A STUDY ON CONSUMER BUYING BEHAVIOR ON SELECTED DURABLE PRODUCTS IN KURNOOL

Dr. Haris Krishna¹ K. Ashok Raj²

ABSTRACT

The study of the consumer behavior is most important in the marketing, because the marketing purpose is to sell the products to right consumer. The current study has done in the Kurnool district and confined to only consumer buying decision on the selected durable products. The selected durable products are LCD/LED Television, Air-Conditioner, Refrigerator, Washing Machine and Computer/Laptop.

For the study, 200 respondents were selected. Ranking analysis technique is used for the data analysis. The sample has been selected by using simple random technique. Many of the respondents feel that LCD/LED television is essential product, Air Conditioner is luxury product, Refrigerator is comfort product, Washing Machine is comfort product and Computer or Laptop is essential product.

KEYWORDS

Consumer, Buying Behavior, Durable Products etc.

INTRODUCTION

There are many durable products in the market but the consumer preference is changing from time to time. The consumer buying behavior decision process consists of five stages i) Need Recognition/Problem recognition, ii) Information search, iii) Alternative evaluation, iv) Purchase decision, and v) Post-purchase behavior. The purchase decision is the most and complex decision took by the consumer. The consumer is not ready to spend time and money on the low value products. The consumer will always think about high value and reliable products, when the consumer is ready to go for the high value products they often go through the set process.

The study of the consumer behavior is most important in the marketing, because the marketing purpose is to sell the products to right consumer. The consumer research shows two different ways of buying the same product for different reasons, paid different prices and used in different ways. The main thing is that consumer should also have emotional attachment towards the product.

REVIEW OF LITERATURE

Naveen Kumar & Vijay Kumar et.al (2011) revealed in their paper that advertising is the main tool for selling by influencing the consumer. The main factors that influence the consumer are advertising & sales promotion. During the study they included all the products of nestle brand. The main finding found during most of the consumers are preferring the nestle brand in terms of quality, flavor and taste parameters. They also suggested that nestle should concentrate on more varieties and flavors; more on advertising in satellite channels to attract the more people towards the brand. Finally, they concluded that if any company were providing the best reasonable price with best quality, by doing this more consumers would shift from competitive brands.

Malika & Rajeev (2013) observed in the study clearly that many variables influence the consumer buying behavior like sales promotion, quality, schemes, durability and price towards ready garments. During the study the variables has been classified into four factors i) Economy, ii) Media affects, iii) Convenience and iv) Reference group. The highest variable factor is price and sales promotion. A sample of 240 respondents selected by using convenience-sampling technique. The main thing in the study is according to consumers there tend is to purchase repeatedly. As the sales promotion is main factor the company has to look more and more sales promotions and advertising.

OBJECTIVES OF THE STUDY

- To study and analyze the Consumer Buying Behavior towards selected Durable Products in Kurnool,
- To know impact on Consumer Buying Decision on Durable Products in Kurnool, and
- To offer Findings and Suggestions.

¹ Director & H.O.D., Dr. K. V. Subba Reddy College of Engineering for Women, Andhra Pradesh, India, haris.aleeya66@gmail.com
²H.O.D., Dr. K. V. Subba Reddy Institute of Management, Andhra Pradesh, India, chairmankvs@gmail.com
SCOPE OF STUDY

The current study has done in the Kurnool district and confined to only consumer buying decision on the selected durable products. The selected durable products are LCD/LED Television, Air-Conditioner, Refrigerator, Washing Machine and Computer / Laptop.

RESEARCH METHODOLOGY

The present study is based on the survey method and empirical in nature based on primary data and secondary data. Primary data was selected from the respondents through well-structured questionnaire. Secondary data was selected from journals, books, research articles, newspapers, magazines and websites. For the study, 200 respondents were selected. Ranking analysis technique is used for the data analysis. The sample has been selected by using simple random technique.

DATA ANALYSIS AND INTERPRETATION

Table-1: Opinion of the Respondents Regarding the Purpose of Consumer Durable Products

<table>
<thead>
<tr>
<th>Durable Product</th>
<th>Essential</th>
<th>Comfort</th>
<th>Luxury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Respondents</td>
<td>Percentage</td>
<td>Number of Respondents</td>
</tr>
<tr>
<td>LCD / LED T.V.</td>
<td>104</td>
<td>52</td>
<td>68</td>
</tr>
<tr>
<td>Air Conditioner</td>
<td>32</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>68</td>
<td>34</td>
<td>89</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>63</td>
<td>31.5</td>
<td>86</td>
</tr>
<tr>
<td>Computer / Laptop</td>
<td>109</td>
<td>54.5</td>
<td>62</td>
</tr>
</tbody>
</table>

From table-1 it is clear that many of the respondents feel that LCD/LED television is essential product (104), Air Conditioner is luxury product (126), Refrigerator is comfort product (89), Washing Machine is comfort product (86) and Computer or Laptop is essential product (109).

Table-2: Opinion of the Respondents on Consumer Durable Products Rank wise

<table>
<thead>
<tr>
<th>Product</th>
<th>Essential</th>
<th>Comfort</th>
<th>Luxury</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rank I</td>
<td>Rank II</td>
<td>Rank III</td>
</tr>
<tr>
<td>LCD / LED T.V.</td>
<td>61</td>
<td>34</td>
<td>9</td>
</tr>
<tr>
<td>Air Conditioner</td>
<td>5</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Refrigerator</td>
<td>32</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Washing Machine</td>
<td>27</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Computer / Laptop</td>
<td>53</td>
<td>32</td>
<td>24</td>
</tr>
</tbody>
</table>

From the table-2, ranking analysis states that many respondents ranked Rank I as the LCD/LED Television is the essential product (78), for Air Conditioner is the Luxury product (78), for Refrigerator is the comfort product (49), for Washing Machine is the comfort product (45), and for Computer/Laptop is the essential product (53).

FINDINGS

Many of the respondents feel that LCD/LED television is essential product, Air Conditioner is luxury product, Refrigerator is comfort product, Washing Machine is comfort product and Computer or Laptop is essential product.

CONCLUSION

The durable products are differing from each other with their usage and features etc., but the consumer buying behavior and preference is changes from time to time. The companies also should take steps according to buying behavior of consumer by increasing advertising about the product, availability of the varieties, and reasonable price etc.
REFERENCES


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AN ANALYTICAL STUDY OF NOTIONAL MULTI-COMMODITY INDICES WITH REFERENCE TO MULTI COMMODITY EXCHANGE IN INDIA FOR THE PERIOD 2009-2013

Dr. Kanchan D. Naidu3 Vishal Mehta4

INTRODUCTION

Organized commodity derivatives in India started as early as 1875. However, many feared that derivatives fueled unnecessary speculation and were detrimental to the healthy functioning of the markets for the underlying commodities. As a result, after independence, commodity options trading and cash settlement of commodity futures were banned in 1952. The commodities derivative markets dismantled and remained dormant for about four decades until the new millennium when the Government, in a complete change in policy, started actively encouraging the commodity derivatives market. Since 2002, the commodities futures market in India has experienced an unprecedented boom in terms of the number of modern exchanges, number of commodities allowed for derivatives trading as well as the value of futures trading in commodities.

OBJECTIVES OF STUDY

- To get in depth knowledge of the Commodity Futures Market in India.
- To examine the relationship between cash and future price movements of notional indices and assess correlation between the same.
- To assess whether the Multi Commodity Futures Market is efficient.
- To study the causality between the Commodity Futures Market with Commodity Spot Market.

HYPOTHESES

The following null hypotheses (H0) and the alternate hypotheses (H1) are formulated in order to test the followings:

- H0: The time series data are not efficient i.e. data is not produced in a random manner.
- H1: The time series data are efficient i.e. data is produced in a random manner.
- H0: Time series data of the indices under consideration does not have high correlation.
- H1: Time series data of the indices under consideration have high correlation.
- H0: There is no cointegration between the market indices of Commodity futures price and spot price.
- H1: There is cointegration between the market indices of Commodity futures price and spot price.
- H0: There is no causality between the market indices of Commodity futures price and spot price.
- H1: There is causality between the market indices of Commodity futures price and spot price.

RESEARCH METHODOLOGY

The research work was carried out using secondary data in the form of index values of spot and futures maintained by MCX. The period of study, 1st January 2009 to 31st December 2013, has been selected and daily closing prices have been considered for the study. Closing price of commodity futures and commodity spot has been kept together for the further study so that various methodologies can be applied to assess the time series data. MS-Excel and Eviews 7 was extensively used for the statistical analyses.

Runs Test: Runs Test is a non-parametric test that is carried out to test the weak form of efficiency of the time series being analysed. A test is used to test the randomness of the sequence. If the series has been produced in a random manner then the market is said to be efficient in the weak form and as already stated it means that the prices take into consideration the past prices and it is not possible to predict the price in the future on the basis of the past prices.

Correlation: Correlation is a statistical measure of how two variables move in relation to each other. The variables may move either in the same or in the opposite direction. Here, correlation between MCX Comdex Spot and Futures has been checked at level and with lags. Lagged correlation between two variables is checked because sometimes a time series may have a delayed response to the other series. So, in order to be certain here lagged correlation has been checked by introducing different lags. First the correlation between current spot price and lagged futures price i.e. the futures price that prevailed 30 days, 14 days and 7 days ago was checked and then lags were introduced in the spot prices.

3Associate Professor, Shri Ramdeobaba College of Engineering and Management, Maharashtra, India, kanchannaidu@rediff.com
4Assistant Professor, Shri Ramdeobaba College of Engineering and Management, Maharashtra, India, vismehta1@gmail.com
**Unit Root Test:** In statistics, a unit root test tests whether a time series variable is non-stationary using an autoregressive model.

A test of Stationarity (or nonstationarity) that has become widely popular over the past several years is the unit root test. It is first explained, then illustrated and then consider some limitations of this test. The starting point is the unit root (stochastic) process is:

\[ Y_t = \rho Y_{t-1} + u_t \]

Where \( u_t \) is a white noise error term. It is known that if \( \rho = 1 \), that is, in the case of the unit root, above equation becomes a random walk model without drift, which we know is a nonstationary stochastic process. Therefore, why not simply regress \( Y_t \) on its (one period) lagged value \( Y_{t-1} \) and finds out if the estimated \( \rho \) is statistically equal to 1? If it is, then \( Y_t \) is nonstationary. This is the general idea behind the unit root test of stationarity.

**Co-integration:** Co-integration is a statistical property of a collection \((X_1, X_2, \ldots, X_k)\) of time series variables. First, all of the series must be integrated of order 1. Next, if a linear combination of this collection is integrated of order zero, then the collection is said to be co-integrated. If two or more series are individually integrated (in the time series sense) but some linear combination of them has a lower order of integration, then the series are said to be co-integrated.

**Granger Causality Test:** Existence of long-run relationship gives a signal that there is causality. It is an essential or necessary condition but not a sufficient condition in all to know the direction of causality. For sufficient proof that there is causality, we can conduct the causality test by using Granger Causality test.

**DATA ANALYSIS**

In this section of Data Analysis, the data from MCX Comdex Spot and MCX Comdex Futures has been analyzed. The data has been tested for efficiency, Stationarity, Cointegration, causality and model adequacy. Various tests have been used for the purpose and as one goes further the entire scenario emerges.

**Runs Test**

<table>
<thead>
<tr>
<th>Table-1</th>
<th>Table-2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MCXCOMSPOT</strong></td>
<td><strong>MCXCOMFUTURES</strong></td>
</tr>
<tr>
<td>R</td>
<td>602</td>
</tr>
<tr>
<td>N</td>
<td>1259</td>
</tr>
<tr>
<td>N1</td>
<td>680</td>
</tr>
<tr>
<td>N2</td>
<td>579</td>
</tr>
<tr>
<td>E-R</td>
<td>626,4487689</td>
</tr>
<tr>
<td>VAR-R</td>
<td>310,4616166</td>
</tr>
<tr>
<td>STDEV-R</td>
<td>17,61992102</td>
</tr>
<tr>
<td>Z</td>
<td>-1.387564044</td>
</tr>
<tr>
<td>P-VALUE</td>
<td>0.165269837</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

H₀: The sequence has been produced in random manner.
H₁: The sequence has not been produced in random manner.

Here, Runs test has been applied on individual series MCX Comdex Spot and MCX Comdex Futures. A close study of tables 1 and 2 reveals that the sequences (MCX Comdex Spot and MCX Comdex Futures) are efficient in the weak form. Since, the p-values are greater than 5%, the null hypothesis cannot be rejected and it is concluded that both the series MCX Comdex Spot and MCX Comdex Futures are efficient.

The series are efficient means that it is not possible to predict the prices based on the past prices. Once it has been established that individually each of the series is efficient there is a need to check correlation between the two.
Correlation

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Correl 30 Lag in Future</th>
<th>Correl 14 Lag in Future</th>
<th>Correl 7 Lag in Future</th>
<th>No Lag</th>
<th>Correl 7 Lag in Spot</th>
<th>Correl 14 Lag in Spot</th>
<th>Correl 30 Lag in Spot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correlation Between Comdex Spot and Comdexfut</td>
<td>96.79%</td>
<td>98.00%</td>
<td>98.72%</td>
<td><strong>99.42%</strong></td>
<td>99.02%</td>
<td>98.33%</td>
<td>97.20%</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-3 clearly shows that the MCX Comdex Spot and Futures are highly correlated. Even in case of tests with lags, the correlation is very high although correlation reduces with increases in lags. Here, it is important to plot a graph and observe the movement.

Figure 1

Figure 1 depicts the time series plot of MCX Comdex Spot and MCX Comdex Futures. The index values / prices (daily closing values) are taken at level. A close observation of the plot reveals that both the series move in the same direction. The above plot also shows an upward movement in both the series.

The VAR Lag order selection criterion in E Views has been used for Lag Selection. A lag is been selected as the smallest value under AIC (the criteria that will be followed throughout the research) which is 18.95492 and this value occurs when the lag is 10. Now this value can be used to check the Stationarity of the two series. For checking the Stationarity of the series, the Augmented Dickey Fuller Unit Root test has been conducted.

Unit Root

MCX Comdex Spot

Table-4

<table>
<thead>
<tr>
<th>Null Hypothesis: COMSPOT has a unit root</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exogenous: Constant</td>
</tr>
<tr>
<td>Lag Length: 2 (Automatic - based on AIC, maxlag=10)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>t-Statistic</td>
</tr>
<tr>
<td>---------------------------------------</td>
</tr>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
</tr>
<tr>
<td>Test critical values:</td>
</tr>
<tr>
<td>1% level</td>
</tr>
<tr>
<td>5% level</td>
</tr>
<tr>
<td>10% level</td>
</tr>
</tbody>
</table>


Sources: Authors Compilation
Table 4 shows the results of the Augmented Dickey Fuller test that has been applied for testing whether MCX Comdex spot series has unit root or is stationary. The Probability value is 0.3299, which is more than 5%. Thus, the null hypothesis cannot be rejected. Here, the null hypothesis is Comdex Spot has a Unit root. Thus, the series MCX Comdex Spot has a Unit root that means it is non-stationary.

**MCX Comdex Futures**

### Table 5

<table>
<thead>
<tr>
<th>Null Hypothesis: COMFUT has a unit root</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exogenous: Constant</td>
</tr>
<tr>
<td>Lag Length: 3 (Automatic - based on AIC, maxlag=10)</td>
</tr>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
</tr>
<tr>
<td>Test critical values:</td>
</tr>
<tr>
<td>1% level</td>
</tr>
<tr>
<td>5% level</td>
</tr>
<tr>
<td>10% level</td>
</tr>
</tbody>
</table>

**Note:** *MacKinnon (1996) one-sided p-values.

**Sources:** Authors Compilation

Table 5 shows the results of the Augmented Dickey Fuller test that has been applied for testing whether the MCX Comdex Spot has unit root or is stationary. The Probability value is 0.4425, which is more than 5%. Thus, the null hypothesis cannot be rejected. Here, the null hypothesis is Comdex Future has a Unit root. Thus, the series MCX Comdex Future has a Unit root that means it is non-stationary.

One of the necessary conditions that must be fulfilled if two series are to be co integrated is that individually the two must be Non-stationary.

### Regression Equation

**Table 6**

**Dependent Variable:** COMSPOT  
**Method:** Least Squares  
**Date:** 11/06/15 **Time:** 10:37  
**Sample:** 1 1534  
**Included observations:** 1534

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMFUT</td>
<td>1.072461</td>
<td>0.002973</td>
<td>360.7231</td>
<td>0.0000</td>
</tr>
<tr>
<td>C</td>
<td>-224.1555</td>
<td>9.881040</td>
<td>-22.68542</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

| R-squared | 0.988363 | Mean dependent var | 3271.482 |
| Adjusted R-squared | 0.988356 | S.D. dependent var | 700.6574 |
| S.E. of regression | 75.60685 | Akaike info criterion | 11.49027 |
| Sum squared resid  | 8757519. | Schwarz criterion | 11.49723 |
| Log likelihood     | -8811.040 | Hannan-Quinn criter. | 11.49286 |
| F-statistic        | 130121.2 | Durbin-Watson stat | 0.364471 |

**Sources:** Authors Compilation
A look at Table no 6 gives the regression equation below:
Com Spot = -224.1555 + 1.072461 *Com Fut + U (error term)---i)

The above equation is then used to create a residual series, which will then be subjected to Stationarity test. Before subjecting the residual series to Stationarity test, the residual series is graphically plotted.

**RESIDUAL Graph**

![Residual Graph](image)

**Sources:** Authors Compilation

A close observation of figure 2 reveals that the residual values revert to the mean almost every time except on some occasions. Since, the Graph is not reverting to the mean throughout there is a need to check the Stationarity of the residual.

**Unit Root Test of Residual**

**Table-7**

<table>
<thead>
<tr>
<th>Exogenous: Constant</th>
<th>Lag Length: 9 (Automatic - based on AIC, maxlag=10)</th>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Augmented Dickey-Fuller test statistic</td>
<td>-3.149975</td>
<td>0.0233</td>
<td></td>
</tr>
<tr>
<td>Test critical values:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1% level</td>
<td>-3.434434</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5% level</td>
<td>-2.863231</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10% level</td>
<td>-2.567718</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


**Sources:** Authors Compilation

The above Table 7 depicts the results of ADF test conducted on the residual series and the probability value is 0.0233, which is less than 5% thus, the Null hypothesis can be rejected. Therefore, the Residual is Stationary.

Since, the second important condition for cointegration is that the residual series must be stationary and it has been satisfied so it can be concluded that the MCX Comdex Spot and MCX Comdex Future are co integrated.

Cointegration clearly establishes that the two series have a long term and stable relationship. It is an important condition to check the possibility of hedging and ultimately reduction of risk. For better understanding of risk and the possibility of reducing risk, it is also important to know the influence of one time series on the other. Whether MCX Comdex Spot is influencing MCX Comdex Futures, vice versa, or are both influencing each other is an important question that needs to be answered. Moreover, it is also important to find out whether the influence is for short run or long run.
Granger Causality test

Table-8

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMFUT does not Granger Cause COMSPOT</td>
<td>1524</td>
<td>116.296</td>
<td>4E-179</td>
</tr>
<tr>
<td>COMSPOT does not Granger Cause COMFUT</td>
<td>2.51918</td>
<td>0.0053</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

The above Table 8 depicts the result of Granger Non Causality Test. Looking at the p values (4E-179 and 0.0053) it is evident that there is bidirectional causality running from Comdex futures to Comdex spot and vice versa.

CONCLUSION

Based on the data collected and analyzed it is been concluded that the Market is having a weak form of efficiency which means that it is not possible to predict the prices based on the past prices. The MCX Comdex Spot and Futures are highly correlated. Even in case of tests with lags, the correlation is very high although correlation reduces with increases in lags. MCX Comdex Futures as well as Spot is having Non Stationarity at level and the residuals are stationary. Basic condition for cointegration has been satisfied so it can be concluded that the MCX Comdex Spot and MCX Comdex Future are co integrated.

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*****

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(Mobile): +91-09419216270 – 71
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contactus@pezzottaitejournals.net
ABSTRACT

China is regarded as an emerging economy not only because of the higher growth rate it had achieved in last few years but also it had helped other countries to achieve higher growth rate. The basic question remains unanswered with respect to the quantitative assessment of the effect that China had brought to the different countries. China growth could influence growth in other countries through a number of channels. The most obvious channel is international trade, with higher China growth contributing to a rise in import demand that is directly reflected in an increase in the net exports of other countries. However, there are other channels as well. Given the relatively advanced state of China technology, additional spillover effects could include an impact on investment and technology transfers along the lines discussed in the literature on trade and growth. In addition, with China foreign direct and portfolio investment playing a large role in the capital flows of some countries, the effects of China growth could be transmitted through financial linkages.

A quantification of the overall impact of China growth on growth of the rest of world requires a formal econometric analysis. This paper reports results from such an analysis using panel data for the years 2002-14 for top five trading partners of China. The result shows that there is positive relation between the China growth rate, trade balance and the growth of the selected nations and the major factors that had turned out to be more significant is the growth of China itself.

KEYWORDS

Panel Data, Growth Rate, Spillover effect, Trade Balance etc.

INTRODUCTION

The process of growth and structural transformation has been going on for 30 years in China. Yet it is only recently that it has taken centre stage in the global debate on economic development. The reason is clear: China's rise has major external repercussions. There is concern in many parts of the world that China's expansion squeezes them out. In other parts of the world there is hope that China's rise pulls them up. Both the threats and opportunities are increasingly visible. Both competition and complementarity with China have significant effects on earning opportunities throughout the world. The effects are so significant because three things come together: China's size, fast growth and openness. Trade in goods and services (imports plus exports) amount to over 70% of GDP, compared with 25-30% in the cases of USA, Japan or the European Union. China's economic growth has required huge increases in imports and resulted in huge increases in exports. This combination of big size, rapid growth and openness is historically unprecedented.

LITERATURE REVIEW

Empirically, there appears to be good evidence that international trade affects economic growth positively by facilitating capital accumulation, industrial structure upgrading, technological progress and institutional advancement. Specifically, increased imports of capital and intermediate products, which are not available in the domestic market, may result in the rise in productivity of manufacturing (Lee, 1995). More active participation in the international market by promoting exports leads to more intense competition and improvement in terms of productivity (Wagner, 2007). Learning-by-doing may be more rapid in export industry thanks to the knowledge and technology spillover effects. In addition, the benefits of international trade are mainly generated from the external environment, appropriate trade strategy and structure of trade patterns. There are comprehensive empirical studies on the impact of trade on economic growth. Before the 1960s, research on trade effects was limited to a few specific countries. With the development of econometrics, however, many complicated methods based on a mathematical model were introduced to analyze the interactive impact between trade and economic growth. So far, the discussions in this area have been generally divided into two categories. One focuses on the causality relationship between international trade and economic growth to examine whether economic growth is propelled by international trade or vice versa. The other mainly discusses the contribution of foreign trade to economic growth. The OECD (2003) conducted a study on the impact that trade had on the average income per population. According to the result, the elasticity of international trade was 0.2, which was statistically significant. Maizels (1963) discussed the positive relationship between international trade and economic development by a rank correlation analysis among 7 developed countries. Kavoussi (1984), after studying 73 middle and low-income developing countries, found out that higher rates of economic growth was strongly correlated with higher rates of export growth. He showed that the positive correlation between

5Post Doctoral Fellow, Department of Commerce, University of Lucknow, Uttar Pradesh, India, saif007alam@rediffmail.com

exports and growth holds for both middle- and low-income countries, but the effects tend to diminish according to the level of development. Balassa (1986) and Dollar (1992) argued that outward-oriented developing economies achieve indeed much more rapid growth than inward-oriented developing ones. Sachs and Warner (1995) constructed a policy index to analyze economic growth rate, and found that the average growth rate in the period after trade liberalization is significantly higher than that in the period before liberalization. Kraay (1999) investigated whether firms “learn” from exporting using a panel data of 2105 Chinese industrial enterprises between 1988 and 1992, and found the “learning” effects are most pronounced among established exporters. Keller (2001) discussed that international trade which involves importing intermediate goods of a high quality contributed to the diffusion of technology. Frankel and Romer (1999) constructed measures of the geographic component of countries’ trade, and used those measures to obtain instrumental variables estimates of the effect of trade on income. The result showed that trade has a quantitatively large and robust positive effect on income even though it is only moderately significant statistically. Coe and Helpman (1995) studied the international R&D diffusion among 21 OECD countries and Israel over the period of 1971-1990, and found that international trade is an important channel of transferring technology. In sum, most empirical studies support the positive effects of openness on economic growth. From the comprehensive literature, both static and dynamic gains from trade could be found. The static gains from international trade refer to the improvement in output or social welfare with fixed amount of input or resource supply. They are mainly the results from the increase in foreign reserves and national welfare. Firstly, opening up to the global market offers an opportunity to trade at international prices rather than domestic prices. This opportunity provides a gain from exchange, as domestic consumers can buy cheaper imported goods and producers can export goods at higher foreign prices. Furthermore, there is a gain from specialization. The new prices established in free trade encourage industries to reallocate production from goods that the closed economy was producing at a relatively high cost (comparative disadvantage) to goods that it was producing at a relatively low cost (comparative advantage). By utilizing its comparative advantage in international trade, a country could increase the total output and social welfare. Another long-term benefit of trade is the dynamic gain. This refers to the change in production structure thanks to the adoption of new technologies from abroad and an increase in the production scale. Firstly, international trade sectors based on comparative advantage always enjoy the economies of scale through the expansion in production stimulated by the massive demand from the global market. This results in the decrease of production costs, a large amount of accumulation of capital and increase in employment. Secondly, international trade is one of the channels supporting technological spillovers among countries, which results in a favorable impact on the productivity level (Saggi, 2000). Endogenous growth of an open economy is achieved through “learning by doing” which exhibits diffusion of technology across goods and countries. International trade, which transmits knowledge internationally, could increase the absorptive capacity of trading countries by promoting technological advancement. Increased productivity is also achieved through practice and innovation. Finally, international trade leads to robust institutional changes. International trade not only facilitates trading of goods and services, but also ideas on market mechanisms. Developing countries are learning to apply market power more efficiently with less intervention from government to increase openness. Especially in bilateral and multilateral trade, participants should fulfill their commitments to international rules and regulations to bridge the gap between developed countries.

OBJECTIVES OF STUDY

- To analyses the growth rate in the China and its trading partner.
- To analyses, the change in the trade balance of China with respect to selected trading partners.
- Finding out the impact of the China’s growth rate and trade balance on the selected countries.

METHODOLOGY USED

As the aim of the paper is to find the impact of China on its top five trading partners, variables that are selected are the growth rate of the China and its partner and its trade balance with the partner country. Countries that are selected for analyses are- Germany, Hong Kong, Japan, Korea and U.S.A. This paper is based on the secondary source of information, the major information is extracted from the official website of the World Bank for growth rate of the selected countries, and for getting, and the data on the trade balance International Trade Centre website has been used. Time of analysis is 2002-2014 and the panel regression has been used.

RESULTS

Table 1.1 shows the growth rate of the China and the countries selected for analyses. Form the table it can be seen that growth rate for China and Korea has always been positive and China growth rate has been positive for six year out of thirteen years that are under study.

Table 1.2 shows the percentage change in the trade balance of China with respect to the selected countries. On running the generalized least square (GLS) regression, the results as expected were achieved. As expected, the effect of China growth rate and the trade balance is positive on its trading partner but to a surprise, the constant term is negative means if the selected variables are zero this will result in the negative growth rate in the selected nations. The value of the r-squared overall is 15.49% whereas between and within group is 39.42% and 18.83% respectively.
CONCLUSION

Thus from the above study it can be concluded that the growth rate and the trade balance of China have the positive impact on the selected countries of the world. Although this study has used only two explanatory variable i.e. growth rate and the % change in trade balance of China there is ample scope for further research on this topic and other variables such as; foreign direct inflows and outflows, size of the economy, openness etc., may also be included in the explanatory variables list. Still this work is unique in the sense that until now most of the research only focuses on comparing the growth rate rather than finding its impact on the other country growth rate.

APPENDIX

Table-1: Growth Rate of Selected Countries

<table>
<thead>
<tr>
<th>Years</th>
<th>Germany</th>
<th>Hong Kong</th>
<th>Japan</th>
<th>Korea</th>
<th>U.S.A</th>
<th>China</th>
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<tr>
<td>2002</td>
<td>1.79</td>
<td>1.66</td>
<td>0.29</td>
<td>7.43</td>
<td>0.01</td>
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<td>2003</td>
<td>2.81</td>
<td>3.06</td>
<td>1.69</td>
<td>2.93</td>
<td>-0.71</td>
<td>10.02</td>
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<tr>
<td>2004</td>
<td>3.79</td>
<td>8.70</td>
<td>2.36</td>
<td>4.90</td>
<td>1.17</td>
<td>10.08</td>
</tr>
<tr>
<td>2005</td>
<td>3.35</td>
<td>7.39</td>
<td>1.30</td>
<td>3.92</td>
<td>0.71</td>
<td>11.35</td>
</tr>
<tr>
<td>2006</td>
<td>2.67</td>
<td>7.03</td>
<td>1.69</td>
<td>5.18</td>
<td>3.70</td>
<td>12.69</td>
</tr>
<tr>
<td>2007</td>
<td>1.78</td>
<td>6.46</td>
<td>2.19</td>
<td>5.46</td>
<td>3.26</td>
<td>14.19</td>
</tr>
<tr>
<td>2008</td>
<td>-0.29</td>
<td>2.13</td>
<td>-1.04</td>
<td>2.83</td>
<td>1.08</td>
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<td>-2.46</td>
<td>-5.53</td>
<td>0.71</td>
<td>-5.62</td>
<td>9.23</td>
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<tr>
<td>2010</td>
<td>2.53</td>
<td>6.77</td>
<td>4.65</td>
<td>6.50</td>
<td>4.08</td>
<td>10.63</td>
</tr>
<tr>
<td>2011</td>
<td>1.60</td>
<td>4.81</td>
<td>-0.45</td>
<td>3.68</td>
<td>3.66</td>
<td>9.48</td>
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<tr>
<td>2012</td>
<td>2.32</td>
<td>1.70</td>
<td>1.75</td>
<td>2.29</td>
<td>0.41</td>
<td>7.75</td>
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<tr>
<td>2013</td>
<td>2.22</td>
<td>3.07</td>
<td>1.61</td>
<td>2.90</td>
<td>0.30</td>
<td>7.68</td>
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<tr>
<td>2014</td>
<td>2.39</td>
<td>2.50</td>
<td>-0.10</td>
<td>3.31</td>
<td>1.60</td>
<td>7.27</td>
</tr>
</tbody>
</table>

Sources: World Development Indicators

Table-2: Percentage Change in Trade Balance of China with Selected Countries

<table>
<thead>
<tr>
<th>Years</th>
<th>Germany</th>
<th>Hong Kong</th>
<th>Japan</th>
<th>Korea</th>
<th>U.S.A</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>25.45</td>
<td>28.61</td>
<td>-333.70</td>
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<td>2003</td>
<td>35.79</td>
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<tr>
<td>2005</td>
<td>-127.34</td>
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<td>-21.12</td>
<td>21.18</td>
<td>42.34</td>
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<tr>
<td>2006</td>
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<td>28.76</td>
<td>46.45</td>
<td>8.37</td>
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<tr>
<td>2007</td>
<td>37.97</td>
<td>18.75</td>
<td>32.59</td>
<td>4.69</td>
<td>13.24</td>
</tr>
<tr>
<td>2008</td>
<td>1.76</td>
<td>3.60</td>
<td>8.09</td>
<td>-19.26</td>
<td>4.67</td>
</tr>
<tr>
<td>2009</td>
<td>-270.94</td>
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<td>-4.18</td>
<td>27.92</td>
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<tr>
<td>2010</td>
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<td>30.82</td>
<td>68.63</td>
<td>42.36</td>
<td>26.13</td>
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<tr>
<td>2011</td>
<td>163.15</td>
<td>22.54</td>
<td>-16.87</td>
<td>14.69</td>
<td>11.51</td>
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<tr>
<td>2012</td>
<td>39.16</td>
<td>21.01</td>
<td>-43.40</td>
<td>1.58</td>
<td>8.31</td>
</tr>
<tr>
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<td>18.02</td>
<td>20.53</td>
<td>-53.78</td>
<td>13.39</td>
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</tr>
<tr>
<td>2014</td>
<td>20.42</td>
<td>-4.88</td>
<td>10.89</td>
<td>-2.33</td>
<td>10.01</td>
</tr>
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</table>

Sources: International Trade Centre

REFERENCES


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THE MASS MEDIA AND IT’S IMPACT ON ECONOMICS: A CONCEPTUAL VIEW ON MEDIA CULTURE

Dr. Tapesh Kiran6 Dr. A. V. N. Murty7

ABSTRACT

Mass media is suggested to be a catalyst toward economic impact. Studies prove that media information has either a negative or a positive effect, which in turn can influence individual’s attitude. Consumer behavior research supports the idea that negative media content on the certain issues can cause the economy to fluctuate. The effects of mass media are theoretically applicable to the fluctuations in economic development and are either direct or indirect. It is noted that several of the most commonly mentioned intended media effects are: 1) the effects of advertising on purchasing, 2) the effects of political campaigns on voting, 3) the effects of public service announcements on personal behavior and social improvement, 4) the effects of media ritual on social control. It is also seen that the most commonly mentioned unintended media effects; 1) emotional behavior, 2) the impact of media images on the social construction of reality, 3) the effects of media bias on stereotyping, and 4) how media forms affect cognitive activity and style. In addition to these media effects, the effects on research of other areas of media effects are: 1) knowledge gain and distribution throughout society, 2) diffusion of innovations, 3) socialization to societal norms, and 4) institution and cultural adaptations and changes. A more in-depth analysis will be explored on specific media effects in the study. This present research paper explores how mass media functions and how media concepts are related to economic impact. Research in media impact on the economy of India in relation to media and its impact on the economy is challenging but a necessary factor to study while in pursuit of understanding other factors in economic impact and media effects. The behavior of the economy can be impacted by how the media presents information towards the public.

KEYWORDS

Media, Journalism, Research, Information etc.

INTRODUCTION OF MASS MEDIA EFFECTS

Print, radio, television, Internet, and social networks are common types of media. Media extends out to large masses of people and provides information to the public on various subjects, entertain, and to gratify people’s curiosities. As mass media has expanded and become more obtainable cell phones and laptops, have the influences on a person’s cognitive ability. It would appear that the individual has become more reliable on consulting the media. The news media is on a 24 hours and 7 days a week cycle. News is constantly streaming on the Internet through various websites and blogs. There are five different participating parties involved in media communications. They are one advocacy, communication, receiver, objects of orientation, and feedback “Objects of orientation” includes events, objects, ideas, and people.

Media Effects

The effects of mass media are theoretically applicable to the fluctuations in economic development and are either direct or indirect. It is noted that several of the most commonly mentioned intended media effects are; 1) the effects of advertising on purchasing, 2) the effects of political campaigns on voting, 3) the effects of public service announcements on personal behavior and social improvement, 4) the effects of media ritual on social control. It is also seen that the most commonly mentioned unintended media effects; 1) emotional behavior, 2) the impact of media images on the social construction of reality, 3) the effects of media bias on stereotyping, and 4) how media forms affect cognitive activity and style. In addition to these media effects, the effects on research of other areas of media effects are: 1) knowledge gain and distribution throughout society, 2) diffusion of innovations, 3) socialization to societal norms, and 4) institution and cultural adaptations and changes. A more in-depth analysis will be explored on specific media effects in the study.

Setting Media Agenda

The concept of agenda setting by the media is a likely factor that can influence economic development. The agenda-setting function of the media refers to the media’s capability, through repeated news coverage, of raising the importance of an issue in the public’s mind. Media-agenda setting can influence political campaigns. Voter perception of a particular campaign platform was

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6 Assistant Professor, Institute of Mass Communication and Media Technology, Kurukshetra University, Haryana, India, kiran.tapesh@gmail.com
7 Professor, Department of Management, K. L. U. Business School, Andhra Pradesh, India, dravnmurty@gmail.com
shaped based on what the media choose to emphasis on. A strong relationship between the emphasis placed on different campaign issues by the media and the judgments of voters are to the salience and importance of various campaign topics. A study suggests that what individuals in the mass should think about, know about, have feelings about concepts that the media reported on were economic policy of the different campaigns and it can influence consumer confidence. The level of consumer confidence depends on consumer spending and thus the future trajectory of the economy and it affects a variety of political behavior such as election outcomes, macro partisanship, presidential approval, public policy mood, congressional approval and trust in government. Some more observations about the effects of media agenda setting determines the criteria by which an issue will be evaluated. This concept is known as priming. Priming is the process in which media attends to particular issues and not others and thereby alter the standards by which people evaluate and act on an issue. The concept of priming builds on the idea that mass media does have the power to build agendas outside of its own. Therefore, the media acts as a direct, actor, and consumer of its own product. Cultivation theory, used in mass media studies, is a concept that explains how people’s perceptions, attitudes, and values change from consumption of media. Exposure to the same messages that debut in the mass media produces what researchers refer to cultivation, or the teaching of a common worldview, common roles, and common values. Thus, Media can have a negative impact upon cognitive thinking.

Psychological literature supports that the cultivation theory by suggesting that unfavorable information has a greater impact on impression than do favorable information, across a wide variety of situations. Research in media’s effect on economics suggests that there exists an “asymmetric responses to bad and good economic information”. Research in economics posits a prospect theory. Prospect theory is a choice under uncertainty, which contains a feature called loss aversion. People react more fervently towards a loss in utility than they do towards a gain of equal magnitude. This individual-level loss adverse behavior is evident in macroeconomic dynamics: consumption tends to drop more when the economy contracts than rise when the economy expands. Examples in media suggest that overemphasizing the prevalence of violent crime and events involving conflict or crisis receive a greater degree of media attention. Most relevant to the current analysis, Indian networks regularly give more coverage to bad economic trends than to good economic trends. The prominence of negative media coverage may be driven by the same individual-level theories such as media agenda setting, priming, and framing. Journalists are individuals, writing articles to appeal to other individuals and thus regard negative information as more important, not just based on their own interests, but also on the interests of their news consuming audience. There is however, an alternative explanation for the prominence of negative news. It may be that media outlets’ emphasis on negative news reflects one of the principle institutional functions in democracy: holding current Governments and companies, and indeed some individuals accountable. Therefore, media is a surveillance that mainly involves identifying problems and at times over emphasizes negative information. However, some scholars think it is the media’s job to do so. Surveillance of the media includes economy facts, stock market reports and the overall well being of a nation. Surveillance function can cause several dysfunctions such as panic due to the overemphasis of issues facing a society. Narcotizing dysfunction when individuals fall into a state of apathy or passivity because of too much information to assimilate may leave many audience members with little perspective of what is normal. Studies of media effects on economic fluctuations propose that the 1990 recession, in popular belief, was widely spread by the press’s effect on people’s pessimism of the general economy. Negative reports on the national economy led to a fall in consumer confidence. Consumer sentiment as one of the principal contributing factors for this recession. Recession leads to a significant drop in consumption, and speculate that consumer sentiment may have had something to do with it.

Consumption growth did switch to a low-growth state at the beginning of the 1989 slowing of the economy. Consumer confidence also fell during the slowing, as observed in all the previous low-growth phases and recessions. However, the probabilities of consumer pessimism based on non-fundamentals rose only in July 1990, which coincided with the onset of this recession. The same pattern was observed for growth in personal income, manufacturing trade and sales, and employment, whose falls coincided with the beginning of this recession. Therefore, consumers’ pessimism did not seem to be a source of this recession. Consumers’ pessimism might have been an important factor in intensifying and extending the 1989-1992 economic slowdowns. Low consumption growth phase lagged consumers’ pessimism, and lasted until the end of 1995. Thus, the unprecedented extended slowdown could have been a reflection of consumers’ attitudes toward the economy after the official end of the 1990 economic recession. The research on recessions and slowdowns could have been responses not to shifts in economic fundamentals, but to agents’ self-fulfilling pessimism. Self-fulfilling pessimism is the outcome of local content of news media exposure could have a strong influence on perceptions of issues and the closeness of home. Therefore, viewer’s doubts suppress the urge for action, and a reclusive approach is taken towards issues.

CONCLUSION

Theories support the idea that mass media has significant economic impact. Media theories such as media agenda setting, priming, framing, and cultural theory support the concept of how media can affect an economy, however little research has been conducted on this subject. Economic research supports the idea that sentiments of the consumer can be affected by media content and therefore could lead to fluctuations in the economy. An economic slowdown is impacted by agents’ self-fulfilling pessimism.
Studies such as strengthens the argument that; public responses to negative economic information such are much greater than are public responses towards positive information. This suggests that the media’s portrayal could have caused more harm than good on the perception of the local economies.

REFERENCES


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STUDY ON STIFFNESS CHARACTERISTICS OF CONCRETE WITH PARTIAL REPLACEMENT OF SOLID WASTE

Parthasaarathi R.8 D. Karthik9 T. Prakash10

ABSTRACT
Due to rapid infrastructural growth and urban development the demand of cement, fine aggregate and coarse aggregate used on concrete is increasing worldwide every year. Nowadays there is acute shortage of natural aggregates leading to serious scarcity problems. Utilization of waste materials and byproducts is a partial solution to environmental and ecological problems. This paper study the use of combination of waste materials such as Fly ash, Boiler feed waste and Recycled coarse aggregate for replacements of Cement, Fine aggregate and coarse aggregate respectively in concrete in different proportions. The optimum combination of replacement was obtained and the stiffness value was calculated.

KEYWORDS
Aggregate, Fly Ash, Boiler Feed Waste, Stiffness etc.

