CHAPTER 1

INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

Export sector is one of the pivotal sector for developed economies in the world and which has been profoundly adopted by developing countries like China, South Africa, Brazil, Indonesia, Pakistan and India since 1980s. Exports mean selling the home country’s goods and services in other countries (Kumar 2007). Economies throughout the world engage in international trade (export and import) to gain from it. Resource rich countries and resource deficit countries are compelled to trade. Oil rich countries like Iran, Saudi Arabia, Iraq, United Arab Emirates etc., have crude oil in abundance but lack fertile land and hence they export crude petroleum and import agricultural commodities. According to Adam Smith (1776), countries gain from trade when it is the cheapest producer (absolute advantage) of a good than any other country. The theory of absolute advantage suggests that countries and should produce and export surplus of goods in which they have absolute advantage and import whatever else they need from other countries. David Ricardo (1817), Bertil Ohlin (1933) & Eli Heckscher (1919), Raymond Vernon (1966), Posner (1961) explained that trade is beneficial to all participating economies and for the world economy too.

The nations benefit in the form of foreign exchange earnings, employment generation, better utilization of resources, technology transfer, better quality in goods and services, increased revenue for the government and improved standard of living. Significantly, export sector earns foreign exchange, the quantum of which gives an economy a strategic advantage or disadvantage. In fact, the foreign exchange is essential for import of any items especially, during crises like war or epidemic as the countries need to import weapons or medicine it becomes a very precious resource for the countries. Thus, the important reasons for exporting is to earn the funds to pay for
imports. Besides, the policy measures of the government also have an impact on the external (export and import) sector. It is imperative that countries should export more to earn more foreign exchange. Thus, countries should identify and assess the factors that affect the export performance and also they should find out ways and means of overcoming those hurdles.

1.2 NEED FOR THE STUDY

The year 2008-09 witnessed much turbulence in the economic activities of the globe due to the US led recession which is also called as Great recession (Verick & Islam 2010). The US financial institutions were pining on the hope of making quick bucks assuming that the US economy will always grow. They lent to less-credit worthy borrowers for much higher interest rate. The sub-prime bubble exploded, triggered by a dramatic rise in mortgage delinquencies and foreclosures in the United States especially, in September 2008 when the world learnt that Lehman Brothers has collapsed, sometimes called as Lehman Shock (Paul & Ichinoise 2010; Jha 2009). The Indian economy was doing well before the global recession, reaching 9.6% (GDP) growth in 2006-07 which became 9.3% and 6.8% in 2007-08 and 2008-09 respectively due to the global financial crisis and global recession (Bhatt 2011).

During global economic crisis, the higher level of financial integration affected the economies in three ways: lowering domestic liquidity, causing stock prices to fall, and reducing companies’ access to overseas finance (Siddiqui 2009). Not only the Gross Domestic Product (GDP) growth rate but also the external sector too got affected by the global recession and the escalating euro crisis. During the first half of 2011-12, India’s exports witnessed a high growth of 40.6 per cent only to fall heavily from October 2011 as a result of the crisis originating in the periphery of the euro zone area and spreading to the core economies resulting in an evident mild growth (Kumari 2012). In the global exports of textiles, India ranked as the third largest exporter, trailing EU-27 and China. The textiles industry accounts for 14% of industrial production, which is 4% of GDP; employs 45 million
people and accounts for nearly 11% share of the country’s total exports basket. The report of Working Group constituted by the Planning Commission on boosting India’s manufacturing exports during 12th Five Year Plan (2012-17), envisaged India’s exports of textiles and clothing at USD 64.11 billion by the end of March 2017 (Ministry of Textiles 2013).

