, 1998) must in addition be integrated, adding up to a cumulative total of 33 per cent.

18 per cent of the total volume of imports of the listed textiles and clothing products on the first day of the 85th month or the end of the seventh year (1st January, 2002) must in addition be integrated, adding up to a cumulative total of 51 per cent.

49 per cent of the total volume of imports of the listed textiles and clothing products on the first day of the 121st month or the end of the tenth year (1st January, 2005) must be integrated. This adds up to a cumulative total of 100 per cent and quotas disappear thereafter.
Table 1.3: Schedule of Quota integration under ATC Transition Phase

<table>
<thead>
<tr>
<th>Stage</th>
<th>Timing</th>
<th>%age of 1990 import Volume integrated</th>
<th>%age of growth rates for remaining quotas</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Day 1 (1 Jan 995)</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>II</td>
<td>37 months (1 Jan 1998)</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>III</td>
<td>85 months (1 Jan 2002)</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>IV (End of transition)</td>
<td>121 months (1 Jan 2005)</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

Source: Samar Verma (2001)

Mechanism 2 (M2): Also, quotas are increased each year at a faster rate of growth than applied in M1. The Agreement provides improved and enlarged access for textile and clothing products that continue to be restricted during the transition period. It seeks this by requiring that rates for annual increases in quotas should be escalated at each stage in the transition process.

Thus, if the annual growth rate for a quota (say, for shirts) is fixed under a bilateral agreement at 3%, it will have to be increased by:

- 16% per year in each of the first three years (i.e. 3% x 1.16 = 3.48%);
- 25% per year in each of the next four years (i.e. 3.48% x 1.25 = 4.35%); and
- 27% in each of the next three years (i.e. 4.35% x 1.27 = 5.52%).

This will raise the growth rate of 3% to 5.52% by the eighth year. For example, if the size of a quota is 100 tons at the beginning of the transition period, it will be more than double to around 204 tons in the tenth year.
Product Categories under ATC

- Silk
- Cotton
- Other vegetable textile fibers
- Paper yarn and woven fabrics
- Man-made filaments
- Man-made staple fibers
- Wadding, felt and non-woven
- Yarns, twine, cordage, etc.
- Carpets & other textile floor coverings
- Wool, fine/coarse animal hair, horsehair, yarn & fabrics
- Special woven fabrics, tufted textile fabrics, lace & tapestries
- Impregnated, coated, cover/laminated textile fabrics

- **Articles of apparel and clothing access, knitted or crocheted**
- Articles of apparel and clothing access not knitted or crocheted
- Other made up textile articles, sets, worn clothing etc.

(Source: India & The WTO, A monthly news letter of Ministry of Commerce, Vol.1, No.8, August 1999, pp 6)

**1.4 HOSIERY INDUSTRY**

Apparels are made of two types of clothes i.e. woven and knitted. Woven apparels are those which are made from woven fabrics. Woven fabrics are made through intersection of yarns in vertical direction (called warp) and horizontal direction (called weft). The
look of fabric depends upon the size of yarn and pattern of intersection of yarns. Most commonly used woven apparels are trousers, shirts, suits, ladies suits and saries.

Knitting is another technique to weave a fabric where in no intersection takes place but yarns are interlaced in each other in loop form. Most commonly hosiery knitted apparels are T-shirts, sweaters, lower, night suits etc. Hosiery products are apparels made from knitted fabrics.

In 1589, William Lee, a clergyman invented the first knitting machine in England. After this invention, in the 17th and 18th centuries the art of knitting was gradually taken over by guild organised cottage industry. During 1880 to 1910 knitwear was mainly a female fashion, later knitted pullovers, cardigans, skirts, men's underwear, sportswear and swimwear became popular. Developments in the 20th century increased the production speeds of the machines and offered wider choice to pattern the knitted fabrics. Now computer controlled knitting machines have come on the scene, which are highly versatile (Duraipandian 2007).

Hosiery is a generalized name given to all knitted apparel products and it include all types of knitted and crocheted apparels and clothing accessories as covered under ITC HS code 61 (6101 to 6117). The harmonized system (HS) of commodity classification developed by World Custom Organization, Brussels has been in use in world over since the late 1980s. India being member of World Custom Organization adopted this classification of commodities for imposition for custom duty. This six digit classification
was expanded to 8 digits and adopted by Director General of Commercial Intelligence and Statistics (D.G.C.I & S.). Subsequently, in 1996, the Director General of Foreign Trade (DGFT) also adopted this with further adaptation and expansion up to 10 digit level for certain commodities [ITC (HS) Classification of Export & Import 2007].

An exhaustive list of articles covered under this is given in Annexure 1A.

Based on the below Annexure 1A, hosiery products can be broadly divided into three categories:

**Outerwear:** T-shirts, Overcoat, Pullovers, Cardigans, Jerseys, waistcoat, Tracksuits, Ski Suits, etc.

**Innerwear:** Socks, Pantyhose, Tights, Stockings, Slips, Lingerie, Undergarments, Vests,

**Accessories:** Caps, Gloves etc.

1.4.1 Value chain in Hosiery/apparel industry

The structure of textile industry is given in figure 1.1. The basic fiber is popularly of three types: 1) Natural fiber like cotton, bamboo and tencil etc, 2) Man Made Fiber (MMF) or chemical fiber like polyester, nylon, acrylic etc or combination of these fibers and 3) fiber is obtained from animals like wool and silk. A textile product may be
consisting of any one of them or combination of these fibers, depending upon the end use of it.

An integrated textile unit have top to bottom facilities under one roof which provides the benefit of transfer pricing and hence the cost competitiveness. Value addition takes place at various stages from fiber stage to garmenting stage. A value addition chart is shown in figure 1.1. Not necessary that all textile units have the complete value chain under one roof. A knitting company engaged in garmenting need not to have spinning and weaving unit. It can buy dyed and processed fabric from market and convert it into garment with limited value addition. In integrated textile unit, value addition is more and also cost of production is less since it obtains the benefit of transfer pricing.

Figure 1.1 gives the complete insight into the value chain of a textile industry. Any textile product start from a fiber which may be natural (like cotton, bamboo, Lenin) or synthetic (Polyester, Nylon, Acrylic). The first value addition takes place when the mono fibers are converted into yarn. In case of staple fibers (cotton, polyester staple etc), it is converted into yarn through the process of spinning. In case of filament yarn (polyester or nylon filament) these yarns are produced in the desired thickness called denier. The base chemical of MMF or synthetic fibers is petroleum etc. Filament yarns are produced with the help of polymerization of petrochemicals that gives fine and smooth yarn which is widely used in textile industry.
The next value addition takes place when the yarn is converted into fabrics through knitting (for hosiery) and through weaving (for woven fabrics). Till this time the fabric is not processed.

Fiber: Cotton, Wool, Polyester, Nylon etc. → Spinning: Conversion of fiber → Knitting: Conversion of yarn into fabric

Dyed yarn goes for knitting

Pre-dyeing processing: mercerizing/washing

Dyeing (fabric dyeing, yarn dyeing)

Garmenting and accessories → Packing, labeling, warehousing → Distribution & Export & domestic market

The next value addition and most important is to process the fabric and dye it in the desired colour and with required finish, (which depends upon the end use of the fabric). For hosiery various machines are used like warp knitting or circular knitting machines. Each technology produces different fabric depending upon the end use. Next step in value chain is the conversion of fabric into garments. Companies may or may not have all above facilities under one roof. If not, the producers of above products make it for others in order and sell it to them. The buyer which is a garment converting unit, based on the specific requirement makes the garments out of these fabrics. Depending upon the specification of the garments, the fabric producer ships it to the other parts of
the globe. A US based customer may have factory in Morocco or in Vietnam and supplier of fabric may be from India or China. It depends upon the cost of conversion of factory, availability of accessories, and contacts of the buyer in the foreign nations. Once the garments are ready, these are shipped to different parts of the world for retailers, as specified by the buyer. Textile and clothing industry compete on the four pillars- (a) Low Cost, (b) Quality, (c) Accurate delivery & (d) Mass production. Buyer goes where it finds all four elements in its favor.

1.4.2 Cost competitiveness of Indian hosiery

Cost plays the most vital role for international players because one has to compete with cost structure of other producer somewhere in other country working under different factor conditions. Overseas buyer would accept certain level of variation in price but when it comes to considerable variation he would switch over to source which is cheaper. Indian hosiery industry is quite competitive so far.

In table 1.4, we have compared production cost of hosiery Ring Spun Hosiery Fabric. Hosiery fabric is mostly made of ring spinning yarn. There are six elements of cost and compared between seven nations.

It is evident that India is most competitive among 7 nations which include China, Brazil, and Korea which are India’s competitive garment production centers. Wastage cost is least in India while it is highest in China. Fabric is produced through machines and human involvement is least in fabric production in complete value chain. China is
cheapest in labor cost where it is $0.007/mtr which India is little expensive on this when compared to China but very Cheap when compared to Italy, US, Korea, Turkey and Brazil. Italy has highest cost of labor. In India labor cost is just 2% of fabric cost and in China it is just 1%. Labor being cheapest in India and China is one of the key success factors for textile and clothing industries in these nations.

<table>
<thead>
<tr>
<th>Cost Element</th>
<th>Brazil</th>
<th>China</th>
<th>India</th>
<th>Italy</th>
<th>Korea</th>
<th>Turkey</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td>0.045</td>
<td>0.060</td>
<td>0.036</td>
<td>0.043</td>
<td>0.045</td>
<td>0.047</td>
<td>0.041</td>
</tr>
<tr>
<td>Labor</td>
<td>0.021</td>
<td>0.007</td>
<td>0.009</td>
<td>0.214</td>
<td>0.059</td>
<td>0.048</td>
<td>0.139</td>
</tr>
<tr>
<td>Power</td>
<td>0.041</td>
<td>0.066</td>
<td>0.077</td>
<td>0.085</td>
<td>0.049</td>
<td>0.069</td>
<td>0.037</td>
</tr>
<tr>
<td>Auxiliary Material</td>
<td>0.031</td>
<td>0.029</td>
<td>0.029</td>
<td>0.036</td>
<td>0.030</td>
<td>0.029</td>
<td>0.031</td>
</tr>
<tr>
<td>Capital (depreciation &amp; interest)</td>
<td>0.192</td>
<td>0.117</td>
<td>0.112</td>
<td>0.125</td>
<td>0.116</td>
<td>0.105</td>
<td>0.162</td>
</tr>
<tr>
<td>Raw Material</td>
<td>0.313</td>
<td>0.414</td>
<td>0.248</td>
<td>0.301</td>
<td>0.313</td>
<td>0.327</td>
<td>0.281</td>
</tr>
<tr>
<td>Total fabric costs (per meter of fabric)</td>
<td>0.643</td>
<td>0.692</td>
<td>0.511</td>
<td>0.805</td>
<td>0.612</td>
<td>0.624</td>
<td>0.691</td>
</tr>
<tr>
<td>Index (Italy = 100)</td>
<td>(80)</td>
<td>(86)</td>
<td>(63)</td>
<td>(100)</td>
<td>(76)</td>
<td>(77)</td>
<td>(86)</td>
</tr>
</tbody>
</table>

Source: International Production Cost Comparison 2006, International Textile federation (ITMF)

Power cost is highest in India i.e. $0.077/mtr while in China it is slightly cheaper. Power cost is cheapest in USA and Brazil. Auxiliary material cost is same in India, China and Turkey. Cost of capital is cheapest in Turkey followed by India. India is normally
considered to have high cost of capital. But may be due to the benefit of depreciation its impact on cost of production is not very significant and capital seems to be cheaper in India when compared to US and other nations which are capital rich nations. Raw material cost is highest in China while it is cheapest in India.