INTRODUCTION

General
Utilization of concrete has rapidly increased, which results in increased consumption of natural aggregate as the largest concrete component. Utilization of some industrial by-products in concrete is improving the properties of fresh and hardened concrete. By-products such as pulverized fuel ash, silica fume and ground granulated blast furnace slag (GGBS) can be added in different proportions to concrete mixes as either a partial substitute to Portland cement or as admixtures. Concrete prepared with such materials showed improvement in workability and durability when compared to normal concrete.

Fly Ash
Fly ash is a mineral residue produced by burning coal, captured from the exhaust gases of power plant and collected for use. As the gaseous emissions of burning coal cool, some of its chemical constituents solidify into spherical granules, forming fly ash. A fine glassy powder, its chemical components vary but usually include oxides of silicon (SiO₂), aluminum (Al₂O₃), iron and calcium (CaO). It is available in large quantities as a waste product from a thermal power and industrial plants.

Boiler Feed Waste
The material like sand, which is derived from rocks, is used in boilers of sugar manufacturing industry called boiler feed. It is used to maintain the temperature in boilers for 4 to 5 hours only. Then the material is being removed from boilers, this process generates higher amount of waste (approximately 10tonne/day). In this study, the boiler feed is used as replacement of fine aggregate in concrete.

Construction and Demolition Waste
Construction and demolition waste is generated whenever any construction/demolition activity takes place, such as, building roads, fly over, subway, remodeling etc. Recycling of aggregate material from construction and demolition waste may reduce the demand of natural coarse aggregate.

EXPERIMENTAL PROGRAM

Cement & Fly Ash
The Ordinary Portland Cement of 53grade conforming to IS: 8112-1989 has been used. The Class F fly ash as shown in Figure 3.2, satisfying the requirements of IS 3812-2003 was used as partial replacement for cement in various proportions of 0%, 5%, 10%, 15%, 20%, 25% and 30%. Table 3.1 and 3.2 show the physical and chemical properties of Cement and Fly ash.

8Assistant Professor, Department of Civil, SVS College of Engineering, Tamil Nadu, India, sarathi0089@gmail.com
9Assistant Professor, Department of Civil, SVS College of Engineering, Tamil Nadu, India, dkarthik.slm@gmail.com
10Assistant Professor, Department of Civil, SVS College of Engineering, Tamil Nadu, India, prakash.thi@gmail.com
Table 1: Properties of Cement and Fly Ash

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<td>2.11</td>
</tr>
<tr>
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<tr>
<td>Final Setting Time(min)</td>
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Sources: Authors Compilation

Table 2: Chemical composition of Fly Ash

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<th>Si</th>
<th>K</th>
<th>Ca</th>
<th>Fe</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight %</td>
<td>44.51</td>
<td>16.21</td>
<td>30.03</td>
<td>1.62</td>
<td>1.14</td>
<td>6.49</td>
<td>100</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Figure 1: Cement & Fly Ash

Sources: Authors Compilation

Fine Aggregate & Boiler Feed

The Boiler feed was used as partial replacement for fine aggregate in various proportions of 0%, 5%, 10%, 15%, 20%, 25% and 30%.

Table 3: Properties of Fine Aggregate and Boiler Feed

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Fine Aggregate</th>
<th>Boiler Feed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>2.48</td>
<td>2.26</td>
</tr>
<tr>
<td>Zone</td>
<td>Zone II</td>
<td>Zone II</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Figure 2: Fine Aggregate & Boiler Feed

Sources: Authors Compilation

Coarse Aggregate (Recycled and Natural Aggregates)

The fractions from 20 mm to 4.75 mm were used as coarse aggregate.

Table 4: Properties of Aggregates

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Natural Aggregates</th>
<th>Recycled Aggregates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific Gravity</td>
<td>2.78</td>
<td>2.62</td>
</tr>
<tr>
<td>Water Absorption</td>
<td>0.9%</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Figure 3: Recycled Coarse Aggregate

Sources: Authors Compilation
Mix Proportioning Of Concrete

A mix M30 was designed as per IS 10262:2009 and the same was used to prepare the test samples.

Table-5: Concrete Design Mix Proportions

<table>
<thead>
<tr>
<th>W/C</th>
<th>Mix</th>
<th>Cement (kg/m³)</th>
<th>F.Agg (kg/m³)</th>
<th>C.Agg (kg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4</td>
<td>1:1.48:3.52</td>
<td>360</td>
<td>532.8</td>
<td>1267.2</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

RESULTS AND DISCUSSION

Figure-4: Compressive Strength Test after Crack

Table-6: Compressive Strength of Cubes

<table>
<thead>
<tr>
<th>% Replacement</th>
<th>Compressive Strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fly Ash</td>
</tr>
<tr>
<td>0</td>
<td>34.54</td>
</tr>
<tr>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>33.87</td>
</tr>
<tr>
<td>15</td>
<td>34.17</td>
</tr>
<tr>
<td>20</td>
<td>34.86</td>
</tr>
<tr>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>30</td>
<td>-</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-7: Tensile Strength of Cylinder

<table>
<thead>
<tr>
<th>% Replacement</th>
<th>Tensile Strength (N/mm²)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fly Ash</td>
</tr>
<tr>
<td>0</td>
<td>3.4</td>
</tr>
<tr>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>3.38</td>
</tr>
<tr>
<td>15</td>
<td>3.28</td>
</tr>
<tr>
<td>20</td>
<td>3.32</td>
</tr>
<tr>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>30</td>
<td>-</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Figure-5: Compressive Strength of Cube

Table-8: Test Results for RC Beams

<table>
<thead>
<tr>
<th>% Replacement</th>
<th>Ultimate Load (kN)</th>
<th>Maximum Deflection (mm)</th>
<th>Stiffness (N/mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1</td>
<td>43</td>
<td>3.05</td>
<td>13.6</td>
</tr>
<tr>
<td>C90%F10%</td>
<td>45</td>
<td>3.25</td>
<td>13.2</td>
</tr>
<tr>
<td>B10%RA20%</td>
<td>48</td>
<td>3.30</td>
<td>14.2</td>
</tr>
<tr>
<td>C95%F10%</td>
<td>53</td>
<td>3.70</td>
<td>13.9</td>
</tr>
<tr>
<td>C95%F15%</td>
<td>49</td>
<td>3.30</td>
<td>14.15</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
From the results, it was found that the initial crack load was occurred at 14.2 kN for C55%F10%B15%RA20% specimen. For the remaining specimens, initial crack occurred earlier than C55%F10%B15%RA20% specimens. From the load-deflection curve area under the curve was calculated and it gives the energy absorption capacity of the specimen. It was observed that specimen C55%F10%B15%RA20% had higher energy absorption capacity compared to other beams. Stiffness at ultimate load was calculated by dividing ultimate load with corresponding deflection value. The combination of fly ash and boiler feed gave better results in two factor replacements. The 10% of fly ash, 15% of boiler feed and 20% of RCA increased the strength of concrete while compared to other combinations.

CONCLUSION

- Replacement of fly ash, boiler feed and RCA have obtained an optimum of 10%, 15%, 20% replacement respectively.
- 20% replacement of fly ash in cement content was given optimum value.
- The boiler feed was used as a replacement of fine aggregate and it was obtained an optimum replacement percentage of 15%.
- Recycled coarse aggregate for replacement of coarse aggregate obtained an optimum replacement percentage of 15%.

REFERENCES

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(Editor-In-Chief)
AN ANALYSIS OF COST OF CAPITAL OF PHARMACEUTICAL COMPANIES IN INDIA

Sandhya S. Bhandary11 Dr. Kushalappa S.12

ABSTRACT

Valuators to discount future flows of income from an entity in order to derive a present-day, forward-looking value of that entity use the corporate cost of capital. Cost of Capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. The cost of each source or component is called specific cost of capital when these specific costs are combined to arrive at overall cost of capital; it is referred to as the weighted cost of capital. The cost of capital is therefore determined as the weighted cost of the various sources of funding, being typically equity and debt instruments. Naturally, companies’ desire investment returns in excess of their WACC, otherwise, the continuation of existing projects may be compromised and future projects may not be developed. In the present study, an attempt is made by the researchers to analyses the cost of capital of companies of Pharmaceutical Industry. The entire study is based on secondary data. The study period is 2014-15

KEYWORDS

Cost of Capital, Cost of Debt, Cost of Equity, Weighted Average Cost of Capital etc.

INTRODUCTION

Capital budgeting is one of the most important functions of financial management. Capital budgeting decision may be defined as the firm’s decision to invest its current funds most efficiently in the long-term assets in anticipation of an expected flow of benefits over a series of years. Investment decisions affect firm is value. The firm’s value will increase if investments are profitable and add to the shareholders’ wealth. Thus, investments should be evaluated based on a criterion, which is compatible with the objective of the shareholders’ wealth maximization. An investment will add to the shareholders’ wealth if it yields benefits in excess of the minimum benefits as per the opportunity cost of capital or cost of capital. Valuators to discount future flows of income from an entity in order to derive a present-day, forward-looking value of that entity use the corporate cost of capital. Cost of Capital is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds. The cost of each source or component is called specific cost of capital. When these specific costs are combined to arrive at overall cost of capital, it is referred to as the weighted cost of capital. The cost of capital is therefore determined as the weighted cost of the various sources of funding, being typically equity, debt and preference instruments. The term, cost of capital, as the acceptance criterion for the investment proposals, is used in the sense of the combined cost of all sources of financing. This is mainly because our focus is on the valuation of the firm as a whole. The cost of capital can be either explicit or implicit. The explicit cost of any source of capital is the discount rate that equates the present value of the cash inflows that are incremental to the taking of the financing opportunity with the present value of its incremental cash outflows. This weighted funding cost is known in economic and finance theory as the weighted average cost of capital, which proxies as the minimum rate at which future cash flows should be discounted so that the capital raised by the company generates a return at least equivalent to the cost associated with securing those funds. The present study deals with the analysis of cost of capital of pharmaceutical companies in India.

OBJECTIVES OF STUDY

• To find out cost of capital of Pharmaceutical companies in India.
• To compare the cost of capital of selected pharmaceutical companies.

METHODOLOGY USED

In present study, the researchers have used only the secondary data. The various secondary sources used in this study are websites, journals and books. The sample size is Eight Pharmaceutical companies selected randomly from various pharmaceutical companies in India.

Tools Used

The following tools are used to find out the weighted average cost of capital of the companies under study:

11Student, A.I.E.T., Karnataka, India, ssssbhandary@gmail.com
12Associate Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com
Cost of Equity: It is the rate at which investors discount the expected dividends of the firm to determine its share value:

\[ K_e = R_f + \beta (R_m - R_f) \]

Cost of Debt: It is the after tax cost of long term funds through borrowing:

\[ K_d = \frac{\text{interest}(1-t)}{\text{total debt}} \]

Cost of Capital: Is the rate of return that a firm must earn on its project investments to maintain its market value and attract funds:

\[ K_c = K_e + K_d \]

LITERATURE REVIEW

Kees G. Koedijk, Mathijs A. Van Dijk (2004) in their study they focused on questions whether international and domestic pricing model let to different estimates of cost of capital for inter listed companies. They also examined the examiner pricing error, which is linearly related to compute cost of capital.

Titus Mwansa Chipili (2009) in his study investigated the relationship between the cost of capital and value of stock for LUSE listed firms. An investigation was carried out for 5 years covering 2003-2007. During the valuation process, various methods were adopted. The relationship of cost of capital and value of stock were interpreted, estimated using asset based multiple based, and income based.

Almir Alihodzic, Dejan Eric (2013) “Calculation of average weighted capital” the authors clears from research that the shares of Telekom of SRPSKA have the lowest beta co-efficient i.e. out of all comparable companies in the study it has lowest level of systematic risk. Finally, they calculated WACC to show that Telekom of SRPSKA, IP additional to the lowest coefficient beta has the lowest WACC, which confirms the role that investment in less risky securities carries a lower required return.

DATA ANALYSIS AND INTERPRETATION

Cost of capital or weighted average cost of capital is the summation of weighted average cost of dent and weighted average cost of equity. Therefore, initially the researchers have calculated the components cost of capital and then found the cost of capital for the selected companies under study. Table 1 presents the cost of equity for various pharmaceutical companies under study. The relationship of cost of capital and value of stock were linearly related to compute cost of capital.

Table-1: Cost of Equity of Selected Pharmaceuticals Companies in India

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>( R_t (%) )</th>
<th>Beta</th>
<th>( R_m ) (%)</th>
<th>Cost of Equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cipla</td>
<td>7.77</td>
<td>0.53</td>
<td>16</td>
<td>12.1319</td>
</tr>
<tr>
<td>Lupin</td>
<td>7.77</td>
<td>0.30</td>
<td>16</td>
<td>10.239</td>
</tr>
<tr>
<td>Piramal Enterprises</td>
<td>7.77</td>
<td>0.27</td>
<td>16</td>
<td>9.9921</td>
</tr>
<tr>
<td>Dr. Reddy Lab</td>
<td>7.77</td>
<td>0.37</td>
<td>16</td>
<td>10.8151</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>7.77</td>
<td>0.50</td>
<td>16</td>
<td>11.885</td>
</tr>
<tr>
<td>Aurobindo</td>
<td>7.77</td>
<td>1.55</td>
<td>16</td>
<td>20.5265</td>
</tr>
<tr>
<td>Ipca Laboratory</td>
<td>7.77</td>
<td>0.20</td>
<td>16</td>
<td>9.416</td>
</tr>
<tr>
<td>Cadila Health Care</td>
<td>7.77</td>
<td>0.22</td>
<td>16</td>
<td>9.5806</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-2 presents the cost debt of various companies of pharmaceutical companies under study. Cost of debt is the after tax interest rate. It is assumed that the tax rate is 35%. It is found in the table that the after tax cost of debt of Dr. Reddy Lab, is the lowest and Lupin has the highest cost of debt compared to other companies under study. It is fact that Lupin, Cipla and Pirmal enterprises are the companies using the costly sources of debt finance and the remaining companies are using the cheaper sources of debt finance. It is fact from Table-3 that even though Aurobindo has highest cost of equity, the weighted average cost equity of this company is
very less compared to other companies under study. It is due to the fact that it has only 32% of equity finance and rest all in the form of debt finance. Due to more than 80% of the equity finance in their capital structure, Cipla and Lupin are the two companies which are having highest weighted average cost of equity.

Table-2: Cost of Debt of Selected Pharmaceuticals Companies in India

<table>
<thead>
<tr>
<th>Name of Company</th>
<th>Interest</th>
<th>Int (1-Tax)</th>
<th>Total Debt</th>
<th>Cost of Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cipla</td>
<td>136.05</td>
<td>88.4325</td>
<td>1,380.61</td>
<td>6.405320836</td>
</tr>
<tr>
<td>Lupin</td>
<td>4.9</td>
<td>3.185</td>
<td>40.09</td>
<td>7.944624595</td>
</tr>
<tr>
<td>Piramal Enterprises</td>
<td>306.91</td>
<td>199.4915</td>
<td>3,803.31</td>
<td>5.245207464</td>
</tr>
<tr>
<td>Dr. Reddy</td>
<td>63.8</td>
<td>41.47</td>
<td>3,124.80</td>
<td>1.327124936</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>551.25</td>
<td>358.3125</td>
<td>5,423.13</td>
<td>6.607116186</td>
</tr>
<tr>
<td>Auro</td>
<td>132.14</td>
<td>85.891</td>
<td>2,896.53</td>
<td>2.965306764</td>
</tr>
<tr>
<td>Ipca</td>
<td>25.62</td>
<td>16.653</td>
<td>822.38</td>
<td>2.024976288</td>
</tr>
<tr>
<td>Cadila</td>
<td>42.8</td>
<td>27.82</td>
<td>1,263.20</td>
<td>2.202343255</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-3: Weighted Average Cost of Equity of Pharmaceutical Companies in India

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>Cost of Equity</th>
<th>Weight</th>
<th>Weighted average Cost of equity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cipla</td>
<td>12.13</td>
<td>0.889213</td>
<td>10.78784319</td>
</tr>
<tr>
<td>Lupin</td>
<td>10.24</td>
<td>0.995579</td>
<td>10.19373338</td>
</tr>
<tr>
<td>Piramal Enterprises</td>
<td>9.992</td>
<td>0.750605</td>
<td>7.500120221</td>
</tr>
<tr>
<td>Dr. Reddy</td>
<td>10.82</td>
<td>0.772887</td>
<td>8.358850194</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>11.89</td>
<td>0.807755</td>
<td>9.600168175</td>
</tr>
<tr>
<td>Auro</td>
<td>20.53</td>
<td>0.31937</td>
<td>6.555548305</td>
</tr>
<tr>
<td>Ipca laboratories</td>
<td>9.416</td>
<td>0.730871</td>
<td>6.881881336</td>
</tr>
<tr>
<td>Cadila healthcare</td>
<td>9.581</td>
<td>0.781778</td>
<td>7.489902307</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

It is true from Table 4 that due to lowest debt proportion in its capital structure, Lupin has lowest weighted average cost of debt and due to highest proportion of debt capital in its capital structure, Aurobindo has highest weighted average cost of debt. Among the various companies under study, Aurobindo Lab has been using highest proportion of debt in its capital structure.

Table-4: Calculations of Weighted Average Cost of Debt of Pharmaceuticals Companies in India

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>Cost of debt</th>
<th>Weight</th>
<th>Weighted Average Cost of debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cipla</td>
<td>6.405320836</td>
<td>0.110787</td>
<td>0.709626279</td>
</tr>
<tr>
<td>Lupin</td>
<td>7.944624595</td>
<td>0.004421</td>
<td>0.035123185</td>
</tr>
<tr>
<td>Piramal Enterprises</td>
<td>5.245207464</td>
<td>0.249395</td>
<td>1.308128515</td>
</tr>
<tr>
<td>Dr. Reddy</td>
<td>1.327124936</td>
<td>0.227113</td>
<td>0.301407326</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>6.607116186</td>
<td>0.192245</td>
<td>1.270185051</td>
</tr>
<tr>
<td>Auro Laboratories</td>
<td>2.965306764</td>
<td>0.68063</td>
<td>2.018276743</td>
</tr>
<tr>
<td>Ipca Laboratories</td>
<td>2.024976288</td>
<td>0.269129</td>
<td>0.544979843</td>
</tr>
<tr>
<td>Cadila Healthcare</td>
<td>2.202343255</td>
<td>0.218222</td>
<td>0.48059975</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-5 shows the cost of capital of various Pharma companies under study. It is clear from the table that Cipla has highest weighted average cost of capital and Sun Pharma, Lupin, Piramal Enterprises and others, follows it. IPCA laboratories has the lowest cost of capital.

**FINDINGS AND CONCLUSION**

The cost of capital is very important concept in the financial decision-making. Cost of capital is the measurement of the sacrifice made by investors in order to invest with a view to get a fair return in future on his investments as a reward for the postponement of his present needs. The calculations to be easy so that it has minimum return that investor expect for providing investment to the company. It is found in the study that due to highest beta value Auroindo Pharma has cost of equity (20.53%) and IPCA Lab has lowest cost of equity (9.416%). In terms of cost of debt it is found that the after tax cost of debt of Dr. Reddy Lab. is the lowest and Lupin is the highest. Among the users of costly debt capital, Lupin, Cipla and Pidilite are the toppers.
One of the important and interesting findings of the study is that even though Aurobindo has highest cost of equity, the weighted average cost equity of this company is very less (32%) compared to other companies under study. Due to more than 80% of the equity finance in their capital structure, Cipla and Lupin have highest weighted cost of equity compared to the rest of the companies under study. As it has lowest debt capital in its capital structure, Lupin has lowest weighted average cost of debt and due to highest proportion of debt capital in its capital structure; Aurobindo has highest weighted average cost of debt.

The study has been conducted to find out the cost of capital of various Pharmaceutical companies under study. Normally, a company with high equity capital in its capital structure carries high cost of capital. Because, such companies does not enjoy the benefit of tax shield. Even if the cost of equity of the firm is high but if the equity proportion in the capital structure is low, it leads to lower cost of capital. Since, cost of capital is the minimum rate return expected by the firm from its investment, the company will accept the those projects whose ROI is higher than the cost of capital. Therefore a company with lower cost of capital is able to accept most of the projects which are not acceptable for a company with higher cost of capital. Since, it is able to accept most of the projects; such acceptance will improve the shareholders’ wealth and value of the firm. Assuming that there is no financial risk, usage of more debt is always better to reduce the cost of capital and thereby to make use of most of the projects; such acceptance will improve the shareholders’ wealth and value of the firm. Assuming that there is no financial risk, usage of more debt is always better to reduce the cost of capital and thereby to make use of most of the profitable investment opportunities. It is found in the study that among the various companies under study, IPCA laboratories has the lowest cost of capital, Cipla has highest weighted average cost of capital and it is followed by Sun Pharma, Lupin, Piramal Enterprises and etc. It can be concluded that IPCA lab is more flexible while selecting the capital projects for investment compared to all other pharmaceutical companies under study.

REFERENCES

5. Retrieved from https://carlsonsschool.umn.edu/file/14281/download

Table-5: Weighted Average of Cost of Capital of Pharmaceuticals Companies in India

<table>
<thead>
<tr>
<th>Name of Company</th>
<th>Weighted Cost of Equity</th>
<th>Weighted Cost of Debt</th>
<th>Weighted Average Cost of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cipla</td>
<td>10.78784319</td>
<td>0.709626279</td>
<td>11.49746947</td>
</tr>
<tr>
<td>Lupin</td>
<td>10.19373338</td>
<td>0.035123185</td>
<td>10.22885657</td>
</tr>
<tr>
<td>Piramal</td>
<td>7.500120221</td>
<td>1.308128515</td>
<td>8.808248736</td>
</tr>
<tr>
<td>Dr Reddy</td>
<td>8.358850194</td>
<td>0.301407326</td>
<td>8.66025752</td>
</tr>
<tr>
<td>Sun Pharma</td>
<td>9.600168175</td>
<td>1.270185051</td>
<td>10.87035323</td>
</tr>
<tr>
<td>Auro laboratories</td>
<td>6.55548305</td>
<td>2.018276743</td>
<td>8.573825048</td>
</tr>
<tr>
<td>Ipca Laboratories</td>
<td>6.881881336</td>
<td>0.544979843</td>
<td>7.426861179</td>
</tr>
<tr>
<td>Cadila Healthcare</td>
<td>7.489902307</td>
<td>0.48059975</td>
<td>7.970502057</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
PERFORMANCE EVALUATION OF POWER SECTOR: INDIAN PERSPECTIVE

Dr. G. V. Chalam13 J. Durga Prasada Rao14

ABSTRACT

Power is an essential infrastructure for the growth of an economy and plays an important role in the socio-economic development of the country. To attain the targeted GDP growth rate and to achieve the double-digit growth rate, power sector is also to grow in the same proportion. Central and State governments are taking lots of initiative in the growth of power sector in India. In this direction, the role of private sector is also playing a significant role. The installed generating capacity at the time of Independence was 1,362MW, which has increased by 200 folds at the end of March 2015. At the same time the growth rate of electricity consumption is also increased by more than that of generation, i.e., 224 times and per capita consumption is increased by 62 times. However, India occupies fourth place in the total installed capacity, but it stood in the fifth position in power generation and fourteenth position in per capita consumption at global level during the year 2012. Against this background, an attempt is made to analyze the performance of power sector in India during the post Independent period, which will give a direction to the government to take the necessary steps in its policy framework.

KEYWORDS

Performance Evaluation, Installed Generating Capacity, Power Generation, Consumption of Electricity etc.

INTRODUCTION

Power Sector is playing a vital role in the growth and development of any nation. Power sector is a critical infrastructure element required for the functioning of the economy. An efficient, resilient and financially healthy power sector is essential for the growth of the economy and poverty reduction. The availability of reliable, quality and affordable power helps in the rapid growth in agriculture, industry and overall economic development of the country. Power sector provides the major important inputs for the development of the country. To sustain 7-8% GDP growth rate and to achieve double digit GDP growth rate, power sector is also to grow in the same proportion. Power sector is also called as “Mother Sector” of all other sectors. The demand for electricity is rising day by day. In the present age of modern era, nothing is possible without supply of adequate power. Therefore, power sector needs a significant portion in the budgets. Government of India has been allocating a noticeable portion of funds to the power sector in the annual budgets and Five Year Plans since Independence. Therefore, there has been a tremendous growth in this sector since 1947. For many decades, all countries are generating the power in three different forms they are fossil fuel power plants, hydro and nuclear power plants. Renewable energy sources are generating a meager part of the world electricity, yet it is growing fast.

Installed capacity at the time of Independence was 1,362MW, which was increased by 200 folds at the end of March 2015. The gross power generation through various modes in 1947 was 4,072GWh, whereas in 2015 it has increased by 271 times. Comparing to 1947 the growth rate of electricity consumption is increased by 224 times and per capita consumption is increased by 62 times. All these indicate the growth of power sector in India during the past 6 decades, which speaks that the government is paying more attention on this sector for the growth and development of the country.

REVIEW OF LITERATURE


13Professor, Department of Commerce & Business Administration, Acharya Nagarjuna University, Andhra Pradesh, India, chalam.goriparthi@gmail.com
14UGC-F.D.P. Scholar, Department of Commerce & Business Administration, Acharya Nagarjuna University, Andhra Pradesh, India, idprasad2@gmail.com

OBJECTIVES OF STUDY

- To discuss the types of power generation in India and sector-wise growth of installed capacity.
- To analyze comparative performance of installed capacities of power generation source-wise and plan-wise in India.
- To study the performance of power generation, source-wise and plan-wise during the period of study.
- To examine the growth of transmission and distribution lines during the various plan periods.
- To analyze the different categories of power consumption and per capita consumption during the period of study.
- To present the power supply position in India energy-wise and peak time-wise during the period of study.

METHODOLOGY OF STUDY

Performance evaluation of the power sector since 1947 to 2015 is analyzed for which the data is taken from the secondary sources, i.e., CEA Booklet, New Delhi, Annual Reports (Power & Energy Division) of Planning Commission and IEA Website. For the purpose of the study, entire power sector is taken as for the analysis. In order examine the growth and working of the power sector in India, the trends are calculated in percentages during the period of study. Besides, a comparative analysis is also conducted across the types of power generation and types of power consumption. It also covers the discussion on transmission and distribution trends of power during the various plan periods.

TYPES OF POWER GENERATION IN INDIA

- **Fossil Fuel Power**: In these power plants, carbon fuels such as coal, oil and gas are burnt to generate the steam that drives large turbines, which produce electricity. These plants can generate electricity reliably over long periods. Fossil fuel plants are required a huge amount of coal, oil and gas. It is to be transported from long distances. The prices of fuels will rise sharply at times of shortages, leading to unstable generation cost.

- **Hydro Power**: These plants generate electricity by storing water in vast reservoirs behind massive dams. Water from the dams flows through turbines to generate electricity and then goes on to flow through rivers below the dam. These dams can generate huge electricity generation and its operating cost is low when it is compared to the other forms of electricity production.

- **Nuclear Power**: These plants use the heat produced by nuclear fission to generate steam that drives turbines like fossil fuel plants. No green gases are produced in this fission process. These power plants can generate electricity 24/7 for many months at a time, without interruption. It is the one of the safest and least environmentally damaging forms of electricity generation.

- **Renewable Energy Sources**: It includes wind, Solar and small scale hydro production electricity, very low amounts of greenhouse gas emissions across their entire lifecycle. The cost of electricity generation from many renewable tends to be higher than other forms of generation. Many renewable energy sources do not produce electricity as predictably.

SECTOR-WISE GROWTH OF INSTALLED CAPACITY POWER IN INDIA

Since Independence State sector is playing a dominant role in the power sector up to 2014. Compared to the last ten years the growth rate in State sector is in reducing trend. In 2006 its share in the total installed capacity was 58.92 per cent there onwards it is reducing gradually. In 2015, its installed capacity is 34.99 per cent. This portion is occupied by the private Sector.10 years average percentage in the total installed generating capacity is 48.02 per cent. Contribution of Central sector for this period is moderate. The average installed capacity of the central sector for this period is 29.65 per cent. Private Sector participation in total installed generating capacity is playing a prominent role. Central and state governments are providing much incentive to the private players. Therefore, its growth is in increasing trend. The share of private sector in total installed capacity in 2006 was 11.37 per cent it is increased gradually, by the end March 2015 its share in total installed capacity is 38.32 per cent and the
average growth of private sector is 22.33 per cent. Central Sector, State and Private Sectors are paying much importance and attention on the sector by allocating the funds and monitoring the activities of the sector, which is depicted in table 1.

### Table-1: Sector wise Growth of Installed Generating Capacity in India from 2005-06 to 2014-15

<table>
<thead>
<tr>
<th>Year</th>
<th>Central (MW)</th>
<th>%</th>
<th>State (MW)</th>
<th>%</th>
<th>Private (MW)</th>
<th>%</th>
<th>Total (MW)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>36,917</td>
<td>29.70</td>
<td>73,235</td>
<td>58.92</td>
<td>14,135</td>
<td>11.37</td>
<td>124,287</td>
<td>100</td>
</tr>
<tr>
<td>2006-07</td>
<td>42,037</td>
<td>31.77</td>
<td>73,579</td>
<td>55.60</td>
<td>16,713</td>
<td>12.63</td>
<td>132,329</td>
<td>100</td>
</tr>
<tr>
<td>2007-08</td>
<td>45,027</td>
<td>31.47</td>
<td>77,523</td>
<td>54.19</td>
<td>20,511</td>
<td>14.34</td>
<td>143,061</td>
<td>100</td>
</tr>
<tr>
<td>2008-09</td>
<td>45,777</td>
<td>30.94</td>
<td>79,309</td>
<td>53.60</td>
<td>22,879</td>
<td>15.46</td>
<td>147,965</td>
<td>100</td>
</tr>
<tr>
<td>2009-10</td>
<td>47,479</td>
<td>29.79</td>
<td>82,905</td>
<td>52.01</td>
<td>29,014</td>
<td>18.20</td>
<td>159,398</td>
<td>100</td>
</tr>
<tr>
<td>2010-11</td>
<td>50,759</td>
<td>29.23</td>
<td>87,417</td>
<td>50.35</td>
<td>35,450</td>
<td>20.42</td>
<td>173,626</td>
<td>100</td>
</tr>
<tr>
<td>2011-12</td>
<td>59,682</td>
<td>29.86</td>
<td>85,919</td>
<td>42.99</td>
<td>54,276</td>
<td>27.15</td>
<td>199,877</td>
<td>100</td>
</tr>
<tr>
<td>2012-13</td>
<td>65,360</td>
<td>29.26</td>
<td>89,125</td>
<td>39.90</td>
<td>68,859</td>
<td>30.83</td>
<td>223,344</td>
<td>100</td>
</tr>
<tr>
<td>2013-14</td>
<td>68,126</td>
<td>27.78</td>
<td>92,265</td>
<td>37.62</td>
<td>84,838</td>
<td>34.60</td>
<td>245,229</td>
<td>100</td>
</tr>
<tr>
<td>2014-15</td>
<td>72,521</td>
<td>26.69</td>
<td>95,079</td>
<td>34.99</td>
<td>104,122</td>
<td>38.32</td>
<td>271,722</td>
<td>100</td>
</tr>
<tr>
<td>Average Installed Capacity (%)</td>
<td>29.65</td>
<td>48.02</td>
<td>22.33</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sources:** CEA Booklet, New Delhi

### Table-2: Comparison of Various Installed Capacities of Power Generation in India Plan-Wise and Source-Wise (MW)

<table>
<thead>
<tr>
<th>Thermal</th>
<th>Coal / Lignite (i)</th>
<th>Gas (ii)</th>
<th>Diesel (iii)</th>
<th>Total Thermal Installed Capacity (i + ii + iii) = 1</th>
<th>Hydro (ii)</th>
<th>Nuclear (iii)</th>
<th>Renewable Energy (iv)</th>
<th>Total Installed Capacity (1+2+3+4)</th>
<th>% of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>MW</td>
<td>%</td>
<td>MW</td>
<td>%</td>
<td>MW</td>
<td>%</td>
<td>MW</td>
<td>%</td>
<td>MW</td>
<td>%</td>
</tr>
<tr>
<td>1947</td>
<td>758</td>
<td>55.51</td>
<td>0</td>
<td>0.00</td>
<td>98</td>
<td>7.20</td>
<td>506</td>
<td>37.20</td>
<td>1.246</td>
</tr>
<tr>
<td>1</td>
<td>1,597</td>
<td>53.34</td>
<td>0</td>
<td>0.00</td>
<td>228</td>
<td>7.90</td>
<td>1,055</td>
<td>63.24</td>
<td>0.169</td>
</tr>
<tr>
<td>II</td>
<td>2,438</td>
<td>52.35</td>
<td>0</td>
<td>0.00</td>
<td>300</td>
<td>6.45</td>
<td>2,716</td>
<td>58.80</td>
<td>0.17</td>
</tr>
<tr>
<td>III</td>
<td>4,417</td>
<td>48.93</td>
<td>124</td>
<td>1.48</td>
<td>352</td>
<td>3.90</td>
<td>4,903</td>
<td>54.21</td>
<td>0.17</td>
</tr>
<tr>
<td>IV</td>
<td>8,652</td>
<td>51.92</td>
<td>165</td>
<td>0.99</td>
<td>241</td>
<td>1.45</td>
<td>9,038</td>
<td>54.36</td>
<td>0.20</td>
</tr>
<tr>
<td>V</td>
<td>14,875</td>
<td>55.75</td>
<td>168</td>
<td>0.63</td>
<td>164</td>
<td>0.61</td>
<td>15,207</td>
<td>57.00</td>
<td>0.28</td>
</tr>
<tr>
<td>VI</td>
<td>26,311</td>
<td>61.54</td>
<td>542</td>
<td>1.27</td>
<td>177</td>
<td>0.42</td>
<td>27,030</td>
<td>63.47</td>
<td>0.23</td>
</tr>
<tr>
<td>VII</td>
<td>41,236</td>
<td>64.82</td>
<td>2,343</td>
<td>3.68</td>
<td>165</td>
<td>0.26</td>
<td>43,744</td>
<td>68.76</td>
<td>0.25</td>
</tr>
<tr>
<td>VIII</td>
<td>54,154</td>
<td>63.12</td>
<td>6,562</td>
<td>7.65</td>
<td>294</td>
<td>0.34</td>
<td>54,808</td>
<td>71.11</td>
<td>0.23</td>
</tr>
<tr>
<td>IX</td>
<td>62,133</td>
<td>59.13</td>
<td>31,163</td>
<td>10.63</td>
<td>1,135</td>
<td>1.08</td>
<td>63,298</td>
<td>70.83</td>
<td>0.22</td>
</tr>
<tr>
<td>X</td>
<td>71,113</td>
<td>53.75</td>
<td>35,692</td>
<td>10.53</td>
<td>1,202</td>
<td>0.91</td>
<td>72,415</td>
<td>63.00</td>
<td>0.23</td>
</tr>
<tr>
<td>XI</td>
<td>112,022</td>
<td>56.05</td>
<td>38,381</td>
<td>9.20</td>
<td>1,200</td>
<td>0.60</td>
<td>131,803</td>
<td>65.84</td>
<td>0.24</td>
</tr>
<tr>
<td>XII (March 2015)</td>
<td>164,636</td>
<td>60.59</td>
<td>23,062</td>
<td>8.49</td>
<td>1,200</td>
<td>0.44</td>
<td>188,994</td>
<td>69.52</td>
<td>41,267</td>
</tr>
<tr>
<td>Average Installed Capacity (%)</td>
<td>56.85</td>
<td>5.44</td>
<td>2.43</td>
<td>63.46</td>
<td>32.09</td>
<td>2.66</td>
<td>6.78</td>
<td>57.58</td>
<td></td>
</tr>
</tbody>
</table>

**Sources:** CEA Booklet, New Delhi

Table-2 explicit the comparison of the various installed generating capacities and the percentage of growth in installed capacity in India. There is a massive growth in the installed capacity. India occupies Fourth place in the world with the global share of 4.4 per cent in the total installed capacity in 2012. Coal based installed capacity plays a prominent role in total thermal installed capacity and in the total installed capacity. It occupies first position in the total thermal installed capacity as well as in the total installed capacity. Its average percentage in the total installed capacity is 56.85 per cent. The average percentage of installed capacity of gas based power generation in total installed capacity is 5.44 per cent. Growth rate of diesel based installed capacity is in reducing trend. It is high in the First Plan Period. The average growth of installed capacity of diesel based power generation in total installed capacity is 2.43 per cent. Installed capacity of thermal power occupies lion share in the total installed capacity it is high during the Eighth Plan i.e., 71.11 per cent and low during the Third Plan Period in the total installed capacity. Its average in the total installed capacity is 63.46 per cent.
Installed capacity of hydropower and thermal power are only participated in power generation in 1947. They are 37.30 per cent, 62.70 per cent respectively; hydro-based installed capacity was increased gradually up to the Third Plan and high during this Plan Period i.e., 45.69 per cent in the total installed capacity. Its average in the total installed capacity is 32.09 per cent. Nuclear and Renewable Energy sources are commenced in India during the Fourth and Eighth Plans respectively. They are also contributing a good number to the total installed capacity. The growth rate of renewable energy source is noticeable; governments are encouraging a lot by providing subsidies to install renewable energy sources especially solar energy. Therefore, it is increasing rapidly. The growth rate is increased from 1.05 per cent to 13.17 percent compared to the total installed capacity. The average percentage of nuclear and renewable energy sources are 2.66 percent and 6.78 percent respectively compared to the total installed capacity.

Total installed capacity of power in India in 1947 was 1362MW. There is a rapid growth in the installed capacity, increased around 200 times compared to 1947, in 2015 it is 2,71,722MW. In the First Plan period, the installed capacity was increased by 112 per cent varying from 61 per cent to 60 per cent from the Second Plan to Fifth Plan. The growth rate is reduced from Sixth Plan 60 per cent to Ninth Plan 22 per cent, from the Tenth Plan onwards it is in increasing trend. At the end of the third year of the Twelfth Plan, the growth rate is 36 per cent when compared to Eleventh Plan period. The maximum growth rate is in the First plan period i.e., 112 per cent and minimum growth rate is in Ninth Plan period i.e., 22 per cent compared to previous one. Average growth rate is 57.58 per cent.

Table-3: Comparison of Various Power Generations in India Plan-wise and Source-wise (GWh)

<table>
<thead>
<tr>
<th>Five Year Plans</th>
<th>THERMAL</th>
<th>Total Thermal Power Generation (GWh)</th>
<th>Hydro (2)</th>
<th>%</th>
<th>Nuclear (3)</th>
<th>%</th>
<th>Renewable Energy (4)</th>
<th>%</th>
<th>Total Generation (5=2+3+4)</th>
<th>% of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>1,733</td>
<td>42.56</td>
<td>0</td>
<td>0</td>
<td>144</td>
<td>3.54</td>
<td>1,877</td>
<td>46.10</td>
<td>2,195</td>
<td>53.90</td>
</tr>
<tr>
<td>I</td>
<td>3,367</td>
<td>54.34</td>
<td>0</td>
<td>0</td>
<td>238</td>
<td>2.35</td>
<td>5,600</td>
<td>56.19</td>
<td>4,793</td>
<td>43.41</td>
</tr>
<tr>
<td>II</td>
<td>9,100</td>
<td>52.59</td>
<td>0</td>
<td>0</td>
<td>348</td>
<td>2.13</td>
<td>9,668</td>
<td>54.71</td>
<td>7,837</td>
<td>45.29</td>
</tr>
<tr>
<td>III</td>
<td>17,765</td>
<td>53.22</td>
<td>69</td>
<td>0</td>
<td>324</td>
<td>0.97</td>
<td>18,158</td>
<td>54.39</td>
<td>15,225</td>
<td>45.01</td>
</tr>
<tr>
<td>IV</td>
<td>34,835</td>
<td>53.36</td>
<td>545</td>
<td>0.51</td>
<td>113</td>
<td>0.19</td>
<td>35,921</td>
<td>52.96</td>
<td>28,972</td>
<td>45.44</td>
</tr>
<tr>
<td>V</td>
<td>52,024</td>
<td>59.74</td>
<td>515</td>
<td>0.50</td>
<td>55</td>
<td>0.05</td>
<td>52,594</td>
<td>51.30</td>
<td>47,259</td>
<td>45.66</td>
</tr>
<tr>
<td>VI</td>
<td>96,957</td>
<td>61.81</td>
<td>834</td>
<td>1.17</td>
<td>43</td>
<td>0.03</td>
<td>98,836</td>
<td>63.01</td>
<td>53,948</td>
<td>34.39</td>
</tr>
<tr>
<td>VII</td>
<td>172,643</td>
<td>70.54</td>
<td>2,43</td>
<td>0.53</td>
<td>178,690</td>
<td>22.80</td>
<td>2,116</td>
<td>53.51</td>
<td>4,875</td>
<td>1.88</td>
</tr>
<tr>
<td>VIII</td>
<td>349,378</td>
<td>75.10</td>
<td>3,958</td>
<td>6.82</td>
<td>317,043</td>
<td>80.04</td>
<td>88,901</td>
<td>17.40</td>
<td>9,071</td>
<td>2.59</td>
</tr>
<tr>
<td>IX</td>
<td>370,884</td>
<td>71.68</td>
<td>4,099</td>
<td>9.10</td>
<td>4,317</td>
<td>0.83</td>
<td>422,300</td>
<td>81.61</td>
<td>73,579</td>
<td>14.22</td>
</tr>
<tr>
<td>X</td>
<td>461,794</td>
<td>65.86</td>
<td>6,157</td>
<td>9.37</td>
<td>2,339</td>
<td>0.38</td>
<td>5,288</td>
<td>78.80</td>
<td>113,502</td>
<td>16.92</td>
</tr>
<tr>
<td>XI</td>
<td>612,497</td>
<td>66.40</td>
<td>9,281</td>
<td>10.11</td>
<td>2,349</td>
<td>0.29</td>
<td>706,827</td>
<td>76.80</td>
<td>130,511</td>
<td>15.14</td>
</tr>
<tr>
<td>XII (March 2015)</td>
<td>835,838</td>
<td>75.61</td>
<td>41,075</td>
<td>3.27</td>
<td>1,407</td>
<td>0.13</td>
<td>878,320</td>
<td>79.43</td>
<td>129,244</td>
<td>11.69</td>
</tr>
<tr>
<td>Average Power Generation (%)</td>
<td>61.03</td>
<td>4.41</td>
<td>0.85</td>
<td>31.67</td>
<td>2.93</td>
<td>2.21</td>
<td>62.83</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: CEA Booklet, New Delhi

Table-3 explains the plan wise and source wise comparison of various gross power generations to the total power generation and its growth. Coal based thermal power generation is dominating in the total thermal power as well as in the total power generation. Its share is significant in the total power generation. It meets more than 50% in the total power needs in India since First Plan Period to till 2015. The average percentage coal based power generation in the total power generation is 61.03 per cent. Gas based power generation is also playing an important role in the total thermal power generation and in the total power generation. There is significant increase in the gas-based generation. Its share in the total generation during the Third Plan Period was 0.21 per cent and increased gradually to 10.11 per cent at the end of the Eleventh Plan Period. Share of diesel based thermal power generation is in reducing trend because of increasing the fuel prices. Its share in the total power generation is reducing gradually since the First Plan Period i.e., 2.35 per cent to 0.03 per cent at the end of the Seventh Plan. Share onwards it is undulating. The average percentage of diesel based thermal power generation in the total power generation is 0.85. Thermal power generation is the major source in the total power generation. In India, maximum portion of power is producing in this way. Its share in 1947 was 46.10 per cent and it is 79.45 per cent as on 31-3-2015. It is high during the Ninth Plan period i.e., 81.61 per cent and low during the Fifth Plan period i.e., 51.30 per cent.