The share of textile export as against India’s total export of all commodities declined to 10.40% from 10.53 per cent during April-December 2012 as against April-December 2011 (Ministry of Textiles 2013). For Indian readymade garment industry, the major destinations are United States of America, United Kingdom, Germany, France, United Arab Emirates, Italy, Netherlands, Spain, Canada and Saudi Arabia. In 2008, United States of America, Germany, and France collectively accounted for 50% of India’s Ready-Made Garment (RMG) exports (Aziz 2011; Ministry of Textiles 2013). The Indian apparel industry is no longer feeling buoyant with exports falling sharply following weak demand in the United States of America. The readymade garment industry in India felt the heat of global turmoil as the apparel export fell 6.59% in September 2008 compared to the previous year as a direct consequence of the global economic slowdown (Singh & Yadav 2009).

Readymade garments account for almost 39% of the total textiles exports. Apparel and cotton textiles products together contribute nearly 72% of the total textiles exports (Ministry of textiles 2013). The global recession has affected the Indian economy which could be gauged from leading economic indicators like falling Foreign Direct Investment (FDI), stalled economic growth in the form of snail paced GDP growth of 5%, fluctuating and depreciating rupee, irritating current account deficit (CAD) situation, employment de-growth in certain sectors and some economies (that is the employment sector in other countries contributing to Indian job seekers), fall in overall exports etc. As the economies including India enhanced trade openness, it is imperative and prerogative to study the global recession and its impact on Indian export sector to suggest various stakeholders including the government, employer, employee, administrators the need for appropriate policy responses to be taken by government and strategies to be adopted by exporters.
1.3 STATEMENT OF THE PROBLEM

Apparel firms located at Tirupur is very famous for cotton-made knit-wears. Its products are very much familiar throughout the globe especially, in United States of America, United Kingdom and European Union for its superior quality and varieties of modern design. The export performance of hosiery products witnessed growth till 2006 and Tirupur has attained the position of an important hub for the apparel industry in India. It is called as the Dollar city, Banian city and Small Japan for its contribution to garment industry, export and foreign exchange earning potential (Vetrivel T & Manivannan L 2011). In 1925, Tirupur opened its first cotton knitting factory and the prolonged labour strike during 1930s in nearby cities had contributed to the establishment of new knitting factories at Tirupur (Arun et al. 2011). In 1935, Tirupur made humble beginning in the knitwear by starting the first manually operated hosiery factory (Shanmugasundaram et al. 2010) and Verona a garment importer visited Tirupur in 1978 which changed the entire gamut of business more export oriented (Arun et al. 2011; Uchikawa 2012). Tirupur apparel industry produces two major categories of products viz., banians meant for domestic market and T-shirts, inner-wears, sportswear, kids-wear and specially designed ladies-wears for exports. Tirupur exporters contributed 15% of the total knitwear exports of India in 1981. Tirupur garment industry export stood at Rs.11000 crores in 2006-07 but declined to Rs.9950 crores in the subsequent year (2007-08) onwards.

The collapse of American economy drastically affected most of the developing nations on various dimensions. The hosiery industry located in Tirupur was also very much affected. The hosiery entrepreneurs, those who had invested with sizeable amount of capital in export business have burnt their fingers and unable to retrieve from the huge loss. Simultaneously the state government’s strict implementation of pollution control policy, conservative attitude of banks while lending timely financial support (working capital) and power crisis amplified their problem and the hosiery entrepreneurs were forced to close the small scale hosiery units. Incidents of small entrepreneurs committing suicide surfaced and many small
entrepreneurs are either contemplating to go back (migrate) to their native places or already have migrated. The prevailing situation affected the quality and quantity of production and the export progress. After the intervention of the government of India, now the situation has changed and few leading exporters have switched over to Gujarat (another state in north India, India) for certain processing activities and the nationalized banks have been helping exporters’ to rejuvenate their business from the crisis.

Though the advantage of apparel industry in Tirupur are large and low-cost labour force, sizable supply of fabric, sufficiency in raw material and spinning capacities but the shortcomings like labour issues, power cuts, water scarcity, inability to dispense the effluents, failure of launching common effluent treatment plants, air pollution, poor roads affects the export progress. To retrieve from the issues of exporters during the global recession which started in 2008, the researcher has made an attempt to probe the following pertinent questions on the export performance of apparel industry in Tirupur.