![Cost comparison of garment producing nations]

Figure 1.2: Cost comparison of garment producing countries.

Overall cost of producing ring spun cotton hosiery fabric is cheapest in India and costliest in Italy. China is approximately 35% costlier than India which is nothing more than a surprising fact.

1.4.3 Production of hosiery apparels/garmenting in India -

Tirupur and Ludhiana are the main hosiery products making clusters in India. Some other important clusters of knitwear are Kanpur, Kolkata and Kota. In this study Tirupur, Ludhiana and Kanpur clusters have been covered. In Tirupur cluster main products manufactured are T-shirts, undergarments, vests, trunks, knitted pyjama, kids wear, ladies wear, etc. are made. Ludhiana is main production centre of woolen knitwear along with
T-shirts apart from other knitwear goods. In Kanpur mainly underwear, vest and socks are mainly products produced.

1.4.3.1  *Ludhiana:* This is most important cluster of woolen and acrylic knitwear in India. About 70% of woolen garment exports from India are made from Ludhiana. It also uses cotton and blended fiber to produce hosiery, knitwear and various readymade garments. The knitwear products can be divided in two parts - winter wears and summer wears. Winter wears includes sweater, woolen socks, pullover, cardigans, thermal wear, gloves, muffler, shawls, jackets, jersey, etc. Summer wears includes T-shirts, cotton and blended socks, under garments, knitted bed sheet, knitted skirts, knitted top, sports wear and night suits, etc.

During 2006-07 the value of exports of hosiery and readymade garments were of the order of Rs. 1306 crore. On March 31, 2006 there were about 5503 small-scale units and 25 large/medium scale hosiery and garment units in Ludhiana. The cluster has about 275 small and medium process houses. Most of them are traditional dying plants using hank dying. The number of package and fabric dying units is very low. Although most of the process houses used local machines, however around 25 units used fully imported machines. Here the average hosiery unit size is much small as compared to Tirupur.

There are about 4000 circular knitting machines, out of which 1500 are fully automatic, 500 are computerized flat machines, 120 are fully fashion flat machines and about 60,000 flat knitting machines (hand flats). It is found that a handful of spinning mills supply yarn to knitting units in this cluster often through their agents. Apparently
there is no shortage of yarn supply, but the price of yarn is frequently raised. It happened that the yarn price is re-negotiated during period between placing order and delivery of yarn. Imposition of anti-dumping on the import yarn from Thailand aggravated the problem of escalating yarn prices.

In order to improve the quality of product, production and productivity, modernization is essential. This prompted knitting and garment units to install automatic and computerized knitting machines. Majority of these machines are imported. Government of India has introduced incentives for technology up-gradation in the form of interest subsidy through Technology Up-gradation Fund Scheme (TUFS). These units largely benefited from this scheme. Second hand machines with good technology are imported at half the prices of new ones. As managers of the units interviewed there is not much difference in the productivity or product quality of second hand machines in quite good as per response from managers.

Deficiency in availability of skilled workers is a major problem particularly in the garment industry. Traditional manually operating skills are ineffective in modern garment industry. Shortage of these skills is affecting production and productivity of garment industry in particular. The strong presence of various associations is helpful in this regard. The units do not face any hurdle in getting finances from banks. The major problem is that of frequent increase in interest rates, upset. The main complaint of SMEs units is that they are discriminated by the banks and are charged much higher interest rates compared to larger units. Except a few, as in case of Tirupur, most of the garment
manufacturers are selling their products without their own brand. The modernization has helped them achieving quality standards as per specification. The SMEs are facing a major problem in dealing with large buyers that is getting payment (Bedi 2009).

Generally a manufacturer gets yarn on 7 days credit, but he has to sell the product to a buyer on 45 days credit that often is extended. With increasing interest rates his cash flow is severely squeezed and balance sheet gets upset. However, the price of yarn frequently increases as per the arguments made by knitwear association.

Many of the problems faced are similar to Tirupur but magnitude may differ e.g. power supply problem, inadequacy of infrastructure, problem of labour availability and labour skill. There need for improving testing centre, design institute, and technical training institutes in Ludhiana cluster as well.

1.4.3.2 Tirupur: In Tirupur, there are about 1500 knitting units, 2500 knitted garment making units, 700 dying and bleaching units, 500 fabric printing units, 250 embroidery units, 300 compacting and calendaring units and 500 other ancillary units (Bedi 2009). Most of these hosiery units are not composite units. The number of integrated or composite units is very low as compared to total number of units. In addition, within integrated units also there is much heterogeneity in terms of operation, size and scale. For example, in some units knitting, embroidery, stitching and printing are done, in other units only knitting, stitching and embroidery are done. Further, in some units only knitting and stitching are done. There are very few units where all the
operation of the value chain, from knitting to packaging of garment is undertaken. In Tirupur, more than 90% of the knitting and knitted garment units are export oriented units. It contributes to 80% of the country's cotton hosiery exports. During 2007-08 exports from Tirupur amounted to Rs. 9950 crore which decelerated from Rs 11000 crore in 2006-07. During 2008-09 (Apr-Sept) it is estimated at Rs. 5050 crore.

As per the information provided by Tirupur Exporters Association (TEA), the production of knitted fabrics in 24 hours on 30\text{\textdegree} diameter circular knitting machine is 30-40 kg., on 40\text{\textdegree} diameter machine is 200-250 kg., on 50\text{\textdegree} and 60\text{\textdegree} diameter machine is 1000 kg. These productivity indicators are for single -jerseys knitted fabrics and are likely to vary for double-jersey. The machines with 50\text{\textdegree} and 60\text{\textdegree} diameter run only for six months as there exist seasonality in demand of the fabric knitted on these machines. Flat knitting machine is used for making of collar of T-shirts. Knitting units knitting is done 24 hours in three shifts in almost all the clusters. Fabric from the yarn wastage is very low at around 1% to produce knitted fabrics. Knitting is very capital intensive and labour saving activity and knitting machines cost is very high. The cost of circular knitting machine is as high as Rs. 80 lakh. To save on labour, one worker operating 3-5 machines simultaneously, which is not very quality affection, as one worker can not pay proper attention to 5 machines at the same time and result is so supply of different colors goes unfeeded by the feeder (worker) at times, which affects the quality. The poor quality of fabrics is discarded for mainly garment, at the time of cutting. After dyeing, processing, calendaring and compacting of the fabric, it goes to garment making unit/division. Most of the cutting operation is either manual or semi-mechanized. Fully mechanized cutting is
rare in Tirupur. After cutting, stitching of fabric is done. Most of the stitching machines used in Tirupur are power driven. They use very modern stitching machines imported from S. Korea, Taiwan, Japan, China, etc. One piece of garment goes through different stitching processes, undertaken on various stitching machines for various parts and applying accessories. The stitched clothes then pass through various checking process. In some high value garments dying is done after stitching. In some other garments printing and/or embroidery has to be done as per order. Once stitching process is over, labeling, ironing and packaging are undertaken before dispatching it to the buying/export houses. In contrast to knitting units, garment units work 10-12 hours a day and runs only in one shift. A worker with no work experience in the sector firstly has to work as a helper. After a few years experience, he is then assigned the job of tailor or supervisory. The wages differ according to type of work, skills and productivity. The piece rate wages is mainly adopted practice for most of activities (Source: TEA).

The most of the manufacturers are local people either from Tirupur or its adjoining areas. So they are not very large firms or limited liability companies. Most of them are under either single proprietorship or partnership. Most of the units do only job work. Product specification and design is given by the buying houses/export houses to value chain upstream (i.e. to knitting units, dying units, processing units, compacting units, etc.) according to the product specification and quantity. Thus very few units in Tirupur sell garments in their own brands; rather they work for major brands in clothing industry. All leading brands like Nike, Cutter & Buck, Adidas, GAP, Tommy Hilfiger, Katzenberg, Van Heusen, Fila, Arrow etc., and leading chain stores like C&A, Wal Mart,
Target, Sears, C&A and Mothers Care, H&M are sourcing from Tirupur. In fact one of the garment manufacturers in Tirupur supplied T-Shirts to FIFA World Cup also.

According to Tirupur Exporters Association (TEA) the problem of power availability is one of glaring problem in Tripur also. Three to four hours power cut is very common and often this is very erratic and unscheduled. To overcome this problem, hosiery units’ especially large and medium sized units have gen-sets for uninterrupted power supply. But this increases their cost of operations. Another problem is labour availability. Units reported that they have in general 20-30% of labour supply shortage compared to their labour demand. Due to this many units feel difficulty in expanding their scale of their operations. Further, there is lack of proper infrastructure e.g. water, roads, rail, drainage, residential facilities, etc. in Tirupur. In the last two decades the capacity of the cluster has outgrown so much that infrastructure has not been able to keep pace with it.

The labour problem is associated with the problem of accommodation and this explains the fact why despite the unemployment in other regions. The region is unable to attract those workers. Lack of training centre for workers is another problem. Next, after implementation of strict emission norms by Central Pollution Control Board (CPCB) on dying units many dying units have closed as they are not able to purchase and maintain costly water treatment plant. This is affecting the value chain severely. To overcome this problem many dying units are installing water treatment plants on a shared basis.
Many units feel that zero percent emission will still not be possible and they may again face this sort of problem in future, as they are not able to access such type of technology which could make zero percent emission possible. CPCB officials also are not helping them in this regard.