Hydro-based power generation was the major source of power generation in 1947. Its share in the total power generation at that time was 33.90 per cent and it contributes significant portion more than 40 per cent up to the end of Fifth Plan period. There it onwards it is in reducing trend except during the Tenth Plan period. Its share was high during the Fifth Plan period i.e., 46 per cent. The average share of hydro-based power generation in the total generation is 31.67 per cent. Nuclear power generation was commenced in India during the Fourth Plan period; its share in total power generation is fluctuating. More nuclear power generation plants are going to be set up in the central sector. It is the safest mode of power generation among all power generations. Its average in the total power generation is 2.93 per cent. Renewable energy source is showing an incredible growth trend.
in the total power generation though it was came into existence during the Seventh Plan period. It contributes only 6GWh of generation in that plan period. Then onwards it is increasing drastically to 61,780GWh by the end of third of year of Twelfth Plan. There is a massive growth in the renewable energy source power generation during the Eleven Plan period it is increased from 1.47 per cent to 5.5 per cent compared to the Tenth Plan period. Its average percentage in the total power generation is 2.21 per cent.

There is a lot of growth in the total power generation in India after the Independence. In 1947 only thermal and hydropower generations are participated in the total power generation, in that hydropower generation is high than thermal power. The total power generation at that period was 4,072GWh is increased by 271 folds by the end of the third year of Twelfth Plan. In the First Plan Period, it is increased by 143 per cent compared to 1947 and undulates up to the Third plan period. Total power generation becomes double during the Fourth Plan compared to the Third Plan. The growth rate of total power generation at the end of the third year of Twelfth Plan is 20 per cent compared to the Eleven Plan period. The average growth rate in the total power generation is 62.83 per cent.

Table-4: Average Growth of Transmission and Distribution (T&D) lines in India during the Various Plan Periods

<table>
<thead>
<tr>
<th>Five Year Plans</th>
<th>Length of T&amp;D lines (CKT.KMS)</th>
<th>% of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>23,238</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>85,427</td>
<td>26.72</td>
</tr>
<tr>
<td>II</td>
<td>157,887</td>
<td>84.82</td>
</tr>
<tr>
<td>III</td>
<td>541,704</td>
<td>243.10</td>
</tr>
<tr>
<td>IV</td>
<td>1,546,097</td>
<td>185.41</td>
</tr>
<tr>
<td>V</td>
<td>2,145,919</td>
<td>38.80</td>
</tr>
<tr>
<td>VI</td>
<td>3,211,956</td>
<td>49.68</td>
</tr>
<tr>
<td>VII</td>
<td>4,407,501</td>
<td>37.22</td>
</tr>
<tr>
<td>VIII</td>
<td>5,141,413</td>
<td>16.65</td>
</tr>
<tr>
<td>IX</td>
<td>6,030,148</td>
<td>17.29</td>
</tr>
<tr>
<td>X</td>
<td>6,939,894</td>
<td>15.09</td>
</tr>
<tr>
<td>XI</td>
<td>8,726,092</td>
<td>25.74</td>
</tr>
<tr>
<td>XII (March 2015)</td>
<td>10,558,177</td>
<td>21.00</td>
</tr>
</tbody>
</table>

Average growth of T &D Lines (%)  83.53

Sources: CEA Booklet, New Delhi

There is a massive growth in Transmission and Distribution of power in last 6 decades. State and Central governments invested huge amount on distribution sector. Transmission & Distribution lines in 1947 were 23,238 Ckt. Kms which increased to 1,05,58,177 Ckt Kms. as on 31-3-2015. It has increased by 454 folds. Growth rate in T&D lines during the First Plan Period and Third Plan Period are more than 200%. Its growth rate is fluctuating. The average growth rate in transmission and distribution lines during the Five Year Plan Period is 83.53 per cent.

Table-5: Plan-wise Comparative Analysis of Types of Power Consumption (GW)

<table>
<thead>
<tr>
<th>Five Year Plans</th>
<th>Domestic %</th>
<th>Commercial %</th>
<th>Industrial %</th>
<th>Tracton %</th>
<th>Agriculture %</th>
<th>Others %</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>423</td>
<td>10.11</td>
<td>178</td>
<td>4.26</td>
<td>2,960</td>
<td>70.78</td>
<td>277</td>
</tr>
<tr>
<td>I</td>
<td>594</td>
<td>9.20</td>
<td>546</td>
<td>5.28</td>
<td>7,514</td>
<td>74.01</td>
<td>405</td>
</tr>
<tr>
<td>II</td>
<td>1,492</td>
<td>8.88</td>
<td>548</td>
<td>5.05</td>
<td>12,547</td>
<td>74.67</td>
<td>454</td>
</tr>
<tr>
<td>III</td>
<td>2,355</td>
<td>7.73</td>
<td>1,650</td>
<td>5.42</td>
<td>22,596</td>
<td>74.19</td>
<td>1,057</td>
</tr>
<tr>
<td>IV</td>
<td>4,645</td>
<td>8.36</td>
<td>2,988</td>
<td>5.38</td>
<td>37,791</td>
<td>58.02</td>
<td>1,331</td>
</tr>
<tr>
<td>V</td>
<td>7,576</td>
<td>9.02</td>
<td>4,330</td>
<td>5.15</td>
<td>54,440</td>
<td>64.81</td>
<td>1,218</td>
</tr>
<tr>
<td>VI</td>
<td>15,506</td>
<td>12.45</td>
<td>6,937</td>
<td>5.57</td>
<td>73,520</td>
<td>59.02</td>
<td>2,880</td>
</tr>
<tr>
<td>VII</td>
<td>29,577</td>
<td>15.16</td>
<td>9,548</td>
<td>4.89</td>
<td>100,173</td>
<td>51.45</td>
<td>4,070</td>
</tr>
<tr>
<td>VIII</td>
<td>55,267</td>
<td>17.53</td>
<td>17,519</td>
<td>5.56</td>
<td>139,253</td>
<td>44.17</td>
<td>6,594</td>
</tr>
<tr>
<td>IX</td>
<td>79,694</td>
<td>21.27</td>
<td>24,139</td>
<td>6.44</td>
<td>159,507</td>
<td>42.57</td>
<td>8,106</td>
</tr>
<tr>
<td>X</td>
<td>111,002</td>
<td>21.12</td>
<td>40,220</td>
<td>7.65</td>
<td>241,216</td>
<td>45.89</td>
<td>10,800</td>
</tr>
<tr>
<td>XI</td>
<td>171,104</td>
<td>21.79</td>
<td>65,383</td>
<td>8.33</td>
<td>352,291</td>
<td>44.87</td>
<td>14,206</td>
</tr>
<tr>
<td>XII (March 2015)</td>
<td>220,894</td>
<td>23.53</td>
<td>82,322</td>
<td>8.77</td>
<td>395,521</td>
<td>42.10</td>
<td>16,794</td>
</tr>
</tbody>
</table>

Average Consumption (%) 59.83

Sources: CEA Booklet, New Delhi
Table-5 explains various consumption of electricity since Independence. In 1947, domestic electricity consumption in the total consumption was 10.11 per cent; it reduced gradually to 7.73 per cent at the end of the Third Plan. There onwards it is increasing trend up to the end of 3rd year of Twelfth Plan except during the Tenth Plan period. Minuscule percentage i.e., 0.15 per cent was reduced during the Tenth Plan Period in the total consumption compared to the previous one. Average domestic consumption in the total electricity consumption is 14.32%.

The commercial consumption of electricity in 1947 was 4.26 per cent in the total consumption. It can be said that its consumption is fluctuating from the First Plan to the Seventh Plan. There onwards it is increasing constantly 4.89 per cent to 8.77 per cent up to the end of the 3rd year of the Twelfth Plan. The average electricity consumption in the total consumption is 5.99 per cent.

Industrial sector is consuming more electricity among all other utilities since 1947. It is declining trend except during the Tenth Plan Period. Percentage of Industrial consumption in the total consumption on 31-3-2015 is 42.10 per cent and its average percentage is 58.20 per cent. Traction consumes 6.62 per cent in 1947 in the total power consumption. At the end of the 3rd year of Twelfth Plan, its consumption in the total power consumption is 1.79 per cent. Average consumption of traction since 1947 is 2.80 per cent in the total consumption.

Agriculture consumption in the total power consumption was increasing gradually since 1947 to end of the Eighth Plan period i.e., 2.99 per cent to 26.65 per cent. It is reduced to 17.95 percent during the Eleventh Plan period. At the end of the 3rd year of Twelfth Plan, its consumption in the total power consumption is 18.45 per cent. Its average in the total consumption is 14.31 per cent. Other consumption of electricity in 1947 was 5.24 per cent in the total consumption. It is fluctuating from the First Plan to the Ninth Plan. Its consumption was high during this plan period i.e., 5.75 percent, from the Tenth Plan onwards it is in increasing trend. Average percentage of other consumption in the total consumption is 4.38 per cent.

Table-6: Growth Percentage of total Power Consumption and Per Capita Consumption

<table>
<thead>
<tr>
<th>Five Year Plans</th>
<th>Total (GW)</th>
<th>% of Growth</th>
<th>Per Capita Consumption (KW)</th>
<th>% of Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>4,182</td>
<td>-</td>
<td>16.3</td>
<td>-</td>
</tr>
<tr>
<td>I</td>
<td>10,150</td>
<td>143</td>
<td>30.9</td>
<td>89.57</td>
</tr>
<tr>
<td>II</td>
<td>16,804</td>
<td>66</td>
<td>45.9</td>
<td>48.54</td>
</tr>
<tr>
<td>III</td>
<td>30,455</td>
<td>81</td>
<td>73.9</td>
<td>61.00</td>
</tr>
<tr>
<td>IV</td>
<td>55,557</td>
<td>82</td>
<td>126.2</td>
<td>70.77</td>
</tr>
<tr>
<td>V</td>
<td>84,005</td>
<td>51</td>
<td>171.6</td>
<td>35.97</td>
</tr>
<tr>
<td>VI</td>
<td>124,569</td>
<td>48</td>
<td>228.7</td>
<td>33.28</td>
</tr>
<tr>
<td>VII</td>
<td>195,098</td>
<td>57</td>
<td>329.2</td>
<td>43.94</td>
</tr>
<tr>
<td>VIII</td>
<td>315,294</td>
<td>62</td>
<td>464.6</td>
<td>41.13</td>
</tr>
<tr>
<td>IX</td>
<td>374,670</td>
<td>19</td>
<td>559.2</td>
<td>20.36</td>
</tr>
<tr>
<td>X</td>
<td>525,672</td>
<td>40</td>
<td>671.90</td>
<td>20.15</td>
</tr>
<tr>
<td>XI</td>
<td>785,194</td>
<td>49</td>
<td>883.6</td>
<td>31.51</td>
</tr>
<tr>
<td>XII (March 2015)</td>
<td>938,823</td>
<td>20</td>
<td>1,010.0</td>
<td>14.31</td>
</tr>
<tr>
<td><strong>Average Consumption (%)</strong></td>
<td><strong>59.83</strong></td>
<td></td>
<td><strong>42.54</strong></td>
<td></td>
</tr>
</tbody>
</table>

Sources: CEA Booklet, New Delhi

Table-6 indicates the growth of electricity consumption and per capita consumption in India. Total power consumption in 1947 was 4,182GW, at the end of March 2015 it reached to 9,38,823 GW, growth rate of total power consumption is high during the First Plan period compared to 1947. At the end of the 3rd year of the Twelfth Plan, its growth rate is 20 per cent compared to the Eleventh Plan period. The average growth percentage of total electricity consumption since 1947 to March 2015 is 59.83 per cent.

The per capita consumption of electricity indicates the living standard of the human being in the nation in 1947 it was 16.3KW it is increased to 1,010KW it is increased by 62 times since Independence. There is a progressive growth in the per capita consumption of electricity in India. Still it is lagging behind compared to the world per capita consumption. In 2012, India is in fourth place in the installed capacity and fifth position in the world in generating electricity but it is in fourteenth position in the per capita consumption. During the First Plan period, the growth of the per capita consumption of electricity was increased to 89.57 per cent compared to 1947. Its growth rate is fluctuating. At the end of the 3rd year of the Twelfth Plan Period, the growth of the per capita consumption of electricity 14.31 per cent compared to the Eleventh Plan period. Its Average percentage is 39.27 per cent.
There is no much significant variation in the growth of Central sector and the contribution of State sector in the installed generating capacity was 58.92 per cent in 2006. It is declined tremendously to 34.99 per cent as on 31-3-2015. Requirement of electricity in 2005-06 was 631,757GW and it is increased by 69.20 per cent, reached to 1,068,943GW as on 31-3-2015. Availability of electricity is also increased 78.09 per cent during this period. Energy deficit is increased by 8.38 percent to -11.07 per cent. Many new power plants are established in all sectors after 2008-09 so deficit is in reducing trend during 2014-15 except in the years 2009-10 and 2011-12. In 2014-15 the energy deficit is -3.60 per cent in the total energy demand. Peak demand is also increasing year by year. It is 93,255MW in 2005 which is increased by 73 per cent during 2005-06 to 2014-15. Peak demand deficit is increasing gradually in 2005-06 to 2007-08 i.e., -12.29 percent to -16.60 percent and fluctuations in between 2007-08 to 2011-12. Since then it is in reducing trend and at the end of 2014-15 it is -4.70 per cent. There is a significant improvement in installed generating capacity and generation of power during this period. Therefore, the deficit percent in the total energy and peak demand is reducing.

FINDINGS

- There is no much significant variation in the growth of Central sector and the contribution of State sector in the installed generating capacity was 58.92 per cent in 2006. It is declined tremendously to 34.99 per cent as on 31-3-2015. Private sector is filling this gap. Reforms in power sector showing a positive impact and government policies also enhance the private sector’s participation. Its share in 2006 was 11.37 per cent, which is increased to 38.22 per cent at the end of March 2015.
- Average percentage of total thermal installed capacity in the total installed capacity is 63.46 per cent during the period of study. Hydro-based installed power generation was significantly raised until Fourth Plan period. Much significance is given to install thermal power station in central and state sectors, at the same time hydro is neglected. Therefore, the share of hydropower generation is reducing. Nuclear and Renewable energy sources are contributing 2.66 per cent and 6.78 per cent respectively. Growth of total installed capacity has been increased by 200 times since independence. Its average growth rate is 57.58 per cent during the period of study.
- Thermal power generation is a reliable source of power generation this occupies major portion in the total power generation. Hydro-based power generation was maximum at the time of Independence. There onwards it is reducing gradually. Percentage of nuclear and renewable energy sources in the total generation were 2.93 per cent and 2.21 per cent respectively. Percentage growth rate of installed power generating capacity is fluctuating; it is 58 per cent during the study.
- Massive growth in the Transmission and Distribution lines since independence. Central and state governments are allocating significant portion of funds in their budgets. It is high during the First Plan Period i.e., 267 per cent and low during the Tenth Plan Period i.e., 15.09%.
- Total power consumption has been increased by 224 times since Independence. Industrial consumption stood in the first place (58.20 per cent) followed by domestic (41.32 per cent) and agriculture (14.31 per cent) respectively in the total consumption. Traction stood in the last place (2.8 per cent) compared to the various utilities.
- Average growth rate of power consumption during the post-independence period is 59.83 per cent and per capita consumption during the period of study is 42.54%. Still it is lagging behind compared to the world per capita consumption.

Table-7: Power Supply Position in India

<table>
<thead>
<tr>
<th>Year</th>
<th>Requirement (GW)</th>
<th>Energy (GW)</th>
<th>Deficit (%)</th>
<th>Peak Demand (MW)</th>
<th>Availability</th>
<th>Demand</th>
<th>Availability</th>
<th>Deficit (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>631,757</td>
<td>578,819</td>
<td>-8.38</td>
<td>93,255</td>
<td>81,792</td>
<td>-12.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006-07</td>
<td>690,587</td>
<td>624,495</td>
<td>-9.57</td>
<td>100,715</td>
<td>86,818</td>
<td>-13.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007-08</td>
<td>739,343</td>
<td>666,007</td>
<td>-9.92</td>
<td>108,866</td>
<td>90,793</td>
<td>-16.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008-09</td>
<td>777,039</td>
<td>691,038</td>
<td>-11.07</td>
<td>109,809</td>
<td>96,785</td>
<td>-11.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td>830,594</td>
<td>746,644</td>
<td>-10.11</td>
<td>119,166</td>
<td>104,009</td>
<td>-12.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010-11</td>
<td>861,591</td>
<td>788,355</td>
<td>-8.50</td>
<td>122,287</td>
<td>110,256</td>
<td>-9.84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011-12</td>
<td>937,199</td>
<td>857,886</td>
<td>-8.46</td>
<td>130,006</td>
<td>116,191</td>
<td>-10.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013-14</td>
<td>1,002,257</td>
<td>959,829</td>
<td>-4.23</td>
<td>135,918</td>
<td>129,815</td>
<td>-4.49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014-15</td>
<td>1,068,943</td>
<td>1,030,800</td>
<td>-3.60</td>
<td>148,166</td>
<td>141,160</td>
<td>-4.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: CEA Booklet, New Delhi
Total energy deficit percentage was in increasing trend up to 2008-09. More power generation plants are installed during the Tenth and Eleventh Plan periods. So energy deficit is reduced, reached to -3.6 per cent during 2014-15. Peak demand deficit is fluctuating, it is high during 2007-08 i.e., -16.60 percent. As on 31-3-2015, peak demand deficit is -4.70 %.

CONCLUSION

Indian power sector is witnessed too many changes since 1947. There is a remarkable growth in the installed capacity, power generation and consumption since Independence. Though there is a lot of improvement in the power sector, yet more than 20,000 villages in India have to be electrified. Many states in India are not in a position to reach the National per capita consumption of electricity. Therefore, it is necessary to install more power generation stations and utilize the existing ones into optimum levels. Huge capital is to be required to install the new power plants and it has a long gestation period. It is better to install the generation stations in public sector, if it is installed in private sector the cost per unit is going to be increased because they run for profit. Ultimately, the burden has to be met by the consumer.

REFERENCES


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PERFORMANCE ANALYSIS OF GINGELLY OIL INDUSTRY: A CONCEPTUAL APPROACH

Dr. A. V. N. Murthy15 M. N. Sudhir16

ABSTRACT

Gingelly oil, which is also known as til oil, is used for cooking, general care, and medicinal use. It is an outcome of sesame cultivation not only in India but globally. The manufacturing process of this oil is comparatively similar to extraction process like other oils. The demand & supply of gingelly oil has been fluctuating over the years. The countries in Africa & Asian continent are world-leading players in production of Gingelly oil. India is a very good exporter of this oil in the global market. The production and supply of gingelly is comparatively fluctuating from time to time. The medicinal benefits of this oil is seen in controlling hypertension, cholesterol reduction, antioxidants skin care. It is a very good industry for the promotion of production, consumption in the country and export outside the country.

KEYWORDS

Gingelly, Medicinal, Consumption, Marketing Caution etc.

INTRODUCTION

Gingelly oil is another name for sesame oil. It is also known as til oil. It is commonly used in cooking, like vegetable oil and olive oil. Practitioners of both Western medicine and the Indian system of Ayurveda recognize significant health benefits in gingelly oil. We may find it worthwhile using it for all edible oil needs and all skin care needs as well. Caution has to be taken in to consideration while making use of this oil. Historically, sesame was cultivated more than 5000 years ago as a drought-tolerant crop and was able to grow where other crops failed. Gingelly seeds were one of the first crops processed for oil as well as one of the earliest condiments. Gingelly was cultivated during the Indus valley civilization and was the main oil crop. It was probably exported to Mesopotamia around 2500 BC. The Assyrians used sesame oil as a food, salve, and medication. Gingelly oil is thought to have originated in the Indus Valley of North India, but spread from there widely throughout Asia.

MANUFACTURING PROCESS

Gingelly seeds are protected by a capsule, which only bursts when the seeds are completely ripe. The ripening time tends to vary, so farmers cut plants by hand and place them together in an upright position to continue ripening until all the capsules have opened. The discovery of an indehiscent (nonshattering) mutant by Langham in 1943 began the work towards development of a high yielding, shatter-resistant variety. Although researchers have made significant progress in Gingelly breeding, harvest losses due to shattering continue to limit domestic US production.

Gingelly seeds are primarily produced in developing countries, a factor that has played a role in limiting the creation of large-scale, fully automated oil extraction and processing techniques. A number of methods, depending on the materials and equipment available, can extract Gingelly oil. In developing countries, Gingelly oil is often extracted with less-expensive and manually intensive techniques such as hot water flotation, bridge presses, ram presses, the ghani process, or by using a small-scale expeller. In developed countries Gingelly oil is often extraining an expeller press, larger-scale oil extraction machines, or by pressing followed by chemical solvent extraction. Gingelly oil can also be extracted under low-temperature conditions using an expeller press in a process called cold pressing. This extraction method is popular among raw food adherents because it avoids exposing the oil to chemical solvents or high temperatures during extraction.

While some manufacturers will further refine Gingelly oil through solvent extraction, neutralization and bleaching in order to improve its cosmetic aspects, Gingelly oil derived from quality seeds already possesses a pleasant taste and does not require further purification before it can be consumed. Many consumers prefer unrefined Gingelly oil due to their belief that the refining process removes important nutrients. Flavour, which was traditionally an important attribute, was best in oils produced from mild crushing.

Gingelly oil is one of the more stable natural oils, but can still benefit from refrigeration and limited exposure to light and high temperatures during extraction, processing and storage in order to minimize nutrient loss through oxidation and rancidity. Storage in amber-colored bottles can help to minimize light exposure.

15Professor, Department of Management, K.L. University, Andhra Pradesh, India, dravnmurty@gmail.com
16Research Scholar, Department of Commerce & Management, Acharya Nagarjuna University, Andhra Pradesh, India, sudhirmuttansetty@gmail.com

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AGRICULTURAL IMPORTANCE OF GINGELLY SEED

As of 2012, Gingelly seeds sold on the global market for roughly US $0.67/lb. This relatively high price reflects a worldwide shortage. Though the market for Gingelly seed is strong, domestic US production awaits the development of high-yielding nonshattering varieties. About 65 percent of the annual US Gingelly crop is processed into oil and 35 percent is used in food. The market for Gingelly oil is mainly located in Asia and the Middle East where the use of domestically produced Gingelly oil has been a tradition for centuries.

VARIETIES

There are many variations in the color of Gingelly oil: cold-pressed Gingelly oil is pale yellow, while Indian Gingelly oil is golden, and East Asian Gingelly oils are commonly a dark brown color. This dark color and flavour are derived from roasted/toasted Gingelly seeds. Cold pressed Gingelly oil has a different flavor than the toasted oil, since it is produced directly from raw, rather than toasted seeds. Gingelly oil is traded in any of the forms described above: Cold-pressed Gingelly oil is available in Western health shops. Unroasted (but not necessarily cold pressed) Gingelly oil is commonly used for cooking in the Middle East and can often be found in halal markets. In East Asian countries, different kinds of hot-pressed Gingelly oil are preferred.

GLOBAL & DOMESTIC PRODUCTION OF GINGELLY SEED

The total global production of Gingelly seed sums up to around 30 lakh tonne annually. The world production of Gingelly is dominated by a few countries that lie in the African and Asian continents. China produces the maximum out of them all sharing approximately 25% share in the world's total production. India's annual average production hovers around 6,80,000 metric tons contributing to around 22% of the world's total Gingelly production. Some time ago, India was enjoying the topmost position in the list of major producers but China's improvement in the production and India's slow steady growth allowed China to take over the lead from India. The states of Gujarat, West Bengal, Rajasthan, Tamil Nadu, Orissa, Madhya Pradesh, Andhra Pradesh, Maharashtra, Uttar Pradesh, Punjab and Karnataka are the major producing states.

EXPORT STRENGTH & MARKET STRENGTH OF GINGELLY OIL IN INDIA

In the world market for Gingelly, India has a reputation of being a net exporter. The country is one of the largest exporters of Gingelly oil. The production in India is sufficient to satisfy the domestic consumption demand, around 25% of the total production is exported to different countries. India exports Gingelly oil to the Middle East, West Asia, South Asia, South America, Africa, and the Far East. Trading centre in India where Gingelly seed is traded is the Saurashtra region of Gujarat, whereas Gingelly oil is traded in the states of Tamil Nadu and Kerala. Gingelly seed is also traded in the major commodity exchanges in India.

Table 1

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Sources: Authors Compilation

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Sources: Authors Compilation
Indian Sesame Seed Export Import Data for the past 2 years Export

You will notice in the past 4 years the Exports from India have dipped by almost 140,000 MT but the Imports have risen by almost 70,000 MT.

India cannot import Gingelly for domestic consumption so all that we are importing we are re-exporting. It is a similar pattern to what China had until it became a net Importer. The domestic consumption in India is rising and the buyer's here are willing to pay a better price as well with less headache and faster payment terms. The African markets have opened up for everyone in the trade and India I believe is one of the biggest buyer from Africa now, weather they import the seeds into India or get them exported directly to various destinations is another story.

CURRENT SITUATION AND FUTURE PREDICTIONS

- The presumption that stockiest in India are sitting on huge loads of stocks in their warehouses is in for a big shock in the coming months. The stock situation is at an all-time low in every sesame producing area and whatever little there is left should only be enough for India to sustain its export demand for the next 3 month until the new crop arrives.
- The monsoon is weak in India and with almost 40%, less rainfall the situation looks unlikely that it will improve. The late rains means that sowing in most areas has not even started now.
- The festival season and winter demand for the domestic markets in India should also start around Mid-October and with no new crop in sight, the old stocks will quickly be diverted to the domestic market where they fetch a better price.
- It is not presumed in any way that the buyers need to stock their warehouses today in anticipation of price rise, there still are many factors which can cool down price

CURRENT SITUATION

- The markets are almost stable on a day-to-day basis over the past few weeks now. The arrivals have virtually stopped and the demand remains sluggish with mostly spot business being done.
- The stocks are definitely not huge, contrary to what many people think that there really is a lot of stocks hidden somewhere and one day the flood gates will open and all the sellers will come out with truck loads and markets will crash 20-30% overnight. To buy 100 Mt a day in the beginning of the year is a big deal today.
- The Korean's tried to play smart and announced a tender excluding their traditional suppliers ie. India, Pakistan, Sudan and Ethiopia. The smaller countries should be brought into the picture to expand the supplier base, but it did work the way after the prices were announced between $2550 -2600, which was not a huge margin.
- Africa is the only country to believe that they can bring down the prices. It succeeded to certain extent but once again, the predictions from the past proved to be true. Sesame is no longer a sub $200 commodity.
- The fall in demand and exports is surprising to the export numbers from India that the period from Oct to Dec are only marginally down. The right export from India during the period from Oct to Dec stands at around 53,000 MT. It is roughly about 18,000 Mt per month.
- The sudden correction in prices have forced virtually everyone to get rid of the excess stocks. The exporters and big stockiest have set to make profit booking between December to February.
- People talked about heavy imports from Africa into India , but failed to realize that unlike previous year the average Import prices is around 2000-2100 $ PMT. There is a need to add the manufacturing cost + packing + export charges + interest cost etc., not all of which should be less than $200 PMT. Therefore, the mean average that we predicted in the start of the season around 2800-2850 stands justified.

CONSTRAINTS

- News of smaller crops (Mid Season) are coming in from Gujarat. The farmers did re sowing after the late damages. This can be put in the range of around 2000Mt to 3000 MT from time to time. People say these could pull the markets down but it is believed that they are more likely to keep the market steady.
- The summer crop being huge, bumper, ultra-super in the range of 100,000 Mt. We will all can say to such rumors as good luck Mr. Nostradamus. Previously Gujrat produced a 100,000 Mt was a decade ago and even that was a regular crop. The sowing has not started yet, we don't know what the weather is likely to be in the coming months so predicting a crop size just on the basis of high prices right now is like predicting floods after a thunderstorm. Yes, it might rain heavily but then maybe it just drizzles. The crop comes out around Mid-May-June so we still have time, the sowing will start end Feb-Early march and hopefully the crop start getting some size estimates by Mid-April.
- We all know that India had a good monsoon but we miss to recognize the fact that a good monsoon does not always mean a good crop especially when the crop is Gingelly.
• Carryover stocks were depleting quickly and we thought it is presumed without them as soon as the new crop would come in.
• The value of currency movements were so sharp in the past few months that it made the markets almost directionless. Everyone was playing more with the currency rather than the actual. The numbers put forward by various agencies / associations / trade estimates say the total crop is around 200,000 - 220,000 Mt.

EXPECTED PROBLEMS

• After Diwali, everyone in India waits in anticipation that the arrivals will increase after Diwali and a correction will take place.
• If the arrivals do pick up we might see a correction of about 5 to 6 %. There might not be a big expectation of a big fall right away as the supply chain is still empty. A supply-based bullishness can only be countered by excess supply and unfortunately, we do not see any big supplies coming in and pulling the markets down.
• If the arrivals is not on time everyone should be ready to pay a further premium of about 10% We are already at all time high levels in terms of pricing in Indian rupee but there is always scope of some further upward movement.
• A few years ago when Hulled Gingelly crossed Rs 100 everyone said it is just not sustainable and prices will crash. The phenomenon of change in a previous report about new market benchmarks which are bound to happen every few years. It is predicted that the next target will be Rs 200. There is a doubt that at least for current year it will be breached or can be sustained even if we do manage to touch the level the current prices are fair enough to be workable over the few new months.
• Africa as we all know holds the key position in the market. If the big traders start manipulating the markets, which is very much possible looking at the global situation right now.
• The news from Africa is not very encouraging of the destination to have a bumper crop; at least not to the extent, that they can cover the losses in number’s we have had in India and China. BTW, China crop was reported short as well and by estimates is only around 250,000 Mt.
• Of course, the demand may fall in the current year and maybe to a certain extent some institutional buying from big bakers and confectionary makers will be less. However like in the past the firmly believe that the price is not a deterrent at least for food products. A company may think that since their sales are down people are eating less, the fact in most case is just that one of your competitor is now cheaper or has ready cargo to offer and the buyer has merely shifted their demand to someone else to average out their costs and to sustain their demands because it did not have enough to offer.

MEDICINAL BENEFITS OF GINGELLY OIL

• **Lowers Blood Pressure:** Substituting gingelly oil in place of other vegetable oils can help to lower your blood pressure. The “Yale Journal of Biology and Medicine” reported on a study demonstrating that after 45 days of using gingelly oil in place of other edible oils, 50 hypertensive patients between the ages of 35 and 60 showed normal levels of systolic and diastolic blood pressure. Initial high blood pressure levels returned after 45 days of withdrawing gingelly oil from their diets.

• **Lowers Cholesterol:** According to George Mateljan, author of “The World's Healthiest Foods,” sesame seeds contain sesamin and sesamolin, two types of “ lignans” or beneficial fibers that can lower your cholesterol.

• **Source of Antioxidants:** Mateljan also points out that the substance sesamin has been shown to increase vitamin E supplies in animals and to protect the liver from oxidative damage. The "Journal of Medicinal Food" reports that a study involving gingelly oil fed to rats with induced diabetes demonstrated raised antioxidant levels.

• **Promotes Healthy Skin:** Dr. Savitha Suri recommends massaging your body once weekly with gingelly oil to protect your skin from drying out and cracking during the winter. He additionally suggests regularly massaging your feet with warm gingelly oil to prevent the skin there from fissuring.

Research shows that Gingelly seed oil is a potent antioxidant. In the tissues beneath the skin, this oil will neutralize oxygen radicals. It penetrates into the skin quickly and enters the blood stream through the capillaries. Molecules of Gingelly seed oil maintain good cholesterol (HDL) and lower bad cholesterol (LDL).

Gingelly seed oil is a cell growth regulator and slows down cell growth and replication. In both the small intestine and the colon, some cells are nourished by fat instead of sugar. The presence of sesame seed oil can provide those cells with essential nourishment.
In an experiment at the Maharishi International College in Fairfield, Iowa, students rinsed their mouths with Gingelly oil, resulting in an 85% reduction in the bacteria, which causes gingivitis.

As nose drops, sniffed back into the sinuses, Gingelly seed oil has cured chronic sinusitis. As a throat gargle, it kills strep and other common cold bacteria. It helps sufferers of psoriasis and dry skin ailments. It has been successfully used in the hair of children to kill lice infestations. It is a useful natural UV protector. It is beneficial in reducing swelling and in soothing the itch of Hemorrhoids.

Used after exposure to wind or sun it will calm the burns. It nourishes and feeds the scalp to control dry scalp dandruff and to kill dandruff causing bacteria. It protects the skin from the effects of chlorine in swimming pool water. Used before and after radiation treatments, Gingelly seed oil helps neutralize the flood of oxygen radicals, which such treatment inevitably causes.

On the skin, oil soluble toxins are attracted to Gingelly seed oil molecules, which can then be washed away with hot water and a mild soap. Internally, the oil molecules attract oil soluble toxins and carry them into the blood stream and then out of the body as waste. Used as a douche mixed with warm water, the oil controls vaginal yeast infections.

Gingelly seed oil absorbs quickly and penetrates through the tissues to the very marrow of the bone. It enters into the blood stream through the capillaries and circulates. The liver does not sweep Gingelly seed oil molecules from the blood, accepting those molecules as friendly.

Gingelly seed oil helps joints keep their flexibility. It keeps the skin supple and soft. It heals and protects areas of mild scrapes, cuts and abrasions. It helps tighten facial skin, particularly around the nose, controlling the usual enlargement of pores as skin ages chronologically.

Teen boys and girls have learned, wrongly, that all oil is bad for their facial skin. Heavy oils and toxic oils and creams are bad for all facial skin. However, Gingelly seed oil is the one oil, which is actually good for young skin. It helps control eruptions and neutralizes the poisons, which develop both on the surface and in the pores. With Gingelly oil, no cosmetics are needed. The oil will cause young facial skin to have and display natural good health.

Used on baby skin, particularly in the area covered by a diaper, Gingelly seed oil will protect the tender skin against rash caused by the acidity of body wastes. In the nose and ears, it will protect against common skin pathogens.

For children going to school, who will be in the presence of other children with colds and sniffles, Gingelly seed oil swabbed in the nose can protect against air borne viruses and bacteria.

When using the oil as a massage oil, stroke the long limbs up and down. Use circular motions over all joints to stimulate the natural energy of those joints.

Take one tablespoon of Raw Gingelly Oil orally without swallowing. The oil is slowly swished in the mouth and drawn through the teeth for fifteen to twenty minutes. It is thoroughly chewed and mixed with saliva as it is done in the Mayr cure. Chewing activates the enzymes and the enzymes draw toxins out of the blood. Thus, the oil must not be swallowed, for it has become toxic. As the chewing process continues, the oil gets thinner and white. It is then spit from the mouth into the toilet bowl.

If the oil is still yellow, it has not been masticated thoroughly or long enough. After the oil has been removed from the mouth, the oral cavity must be thoroughly rinsed several times. It is preferable to use a cup of pure warm water to which has been added one-half teaspoon of salt and one-half teaspoon of baking soda. The teeth, gums and tongue must be brushed carefully. It is recommended that salt and soda be applied directly to the brush. After rinsing, gargle with the warm salt-soda water. If one were to see one drop of this liquid magnified 600 times under a microscope, one would see microbes in their first stage of development. It is important to understand that during the oil-swishing process one’s metabolism is intensified. This leads to improved health.

One of the most striking results of Oil Pulling is the fastening of loose teeth, the elimination of bleeding gums and the visible whitening of the teeth. The oil swishing is done best before breakfast. To accelerate the healing process, it can be repeated three times a day, but always before meals on an empty stomach. The therapy is not harmful if it is repeated several times a day. Repetition hastens the healing process and renders it more effective.

This therapy should be repeated until one has returned to his original vitality and his sleep has been returned to a peaceful state. One who practices this therapy faithfully will awaken refreshed in the morning with no bags under the eyes. Normal appetite and improved memory are additional benefits. Patients who suffer from chronic conditions may appear to get worse in the beginning. Dr. Karach emphasizes that a worsening of your condition may be a sign that the disease is in the healing process. It may even happen that your temperature increases.
A WORD OF CAUTION

Whereas the oil therapy can be very helpful to people, it is not a substitute for ongoing care by a qualified health practitioner. Any serious symptoms that develop during the course of this treatment should be reported to your doctor to determine whether they are due to the healing process or to a worsening of your condition, which may require immediate medical treatment.

CONCLUSION

Among different type of oil industry, the gingelly oil industry is a very dominative industry in the world. This industry provides equal number of opportunities for employment, trade and agriculture sector. As small investment is a basic need of this industry. Besides cooking and consumption, this oil provides good support to medicinal use in health care sector.

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PROFITABILITY COMPARISON FOR AUTOMOBILE COMPANIES IN INDIA
USING DUPONT ANALYSIS

Dr. Pravin Narayan Mahamuni17 Dr. Anand Ganpatrao Jumle18

ABSTRACT

This research paper is all about to measure and compare the profitability performance of the Automobile companies in India with respect to Tata Motors Ltd. and Mahindra & Mahindra Ltd. by using DuPont. In this paper, researcher uses DuPont analysis, is a method for assessing a company’s return on equity (ROE) breaking it into three parts i.e. Profit Margin (Profit/Sales), Total Asset Turnover (Sales/Assets) and Equity Multiplier (Assets/Equity). To satisfy, the objectives of this research paper; researcher measured the ratios of ROE and ROI applying DuPont analysis, which is demonstrated with the aid of tables to show change periodically. DuPont analysis (ROI and ROE) is an important tool for judging the operating financial performance. It is an indication of the earning power of the firm. The return on equity disaggregates performance into three components: Net Profit Margin, Total Asset Turnover, and the Equity Multiplier. Return on Investment consists of Assets Turnover and Profit Margin. The return on investment consists of Assets Turnover (Operating Income * Total Assets) and Profit Margin (EBIT * Operating Income). The researcher used ‘t’ test for analyzing and comparing previous 5 years financial data to find out level of significant change.

KEYWORDS

DuPont Analysis, Return on Equity, Return on Investment, Financial Performance etc.

INTRODUCTION

For any business in the private sector there are numerous of models to describe how well the business is running. Among these, the DuPont model was created in the early 1900s but is still a model valid to use for assessment of the profitability. Using the DuPont model for risk analysis is not very common but if you as a risk analysis specialist want to talk the language of the business, it can be valuable to you.

The model was created by F. Donaldson Brown who came up with the model when he was assigned to clean up the finances in General Motors and has ever since been an important model for financial analysis. Remarkably, it has not been used in the security community for risk prioritization or impact analysis. An engineer at DuPont who was charged with understanding the finances of a company that DuPont was acquiring developed the original DuPont method of financial ratio analysis in 1918. He noticed that the product of two often-computed ratios, net profit margin and total asset turnover, equals return on assets (ROA). The elegance of ROA being affected by a profitability measure and an efficiency measure led to the DuPont method becoming a widely used tool of financial analysis Liesz, (2002). In the 1970’s, emphasis in financial analysis shifted from ROA to return on equity (ROE), and the DuPont model was modified to include the ratio of total assets to equity.

Before discussing the mechanics and usefulness of DuPont, it may be of some interest to learn about its development. The maturation of the DuPont model parallels the progress made in the field of financial analysis itself. Three distinct versions of Du Pont have been created and used to help unravel the underlying drivers of profitability and return over time, beginning nearly 90 years ago.

In 1918, four years after he was hired by the E. I. du Pont Corporation of Wilmington, Delaware, to work in its treasury department, electrical engineer F. Donaldson Brown was given the task of untangling the finances of a company of which Du Pont had just purchased 23 percent of its stock. (This company was General Motors!) Brown recognized a mathematical relationship that existed between two commonly computed ratios, namely net profit margin (obviously a profitability measure) and total asset turnover (an efficiency measure), and ROA.