1. Will the apparel exports industry in Tirupur be able to change the export trend which has been showing a stagnating trend?
2. To what extent the apparel industry in Tirupur was affected by the US and EU markets during the period of global recession?
3. What are the strengths and weaknesses of the apparel exporters in Tirupur?
4. What are opportunities and threats for the apparel export industry?
5. What are the short-term and long-term strategies of exporters in Tirupur?

1.4 OBJECTIVES OF THE STUDY
The following are the objectives of the study.
1. To assess the impact of global recession on the export performance of apparel industry in Tirupur.
2. To analyze the export performance of apparel industry in Tirupur.
3. To evaluate the strengths and weaknesses of and the opportunities and threats for the apparel exporters in Tirupur.
4. To find out the short-term and long-term strategies of apparel exporters in Tirupur.

5. To analyze the major problems faced by exporters and to suggest appropriate steps to be taken by various stakeholders to safeguard and for further strengthening of apparel export industry in India.

1.5 METHODOLOGY

1.5.1 Selection of sample

There are 900 registered members in Tirupur Exporters Association (TEA) in Tirupur. The sample is chosen from the members of Tirupur Exporters Association (TEA). The sample size is 600 and, these 600 exporters are chosen using stratified proportionate random sampling technique.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Strata criteria- export turnover</th>
<th>Strata- Name</th>
<th>No. of exporters</th>
<th>No. of responses</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than Rs.1 crore</td>
<td>Micro exporters</td>
<td>30</td>
<td>20</td>
<td>2/3</td>
</tr>
<tr>
<td>2</td>
<td>Rs.1-10 crore</td>
<td>Small exporters</td>
<td>619</td>
<td>413</td>
<td>2/3</td>
</tr>
<tr>
<td>3</td>
<td>Rs.10-20 crore</td>
<td>Medium exporters</td>
<td>182</td>
<td>121</td>
<td>2/3</td>
</tr>
<tr>
<td>4</td>
<td>More than Rs.20 crore</td>
<td>Large exporters</td>
<td>69</td>
<td>46</td>
<td>2/3</td>
</tr>
</tbody>
</table>

Source: Tirupur Exporters’ Association

It is apparent from the table 1.1 that the exporters are categorized into four strata based on their turnover. Out of 900 exporters, in the less than Rs.1 crore turnover category there are 30 exporters, in the Rs. 1-10 crore turnover category there are 619 exporters, in the Rs.10-20 crore turnover category there are 182 exporters and in the more than Rs.20 crore turnover category there are 69 exporters. Two-third of exporters from each of the above strata were taken for the study. Therefore in the sample of 600 exporters, 20 exporters are included from the less
than Rs.1 crore turnover category, 413 exporters are included from the Rs. 1-10 crore turnover categories, 121 exporters are included in the Rs.10-20 crore turnover category and 46 exporters are included from the more than Rs.20 crore turnover category.

1.5.2 Data collection

This study was based on both primary and secondary data. The primary data were collected from the apparel exporters who are members of Tirupur Exporters Association, Tirupur. Both English and Tamil version of the questionnaire were given to the selected exporters, the questionnaire is attached in the Appendix section of this thesis. The secondary data were collected from the Association of Export Promotion Council (AEPC), Ministry of textiles, International Monetary Fund (IMF), World Bank, World Trade Organization (WTO), Asian Development Bank (ADB), Reserve Bank of India (RBI), Central Statistical Organization (CSO), Tirupur Exporters’ Association (TEA), previous research articles, newspapers, books and internet web resources.

1.5.3 Construction of questionnaire

As the research tried to find out (describe) the nature of apparel export industry in Tirupur, the research may be called as descriptive research. The research problems and the questionnaire were all framed accordingly. Based on the inputs from the review of literature, the new questionnaire was drafted and circulated among research experts and research scholars for feedback on appropriateness of the sentence formation, clarity in explaining what is expected, format, sequence and conciseness. Based on those inputs, the questionnaire was re-drafted and pilot study was conducted. The pilot study helped the researcher to fine-tune the questionnaire that was eventually used in the data collection of this research. The researcher used closed-ended and open-ended questions in the questionnaire.