1.4.3.3 **Kanpur**: It is very old cluster of hosiery. But this cluster is not so well developed as Tirupur and Ludhiana. There are about 100 knitting, 270 stitching and 30 processing units in Kanpur. The cluster in the past was mainly known for the production of vest and underwear. But with the advancement of technique and development of infrastructure, the industry has gradually expanded to other wears such as winter inner garments with good bleaching & dyeing technique. Kanpur hosiery is now known for their value for money - cheap and best products. Most of the hosiery production presently takes place in non-composite small sized units. Most of the small/tiny units are run by entrepreneurs themselves.

Despite an early beginner in hosiery industry Kanpur could not take advantage of this. Similarly, hosiery industry started off in Ludhina during 1950s, much ahead of Tirupur which took off in late 1970s. One of the reasons for sluggish growth in method of production and machinery used, which is mostly manually operated. In Ludhiana computer-aided designing/manufacturing is done of clothes for the domestic market are generally copied from magazines or from the samples provided by the buyers and there is not much originality involve in it. Tirupur, the proportion of women workers in comparison to men workers has another advantage low in case of Ludhiana and Kanpur,
especially in the factories. It is attributed to lower availability of skilled women, the poor working environment in industries and availability of cheap migrant labour. Tirupur boasts of at least 70 per cent women workers in this segment. Women workers are more sincere, keep away from disputes and more efficient and promote a cordial working environment.

1.5 COMPETITIVE PROFILE

In textile and clothing, India is facing stiff competition from some of other Asian countries. These are Bangladesh, China, Pakistan, Sri Lanka, Vietnam, and Thailand. All of these nations have their own strengths and weaknesses.

1.5.1 China

China is the arch rival not only in hosiery sector but also in whole textile and clothing sector. In the last two decades, China has played increasingly important role in the global textile and clothing industry. From 1995 to 2002, China’s share of global apparel exports increased from 22.5% to 30% and its share in global export increased from 16% to 22% (Dong 2008). In 2005, China produced more than one third of world’s textile supply.

On November 10, 2001, after 15 years of discussion China became the member of WTO. After 3 years from it, on 1st January 2005, quotas were eliminated and freeing the textile and clothing trade. It brought lots of opportunities to developing nations which were facing the quota restrictions till then. Initially China came out of quota on January 01, 2005 but for ten months only. In these ten months, the Chinese exports of textile
products shot up. In ten months, the export volume of few hosiery products increased by whopping 2000% and US and European had to re-negotiate with China and quota was re-imposed for another four years. Now China is out of quota permanently and there is no bar on its textile exports. Also, China is keeping its currency pegged and is not allowing it to gain its natural level. This is providing cushion to Chinese textile exporters.

1.5.2 Bangladesh

Bangladesh is second largest exporter of hosiery exports after Turkey. Hosiery sector is the key driving force in Bangladeshi economy as this sector contributed approximately 43% to export earnings of Bangladesh in July-April 2008-09. This is because of backward integration in knitting, dyeing and spinning. Hosiery industry is self reliant in Bangladesh and around 90% of knit fabric requirement if met through domestic supplied. 75% of the yarn requirements are met locally. Bangladesh Export hosiery products to over ninety countries but Europe and US are the major export destinations.

Major advantage of Bangladeshi hosiery industry is labor wages, unmatched capacities and productivity level. Bangladeshi hosiery exporters have expanded their capacities not only in garmenting but in backward linkages and thru gained economies of scale. It has successfully reduced lead time and prices.

From table 1.5, we can see the performance of Bangladeshi hosiery industry. Since 1989-90 to 2009-10, only at two occasions, the growth has remained negative. In rest of the years, it registered double digit robust growth which is a healthy sign of rapid
growing industry. Also, its share in exports from Bangladesh has increased substantially.

Bangladeshi economy stands on performance of hosiery industry.

<table>
<thead>
<tr>
<th>Year</th>
<th>Value in US$ 100Mn</th>
<th>% Change</th>
<th>Share (%) in BD Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>0.1484</td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>1990-91</td>
<td>1.3120</td>
<td>784.10</td>
<td>7.64</td>
</tr>
<tr>
<td>1991-92</td>
<td>1.1857</td>
<td>-9.63</td>
<td>5.95</td>
</tr>
<tr>
<td>1992-93</td>
<td>2.0455</td>
<td>72.51</td>
<td>8.58</td>
</tr>
<tr>
<td>1993-94</td>
<td>2.6414</td>
<td>29.13</td>
<td>10.42</td>
</tr>
<tr>
<td>1994-95</td>
<td>3.9326</td>
<td>48.88</td>
<td>11.32</td>
</tr>
<tr>
<td>1995-96</td>
<td>5.9832</td>
<td>52.14</td>
<td>15.41</td>
</tr>
<tr>
<td>1996-97</td>
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<td>9.4031</td>
<td>23.19</td>
<td>18.22</td>
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<tr>
<td>1998-99</td>
<td>10.3536</td>
<td>10.11</td>
<td>19.49</td>
</tr>
<tr>
<td>1999-2000</td>
<td>12.6983</td>
<td>22.65</td>
<td>22.08</td>
</tr>
<tr>
<td>2000-01</td>
<td>14.9623</td>
<td>17.83</td>
<td>23.14</td>
</tr>
<tr>
<td>2001-02</td>
<td>14.5924</td>
<td>-2.47</td>
<td>24.38</td>
</tr>
<tr>
<td>2002-03</td>
<td>16.5383</td>
<td>13.34</td>
<td>25.26</td>
</tr>
<tr>
<td>2003-04</td>
<td>21.4802</td>
<td>29.88</td>
<td>28.25</td>
</tr>
<tr>
<td>2004-05</td>
<td>28.1947</td>
<td>31.26</td>
<td>32.58</td>
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<td>2005-06</td>
<td>38.1698</td>
<td>35.38</td>
<td>32.26</td>
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<tr>
<td>2006-07</td>
<td>45.5360</td>
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<tr>
<td>2007-08</td>
<td>55.3252</td>
<td>21.50</td>
<td>34.58</td>
</tr>
<tr>
<td>2008-09</td>
<td>64.2900</td>
<td>16.20</td>
<td>42.83</td>
</tr>
<tr>
<td>2009-10</td>
<td>64.83</td>
<td>0.84</td>
<td>40.01</td>
</tr>
</tbody>
</table>

Source: Export Promotion Bureau.

Bangladeshi hosiery producers are determined to stay ahead in global competition. In this process Bangladesh Knitwear Manufacturers and Exporters Association (BKMEA), which is one of the prominent association of hosiery producers in Bangladesh, has started Productivity Improvement Programs in collaboration with German Technical Cooperation (GTZ). The aim is to improve the productivity within existing setup without major capital investment. The technique is through implementation of Lean Manufacturing System through elimination of wastage. There are various units where lean manufacturing initiatives are undertaken.
1.5.3 Turkey

Turkey is the largest producer and exporter of hosiery products in the world. Turkey itself is one of the major cotton producing country therefore there are large textile industry base. Clothing industry plays vital role in economy of Turkey. The size of clothing industry is approximately 13 Bn dollars in year 2009. At present, the hosiery apparels products account for 54% of Turkey’s total clothing export. The major items of exports are t-shirts, pullovers, cardigans, vests, socks.

Turkey has various distinct advantages over other hosiery producers:
• Turkey is 7th largest producer of cotton in the world with capacity of 375 thousand tons of annual production. Therefore there is sufficient supply of raw material. Also, it produces considerable amount of man made fibers.

• It is close to main markets, particularly Europe.

• Short time delivery closeness to market.

• Capability to respond quickly.

• Qualified and educated human resource.

• Liberal trade regime including compliance with EU’s technical regulations.

• Capacity to innovate and create fashionable products.

• Sensitivity about workers social conditions as well as environment health.

• Custom union with the EU and FTA with numerous countries.

1.6 INSTITUTIONAL FRAMEWORK

Government of India is determined to establish India as global sourcing destination for textile and clothing industry. In this regard various steps are taken by government of
India and state government to promote textile exports from India. Here, we would be discussing only those which are applicable to hosiery industry and specific schemes or benefits or institutions not meant for hosiery industry are omitted. These are discussed one by one separately:

1.6.1 Institutions to Promote Exports of Hosiery Products from Ludhiana

Following institutions are setup to promote the export of hosiery products from Ludhiana:

1.6.1.1 Apparel Export Promotion Council (AEPC): The apparel export promotion council was sponsored on Feb 22, 1978 to promote exports of readymade garments from India. The council was administering the exports entitlements quota in respect of readymade garments items, which were subject to restraint in USA, EU and Canada. Besides its head quarter in New Delhi, the council has regional offices at New Delhi, Jaipur, **Ludhiana**, Tirupur, Mumbai, Chennai, Bangalore and Kolkata.

With phasing out of quota on Jan 01, 2005, there is no scope of quota administration and measures have been taken to restructure the council in order to prepare it promote export in new post quota scenario. The role of AEPC has been completely reorganized and now it concentrates on brand building of India as global sourcing hub for hosiery garments from India. Various export promotion measures as taken by AEPC are as given below:
Apparel International Mart (AIM): AEPC has constructed an Apparel International Mart at Gurgaon in Haryana with coverage area of 3.5 lakh square feet, where international buyers can see variety Indian exporters can produce and also can meet with manufacturers. It has about 250 air conditioned showrooms and out of which about 200 are already booked. This is world class facility for exporters to showcase their products and capabilities. It also has other amenities like Auditorium, Exhibition hall, Art gallery, cafeteria, and Plaza & Amphitheatre.

Apparel Training & Design Centre (ATDC): ATDCs, set up by AEPC in 1991, provide solutions to fast growing garment industry to increase productivity and technology enhancement through adequate human resource training. There are 39 ATDC are working all over India and one of them is located in Ludhiana. More are expected to come up soon. These centers have trained over 30,000 personnel so far. ATDCs provide training on machinery and equipments being installed in garment units.

Buyer-Seller-Meets (BSMs): AEPC organizes meetings with overseas buyers, buying houses abroad and work as nodal agency to promote these kinds of meetings. Avery year delegations are sent to US and EU and buyers are invited to meet these exporters.

Market Development Assistance Scheme (MDA): MDA is sponsored by AEPC to encourage the participation from Micro, Small and Medium Enterprises (MSME) in
International trade fairs/exhibition under MSME stall. The objectives of MDA scheme are as under:

i. To encourage Small & Micro hosiery exporters in their efforts at tapping and developing overseas markets.

ii. To increase participation of representatives of small/micro manufacturing enterprises under MSME India stall at international trade fairs/exhibitions.

An eligibility criterion has been formed for exporters to qualify for the benefit under MDA. Also, a list of international fairs is formed to be participated by hosiery exporters to obtain benefit under MDA.