SIGNIFICANCE OF STUDY

Investors use return on equity (ROE) to measure the earnings a company generates from its assets. With it, they can determine whether a firm is a profit-creator or a profit-burner and management’s profit-generating efficiency. Why is this important to

17 Assistant Professor, ZES’s Zeal Institute of Business Administration, Computer Application & Research, (Formerly Dnyanganga Institute of Career Empowerment & Research), Maharashtra, India, pravinmahamuni@gmail.com
18 Professor, ZES’s Zeal Institute of Business Administration, Computer Application & Research, (Formerly Dnyanganga Institute of Career Empowerment & Research), Maharashtra, India, a_g_j@rediffmail.com
investors? Companies that are good at coaxing profits from their operations tend to have competitive advantages, which can translate into superior investment returns. The DuPont Model is a useful tool in providing both an overview and a focus for such analysis. It can be used as a compass in the process by directing the analyst toward significant areas of strength and weakness evident in the financial statements. Hence, this research effort is taken for comparing previous 5 years profitability performance of the top two Automobile companies in India with respect to Tata Motors Ltd. and Mahindra & Mahindra Ltd. by using DuPont.

LITERATURE REVIEW

Kasilingam, R.; Jayabal, G. (July 2012): Profitability and Solvency Analysis of A Manufacturing Company using Dupont and Altman Model - Performance appraisal is very essential to take right decision. Profitability and solvency analysis are the two important factors in the performance appraisal of any organisation. The profitability analysis will not complete with just computing ROE. It is very essential to find out the factors, which are having impact on ROE. For this purpose, much published DuPont model is considered. To estimate the level of solvency Altman Z score is used. The study results indicate that the company is in poor shape both in profitability as well as in solvency. The correlation and regression analysis reveals that both profitability and solvency can be improved by increasing the sales volume.

Dr Ahmed Arif Almazari (February 2012): Financial Performance Analysis of the Jordanian Arab Bank by Using the DuPont System of Financial Analysis - This study attempts basically to measure the financial performance of the Jordanian Arab commercial bank for the period 2000-2009 by using the DuPont system of financial analysis which is based on analysis of return on equity model. From the study, it was found that the financial performance of Arab Bank is relatively steady and reflects minimal volatility in the return on equity. Net profit margin and total asset turnover exhibit relative stability for the period from 2001 to 2009. The equity multiplier also show almost stable indicators for the period from 2001-2005 and the ratios declined from 2006-2009 which indicates that the Arab bank had less financial leverage in the recent years, which means the bank is relying less on debt to finance its assets.

Nihar Kiran Nanavati (March 2013): Dupont Analysis to Measure Return on Equity of Satyam Computer Services Limited (Now Known As Mahindra Satyam Limited) - Return on equity can be measured by traditional method as well as using DuPont chart. Here is an attempt to calculate the Return on Equity Satyam Computer Services Limited (now known as Mahindra Satyam Limited) hereinafter refer to as Satyam using 3 step and 5 step DuPont model for the financial year 2010-2011 and 2011-2012 to measure efficiency of the Company in respect of profit earning capacity as well as managerial effectiveness. The data analysis is made based on annual report of the Company for the financial year 2011 – 2012. Conclusion is drawn by comparing the ROE of peer group (Average of TCS, INFOSYS & WIPRO) with The Company's Return to measure the efficiency.

Christina Sheela & Dr. K. Karthikeyan (2012): Financial Performance of Pharmaceutical Industry in India using DuPont Analysis - This study attempts basically to measure the financial performance of the Pharmaceutical Industry taking top three companies like Cipla, Dr. Reddy’s Laboratories, Ranbaxy for the period 2003-2012. From the study it if found that Cipla pharmaceutical Financial performance is high followed by Dr.Reddy’s Laboratories and then Ranbaxy Pharmaceutical. The three companies are significant at their level. In conclusion, ROE & ROI is the most comprehensive measure of profitability of a firm. It considers the operating and investing decisions made as well as the financing and tax-related decisions.

Brigham and Houston, (2001): The modified model was a powerful tool to illustrate the interconnectedness of a firm’s income statement and its balance sheet, and to develop straightforward strategies for improving the firm’s ROE.

Sundararajan, et al (2002): Various measures of rates of return are used mainly for that purpose. We fully agree with the opinion that “Relaying too heavily on just a few indicators of bank profitability can be misleading. While ROI, ROE, and interest margin (and non-interest expenses) to gross income remain the key measures, they should ideally be supplemented by the analysis of other operating ratios”.

Debasish Sur and Kaushik Chakraborty (2006) In this study of financial performance of Indian Pharmaceutical Industry, the comparative analysis the financial performance of Indian pharmaceutical industry for the period 1993 to 2002 by selecting six notable companies of the industry. The comparison has been made from almost all points of view regarding financial performance using relevant statistical tools.

T. Vanniarajan and C. Samuel Joseph (2007) In his study An Application of DuPont Control chart in analyzing the financial performance of Banks. The liberalization of the finance sector in India is exposing Indian banks to a new economic environment it is characterized by increased competition and new regulatory requirements. Indian and foreign banks are exploring growth opportunities in India by introducing new products for different customer segments, many of which were not conventionally viewed as customer for the Banks have, in the last ten years, witnessed new shareholders. All banks are in a position to evaluate its performance compared to others. In general, the performance of the banks may be viewed on three dimensions namely structural, operational and India Bank Association suggests efficiency factors.
Mihaela Herciu, Claudia Ogrean & Lucian Belascu (2011): This study aims to demonstrate that in most cases the most profitable companies are not the most attractive for investors – through Du Pont Analysis method. In order to do this, we take into account the top 20 most profitable companies in the world in 2009 (according to Fortune). By using Du Pont, analysis we came to the results that the ranking is not preserved when indicators (ratios) such as ROA (return on assets) or ROI (return on Investment), ROE (return on equity) or ROS (return on sales) are taken into consideration.

Dr Ahmed Arif Almazari (2012): This study attempts basically to measure the financial performance of the Jordanian Arab commercial bank for the period 2000-2009 by using the DuPont system of financial analysis which is based on analysis of return on equity model and return on investment model. The return on equity model disaggregates performance into three components: net profit margin, total asset turnover, and the equity multiplier. It was found that the financial performance of Arab Bank is relatively steady and reflects minimal volatility in the return on equity. Net profit margin and total asset turnover exhibit relative stability for the period from 2001 to 2009. The equity multiplier also show almost stable indicators for the period from 2001-2005 and the ratios declined from 2006-2009 which indicates that the Arab bank had less financial leverage in the recent years, which means the bank is relying less on debt to finance its assets.

OBJECTIVES OF STUDY

- To overview the financial performance of the Tata Motors Ltd. and Mahindra & Mahindra Ltd in terms of profitability by using DuPont Model.
- To compare the ROE & ROI of Tata Motors Ltd. and Mahindra & Mahindra Ltd for past 5 years.

TECHNIQUE FOR DATA COLLECTION AND ANALYSIS

The present study is mainly based on secondary data. The availability of secondary data is collected from ACEEQUITY Software of the Tata Motors Ltd. and Mahindra & Mahindra Ltd. (Top two Indian Automobile Companies), for a period of 5 years.

The data have been analyzed using financial ratios, as well as statistical tools and techniques like ‘t’-test. Also researchers have used as base to our conclusions the DuPont analysis known as the DuPont formula, DuPont method, DuPont Model or DuPont equation, is a method for assessing a company's return on equity (ROE) breaking its into three parts. This formula is used to discover if there are significant differences between how the performance of the company is assessed. Being perhaps one of the most important indicators of performance, DuPont formula measures operating efficiency, asset use efficiency and financial advantage.

Formula:

\[ \text{ROE} = \text{Profit Margin} \times \text{Total Asset Turnover} \times \text{Equity Multiplier} \]

\[ \text{ROI} = \text{Asset Turnover} \times \text{Profit Margin} \]

DATA ANALYSIS AND INTERPRETATION

Tata Motors Limited

Figure-1: ROE & ROI

Sources: Authors Compilation
From the above table it is inferred that, the profit margin averaged 2.82%, the minimum value being 0.67% in the year 2013 and maximum is 6.29% in 2010. The net profit margin ratio was showing decreasing trend since 2010 due to profit after tax has declined year by year but t-test show there is no significant decrease in profit margin (t value = 55.66 & p > 0.05). Total Assets Turnover averaged 0.82 times, minimum is 0.69 in 2014 and maximum in 1.00 in 2012. It suggests that the efficiency of total assets is fluctuating every year and management of company not using assets more effectively to drive sales. This is because of maybe company can only do a certain amount of business without incurring additional costs that would adversely affect the profit margin. Equity multiplier measures the financial leverage of the company, averaged 2.84, minimum is 2.60 in 2014 and maximum is 3.38 in 2010. As like Total Assets Turnover, equity multiplier is fluctuating every year and significantly declined (t value = 20.73 & p < 0.05). In addition, it is cleared that, in 2010 company has higher financial leverage, which means they are relying more on debts to finance its assets but afterwards their portion of debts to finance its assets was decreased and equity portion was increased. Therefore, ROE has decreased due to lower financial leverage in 2011, 2012, 2013 & 2014 as compared to in 2010.

From the above Table, it is observed that the ROI of Tata Motors averaged 0.47%, the highest in the year 2010 (0.70%) & lowest in 2014 (0.08%). It is cleared that ROI has significantly declined (t value = 3.89 & p < 0.05) every year since 2010. It is because of the profit margin, operating income has been also significantly decreased

Mahindra & Mahindra Limited

Table 1: Return on Equity

<table>
<thead>
<tr>
<th>Year</th>
<th>PAT (A) (Rs.in Crores)</th>
<th>NS (B) (Rs.in Crores)</th>
<th>PM (A/B) = C</th>
<th>TA (D) (Rs.in Crores)</th>
<th>TAT (B/D) = E</th>
<th>Eq (F) (Rs.in Crores)</th>
<th>EM (D/F) = G</th>
<th>ROE (C<em>E</em>G)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>334.52</td>
<td>34288.11</td>
<td>0.98</td>
<td>49734.42</td>
<td>0.69</td>
<td>19153.73</td>
<td>2.60</td>
<td>1.75</td>
</tr>
<tr>
<td>2013</td>
<td>301.81</td>
<td>44765.72</td>
<td>0.67</td>
<td>52184.77</td>
<td>0.86</td>
<td>19111.48</td>
<td>2.73</td>
<td>1.58</td>
</tr>
<tr>
<td>2012</td>
<td>1242.23</td>
<td>54306.56</td>
<td>2.29</td>
<td>54260.93</td>
<td>1.00</td>
<td>19343.86</td>
<td>2.81</td>
<td>6.42</td>
</tr>
<tr>
<td>2011</td>
<td>1811.82</td>
<td>47088.44</td>
<td>3.85</td>
<td>54190.45</td>
<td>0.87</td>
<td>19986.00</td>
<td>2.71</td>
<td>9.07</td>
</tr>
<tr>
<td>Mean</td>
<td>2240.08</td>
<td>35593.05</td>
<td>6.29</td>
<td>50441.24</td>
<td>0.71</td>
<td>14940.79</td>
<td>3.38</td>
<td>14.99</td>
</tr>
<tr>
<td>t value</td>
<td>3.06</td>
<td>11.58</td>
<td>2.72</td>
<td>55.96</td>
<td>14.29</td>
<td>20.44</td>
<td>20.73</td>
<td>2.70</td>
</tr>
<tr>
<td>p value</td>
<td>0.038</td>
<td>0.000</td>
<td>0.053</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.054</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table 2: Return on Investment

<table>
<thead>
<tr>
<th>Year</th>
<th>AT (A) (Rs.in Crores)</th>
<th>EBIT (B) (Rs.in Crores)</th>
<th>OI (C) (Rs.in Crores)</th>
<th>PM (B/C) = D</th>
<th>ROI (A*D)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>0.74</td>
<td>311.72</td>
<td>2921.88</td>
<td>0.11</td>
<td>0.08</td>
</tr>
<tr>
<td>2013</td>
<td>0.74</td>
<td>1562.69</td>
<td>3796.51</td>
<td>0.41</td>
<td>0.30</td>
</tr>
<tr>
<td>2012</td>
<td>1.09</td>
<td>2559.65</td>
<td>4751.63</td>
<td>0.54</td>
<td>0.59</td>
</tr>
<tr>
<td>2011</td>
<td>0.98</td>
<td>3580.22</td>
<td>5088.11</td>
<td>0.70</td>
<td>0.69</td>
</tr>
<tr>
<td>2010</td>
<td>0.88</td>
<td>4075.77</td>
<td>5109.64</td>
<td>0.80</td>
<td>0.70</td>
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<tr>
<td>Mean</td>
<td>0.89</td>
<td>2418.01</td>
<td>4333.55</td>
<td>0.51</td>
<td>0.47</td>
</tr>
<tr>
<td>t value</td>
<td>12.98</td>
<td>3.55</td>
<td>10.18</td>
<td>4.22</td>
<td>3.89</td>
</tr>
<tr>
<td>p value</td>
<td>0.000</td>
<td>0.023</td>
<td>0.000</td>
<td>0.013</td>
<td>0.017</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

From the above Table, it is observed that the ROI of Tata Motors averaged 0.47%, the highest in the year 2010 (0.70%) & lowest in 2014 (0.08%). It is cleared that ROI has significantly declined (t value = 3.89 & p < 0.05) every year since 2010. It is because of the profit margin, operating income has been also significantly decreased.
Table-3: Return on Equity

<table>
<thead>
<tr>
<th>Year</th>
<th>PAT (A) (Rs.in Crores)</th>
<th>NS (B) (Rs.in Crores)</th>
<th>PM (A/B) = C</th>
<th>TA (D) (Rs.in Crores)</th>
<th>TAT (B/D) = E</th>
<th>Eq (F) (Rs.in Crores)</th>
<th>EM (D/F) = G</th>
<th>ROE (C<em>E</em>G)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>3758.35</td>
<td>40508.50</td>
<td>9.28</td>
<td>31288.65</td>
<td>1.29</td>
<td>16641.70</td>
<td>1.88</td>
<td>22.58</td>
</tr>
<tr>
<td>2013</td>
<td>3352.82</td>
<td>40441.16</td>
<td>8.29</td>
<td>27453.59</td>
<td>1.47</td>
<td>14516.62</td>
<td>1.89</td>
<td>23.10</td>
</tr>
<tr>
<td>2012</td>
<td>2878.89</td>
<td>31847.19</td>
<td>9.04</td>
<td>23769.96</td>
<td>1.34</td>
<td>11983.08</td>
<td>1.98</td>
<td>24.02</td>
</tr>
<tr>
<td>2011</td>
<td>2662.10</td>
<td>23460.26</td>
<td>11.35</td>
<td>19539.78</td>
<td>1.47</td>
<td>14516.62</td>
<td>1.98</td>
<td>25.93</td>
</tr>
<tr>
<td>2010</td>
<td>2087.75</td>
<td>18602.11</td>
<td>11.22</td>
<td>16147.25</td>
<td>1.34</td>
<td>11983.08</td>
<td>1.98</td>
<td>26.74</td>
</tr>
<tr>
<td>Mean</td>
<td>2947.98</td>
<td>30971.84</td>
<td>9.84</td>
<td>23639.85</td>
<td>1.29</td>
<td>12243.35</td>
<td>1.95</td>
<td>24.47</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Above Table indicates that, the net sales (t value = 7.01 & p < 0.05) and profit after tax (t value = 10.27 & p < 0.05) has shown significant increased but company unable to generate higher profit margin, averaged 9.84%. Total Assets Turnover averaged 1.29 times, minimum is 1.15 in 2010 and maximum in 1.47 in 2013. It indicates that, the company is able to use its assets are more effectively to generate the cash from sales. Also it shown significant growth in Total Assets Turnover ratio (t value = 23.02 & p < 0.05). Financial leverage of the company is significantly declined (t value = 54.41 & p < 0.05), it indicates management of company has decided to use its debts to finance its assets rather than on equity capital.

Table-4: Return on Investment

<table>
<thead>
<tr>
<th>Year</th>
<th>AT (A)</th>
<th>EBIT (B) (Rs.in Crores)</th>
<th>OI (C) (Rs.in Crores)</th>
<th>PM (B/C) =D</th>
<th>ROI (A*D)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.47</td>
<td>4628.65</td>
<td>5439.20</td>
<td>0.85</td>
<td>1.25</td>
</tr>
<tr>
<td>2013</td>
<td>1.70</td>
<td>4638.28</td>
<td>5258.47</td>
<td>0.88</td>
<td>1.50</td>
</tr>
<tr>
<td>2012</td>
<td>1.59</td>
<td>3768.64</td>
<td>4236.51</td>
<td>0.89</td>
<td>1.41</td>
</tr>
<tr>
<td>2011</td>
<td>1.43</td>
<td>3592.1</td>
<td>3888.48</td>
<td>0.92</td>
<td>1.32</td>
</tr>
<tr>
<td>2010</td>
<td>1.35</td>
<td>3003.6</td>
<td>3283.63</td>
<td>0.91</td>
<td>1.23</td>
</tr>
<tr>
<td>Mean</td>
<td>1.51</td>
<td>3926.25</td>
<td>4421.26</td>
<td>0.89</td>
<td>1.34</td>
</tr>
<tr>
<td>t value</td>
<td>24.45</td>
<td>12.45</td>
<td>10.80</td>
<td>69.32</td>
<td>26.82</td>
</tr>
<tr>
<td>p value</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

It is observed from the above Table that, the ROI of M&M averaged 1.34%, the highest in the year 2013 i.e. 1.50 & lowest in 2010 i.e. 1.23%. The operating income has significantly increased (t value = 10.80 & p < 0.05), that leads to maintain the profit margin ratio.

Comparison of Tata Motors Ltd and Mahindra & Mahindra Ltd

Figure-3: ROE

Sources: Authors Compilation
**ROE:** From the figure-3, it has been observed that, ROE (2010 to 2014) of Mahindra & Mahindra Ltd is much higher than the Tata Motors Ltd. due to following reasons:

- Net sales of the M&M Ltd have been continuously increasing year by year & that have reflected in increase in net profit. It shows that due to operating efficiency they were able to maintain their profit margin ratio.
- Management of M&M Ltd have effectively utilized their total assets to generate the cash from net sales as compared to Tata Motors Ltd.
- In addition, management of M&M Ltd used its debts to finance its assets rather than equity capital. It reflected to maintain their financial advantage.

**ROI:** From the Figure-4, it is cleared that, ROI of M&M Ltd is greater than that of Tata Motors Ltd due to increase in operating income of the M&M Ltd from 2010 to 2014, resultant in increase in net profit of the company. On the other side, operating income of the Tata Motors Ltd is decreased every year, which impacted on declined in ROI of the Tata Motors Ltd.

**CONCLUSION**

In this research, researchers have attempted to measure ROE & ROI to find out the profitability and made comparison against its competitors by using DU Pont Model of the Tata Motors Ltd. and Mahindra & Mahindra Ltd. At the end, it is concluded that the DuPont analysis made by calculating ROE and ROI for top two Indian automobile companies (the Tata Motors Ltd and Mahindra & Mahindra Ltd.) and result portrays that Mahindra & Mahindra Ltd. have better profitability performance rather than its competitors Tata Motors Ltd.

**ABBREVIATIONS USED**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAT</td>
<td>Profit after Tax</td>
</tr>
<tr>
<td>NS</td>
<td>Net Sales</td>
</tr>
<tr>
<td>PM</td>
<td>Profit Margin</td>
</tr>
<tr>
<td>TA</td>
<td>Total Asset</td>
</tr>
<tr>
<td>TAT</td>
<td>Total Asset Turnover</td>
</tr>
<tr>
<td>Eq</td>
<td>Equity</td>
</tr>
<tr>
<td>EM</td>
<td>Equity Multiplier</td>
</tr>
<tr>
<td>OI</td>
<td>Operating Income</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
</tr>
<tr>
<td>SD</td>
<td>Standard Deviation</td>
</tr>
</tbody>
</table>

**REFERENCES**


FDI POLICY: SIGNIFICANCE, IMPACT, ADVANTAGES AND DISADVANTAGES

Dr. Prabhakar B. N.,19 Aswathnarayana G. S.20

ABSTRACT

The overall retail market in India is likely to reach Rs. 47 trillion (US$792.84 billion) by February 2017, exhibiting a strong potential for foreign retailers planning to enter India. Indian economy is the 5th most favourable retail destination for global retailers. India being a signatory to World Trade Organization’s General Agreement on Trade in Services, which includes wholesale and retail services, had to open up the retail trade sector to foreign investment.

In 1997, FDI in cash and carry (wholesale) with 100% ownership was allowed under the Government approval route (Bairwa et al., 2012). The decision to allow 51% FDI in multi brand is hailed by Walmart as “first important step” and said it will study the finer details of the new policy to decide the impact on its ability to do business in India. However, this decision of the Government is presently under suspension due to opposition from multiple political circles.

KEYWORDS

FDI, Organized Retail, Single Brand Multiple Brand, Cash and Carry etc.

INTRODUCTION

Retail in India is dominated to the extent of 98% by unorganized sector only. Unorganized retail is characterized by family run stores, lack of best practices when it comes to inventory control and supply chain management, lack of standardization and essentially a sector where anybody and every one can do business who has to sell something (Kamala devi, Bhaskaran 2012). With growing market, demand retail industry is expected to grow from Rs. 35000 crores in 2004-05 to Rs. 109000 crores by the year-end 2010 and hence is the most promising emerging market for investment. In 2007, the retail trade in India had a share of 8-10% in the GDP, while it rose to 12% in 2009 and reached 22% by 2010. Indian retail market currently predicted at around US$ 490 billion is projected to grow at a compound annual growth rate (CAGR) at 6% to reach US$865 billion by 2023.

The advent of FDI in India can be traced to announcement of national government bring innumerable reforms, which helped smoothening of the process of liberalization and deregulation of the Indian economy. From the beginning, there is a continuous raise in FDI inflow. The total of FDI in flow stood to around US$ 42.3 billion in 2001, US$ 54.1 million in 2002 and US$113 billion in 2004 (Kulakarni Keerti et al. 2012). This indicates that the flow of FDI in India has grown at a fast rate over the last few years. (Business.mapsofindia.com).

OBJECTIVES OF STUDY

- To assess the organized and unorganized retail scenario in India.
- To know the advantages and disadvantages of FDI.
- To understand FDI policy.

RESEARCH METHODOLOGY

The present study considers only the secondary sources like journals, FDI reports, and websites. Data compiled and presented in a simpler style to understand the details. The major limitation of the study is that it considers only the secondary data.

REVIEW OF LITERATURE

The study by Joseph and N. Soundararajan, (2009) has shown that hardly 1.7% of small shops have closed down due to competition from organized retail. They have competed successfully against organized retail through adoption of better business practices and technology. FDI has positive spillover effects on the economy as its ownership advantages are disseminated to locally owned enterprise, enhancing their productivity. All these benefits of FDI have been well proven in India in sectors such as automobiles, telecom and consumer electronics.

19Assistant Professor, G.F.G.C., Karnataka, India, dprabhakarbn@gmail.com
20Assistant Professor, G.F.G.C., Karnataka, India, aswiąth7616@gmail.com
A study by Mukherjee and Patel (2005) found that foreign retailers are working with small manufacturers for in-house labels and are providing them technologies like packaging technologies and bar coding. Sourcing from India has increased with the advent of foreign retailers and they bring in an efficient supply chain management system.

Reardon and Hopkins (2006); Reardon and Bergegue (2007) stated that the main reason why the third wave countries which include China, India and Russia bagged behind was the severe restrictions on FDI in retailing in these countries. The demand side features of these countries, such as income, size of the middle class, urbanization and the share of women workforce etc., have been similar to countries of the second wave.

**SIGNIFICANCE OF FDI**

Moran (1998) observes that FDI is a method of managerial resources from one to another country. The package of managerial sources includes specialized and technological knowledge in the areas of patents, expertise, sales techniques, managerial expertise and ability to obtain funds and credits.

Chenery and Strout, (1966) stated that foreign assistance was the striking force for the rapid and sustainable growth by countries like Greece, Israel, Taiwan and Philippines during 1950s. In each case, a substantial increase in investment financed largely by foreign loans and grants, which had led to rapid growth of GNP followed by decline in external financing dependency.

Sahoo et. al., (2002) highlighted that the huge success in the post-Mao era is also credited to the FDI flows into China.

In the Indian context, FDI can help to raise the output, productivity and export in some sectors. It can also be highly helpful in reducing major portion of intermediaries in marketing of agricultural products by directly purchase of produced from products.

Agarwal, (2000) expressed that the impact of FDI inflows on GDP growth rate is negative prior to 1980, mildly positive for early eighties, and strongly positive over the late eighties to early nineties.

The existing huge market for computer hardware in India, coupled with the availability of skilled labour force increased the quantum FDI inflow. High growth prospects, in terms of increased consumption in India as well as increasing demand for exports are expected to fetch more and more FDI inflow in this arena. Construction projects, which have received the maximum FDI, include housing commercial premises, hotels, resorts, hospitals, educational institutions, recreational facilities. FDI in the power sector in India exist in Hydro projects, captive power, ultra-mega power projects, nuclear power, national grid programs, rural electrification etc., Important driving factors FDI in flows to electronics are the availability of low cost, efficient and technically skilled labour, opportunities to make consumer electronic goods and cell phone handsets and the existing demand is growing in the electronic market and electronics hardware is growing beyond ones expectation.

**IMPACT OF FDI ON VARIOUS STAKEHOLDERS**

Impact of FDI on retail sector is analyzed using Michel Porter’s model. Three of the Porter’s Five Forces refer to competition from external sources. The reminders are internal threats. The five forces identified by porter are decided into:

- **Horizontal Forces:** Threat of substitutes, threat of new entrants, competitive rivalry.
- **Vertical Forces:** Bargaining power of buyers and bargaining power of customers.

**Threat of Substitutes**

As per Porter, substitute products are those that exist in another industry but may be used to fulfil the same need. The more substitutes that exist for a product, the larger the company’s competitive environment and lower the potential for profit. For example online shopping in retail sector, various payments modes, low cost products, have delivery and lack of loyal customers are the factors that increase the threat of substitutes.

**Threat of New Entrants**

The competitive threat arises from not only existing players but also firm potential new entrants into the market place. When there is no barriers to entry in place, new firms may easily enter the market and change the dynamics of the industry. The barriers to entry is a particular dynamics of an industry restricting entry into market. For instance, in the retail industry, since competition is so strong and severe firms may hesitate to give space on shelves for new or untested products. This barrier of distribution channel can limit the new players to enter.
Competitive Rivalry

One of the significant forces that described by Porter is competitive rivalry between the existing companies in the market. If there are more companies competing with each other that resulting competitive pressure will mean that prices, profit and strategies are strongly driven by it. Competitive rivalry may be higher if,

- Similar sized company is operative in one market.
- Companies having similar strategies.
- Similar featured products are offered.
- High barriers to exit and low barriers to entry.

Bargaining Power of Buyers

The existence of strong buyers enable to exist significant control over a seller. Further, it an identical product exists to that of its competitors, there are chances that the company may need to resort to supplier to decide the prices without loosing a customer. The power of the buyer is very high as there is the availability of substitutes, cost sensitivity, purchase volume and less brand loyalty.

Bargaining Power of Suppliers

Suppliers provide the required raw material to produce a good or service. This indicates the essentiality of establishing strong steady relationship with suppliers. The suppliers depending upon the industry dynamics may be able to dictate terms, set prices and determine availability of supply. Powerful suppliers may be able to increase cost without affecting their own sales volume or reduce quantities that they sell.

RETAIL SECTOR IN INDIA

Retail sector in India is composed of organized and unorganized sector. Organized retailers are licensed retailers who are registered for sales tax, income tax etc. They are generally privately owned large business houses like Tanishq, Croma etc., on the other hand the unorganized retail stores are like kirana store, departmental store etc., which neither registered with any tax authorities nor with any other government departments.

Table-1 shows the three different forms through which organized retail trade in India is carried out. As per Table-2 Retail Talent Index, India remained high potential market with accelerated growth of 15 to 20% expected over next 5 years. The overall growth is well supported by macro-economic conditions including 6 to 7% rise in GDP, higher disposable income and rapid urbanization. However, organized retail penetration remained low at 5 to 6% indicating provision for further growth. The changing FDI climate provides many large multi brands with the opportunity to enter and expand in Indian market. Groceries remained India’s largest source of retail sale. Hyperactive and super markets shows the feature of dominance. Tapping the local talent is crucial for the success of a firm. As per Table-2 India ranks 6th among the countries. India has the advantage of large young, well-educated and attractive labour market. Youngsters should be well trained in retail. As per the table the availability of talent in India is good (>40%). Labour regulations in India are on higher side as per the labour practices are not flexible. Cheap labour is available in India.

FDI SCENARIO IN INDIA

Table-3 shows sectorwise FDI inflows (in crores) Maximum FDI has taken place in the service sector including the telecommunication, IT, travel and many other areas. The service sector is followed by the telecommunication in terms of FDI. High FDI inflow can be seen in the areas of construction activities computer software and hardware housing and real estate, chemical (other than fertilizers), drugs and pharmaceutical, power, automobiles etc., Further the same table reveals that top ten sectors attract almost 70% of FDI and there are 62 sectors in which FDI inflow can be seen. Service sector attracts the maximum FDI inflows amounting to Rs. 145764.14 crore followed by telecommunication amounting to Rs. 5777.92 crores. These two sectors collectively attract more than 25% of the total FDI inflows in India. Housing sector attracted 6.42% of total FDI. Thus, the sectorwise data of FDI on India shows a varying trend but act as a catalyst for growth, quality maintenance and development of Indian industries largely. The rapid and quick development of telecommunication sector was due to FDI inflows. Telecom industry is one of the fastest growing area growth rate being 45% exhibits highest growth rate at the global level. Construction activities in India is revealing India as prime destination. FDI in automobile industry has experienced.
GOVERNMENT POLICY

India has liberalized in single brand retail industry to permit 100% foreign investments, with regulatory issues and structures pertinent to establish operations to the new dynamic market. As a part of economic liberalization process set in place by the Industrial policy of 1991, the Indian Government has opened the retail sector to FDI slowly through a set a procedures:

- 1995 - WTO’s general agreement on trade in services, which include both wholesale and retail services come into effect.
- 1997 - FDI in cash and carry (wholesale) with 100% rights allowed under the agreement approval route.
- 2006 - FDI in cash and carry (wholesale) brought under automobile route.
- Upto 51% investment in a single-brand retail permitted.
- 2011 - 100% FDI in single brand retail permitted.
- 2013 - India further eased foreign investment rules in retail on 1st August, 2013 in order to attract global super market chains.

**FDI in Single Brand**

The Foreign Investment Promotion Board has sanctioned 100% in retail industry, which will include only those identified during manufacturing. A retail store with foreign investment can sell only one brand.

**Conditions for Investing in Single Brand**

- It refers to a foreigner retail store with foreign investment can only sell one brand.
- Products should be sold under same international brand.
- Single brand products consist those recognized during manufacturing.
- Any additional product to be sold under single brand must receive additional government approval.
- Checking by statutory auditor is necessary.
- All stores can open where there is a population of over 1 million.

**FDI in Multiple Brand**

It refers to selling multiple brands under one roof. Currently, this sector is restricted to a limit of 49% foreign equity participation. Department of Industrial policy and promotion issued a circular note allowing FDI in multi brand retail. Government will allow FDI in three phases. In the first phase, foreign multiband retail chains will be allowed in metros Delhi, Mumbai, Kolkata and Chennai. In the second phase, other metros like Bengaluru, Hyderabad and Pune will be included. Following are some of the conditions in multi branding.

- Minimum investment of $100 million.
- 50% of investment to be borne by infrastructural development.
- 30% of raw material to be taken from Indian SMEs.
- Permission given to set up malls in cities with a minimum population of 10 lakhs.
- Products should be sold in the same brand.
- Foreign investor should be owner of land.

**Advantages of FDI**

- Emerging a set of opportunities.
- It benefits farming community.
- It provides improved technology and logistics.
- Influences the real estate sector.
- It creates jobs.

**Disadvantages of FDI**

- Killing local shop and millions of jobs.
- Reduction of metropolistic power

**Benefits of Multiple Brand Retail**

- Creation of 1.5 million jobs in 5 years
• Assist in Keeping food and commodity prices under control.
• It will help in wastage and reduction.
• Increases competition
• High final price for the cultivators.
• Income flow to the cultivators is stabilized.
• Quality of poultry, fruits and dairy is improved.

FINDINGS OF THE STUDY

Following are some of the findings of the study:

• Infrastructure development.
• Business Expansion Strategies.
• Penetration of Modern retail trade.
• Strict rules and regulations on FDI in retail.
• Product diversification.
• Growth in supply chain activities.
• Agriculturist’s income is improved and stabilized.
• No intermediaries in the middle.

CONCLUSION

Researchers in the area of FDI across the globe have shown that FDI brings positive benefits to any country. Indian economy can only grow if the government policies allow more participation and is able to attract more and more FDI in India. Today, India provides highest returns on FDI than any other country in the world. Allowing FDI in multi brand retail can bring about supply chain Improvement, investment in technology, labor and skill development, tourism development. Greater sourcing from India, upgradation in agriculture, efficient small and medium scale industries, growth in market size and benefits to consumers through bigger GDP, tax income and employment generator. China continue to dominate global trade through large-scale FDI investment in the country. In China, the number of small retailers has doubled. It can be concluded that FDI is a double-edged sword, which should be handled properly and if handled properly can act as a catalyst for the economic development.

REFERENCES


**ANNEXURE**

**Table 1: Three Different Forms of Organized Retail Trade**

<table>
<thead>
<tr>
<th>Mono / Exclusive / Single Brand Retail Shops</th>
<th>Multi Brand Retail Shops</th>
<th>Convergence Retail Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive show rooms either owned or franchised out by the manufacturer. A complete range of all the products manufactured by the said manufacturer under one brand name.</td>
<td>In these kinds of stores almost all brands of a single product are available. Customer has a very wide choice.</td>
<td>These kinds of outlets have almost all products which a consumer may need.</td>
</tr>
<tr>
<td>Focus is on brand Nike Showroom etc.</td>
<td>Focus is on nature of product Shoppers Stop, Croma</td>
<td>Focus is on diverse consumer needs Big Bazaar etc.</td>
</tr>
</tbody>
</table>

*Sources: www.calclubindia.com*

**Table 2: Retail Talent Index**

<table>
<thead>
<tr>
<th>2012 Rank</th>
<th>Country</th>
<th><em>Talent Availability (40%)</em></th>
<th>*<em>Labour Regulation (20%)</em></th>
<th>***Labour Costs (40%)</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Malaysia</td>
<td>62.8</td>
<td>77.9</td>
<td>85.7</td>
<td>75.0</td>
</tr>
<tr>
<td>2.</td>
<td>China</td>
<td>56.5</td>
<td>71.3</td>
<td>79.0</td>
<td>68.5</td>
</tr>
<tr>
<td>3.</td>
<td>Chile</td>
<td>66.7</td>
<td>56.7</td>
<td>68.5</td>
<td>65.4</td>
</tr>
<tr>
<td>4.</td>
<td>Indonesia</td>
<td>51.0</td>
<td>55.9</td>
<td>84.5</td>
<td>65.4</td>
</tr>
<tr>
<td>5.</td>
<td>Azerbaijan</td>
<td>42.1</td>
<td>95.9</td>
<td>72.5</td>
<td>65.0</td>
</tr>
<tr>
<td>6.</td>
<td>India</td>
<td>48.5</td>
<td>64.2</td>
<td>75.6</td>
<td>62.5</td>
</tr>
</tbody>
</table>

*Sources: AT Kearney Analysis*

Note: Retail Talent index computed on the basis of countries performance in three areas, talent availability, labour regulation and cost of labour.

* Scores are based on educational system and management schools, secondary and tertiary education enrollment, labour force participation and brain drain.

** Scores based on hiring and firing practices and flexibility of wage determination.

*** Scores based on retail salaries for an average sales associate and pay and productivity metrics, a high score indicates lower cost labour country.
### Table-3: Sector wise FDI inflows from April 2000 to March 2012

<table>
<thead>
<tr>
<th>Sector</th>
<th>* Amount of FDI inflows (In crores)</th>
<th>% with Total FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Sector</td>
<td>145764.14</td>
<td>18.82</td>
</tr>
<tr>
<td>Telecommunication</td>
<td>57077.92</td>
<td>7.37</td>
</tr>
<tr>
<td>Construction Activities</td>
<td>52252.89</td>
<td>6.75</td>
</tr>
<tr>
<td>(Including roads &amp; highways)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer s/w and hardware</td>
<td>50117.86</td>
<td>6.47</td>
</tr>
<tr>
<td>Housing and real estate</td>
<td>49714.79</td>
<td>6.42</td>
</tr>
<tr>
<td>Chemicals (other than fertilizers)</td>
<td>47903.80</td>
<td>6.19</td>
</tr>
<tr>
<td>Drugs and Pharmaceutical</td>
<td>42868.04</td>
<td>5.54</td>
</tr>
<tr>
<td>Power</td>
<td>33214.03</td>
<td>4.29</td>
</tr>
<tr>
<td>Automobile Industry</td>
<td>30785.47</td>
<td>3.98</td>
</tr>
<tr>
<td>Metallurgical Industries</td>
<td>30785.47</td>
<td>3.98</td>
</tr>
<tr>
<td>Hotel and Tourism</td>
<td>15483.19</td>
<td>2.00</td>
</tr>
<tr>
<td>Petroleum and Natural Gas</td>
<td>14611.84</td>
<td>1.89</td>
</tr>
<tr>
<td>Others</td>
<td>207742.83</td>
<td>26.82</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>774472.91</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

**Sources:** Department of industrial policy and promotion, GOI, Ministry of Commerce and industry.  
**Note:** * RBI’s - NRI Schemes excluded

### Table-4: Countrywise FDI inflows from April 2000 to March 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>*Amount of FDI inflows (In crores)</th>
<th>% with Total FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mauritius</td>
<td>289470.99</td>
<td>37.68</td>
</tr>
<tr>
<td>Singapore</td>
<td>77587.82</td>
<td>10.07</td>
</tr>
<tr>
<td>UK</td>
<td>74661.24</td>
<td>9.33</td>
</tr>
<tr>
<td>Japan</td>
<td>57851.03</td>
<td>7.23</td>
</tr>
<tr>
<td>USA</td>
<td>47889.21</td>
<td>6.20</td>
</tr>
<tr>
<td>Netherlands</td>
<td>32324.68</td>
<td>4.17</td>
</tr>
<tr>
<td>Cyprus</td>
<td>29670.32</td>
<td>3.76</td>
</tr>
<tr>
<td>Germany</td>
<td>20827.86</td>
<td>2.71</td>
</tr>
<tr>
<td>France</td>
<td>13377.53</td>
<td>1.72</td>
</tr>
<tr>
<td>UAE</td>
<td>10320.41</td>
<td>1.32</td>
</tr>
<tr>
<td>Switzerland</td>
<td>9429.36</td>
<td>1.22</td>
</tr>
<tr>
<td>Others</td>
<td>111062.47</td>
<td>14.59</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>774472.92</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

**Sources:** Department of industrial policy and promotion, GOI, Ministry of Commerce and industry.  
**Note:** * RBI’s - NRI Schemes excluded

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**Editor-In-Chief**  
Pezzottaite Journals,  
24, Saraswati Lane, Bohri,  
Near Modern Dewan Beverages,  
Jammu Tawi – 180002,  
Jammu and Kashmir, India.  
(Mobile): +91-09419216270 – 71  
editorinchief@pezzottaitejournals.net  
contactus@pezzottaitejournals.net
CONCEPTUALISING SMART CITY CONCEPT WITH SUSTAINABLE ECONOMIC DEVELOPMENT

Dr. Sushmita

ABSTRACT

As the India’s population shifts to urban areas, policymakers are pressed for answers to overcrowding, pollution, budget limitations, resource constraints and the need for continuing growth. These issues can be tackled through the adoption of scalable solutions that take advantage of information and communications technology (ICT) to increase efficiencies, reduce costs, and enhance quality of life. Cities that use this approach are commonly referred to as “Smart Cities”, a concept highly debateable and even controversial in urban planning and city policy circles worldwide. Recent interest in smart cities is motivated by major challenges, including climate change, economic restructuring, move to online retail and entertainment, ageing populations, and pressures on public finances.

Smart Cities are the integration of information technology, telecommunications, urban planning, smart infrastructure and operations in an environment geared to maximize the quality of life for a city’s population. Such a coordinated approach is key to sustainable growth and development, which India requires going forward. From economic perspective, two key questions arise from the development of smart cities. Would an initiative need to address all facets of economic growth to be considered smart? In addition, how many initiatives that meet smart city qualifications would it take in order for a city to be considered smart in terms to fulfil basic needs of city dwellers? This paper critically examines the various facets of smart city concept from the perspective of economic development.

INTRODUCTION

India has recently committed to the development and construction of 100 Smart Cities to meet the demands of its rapidly growing and urbanizing population. This effort will include construction of new municipalities and renovation of existing cities as the rural population shifts into urban areas. In our days, most of the population like to live in urban areas, so exploring the development and evolution of cities is essential. However, the challenge of existing unplanned cities is a major issue for the development of Smart Cities. The existing cities appear to be less well equipped in terms of infrastructure, use of resources and organizing capacity. To enforce a solution of development and achieve a good position, these cities have to aim on identifying their strengths and advantages obtained by using smart solutions.

The Ministry of Urban Development, in its concept note, has visualized that a smart city “will have to provide a very high quality of life, i.e., good quality but affordable housing, cost efficient physical, social and institutional infrastructure (water, sanitation, electricity), clean air, quality education, cost effective health care, security, entertainment, high speed connectivity and efficient mobility; it must also attract investments, experts and professionals. The 100 smart cities are to be developed in different population ranges of up to one million, one to four million and over four million.