1.5.4 Framework of analysis

The focal point of the study was assessing the impact of global recession on the export performance of apparel exporters in Tirupur. Therefore the study
revolved around the dependent variable that is the export performance of apparel exporters and its relationship with the related independent variables.

1.5.5 Tools used in the study

The difference in the extent of turnover (export performance) of apparel exporters in Tirupur based on the period of establishment of export business, educational qualification, age, business experience, market diversification, organization of export business, brand ownership and dependence on others for manufacturing activity were studied by means of two-way tables, percentages, averages, ranges and standard deviation. The following section elaborates some of the important statistical tools used in this study.

1.5.5.1 Chi-Square Test

In order to assess as to whether there is a significant relationship between an independent variable and export performance (turnover) of apparel exporters, the chi-square ($\chi^2$) test was used and the formula is given below.

$$\text{Chi-square test } (\chi^2) = \sum \frac{(O - E)^2}{E}$$

Where, 
- $O =$ observed frequency 
- $E =$ expected frequency

And degrees of freedom = (R-1)* (C-1)

Where, 
- $R =$ number of rows
- $C =$ number of columns

1.5.5.2 Correlation

Correlation describes the strength of the relationship between two variables. Correlation was used to assess the strength of relationship that exists between two variables. A correlation coefficient is a measure of the strength of this relationship. Its symbol is '$r$' and its value lies between -1 and +1.
1.5.5.3 Structural Equation Model (SEM)

Structural equation modelling (SEM) is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative causal assumptions. The structural equation model (SEM) consists of graphical display, which has boxes and arrows. Boxes represent observed data and the arrows represent assumed causation. Within the model a variable that receives a one-way directional influence from some other variable in the system is termed as “endogenous” or dependent variable. A variable that does not receive a directional influence from any other variable in the system is termed as “exogenous” or independent variable.

When interpreting structural equation model (SEM) results, the values attached to one-way arrows (or directional effects) are regression coefficients, whereas two-way arrows (nondirectional relationships) are correlation coefficients; regression coefficients and correlations comprise the “parameters” of the model. The regression coefficients and correlations measure the strength of the relations between the variables. A regression coefficient of 0.70 or higher indicates a very strong relationship; 0.50 to 0.69 indicates a substantial relationship; 0.30 to 0.49 indicates a moderate relationship, 0.10 to 0.29 indicates a low relationship; 0.01 to 0.09 indicates a negligible relationship; and a value of 0 indicates no relationship. In this study the AMOS 20.0 statistical package was used to perform structural equation modeling.

1.5.5.4 Factor Analysis

Factor analysis is a factor reduction methodology. When the research assumes that there are so many variables that may have an influence of the
dependent variable i.e export performance of apparel exports then it may not be appropriate to retain all the variables as interpretation will become a cumbersome task. Therefore, it would be wise to reduce those many variables into sizable number of factors. Factor analysis helps in reducing the number of factors into sets of variables called as factors. Basically, there are two types of factor analysis namely, exploratory and confirmatory factor analysis. Exploratory factor analysis (EFA) attempts to discover the nature of the constructs influencing a set of responses. Confirmatory factor analysis (CFA) tests whether a specified set of constructs is influencing responses in a predicted way. This study is a confirmatory factor analysis and the factor analysis is carried out using statistical package SPSS 16.0.

1.5.5.5 K-means cluster analysis

K-means cluster analysis is a statistical tool designed to assign cases to a fixed number of groups (clusters) whose characteristics are not yet known but are based on a set of specified variables. This procedure attempts to identify relatively homogeneous groups of cases based on selected characteristics and the analysis was carried out using statistical package SPSS 16.0.

1.5.5.6 Comparative Fit Index (CFI)

The comparative fit index (Bentler 1990) is given by

$$CFI = 1 - \frac{\max (\hat{C} - d, 0)}{\max (\hat{C}_b - d_b, 0)} = 1 - \frac{\text{NCP}}{\text{NCP}_b}$$

where \( \hat{C}, d \), and NCP are the discrepancy, the degrees of freedom and the noncentrality parameter estimate for the model being evaluated, and \( \hat{C}_b, d_b \) and NCP\(_b\) are the discrepancy, the degrees of freedom and the noncentrality parameter estimate for the baseline model.