The permissible subsidy as granted under scheme is as under:

i. The government of India will reimburse 75% of air fare by economy class and 50% space rental charges for Micro and Small manufacturing enterprises for general category entrepreneurs.

ii. For Women/SC/ST entrepreneurs and Entrepreneurs from North Eastern Region government of India will reimburse 100% of space rent and economy class air fare.

iii. The total subsidy on air fare & space charges will be restricted to Rs. 1.25 lakhs per unit.
Trade Fairs and Exhibitions: AEPC organizes international trade fairs twice a year in India. In these trade fairs Indian exporters are invited to showcase their products. The trade fair is promoted throughout the world and buyers from around the world are invited to participate.

Also, AEPC encourages Indian exporters to participate in international trade fairs being organized outside India. AEPC books few numbers of stalls and get good discounts from the promoters on booking. These discounts are in turn passed on to Indian exporters willing to participate in these fairs through AEPC. The cost of participating in these fairs is decreased.

1.6.1.2 Scheme for Integrated Textile Parks (ITP): Scheme for integrated textile parks is being promoted to provide world class infrastructure to exporters of hosiery or textile products from India. Industry associations or group of entrepreneurs are promoters of integrated textiles parks. The scheme focuses on industrial clusters or areas of high growth potential which can prove to be strategically very important to boost exports of textile products from India. The project cost covers common infrastructure and buildings for production and allied activities. The components of ITP are;

(a) Group A ï Land
(b) Group B - Common infrastructure like compound wall, roads, drainage, water supply, electricity supply including captive power plant, effluent treatment, and telecommunication lines etc.

(c) Group C - Building for common facilities like testing laboratory, design centre, training centre, trade centre, ware housing facility, raw material depot, canteen, worker’s hostel, offices of service providers, labor rest house and recreation facilities etc.

(d) Group D - Factory building for production purposes.

(e) Group E - Plant and machinery.

Total 40 textile parts projects have been sanctioned so far in India out of which 3 are for Punjab and one of them is in Ludhiana. These ITPs will have facilities for spinning, sizing, weaving, processing and garmenting.

The ITP being setup in Ludhiana is under development stage and soon will be operational.

1.6.1.3 Punjab Testing Laboratory: Punjab Testing Laboratory is textile testing laboratory funded by Government of Punjab to assist the hosiery industry of Ludhiana. It is located in Ludhiana only. I personally visited the laboratory to gain more insight into my research and get more information on Ludhiana hosiery industry and their problems. The laboratory was found to be in very bad condition. There were no fabric samples for testing and no lab equipment was working. I did not find anybody there working on
equipment. The lab is headed by an IAS officer and supported by lab assistant and supervisor. I did not find head of lab in his office to provide any information on any matter.

There are few private test laboratories in India and have sample collection offices. One of such testing laboratory is SGS having collection office. The laboratory is located in Gurgaon and its head office is in New Delhi. The collection offices collect the samples and send it to lab in Gurgaon and provide reports to the customer.

1.6.2 Schemes to promote hosiery exports from Ludhiana

Various schemes are working to promote hosiery exports from India. These schemes are discussed below one by one:

1.6.2.1 Textile Up-gradation Fund Scheme (TUFS): One of the most widely used scheme to promote hosiery industry and textile industry as a whole is textile up gradation fund scheme (TUFS). It was commissioned on 1st April 1999 initially for five years with a view to facilitate the modernization and up gradation of textile industry by providing credit at reduced rate of interest to entrepreneurs from organized and unorganized sectors. Since then the scheme had have been getting extension and now it is extended up to 2012. The reason is obvious the success of the scheme. It has helped rapid investment in few of the sectors of textile industry. TUFS has helped in the transition face of quota removal and helped building capacities, technological advancement through replacing old machines with new one and creating new enterprises.
Main features of TUFS applicable to hosiery industry are discussed below. Any component of scheme which is not applicable to hosiery industry is omitted here because this would be beyond the scope of our research objective.

i. The scheme provides reimbursement of five percentage points on the interest charged by the lending agency.

ii. The scheme provides for foreign exchange rate fluctuation up to five percent for all sectors other than spinning sector where this cover will be up to 4%.

iii. The scheme will now provide 15% subsidy for SSI textile (including hosiery sector) in lieu of 5% interest reimbursement on investment in TUF on specified machinery subject to capital ceiling of Rs. 2 Crs and a ceiling on subsidy of Rs 15 lakh.

iv. The scheme provides 5% interest reimbursement plus 10% capital subsidy for specified processing machinery.

v. The scheme provides 5% interest reimbursement plus 10% capital subsidy for garmenting machinery.

vi. The scheme also provides interest/capital subsidy on the basic value of the machinery and exclude tax component for the purpose of valuation in view of the decision for non-subsidizing the tax.

vii. The scheme provides 25% capital subsidy on purchase of testing and quality control equipments.

viii. The entire range of imported second hand machinery will now be covered under the scheme.
ix. Other investments such as energy saving devices, effluent treatment plant, in house R&D, I T including ERP, TQM including adoption of ISO/BIS standards, etc are eligible for benefits of scheme up to 25% of cost of machinery.

x. Hosiery sector is also eligible for benefits on investment like land, building, working capital, up to certain limit only while other sector are not eligible.

1.6.2.2 \textit{Export Promotion Capital Goods Scheme (EPCG):} EPCG scheme allows imports of capital goods (machines and spares) for pre-production, production and post production at reduced custom duty, subject to an export obligation equivalent to 8 times of duty saved on capital goods imported under EPCG scheme, to be fulfilled in 8 years from the date of issuance of authorization letter. For SSI units, the import of capital goods at 3% is allowed, subject to fulfillment of export obligation equivalent to 6 times of duty saved on capital goods, in 8 years, provided CIF\(^2\) value of imported capital goods under the scheme does not exceed 50 lakh and total investment in plant and machinery after such imports does not exceed SSI limit (Exim Policy 2009). The EPCG scheme includes second hand machines and spare parts too. Ludhiana hosiery exported had have been importing second hand machines since long. Also there is no condition on the selvedge value of imported machine too.

1.6.2.3 \textit{Duty Drawback Scheme:} Duty drawback is rebate given to exporters on exported hosiery products. Duty drawback is given to nullify the duties paid on various inputs purchased from domestic market and imported goods. If no custom duty is paid on imported inputs, draw back benefit is not given. All industry drawback rates are fixed by
Director of Drawback, Department of Revenue, and Ministry of Finance and periodically revised normally on 1st June every year.

Different rates are fixed for different hosiery products based on the type of fiber used. For example for 100% cotton hosiery product, drawback rate will be different from 65%/35% Polyester/Cotton hosiery product. Because there is no duty on cotton whereas there is excise duty on polyester. So drawback rate on Polyester/Cotton hosiery item will be more than 100% cotton hosiery item, because the exporter had paid duty on polyester/Cotton yarn at the time of its purchase or polyester fiber purchased if it has its own spinning unit.

1.7 POLICY FRAMEWORK ON TEXTILE AND CLOTHING

In order to promote textile exports from India, various policies are formed at central government level and state government level. These are discussed below;

1.7.1 National Textile Policy 2000

India and China were expected to gain heavily from quota elimination. India was expected to be global sourcing destination for textile and clothing products for developed nations which will be consuming nations. But it needed aggressive strategy. In order to promote Indian textile and clothing industry a direction and focus, in year 2000 special National Textile Policy was unveiled. The main features of the textile policy are discussed below:
1.7.1.1 Objectives: The National Textile Policy was formulated keeping in mind the following objectives:

a. Development of the textile sector in India in order to nurture and maintain its position in the global arena as the leading manufacturer and exporter of clothing.

b. Maintenance of a leading position in the domestic market by doing away with import penetration.

c. Injecting competitive spirit by the liberalization of stringent controls.

d. Encouraging Foreign Direct Investment as well as research and development in this sector.

e. Stressing on the diversification of production and its up-gradation taking into consideration the environmental concerns.

f. Development of a firm multi-fiber base along with the skill of the weavers and the craftsmen.

1.7.1.2 Targets: Such goals are set to meet the following targets:

A. The size of textile and apparel exports must reach a level of US $50 billion by the year 2010.

B. The Technology Upgradation Fund Scheme should be implemented in a strict manner.

C. The garments industry should be removed from the list of the small scale industry sector.
D. The handloom industry should be boosted and encouraged to enter into foreign ventures so as to compete globally. The National Textile Policy has also formulated rules pertaining to certain specific sectors. Some of the most important items in the agenda happen to be the availability and productivity along with the quality of the raw materials. Special care is also taken to curb the fluctuating price of raw materials. Steps have also been taken to raise silk to the international standard.

1.7.1.3 Strategy: To accomplish the above said objectives, it needed a comprehensive strategy which would raise the textile industry along with raising the standard of workers too. The strategy formulated to transform the textile industry is as given below:

1. To transform textile industry as a self-reliant industry, from producing raw materials to delivery of finished products; and its major contribution to the economy of the country.

2. To understand its immense potentiality for creating employment opportunities in significant sectors like agriculture, industry, organized sector, decentralized sector, urban areas and rural areas, specifically for women and deprived.

3. To analyze the issues and problems of textile industry and the guidelines provided by the expert committee set up for this specific purpose.

4. To give a different specification to the objectives and thrust areas of textile industry.
5. To produce good quality cloth for fulfilling the demands of the people with reasonable prices and

6. To maintain a competitive global market

1.7.1.4 Thrust areas: Government of India is trying to promote textile industry by giving emphasis on several thrust areas of textile, which are as below:

- Innovative marketing strategies
- Diversification of product
- Enhancement of textile oriented technology
- Quality awareness
- Intensifying raw materials
- Growth of productivity
- Increase in exports
- Financing arrangements
- Creating employment opportunities
- Human Resource Development

1.7.1.5 Efforts: Government of India has set some targets to intensify and promote textile industry. To materialize these targets, efforts are being made, which are as follows:

A. Textile and apparel exports will reach the US $ 50 billion mark by 2010.
B. All manufacturing segments of textile industry will come under Technology Upgradation Fund Scheme (TUFS).

C. Increase the quality and productivity of cotton. The target is to increase 50% productivity and maintain the quality to international standards.

D. Establish the Technology Mission on jute with an objective to increase cotton productivity of the country.

E. Encourage private organization to provide financial support for the textile industry.

F. Promote private sectors for establishing a world class textile industry.

G. Encourage handloom industry for producing value added items.

H. Encourage private sectors to set up a world class textile industry comprising various textile processing units in different parts of India.

I. Regenerate functions of the TRA (Textile Research Associations) to stress on research works.
However there are no special measures to promote hosiery industry separately and national textile policy focuses textile industry as a whole.