Implementing Smart City solutions is becoming increasingly complex and financially challenging. The new models can streamline this transition by defining the city’s baseline capital projects, land use master planning, and ICT schemes. In essence, the urban services models allow the private sector to build a roadmap for the public sector’s Smart City vision. To attract financing, policymakers should increase risk mitigation efforts to make their Smart City competitive not just with other Indian urban centers but with comparable global investment opportunities. Tools available toward this goal include planning, credit enhancements, tax incentives, concession agreements, and upgraded reporting and data management systems.

The concept of a smart city is a relatively new one. A Smart City is the integration of technology into a strategic approach to sustainability. Although there is no clear definition to define Smart City but broadly “a city that monitors and integrates conditions of all of its critical infrastructures, including roads, bridges, tunnels, rails, subways, airports, seaports, communications, water, power, even major buildings, can better optimize its resources, plan its preventive maintenance activities, and monitor security aspects while maximizing services to its citizens is known as Smart City”. Cities are our fundamental building blocks. Throughout the history, they have served as centres of innovation, advancement, civilization, and as facilitators of the social interaction necessary for the progress of humankind. It is only fitting that the next evolution of how we live, work, play, and interact is emerging as new dimension within Smart cities.

21Assistant Professor, Department of Management Studies, Shaheed Sukhdev College of Business Studies, University of Delhi, Delhi, India, sushmita.bhu@sscbsdu.ac.in
The city needs to attract both people and business. Many people move to cities aiming for a better life, where “better” stands for different things depending on your situation. Employment and the household budget are important factors for groups of various ages, while health becomes more and more important. For visitors the availability of culture, architecture, restaurants, commerce, sports, parks and nature are of special interest. The growth state of a city, expressed as mature, transitional, and emerging, is related to what kind of challenges the city needs to tackle. For instance, a city, which grows fast, will have major challenges providing people with basic needs such as access to food, water and safety. For transitional and mature cities, the challenges are more related to choice and convenience, and lifestyle and independence. The application of Information and Communication Technology (ICT) is often mentioned as part of the solution and the term ‘smart city’ is increasingly being used in this context.

With more than half of the world’s population already living in urban areas, and that percentage expected to rise to 75 percent by 2050, it is clear that the path to sustainable development must pass through cities. However, exactly how cities should organize themselves to advance green growth for all and improve the day-to-day lives of residents remains open to debate. The ongoing urbanization in the world has led to an increased focus on cities. Cities and their citizens cause a significant, and increasing, share of greenhouse gas emissions and there is a need to find solutions for sustainable city development.

**WHAT IS SMART CITY?**

A ‘Smart City’ is defined as a developed urban area that creates sustainable economic development and high quality of life by excelling or becoming “smart” in multiple key areas; economy, mobility, environment, people, living, and government. Excelling in these key areas can be done through strong human capital, social capital, and/or Information Communication Technology (ICT) infrastructure. The focus will be on core infrastructure services like adequate and clean water supply, sanitation and solid waste management, efficient urban mobility and public transportation, affordable housing for poor, power supply, robust IT connectivity, governance, especially e-governance and citizen participation, safety and security of citizens, health and education and sustainable urban environment.

Many definitions of “smart city” exist, and “smart” approaches have been understood differently by different people and sectors. Some definitions note that smart cities are those cities with “smart physical, social, institutional and economic infrastructure while ensuring centrality of citizens in a sustainable environment;” refer to key characteristics defined by distinct factors (e.g., smart economy, smart mobility, smart people, smart environment, smart living, smart governance); and focus on the strategic use of new technology and innovative approaches to enhance the efficiencies and competitiveness of cities. A definition by the International Telecommunication Union’s (ITU’s) Focus Group on Smart Sustainable Cities (FG-SSC) reads: “A smart sustainable city is an innovative city that uses ICTs and other means to improve the quality of life, efficiency of urban operation and services, and competitiveness, while ensuring that it meets the needs of present and future generations with respect to economic, social and environmental aspects.” The UK Department of Business, Innovation and Skills considers smart cities a process rather than as a static outcome, through which citizen engagement, hard infrastructure, social capital and digital technologies “make cities more liveable and resilient and, hence, able to respond quicker to new challenges.”

The term ‘smart city’ is increasingly used, and many cities want to be labelled as ‘smart’. The word smart often implies a usage of ICT solutions in the city. Other terms used for the wanted development of cities are ‘intelligent’, ‘innovative’, ‘wired’, ‘digital’, ‘creative’, and ‘cultural’. The smart city is framed by three dimensions: technology, people and community. Some use intelligent cities and smart cities as synonymous terms while others make a distinction. In intelligent city refers to a city that has an information technology infrastructure. The smart city includes various smart functions like smart transport and smart education. Before a city can be developed into a smart city with an undefined number of ICT services in use, it is necessary to have the basic ICT infrastructure and knowledge of ICT usage.

In ideal terms, a working definition may be that a ‘smart city’ is an urban region that is highly advanced in terms of overall infrastructure, sustainable real estate, communications and market viability. It is a city where information technology is the principal infrastructure and the basis for providing essential services to residents. There are many technological platforms involved, including but not limited to automated sensor networks and data centers. Though this may sound futuristic, it is now likely to become a reality as the ‘smart cities’ movement unfolds in India. In a smart city, economic development and activity is sustainable and rationally incremental by virtue of being based on success-oriented market drivers such as supply and demand. Based on different criteria we can define smart city as a city that meets its challenges through the strategic application of ICT goods, network and services to provide services to citizens or to manage its infrastructure. Today, there is a global consensus that urbanization and economic development are like conjoined twins – co-existing and creating prosperity.

The guiding parameters for developing cities to be smart ones vary from country to country. The 100 cities to be developed as ‘Smart Cities’ will be chosen as follows:

- One satellite city of each of the cities with a population of 4 million people or more (9 cities).
- Most of the cities in the population range of 1-4 million people (about 35 out of 44 cities).
India is witnessing a rapid pace of urbanization, which is expected to continue in the coming decades. According to recent studies, by 2030: 40% of India’s population will be living in urban areas; 68 cities will have a population of more than 1 million; 70% of net new employment will be generated in cities. It is estimated that, on average, about 75% of the global economic production takes place in cities, and Indian urban areas will follow the trend and account for nearly 70% of the country’s GDP by 2030. By 2020, housing shortage will reach about 30 million dwelling units, 200 million new water connections will be required, 250 million people will have to be given access to sewage, 160 GW of power generating capacity will have to be added and the number of vehicles on our urban roads will increase by 5 times.

Upcoming decades are going to witness a major population density in urban India. Industrialization will bring about a rapid pace of urbanization and by 2050, India’s urbanization levels will increase to 70 per cent from 30 per cent in 2011. In a global context, the scale of India’s urbanization will be immense. India will have 68 cities with population 1 million or more than 1 million, 13 cities with more than 4 million people, and 6 megacities with populations of 10 million or more, at least two of which (Mumbai and Delhi) will be among the five largest cities in the world by 2030.

With a population of 1.27 billion, and increasing, India is facing a most pernicious urban migration. This mass movement brings not only an unsustainable population in to our cities, but also brings other challenges to the surface that need to be addressed with alacrity. According to an estimate, by the year 2050, the population in Indian cities will touch 843 million. To accommodate this massive urbanization, India needs to find smarter ways to manage complexities, reduce expenses, increase efficiency, and improve the quality of urban life.

WHAT DOES ECONOMIC SUSTAINABILITY MEAN FOR SMART CITY?

India’s economy is expanding rapidly. By 2030, it is expected to have grown by five times, buoyed largely by the country’s urban centers. During the same period, the country’s labour force is expected to grow by 270 million workers, with urban jobs accounting for 70% of that growth. Today, India is less than 30 per cent urban and the quality of life in its cities is chronically low. However, with 2/3rds of GDP already generated in India’s cities and rural to urban migration patterns accelerating, the country faces a critical challenge: managing this rapid urbanization in a way that enhances the live ability of India’s urban spaces.
Some define economic sustainability as economic development with minimal environmental degradation or equitable development that is environmentally and socially sound. Put simply, economic sustainability means operating a company in a manner that allows it to stay in business over time. Objectives of economic sustainability are:

- To foster diversity, growth, development and creative opportunities for business and industry.
- To provide increasing and innovative employment and education opportunities for existing and future residents.
- To manage population size such that it is sufficient to sustain and extend services in key centers.

The health of the agriculture, forestry and fishing industry is dependent on government policy, climate conditions and market prices (as obtained by primary producers). Cycles in these industries can have major impacts on the economic conditions of townships that are predominantly primary industry suppliers. These primary industries are undergoing structural reform with a focus on protection of the resource base and developing sustainable practices.

A Smart City has fully integrated infrastructure and is a place where there are long-term core jobs available and a vision for sustained growth. The systems that help cities manage electricity, water, waste, traffic flows, municipal operations, and city services are becoming increasingly complex and can be expensive. Although the return on investment may be attractive, complexities often make it challenging for cities to kick-start their Smart City projects. Implementing state-of-the-art Smart City solutions based in the cloud may ease adoption risks. Moving integration to the cloud allows for significant economies of scale. With a cloud approach, cities experience operational efficiencies with electric, gas and water meters, sewer and waste management systems, as well as other city services. This is in addition to potential fuel and energy savings to come from better public transit, remote work capabilities and other services.

Any tax concessions for Smart City development (i.e. on infrastructure status, exemption on import, and materials) will improve the internal rate of return of the project. Profits from development, operations, and ownership of a Smart City should enjoy some income tax exemption to increase attractiveness of the investment. In India, many of the individual components of a Smart City would fall under the definition of infrastructure, however some of these activities would currently warrant tax concessions under various sections of the Indian Income Tax Act while others would not. Harmonization here could prove beneficial to both investors and smart city dwellers.

One of the most intriguing aspects of smart city initiatives and any effort to evaluate them is in constructing projects, which yield successful blueprints that other cities can use to model their own smart, efficient initiatives. As urban populations continue to rise there will be a need for emerging new cities to quickly build infrastructures and develop integrative initiatives between governments, businesses, communities that are sustainable. Having models to evaluate the effectiveness and efficiency of initiatives will be critical. As older cities legacy infrastructures are stressed further, leaders in government and business will look to successful models to retrofit and regenerate services, improve marketability, economy, environment and community. Built on the success of decades of invention, cities set a new course on an economic transformation implementing everything from redevelop projects to adaptive reuse. Cities offer crucial agglomeration advantages that allow them to become centers of productivity and social advancement.

**REQUIREMENTS FOR SUSTAINABLE ECONOMIC DEVELOPMENT IN SMART CITIES**

Smart City development requires significant real estate investment, which globally is structured and regulated differently than infrastructure. Commercial, industrial, and residential property development with integrated technology and planning presents vast opportunity for foreign investment. Currently, in India 100% FDI is allowed in Greenfield property projects with some restrictions on the minimum size of development (20,000 sq. m) and a “lock in” restriction on equity repatriation.

Notably, the Government of India and SEBI have recently approved rules for the creation of real-estate investment trusts (REITs) and infrastructure-investment trusts in the country. A listed REITs market in India will prove extremely valuable for Smart Cities, providing a new source of funding for developers as well as dividends for investors. REITs increase transparency and improve valuation accuracy as projects move toward global reporting standards.

There are two parts to the development of a smart city: infrastructure (communication, electricity, roads, sanitation, water assets among others) and real estate. In India, the foreign ownership and investment regulations for infrastructure and real estate are different. The Government should consider classifying most Smart City development as “infrastructure” to start with, such that for a smart city development, the same ownership, financing and taxation regulations apply to both the parts of the development.

**SMART ECONOMY**

The rise of cities has often been construed as an indicator of development and progress. The case has been no different when it comes to India. While the pace of urbanization was a bit slack in the early years of post-independence, it has really picked pace in
the past few decades, especially in the post-1991 phase. Coupled with economic growth and expanding markets, the urban population now stands at around 30% of the overall pie. To meet the needs of urban population we need smart economic growth. For smart economy the identified factors are: productivity and flexibility of the labour market, integration in the international market, economic competitiveness, and use of on-line solutions for sell or buy of products, quality of production, quantity of production, production diversity and research and development expenses of the authorities.

A 2010 study conducted by McKinsey Global Institute (MGI) points out that urbanization in India has been a victim of systemic inefficiencies and policy vacuum. While India’s population is no doubt increasing, quality of life of citizens in urban areas is declining. Moreover, unchecked migration from rural areas is only putting further strain on the infrastructure in cities. The result is water and power shortages, lack of proper sewage collection and treatment, overburdened transport systems and unplanned constructions.

It is imperative then to not only create new ‘smart’ cities, but also upgrade the existing ones. Developing newer cities will bridge the rural-urban divide. This will in turn reduce social inequity, one of the biggest psychological benefits of planned urbanization.xvii The MGI study titled ‘India is urban awakening: Building inclusive cities, sustaining economic growth’ estimates that by 2030, 40% of India’s population will be living in cities. This makes it all the more crucial for us to ensure that the process of urbanization occurs in a smooth and phased manner.

PUBLIC-PRIVATE PARTNERSHIPS

Public and private bodies must join hands and come up with smart, sustainable and long-term solutions. Creating thriving and self-sufficient urban spaces will not only ensure inclusive growth but also contribute to overall economic advancement. The future of India lies in cities and we must fortify them if the country has to prosper.

Smart City initiatives often engage in various types of Public Private Partnerships (PPPs) as infrastructure particularly benefits from a formal alignment of government and industry capacities, technology, assets, and capital. Unfortunately, PPP’s success rate has been mixed. The failure of a PPP is often due to lack of realistic objectives, financial management, project governance, and equality in risk management. Alternatively, the key to a successful PPP is the ability for both parties to thrive within the agreement, which is often seen with partnerships that have strong governance, realistic objectives, dedicated income streams, and manageable level of risk equitably shared between the parties.

The public-private partnership concept, while nothing new, has also been a component of U.S President Bill Clinton’s National Performance Review, a well-publicized effort to improve efficiencies in federal government. It has also been a concept appeared repeatedly in the examination of models to define the smart city, such as the Triple-Helix.xviii It has the foundation supporting projects such as Intel Cities, which combined city government and private business to develop e-Government services in the United States.xix

An issue that has arisen in the past with Indian public-private partnerships is that the government passes on to the private sector risks that are sovereign, and the private sector ends up accepting these risks without the inherent capacity to mitigate the risks. An equitable allocation of risks and rewards between the parties will benefit both the commercial interests and public welfare. The need for infrastructure development in India is unquestionably vast. However, the sector faces a number of fundamental challenges, including the need for new, long-term investors to participate in funding projects.

Integral to Smart City development, especially in emerging economies, is master planning. It remains clear that Smart Cities require a funding plan far earlier than when the revenue re-payment cycle begins. Long-term thoughtful planning, leveraging a diverse spectrum of funding models and sources, is required to ensure a continued stream of investment that can be maintained until the inflection point of revenues to capital infusion is reached.

TAX INCENTIVES

Favourable tax treatment for global companies has the potential to be an extremely effective policy tool for encouraging urban development beneficial to all citizens. For example, policy support for clean energy in the U.S. has revolved primarily around tax incentives, including the Production Tax Credit (PTC), Investment Tax Credit (ITC), and accelerated depreciation. In situations where project developers do not have sufficient taxable income, tax equity investors provide capital in return for passive ownership to capture the value of the tax and accelerated depreciation benefits.

Recently there has been significant progress made to attract global capital and technology into India. Equity markets are still flourishing on enthusiasm and confidence from national elections. Exemplifying this renewed confidence, India’s stock market capitalization has reached $1.5 trillion, surpassing that of Australia, Korea, and Russia. However, significant challenges remain to mobilizing the billions of dollars needed to attract the excellent technology and infrastructure solutions appropriate for India's
incredible urban opportunity. Policy, tax, and regulatory certainty remain key for investors, and governments will require the private sector to grow and innovate in new, thoughtful, and increasingly strategic ways. The role played by citizens has a special impact as the differentiating element between a digital city and a smart city is Smart People. The new relationship emerging from e-Government has led to the emergence of a new kind of citizen, the e-citizen.

SMART TECHNOLOGY AND SMART INFRASTRUCTURE

Technological development, supported by Innovation, is essential to offer competitive products and services. In addition to Research & Development, we must also promote innovation, Smart Cities that includes areas such as new means of marketing and more efficient organizational and managerial systems. Smart city technologies are being developed to address a range of issues, including energy management, water management, urban mobility, street lighting, and public safety, for example. These innovations are underpinned by general developments in areas such as wireless communications, sensor networks, data analytics, and cloud computing. The smart city concept is also driving new integrated approaches to city operations.

Smart Infrastructure designs will need to be anticipatory and proactive to be truly sustainable. Much like an ecosystem, these will contain many small-scale, networked elements that serve a multitude of uses, rather than one single guiding purpose for their existence. Urban community garden plots, for example, not only provide food for urban dwellers, but serve as storm water management systems, allowing water and waste to be recycled at the smallest scale with real-time sensors telling the centralized system how much less will have to be processed downstream. Cities will need to accurately measure current conditions, and model the future. Sensors and technological controls embedded within new and retrofitted urban designs could monitor existing conditions and provide real-time feedback in case modifications are needed.

CHALLENGES AND MEASURES

The concept of smart cities has its challenges, especially in India. For instance, the success of such a city depends on residents, entrepreneurs and visitors becoming actively involved in energy saving and implementation of new technologies. There are many ways to make residential, commercial and public spaces sustainable by ways of technology, but a high percentage of the total energy use is still in the hands of end users and their behaviour.

A smart city could take between 8 to 10 years to build from scratch and even more time to attract businesses and people. Such an initiative requires commitment and persistence on part of the government over a long period. The authorities need to be aware of the latest relevant technologies and the technologies have to be tailor-made and used effectively taking into account the topography, location and natural resources of the area. The following Measures are required in respect of planning and development:

- Setting up of a central planning authority that would manage and provide single window clearances, monitor progress of such projects and ensure compliances.
- To attract businesses to newly developing smart cities, incentives in the form of long-term tax holidays and other tax sops need to be given.
- In order to develop smart cities at par with global standards, the government needs to involve all sections and sectors.

LESSONS FROM OTHER COUNTRIES

We can gain some experiences from other countries in the development of Smart Cities that meet the needs of all sections of the society. All the cities who implemented smart solutions had in view to improvement of citizen everyday life. In shaping the design of smart cities, we can follow the guidelines of European Union, which was meant for European countries:

- Increasing the employment rate of employment for men and women aged between 20 and 64 years, while employing a larger number of young people, older and low-skilled people;
- Improving the conditions for research and development in order to increase investment levels and stimulate research, development and innovation of new indicators;
- Reduction of greenhouse gas emissions compared, increasing the share of renewable in final energy consumption and achieve increased energy efficiency;
- Improving education levels by reducing dropout rates and increasing the proportion of persons aged 30-34 years with university degrees or equivalent qualifications;
- Promoting social inclusion by reducing poverty and eliminating the risk of poverty;
- The most significant advantages are improved of citizen transportation, the access to city resources (libraries and public buildings, malls, networks etc.) and the opportunities for the employment and local growth.
The case of Singapore illustrates the transformation from industrial city of low-tech jobs and services to an intelligent – wired, knowledge-based, information economy. Faced with increasing competition from cities who offered similar economies and products, Singapore invested heavily in IT recognizing its transformative potential to affect the way they live. Singapore is one of the first cities to deliberately create governance enabling their technological development.

CONCLUSIONS

The use of modern technology efficiently in our urban areas is an important part of modernization, growth and sustainable development. Our society today is more organized, smart and the information is situated in the centre of it. In our age the cities development, depend on the use of more and more smart solution. For sustainable growth of society, it is essential to use efficiently the modern technology and natural resources.

Under smart cities initiative, focus should be on core infrastructure services like adequate and clean water supply, sanitation and solid waste management, efficient urban mobility and public transportation, affordable housing for poor, power supply and robust IT connectivity. The Mission of building 100 smart cities intends to promote adoption of smart solutions for efficient use of available assets, resources and infrastructure with the objective of enhancing the quality of urban life and providing a clean and sustainable environment. It is said that the spending on cities is only 0.7 per cent of the GDP, but these cities give 60 per cent plus of GDP as output.

India has even gone ahead and defined the process after detailed consultation. A framework has been created, based on which cities are going to be selected in the days to come. Once these cities are chosen, the next stage of making them smart will kick in. To ensure that the cities are not merely ‘smart’ in terms of technology alone, the eligibility conditions are quite holistic. For instance, to participate in the ‘Smart City Challenge’, any applicant city needs to have a vision document and a city development strategy in place, progress under Swachh Bharat Mission is another condition, timely payment of salaries to municipal staff is another, and finally, there needs to be an information and grievance redressal mechanism with an e-newsletter in place.

In a country such as India, that witnesses unchecked migration to urban areas, creation of smart cities is nothing short of a landmark move. It has the potential to improve the administrative process and provide citizens access to quality healthcare, education, sanitation and governance. There has to be better cohesion between the various agencies responsible for urban development and planning. Sewage treatment, provision of clean water to citizens, robust healthcare systems, efficient transport networks and strong governance must form the blueprint of re-designing existing cities and creating new ones. Technology can go a long way in helping realize the creation of smart, safe and sustainable cities. Every urban plan will need to have a long-term view only then will economic growth happen. A myopic approach can prove disastrous.

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IMPACT OF DEMOGRAPHIC VARIABLES ON THE ETHICS OF ACCOUNTANCY PROFESSION

Dr. Vedava P.22

ABSTRACT

The profession of an accountant exemplifies in all the attributes required of a profession and over the years has bloomed into a full-fledged and vibrant profession. In view of the vast scale of accounting scandals at Enron, WorldCom, Health-South, Anderson, Satyam Computers, and so on, with a devastating effect on stakeholders, the challenges for the professional accountants are multidimensional and complex.

Professional credibility in accounting profession maintained with integrity and honesty not imperilled by the presence of undue influence and conflicts of interest, that is with as much independence as possible is called the ethics of the accountancy profession. In view of the widespread fraudulent accounting practice, it is not surprising that ethics has become one of the most widely debated topics in the business community. Understanding and regulation of the professional behaviour is crucially dependent upon gaining an insight into a number of issues related to the ethics of the Accountancy Profession. Thus, it is important to have a general acquaintance with the various issues before initiating any measure to deal with these challenges. The impact of demographic variables is one of such issues requiring a careful scrutiny.

It was learnt that most of the studies conducted in the past examined the code of ethics in foreign countries such as the USA using relatively small samples implying that the results obtained may not generalize to samples, relatively large, drawn from other geographical regions. Although demographic issues influence all human activities, few accounting studies have integrated demographic issues into their literature. This is especially true of the ethics of the accountancy profession. Thus, there is a dearth of an in-depth study on the impact of the demographic variables on the ethics of the accountancy profession. It is here the review of multiple literatures related to the impact of demographic variables can greatly facilitate such careful examination of the impact of demographic variables on the ethics of the accountancy profession.

Accordingly, previous studies have recognized the impact of demographic variables. However, in the context of a different culture as well as a changing professional scenario, there is also a need for replicating and extending the study of demographic variables. The results of the various studies reviewed above are not foolproof. Therefore, there is a scope for further research concerning the same area.

KEYWORDS

Accounting Scandals, Accountancy Profession, Demographic Variables, Ethics, Accountancy Profession etc.

INTRODUCTION

In view of the vast scale of accounting scandals at Enron, WorldCom, Health-South, Anderson, Satyam Computers, and so on, with a devastating effect on stakeholders, the challenges for the professional accountants are multidimensional and complex. It is important to have a general acquaintance with the various issues before initiating any measure to deal with these challenges. The impact of demographic variables is one of such issues requiring a careful scrutiny. It was learnt that most of the studies conducted in the past examined the code of ethics in foreign countries such as the USA using relatively small samples implying that the results obtained may not generalize to samples, relatively large, drawn from other geographical regions. Thus, there is a dearth of an in-depth study on the impact of the demographic variables on the ethics of the accountancy profession. It is here the review of multiple literatures related to the impact of demographic variables can greatly facilitate such careful examination of the impact of demographic variables on the ethics of the accountancy profession.

Accordingly, here, based on the concepts of the accountancy profession and the ethics of the accountancy profession, an attempt has been made to review multiple literatures to understand how the demographic variables have an impact on the ethics of the accountancy profession.

22Assistant Professor, Department of Commerce, Mangalore University, Karnataka, India, vedavap@yahoo.co.in
THE ACCOUNTANCY PROFESSION AND THE ETHICS OF THE ACCOUNTANCY PROFESSION

The profession of an accountant exemplifies in all the attributes required of a profession and over the years has bloomed into a full-fledged and vibrant profession. For accountants, as in any other profession, codes are the most concrete cultural form in which professions acknowledge their societal obligations. (Abbott, 1983 cited in Melé, 2005). Accountants are employed in many types of organisations—public, private and charitable. Salmonson, Hermanson, & Edwards (1977) state that in our society accountants are generally employed in (1) public accounting, i.e., an independent practicing chartered accountant’s profession, (2) private or industrial accounting which includes both chartered and other accountants, and (3) not-for-profit sector which also includes both chartered accountants and other accountants. As described by Neale (1996), accountants within organisations (private accounting involving management accounting and financial accounting, and not for profit accounting) are not commonly considered as professionals. Instead, independent professional accountants who are in professional practice or concerned with public accounting are professionals. Independent professional accountants perform a variety of accounting services, which fall into two groups: first, auditing, i.e., performing the attest function, the principal purpose of an independent professional accountant, and second, related services including management advisory and tax accounting services. “Accountants” as Melé (2005) said “can perform their work in many different areas including auditing, managerial accounting, tax accounting, financial planning, consulting and, of course simply preparing accounts” (P.98).

Professional credibility in accounting profession maintained with integrity and honesty not imperiled by the presence of undue influence and conflicts of interest, that is with as much independence as possible is called the ethics of the accountancy profession. In view of the widespread fraudulent accounting practice, it is not surprising that ethics has become one of the most widely debated topics in the business community. Understanding and regulation of the professional behaviour is crucially dependent upon gaining an insight into a number of issues related to the ethics of the Accountancy Profession. Thus, it is important to have a general acquaintance with the various issues before initiating any measure to deal with the challenges. The impact of demographic variables is one of such issues requiring a careful scrutiny.

DEMOGRAPHIC VARIABLES- A LITERATURE REVIEW

Finn et al. (1988) examined a number of demographic variables such as job title, years in current position, years with current firm, total years of business experience, number of firms worked for, gender, number of employees in firm, educational level, major field of study, income, age, and marital status to determine if they were correlated with ethical problems and found that several of the demographic variables were correlated with ethical problems; however only income was significantly correlated with more than two of the ethical questions such as “CPAs in my firm often engage in behaviors that I consider to be unethical”, “successful CPAs in my firm are generally more ethical than the unsuccessful”, and “In order to succeed in my firm it is often necessary to compromise one’s ethics” (p. 612) where the response was given on a seven-point Likert scale from strongly agree (1) to strongly disagree (7). In general, respondents with higher incomes perceived fewer ethical problems within their firms. This was consistent with results found in a study by Chonko and Hunt (1985). Although income, as a control variable, was significant in more than two of the regressions, it explained very little of the variance.

Many studies have found that gender has a significant influence upon the ethical judgement. In other words, the studies have found significant difference between genders for the ethical evaluation. For example, Miceli and Near (1988) found that women were less likely to be whistleblowers than men. For Haswell and Jubb (1995), almost 50 per cent of male and 25 per cent of female students would accept a bribe if there was no risk of being caught. In a similar vein, Cohen, et al. (1998) investigated the effect of gender on ‘ethical evaluations, ethical intentions and ethical orientation of potential public accounting recruits’ and noted that women consider questionable actions to be more unethical and are less likely to perform these actions than males. Thorley, et al. (1998) found that female accountants have higher level of moral reasoning ability. O’Leary and Cotter (2000) noted that males were between two and four times more likely than females to act unethically. Furthermore, Adkins and Radtké (2004) observed that females find accounting education concepts and goals more important than males.

In the investigation of the proficiency of male and female CPAs in recognizing and evaluating ethical and unethical situations using six vignettes on a Likert scale of 1 to 5 with 1 being totally acceptable and 5 totally unacceptable, Ward et al. (1993) found the behaviour of CPA, as presented in the first vignette requiring the respondents make an ethical assessment of a CPA paying a small compensation to a client (judgement). When asked about CPA judgements in general, 19.3 per cent of the female CPAs indicated that CPAs would consider the behaviour unethical while 33 per cent of the male CPAs held this opinion.

When queried about their own judgement of the conduct of the auditor as presented in the second vignette, which required that the respondents (i.e., CPAs) make an ethical assessment on the failure of the auditor-in-charge to document an audit disagreement in the engagement work papers (Meigs et al., 1988), both females (79.7%) and males (67.7%) overwhelmingly agreed that the behaviour of the auditor was unethical. While both male and female practitioners did not believe that their colleagues would object to the behaviour as emphatically as they themselves did, their responses showed that they felt CPAs in general would also regard the behaviour as unacceptable. Again, the two assessments of the behaviour were significantly different. They also found
that, of the other selected demographics (e.g., age, income, position, firm size etc.), only age had a significant effect on male CPAs own judgement and on their assessment of CPA judgements. In both cases older male CPAs tended to judge the conduct as more acceptable than their younger counterparts.

The third vignette, included in the current study as fifth dilemma involved a CPA’s recommendation of a software package to a Management Advisory Services (MAS) client while failing to inform the client that the software company had a potential going concern problem (Mintz, 1990). The majority of female CPAs (69.5%) as well as the majority of male CPAs (80.8%) perceived the action to be unacceptable. Furthermore, both female and male CPAs thought that CPAs in general would also find this as unethical behaviour. Again, in each case, the own judgement was significantly different from the judgements of other CPAs. Gender significantly affected the peer assessments for this vignette. Male CPAs perceived the behaviour as more unacceptable than did their female counterparts. Position had a significant effect on the male CPAs own assessments. Male staff members were much more tending to assess the behaviour as acceptable as male CPAs at the senior level and above.

In the fourth, vignette, subjects assessed the impact of a partner’s no action in connection with his audit client’s proposed transaction with an audit client of a different office of his firm involving out of line cost and appraisal values (Meigs et al., 1988). Both male and female CPAs reflected the acceptance of the behaviour. Furthermore, the majority of the practitioners also felt that other CPAs would accept such behaviour. Further, the majority (female, 62.1%; male, 69.2%) of the practitioners also believed that other CPAs would accept such conduct. No significant differences were observed between the two assessments for the entire respondent group. Gender significantly affected the CPAs own assessment. Male CPAs perceived the actions as more ethical than did female CPAs.

In the fifth vignette, a CPA professor was retained to audit his university’s Student Government Association’s financial statements. An unqualified opinion was issued (Delaney & Gleim, 1989). A greater number of respondents (female, 37.0%; male, 47.2%) indicated that CPAs in general would accept this as ethical conduct. Both the response sets indicated the action to be moderately ethical. Income and position significantly affected the responses. CPAs with incomes over $ 40000 tended to more readily accept the behaviour for themselves and for the actions of CPAs in general. Furthermore, CPAs in lower level positions (staff and senior) viewed this behaviour as more unethical for both assessments than did their higher positioned colleagues. For female CPAs, income significantly affected both the female’s own behaviour assessments and peer behaviour judgements.

The concluding vignette involved the CPA’s fiancé, with whom she shares her condominium, acquiring shares of stock in her audit clients (Meigs et al., 1988). Both the sets of responses reflected the acceptance of the behaviour as ethical for themselves and for the actions of CPAs in general. Firm type significantly affected perception for the CPA’s own assessments. Practitioners in local firms felt the action to be more acceptable for themselves than did their higher sized firms (regional, national and international firms). Female respondents reflected the acceptance of the behaviour as with those earning between $ 40000 and $ 50000 much more ethical than those in other income categories do. Male CPAs in local firms viewed the behaviour as more acceptable, as did sole proprietors, and regarding peer behaviour, older male CPAs (over 60 years) felt that other CPAs would accept the described behaviour as ethical.

Shafer et al. (2004) also examined possible effects of demographic variables on ethical judgements related to auditors’ willingness to advocate client preferred accounting principles. Multivariate Analysis of Variance (MANOVA) models revealed that neither gender nor education level affected ethical judgements or behavioural intentions. Regression analyses indicated that neither age, nor years of experience, nor the percentage of time spent doing audit work affected ethical judgements or intentions.

Similarly, McManus and Subramaniam (2009) also observed the following: first, the accounting firm size was significantly negatively related to the ethical behavioural intention involving the likelihood of a new accounting recruit calling an accounting professional body for advice indicating that respondents from small and middle-tier firms are more likely to call an accounting professional body for advice than those from Big Four firms, namely, Ernst and Young (E&Y); Klynveld, Peat, Marwick, Goerdeler (KPMG); PricewaterhouseCoopers (PWC); and Deloitte and Touche. Second, gender was found to be positively related to respondents’ perceptions of the seriousness of an unethical situation (i.e., the ethical judgement). As a result, it was found that female respondents perceive a questionable scenario as being more serious than males.

**CONCLUSION**

In view of the vast scale of accounting scandals at Enron, WorldCom, HealthSouth, Anderson, Satyam Computers, and so on, with a devastating effect on stakeholders, the challenges for the professional accountants are multidimensional and complex. It is important to have a general acquaintance with the various issues before initiating any measure to deal with these challenges. The impact of demographic variables is one of such issues requiring a careful scrutiny. Although demographic issues influence all human activities, few accounting studies have integrated demographic issues into their literature. This is especially true of the ethics of the accountancy profession. Thus, there is a dearth of an in-depth study on the impact of the demographic variables on
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editorinchief@pezzottaitejournals.net, contactus@pezzottaitejournals.net
GLOBALIZATION AND IT’S IMPACT WITH SPECIAL REFERENCE TO INDIAN CAPITAL MARKET

Era Sharma23 Dr. Naresh Malhotra24

ABSTRACT

Globalization has many meanings depending on the context and on the person who is talking about. The term globalization refers to the integration of economies of the world through uninhibited trade and financial flows, as through mutual exchange of technology and knowledge. Globalization means integration of financial market throughout the world long-term fund of duration one year or above for raising and investing funds. The factors integrating this globalization are Liberalization, Technological Advancement and Institutional Investors. Indian Financial Market has been globalized during 1990’s. Some factors like low penetration of Indian household investors in capital market, large investment opportunities in Indian capital market, India as an attractive destination for foreign investors, Financial Globalization has also dithered as rapid global capital mobility has been accompanied by an increased frequency of financial crises in both the developed and developing countries.

KEYWORDS

Globalization, Capital Market, Liberalization, Institutional Investors, Mutual Funds etc.

GLOBALIZATION OF MARKETS

Globalization of markets is one of the most fascinating developments of this century. Its impact on economic transactions, processes, institutions, and players is dramatic and wide ranging. It challenges established norms and behavior and requires different mindsets. Yet, it creates opportunities for the well prepared participants who can be proactive and visionary.' Globalization of markets involves the growing interdependency among the economies of the world; multinational nature of sourcing, manufacturing, trading, and investment activities; increasing frequency of cross-border transactions and financing; and heightened intensity of competition among a larger number of players. This phenomenon has been fueled by advances in communication and transportation technologies, the spread of economic growth and wealth around the world, the loosening of barriers to trade, and the formation of regional economic blocs. Development of new technologies and the proliferation of new products also contributes to the globalization of markets. Simply consider the following industries, which came into existence only in the last decade: medical imaging Globalization of markets is best reflected in the “internationalization” of business transactions. This means that one or more aspects of economic activity carries an international character. One of the parties to the transaction may be a foreign partner; the transaction may involve a foreign currency; financing may involve foreign lenders; technology may originate from a foreign partner etc.

It is possible to identify at least three dimensions of the globalization of markets first; the types of international business transactions have proliferated.

Today, transactions are varied and more complex: contract manufacturing, franchise operations, countertrade, turnkey construction, technology transfers, international strategic alliances, and more. Second, technology spreads freely and rapidly between markets and players. Technological leadership does not provide a monopolistic advantage for very long. Companies must capitalize on their discoveries quickly, before others match them. Third, borrowing-financing activity has become worldwide as well. The implications of the increasingly global nature of market transactions are many. It threatens those players that confine themselves to a narrow set of opportunities and it rewards those that can envision and operate in a larger space. Those enterprises that learn to operate in a more complex, uncertain environment are more likely to succeed.

New Globalization and Indian Economic Identity

From an economic point of view, the new globalization may be perceived as a process of “Global marketization” The two pillars of it are privatization and liberalization. From 1991 onwards, the politicians who assumed power in India accepted this philosophy, even though the masses of the Indian people disliked it.

23 Assistant Professor, P.G. Department of Commerce and Business Management, Doaba College, Punjab, India,  
29era.sharma@gmail.com
24 Associate Professor and Head, P.G. Department of Commerce and Business Management, Doaba College, Punjab, India,  
profmalhotra@yahoo.com
FACTORS THAT HAVE ENABLED: GLOBALIZATION IN INDIA

Technology: Rapid improvement in technology has been one major factor that has stimulated the globalization process.

Liberalization of Foreign Trade & Foreign Investment Policy: Removing barriers or restrictions set by the government is what is known as liberalization. With liberalization of trade, businesses are allowed to make decisions freely about what they wish to import or export. The government imposes much less restrictions than before and is therefore said to be more liberal.

World Trade Organisation (WTO): Though WTO is supposed to allow free trade for all, in practice, it is seen that the developed countries have unfairly retained trade barriers. On the other hand, WTO rules have forced the developing countries to remove trade barriers.

Industrial Policy: Industrial policy has seen the greatest change, with most central government industrial controls being dismantled.

Trade Policy: Trade policy reform has also made progress, though the pace has been slower than in industrial liberalization.

Foreign Direct Investment: Liberalizing foreign direct investment was another important part of India’s reforms, driven by the belief that this would increase the total volume of investment in the economy, improve production technology and increase access to world markets.

THE INDIAN CAPITAL MARKET

Although the Indian Capital market is approximately 180 years old, yet it is quite young in terms of extent of globalization and international competitiveness. The Capital Market is an important protagonist in the process of mobilization of finance directly from the investor. The foremost purpose of capital market is to enable allocation or reallocation of financial resources to foster the economic growth.

Indian capital markets can be traced back to 1830 when business on corporate stocks and shares in Bank and Cotton presses started in Bombay. The very first stock exchange in India, the Bombay Stock Exchange, came into existence in 1875. The stock markets have had many turbulent times in the last 180 years of their existence. It started as an independent body of stockbrokers, which started doing business in the city under a banyan tree. Business was essentially confined to company owners and brokers, with very little interest displayed by the public.

From 1939 onwards, the trading list widened, although the number of brokers recognized by the banks and merchants were very few (only six during 1840-50). The year 1850 marked a rapid transformation in the history of the Indian Stock market through a rapid development of the commercial enterprise and the brokerage business. This resulted in an increased number of brokers (sixty) by 1860.

The start of the American Civil War in 1860-61, further increased the number of brokers from 200 to 250. However, the end of the war resulted in a huge slump in the securities market and the brokers continued their transactions in a street (now known as the Dalal Street). The centrally coordinated planning process started in India in 1951, with importance being given to the formation of institutions and markets.

The Securities Contract Regulation Act 1956 became the parent regulation after the Indian Contract Act 1872, a fundamental law to be followed by security markets in India. To regulate the issue of share prices, the Controller of Capital Issues Act (CCI) was passed in 1947. 1980s, witnessed an explosive growth in the Indian securities market with millions of investors suddenly discovering lucrative opportunities reforms to capital markets were high on the priorities of policy makers when India embarked on market-oriented reforms in the early 1990s. These efforts were motivated: the broad idea of markets playing a dominant role in resource allocation, an awareness of the opportunity cost that India was suffering by not being open to global capital flows and an immediate reaction to the fixed income and equity market scandal of 1992.

Table-1: History of the Indian Capital Market

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1830</td>
<td>Business on corporate stock &amp; shares in bank &amp; cotton presses started in Bombay</td>
</tr>
<tr>
<td>1875</td>
<td>The ―Native shares and stock broker association was formed</td>
</tr>
<tr>
<td>1956</td>
<td>Securities Contracts (Regulation) Act became parent regulator</td>
</tr>
<tr>
<td>1957</td>
<td>BSE granted permanent recognition</td>
</tr>
<tr>
<td>1986</td>
<td>Sensex - the countries first equity index launched</td>
</tr>
</tbody>
</table>
The Securities and Exchange Board on India Act, 1992 (the SEBI Act) came into existence with the primary objective to protect, develop and regulate the security markets. Since then, the capital markets in India have experienced tremendous progress because of the well-developed regulatory system in place. Although, there are a total of 23 Stock exchanges in India, the information in Table 2 reveals that out of total, the major trading takes place in just two stock exchanges, that is, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE).