1.5.5.7 Normed Fit Index (NFI)

The Bentler-Bonett (1980) normed fit index, or \( \Lambda \) in the notation of Bollen (1989b) can be written as
\[ NFI = \Delta_1 = 1 - \frac{\hat{C}}{\hat{C}_b} = 1 - \frac{\hat{F}}{\hat{F}_b} \]

where \( \hat{C} = n\hat{F} \) is the minimum discrepancy of the model being evaluated and \( \hat{C}_b = n\hat{F}_b \) is the minimum discrepancy of the baseline model.

1.5.5.8 Relative Fit Index (RFI)

Bollen's (1986) relative fit index is given by

\[ RFI = \rho_1 = 1 - \frac{\hat{C}/d}{\hat{C}_b/d_b} = 1 - \frac{\hat{F}/d}{\hat{F}_b/d_b} \]

where \( \hat{C} \) and \( d \) are the discrepancy and the degrees of freedom for the model being evaluated, and \( \hat{C}_b \) and \( d_b \) are the discrepancy and the degrees of freedom for the baseline model. The RFIs obtained from the NFI by substituting \( F/d \) for \( F \). RFI values close to 1 indicate a very good fit.

1.5.5.9 Incremental Fit Index (IFI)

Bollen's (1989) incremental fit index is given by

\[ IFI = \Delta_2 = \frac{\hat{C}_b - \hat{C}}{\hat{C}_b - d} \]

where \( \hat{C} \) and \( d \) are the discrepancy and the degrees of freedom for the model being evaluated, and \( \hat{C}_b \) and \( d_b \) are the discrepancy and the degrees of freedom for the baseline model. IFI value close to 1 indicates a very good fit.

1.5.5.10 Parsimonious Normed Fit Index (PNFI)

The PNFI is the result of applying the James, Mulaik and Brett, 1982 parsimony adjustment to the NFI:

\[ PNFI = (NFI)(PRATIO) = NFI \frac{d}{d_b} \]

where \( d \) is the degrees of freedom for the model being evaluated, and \( d_b \) is the degrees of freedom for the baseline model.
1.5.5.11 Parsimony Comparative Fit Index (PCFI)

The PCFI is the result of applying the James, Mulaik and Brett, 1982 parsimony adjustment to the CFI:

$$ PCFI = (CFI)(PRATIO) = CFI \frac{d}{d_b} $$

where \( d \) is the degrees of freedom for the model being evaluated, and \( d_b \) is the degrees of freedom for the baseline model.

1.5.5.12 Tucker Lewis Index (TLI)

The Tucker-Lewis coefficient (\( \rho_2 \) in the notation of Bollen, 1989) was discussed by Bentler and Bonett (1980) in the context of analysis of moment structures, and is also known as the Bentler-Bonett non-normed fit index (NNFI).

$$ TLI = \rho_2 = \frac{\hat{C} - \hat{C}_b}{\hat{C}_b - 1} $$

where \( \hat{C} \) and \( d \) are the discrepancy and the degrees of freedom for the model being evaluated, and \( \hat{C}_b \) and \( d_b \) are the discrepancy and the degrees of freedom for the baseline model. The typical range for TLI lies between zero and one, but it is not limited to that range. TLI value close to 1 indicates a very good fit.