### 1.7.2 Punjab Textile Policy 2006

Textile industry occupies a unique position in Punjab. Punjab is one of the key destinations of textile industry in India. Textile industry is making substantial contribution to the economy of the state and to the foreign exchange earning. It adds about 19% to the total industrial production in the state and contributes to nearly 38% of the total exports from Punjab. Textile is the only industry which is self reliant and complete in value addition i.e. from raw material to highest value added products – garments/made-up. Therefore the growth and development of this industry has a significant bearing on the overall development of the economy. The textile industry is also one of the largest providers of employment and accounts for almost 60% of industrial employment in the state of Punjab ([www.punjabgovt.nic.in](http://www.punjabgovt.nic.in)). Also, it has been noted that even with high level of mechanization, the chances of machines replacing human are minimum in the sector due to essential skill requirement. It provides employment opportunity to semi literate and lower section of society, where the incidents of unemployment are most glaring. Most importantly the textile sector is one of the biggest employment providing sectors to women. Hence any boost to textile industry will definitely provide and offer opportunities of large number of employment to the youths in the state of Punjab.
Ludhiana is the main centre of textile industry in Punjab. It is centre of hosiery production. Ludhiana is second largest producer of hosiery after Tirupur. The elimination of quota restriction under MFA and implementation of agreement on textile and clothing (ATC) has posed Ludhiana hosiery industry into a test. With quota removal, on one side there are huge opportunities associated with it and on other side, there are threats of losing business because of stiff global competition from Indian and overseas players. The hosiery producers have to increase productivity and efficiency to meet emerging global competition. There is tremendous potential for Ludhiana hosiery industry to outperform and do well in global market since world is looking at India as global sourcing hub for various textile products. So it is essential that Government of Punjab formulated specific textile policy to facilitate the growth and development of textile industry in the state of Punjab.

Vide Punjab Government Notification No. 5/58/2002/51B/1263 dated 11\textsuperscript{th} July 2006, Punjab Government unveiled its new textile policy. The highlights of policy are as under;

\textit{1.7.2.1 Objectives:} The objectives of this policy are as follows:

i. To facilitate the textile industry of Punjab to attain and sustain a pre-eminent global standards.

ii. The industry equips itself to withstand pressure of imports penetration and maintain a dominant presence in the domestic market.
iii. Facilitate cluster formulation to promote collective efficiency of textile units by improving their business processes and support system.

1.7.2.2 Thrust Areas: To achieve these objectives, the following thrust areas are identifies;

- Technology Up gradation
- Enhancement of productivity
- Quality consciousness
- Cluster development
- Strengthening of raw material base
- Integrated human resource development
- Special benefits to textile industry.

To meet these objectives and to focus on thrust areas, the Punjab Government has taken various initiatives.

1.7.2.3 Cluster development: The state is already in process of setting up a textile cluster in Ludhiana along with project o waste disposal under industrial infrastructure scheme of Government of India. The project has already been sanctioned to Nimbua, a green field company and textile cluster has been principally agreed upon by Government of India. In addition the Punjab Small Industries and Export Corporation with the association of textile industry is already establishing Punjab Apparel Park called M/s Punjab Apparel
Park Limited at Doraha in district Ludhiana. This is going to be developed as Integrated Textile Park (ITP) with all requisite facilities at one place for the textile industry and is likely to give major boost to hosiery industry specially located nearby to hosiery centre of Ludhiana. It is expected that exporters will be highly benefited with the scheme. Another textile industrial part is in process and will be established after due demand survey.

1.7.2.4 Human Resource Development: In order to inculcate skills and generate manpower for textile industry and especially for hosiery industry, apparel training and design centre has been set up at Ludhiana by AEPC.

Northern India Institute of Fashion Technology (NIIFT) which has been established by state of Punjab on the lines of National Institute of Fashion Technology (NIFT) to impart skills, education and training to the youth of Punjab in the filed of fashion design, textile design, garment manufacturing technology and knitwear design. This centre has acquired good reputation and Punjab Government is in process discussion with ministry of textile to upgrade this institution to the level of NIFT. Also, ITI and Polytechnic institutes of Punjab are encouraged to start such courses.

Also there are few special benefits for large textile units. But these benefits are not meant for hosiery sector because hosiery industry is dominated by small and medium enterprises and hardly few large setups are there.
Also, industrial unions are advised to take initiatives to take various measures to improve quality, human resource development and other development measures where Punjab government will work as facilitator instead of direct interventions.

1.7.3 Foreign Direct Investment (FDI)

FDI is crucial for development of any industry. It brings investment in the country and brings technology, latest methods of production, better utilization of resources, best managerial practices, latest marketing techniques, latest fashion & designs. It improves overall competitiveness and efficiency of the industry to meet international standards. India is second largest economy after China, but the level of development of textile industry as a whole is substantial (Bedi 2009). India is known for cotton products while China is good in cotton products while in other fibers like Man Made Fibers or Chemical fibers like polyester, nylon, it is leader and most of the world’s demand is met by China only. In order to bridge this gap and sustain the position of second largest textile economy, India needs to attract more and more of FDI.

Hosiery sector has not been gainer from liberalized FDI policy of government of India. Although in all other sectors of textile industry FDI up to 100% is allowed through automatic route, hosiery/knitting sector has been exempted from this benefit (Annual report 2007-08). This is because non-exporting sector is being reserved for SSI till 2002. In May 2002, this hosiery sector is de-reserved from SSI.
Despite the fact that textile sector plays very important role in our economy, the amount of FDI is very less when compared to total FDI flow to India. Annexure 1D gives the amount of FDI to India and in textile sector. It is evident from the annexure 1D that total FDI in textile is very limited so far. From August 1991 to up to February 2009 only US$ 860 million had been attached to textile and clothing sector and this is only 0.86% of total FDI inflows to India. But if we compare our inflows into the sector with that of China we find that China is in much better position. The total FDI in India during 2005 was only US$ 4.36 Bn while in China it was US$ 65Bn in China. Out of this total FDI inflows, FDI flows towards textile and clothing sector in India was only 1.80% (i.e. US$ 79 million) whereas in China the figure was 8.3% (USD 4Bn) (Ministry of Textile 2006).

1.8 CHALLENGES AHEAD FOR INDIAN HOIERY INDUSTRY

Various challenges lies ahead of growth of Indian hosiery industry because ever increasing global competition from international players. These are categorized in following heads:

1.8.1 Scale

Indian hosiery sector is suffering badly from scale of productions. The hosiery units in India are far smaller than its counterpart in China and Bangladesh (Pankaj 2006). The reason may be associated with reservation of non-export hosiery sector for SSI, quota regime and unplanned expansion.
Due to reservation, large players could not enter into non-exporting hosiery sector and only the players left were small and marginal players who neither modernized their methods of production nor they expanded in a planner manner. The other major reason was the quota regime and exporters were happy with the orders they were having with them. Only a few expanded and inculcated skills to compete in post quota era. Also, the hosiery producers never expanded in a planned mode. As and when there was need for machines, they purchased in small quantities and never planned massive expansion. The central tendency is to add capacity once the order has been won rather than ahead of the demand. Despite that the funds were available; there was no planned expansion from export and non-export segment of hosiery sector. Due to reservation it could not attract any FDI and it could not update its methods of production.

1.8.2 Skill
In times of cut-throat competition continuous upgradation of skills if also must along with modernization of plant and machinery. Along with modernization there arises need for skilled workers to run the hi-tech machines efficiently, understand the modern production processes. Thus skill requirement increases with technological upgradation. In hosiery industry scenario, for want of availability of skilled laborer in adequate quantity, many firms in industry are hesitant to expand their scale of operations or enter into hi-end segment with cutting edge technology (Bedi 2009).

1.8.2.1 Nature of skill gap in hosiery industry: Skill gap can be defined the gap between required level of knowledge and skill to do a particular activity and the existing level of
knowledge and skill to accomplish the work. Alternatively it can also be identified by the gap in the demand and supply of skilled workers at the existing wage rate in a unit. Skill gap may be at varying levels in different sort of activities in a hosiery unit. Further skill gap can be found at different hierarchical levels of an organization, example at operative level, supervisory level, middle management level, and senior management level. So remove the skill gap at various levels, different strategies should be adopted. In some sort of activities, skill gap can be easily removed by few days of training or on job training. But in some other tasks a formal and intensive training is required. In addition, literate and educated workers are quicker to learn as compared to illiterate and uneducated workers. So formers are easy to train as compared to the later.

In Ludhiana hosiery industry most of the workers are migrated from other states of India. There are hardly local workers available. In Ludhiana hosiery sector, most of the training is informal in nature. An unskilled worker first work as a helper in different activities of a hosiery unit example cutting, labeling, ironing, packaging etc. Over a period of time he becomes a skilled worker. A few units recruit trained worker having formal training. In Ludhiana hosiery cluster, several hosiery units recruit teenage boys and provide them on the job training in stitching (Author’s own). Also, there is one Apparel Training Design Centre to train workers.

1.8.3 Innovation and technology

Clothing industry is known with fashion and fashion is beautiful combination of fabric and innovative designs. Clothing industry is highly fashion driven in western world and
most of the innovative designing takes place in foreign land done by fashion designers of foreign buyers. Production takes place in Asian countries like India and China. Indian hosiery industry is not very technologically advanced. Evidences show that very limited investment is done in technology upgradation to improve productivity and product quality. It is still skill driven.

1.8.4 Lead time

Lead time is the time to deliver an order from date of confirmation to date of shipment from port. India needs to reduce the lead time in order to compete global supply chain standards (Chandra 2004). Custom have to reduce the shipment clearing time, frequency of trains from dry port of Ludhiana needs to be increased so that supply chain could be strengthened. There are string evidences that Ludhiana hosiery industry is struggling with its lead time. Most of the shipment dispatched are late and many times too late that shipments are done through air to display on overseas retailer’s shelf on time, although there is always scope of few days delay considered at the time of finalization of order. This leads to loss of profits in the form of airfreight which exporter has to pay to meet its commitment.

1.8.5 Institutional support

Textile policy has come long ways in reducing impediments for the industry sometimes driven by global competition and, at other times, by international trade regulations. Although governments at state level and centre level are providing support to make hosiery industry and textile industry as a whole. However, few areas of policy weakness
stand out labour reforms (which is hindering movement towards higher scale of operations by Indian firms), power availability and its quality, customs clearance and shipment operations from ports, and development of manpower for the industry. These are problems are faced not only by hosiery industry but facing several sectors of industry and not by this sector alone.

1.8.6 Managerial skills

Not only workers manpower development is required desperately but also managerial skills prevailing in Ludhiana hosiery industry is not very up to date and professionally managed. Almost all units are owned and managed by family members. The managerial practices are as per their convenience and there is no uniform industry practice. Hardly there is concept of employing professional and basics of scientific principles of management are missing. Hardly a hosiery manufacturer ever tried to implement ERP system, lean manufacturing or JIT, which most of the units in Far East countries are trying to adopt and have successfully implemented (Author’s own resource).