### Table-2: Trading at Stock Exchanges

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmadabad</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BSE</td>
<td>5.60,780</td>
<td>9.86,005</td>
<td>7.39,600</td>
<td>11,36,513</td>
<td>9,90,776</td>
</tr>
<tr>
<td>Bangalore</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bhubaneswar</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Calcutta</td>
<td>453</td>
<td>298</td>
<td>235</td>
<td>551</td>
<td>778</td>
</tr>
<tr>
<td>Cochin</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coimbatore</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Delhi</td>
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<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td>Hyderabad</td>
<td>40</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>ISE</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Jaipur</td>
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<tr>
<td>Ludhiana</td>
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<td>0</td>
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</tr>
<tr>
<td>Madras</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Magadh</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mangalore</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MPSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NSE</td>
<td>8,50,515</td>
<td>14,81,22</td>
<td>14,18,928</td>
<td>22,05,878</td>
<td>18,10,910</td>
</tr>
<tr>
<td>OTCEI</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pune</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SKSE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>YOSE</td>
<td>151</td>
<td>74</td>
<td>23</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Vadodara</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>14,11,945</td>
<td>24,67,606</td>
<td>21,58,786</td>
<td>33,42,947</td>
<td>28,02,464</td>
</tr>
</tbody>
</table>

**Sources:** SEBI Report 2012

SEBI Act established 1992
NSE was recognized as a stock exchange 1993
BSE On Line Trading (BOLT) system introduced 1995
BOLT expanded Nation wide 1997
Central Depository Services Ltd. (CDSL) was set up 1999
Interest Rate Swaps (IRS)/Forward Rate Agreement (FRA) allowed 1999
Equity derivatives introduced 2000
Stock options launched 2001
Fungibility of ADR/GDR 2002
Launch of Unified Corporate Bond Reporting platform: Indian Corporate Debt Market (ICDM) 2007
Currency derivatives introduced 2008
BSE Launches BSE Star MF – Mutual Fund trading platform 2009
Launch of clearing and settlement of Corporate Bonds 2009
Commencement of Volatility Index 2010
Commencement of Shariah Index 2010
Launch of BSE - SME Exchange Platform 2012
SENSEX becomes S&P SENSEX as BSE ties up with Standard and Poor's 2013

**Sources:** SEBI Reports
From the above tables we can see that there is increase in each year for funds mobilized from primary market and foreign investment inflows, which shows the growth of Indian capital market.
Globalization means the integration of financial market throughout the world into an international financial market. Entities in any one country seeking to raise funds need not be limited to their domestic financial market.

Even investors in a country is not limited to the financial assets issued in their domestic market. The factors integrating this globalization are:

- **Liberalization**: Deregulation and liberalization of markets and activities of market participants in key financial centers of the world. Global competition has forced governments to deregulate or liberalize various aspects of their financial markets so that their financial enterprises can compete effectively around the world.

- **Technological Advances**: For monitoring world markets, executing orders and analyzing financial opportunities. Technological advances have increased the integration and efficiency of the global financial market. Advances in telecommunication systems link market participants throughout the world with the result that order can be executed within seconds. Advances in computer technology, coupled with advanced telecommunication systems, allow the transmission of real-time information on security prices and other key information to many participants in many places. Therefore, many investors can monitor global markets and simultaneously assess how this information will affect the risk/reward profile of their portfolios. Significantly, improved computing power allows the instant manipulation of real-time market information so that attractive investment opportunities can be identified. On identification of these opportunities, telecommunication system permits the rapid execution of orders to capture them.

- **Institutional Investors**: Increasing institutionalization of financial markets. The shifting of the role of two types of investors, retail and institutional investors, in financial markets is the third factor that has led to the integration of financial markets. The U.S. financial market has shifted from being dominated by retail investors to being dominated by institutional investors. Retail investors are individuals. Institutional investors are:

  - Financial Institution: Pension Funds, Insurance Companies, Investment Companies, Commercial Banks, Savings & Loan Associations. The shifting of financial markets in U.S. and other major industrial countries from dominance by retail investors to institutional investors is referred as institutionalization of financial markets.

  Unlike retail investors, institutional investors have been more willing to transfer funds across national borders to improve the risk/reward opportunities of a portfolio that includes financial assets of foreign issuers.

  The potential portfolio benefits associated with global investing have been documented in numerous studies, which have highlighted the awareness of investors about the virtues of global investing. Investors have not limited their participation in foreign markets to those of developed economies.

  There has been increased participation in the financial markets of developing economies, popularly known as emerging markets.

**FACTORS INFLUENCING GLOBALIZATION OF INDIAN CAPITAL MARKET**

**Low Penetration of Indian House Hold in Capital**
MARKET: Indian household investors are of the habit of investing chunk of their amount in financial savings in money market and only a small amount of their savings are invested in capital market.

**Large Investment Opportunities in Indian Capital**
MARKET: It is boom for investors in Indian stock markets, the benchmark Bombay Stock Exchange’s Sensex is virtually sprinting from 7000-7800 in just 32 trading days. The surge is being driven by a flus h of liquidity brought about by bullish foreign institutional investors (FIIs). The coming up current public issues opportunities: Both initial public offerings (IPO s) and the Follow-up Public Offerings (FPO s) is estimated to be Rs. 72,814 crores (around $ 16.54 billion). The amount to be raised in next 12 month is bigger than, what companies have raised, cumulatively, over the last decades, right up to March this year. To meet this requirement India has to look towards globalization and foreign investors.

**India an Attractive Destination for Foreign**
INVESTORS: Emerging market in India continue to be an attractive destination for Foreign Institutional Investors (FII) , with total FII inflow into Indian equities 74859 crores by Dec 2014.
Availability of Large Labour Force and Higher growth Rate in India is Supporting Globalization of Indian Capital Market

India has a large labour force, 2nd largest in the world 482.2 million during the year 2004. This labour force has contributed to more than 9% growth rate in manufacturing and service sector. This will in evolving Indian capital market as global powerhouse in coming years. As the comparative GDP growth rate in comparison to USA and EU where the GDP growth rate is 3.6 and 1.2 respectively. This globalization is gradually supporting in increasing employment and productivity.

Globalization of Indian Capital Market Helps Indian Inc to Reach Global Markets

Foreign direct investment is a mirror that reflects the extent to which a country and its companies have integrated globally. Going by the logic, it must be a painful sight for most Indian companies to hold a mirror to their balance sheets. Once again, the characteristic timidity of the Indian Inc is clearly visible on both sides: Whether it is incoming FDI or Outgoing FDI.

Special Economic Zone (SEZ) Supports Globalization

SEZ is an area having economic policies and laws, which are typically different from the laws prevailing within the main land. China has established a number of SEZ each with an average area of 145 sq. km, while India has only 8 active SEZ with an average area of 9 sq. km. China has attracted large FDI in its SEZ, but this has not succeeded in India so far.

Globalization of Indian Stock Market Has motivated Venture Capital / Private Equity Investment in India

In last few years after globalization of Indian capital market, the venture capital investment in India has increased 100 times. The companies like 3i, Texas Pacific Group, The Blackstone, The Carlyle Group are new entremets in globalized Indian capital markets.

THE RISKS INVOLVED IN RAISING FINANCE INTERNATIONALLY

A company can do either international financing by issuing equity shares or raising debt in the international capital market. The issue of equity shares for raising capital does not involve any exchange risk, as a company is not required to return the money procured through the issue of equity capital. However, the same is not true in the case of debt financing. The money raised through the issue of debt has to be returned in future. Therefore, debt financing poses a risk the degree of which depend upon the fluctuations in the exchange rates. International borrowings can be broadly categorized into three classes based on foreign exchange risk involved.

- Financing in the currency in which cash inflows are expected.
- Financing in a currency other than that in which cash inflows are expected, but with cover in the forward or swap market.
- Financing in currency other than in which cash inflows are expected, but without forward cover or an appropriate swap.

Financing by way of the first two methods avoids foreign exchange risk. Financing through the third option is risky. While the interest rates and capital repayments are fixed in foreign currency terms, the amount of home currency required to serve and repay the debt is not known with certainty due to the fluctuating exchange rates.

International borrowing is safer when:

- Stability in Exchange rates,
- Inflows are expected in the same currency in which borrowing which borrowing is effected, and
- Cash inflows are expected in a currency other than the currency of borrowings but a forward cover or an appropriate swap is available.

Globalization of capital markets has led to supply of cross border equity from the emerging capital markets for cross listing and this in turn has fostered intense competition in major international exchanges. Firms all over the world now have broader investor groups and the most commonly used vehicles for cross listing are American Depository Receipts (ADRs) and Global Depository Receipts (GDRs).

ROLE OF INDIA IN THE GLOBAL SCENARIO

Like other emerging markets, role of India in the global scenario has expanded far from being a mere supplier of commodities. Now funds are being brought into the country in anticipation of higher returns. This is a good news for the development of India because in the supply of commodities, the nation had to produce first and then to receive payment. On the other hand, in the case of investment funds, the money comes in first and the returns have to be paid later. Higher expected returns, inefficiency of capital market and greater scope for diversification due to low correlations of Indian market with other emerging and developed markets, are the main reasons responsible for attraction of Indian to the global investors. Further, the attraction of India is also a product of necessity. The shifting paradigm in current Indian economic thought has transferred the main role in the economic development of
the nation from the Government to the private sector. Increasingly it will be the markets rather than the Government planners who will decide on critical issues like the allocation of capital. The virtual elimination of industrial licensing, the easing of restrictive provisions of the MRTP and FERA, the gradual dismantling of price controls on both products and equity markets have all given a strong boost to business enterprises. More business implies more funding. Businesses are increasingly tapping the capital markets to finance their expansions, modernizations, and new projects. To meet the in-satisfiable thirst of business enterprises for funds Government has allowed them to raise funds in foreign capital markets. Some established companies have aggressively set out to tap foreign markets by issuing Foreign Currency Convertible Bonds (FCCBs) and equity shares (through the depository receipt mechanism).

Indian companies were first permitted to tap the Euro market in 1992. Since then a number of companies have raised capital in the Euro market through the issue of FCCBs and GDRs. Companies have been drawn overseas because the volumes that can be raised are higher. The issuance costs are at 2 to 3 percent being substantially lower than comparable rupee issues. Interest rates in overseas markets are lower as compared to Indian domestic standards.

India ranks high among the emerging markets in respect of attraction for capital, as world markets are getting increasingly turbulent, India is still fortunately free from the cascading effects of butterfly in Mexico or an earthquake in Argentina. In addition, foreign investors need not be worry about over-night seismic policy changes brought therein, as it happened in the case of Mexico, devaluation of local currency, paucity of foreign exchange reserves and serious trade deficit have created a flight of capital from what appears to be the most promising emerging market of the decade. In spite of the direct formats, India should make active efforts to improve the functioning of its financial markets that is allocating capital more efficiently, focus on core financial themes such as interest liberalization (which is done to attractiveness of Indian capital market for foreign investment, the inflow of foreign capital has not been satisfactory.

To fortify its chances of attracting foreign funds, both in the portfolio and the direct formats, India should make active efforts to improve the functioning of its financial markets that is allocating capital more efficiently, focus on core financial themes such as interest liberalization (which is done to a large extent), smaller government role in credit allocation, and improvement in the role of banks as financial intermediaries. India has to focus more inwards than outwards. Problems regarding custodial services, clearances, settlements and taxation etc. engage most attention. Many FIls did not enter Indian market due to custodial services. Foreign banks custodians alone cannot handle FIls business the sale and purchase of securities should be allowed in large marketable lots to reduce the transactional load. The transfer of shares take an average two months and some companies even take six months despite reminders; there is a lack of transparency in the transactions, which can justify the genuineness of the quoted prices. SEBI should be given legal power to take drastic action against the erring companies

**CONCLUSION**

To ensure that India does not lose out in the race of capital attraction, there is a need for making radical changes in the functioning of financial markets and government regulations. Indian companies desiring to enter the foreign capital markets must strengthen their information base and make-appropriate modifications than their accounting systems. To fortify its chances of attracting foreign funds, both in the portfolio and the direct formats, India should make active efforts to improve the functioning of its financial markets that is allocating capital more efficiently, focus on core financial themes such as interest liberalization (which is done to a large extent), smaller government role in credit allocation, and improvement in the role of banks as financial intermediaries. India has to focus more inwards than outwards. This is required to fulfill the information needs of foreign investors. Those investors require information about past performance and future prospects of investor companies for making investment decisions.

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AN ANALYSIS OF MARKETING STRATEGIES OF SELECT PRIVATE LIFE INSURANCE COMPANIES IN INDIA

Shahla Shahbaz25 Amulya M.26

ABSTRACT

The study is designed to evaluate the marketing strategies in select five private life insurance companies HDFC Standard Life Insurance Company Limited, ICICI Prudential Life Insurance Company Limited, Bajaj Allianz Life Insurance Company Limited, Birla Sun Life Insurance Company Limited and Reliance Life Insurance Company Limited and how these strategies boost sales & marketability of a product which ultimately lead to customer satisfaction. This paper presents different marketing strategies that are taken up in select private life insurance companies keeping in view external and internal environment of the firm. Marketing strategy is the basic approach that the business units will use to achieve its objectives, and it consists of broad decisions on target markets, market positioning and mix, and marketing expenditure levels. As the financial services sector has become more competitive, financial institutions need to consider, ways of developing relationships with their existing customers in order to defend their market share. Every insurer must recognize that its "strategic posture" depends partly on the competitive environment, partly on its allocation of marketing resources. An insurance firm strategy is a plan for action that determines how an insurer can best achieve its goals and objectives in the light of the existing pressures exerted by competition, on the one hand, and its limited resources on the other hand.

KEYWORDS

Marketing Strategies, Customer Satisfaction, Insurance, Private Life Insurance, Service Quality etc.

INTRODUCTION

Insurance Industry is one of the cornerstones of any economy, which plays an important role in mitigating life’s uncertainties. It has not only been playing a leading role within the financial system in India but also has a significant socioeconomic function, making inroads into the interiors of the economy. Since nationalization, it has registered a significant growth and has gradually increased its share in household financial savings. Hence, it is considered as one of the fast developing areas in the Indian financial system. Marketing strategies serve as the fundamental underpinning of marketing plans designed to reach marketing objectives. A marketing strategy serves as the foundation of a marketing plan. A marketing plan contains a list of specific actions required to successfully implement a specific marketing strategy. A good marketing strategy should integrate an organization's marketing goals, policies, and action sequences (tactics) into a cohesive whole. The objective of a marketing strategy is to provide a foundation from which a tactical plan is developed. This allows the organization to carry out its mission effectively and efficiently.

LITERATURE REVIEW

Dixon-Oghbechi, et al. (2015) in their research revealed that there are seven basic promotional tools that most companies in the service industry use in their promotional mix. Thus, their paper applied the Analytic Hierarchy Process model (AHP) to help managers of insurance companies in Nigeria evolving their promotional strategy by specifying the best mix of the promotional elements, and given certain criteria.

Bihani and Bhowal (2013) Studied the gap between the degree of customer solution dimension expected and degree of customer solution dimension experienced of marketing mix with respect to life insurance. Results of the study revealed that the difference between the degree of customer solution expected from the insurance and the degree of customer solution experienced is statistically not significant. The most interesting finding of the study was the degree of customer solution experienced is more than degree of customer solution expected. Insurance industry in India has now been through a cycle involving high growth and more recent moderation.

Ali, Gafar and Akbar (2013) found that the companies have introduced various strategies such as 'promotional mixed', which are advertising, internet marketing, personal selling, and public relation/publicity in accordance to changes in the consumers’ socio-economy, technology, and competition aspects. Nevertheless, the success of these strategies is vague. Therefore, it should

25 Research Scholar, B. N. Bahadure Institute of Management Sciences, Mysore University, Karnataka, India, sh.shahbaz2016@gmail.com
26 Assistant Professor, B.N. Bahadur Institute of Management Sciences, Mysore University, Karnataka, India, amulyabims@gmail.com
be recognized with promotional strategies that have reached the consumer most and to determine to what extent these promotional strategies influence the consumers.

Mir et al., (2013) found out that marketing strategies become more crucial when they are executed to spread, design, and promote insurance services. By studying the significant results and opinions of customers, which can be very useful for designing effective promotional strategies for insurance companies also, it can reveal the remarkable facts connected with perception of the customers about promotional tools of both private sector and public sector companies as well as the most effective tools to promote insurance services.

Gulati, Kumar and Ravi, (2012) pointed out that customer satisfaction and formulation of marketing strategies to attract more customers towards the insurance provider are now becoming a key issue in order to survive every insurance company in the competitive insurance industry. Results of their study revealed that there exists a significant perceptual difference among customers about service quality with their respective insurance companies. Results also indicated that there are major differences in expectations of the customers and perceptions from services of insurance companies thus showing displeasure between insurance company customers. The gap between desirability and availability is an alarming bell for some insurance companies.

**SERVICE MARKETING MIX STRATEGIES**

Marketing professionals and specialist use many tactics to attract and retain their customers. These activities comprise of different concepts, the most important one being the marketing mix. The service marketing mix is a combination of the different elements of service marketing that companies use to communicate their organization and brand message to customers. The mix consists of the seven P’s i.e., product, pricing, place, promotion, people, process and physical evidence. The service marketing mix also known as the extended marketing mix, which focuses on service delivery and enhancing customer satisfaction.

Shameem and Gupta (2012), the 7Ps of the marketing mix that are used to frame marketing strategies of life insurance companies can be discussed as:

**Product Strategies:** It must provide value to a customer but should not have to be tangible at the same time. Hence, while deciding the product mix services or schemes should be motivational.

**Price:** The pricing of insurance products not only affects the sales volume and profitability but also influences the perceived quality in the minds of the consumers. To determine the insurance premium, marketers consider various factors such as mortality rate, investment earnings, and expenses, in addition to the individual risk profile based on age, health, etc., and the time period/frequency of payment.

**Place:** It is related to two important facets; managing the insurance personnel and locating a branch.

**Promotion:** It includes the various ways of communicating to the customers of what the company needs to offer to create impulsive buying.

**People:** Understanding the customer better allows designing appropriate products. Being a service industry, which involves a high level of people interaction, it is very important to use this resource efficiently in order to satisfy customers. Training, development and strong relationships with intermediaries are the key areas to be kept under consideration.

**Process:** It is referred to the methods and process of providing a service and is hence essential to have a thorough knowledge on whether the services are helpful to the customers, if they are provided in time, if the customers are informed in hand about the services and many such things. The process should be customer friendly in insurance industry.

**Physical (Evidence):** It has referred to the experience of using a product or service. Buyers prefer a face-to-face interaction and they place a high premium on brand names & reliability.

**OBJECTIVE OF STUDY**

To analyze the marketing strategies of select private life insurance companies in India.

**HYPOTHESIS OF STUDY**

There is significant difference in the service marketing mix strategies of the select private life insurance companies.
SCOPE OF STUDY

The present research encompasses the study of marketing strategies of five private life insurance companies operating in Mysore and Bangalore.

The data has been collected from the customers, sales and marketing managers/executives, advisors/insurance agents of companies such as ICICI Prudential Life Insurance Company, Reliance life insurance, Birla Sun Life Insurance Company Limited, Bajaj Allianz Life Insurance and HDFC Standard Life Insurance Company Limited.

METHODOLOGY USED

Research Design: Descriptive method is used for conducting research. Data is gathered from customers, marketing executives / managers, insurance agents/advisors of selected private insurance companies based on convenience sampling method for the purpose of the study.

Primary Data: Primary data on the marketing strategies, customer satisfaction and loyalty of Life insurance companies is collected through the structured questionnaire. The primary data is collected from the customers, managers, customer care executives, and relationship managers/executives, insurance agents/advisors of select private life insurance companies.

Secondary Data: The secondary data is extracted from among different published sources such as IRDA manuals and reports, magazines, voice & data magazine, research articles, research articles, books and selected websites.

Sampling Design: Around 300 sample respondents are selected from the population for the purpose of the study. The composition of the respondents includes insurance buyers from selected private insurance companies ICICI, RELIANCE, HDFC, BAJAJ, BIRLA drawn from Mysore and Bangalore. Around 200 employees of five selected private life insurance company are selected for the study. Around 100 advisors of five selected private life insurance company are selected for the study.

To analyze the data collected from respondents and to prove or disprove hypotheses, various statistical tools and techniques have been applied in this study. For the purpose of processing and analyzing the collected data, statistical tools such as tables, charts are used in this study. Mean, standard deviation and correlation are used for descriptive statistics. The hypotheses are tested using ANOVA test and P value. The data collected from respondents is analyzed with the help of SPSS.

ANALYSIS AND RESULTS

Hypothesis

H0: There is no significant difference in the service marketing mix strategies of select private life insurance companies.

H1: There is a significant difference in the service marketing mix strategies of select private life insurance companies.

The hypothesis is tested by the responses obtained by a cross section of Indian insurance buyers for the all the seven elements of marketing mix and finally to check whether there is any difference in service marketing mix strategies. Descriptive Statistics i.e., mean, standard deviation as well as ANOVA test, and the results are as following:

Table-1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Companies</th>
<th>N</th>
<th>MEAN</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICICI</td>
<td>60</td>
<td>116.36</td>
<td>12.84</td>
<td>1.65</td>
</tr>
<tr>
<td>BIRLA</td>
<td>60</td>
<td>115.52</td>
<td>12.48</td>
<td>1.61</td>
</tr>
<tr>
<td>HDFC</td>
<td>60</td>
<td>115.01</td>
<td>12.57</td>
<td>1.62</td>
</tr>
<tr>
<td>BAJAJ</td>
<td>60</td>
<td>114.92</td>
<td>11.69</td>
<td>1.51</td>
</tr>
<tr>
<td>RELIANCE</td>
<td>60</td>
<td>115.46</td>
<td>14.47</td>
<td>1.86</td>
</tr>
</tbody>
</table>

Sources: Field Survey

Table-2: ANOVA Test Statistics

<table>
<thead>
<tr>
<th>Service Marketing mix strategies</th>
<th>Sum of Squares</th>
<th>D.F.</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>94.013</td>
<td>4</td>
<td>23.503</td>
<td>0.153</td>
<td>0.962</td>
</tr>
<tr>
<td>Within Groups</td>
<td>45398.853</td>
<td>295</td>
<td>153.894</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>45492.597</td>
<td>299</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Field Survey
Customers' opinion on the marketing strategies practiced by the private life insurance companies are analyzed and from the table above with the F=0.153 and sig=0.962, null hypothesis “there is no difference in the service marketing mix strategies of the private life insurance companies” is failed to reject and “there is a difference in the service marketing mix strategies of the private life insurance companies” is not accepted.

SUGGESTION AND CONCLUSION

Life insurance industry is an important and integral component of macro economy and has emerged as a dominant institutional player in the financial market affecting the health of economy through its multi-dimensional role in savings and capital market. Marketing strategies in terms of 7 P’s of service marketing mix, namely people, process, physical evidence along with other conventional 4 P’s namely product, price, place and promotion. The regulator IRDA has given prudent guidelines with respect to products and pricing of insurance products and has led to similar product offers with more or less similar pricing of the policies by all private life insurers. Homogeneity of the products makes the customers not to be in favor of any private life insurance companies. Hence, the companies need to emphasize their unique benefits through other means of attractions in order to develop brand identity.

As ULIPs are risky and lost customers trust, private life insurers need to better to concentrate on the conventional products, which give guaranteed returns. It is noted from the study that mis-selling is rampant in the private life insurance. Therefore, the customer need analysis is crucial before targeting the customers. There should not be hidden charges for consultancy services and other value added services. Frequent customer meets are to be organized in periodic intervals to redress the grievances of the customers. Efforts are to be made to respond quickly for the complaints lodged by customers and the procedures are to be simplified to avoid delay. Based on the records of accomplishment of the customers, provisions are to be made to waive off the penalty for the late payment of premium.

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THE URUGUAY ROUND: IT'S REPERCUSSION FOR INDIA

Dr. Ashutosh Kumar

ABSTRACT

To ignite the world trade, a number of global economic institutions have been formed to carry out multilateral free trade in the world of multilingual and multi religious community. General Agreement on Tariff and Trade is one of them, which was signed on 30.10.1947. The fundamental aims of GATT were to liberalize world trade negotiations among member countries. Therefore, reduction of tariffs on trade on manufacturers was adopted as major goal of GATT. One of the major activities of the GATT since its inception has been launching of a series of rounds of negotiations. The first one was Geneva Round (Switzerland, 1947) & the last one is Uruguay round (Punta del Este, 1986). Almost in all the rounds, some trade related barriers have been tried to remove free trade among countries.

India is one of the signatory of Uruguay Round (UR). The basic thrust of UR final act was that the Indian government has surrendered its sovereignty under pressure from the US government and the multinationals. There is no doubt that some of the criticisms were politically motivated and value loaded.

Any comprehensive analysis of the implications of the Uruguay Round for India would have to cover all-important concerns. However, the present study is an attempt to delineate only the major concerns regarding the implication of Uruguay round agreement for India concerning to Reductions in tariff, Agreement on Anti-dumping, Agreement on TRIMS, Agreement on Agriculture Agreement on Services, Agreement on TRIPS Agreement on Textile and Clothing, Social causes in GATT, Dispute settlement body. Finally, an attempt has been made to suggest the future avenues for further productive dialogues in future ministerial councils.

KEYWORDS

GATT, TRIMS, TRIPS, Tariff, Anti-Dumping etc.

INTRODUCTION

In order to boost the world trade, a number of global economic institutions have been formed to carry out multilateral free trade in a world of multi-lingual and multi-religious community. GATT, as one among them is a multi-lateral treaty among the member countries that lays down certain agreed rules for conducting international trade. The member countries contribute together to fourth fifth of the total world trade. It is interesting to note that underdeveloped countries form a sizable majority in GATT.

The basic aim of GATT is to liberalize world trade negotiations among member’s countries, and for the last forty-seven years, it has been concerned with negotiations on the reduction, even the elimination of trade barriers, tariffs and non-tariffs between countries and improving trade relations so that the international trade flows freely and swiftly. It also provides a forum to member countries to discuss their trade, problems and negotiate to enlarge their trading opportunities.

The General Agreement on Tariffs and Trade (GATT) was signed on 30 Oct. 1947 by 23 nations -12 developed and 11 developing economies – at the palais des nations in Geneva. India was the founder member. The basic idea of GATT was to minimize tariffs and other restrictions on trade for ensuring mutual benefits and to eliminate favour from international trade.

On 1st Jan. 1948, GATT entered into force. Its 23 founding members including India were Australia, Belgium, Brazil, Burma, Canada, Ceylon, Chile, China, Cuba, Czechoslovakia, France, Lebanon, Luxemburg, Netherlands, New Zealand, Norway, Pakistan, Southern Rhodesia, Syria, South Africa, United Kingdom & the United States.

Initially, the GATT was merely a trading agreement among 23 countries, meant to be in force only until the ITO came into being at the time of its inception, the main objectives of GATT was establishment of a world regime in which countries would gradually liberalize trade among themselves. Therefore, reduction of tariffs on trade in manufactures was adopted as a major goal of GATT.

The cardinal principle of General Agreement on Tariffs and Trade are as below:

- It prescribed that every country must treat the others equally, without discrimination.

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27Professor (Marketing), Amity Business School, Amity University, Haryana, India, drashutoshp@gmail.com
null
The Uruguay Round contained the mandate to have negotiation in 15 areas. In part I, negotiations on Trade in Goods were to be conducted in 14 areas and in part II negotiations on Trade in services were to be carried out.

Part I (Trade in Goods) declaration in UR contained the following:

(1) Tariffs (2) non-tariff measures (3) tropical products (4) natural resources-based products, (5) agriculture (6) textiles and clothing, (7) GATT articles, (8) subsidies and countervailing measures (9) safeguards, (10) MTN (multilateral trade negotiations) agreements and arrangements, (11) dispute settlement (12) TRIMs (13) TRIPs (14) functioning of the GATT systems (FOGS).

Thus, besides the traditional GATT subjects such as tariff and non-tariff barriers and improvement in GATT rules and disciplines on subsidies and countervailing measures, anti-dumping measures etc., certain new areas such as TRIPs, TRIMs and Trade in Services were included for the first time for negotiations.

These negotiations were expected to be concluded in four years, but because of differences in participating countries on certain critical areas, such as agriculture, textiles, TRIPs and anti-dumping measures, agreement could not be reached. To break this deadlock, Mr. Arthur Dunkel, Director General of GATT compiled a very detailed document, popularly known as Dunkel Draft Proposals and presented it before the member-countries as a compromise document.

INDIA AND URUGUAY ROUND

Governments gathered in Marrakesh welcomed the signing of the UR accord on 15 April 1994. However, in some developing countries, there were protests in the streets. A systematic analysis of the results would show that overall the Round has benefited the rich industrial nations that ‘we are all gainers, there are no losers’ as some leading proponent at the Round would have made it.

When the Round began in 1986, many third world countries were strongly resisting the developed countries push to expand GATS power into ‘new areas’ such as services, investments and intellectual property rights. Earlier, GATT’s jurisdiction was confined up to trade in manufacture goods. However, developed countries was interested in liberalizing economic areas in which they had an advantage.

India has a long history of playing a prominent role in international trade negotiations. At the end of the Second World War, it took part in the Havana conference that generated the Havana charter, one part of which took the shape of the General Agreement on Trade and Tariffs (GATT). India took active part in the operation of GATT. It played a prominent role in introducing developing provisions in GATT through the inclusion of part IV in the early 1960s.

Since the earlier Multilateral Trade Negotiations (MTN) in GATT, up to the Kennedy Round (1964-67), were almost entirely devoted to negotiations on tariffs, India could not have a lead role, as it did not have much to offer in reduction of tariffs. However, during the Tokyo Round (1973-79) where a number of non-tariff areas were taken up for serious negotiation, India emerged center stage. In fact, in the final stages of the Tokyo Round, the outcomes in several areas crucially hinged on bilateral agreements between the negotiators of these two countries on the subjects of subsidies and customs valuation formed the basis of the final agreement on these areas. Throughout this period, India played an active role in its own behalf and on behalf of developing countries, formally or informally.3

In the later period up to about 1987 – the middle of the course of the Uruguay round – the role of India in GATT continued to be important and effective. During the Ministerial Conference of 1982, it was the lead taken by India and a few other developing countries, which successfully stopped the entry of Investment and High Technology (i.e., IPR at time) that had been pushed by some major developed countries.

At the launch of the Uruguay Round (1986), a large number of developing countries were against the proposals of major developed countries to include new subjects in the negotiations, viz, services, investment, and IPRs. There was general softening of the stand by several others, but India stood very firm on its ground, which ensured that though these subjects were included in the negotiations, they were kept formally of these separate from GATT, and the goods sector, and the consideration of these subject was limited to their links with trade.4

Given India’s share in international trade, its role in GATT would ordinarily have been marginal; that India’s role has been effective and imported is mainly due to its political stature and its championship of the cause of development of the developing world; and, largely, it is due to the caliber of its negotiations.

As per the Punta Del Este declaration, the Uruguay Round negotiations should have been completed by December 1990. Owing to the differences between the US and the European Union on Agriculture and other members on IPRs, Textiles & Clothing etc.,
the negotiations could not be brought to an end. The ministerial meet at Montreal too proved of no avail. At this stage, Mr. Arthur Dunkel, the then Director General of GATT submitted the Draft Final Act on December 20, 1991 for ratification by all the contracting parties. The Draft Final Act raised furors on a number of issues in many parts of world including India about IPRs, agricultural subsidies and services.

Taking into account the implications of trade liberalization on production, consumption and trade and viewing the overall advantage of the liberalized trade regime, India has opted to sign the draft final act. According to an OECD study the total gains by full trade liberalization will be of the order of $ 477 billion to the world (1992 prices) of which $ 256 billion will accrue to the OECD member countries and the remaining $ 221 billion to developing and transitional economies.

However, partial reforms such as envisaged in the Uruguay Round would yield benefits of $ 195 billion per annum to the world accruing to developing and transitional economies. Indications are that the European Union, Japan and the USA stand to gain more from liberalization though developing countries like India would also gain marginally, say by $ 1.5-2.00 billion per annum due to substantial reduction of tariffs and consequent increase in world trade.6

THE URUGUAY ROUND: ITS IMPLICATIONS FOR INDIA

The basic thrust of UR Final Act attack was that the government has surrendered its sovereignty under pressure from the US government and the multinationals. There is no doubt that some of the criticisms were politically motivated and value-loaded, and it would be correct to say that to some extent, that the claim of the government of India, that because of UR agreement, Indian exports would rise at the rate of $2 billion per year is exaggerated.

Any comprehensive analysis of the implications of the Uruguay Round for India would have to cover all-important concerns. However, while this study does attempt to outline only the major concerns regarding the implications of the Uruguay Round for India.

Reduction in Tariffs

On tariffs, India has made an offer of reducing the basic duties by 30%. This offer is only for items on which duties are above 25% ad valorem. The duty reduction is to be made over a period of 6 years and covers raw materials, intermediates and capital goods, but excludes agricultural products, petroleum products, fertilizers and some non-ferrous metals like copper and zinc. These tariff reductions were a part of the package of economic reforms undertaken in India and had been recommended by the Chelliah committee.6

One of the major reasons for the reduction in import tariffs envisaged by Indian policy makers was to improve the international competitiveness of Indian industry, many segments of which have been able to function inefficiently in the domestic market because of excessive protection (international standards). Therefore, any reduction in Indian tariff rates is likely to lead to increased exports, after some time lag, through improvement in international competitiveness. Thus, the Indian promise to reduce import tariffs has proved one of the positive outcomes from the Uruguay Round.

So far concerned with prohibition of export subsides, there is a special and differential treatment to developing countries. The developing country like India will have to segment out export subsidies on products where the market share in world trade was 3.25 percent or more. India does not have to do anything about phasing out export subsidies until the Indian per capita income reaches US $ 1000 per annum.

Agreement on Anti-Dumping

Mostly the firms in the developed countries practice dumping as an unfair trade. It is a strategy for capturing or expanding markets or undermining competitors. Dumping of goods means sending goods to a foreign market for sale below marginal cost. In simple terms, if a company exports a product at a price lower than the one it normally charges in its own market or if it sells at less than the cost of production, it is said to be dumping the product in the importing country. The reasons may be to eliminate competition and thereby gain a monopoly in the foreign market, or to dispose of temporary surpluses to avoid a reduction in home prices and therefore producer’s incomes.

From operational angle, the entry of any product into a country is termed as dumping, if (a) it is not less than 3 percent of the total domestic production of that or similar product in the country; (b) at least 50 percent of the producers are of the view that it is injuring the domestic industry; (c) injury or threat of injury is causal, and the causal linkage is proved; and (d) the dumping takes place over a period of time.
As per GATT Accord, anti-dumping proceedings will be terminated firstly, if the volume of dumped imports from a particular country is less than 1 percent of the domestic market. Secondly, if the margin of dumped products is below 2 percent. These clauses do help India to protect its exports from anti-dumping investigations. It would have been much better for India, had the figure of dumped imports as a share of domestic market been more than 1%.

**Agreement on TRIMS**

Trade Related Investment Measures (TRIMs) were initiated by the US in 1980. It was all about when Japan had surpassed the US in technological prowess as commented by America’s National Academy of Engineering. Meanwhile, the US also faced recessionary conditions at home because of the declining international competitiveness of its industries. To recover its ground USA identified the area trade in services. Although GATT had never discussed the idea of trading in services, the USA tried to sell this idea in the 8th Round of GATT negotiations. The chief objective was to benefit the Multinational Corporations (MNCs) so that they could undertake investment in financial services, telecommunications, and marketing to boost world trade.

The main provisions provided in the TRIMs text ensures that government shall not discriminated against foreign capital, i.e., to national treatment to foreign capital.

The principal features of TRIMs text are:

- Restrictions on foreign capital/investors/companies should be scrapped.
- It rights to investor same as national investor.
- No restrictions on any area of investment.
- 100% foreign equity will be permitted.
- Imports of raw materials and components will be allowed freely.

The agreement on Trade Investment Measures (TRIMs) does not impose any obligation relating to controls on foreign direct investment or ceilings on foreign equity holding. This is so because countries confronting BoPs problems are exempt from the need to remove TRIMs, which are prohibited under the agreement. India as one of the developing country does not have to face the dilemma. The TRIMs agreement does not affect India’s investment policies, on the one hand.

The second picture of TRIMs text depicts that the government of India has been over bending to woo foreign direct investment due to its economic reforms 1991. This resulted in several changes in Foreign Exchange Regulations Act and Industrial Policy. As per GATT agreement, such changes will become a part of the multilateral trade treaty and WTO will in future be able to impose discipline. In that sense, TRIMs treaty abrogates our freedom to become selective in the areas of foreign investment. This militates against our goal of self-reliance. In this context N.K.Chowdhary and J.C. Aggarwal clearly state, “foreign investment like Pepsi foods was encouraged with the hope and proviso that the company would export its products to earn foreign exchange for India and also progressively utilize Indigenous material in its production programmes. These policies will however be not possible to follow once the country becomes one of the signatories to the GATT 1994”.

This clearly shows that once a decision is taken to allow foreign investment in a certain area, the country loses much of its freedom to restrict its harmful effects on our local industry and economy. In that, sense critics are of the view that, unrestricted freedom to foreign investment is a compromise on our economic sovereignty.

**Agreement on Agriculture**

The Agreement on Agriculture came into force on January 1, 1995. It may be recalled that the use of subsidy and protectionist measures by developed countries throughout the post-World War II period led to large-scale distortions of trade in agricultural products, adversely affecting the export potential of the developing countries. The original GATT, 1947, which applied to trade in agriculture also, allowed various exceptions to rules on non-tariff measures and subsidies, and thus accentuated these distortions. By the time the Uruguay Round of the Trade Negotiations was launched in 1986, there was a broad consensus on the need to reform agricultural policies and achieve trade liberalization in the sector. Subsequent consultations culminated in the AoA, which was part of the Uruguay Round Agreement, signed in Marrakech.

Under the agreement, developing countries need to reduce their domestic support for specific agricultural products only if support for any product exceeds 10% as measured by Aggregate Measure of Support (AMS). AMS is an index, which seeks to provide an overall measure of the diverse variety of farm subsidies, valued as a share of total production. Total AMS is the sum of all domestic support provided in favour of agricultural producers.

The level of production subsidies in India during the base year 1988-89 was much lower than the 10%. Indian agriculture has a low AMS, which is no more than 6%. There is no obligation to reduce the subsidies under GATT Accord. Since India is classified...
as a developing country, with balance of payment problems, it does not have to provide market access commitments for agriculture.

**Agreement on Services**

The Uruguay round of GATT also covered agreement on trade in services, to provide complete sense of transparencies and further liberalization in trade.

The service sectors include services like banking, insurance, telecommunications and shipping etc. The agreement covers all internationally traded services. Inclusion of trade in services is bound to benefit the developed countries than developing countries like India. The developed nations insisted for the inclusion of trade in services in the Uruguay round on the ground that the opening up of trade in services is an important requirement for globalization and development of world trade. Data indicate that the share of developed countries in world trade in services in 1993 was 95% and the developing countries had only a share of 5%. The principle exporters of services are the USA, France, Japan and the Netherlands. These four countries alone account for about 60% share of the world trade in services. Thus, these countries will be benefited from the new agreement on services, as arrived at, in the Uruguay round and the share of the developing countries will decline further. The service industries of developing countries are in incipient stage and its progress will be throttled under the new agreement. India will also have to face such problems, because the service sectors in India will find it difficult to compete with the firms supplying services in the developed countries.\(^8\)

In fact, due to liberalization of professional services India may get greater access for its consultancy services, construction, engineering and skilled manpower. As countries have pledged opening of a wide range of sectors, it is estimated that the world trade in services will rise substantially from the present level of $900 billion.

**Agreement on TRIPS**

This is another area, which has been controversial between India and other signatories. Agreement on TRIPs aimed at lowering any kind of distortion and barrier to foreign trade by effective means of IPR (it safeguard creators and other producers of intellectual goods and service by granting them certain time limited rights to control the use made of those productions). Intellectual Property essentially includes the products or creations of the mind. The agreement on TRIPS is built on the existing international Convention dealing with IPRs. Its provisions apply to the seven IPRs only viz., copyrights, trademarks, geographical indications, industrial designs, patents, layout designs of integrated circuits and protection of undisclosed information.

In so far as patents are concerned, India differs from developing countries as it allows only ‘process’ patent in the areas of drugs, pharmaceuticals, food products and chemicals. But according to the new GATT Accord India will have to amend the Indian Patent Act of 1970 to replace the existing ‘process’ patent by the ‘product’ patent.

**Agreement on Textiles and Clothing’s**

India has a traditional comparative advantage in the textiles sector. Trade in textiles and clothing is now governed by an arrangement known the Multi-Fiber Agreement (MFA), under which countries such as USA, EC maintain quantitative restrictions on the import of textile items from developing countries like India. This agreement worked against India because India has a vibrant textile industry, which produces goods matching world standards.

The restrictions under MFA will be phased out under the GATT Accord in 10 years (51% of the quota in 7 years and 49% in the final 3 years), which in effect would mean removal of this quota restriction. Thus, leads to increase in our textile exports.

It needs to be pointed out that the textile agreement is not evenly balanced in the sense that in the initial years, there is minimal liberalization while significant steps for liberalization are left only to the last three years. This is one of the points of dissatisfaction for India. This is, thus, a strong case for urging the importing countries to bring forward the liberalization process.

The Act has divided the ten-year period into three phases:

- First Phase - 1st Jan 1995 - 16% of the textile exports to the developed countries liberalized.
- Second Phase - 1st Jan 1998 - 17%
- Third Phase - 1st Jan 2002 - 18%
- Rest on - 1st January 2005 - 49%.
What is interesting is that textiles are defined in such a way that textile sector includes items that are not currently under quota restrictions in developed countries. Thus, instead of creating real liberalization and withdrawing non-tariff restrictions, the myth of liberalization has been created.

Kaith Gursharan Singh (1996) said that textile sector remained beyond the scope of GATT in the first 7 rounds. Even in the 8th round separate treatment has been given to textile and clothing. A recent GATT report on developing countries reveals that textiles and articles of clothing are the most important industrial category among the third world countries exports accounting for 55% of the total. At present 4% of textile trade is integrated into GATT provision. Rest has been integrated over 10 years in four stages. (See Table-2)

Table-2: Quota Integration under ATC

<table>
<thead>
<tr>
<th>Phase</th>
<th>Year</th>
<th>New Integration (%age)</th>
<th>Cumulative (%age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1995-97</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>II</td>
<td>1998-01</td>
<td>17</td>
<td>33</td>
</tr>
<tr>
<td>III</td>
<td>2002-04</td>
<td>18</td>
<td>51</td>
</tr>
<tr>
<td>IV</td>
<td>2005</td>
<td>49</td>
<td>100</td>
</tr>
</tbody>
</table>

Thus 51% of the existing quota will come in the open market on January 1, 2004 and the remaining 49% quota is to be abolished in the 121st month of the Agreement.