1.5.5.13 Root Mean Squared Error of Approximation (RMSEA)

\( \sqrt{\frac{F_0}{d}} \) incorporates no penalty for model complexity and will tend to favor models with many parameters. In comparing two nested models, \( \sqrt{\frac{F_0}{d}} \) will never favor the simpler model. Steiger and Lind (1980) suggested compensating for the effect of model complexity by dividing \( \sqrt{\frac{F_0}{d}} \) by the number of degrees of freedom for testing the model. Taking the square root of the resulting ratio gives the population "root mean square error of approximation", called RMS by Steiger and Lind, and RMSEA by Browne and Cudeck (1993).
\[ \text{population RMSEA} = \sqrt{\frac{F_0}{d}} \quad \text{estimated RMSEA} = \sqrt{\frac{\bar{F}_0}{d}} \]

1.5.5.14 Vector Error-Correction (VEC) Model

A vector error-correction (VEC) model is a restricted VAR designed for use with nonstationary series that are known to be cointegrated. The vector error correction model links the long-run equilibrium relationship between two or more non-stationary series implied by cointegration with the short-run dynamic adjustment mechanism that describes how the two series react when they move out of long-run equilibrium. The cointegration term is known as the error correction term since the deviation from long-run equilibrium is corrected gradually through a series of partial short-run adjustments. When the variables of a VAR are cointegrated, we use a vector error-correction (VEC) model. A VEC for two variables might look like

\[
\begin{align*}
\Delta y_t &= \beta_0 y_0 + \beta_{y1} \Delta y_{t-1} + \ldots + \beta_{yP} \Delta y_{t-P} + \gamma_{y1} \Delta x_{t-1} + \ldots + \gamma_{yP} \Delta x_{t-P} \\
&\quad - \lambda_y (y_{t-1} - \alpha_0 - \alpha_1 x_{t-1}) + v^y_t \\
\Delta x_t &= \beta_0 x_0 + \beta_{x1} \Delta y_{t-1} + \ldots + \beta_{xP} \Delta y_{t-P} + \gamma_{x1} \Delta x_{t-1} + \ldots + \gamma_{xP} \Delta x_{t-P} \\
&\quad - \lambda_x (y_{t-1} - \alpha_0 - \alpha_1 x_{t-1}) + v^x_t,
\end{align*}
\]

where \( y_t = \alpha_0 + \alpha_1 x_t \) is the long-run cointegrating relationship between the two variables and \( \lambda_y \) and \( \lambda_x \) are the error-correction parameters that measure how \( y \) and \( x \) react to deviations from long-run equilibrium. In this analysis, Eviews statistical software package was used to perform vector error-correction model.

1.6 SCOPE OF THE STUDY

The improved performance on the export front is good on many angles. First, the business confidence among apparel exporters will improve, the country will gain and ultimately the consumers also gain from such improved export activities.
The study is useful to exporters in Tirupur and in other districts or states in understanding the opportunities available for the industry. The exporters can strategize their activities based on the outcome of this research work.

The government by looking into the broader business environment and the strength and weaknesses of apparel industry can put forth suitable policy measure to enhance the export performance of this industry. The study is also helpful to economists who study the impact of recession on different economies and industries to suggest suitable economic policies for various governments and non-governmental international organizations. The study is beneficial to foreign buyers (importers) as it provides an insight into the characteristics and strategies of apparel exporters in Tirupur.

1.7 LIMITATIONS OF THE STUDY

The following were the limitations of the study.
1. As the cost and time was limited, the study was confined to Tirupur District only.
2. The findings and suggestions given in the study are derived from this analysis may not be generalized to other industries since, the core competencies of apparel sector may not be the same for other industries.
3. Also, the study has been undertaken during the period of recession while the industry has already survived for four years. Therefore, the results reflect the export performance of apparel industry during the crisis period and not during the periods of growth and prosperity and hence cannot be generalized.

1.8 CHAPTER SCHEME

The study consists of five chapters.

First Chapter consists of the introduction and the design of the study comprising, need for the study, statement of problem, scope of the study, objectives of the study, methodology adopted, limitations of the study and the chapter scheme.
Second Chapter deals with the review of relevant literature.

Third Chapter explores the evolution of textile industry at the global and India level, profile of Tirupur and export performance of apparel export industry in Tirupur.

Fourth Chapter presents the data analysis and interpretation.

Fifth Chapter summarizes the key findings and conclusions of the study. Based on the findings, few suggestions were recommended to various stakeholders for enhancing the export performance of apparel exporters in Tirupur.