1.8.7 Labor Reforms

Indian labor laws are inflexible and not suitable to the needs of hosiery industry. It is eroding the competitiveness of India’s textile sector as a whole and affected its expansion of garmenting sector badly (Bedi 2009). Outdated labor laws have induced inflexibility and leads to fragmentation of composite textile mills into separate units. This has cost India considerably due to industry’s hesitation over expansion process even at the time of
quota elimination when India’s arch rival China invested heavily on modernization and expansion of textile and garmenting industry.

Most of the countries competing India have labor laws that are more flexible. For example, the Chinese apparel industry (including hosiery sector) has highly flexible labor laws that allow for lay-offs during the non-peak season, hiring of contract labor, and a flexible hiring and firing system in SEZ-based units. Similarly the Mexican apparel industry allows layoffs during slack season (Singh, 2007). So there is need for major reforms in labor laws to attract investment in the sector and make the sector more competitive. But even if the government adopts the long over due flexible labor policy in near future as recommended by many committees and analysts, hosiery units specially firms should follow restrained in executing mass layoffs during slack seasons particularly in skill based segments. They should rather attract and retain highly skilled workers and try to diversify themselves into high value sub-segments and increase their productivity during this period as has been exemplified by countries by Japan and Italy. In this way they will also be able to compete with their competitors during such times. It will be in the interest of both garmenting units and workers.

1.9 SWOT ANALYSIS OF LUDHIANA HOSIERY INDUSTRY

1.9.1 Strength
Ludhiana hosiery industry has various advantages because of which it is able to maintain its lead and established itself as major sourcing hub in India.
1.9.1.1 Abundant availability of raw material: Ludhiana hosiery is cotton based when it comes to summer wear knitwear and Acrylic based when it comes to winter wear. Ludhiana is rich in both i.e. production of cotton and cotton based blended yarn like cotton polyester or cotton viscose yarn and also in acrylic fibers production. Punjab itself is very large cotton growing area and spinning capacity is very high. Some of the largest spinners like Arihant, Vardhman, Nahar, Oswal etc are located in Punjab and in nearby areas. Also largest producer of acrylic fiber Indian Acrylics Limited is also located in Punjab only. Sewing thread producing company Mahavir Spinners is also located in Punjab only and all units are either in Ludhiana or very in close vicinity of Ludhiana and have warehouses in Ludhiana.

Ludhiana has edge over some of the international garment producing centers like Sri Lanka and Bangladesh. These nations have established themselves as garmenting base while all inputs they have to import. Therefore Ludhiana has great value chain advantage over these countries.

1.9.1.2 Monopoly in winter wears: Ludhiana produces approximately 80% of India’s winter wear knitted fabrics like sweaters, cardigans etc. The strong heritage Ludhiana is carrying in winter wear is giving it unique edge over other areas of India.

1.9.1.3 Government support: Governments at centre and state level are determined to support all sectors of textile and clothing industry. Various schemes are at place to support them and various monetary and non-monetary benefits are provided to various
sectors of textile industry including hosiery sector. All of these schemes meant for hosiery industry are discussed separately in this chapter only.

1.9.2 Weakness

Following are the weaknesses Ludhiana hosiery has been facing:

1.9.2.1 Poor level of Productivity: Indian hosiery industry is not very productive when compared to its counterpart in international markets. Table 5 depicts the productivity level of various products. The above figures are based on the number of pieces per machine per day. The calculations are based on data from statistics of ITMF, International Shipment statistics (Zurich), 2000. We can see that the productivity of India is low overall as compared to the competing countries in majority of the segments.

The data given in table 1.6 is for overall Indian hosiery industry and same figures can be considered for Ludhiana hosiery industry as well. No such data is available on specifically Ludhiana hosiery industry.

<table>
<thead>
<tr>
<th>Country</th>
<th>Blouse</th>
<th>Shirts</th>
<th>Ladies dress</th>
<th>Ladies skirts</th>
<th>Trousers</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Korea</td>
<td>14.59</td>
<td>17.39</td>
<td>8.77</td>
<td>17.54</td>
<td>15.55</td>
</tr>
<tr>
<td>Taiwan</td>
<td>18.89</td>
<td>18.18</td>
<td>12.44</td>
<td>16.63</td>
<td>16.12</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>20.56</td>
<td>20.87</td>
<td>20.17</td>
<td>19.25</td>
<td>19.25</td>
</tr>
<tr>
<td>China</td>
<td>10.93</td>
<td>13.96</td>
<td>7.83</td>
<td>13</td>
<td>6.71</td>
</tr>
<tr>
<td>Thailand</td>
<td>16.97</td>
<td>19.75</td>
<td>12.19</td>
<td>20.47</td>
<td>13.08</td>
</tr>
<tr>
<td>India</td>
<td>10.98</td>
<td>9.12</td>
<td>6.25</td>
<td>9.62</td>
<td>6.84</td>
</tr>
</tbody>
</table>

Source: Duraipandian R., R.Anitha (2007)
1.9.2.2 Level of Modernization: The rate of modernization, as shown in Table 1.7 is also found to be very low as compared to the major competing countries. This should be a top priority area in the post quota regime so as to combat with the increased competition. We have to improve on indigenous technology development and the Government has to take initiatives in this regard apart from the present Technology Up gradation Fund Schemes and other measures. As discussed earlier, the disbursement of funds under TUFS for hosiery sector is very less as compared to other sectors.

Table 1.7: Comparison of modernization of Indian hosiery industry vis-à-vis competitor countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Rate of modernization</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1.6</td>
</tr>
<tr>
<td>Mexico</td>
<td>12.8</td>
</tr>
<tr>
<td>Brazil</td>
<td>9.5</td>
</tr>
<tr>
<td>China</td>
<td>17.5</td>
</tr>
<tr>
<td>Thailand</td>
<td>20.6</td>
</tr>
</tbody>
</table>

Source: Duraipandian R., R.Anitha (2007)

1.9.2.3 Unavailability of skilled workforce: Ludhiana hosiery industry is facing acute shortage of skilled workers. Most of the workers in Ludhiana hosiery are migrated and there is virtually no local workforce available. These workers when land in Punjab in search of work, they are absolutely raw and no formal training is provided to them and what ever they learn in their lifetime it is on job. There is no ready to produce workers available (Author’s Own).

1.9.2.4 Locational disadvantage: Ludhiana is located in northern part of India and there is no port for shipment. Nearest port is located at least six days away by road and then
custom clearing time is also comparatively high in India, congestion at port make it more delayed (Author's Own resources).

1.9.2.5 Infrastructure: Ludhiana is not known for its good infrastructure. Nearest air port is in Chandigarh and road to Chandigarh is highly risky and accident prone. Most of the overseas buyers hesitate to travel on Indian roads due to high traffic and risky road structure. There is one aerodrome in Ludhiana but flight does not take place. Connectivity to Delhi is through Train and Road. Local beauty of Ludhiana can not be appreciated in any way. City is very congested and the infrastructure is in bad shape (Author's Own resources).

1.9.2.6 Managerial Skills: Ludhaina hosiery units lack managerial perfections and are managed in age old manner. Family owned companies are managed by their own style and there are no uniform practices prevailing in these units (Author's Own resources).

1.9.2.7 Electricity: Electricity in Punjab is very costly. The unit price is approximately Rs.5.50 per unit, which is second highest in India after Gujarat (The Tribune dt. 17/10/2010), but Gujarat has locational advantages being close to port.

1.9.2.8 Fragmented structure: Ludhiana hosiery industry is dominated by small players and very few large players can be identified. Small player's capacity to invest in new methods of production, innovative work and human development is very less because of which Ludhiana hosiery industry is facing problems of skilled workforce development.
and capacity expansions. The gain of this fragmentation is that the Ludhiana hosiery industry is still competitive because overhead cost is still very less when compared to organized sector (Author’s Own).

1.9.2.9 High cost of capital: In India the interest rates are higher when compared to its arch rival in textile like China. Although government has provided preferential interest rates on pre-shipment and post-shipment credits, but still it is on the higher side and need more rationalization.

1.9.2.10 No FDI allowed: FDI is not allowed in hosiery sector because of which this sector has not grown and modernised.

1.9.3 Opportunities:

1.9.3.1 Post MFA opportunity: After quota elimination, India and China are likely to dominate the textile and clothing industry world over. Due to strong raw material base, availability of labor and other factor inputs, India and China will lead the textile and clothing industry. The western nations have lost almost their textile base. Only fashion designing, research and development part will be taken care by western nations while production base will be Asian nations specifically China and India. The opportunity is huge.

1.9.3.2 Large domestic market: India is second most populated nation in the world. Per capita consumption of fabric is very less i.e. approximately 3 mtr per capita while global
average is approximately 6.8/mtr per capita. There is great potential to expand in
domestic market. Disposable income is increasing every year. Also price realization is
higher in domestic market and selling cost is also less. There are very bright chances to
expand in domestic market.

1.9.3.3 Garment designing centre: Ludhiana hosiery producers should increase the use of
CAD to design garments. This will increase their competitiveness in times to come. Fresh
designs are not only required in international markers but Indian market is also becoming
equally fashion trendy and demand for latest fashion products is on the rise.

1.9.4 Threats

1.9.4.1 Competition in domestic market: Competition will not only increasing in
international or export market but also in domestic market. With removal of cap on non-
export sector, large textile mills are stepping into domestic hosiery sector. For example
Alok Industries Ltd - India’s largest textile mill has put up state of the art knitting plant
for producing hosiery goods. In times to come, more and more textile firms are likely to
enter hosiery sector to tap this market (Author’s own).

Also, there is threat of imports of cheap hosiery products from countries like
China and Bangladesh. India is already importing cheap woven garments from China. In
times to come, hosiery products may be imported from China.
1.9.4.2 Ecological and social awareness: In last few years developed markets have seen extensive development in the for of increased consciousness on issues such as use of polluting dyes, usage of child labor, unhealthy working conditions. European importers are very stringent on compliance of SA8000\(^1\) and ISO14000\(^2\). This is putting pressure on industry to follow international labor and environmental laws. Ludhiana hosiery industry is not prepared to take on this challenge so far. Although there are no evidences of employment of child labor but working conditions are not healthy. Obtaining certificate of SA8000 and 14000 is not an easy job. It requires investment and lot of determination from management side to comply with these standards. This is where large players are needed because small units are not so determined to invest in such activities (Author's own).