Under the new GATT, the earlier MFA regime governing the textile trade is to be gradually phased out over 10 years from the operation of the Uruguay round in 1995. This means that bilateral negotiations pertaining to quota allocation will also be eliminated and the entire textile trade would come under the free trade regime, governed by the rules applicable to trade in other goods.

The mix of quota and non-quota terms has also undergone a change. For e.g., some luggage items, footwear, hats, umbrellas, providing an assured export market for the next decade has now transferred parachutes etc., which were non-quota items, under MFA to the quota section, there.

Though several restrictive trade policies –MFA and developed countries had played QRs; India has an opportunity to gain from such Act. The integration of the textile trade into the GATT system has provided India with:

A higher growth target for textile exports than was possible under Multi-Fiber Agreement (MFA).

The inclusion of additional items under the quota system means a secure and expanded market for another 10 years. This is the most favourable point for India.

The phasing out of the quota system is over a 10 years period. An early phasing of the quota regime would have meant immediate competition with some of the international giants like China, Hong Kong and Taiwan with the bulk quotas being eliminated over a 10 years period India provided with an opportunity to prepare itself to face competition.

Social Clause in GATT

For the first time, “Social Clause” was initiated by US to be incorporated in the Marrakech Declaration at the end of March 1994. It was one of the startling proposal made in the context of the finalization of the GATT agreement. To offset the low labour costs prevailing in the developing countries, US representative proposed under the social clause, to impose countervailing duty on imports from such developing countries. It could be better understood by following instance—if a commodity in India cost Rs. 100, while it cost Rs. 500 in the US, then this differential was largely a consequence of the difference in labour costs. To remove such differences, Indian exports to the USA would have to pay a duty aimed at neutralizing the cost advantage. The social clause, it was stated, is motivated by humanitarian concern, so that the developing countries adopt proper standards of living for the workers and pay their labour better wages.

The fifth conference of the Labour Ministers of Non-aligned and other developing countries held in Delhi from January 1923, to 1995 dismissed the “social clause” as “totally unacceptable”. It asserted: “The proposed linkage would negate the benefits of trade liberalization and aggravate problems of unemployment and distress. Delhi declaration came down heavily on the coercive aspect of proposed linkage and stated: Any form of coercion on the labour standards issue is violate of the constitution of International Labour Organization. The declaration further emphasized that “the application of unilateral coercive economic measures by the developed countries aimed at the third world countries with a view to obtaining economic or political advantage is unacceptable”
Another controversial proposal is environmental protection. This clause was introduced by the developed countries intentionally to force the developing countries to pay for the alleged destruction of environment. It was argued by the experts that around 60% of carbon dioxide emissions come from industrial countries, damaging the climate of the developing world, then how can the most developed countries have the cheek to ask to the developing countries in the face of these facts to pay for the sins of the developed world.

Rio conference had laid greater responsibility on the developed countries to help developing countries in measures related to environment protection. In place of discharging their duty in that respect, they tried to impose restrictions on trade in the name of environment protection. Developing countries have to unite and fight for their justified share in the world trade while protecting the environment. Thus, there is a constant need for vigilance and combined resistance by third world countries to avoid any disadvantage enlarged in the scope of GATT.

**Dispute Settlement Body**

Settlement of disputes under GATT was a never-ending process. There was ample scope for procedural delays, objections could be raised at each stage of the dispute settlement process, and the offending party could reject penal reports. It has now been made mandatory to settle a dispute within 18 months. The findings of the disputes settlement panels will be final and binding on all parties concerned.

In addition to the above, the Uruguay Round also reached agreements on the understanding and implications of certain articles of GATT such as, pre-shipment inspection, rules of origin, import licensing, safeguards and subsidies etc.

**CONCLUSIONS**

The formation of World Trade Organization is an important milestone in the history of international trade. Installed as comprehensive dispute settlement machinery with a wider ambit covering international trade in both goods and services, it contains the single most important set of governing rules. The WTO formally came into being on Jan. 1, 1995 and the implementation of the Uruguay rounds resulted from the same date. The WTO is embodied with five specific functions such as, to administer and implement multilateral trade agreements and legal instruments negotiated in connection with the Uruguay round; to provide a forum for multilateral trade negotiation; to administer the rules and processes related to dispute settlement; to review national trade policy mechanism; and to assist IMF and IBRD for establishing coherence in universal economic policy determination.

It is inferred from “Marrakech” Declaration, that the agreement made during Uruguay round would provide a strong base to the economy and lead to more free-trade, investment, employment and income growth to not only the developed nations but also to developing nations, like India.

Though Cancun Ministerial Conference (MC) has failed, still India has come up with bundles of gifts, the one that lies in their cooperativeness with the other developing countries irrespective of strong force exerted by developed nations.

With the end of Hong Kong MC, one can easily conclude that developing nations has surrender themselves on the key aspect of market access, services and non-agricultural market access (NAMA). In fact, in return they did not receive any significant gain. Indian negotiators have made much hue and cry that they have achieved much at WTO MC in Hong Kong, but the real picture is that they have made some modest gains, mainly of a defensive nature, in the field of agriculture and substantial benefits in the area of NAMA and services. The Hong Kong meeting thus produced an imbalanced result.

So finally, we may say that despite massive opposition from a great number of developing countries, the developed countries eventually got what they wanted.

**NOTES & REFERENCES**


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IMPACT OF GROWTH PATTERNS ON INDUSTRIAL DEVELOPMENT IN HARYANA:
A STUDY OF GRANGER CAUSALITY APPROACH

Bikramjit Singh

ABSTRACT

Indian industrial development has been scripted by the development of the grass root states. Process of industrialization is also associated with the advancement of technology, attitude and skills of industrial workers, which in turn, is beneficial for the growth of productivity in agriculture, trade and other sectors of the industry. The main objective of the study is to assess impact of growth patterns on the Industrial Development in Haryana and its interdependence. The study is based on secondary data ranging from the year 2003-04 to 2013-14. Multiple regression results indicate that Investment and Employment have significant impact on the Production. From the Granger Causality approach, it has been inferred that production has a significant and positive influence on fixed investments made in the industrial units of Haryana.

KEYWORDS

Growth Pattern, Self Sustaining Economy, Industrial Development etc.

INTRODUCTION

Agriculture forms the backbone for the economy and industry of both Haryana and Punjab. The share of agriculture to state income is also the highest and it is a source of supply of raw materials to the leading industries of the state. Hence, prosperity of agriculture stands for prosperity of Haryana and Punjab. In order to raise state income and per capita income agriculture development should be given greater emphasis in both states. Besides agriculture, industrialization has a major role to play in the economic development of Punjab and Haryana. The present study is confined to the state of Haryana. Haryana has a total surface area of 44,212 square kilometers and comprises of 20 Districts. Haryana has secured second position in the State Development Index contributed by high agricultural yield, industrial growth, low unemployment and poverty. The economic size of the state ranks third among the 10 states, with the second highest growth rate, over the last five years. While the some sectors of Haryana have grown at a decent pace in the past five years, the tertiary sector has actually driven the steady growth in the state. The natural resources, policy incentives and infrastructure in the state support investments in sectors such as automobiles and auto-components, IT/ITeS, textiles, agro-based industries, business tourism and commerce. The state has excellent agricultural productivity with its per capita income being one of the highest in the country. The key strategy of the state to attract investments in various industries has been forming industrial clusters and developing infrastructure. The debt burden of the State is also one of the lowest. Although the state has done well in terms of power generation, Haryana still faces power crunch due to rising demand. This is an area for further development as power is one of the most critical infrastructures for industry.

Indian industrial development has been scripted by the development of the grass root states. Since national development is an aggregation, the failure in one state undermines the success in others. Hence, it becomes pertinent to study the performance of industries in terms of their relative positions within the country’s landscape. The PHD Chamber of Commerce & Industry is an apex regional Chamber dedicated to catalyzing the process of socio economic development in the Northern and Central states of India. The industrial sector, which possesses a relatively high marginal propensity to save and invest, contributes significantly to the eventual achievement of self-sustaining economy with continued high levels of investment and rapid rate of increase in income and industrial employment. Process of industrialization is also associated with the development of technological knowledge and attitude and skills of industrial workers, which in turn, is beneficial to the growth of productivity in agriculture, trade and other sectors of the industry.

LITERATURE REVIEW

Ph.D. Chamber of Commerce & Industry (2011) analyzed in their report that Haryana has secured the second position in the State Development Index contributed by high agricultural yield, economic growth, low unemployment and poverty. The economic size of the state ranks third among the 10 states, with the second highest growth rate, over the last five years. While the primary and secondary sectors of Haryana have grown at a decent pace in the past five years, the tertiary sector has actually driven the steady growth in the state.

Kumar, S. (2013) made an inter-temporal analysis of the growth and performance of small-scale industries in Punjab and Haryana for the period ranging between 1971-72 and 2006-07. The study concluded that no doubt small-scale industries are

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28Head & Associate Professor, Department of Commerce, Mata Gujri College, Punjab, India, gsrasoolpur@gmail.com
providing ample employment opportunities but the shrinking of the number of units of these industries pose a serious matter and concern for industrial development in the respective states.

Sharma, R. K. (2014) industrial sector plays a vital role in the development of Indian economy because they can solve the problems of general poverty, unemployment, backwardness, low production, low productivity and low standard of living etc. The Indian Government had undertaken policy reforms since 1980, but the most radical reforms have occurred since 1991, after the severe economic crisis in fiscal year 1990-91. These reforms mainly aimed at enhancing the efficiency and international competitiveness in Indian industry. After nearly more than two decades of reforms, a question that has engaged the attention of the economists in recent times is what has been the effect of these economic reforms measures on the performance of industrial sector in the post-reform period in India. To know the answer the present paper attempts to present the industrial development of India in pre reform and post reform period, and investigate the impact of globalization on industrial sector in India.

Sharma, A. (2014) presented that agriculture has played vital role in development of Haryana. Science and technology has helped the state to touch the new heights. After the green revolution, Haryana has risen as the strong pillar of Agricultural Development. Agricultural Development has a lot of relevance in modern economics. Wheat, seed and crop diversification helped the agriculture sector. The development of agriculture provides necessary capital for the development of other sectors like industry, transport and foreign trade.

Mohan and Singh (2015) evaluated the growth of industrial sector in state for the period ranging between 1980-81 and 2012-13. The study also made an evaluation of the problems and prospects of small-scale industries. It was found that lack of technical knowledge, poor infrastructural facilities and lack of quality human resource development is impeding the growth of small-scale industries.

OBJECTIVE OF STUDY

The main objective of the study is to assess the impact of growth patterns on the Industrial Development in Haryana and its interdependence.

RESEARCH METHODOLOGY

The study is confined to the state of Haryana. The variables like units (UNITS), employment (EMPL) and fixed investment (FINV) are the representative of the growth pattern of industries. Production (PRODN) variable, which is the representative of the pattern of industrial development, has been taken as a dependent variable for the study. The study is based on secondary data, which has been collected from Directorate of Industries, Chandigarh, Statistical Abstracts, Journals and various websites. The period of study is ranging from the year 2003-04 to 2013-14. Descriptive statistics has been used to test the normality of the data. Regression has been used to test the dependent relationship between the variables. Granger Causality approach has been applied to check the interdependency of the variables.

DATA ANALYSIS AND INTERPRETATION

Descriptive Statistics

Table-1 indicate that mean value is highest in the units variable (77696.36), followed by investment (755218.5), employment (615134.4) and then production (242710.9). The highest standard deviation implying high level of deviations amongst variables has been found in the units (619598.6) followed by investment (583989.1), production (181275.9) and least in employment (5218.5). Employment (583989.1), employment (181275.9) and last in production (5218.5).

<table>
<thead>
<tr>
<th>Variables</th>
<th>PRODN</th>
<th>INV</th>
<th>EMPL</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>242710.9</td>
<td>755218.5</td>
<td>615134.4</td>
<td>77696.36</td>
</tr>
<tr>
<td>Median</td>
<td>214368.1</td>
<td>701163.8</td>
<td>623810.0</td>
<td>76714.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>602847.7</td>
<td>220701.5</td>
<td>807108.0</td>
<td>88051.00</td>
</tr>
<tr>
<td>Minimum</td>
<td>649454.2</td>
<td>165634.7</td>
<td>468221.0</td>
<td>70342.00</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>181275.9</td>
<td>583989.1</td>
<td>117962.4</td>
<td>619598.6</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.770378</td>
<td>1.339790</td>
<td>0.191007</td>
<td>0.396412</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.400167</td>
<td>4.521659</td>
<td>1.706796</td>
<td>1.762444</td>
</tr>
</tbody>
</table>

Table-1: Descriptive Statistics of Variables during the Sample Period
Stationarity Test

It is a recognized fact that many economic variables follow random walk, i.e. these have non-stationary time series and contain unit root too. The unit root test for the economic variables is necessary as the presence of unit root may give invalid inferences in the analysis. In other words, before testing of the impact of the selected economic variables on the production, it is necessary to test the presence of unit root in the series. Augmented Dickey-Fuller (ADF) Test is the popular test for unit root testing of time series. If \( y_t \) is the time series to be tested for unit root, then the test statistic for ADF unit root testing will be given by \( \tau \) statistics, which is OLS estimate of coefficient of \( y_{t-1} \) in equation (1), divided by its standard error:

\[
\Delta y_t = \rho y_{t-1} + \mu + \lambda_t + \alpha \sum_{i=1}^{n} y_{t-i} + u_t ...
\]

Table-2 shows the results of Unit Root Test applied on the production variable and other variables for industries of the Haryana state by using ADF Test along with Philip Perron test. As, the basic condition for the application of these tests is that the data should be stationary, thus the said tests have been first applied to test the stationarity of the data. The result indicates that all the variables i.e. production, number of units, employment and investment are non-stationary at level but becomes stationary at second difference only.

**Table-2: Unit Root Test Result**

<table>
<thead>
<tr>
<th>Series</th>
<th>ADF Unit Root Test Statistics</th>
<th>Philip Perron Test Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None With Intercept With Trend &amp; Intercept None With Intercept With Trend &amp; Intercept</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>At Level -4.03 (0.99) -2.98 (0.99) -0.00 (0.98) -7.89 (1.00) 3.93 (1.00) -0.49 (0.99)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At First Difference -3.14 (0.00) -0.18 (0.94) -3.95 (0.06) -0.44 (0.78) -0.94 (0.72) -6.17 (0.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At Second Difference -4.87 (0.00) -6.20 (0.00) -5.99 (0.00) -4.71 (0.00) -9.53 (0.00) -10.12 (0.00)</td>
<td></td>
</tr>
<tr>
<td>Units</td>
<td>At Level -1.73 (0.96) -0.63 (0.98) -13.04 (0.00) -3.33 (0.99) -1.68 (0.99) 36.76 (0.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At First Difference -4.87 (0.00) -3.05 (0.07) -5.95 (0.00) -0.92 (0.28) -18.83 (0.00) -15.00 (0.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At Second Difference -5.72 (0.00) -5.11 (0.00) -4.64 (0.03) -8.13 (0.00) -8.88 (0.00) -12.11 (0.00)</td>
<td></td>
</tr>
<tr>
<td>Fixed Investment</td>
<td>At Level -2.38 (0.99) -1.22 (0.99) -1.07 (0.87) 3.16 (0.99) -2.09 (0.99) -0.31 (0.97)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At First Difference -0.67 (0.39) -1.58 (0.45) -1.82 (0.61) -0.67 (0.39) -1.48 (0.49) -1.71 (0.66)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At Second Difference 2.72 (0.01) -2.70 (0.01) -2.67 (0.02) -2.64 (0.01) -2.53 (0.04) -2.69 (0.03)</td>
<td></td>
</tr>
<tr>
<td>Employment</td>
<td>At Level -7.70 (0.00) 1.54 (0.99) -2.83 (0.22) 8.32 (1.00) -1.68 (0.99) -5.87 (0.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At First Difference -0.21 (0.58) -2.68 (0.11) -2.78 (0.23) 0.12 (0.69) -3.43 (0.03) -4.11 (0.04)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>At Second Difference -4.12 (0.00) -4.0 (0.02) -3.64 (0.05) -6.23 (0.00) -6.94 (0.00) -6.22 (0.00)</td>
<td></td>
</tr>
</tbody>
</table>

**Sources: Authors Compilation**

Simple Linear and Multiple Regression Equation Results

Table-3 represented R-square which tells how much variance is being accounted by independent variable. Hence, it can be inferred that EMPL shows 49 per cent variance which is being explained by INV (independent variable) in the production
In general, the higher the R-square, the better the model fits. Therefore, EMPL is the better model than other variables, which has an influence upon the production variable of the industries.

Table 3: Result of Simple Linear Regression Model by Equation

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Regression Coefficient</th>
<th>T statistics (p value)</th>
<th>F Statistics</th>
<th>R-Square</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODN</td>
<td>Units</td>
<td>Intercept (α) 0.16</td>
<td>-</td>
<td>1.76</td>
<td>0.18</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slope Coeff. (β) 2.89</td>
<td>2.91 (0.01)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRODN</td>
<td>INV</td>
<td>Intercept (α) 0.22</td>
<td>-</td>
<td>0.03</td>
<td>0.00</td>
<td>No Impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slope Coeff. (β) 0.01</td>
<td>5.33 (0.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRODN</td>
<td>EMPL</td>
<td>Intercept (α) 0.03</td>
<td>-</td>
<td>7.70</td>
<td>0.49</td>
<td>Significant Impact</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Slope Coeff. (β) 3.49</td>
<td>0.43 (0.67)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Compiled with EViews 7 Software

Note: *Significant at 5% level

In case of other variables (UNITS and INV) considered in research study, no significant impact is found on production of industries has been found.

The result of multivariate regression model is represented in Table 4. In multiple regression equation, Investment and Employment had a significant impact on the Production variable as presented in Table 4. The overall R-square is 0.89, which indicates that 89 of the variations in dependent variable (production) are explained by the independent variables (UNITSNF, EMPLNEW, and INVNEW). Among all, Employment and Investment contributes 84 per cent variance in production variable of the industries in Haryana and rest 16 per cent is contributed by other variables.

Table 4: Result of Multivariate Regression Model by Equation between Production and Economic Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITSNF</td>
<td>-1.29</td>
<td>1.14</td>
<td>-1.12</td>
<td>0.30</td>
</tr>
<tr>
<td>INVNEW</td>
<td>-0.26</td>
<td>0.05</td>
<td>-4.86</td>
<td>0.00*</td>
</tr>
<tr>
<td>EMPLNEW</td>
<td>6.6</td>
<td>1.03</td>
<td>6.35</td>
<td>0.00*</td>
</tr>
<tr>
<td>C</td>
<td>-0.04</td>
<td>0.4</td>
<td>-1.04</td>
<td>0.33</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.89</td>
<td>Mean Dependent Var</td>
<td>0.22</td>
<td></td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>0.84</td>
<td>S.D. Dependent Var</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>S.E. of regression</td>
<td>0.04</td>
<td>Akaike Info Criterion</td>
<td>-2.90</td>
<td></td>
</tr>
<tr>
<td>Sum squared resid</td>
<td>0.01</td>
<td>Schwarz Criterion</td>
<td>-2.78</td>
<td></td>
</tr>
<tr>
<td>Log likelihood</td>
<td>18.51</td>
<td>Hannan-Quinn Criter</td>
<td>-3.03</td>
<td></td>
</tr>
<tr>
<td>F-statistic</td>
<td>17.44</td>
<td>Durbin-Watson Stat</td>
<td>2.28</td>
<td></td>
</tr>
</tbody>
</table>

Prob(F-statistic) 0.00

Sources: Compiled with EViews 7 Software

In case of other variables (units) considered in research study, no significant impact is found on production has been found.

Granger Causality Test

It is observed from the Table 5 that the units, employment and fixed investment variables do not granger cause production as is indicated by their F-statistic values and the p-values, which are more than 4 and 0.05, respectively which leads to acceptance of null hypothesis. But, the results revealed that production causes fixed investment as F-statistic is 8.14 which is more than the benchmark value of 4 and p-value is 0.04 which is less than critical value i.e. 0.05 as is shown in the table. Hence null hypothesis is rejected i.e. it proves that production granger causes fixed investment. As far as causality relationship is concerned, a unidirectional causality or one-way causality is found from production towards fixed investment. It means fixed investment is inclined by the amount of production made in the various industries of Haryana and is influenced by the expected production to be made in the coming years. Therefore, production has one-way causal relationship with fixed investment variable, which is significant at 5% level.

As shown in the Table 5, the probability value of t-statistic in case of PRODN is found to be less than 5 per cent level of significance. Hence, the null hypothesis is rejected. Therefore, it is inferred that PRODN had a significant and positive influence on fixed investment made in the industrial units of Haryana.
CONCLUSION

The economic variables are the true indicators of the industrial development of the state, Haryana. For the purpose, the study concluded that all the variables i.e. production, number of units, employment and investment are non-stationary at level but becomes stationary at second difference only. The overall R-square is 0.89, which indicates that 89 of the variations in dependent variable (production) are explained by the independent variables (UNITSNW, EMPLNEW, and INVNEW). Among all, Employment and Investment contributes 84 per cent variance in production variable of the industries in Haryana and rest 16 per cent is contributed by other variables. As far as causality relationship is concerned, a unidirectional causality or one-way relationship is found from production towards fixed investment. It means fixed investment is inclined by the amount of production made in the various industries of Haryana and is influenced by the expected production to be made in the coming years. Therefore, production has one-way causal relationship with fixed investment variable, which is significant at 5% level.

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MUTUAL FUNDS INFLOWS AND INDEX RETURNS:
A STUDY OF DYNAMIC RELATIONSHIP IN US AND INDIAN MARKET

Dr. Tarika Singh29

ABSTRACT

To investigate dynamic relations between index returns and mutual fund flows in India and US, using index return data of last six years, VAR and Granger Causality tests have been used. The empirical evidence from VAR and Granger causality tests indicates that there seems to be a positive long-run relationship between stock returns and fund flows, and stock returns are likely to lead fund flows. The results are same for US and India context. Thus, investors are likely to move their money to the securities that yield higher returns, and the most important element explaining equity mutual fund flows seems to be security performance in the US market.

KEYWORDS

Mutual Fund, Returns, Causality etc.

INTRODUCTION

The 1990s have seen unprecedented growth in mutual funds. Shares in the funds now represent a major part of household wealth, and the funds themselves have become important intermediaries for savings and investments. In recent years, flows into funds have generally been highly correlated with market returns. Observers such as Hale (1994) and Kaufman (1994) fear that such a process could turn a decline in the stock or bond market into a downward spiral in asset prices. Research on this issue has already confirmed high correlations between market returns and aggregate mutual fund flows (Warther 1995). A positive-feedback process, however, requires not just correlation but two-way causation between flows and returns, in which fund investors react to market movements while the market itself moves in response to the investors’ behavior.

The cash flows into mutual funds have generally been strongly correlated with market returns and this relationship reflects the momentum trading or feedback-trading hypothesis (Warther (1995), and Zheng (1999)). It is often stated that mutual fund flows cause security returns to rise and fall and one possible reason attributed for this is the “price pressure hypothesis” (Harris et al. 1986; Shleifer, 1986). Price pressure theory suggests that increased inflows into equity mutual funds stimulate a greater demand by individuals to hold stock, and this causes share prices to increase while the “information revelation” hypothesis (Lee et al., (1991) and Warther, (1995)) suggests that if mutual fund investors possess information or if they trade in the same direction as another group of investors who possess information, then their trades will reveal or be associated with new information.

Traditionally, the finance literature has devoted limited attention to the development of the mutual fund industry and, in particular, to the impact that the competition among mutual fund families has on the stock market (Berk and Green, 2002). Hence, this study distinguishes itself from prior work in several ways. The study extends earlier studies by placing additional emphasis on role of market fundamentals and risk in examining the relationship between the mutual fund flows and stock market returns. The study focuses on the Indian capital market, namely the National Stock Exchange (NSE), and US capital market, where the interaction between mutual funds flows and security returns is intense and the actions of the institutional investors have significant effect both on the behavior of the investors and on the prices of the securities listed in the NSE and NYSE. Thus, the overall objective is to examine whether the information on mutual fund flows can be used to predict the changes in market returns and volatility.

STOCK MARKET RETURN AND VOLATILITY

Return is a measure of a fund’s performance that takes three factors into account: income dividends, capital gains distributions, and share price appreciation/depreciation over a specified period of time.

Stock market volatility is the systematic risk faced by investors who hold a market portfolio (e.g., a stock market index fund). Finance theory suggests that stock market returns rather than volatility have predictive power for investment and output because stock market returns are a forward-looking variable that incorporates expectations about future cash flows and discount rates.

When the stock market goes up one day, and then goes down for the next five, then up again, and then down again, that’s what you call stock market volatility.

29Associate Professor, Prestige Institute of Management, Madhya Pradesh, India, singh.tarika@gmail.com

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Volatility

Volatility is a measure of dispersion around the mean or average return of a security. One way to measure volatility is by using the standard deviation, which tells you how tightly the price of a stock is grouped around the mean or moving average (MA). When the prices are tightly bunched together, the standard deviation is small. When the price is spread apart, you have a relatively large standard deviation for securities, the higher the standard deviation, the greater the dispersion of returns and the higher the risk associated with the investment. As described by modern portfolio theory (MPT), volatility creates risk that is associated with the degree of dispersion of returns around the average. In other words, the greater the chance of lower than expected return, the riskier the investment. Another way to measure volatility is to take the average range for each period, from the low price value to the high price value. This range is then expressed as a percentage of the beginning of the period. Larger movements in price creating a higher price range result in higher volatility. Lower price ranges result in lower volatility.

REVIEW OF LITERATURE

Karen (2010) assessed the simultaneous relation between fund flows and fund returns and show that current month flows and returns play a key role in understanding the flow/performance linkage. Cao et al (2008) studied the dynamic relation between aggregate mutual fund flow and market-wide volatility. They documented a differential impact of daily inflow versus outflow on intraday volatility. The relation between intraday volatility and inflow (outflow) becomes weaker (stronger) from morning to afternoon.

Beaumont et al (2008) investigated the impact of individual investor sentiment on the return process and conditional volatility of three main US market indices (Dow Jones Industrial Average, S&P500 and Nasdaq100). They found that sentiment has a significant and asymmetric impact on volatility, increasing it more when sentiment is bearish. They found evidence for the “hold more” effect, which states that when noise traders hold more of the asset, they also see their returns increase, and the “create space” effect, which states that noise traders are reward for the additional risk they generate themselves.

Frazzin and Lamont (2008) used mutual fund flows as a measure of individual investor sentiment for different stocks, and find that high sentiment predicts low future returns. High sentiment also is associated with high corporate issuance, interpretable as companies increasing the supply of shares in response to investor demand. Karou and Meier (2007) investigated the characteristics of new U.S. equity mutual funds and the relation between funds starts and stock markets and predicted that, on average, new funds have higher performance, higher fees, higher turnover, and attract higher net in owns than existing funds. Brown et al (2007) analyzed the first evidence that mutual funds appear to overreact when they herds in their trades—stocks heavily bought by herds tend to underperform their size, book-to market and momentum cohorts during the following year, while stocks heavily sold outperform.

Getmansky (2006) indicated that hedge fund flow and return dynamics are complicated by the complex structure of the industry.

Alexakis et al (2005) investigated and found that there is a bi directional causality between mutual fund flows and stock returns. Co integration results show that mutual funds flows cause stock returns to rise or fall.

Ling and Naranjo (2004) found evidence that REIT mutual fund flows are significantly and positively related to prior returns, while prior REIT mutual fund flows do not significantly influence REIT returns. Comer (2003) found that the inclusion of bond indices and a bond-timing variable in a multi-factor Treynor and Mazuy model framework leads to substantially different conclusions concerning the stock market timing performance of these funds. Relative to the results from the multi-factor Treynor Mazuy model find less stock timing ability over the 1981-1991 times.

Massa (2003) studied and argued that an increase in the cost of generating information reduces the amount of information collected and the level of the fees charged and increases the number of competing funds. The presence of more and relatively less informed funds affects the stock market, increasing liquidity and stock cross-correlations and reducing volatility and Prices. Luo (2003) found that the negative relation between stock fund flows and market volatility is not entirely driven by the persistency of volatility over time or the relation between risks and returns.

Chang and Wang (2002) investigated impact of institutional trading on the market examining the daily relation between aggregate flow into U.S. equity funds and market volatility and their empirical result showed that there exists an asymmetric concurrent relationship fund flow and market volatility: fund inflow is negatively correlated with market volatility while fund outflow is negatively correlated with market volatility. Guo (2002) showed that there is a close link between stock market returns and volatility.
Greene and Hodges (2001) examined how mutual fund flow flows and return are related. Mutual fund are correlated with subsequent fund returns can have a dilution impact on the performance of open-end funds. Active trading of open-end funds has a meaningful economic impact on the returns of passive, no trading shareholders, particularly in U.S.-based international funds.

Edelen and Warner (2001) studied the relation between market returns and aggregate flow into U.S. equity funds, using daily flow data. Tests show that this concurrent relation reflects flow and institutional trading affecting returns.

Warther (2000) found evidence of a positive relation between flows and subsequent returns and evidence of a negative relation between returns and subsequent flows. Edwards and Zhang (2000) investigated the relationship between aggregate monthly mutual funds flow and stock and bond monthly returns during a 30 year period beginning January 1961 utilizing Granger causality and instrumental variable analysis. With one exception, flows into stock and bond funds have not affected either stocks or bond return.

Edelen and Warner (1999) major finding using monthly data is a strong positive concurrent relation between stock market returns and unexpected aggregate cash inflow into equity mutual funds. Busse (1999) showed that funds decrease market exposure when market volatility is high. The systematic risk of surviving funds is especially sensitive to market volatility where that of non-survivors is not significant differently from randomly formed portfolio of stocks. Conditional alphas indicate that fund performance is especially enhanced during the period of high conditional market volatility. Remolona et al (1997) suggested if returns have such an effect on flows and flows have a strong effect on returns, then the implied positive-feedback process might lead to a self-sustaining decline in asset prices.

Most of the former studies (Warther (1995), Potter (1996), and Remelona et al. (1997), Edwards and Zhang (1998), Potter and Schneeweis (1998), Papadamou and Siriopoulos (2002), Mosebach and Najand (1999)) used monthly data, to examine the relationship between mutual fund Flows and stock returns. Using the quarterly data of S&P CNX Nifty Index, NEW YORK STOCK EXCHANGE the study examines contemporaneous and causal relations not only between mutual fund flows and Market returns but also between mutual fund flows and volatility of returns.

**OBJECTIVES OF STUDY**

- To find out causal relationship between Mutual Fund Flows and stock market return.
- To find out causal relationship between Mutual Fund Flows and volatility.
- To open new vistas for further research.

**RESEARCH METHODOLOGY**

The study is descriptive in nature. Total population is from National Stock Exchange of India: S&P CNX Nifty indices & Indian mutual fund market and New York Stock Exchange indices & US mutual fund market for the study time period last 6 year (FY2004-05 to 2009-10). Sample size is of two indices of US and India. Purposive Sampling technique is used. Secondary data is collected through the official website of NSE and MFs India & NYSE and US mutual fund.

**Tools used for Data Analysis**

- Net Flows = Total Purchase - Total Sales
- Return = Today – Previous / Previous * 100

VAR model is used to test relationship between mutual fund flows and market returns,

\[ R_t = \alpha + \alpha_1 F_t + \epsilon_t \]

A VAR model including S&P CNX Nifty & NYSE stock index returns and mutual fund flows can be expressed as:

\[ R_t = \alpha + \sum_{i=1}^{m} \beta_i R_{t-i} + \sum_{i=1}^{m} \gamma_i F_{t-i} + \epsilon_{RF} \]

and

\[ F_t = \eta + \sum_{i=1}^{m} \mu_i R_{t-i} + \sum_{i=1}^{m} \pi_i F_{t-i} + \epsilon_{FR} \]
Where $R_t$ and $F_t$ represent stock index returns, mutual fund flows.

Granger causality test is used for casual relationship.

$$Y_t = \alpha_0 + \sum_{i=1}^{k} \alpha_i X_{t-i} + \sum_{j=1}^{k} \beta_j Y_{t-j} + \xi_t$$

RESULTS AND DISCUSSIONS

The data set comprises of quarterly market index of S&P CNX Nifty Index of National Stock Exchange of India Limited and the NYSE Composite index of New York stock exchange. The series span the period from 1st January 2004 to 31th March 2010. From that price data, quarterly returns were calculated. In every given day, the mutual fund flows in stock market can be aggregated and summarized into two basic measures: sale and purchase, and a corresponding overall measure of net (total purchase – total sales). Hence, in this study researcher has used mutual fund variable, standardized net flow denoted as the difference between total purchases and total sales volumes.

To study the relationship between mutual fund flows and volatility, the quarterly market volatility estimate is needed. Volatility is unobservable, hence in this study, return variance (volatility) of the S&P CNX Nifty and NYSE Index is estimated using the EGARCH (1,1) model proposed by Nelson (1991). The EGARCH model accounts for the time varying volatility process with asymmetric responses to both positive and negative price changes.

Graphical Representation of Volatility

The Following diagram shows the volatility pattern for mutual fund flow and stock return for the study time. Factor affect the volatility are region and country economic factors, such as tax and interest rate policy, contribute to the directional change of the market and thus volatility. For example, in many countries, the central bank sets the short-term interest rates for overnight borrowing by banks. When they change the overnight rate, it can cause stock markets to react, sometimes violently. Changes in inflation trends influence the long-term stock market trends and volatility. Expanding price-earnings ratios (P/E ratio) tend to correspond to economic periods when inflation is either falling or is low and stable. This is when markets experience low volatility as they tend higher. On the other hand, periods of falling P/E ratios tend to relate to rising or higher inflation periods when prices are more unstable. This tends to cause the stock markets to decline and experience higher volatility. Industry and sector factors can also cause increased stock market volatility. For example, in the oil sector, a major weather storm in an important producing area can cause prices of oil to jump up. This increased volatility affects overall markets as well as individual stocks: (1) Graph showing volatility for NYSE and (2) Graph showing volatility for S&PCNX Nifty. Graph (3) & (4) Graph showing volatility show mutual fund volatility relatively in the Indian mutual fund and US fund.

Graph-1
Descriptive Statistics and Normality Check

The descriptive statistics and Jarque-Bera test results of all financial time series (log-returns) are presented in the Table 1.

Table-1: Descriptive Statistics and Jarque-Bera Test Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Max.</th>
<th>Min.</th>
<th>Standard Dev.</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>jarque-Bera</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSE</td>
<td>9869.593</td>
<td>4615.84</td>
<td>1380.098</td>
<td>-0.045523</td>
<td>2.287942</td>
<td>0.536788</td>
<td>Ho is accepted</td>
</tr>
<tr>
<td>S&amp;P</td>
<td>5834</td>
<td>1495.1</td>
<td>1267.105</td>
<td>0.064341</td>
<td>1.840671</td>
<td>1.417295</td>
<td>Ho is accepted</td>
</tr>
<tr>
<td>US FUND</td>
<td>1340</td>
<td>-1752</td>
<td>664.4673</td>
<td>-0.662412</td>
<td>4.116545</td>
<td>3.126909</td>
<td>Ho is accepted</td>
</tr>
<tr>
<td>INDIA FUND</td>
<td>369261</td>
<td>-19619.3</td>
<td>77088.79</td>
<td>3.704706</td>
<td>16.73485</td>
<td>253.6931</td>
<td>Ho is rejected</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

The Jarque–Bera test is a goodness-of-fit measure of departure from normality, based on the sample kurtosis and skewness. The above table shows that the data of both the indices is normally distributed. Therefore, the null hypothesis of normality is accepted for US Mutual Fund Data. However, in case of Indian mutual fund data, the null hypothesis is rejected i.e. means residues are not normally distributed. In Indian mutual fund Jarque–Bera, value is lower at 5% (5.9815) level of significant, which implies that acceptance of alternative hypothesis. While US fund has stationary value while Indian MF, series is non-stationery.

Unit Root Tests

To test the stationarity of mutual fund flows and stock indices return, ADF test and PP test for unit root stationery is applied.

ADF TEST

This test is to see if an econometric model estimated has a unit root or not, i.e. if I is zero order (0) or is of order I I (1).

PP TEST

It is a generalization of the proceedings of the DF, but unlike this, allows for autocorrelation and heteroscedasticity in the error term, which consists of three data generating processes: model without deterministic component, model and model intercept intercept and trend; however, it is not the augmented, so this test is a nonparametric solution, i.e. not follow any known distribution.

$$\Delta Y_t = \Delta \beta + p Y_{t-1} + \Delta \epsilon$$

Hypothesis Formulation

The hypothesis is prepared to check out whether the dependent variable (returns of stock indices) is stationary or not and whether it has any unit root or not. The testing for stationarity is formulated in the statistical hypothesis-testing framework as a test of the following hypothesis:

- **Null Hypothesis, Ho:** The dependent variable (returns of stock indices) is not stationary and it has a unit root.
- **Alternative Hypothesis, H1:** The dependent variable (returns of stock indices) is stationary and it has no unit root.

The results presented in the Table-2 show that there do not exit any unit root problem and the series are stationary.

Table-2: The ADF and P-P Tests Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF Test</th>
<th>ADF Test Results</th>
<th>P-P Test</th>
<th>P-P Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYSE</td>
<td>-2.264376</td>
<td>Null hypothesis is rejected</td>
<td>-1.68774</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td>S&amp;P</td>
<td>-1.115997</td>
<td>Null hypothesis is rejected</td>
<td>1.115997</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td>US FUND</td>
<td>-3.19397</td>
<td>Null hypothesis is rejected</td>
<td>-2.61434</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td>INDIA FUND</td>
<td>-1.118723</td>
<td>Null hypothesis is accepted</td>
<td>-4.6631</td>
<td>Null hypothesis is accepted</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Result from the above shows that in all the case, the dependent variable (returns of stock indices) is stationary and it has no unit root except for the data of the Indian mutual fund market.
E-GARCH ESTIMATION FOR CHECKING ASYMMETRIC RELATIONSHIP

EGARCH models capture the most important stylized features of stock return volatility, namely time-series clustering, negative correlation with returns, log normality, and under certain specifications, long memory (e.g., Andersen, Bollerslev, Diebold, and Ebens 2001). The other feature to our approach is the use of range data, which has several advantages relative to the use of absolute or squared return data. The range is a much more efficient volatility proxy, a fact known at least since the work of Parkinson (1980) and recently formalized by Andersen and Bollerslev (1998). Of course, we are not the first to point out the benefits of the EGARCH framework, of multifactor volatility models, or of range-based volatility estimation. Specifically, Nelson (1989, 1991), Pagan and Schwert (1990), and Hentschel (1995) have advocated EGARCH models, among others. Related work on multifactor volatility models includes that of Engle and Lee (1999), Gallant, Hsu, and Tauchen (1999), Alizadeh et al. (2002), Chernov, Ghysels, Gallant, and Tauchen (2003), Barndorff-Nielsen and Shephard (2001), and Bollerslev and Zhou (2002). Finally, the literature on range-based volatility estimation includes work of Parkinson (1980), Garman and Klass (1980), Schwert (1990), Gallant et al. (1999), Yang and Zhang (2000), Alizadeh et al. (2002), Brandt and Diebold (2006), and Chou (2005), among others.

Tests of No Causality in Mean Effect

EGARCH model is estimated with fund flows in the mean equation. It observed that market returns are highly related with net fund flows. The hypothesis is prepared to check out whether there is any impact of dependent variable (returns of stock indices S&P and NYSE) on independent variable (Indian fund and US mutual fund flow).

Null Hypothesis, Ho: The dependent variable (returns of stock indices S&P and NYSE) does not have any asymmetric relationship with independent variable (Indian fund and US mutual fund flow).

Alternative Hypothesis, H1: The dependent variable (returns of stock indices S&P and NYSE) have an asymmetric relationship with independent variable (Indian fund and US mutual fund flow).

Table showing Test Results of EGARCH with Gaussian distribution for Returns of Stock Indices

<table>
<thead>
<tr>
<th>Variables</th>
<th>C(2)</th>
<th>C(3)</th>
<th>C(4)</th>
<th>C(5)</th>
<th>C(6)</th>
<th>Results</th>
<th>Fund Flow Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P</td>
<td>3.685562</td>
<td>1.805930</td>
<td>0.298886</td>
<td>0.618875</td>
<td>-1.63E-06</td>
<td>6.409251</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td>NYSE</td>
<td>2.728008</td>
<td>-0.572249</td>
<td>0.474425</td>
<td>0.839249</td>
<td>0.000175</td>
<td>3.469608</td>
<td>Null hypothesis is rejected</td>
</tr>
</tbody>
</table>

The above table shows that there is a significant asymmetric relationship between stock return volatility and mutual fund flow. In both the country null hypothesis is rejected at 5% level of significant, which shows the market has an asymmetry impact of inflow and outflow. Increase in aggregate in net flow are accompanied by less volatile market, however Increase in aggregate net outflow are accompanied with more volatile market

Granger Causality Test

The study also examined the Granger causality between volatility and flow based on the VAR results. The other objective of the study is to investigate the dynamics relation between mutual fund flow and market volatility, hence, the focus is to test (1) whether flow Granger-causes market volatility and (2) weather volatility Granger-causes flow.