1.9.4.3 Regional alliances: Regional trading blocs plays very influential role in international trade in the form of preferential duty structure. For example Mexico having free trade agreement (FTA) with US and Canada has edge over India and China. This will continue to dominate the international trade equation even in the times to come. To cope up with this large Chinese players have invested outside China to take benefit of preferential trade agreement but hardly there are any evidences that any Indian hosiery producer or Ludhiana hosiery producer having production base in Mexico or any other foreign location to take such benefit (Author's own).

\(^1\) SA 8000 is social audit standards which ensure the compliance as per minimum standards as prescribed.
\(^2\) ISO 14000 is standard of pollution norms.
1.10 ROLE OF STRATEGIES IN DEVELOPING COMPETITIVENESS

In the simplest form strategy is means to achieve goal. Or strategies are the means by which companies achieve their long term goals. Long term goals are the results expected due to strategies.

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Integration</td>
<td>Gaining ownership or increased control over the next step towards customer/consumer eg. distribution and retailers</td>
</tr>
<tr>
<td>Backward Integration</td>
<td>Seeking ownership or increased control of a firm’s suppliers of raw material/intermediate products to cut the cost of product.</td>
</tr>
<tr>
<td>Horizontal Integration</td>
<td>Seeking ownership or increased control over competitors through activities like M&amp;As and JV</td>
</tr>
<tr>
<td>Market Penetration</td>
<td>Seeking increased market share for present products in present markets through greater market offers</td>
</tr>
<tr>
<td>Market Development</td>
<td>Increasing present products into new geographical areas</td>
</tr>
<tr>
<td>Product Development</td>
<td>Seeking increased sales by improving present products or developing new ones</td>
</tr>
<tr>
<td>Concentric Diversification</td>
<td>Adding new but related products which are complementary in nature but having good growth potential.</td>
</tr>
<tr>
<td>Conglomerate Diversification</td>
<td>Adding new, unrelated products but having very high growth potential</td>
</tr>
<tr>
<td>Horizontal Diversification</td>
<td>Adding new, unrelated products for present customers to offer wider range and increase their dependence.</td>
</tr>
</tbody>
</table>

**Defensive strategies**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retrenchment</td>
<td>Re-grouping through cost and asset reduction to reverse declining sales and profits.</td>
</tr>
<tr>
<td>Divestiture</td>
<td>Selling a division or part of an organization</td>
</tr>
<tr>
<td>Liquidation</td>
<td>Selling all of a company’s assets, in parts, for their tangible worth</td>
</tr>
</tbody>
</table>

Source: F R David, 10th edition
The long term goals ideally should be quantitative, measurable, realistic, understandable, challenging, obtainable and congruent among the organizational units (David 10e). The strategies develop competitive advantage in a firm. Different strategies are briefly discussed in table 1.8:

1.10.1 Generic strategies

As is name implies that generic strategies are the generalized application of strategies. Normally strategies are used in combination with each other. Strategies allow an organization to gain competitive advantage in three different ways:

1.10.1.1 Cost leadership strategy: cost leadership strategy emphasize on producing standardized products at low per unit cost compared to its competitors for price sensitive customers. A primary reason for pursuing forward, backward, and horizontal integration strategies is to gain cost leadership strategies.

1.10.1.2 Differentiation strategy: differentiation strategy aims to producing products for segment of customers who are price insensitive and can afford to pay high price for products specifically designed for their lifestyle. It aims at providing unique products but meant for special segment based on their specific needs.

1.10.1.3 Focus strategies: it emphasizes to concentrate on small groups of consumers. A successful focus strategy depends upon an industry segment that is sufficient in
size and growth potential is good. Market penetration and market development strategies are source of focus strategies.

1.10.2 Porter’s five forces analysis of Ludhiana hosiery industry

The analysis of Ludhiana hosiery industry based on Porter’s five forces model is given below:

1.10.2.1 Threat of new entrants: High

Threat of new entrants is high and this industry may be developed in other states. For example first hosiery unit in Tirupur started in 1960s while by that time Ludhiana hosiery industry was far better established and growing, but today Tirupur hosiery industry is far bigger and successful than Ludhiana in international marker and better well established (Author’s own).

There is potential threat of new entrants from other states of India and from overseas markets as well. This is due to the following reason:

- Fragmented Industry
- Supportive policies
- Growing domestic and international markers
1.10.2.2  *Bargaining power of suppliers: Low*

Due to well established supplier base and abundant supply of raw material bargaining power of supplier is low (Author's own).

1.10.2.3  *Bargaining power of Buyer: Moderate*

Bargaining power of buyer is not very high because of large domestic market. India is growing faster than any of the developed nation and growth in domestic market is higher. Therefore there is always scope to expand in domestic market in case there is any decrease in demand from international market (Author's own).

Also, hosiery industry is fashion driven which keeps changing every season and there is always scope to offer new products every season. Therefore there is no scope of stagnation of market (Author's own).

1.10.2.4  *Rivalry among firms competing firms: High*

Hosiery industry is dominated by small players and unorganized sector. These small players always come under pressure of global brands and huge quantities because of which they always quote aggressive prices and squeeze the margins to any extent. This leads to unhealthy competition and sometimes failure for them (Author's own).

1.10.2.5  *Threat of substitutes: Low*

There is no close substitute to hosiery products whether summer wear or winter wear, therefore threat of substitute is low (Author's own).
From above analysis it is obvious that the weakest link in Ludhiana hosiery industry is fragmentation of hosiery industry. Otherwise all other points are in favour of hosiery products manufacturers and exporters.

1.10.3 Competitive advantage

Competitive advantage is the superior skill or resource a company acquires or develops over a period of time that allows it to outperform its competitors and delivers more value to its customers than its competitors. The superiority may be in terms of access to few natural resources which are not easily available to competitor companies, or developing some human skills in a way that it increases the productivity, quality or level of innovation in the company. To gain competitive advantage a company manipulates various resources over which it has direct control and these resources have ability to generate competitive advantage over the period of time and keep it ahead of its competitors. The purpose of developing strategies in the company is to achieve sustainable competitive advantage. Two basic types of competitive advantages are a) cost advantage and b) differentiation advantage. Cost advantage exists when a company is able to deliver a product or service with enhanced benefits at a price lower than its competitor and still maintain high level of profitability and growth. Differentiation advantage exists when a company is able to offer a product that exceeds its competitors in benefits delivered.

A model of competitive advantage is discussed in figure 1.4. The resources may be tangible and un-tangible assets a company acquires eg. Brand equity, reputation,
technology, patents, customer base, and special licenses etc. Skills or capabilities are the company's ability to perform few critical activities faster than its competitors. For example fast product development in different variants and product designing etc. Capacities are the quantum of production and its utilization efficiently. It may be referred to as supply of goods and service faster than competitors in any quantity.

1.10.4 Core competence

Core competence is something (a process, skill or asset) a company possesses or acquires or develops that differentiates the company from its competitors. This is something that forms the basis of the company and without which the company would be an ordinary player in the market. Core competence is the source of competitive advantage. In the
other words, this is something critical to have competitive advantage in the market place. Without core competence a company would not be able to dominate the market in long term, would lose good opportunities and may even lose control over the market over a period of time.

Core competence leads to development of core products. These core products are not directly sold to end customer but are intermediate products that helps in delivering large range of products. For example, consider a large organization as a tree and fruits as its end products. The limbs and trunk are the core products and branches are the various businesses or product lines. Core competence helps developing large range of products out of few core products.

![Diagram of Core Competence Working Model](image)

Figure 1.5: Core competence working model
1.11 BUSINESS MODEL WORKING IN HOSIERY INDUSTRY

Understanding business model makes it more meaningful to look into the problem and structure of problem. Figure 1.6 gives detail information on idea inception to garment production to shipment of order. The concept development takes place at overseas buyer’s product designing department based on the market research on market trends and offerings of competitor’s brands. Based on the information product is designed on paper through computerized software and sent to various vendors along with technical specification sheet for costing and sample making. The technical specification sheet presents nomenclature of garment and carries all information in detail from type of yarn to be used, size of yarn, type of dyes, colors, test specification and performance standards of garment. Costing plays an important role because product should be affordable and in line with the store’s image and customer profile. Once the samples are ready with vendors, these are sent to some testing laboratory like SGS, ITS and MTL which are international renowned fabric and garment testing laboratories. Once the report is received from the testing laboratory, it is matched with test specification prescribed, If all test results are OK, the samples are given to sales department to know the potential of the garment. Based on the sales forecast from sales team, the order quantities are finalized and price is negotiated with various vendors. Also other terms and conditions are settled.
Month 1    Month 2    Month 3    Month 4    Month 5    Month 6 to 7

Figure: 1.6: Garment designing and development model
Source: Uraiwan Pitimaneyeaykul (2004), Knitwear Development Process: A Case Study and Author's Own.
Figure 1.7 is another version of above but visible from Indian hosiery producer perspective. It starts with an enquiry from overseas buyer which comes in the form of paper design or garment piece which is supposed to be developed by hosiery unit. In a hosiery unit, merchandisers take care of buyers. A merchandiser is dedicated executive in the firm meant for business development and customer service. He is supposed to live and die with the customer and service him in best possible manner. On receiving sample, the merchandiser starts its work on garment development, arranges fabric and accessories and sends the garment to overseas buyer along with costing and specifications of garment. If all is fine and order is confirmed, then its job is to take care of order and dispatch the shipment well in time and keep the buyer updated on the performance of order.

![Diagram of customer service and order processing model](image.png)

**Figure 1.7**: Customer service and order processing model  
*Source: Author’s own*
1.12 MARKETING STRATEGIES

1.12.1 Marketing Mix

Marketing mix is the basic tool used by producers of goods and services to sell the goods and services produced by them to targeted customers. It consists of four Ps i.e. Product, Price, Promotion and Place/distribution. These four Ps are in fact basic and major marketing decision. Sometimes these are called marketing variables which a marketer always control to best satisfy its customer. The four Ps are as under:

1.12.1.1 Product: product is tangible or intangible (services) benefits a producer offers for some consideration. In hosiery industry, hosiery products and benefits associated with it are offered by a hosiery producer to target customers. The benefits of hosiery products are all functional benefits associated with it from body covering to warmth, look, status etc. Hosiery produces makes decision on which product to make for which segment of customer after careful analysis of requirements of each segment.

1.12.1.2 Price: Pricing decision involves pricing strategy to follow that would achieve organizational goal as well satisfy the target customer. There are various pricing strategies in international marketing. In International marketing, prices are most affected by the price of the product (under consideration) prevailing in the international markets. If the prices prevailing in China are substantially less, it will affect the pricing decision of Indian hosiery exporter. Also, the demand and supply of product, number of producers in
marker, exchange rate, and export incentives are other elements that play important role in price determination.

1.12.1.3  **Promotion:** Promotion refers to all decisions on communication on product, its benefits, unique features, price, distribution and other associated aspects of it like warranty, guarantee, etc to target customers. In hosiery industry, it involves participation in trade fairs, personal selling through visits to overseas customers, advertising, marketing communication budgets etc.

Figure 1.8: Marketing mix

Source: Author's own
1.12.1.4 **Place:** Place or distribution refers to all decision on how to get the product to customer in shortest period of time and at minimum cost and minimum spoilage. It includes warehousing, shipments, logistics and reverse logistics and inventory management.

1.13 **NEED FOR STUDY**

India came out of quota on 1\textsuperscript{st} January 2005. It was expected with the removal of quota, world wide textile base will be shifted to Asia. India was considered to be a major gainer from this opportunity. Textile being a labor intensive industry and India and China were the major beneficiaries from this due to availability of cheap labor. From year 2000 onwards, India and China started building infrastructure to encash this opportunity. This required major investment like replacement of old machinery with new ones.

Non Exporting sector of hosiery industry was reserved for SSI sector till May 2002. But for exporting sector, large players were welcome to expand. In 2002, non exporting sector was open for all. Most of the investment was done spinning, weaving, processing of woven sector and knitting or hosiery sector was not participating to the extent it was expected. So in 2002, this sector was no longer kept reserved for SSI.

In year, 2004-05 when quota was removed, India\textsuperscript{s} textile export decreased as compared to 2003-04. This was not expected. This was the first indication that India is not prepared to take on this opportunity. Same is the case with hosiery sector. In 8
months of 2005, China’s hosiery export increased by 2000%, this is at the cost of India. After re-imposition of quota restriction on China in 2005, India was relieved and got another 4 years to get prepared to compete China.

The purpose of study is to understand to which extent India has been able to prepare itself to take on this opportunity. On 1st January 2009, when China came out of quota permanently and India will have to face the competition from it. Also to understand to which extent Indian hosiery manufacturers have understood the importance of this opportunity and various marketing strategies adopted by the hosiery manufacturers and to understand problems faced by hosiery manufacturers.

Not many studies are available on Indian hosiery industry leaving much scope to do a comprehensive work on this.

1.14 OBJECTIVES OF STUDY

1. To analyze the growth and performance of Indian Hosiery Industry in the recent era.

2. To study the nature and types of strategies adopted by Indian Hosiery manufactures to fight the global competition.

3. To analyze the pricing & product and promotion and distribution management strategies adopted by Indian Hosiery Manufacturers.

4. To analyze the regulatory framework of Indian government to promote Indian hosiery industry.
5. To find the problems faced in strategic growth of Indian hosiery industry.

1.15 RESEARCH METHODOLOGY

Research design is a framework or blue print for conducting the research project. A research design serves as a bridge between what objectives have been established and what is to be done to achieve the objectives. It specifies the details of the procedures necessary for obtaining the information needed to solve research problem. Figure 1.9 represents the detailed research design classification. Solid part of the figure represents the methodology followed in our research.

Figure 1.9: A Classification of research design.
1.15.1 Exploratory Research Design

As its name implies the objective of exploratory research is to explore or search through a problem or situation to provide insight an understanding. Exploratory research is most widely used when 1) problem under preview is not clearly defined, 2) identify alternate courses of action, 3) identify the key variable and relationship between them for further examination, 4) gain insight for developing an approach to the problem, 5) establish priorities for further research. The problem in hand fit the criterion of exploratory study because there are various aspects of the problem and the precise nature of problem is not defined in literature we had have so far. Also, various aspects carry different level of priorities for different stake holders involved in it - eg. Government bodies, individual hosiery units, management, workers, buyers and society etc.

In general exploratory research is meaningful in any situation where the problem is not generalized and there could be multiple aspects of research problem in hand. There are multiple objectives to be achieved. Exploratory research is characterized by flexibility and versatility with respect to the methods because formal research protocols and procedures are not employed. It rarely involved structured questionnaires, large samples and probability sample plans. Rather researchers are alert to new ideas and insights as they proceed. Once a new idea or insight is discovered they may re-direct their exploration in that direction. That new direction is pursued until its possibilities are exhausted or another direction is found (Malhotra 5e).

Exploratory research is generally done through following methods:
Survey of Experts

1.15.1.1 Survey of Experts: first step towards information collection was to meet few industry experts to gain insight into the facts of the problems identified. Following industry experts were met:

i. Mr. Ashok Walia (Director), Apparel Export Promotion Council, Ludhiana
ii. Mr. Harpreet Singh (Lecturer), The Apparel Training & Design Centre, Ludhiana
iii. Mr. K. Vasant Kumar (Coordinator), India Knit fair Association, Tirupur

A series of meeting were held with Mr. Ashok Walia and Mr. Harpreet Singh to have deep insight into the facts and problems of Ludhiana hosiery industry. Variables were identified based on the discussion.

1.15.1.2 Pilot Survey: Pilot survey was done initially with most of the open end questions. In first pilot survey 5 hosiery units were visited and respondents were asked.
open end questions. Responses were recorded in mobile as well as handwritten. Based on the feedback, variables were short listed and questions were framed. In second pilot survey, again four hosiery units were visited and respondents were asked closed ended questions. Necessary amendments were done in the questionnaire. After two pilot surveys, the questionnaire was finalized with most of the close ended questions covering all necessary variables.

1.15.1.3 Secondary data analysis in a qualitative way: secondary data is collected from various government offices and government websites eg. Office of Director General of Foreign Trade, New Delhi (http://dgft.delhi.nic.in/), Office of Apparel Export Promotion Council, Ludhiana, Office of Textile Commissioner, Mumbai. Other than various international Journals are referred to collect the information. Some of these journals are International Journal on Textile and Clothing, Asian Textile Journal, Global Business Review.

1.15.1.4 Qualitative research: Primary data collected for the research problem in hand is qualitative in nature. There are various reasons for using qualitative research. It is not always possible that the respondents would truly understand the questionnaire and sometimes respondents are not willing to provide any confidential information. For example information on investment, turn over, etc. In general mostly data collected from industry or institutions or any other organizations is normally qualitative and not quantitative.
A classification of qualitative research procedure is given figure 1.10. In this research we have used direct or non-disguised method. The respondents were made aware of the purpose of the data collection.

Depth interviews were done with the help of questionnaire, in which one respondent at a time was interviewed and facts were probed. Each interview took approximately 25 to 30 minutes. Prior appointment was must to meet respondents.

![Figure 1.10: A Classification of Qualitative Research Procedure.](image)

1.15.2 Universe

There are approximately 400 hosiery manufacturers and exporters in Ludhiana. A list of 400 exporters is obtained from Apparel Export Promotion Council (AEPC), which is most reliable document because all units who are engaged in export of hosiery products are registered with AEPC. The universe is 400 units located in Ludhiana.
1.15.2.1 Target population: target population is the collection of elements/respondents that possesses the information sought. Here all 400 hosiery units are target population. The essential condition is that each unit must be manufacturer and exporter and has been in business of exports since quota elimination. Units established after 2005 are neither in the list of exporters given by AEPC not desirable because the units have not experienced the conditions of pre-quota elimination and may not serve the purpose of study.

1.15.2.2 Respondent: 1.) Respondent is the owner, partner or family member of owner of the hosiery unit. Hosiery unit is dominated by small scale sector and most of the units are run by family members. 2.) Also we contacted few of the middle level executives of the units. These are either production managers or merchandising head.

1.15.3 Sampling technique

Non-probability sampling technique is used for sampling purpose because it involves the personal judgment of researcher to include or exclude the respondent.

1.15.3.1 Judgment sampling: judgment sampling is a form of convenience sampling in which the inclusion or exclusion of respondent or element are purely based on the judgment of researcher. We have used this technique while selecting top and middle level executives of hosiery units. It was ensured that respondent is competent to provide required information.
1.15.4 Sample Size

The sample size of study is 101 companies engaged in manufacturing and exports of Hosiery products in Ludhiana region.

Primary data is collected from 101 top management executives and 16 middle level executives of the companies under study. These middle level executives are either production head, merchandising head or merchandisers working in the company.

1.15.5 Data analysis

Following statistical tools are used to analyze the data:

- Trend forecasting technique
- Chi Square test
- Factor Analysis
- Linear Regression model
- Correlation
- Descriptive analysis

1.16 SCOPE OF STUDY

The time period study is from year 2001-02 to till date. Since 2001-02 Indian textile industries has experienced a radical change. This has remained as the transition period. Few years before the quota elimination (1\textsuperscript{st} Jan 2005) the textile industry started shifted from west to Asia and India along with china are the major gainer of this shift. However this study shall be an attempt towards the changes the hosiery Industry experienced.
1.17 HYPOTHESIS

For the purpose of study few hypothesis are designed. These hypothesis lies at the heart of study.

Null Hypothesis:

**Ho(a):** There is significant increase in difference in export performance of hosiery industry in post quota regime i.e. between 2001-05 and 2005-09.

**Ho(b):** There is no significant change in exchange rate between pre-quota elimination and post quota elimination period

\[ \mu_1 = \mu_2 \]

**Ho(c):** there is no linear relationship between exchange rate and export performance of hosiery industry.

\[ \beta \neq 0 \]

**Ho(d):** the attitude of hosiery manufacturers towards quota elimination is not influenced by the growth registered by them.

**Ho(e):** there is no relationship between past performance and future performance or exporters who have performed in past may not perform in future.
**Ho(f):** looking at the big opportunity after quota elimination, the hosiery exporters have done substantial investment in various ways.

**Ho(g):** India infrastructure is enough to support the fast execution of hosiery export

**Ho(h):** Hosiery workers employed in Ludhiana hosiery industry are as skillful as employed in competitive countries.

**Ho(i):** There is no relationship between expected future growth and investment done in various activities

**Alternate Hypothesis:**

**H1(a):** There is no significant growth in hosiery exports in post quota regime.

**H1(b):** There is significant change in exchange rate between pre-quota elimination and post quota elimination period

**H1(c):** There exists linear relationship between exchange rate and export performance.

**H1(d):** The attitude of hosiery manufacturers towards quota elimination is influenced by the growth registered by them but cognitive.
**H1(e):** There is relationship between past performance and future performance or exporters who performed in past are expected to perform in future too.

**H1(f):** The investment done in various activities by hosiery exporters is not substantial enough.

**H1(g):** Indian physical infrastructure is not sufficient to support the fast execution of export shipments.

**H1(h):** Hosiery workers employed in Ludhiana hosiery industry are not as skillful as employed in competitive countries.

**H1(i):** There is relationship between expected future growth and investment done in various activities.