The Granger causality test (1969) is a test of the predictability of time-series models. Granger causality means that if Xt Granger-causes Yt, then Xt is a useful predictor of Yt, given the other variables in the regression. The Granger causality test is based on the F-statistic testing the null hypothesis that the coefficients on all the values of one of the variables in the following equation are zero.

\[ Y_t = \alpha_0 + \sum_{i=1}^{k} \alpha_i X_{t-i} + \sum_{j=1}^{k} \beta_j Y_{t-j} + \epsilon_t \]

The null hypothesis implies that the repressors have no predictive content for yet beyond that contained in the other repressors, and the test of this null hypothesis is called the Granger causality test.
The results reject the null hypothesis that mutual fund flow does not Granger-cause market volatility at the 5% significance level for both VAR specifications. The chi-square statistics for the null hypothesis states, “Fund flow does not granger because Volatility” and “Stock return does not granger cause Volatility”. These results do not support earlier finding that flow has a significant impact on volatility and vice versa.

**VAR Estimation**

In our bi-variate VAR, the coefficients of market volatility and fund flows with one-day lag characterize the relationship between volatility and fund flow. Table below reports coefficient estimates of the bivariate VAR models. The lag length is selected based on the SBIC criteria.

**Null Hypothesis Ho:** there is no association between mutual fund flow and stock market return & volatility of the indices.

**Alternative Hypothesis H1:** there is association between mutual fund flow and stock market return & volatility of the indices

### Table-5: The VAR Tests Results

<table>
<thead>
<tr>
<th>Country</th>
<th>Variable</th>
<th>value</th>
<th>t-Statistic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>NYSE</td>
<td>1.070678</td>
<td>7.30167</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td></td>
<td>US Fund</td>
<td>0.900496</td>
<td>4.33886</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td>India</td>
<td>S&amp;P</td>
<td>1.075787</td>
<td>5.57081</td>
<td>Null hypothesis is rejected</td>
</tr>
<tr>
<td></td>
<td>Indian Fund</td>
<td>0.002972</td>
<td>2.21165</td>
<td>Null hypothesis is rejected</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

Above table shows that in both the country null hypothesis has been rejected. The results suggest that market volatility & stock is positively related to flows and flow has a positive impact on subsequent market volatility in US and India. The results tell mutual fund has impact on the stock market and stock market has impact on the mutual fund market.

**CONCLUSION**

In this study, researcher has investigated the interaction between mutual fund flows and stock market returns and volatility in financial market of US and India. The results based on the relationship using quarterly data for the NYSE and S&P from 2004-2010, suggest that a positive relationship exist between stock market returns and mutual fund flows. The study is expected to shed light on the impact of institutional trading in mutual fund on the market and is of the important to the investor, practitioners, academicians, and scholars. In result, section firstly shows graphical representation of the volatility of the market during the study time. Secondly, Jarque-Bera is used test to check the normality of returns. Stationary of data is analyzed by units root test. Relationship symmetry is checked through Engarch test that give symmetric relation.

In order to investigate the causal relationship between mutual fund flows and market returns, Granger causality test has been performed in the VAR framework. The statistical evidence suggests that mutual fund flow sales are significantly affected by return in the market. The other objective of the study was to examine the dynamic relationship between aggregate mutual fund flow and market-wide volatility. The results based on the simultaneous relationship using quarterly data suggest that a strong
positive relationship exists between stock market volatility and mutual fund flows. VAR approach suggests that market volatility has significant relation with mutual fund flows. Overall, the study enabled to shed light on the importance of the relationship between mutual fund flows and market returns and mutual fund flows and volatility. Regulators can consider the bidirectional influence of fund flows and volatility of stock market and the fund flows changes in the market returns affects fund flows in their policy decisions. Further research on the mutual fund industry, possibly on an individual mutual fund level and the complementary use of event studies, may help in improving our understanding of the relationship between mutual fund flows and stock returns.

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REGULATORY FRAMEWORK OF BANKING, INSURANCE AND TELECOM SECTOR IN INDIA

Dr. P. Vijaya Laxmi30 Dr. U. Kanaka Rao31

ABSTRACT

In this paper, an attempt is made to understand regulatory framework of Banking, Insurance and Telecom sectors that are playing vital role in the country’s economic development. A regulatory body is like a professional body but it is not a membership organization and its primary activity is to protect the public. Unlike professional bodies, it is established based on legal mandate. The Banking sector in India has always been one of the most preferred destinations for employment. In this decade, this sector has emerged as a sunrise sector in the Indian economy. Banking sector index has grown at a compounded annual rate of over 51 per cent since the year 2001. The insurance industry of India consists of 53 insurance companies of which 24 are in life insurance business and 29 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. Indian telecommunication industry is the second largest in the world based on the total number of telephone users both fixed and mobile phones. It has one of the lowest call tariffs in the world enabled by the mega telephone networks and hyper-competition among them. There is a need of regulatory body to regulate the services rendered by the above-mentioned sectors.

BANKING SECTOR IN INDIA

The Banking sector in India has always been one of the most preferred destinations for employment. In this decade, this sector has emerged as a sunrise sector in the Indian economy. Banking sector index has grown at a compounded annual rate of over 51 per cent since the year 2001. The Banking Industry is recruiting in a big way. In the next five years, banks will have to recruit almost 7.5 lakh people. Now, banks have diversified their activities and getting into new products and services that include opportunities in credit cards, consumer finance, wealth management, life and general insurance, investment banking, mutual funds, pension fund regulation, stock broking services, custodian services and private equity etc. Further, most of the leading Indian banks are going global, setting up offices in foreign countries themselves or through their subsidiaries. The expansion of the banking sector and its convergence with the other financial sectors such as insurance, NBFCs and Capital markets, retirement of the existing employees and financial inclusion have created more number of opportunities in the banking sector.

Indian Banking Sector Credit Growth Has Grown at a Healthy Pace

- Credit off-take has been surging ahead over the past decade, aided by strong economic growth, rising disposable incomes, increasing consumerism and easier access to credit.
- Total credit extended went up to US$ 1,089 billion by FY15.
- Credit to non-food industries increased 9.75 per cent to US$ 1,073.4 billion in FY15, from the previous financial year.
- Demand has grown for both corporate and retail loans.

Growth in Deposits Over Past Few Years

Graph-1

Sources: Authors Compilation

30Professor, Swarna Bharathi Institute of Science & Technology, Telangana, India, vijay-eluri@yahoo.com
31Associate Professor, Department of Business Management, Swarna Bharathi Institute of Science & Technology, Telangana, India, dr.ukrao2015@gmail.com
Investments and Developments

- In the past few months, there have been many investments and developments in the Indian banking sector.
- Global rating agency Moody's has upgraded its outlook for the Indian banking system to stable from negative based on its assessment of five drivers including improvement in operating environment and stable asset risk and capital scenario.
- Lok Capital, a private equity investor backed by US-based non-profit organisation Rockefeller Foundation, plans to invest up to US$ 15 million in two proposed small finance banks in India over the next one year.
- The Reserve Bank of India (RBI) has granted in-principle licenses to 10 applicants to open small finance banks, which will help expanding access to financial services in rural and semi-urban areas.
- IDFC Bank has become the latest new bank to start operations with 23 branches, including 15 branches in rural areas of Madhya Pradesh.
- The RBI has given in-principle approval to 11 applicants to establish payment banks. These banks can accept deposits and remittances, but are not allowed to extend any loans.
- The Bank of Tokyo-Mitsubishi (BTMU), a Japanese financial services group, aims to double its branch count in India to 10 over the next three years and target a 10 per cent credit growth during FY16.

Government Initiatives

- The government and the regulator have undertaken several measures to strengthen the Indian banking sector.
- The Government of India is looking to set up a special fund, as a part of National Investment and Infrastructure Fund (NIIF), to deal with stressed assets of banks. The special fund will potentially take over assets which are viable but do not have additional fresh equity from promoters coming in to complete the project.
- The Reserve Bank of India (RBI) plans to soon come out with guidelines, such as common risk-based know-your-customer (KYC) norms, to reinforce protection for consumers, especially since a large number of Indians have now been financially included post the government’s massive drive to open a bank account for each household.
- To provide relief to the state electricity distribution companies, Government of India has proposed to their lenders that 75 per cent of their loans be converted to state government bonds in two phases by March 2017. This will help several banks, especially public sector banks, to offload credit to state electricity distribution companies from their loan book, thereby improving their asset quality.

ROLE RBI IN REGULATING BANKING SECTOR

Reserve Bank of India is the apex monetary Institution of India. It is also called as the central bank of the country. The Reserve Bank of India was established on April 1, 1935 in accordance with the provisions of the Reserve Bank of India Act, 1934. The Central Office of the Reserve Bank was initially established in Calcutta but was permanently moved to Mumbai in 1937. The Central Office is where the Governor sits and where policies are formulated. Though originally privately owned, since nationalization in 1949, the Reserve Bank is fully owned by the Government of India. It acts as the apex monetary authority of the country. The Central Office is where the Governor sits and is where policies are formulated. Though originally privately owned, since nationalization in 1949, the Reserve Bank is fully owned by the Government of India.

It was established in April 1935 with a share capital of Rs. 5 crores based on the recommendations of the Hilton Young Commission. The Reserve Bank of India Act, 1934 was commenced on April 1, 1935. The Act, 1934 (II of 1934) provides the statutory basis of the functioning of the Bank. In accordance with the provisions of the RBI Act, 1934 with the main functions as:

- Operating monetary policy with the aim of maintaining economic and financial stability and ensuring adequate financial resources for development purposes;
- Meeting the currency requirement of the public;
- Promotion of an efficient financial system;
- Foreign exchange reserve management;
- The conduct of banking and financial operations of the government.

Main Functions

- Restructuring of the system of bank inspections,
- Introduction of off-site surveillance,
- Strengthening of the role of statutory auditors, and
- Strengthening of the internal defenses of supervised institutions.
Current Focus

- Supervision of financial institutions,
- Consolidated accounting,
- Legal issues in bank frauds,
- Divergence in assessments of non-performing assets, and
- Supervisory rating model for banks.

Monetary Authority

- Formulates implements and monitors the monetary policy.
- Objective: Maintaining price stability and ensuring adequate flow of credit to productive sectors.

Regulator and Supervisor of the Financial System

- Prescribes broad parameters of banking operations within which the country is banking and financial system functions.
- Objective: Maintain public confidence in the system, protect depositors' interest and provide cost-effective banking services to the public.

Manager of Foreign Exchange

- Objective: To facilitate external trade and payment and promote orderly development and maintenance of foreign exchange market in India.

Issuer of Currency

- Issues and exchanges or destroys currency and coins not fit for circulation.
- Objective: To give the public adequate quantity of supplies of currency notes and coins in good quality.

Related Functions

- Banker to the Government: performs merchant banking function for the central and the state governments; also acts as their banker.
- Banker to banks: maintains banking accounts of all scheduled banks.

Recommendations of the Raghuram Rajan Committee on Financial Sector Reforms

- Entry to private well-governed deposit-taking small finance banks.
- Liberalizing banking correspondent regulations so that local agents can extend financial services.
- Financial inclusion strategy not only to focus on credit but also payment services, savings product etc.
- Offer priority sector loan certificates (PSLC) to all entities that lend to eligible categories in the priority sector.
- Create stronger boards for large public sector banks, with more power to outside shareholders.

INSURANCE SECTOR IN INDIA

The insurance industry of India consists of 53 insurance companies of which 24 are in life insurance business and 29 are non-life insurers. Among the life insurers, Life Insurance Corporation (LIC) is the sole public sector company. Apart from that, among the non-life insurers there are six public sector insurers. In addition to these, there is sole national re-insurer, namely, General Insurance Corporation of India (GIC Re). Other stakeholders in Indian Insurance market include agents (individual and corporate), brokers, surveyors and third party administrators servicing health insurance claims.

Out of 29 non-life insurance companies, five private sector insurers are registered to underwrite policies exclusively in health, personal accident and travel insurance segments. They are Star Health and Allied Insurance Company Ltd, Apollo Munich Health Insurance Company Ltd, Max Bupa Health Insurance Company Ltd, Religare Health Insurance Company Ltd and Cigna TTK Health Insurance Company Ltd. There are two more specialized insurers belonging to public sector, namely, Export Credit Guarantee Corporation of India for Credit Insurance and Agriculture Insurance Company Ltd for crop insurance.
Market Size

- India's life insurance sector is the biggest in the world with about 360 million policies, which are expected to increase at a Compound Annual Growth Rate (CAGR) of 12-15 per cent over the next five years. The insurance industry plans to hike penetration levels to five per cent by 2020.
- The country’s insurance market is expected to quadruple in size over the next 10 years from its current size of US$ 60 billion. During this period, the life insurance market is slated to cross US$ 160 billion.
- The general insurance business in India is currently at Rs 78,000 crore (US$ 11.7 billion) premium per annum industry is growing at a healthy rate of 17 per cent.
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- The general insurance business in India is currently at Rs 78,000 crore (US$ 11.7 billion) premium per annum industry and is growing at a healthy rate of 17 per cent.
- The Indian insurance market is a huge business opportunity waiting to be harnessed. India currently accounts for less than 1.5 per cent of the world’s total insurance premiums and about 2 per cent of the world’s life insurance premiums despite being the second most populous nation. The country is the fifteenth largest insurance market in the world in terms of premium volume, and has the potential to grow exponentially in the coming years.

Here Are Some Performance Highlights of the Indian Insurance Industry

<table>
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<tbody>
<tr>
<td>Premium Underwritten (Rs in Crores)</td>
<td>239667.65</td>
<td>236942.30</td>
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<tr>
<td>New Policies Issued (in Lakhs)</td>
<td>201.71</td>
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<tr>
<td>Number of Offices</td>
<td>4877</td>
<td>63.60</td>
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<tr>
<td>Individual Death Claims (Number of Policies)</td>
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<tr>
<td>Individual Death Claims Amount Paid (Rs in Crores)</td>
<td>9055.18</td>
<td>2733.49</td>
</tr>
<tr>
<td>Group Death Claims (Number of lives)</td>
<td>273794</td>
<td>192989</td>
</tr>
<tr>
<td>Group Death Claims Amount Paid (Rs in Crores)</td>
<td>2037.27</td>
<td>1483.55</td>
</tr>
<tr>
<td>Individual Death Claims (Figures in per cent of policies)</td>
<td>98.19</td>
<td>98.14</td>
</tr>
<tr>
<td>Group Death Claims (Figures in per cent of lives covered)</td>
<td>99.64</td>
<td>99.65</td>
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<tr>
<td>No. of Grievances reported during the year</td>
<td>80944</td>
<td>85284</td>
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<tr>
<td>Grievances resolved during the year</td>
<td>80944</td>
<td>85828</td>
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<tr>
<td>Grievance Resolved (in percent)</td>
<td>100.00</td>
<td>99.83</td>
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<tr>
<td>Premium Underwritten (Rs in Crores)</td>
<td>42549.48</td>
<td>38599.71</td>
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<tr>
<td>New Policies Issued (in Lakhs)</td>
<td>677.82</td>
<td>600.06</td>
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<tr>
<td>Number of Offices</td>
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<tr>
<td>Net Incurred Claims (Rs in Crores)</td>
<td>31567.75</td>
<td>27817.96</td>
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<tr>
<td>Number of Grievances reported during the year</td>
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<td>17658</td>
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<tr>
<td>Grievances Resolved During the Year</td>
<td>16105</td>
<td>18083</td>
</tr>
<tr>
<td>Grievance Resolved (in percent)</td>
<td>101.54</td>
<td>99.95</td>
</tr>
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</table>

The Government of India has taken a number of initiatives to boost the insurance industry. Some of them are as follows:

- The following are some of the major investments and developments in the Indian insurance sector.
- Foreign Direct Investment in the insurance sector stood at US$ 341 million in March-September, 2015, showing a growth of 152 per cent compared to the same period last year.
- Insurance firm AIA Group Ltd has decided to increase its stake in Tata AIA Life Insurance Co Ltd, a joint venture owned by Tata Sons Ltd and AIA Group from 26 per cent to 49 per cent.
- Canada-based Sun Life Financial Inc. plans to increase its stake from 26 per cent to 49 per cent in Birla Sun Life Insurance Co Ltd, a joint venture with Aditya Birla Nuvo Ltd, through buying of shares worth Rs 1,664 crore (US$ 249 million).
- Nippon Life Insurance, Japan’s second largest life insurance company, has signed definitive agreements to invest Rs 2,265 crore (US$ 348 million) in order to increase its stake in Reliance Life Insurance from 26 per cent to 49 per cent.
- The Central Government is planning to launch an all-in-one insurance scheme for farmers called the Unified Package Insurance Scheme (Bhartiya Krishi Bima Yojana). The proposed scheme will have various features like crop insurance, livestock insurance, insurance cover for agriculture implements like tractors and pump sets, student safety insurance and life insurance.

**Government Initiatives**

- The Government of India has taken a number of initiatives to boost the insurance industry. Some of them are as follows:
- The Insurance Regulatory and Development Authority (IRDA) of India has formed two committees to explore and suggest ways to promote e-commerce in the sector in order to increase insurance penetration and bring financial inclusion.
- IRDA has formulated a draft regulation, IRDAI (Obligations of Insurers to Rural and Social Sectors) Regulations, 2015, in pursuance of the amendments brought about under section 32 B of the Insurance Laws (Amendment) Act, 2015. These regulations impose obligations on insurers towards providing insurance cover to the rural and economically weaker sections of the population.
- The Government of India has launched two insurance schemes as announced in Union Budget 2015-16. The first is Pradhan Mantri Suraksha Bima Yojana (PMSBY), which is a Personal Accident Insurance Scheme. The second is Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJ-JBY), which is the government’s Life Insurance Scheme. Both the
schemes offer basic insurance at minimal rates and can be easily availed of through various government agencies and private sector outlets.  
- The Uttar Pradesh government has launched a first of its kind banking and insurance services helpline for farmers where individuals can lodge their complaints on a toll free number.  
- The select committee of the Rajya Sabha gave its approval to increase stake of foreign investors to 49 per cent equity investment in insurance companies.  
- Government of India has launched an insurance pool to the tune of Rs 1,500 crore (US$ 226 million) which is mandatory under the Civil Liability for Nuclear Damage Act (CLND) in a bid to offset financial burden of foreign nuclear suppliers.

**ROLE OF IRDAI IN REGULATING INSURANCE SECTOR**

It is an autonomous apex statutory body, which regulates and develops the insurance industry in India. It was constituted by a Parliament of India act called Insurance Regulatory and Development Authority Act, 1999 and duly passed by the Government of India. The agency operates from its headquarters at Hyderabad, Telangana where it shifted from Delhi in 2001. IRDAI battled for a hike in the foreign direct investment (FDI) limit to 49 per cent in the insurance sector from the erstwhile 26 per cent. The FDI limit in insurance sector was raised to 49% in July 2014.

**IRDA’s Mission**

To protect the interests of policyholders, to regulate, promote and ensure orderly growth of the insurance industry and for matters connected therewith or incidental thereto. IRDAI regulate the Indian insurance industry to protect the interests of the policyholders and work for the orderly growth of the industry.

- 1993: Committee on Reforms in the Insurance Sector, headed by Mr. R. N. Malhotra, (Retired Governor, Reserve Bank of India) set up to recommend reforms.  
- 1994: The Malhotra Committee recommends certain reforms having studied the sector and hearing out the stakeholders.

**Some Recommended Reforms**

- Private sector companies should be allowed to promote insurance companies.  
- Foreign promoters should also be allowed.  
- Government to vest its regulatory powers on an independent regulatory body answerable to Parliament.

**IRDA’s Activities**

- Frames regulations for insurance industry in terms of Section 114A of the Insurance Act 1938.  
- From the year, 2000 has registered new insurance companies in accordance with regulations.  
- Monitors insurance sector activities for healthy development of the industry and protection of policyholders’ interests.

**INDIAN TELECOM SECTOR**

Indian telecommunication industry is the second largest in the world based on the total number of telephone users both fixed and mobile phones. It has one of the lowest call tariffs in the world enabled by the mega telephone networks and hyper-competition among them. The history of Indian telecom started with the introduction of telegraph. The Indian postal and telecom sectors are one of the world’s oldest services. In 1850, the first experimental electric telegraph line was started between Calcutta and Diamond Harbor. In 1851, it was opened for the use of the British East India Company. The Posts and Telegraphs department occupied a small corner of the Public Works Department, at that time.

In 1880, two telephone companies namely The Oriental Telephone Company and The Anglo-Indian Telephone Company approached the government of India to establish telephone exchanges. The permission was refused because the establishment of telephones was a government monopoly and that the government itself would undertake the work. In 1881, the government revised its earlier decision and a license was granted to the Oriental Telephone Company of England for opening telephone exchanges at Calcutta, Bombay, Madras and Ahmedabad. The first formal telephone service was established in the country on 28th January 1882. The exchange in Calcutta named "Central Exchange" had 93 subscribers in its early stage. Later that year, Bombay also witnessed the opening of a telephone exchange.

The telecom industry has been divided into different segments, that is, fixed and wireless, cellular services, internet services and value added services. In today’s information age, the telecommunication industry has a vital role to play. Considered as the
backbone of industrial and economic development, the industry has been aiding the delivery of voice and data services at rapid increase in speed and thus, telecom industry has been revolutionizing human communication.

Although the Indian telecom industry is one of the fastest-growing industries in the world, the current tele-density or telecom penetration is extremely low when compared with global standards. Further, the urban tele-density is over 59.75%, while rural tele-density is 40%, as of September 2013. As the majority of the population resides in rural areas, it is important that the government take steps to improve rural tele-density. No doubt, the government has taken certain policy initiatives, which include the creation of the Universal Service Obligation Fund for improving rural telephony. These measures are expected to improve the rural tele-density and bridge the rural-urban gap in tele-density.

The Indian telecom industry is one of the fastest growing industry in the world and it is predicted that India will have a billion plus mobile users by 2015. Since the past decade, the telecommunication activities have gained momentum in India and required efforts have been made by both governmental and non-governmental platforms to enhance the infrastructure. This idea is to help modern telecommunication technologies to serve all segments of India’s culturally diverse society. According to the Telecom Regulatory Authority of India (TRAI), India’s total telephone subscriber base is 915.19 million which includes 886.30 million wireless and 28.89 million wireline connections as on October 2014.

**Role of Telecom Regulatory Authority of India (TRAI) in regulating telecom services**

The entry of private service providers brought the inevitable need for independent regulation. The Telecom Regulation Authority of India (TRAI) was established in the year 1997 by an act of parliament. Telecom Regulatory Authority of India Act, 1997, to regulate the telecommunication services and to protect the interests of service providers and consumers of telecom services. The government, through notification dated 9th January, 2004, has brought the broadcasting and cable television services within the ambit of telecommunication services in the country. In 2004, TRAI was thus vested with the powers to regulate broadcasting and cable TV services also in the country. The government continues to be the administrator for the policy and licensing function.
TRAI's Mission

TRAI’s mission is to create conditions for growth of telecommunications in the country in a manner and at a pace, which will enable India to play a leading role in emerging global information society. One of the main objectives of TRAI is to provide a fair and transparent policy environment, which promotes fair competition. Telecom Regulatory Authority of India (TRAI) has to ensure that the interests of consumers are protected and at the same time to nurture conditions for growth of telecommunications, broadcasting and cable services.

Board

The "Telecom regulatory Authority of India (Amendment) Act, 2000", the authority shall have not more than two whole-time members as well as two part-time members.

Secretariat

Advisor, Telecom Regulatory Authority of India conducts meetings on telecom related governance. TRAI functions through a secretariat headed by a secretary. All proposals for considerations are processed via secretary, which organizes the agenda for authority meetings (consulting with the Chairman), organizes preparation of minutes and issues regulations etc. in accordance to the meetings. The authority functions with a secretariat headed by a secretary and assisted by various divisions’ heads. The functional divisions of TRAI are namely Mobile Network, Interconnection & Fixed Network, Broadband and Policy Analysis, Quality of Service, Broadcasting and Cable Services, Economic Regulation, Financial Analysis, Legal, Consumer Affairs, International Relation, Administration and Personnel. Officers are selected from the premier Indian Administrative Service and Indian Revenue Service and from the Indian Telecom Service.

Regional Office of TRAI

In Bangalore, a Regional Office has been set up for ensuring compliance of tariff related guidelines and effective monitoring of retail tariff of telecommunications, broadcasting and cable services in the Kerala and Karnataka region. The current Advisor, Telecom Regulatory Authority of India is Dr. Sibichen K Mathew IRS. Earlier TRAI has been operating only from Delhi and monitors performance of operators by relying on the data received from service providers and its own agencies.

Functions of the Telecom Regulatory Authority of India

The functions of the Telecom Regulatory Authority of India are two-fold, one recommendatory and the other mandatory in nature. As per the provisions of the TRAI Act, 1997 the functions of the Authority shall be:

Recommendatory Functions

-Specifying the need and timing for introduction of new service provider.
- Specifying the terms and conditions of license to a service provider.
- Revocation of license for non-compliance of terms and conditions of license.
- Taking measures to facilitate competition and promote efficiency in the operation of telecommunication services to facilitate growth in such services.
- Bringing about technological improvement in the services provided by service providers.
- Specifying type of equipment to be used by the service provider after inspection of equipment used in the network.
- Suggesting measures for the development of telecommunication technology and any other matter related to telecommunication industry in general and managing available spectrum effectively.

Mandatory Functions

- Ensure compliance of terms and conditions of license.
- Fix the terms and conditions of inter-connectivity between the service providers.
- Ensure technical compatibility and effective inter-connection between different service providers.
- Regulate arrangement amongst service providers for sharing of revenue from providing telecommunication services.
- Lay-down the standards of quality of service to be provided by the service providers and ensure the quality of service and conduct the periodical survey of such service provided by the service providers to protect interest of the consumers of telecommunication service.
- Lay-down and ensure the time for providing local and long distance circuits of telecommunications between different service providers.
• Maintain register of inter-connect agreements and of all such other matters as may be provided in the regulations. Keep the register open for inspection to any member of public on payment of such fee and compliance of such other requirements as may be provided in the regulations.

• Ensure effective compliance of Universal Service Obligation (USO).

• Notify the rates at which the telecommunication services, within India and outside India shall be provided including rates at which message shall be transmitted to any country outside India.

• Levy fees and other charges at such rates and in respect, such services as may be determined by regulations.

• Perform such other functions including such administrative and financial functions as may be entrusted to it by the Central Government or as may be necessary to carry out the provisions of TRAI Act.

• From time to time, by order, notify in the official Gazette the rates at which the telecommunication services within India and outside India shall be provided including the rates at which message shall be transmitted to any country outside India.

CONCLUSION

The Banking Industry is recruiting in a big way. In the next five years, banks will have to recruit almost 7.5 lakh people. Now, banks have diversified their activities and getting into new products and services that include opportunities in credit cards, consumer finance, wealth management, life and general insurance, investment banking, mutual funds, pension fund regulation, stock broking services, custodian services and private equity. Out of 29 non-life insurance companies, five private sector insurers are registered to underwrite policies exclusively in health, personal accident and travel insurance segments.

Although the Indian telecom industry is one of the fastest-growing industries in the world, the current tele-density or telecom penetration is extremely low when compared with global standards. Regulatory bodies exercise a regulatory function, that is: imposing requirements, restrictions and conditions, setting standards in relation to any activity, and securing compliance, or enforcement.

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24, Saraswati Lane, Bohri,
Near Modern Dewan Beverages,
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(Mobile): +91-09419216270 – 71
INTRODUCTION

Dynamics of India¹s economic development changed significantly since 1991. Instead of treading on the path of the socialistic pattern of development, India's economic compulsions necessitated to switch over towards privatization by liberalizing the industrial policy and other regulations that could ease of doing business for private players. The end objective of such a policy should not merely be accumulation of profit for the private players but also to share part of it in complementing the public policy towards the development of social infrastructure of the economy. It is in this context Government of India drafted and implemented the Companies Act 2013. One of the important clauses introduced in the Act pertains to Section 135. According to section 135 of the Companies Act 2013, every company having a net profit of Rs 5 Crores or more shall have to spend in every financial year at least 2% of the average net profit of the three immediate preceding financial years on corporate social responsibility. The guideline issued under Section 135 of the companies act, 2013 is a simple modification of the guidelines existing earlier that were promulgated by the Central Public Sector Enterprises and Department of Public Enterprises for the companies whose profits during preceding financial year exceed Rs.500 crore which inter-alia incorporates all the Seven Maharatna Companies. Therefore, it would not be far too wrong to consider the provisions of Companies Act, 2013 regarding corporate social responsibility with retrospect effect since 2009-2010. This is all the more necessary on account of frequent changes in the provisions regarding allocation of funds for corporate social responsibility between 2009-2010 to 2013-2014 but an important commonality in these changes was that the companies whose profit after tax is 500 crore or more were mandated to allocate funds on corporate social responsibility whose range terminate at 2% of the net profit after tax of the preceding year. Moreover, for the companies the data of net profits of preceding financial year is not instantly available with the start of next financial year therefore, instead of using any crude estimate of preceding year profit it would be far better to take the preceding three-year average of profit after tax for allocating funds for the subsequent financial year. It is in this background, our purpose in this paper is to scrutinize whether since 2009-2010 the Maharatna companies has been following the norms of 2% of the average three preceding financial years profit after tax or not. In addition to this, it has also been investigated that if there exist some discrepancy between amount allocated and amount utilized by the companies.

REVIEW OF LITERATURE

Sunanda Poduwal (2013) in the article on “Section 135 – CSR Spending Estimation – BSE top 100 companies”, he estimated the CSR amount to be spent by the Companies in the financial year 2013-14 and 2014-15 and studied as to how many companies are over spending and under spending on CSR activities. His article revealed that fourteen companies out of Top hundred companies spent more than the mandatory limit (2%) on CSR activities and concluded that year by year amount to be spent CSR activities will increase.

Suprava Sahu (2014) in his article on “CSR Activities of Maharatna Companies in India: Analytical case based approach” explained the Maharatna Companies CSR policies and the activities taken up by them. He has concluded that the Companies should go beyond 2% mandatory limit for the betterment of the Society.

32Associate Professor, Department of Commerce, Dr. Shakuntala Misra National Rehabilitation University, Uttar Pradesh, India, pushpendramisra.dsmru@gmail.com
33Research Scholar, Department of Commerce, Dr. Shakuntala Misra National Rehabilitation University, Uttar Pradesh, India, priyankaawasthi30@gmail.com
Dr. D. K. Soni, P. K. Mishra, Dr. K. M. Agarwal and Dr. Sarbani Mitra (2014) in their article on “Green Initiatives Under Corporate Social Responsibility: An Empirical Study on Maharatna Companies of India” explained the Green initiatives taken by the Maharatna Companies under their CSR Policy and concluded that Social Responsibility is considered as a key business issue of the Indian Companies irrespective of size, sector, business goal and location of the Company.

Kalpesh Kumar L Gupta and Rachana Arora (2014) in their article on “Study of Corporate Social Responsibility in the Central Public Sector Enterprises of India” concluded that they are more or less following the CSR guidelines issued by the Department of Public Enterprises and mandatory CSR provision under Companies Act 2013 is a very good step towards societal, environmental and sustainable development.

Vivek Wankahde (2014) in his article on “Analysis of Corporate Social Responsibility Spending of the Indian Companies” concluded that the amount spent on CSR by the Public Sector Companies and the Private Sector Companies is not equal to 2% of profits as per Section 135 of Companies Act 2013 and there is no significant difference in the amount spent by the Public Sector Companies and Private Sector Companies.

OBJECTIVES OF STUDY

The focus of the study is to analyses the comparative pattern of the normative, allocated and utilized amount of funds on CSR activities of the Maharatna Companies since 2009-10, therefore, in a background the following two objectives have been formulated in this paper:

One of the objectives is to scrutinize whether the Maharatna companies have been strictly adhering to the norms as outlined in the section 135 of the companies act, 2013. This norm with a little difference has been maintained since 2010 in the guidelines of Department of Public Enterprises first and subsequently in the Central Public Sector Enterprises guidelines 2013.

The second important objective is to investigate the extent of discrepancy between the amount of funds allocated and utilized by the companies on corporate social responsibility.

RESEARCH METHODOLOGY

The study is confined to seven Maharatna Companies namely Coal India Limited, Indian Oil Corporation, National Thermal Power Corporation, Steel Authority of India Limited, Gas Authority of India Limited, Oil and Natural Gas Commission, Bharat Heavy Electricals Limited, for the period 2009-2010 to 2014-2015. The study is based on secondary data, which has been taken from the annual reports of the respective companies. The aforementioned objectives have been analyzed with the help of simple graphical analysis. The data pertaining to graphical analysis has been given in Annexure I.

DATA ANALYSIS

The twin objectives, one that of allocation of funds by the Maharatna Companies for the corporate social responsibility are in accordance with the prescribed norms since 2009-2010 and the other to examine the extent of discrepancy between allocation and utilization of funds for the corporate social responsibility activities have been analyzed for each of the seven Maharatna companies on the basis of simple graphical analysis.

One of the leading Maharatna companies is the Coal India Limited whose allocation, utilization and normative amount of funds required for corporate social responsibility activities are depicted in figure-1

Figure-I: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of Coal India Limited

Sources: Authors Compilation
It is evident from figure I that funds utilized for corporate social responsibility activities are almost in accordance with the prescribed norm but funds allocated for corporate social responsibility activities are substantially higher than the prescribed norm, except for the initial period of analysis. Moreover, it can also be observed that overall there has been substantial difference between amount of funds allocated and amount utilized by the companies for corporate social responsibility purposes. Coal India Limited must avoid allocating such higher funds for corporate social responsibility activities if they cannot utilize it. Moreover, Coal India Limited is one of those Maharatna Companies whose profit after tax is second highest among all Maharatna Companies. Therefore, if it can allocate higher share of profits on corporate social responsibility activities, then it is a welcome sign for society provided it could deliver the benefits by optimally utilizing them for important activities of the social sectors of India specially health and education.

Another important Maharatna company is Indian Oil Corporation whose allocation, utilization and normative amount of funds required for corporate social responsibility activities are depicted in figure II:

**Figure-II: Normative, Allocated and Utilized amount of Funds on Corporate Social Responsibility Activities of Indian Oil Corporation**

It is evident from figure II that funds utilized for corporate social responsibility activities is substantially less than the prescribed norms for a major period of analysis. However, funds allocated for corporate social responsibility activities follows closely the normative pattern of funds barring the initial year of analysis. This implies that Indian Oil Corporation, overall has allocated funds for corporate social responsibility as per the prescribed norms but its utilization has been sufficiently less than the amount allocated. Thus, Indian Oil Corporation must show learned behaviour by effectively utilizing the funds allocated for corporate social responsibility activities so that the gains of their profit could be shared by the society to the maximum possible extent.

Another significant Maharatna company is Bharat Heavy Electricals Limited whose allocation, utilization and normative amount of funds meant for corporate social responsibility are depicted in figure III.

**Figure-III: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of Bharat Heavy Electricals Limited**
It is evident from figure III that amount utilized for corporate social responsibility activities is far less than the prescribed norms. The funds allocated too for corporate social responsibility activities have fallen short of the prescribed norms barring the terminal year of analysis. One of the important rationales for the allocated amount in the terminal year to far exceed the normative amount is the inclusion of the provision in the companies act, 2013 to carry forward the unutilized amount of CSR funds of the previous year in the next financial year and must be assigned for the purpose of corporate social responsibility activities only. This carry forward is only beneficial for the society if the company starts utilizing these funds in accordance with the amount allocated.

Another foremost Maharatna company is Gas Authority of India Limited whose allocation, utilization and normative amount of funds required for corporate social responsibility activities are depicted in figure IV.

**Figure-IV: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of Gas Authority of India Limited**

It is evident from figure IV that amount utilized for corporate social responsibility activities is in accordance with the prescribed norm but funds allocated for corporate social responsibility activities are substantially higher than the prescribed norm. Moreover, there is significant difference between amount allocated and amount utilized by the company for corporate social responsibility purposes. Thus, like Coal India Limited it should not exaggerate allocating higher funds for corporate social responsibility activities, if it cannot afford to utilize them.

Another foremost Maharatna company is National Thermal Power Corporation whose allocation utilization and normative amount of funds required for corporate social responsibility activities are depicted in figure V.

**Figure-V: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of National Thermal Power Corporation**
It is evident from figure V that neither allocation nor utilization of the corporate social responsibility funds is in accordance with prescribed norms, rather the company has under-allocated and under-utilized the funds. There is a need for the company to amend its allocation and utilization of corporate social responsibility funds in line with the prescribed norms for the benefit of the society.

Another leading Maharatna company is Oil and Natural Gas Corporation whose allocation utilization and normative amount of funds required for corporate social responsibility activities are depicted in Figure VI.

**Figure-VI: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of Oil and Natural Gas Corporation**

It is evident from figure VI that funds utilized by the company is significantly less than the prescribed norms, except for the terminal year of analysis. However, allocation of CSR funds is more or less in accordance with the prescribed norm or higher. Thus, like Indian Oil Corporation, Oil and Natural Gas Corporation too must improve its utilization of funds on corporate social responsibility.

Another leading Maharatna company is Steel Authority of India Limited whose allocation utilization and normative amount of funds required for corporate social responsibility activities are depicted in figure VII.

**Figure-VII: Normative, Allocated and Utilized Amount of Funds on Corporate Social Responsibility Activities of Steel Authority of India Limited**

It is evident from figure VII that neither allocation nor utilization of corporate social responsibility funds is in accordance with prescribed norm, barring the allocated amount for the terminal year of analysis. Overall, SAIL have under-allocated and under-utilized the funds meant for CSR activities. Thus, like National Thermal Power Corporation, there is a need for the company to
amend its allocation and utilization of corporate social responsibility funds in line with the prescribed norms so that company could discharge its social obligation in the best possible way.

**IMPLICATIONS AND SUGGESTIONS**

- The behaviour of Indian Oil Corporation, Bharat Heavy Electricals Limited and Oil and Natural Gas Corporation regarding prescribed norm, funds allocated and utilized for corporate social responsibility activities is similar in the sense that amount allocated by the companies for corporate social responsibility activities is in line with the prescribed norms, but utilization of funds is far less than the normative and allocated amount. Thus, these companies should enhance their utilization of funds on corporate social responsibility activities for the betterment of the society.

- Another important inference of the analysis is that the behaviour of Coal India Limited and Gas Authority of India Limited is similar in the sense that the amount of funds utilized on corporate social responsibility activities is in accordance with the prescribed norms. However, these companies are allocating substantially higher amount of funds on corporate social responsibility activities. If these companies can afford to allocate higher profits on corporate social responsibility activities, then it is a welcome sign for society provided it could deliver the benefits by utilizing them for important activities of the social sectors of India specially health and education.

- Finally, the behaviour of National Thermal Power Corporation and Steel Authority of India Limited is quite similar in the sense that these companies are neither allocating nor utilizing the funds on corporate social responsibility activities in accordance with the prescribed norms. Thus, there is a need for these companies to at least adhere there allocation and utilization of funds on corporate social responsibility activities as per the prescribed norms to discharge their social obligation in the best possible way.

- An important policy implication for all those companies who are underutilizing the CSR funds that instead of carrying it forward to the next financial year, they must utilize the funds by way of collaboration with some known public sector institutions engaged in education and health for developing necessary infrastructural facilities in these sub sectors.

- Moreover, these Companies should also think towards fulfilling larger social responsibility by moving out of their area of operation and serving the country by establishing quality hospitals, educational institutions, safe drinking water facilities, etc. for the betterment of society.

**REFERENCES**

1. Annual Reports of Maharatna Companies (2009-10 to 2014-15) taken from their respective websites:
   - [www.coalindia.in](http://www.coalindia.in)
   - [www.ioc1.com](http://www.ioc1.com)
   - [www.bhel.com](http://www.bhel.com)
   - [www.gailonline.com](http://www.gailonline.com)
   - [www.ntpco.in](http://www.ntpco.in)
   - [www.ongcin.com](http://www.ongcin.com)
   - [www.sail.co.in](http://www.sail.co.in)


ANNEXURE

Table 1

<table>
<thead>
<tr>
<th>Years</th>
<th>CIL</th>
<th>IOC</th>
<th>BHEL</th>
<th>GAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2% of PAT</td>
<td>Funds Allocation for CSR</td>
<td>Funds Utilized for CSR</td>
<td>2% of PAT</td>
</tr>
<tr>
<td>2009-10</td>
<td>86.88</td>
<td>43.81</td>
<td>40.14</td>
<td>116.08</td>
</tr>
<tr>
<td>2010-11</td>
<td>112.96</td>
<td>262.28</td>
<td>152.33</td>
<td>134.22</td>
</tr>
<tr>
<td>2011-12</td>
<td>150.46</td>
<td>553.33</td>
<td>81.98</td>
<td>137.44</td>
</tr>
<tr>
<td>2012-13</td>
<td>235.18</td>
<td>595.74</td>
<td>149.55</td>
<td>144.14</td>
</tr>
<tr>
<td>2013-14</td>
<td>286.74</td>
<td>474.36</td>
<td>409.37</td>
<td>109.36</td>
</tr>
<tr>
<td>2014-15</td>
<td>315.04</td>
<td>471.65</td>
<td>298.1</td>
<td>106.52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years</th>
<th>NTCP</th>
<th>ONGC</th>
<th>SAIL</th>
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<tbody>
<tr>
<td></td>
<td>2% of PAT</td>
<td>Funds Allocation for CSR</td>
<td>Funds Utilized for CSR</td>
</tr>
<tr>
<td>2009-10</td>
<td>149.88</td>
<td>16.74</td>
<td>20.4</td>
</tr>
<tr>
<td>2010-11</td>
<td>162.3</td>
<td>72.37</td>
<td>72.21</td>
</tr>
<tr>
<td>2011-12</td>
<td>173.54</td>
<td>45.55</td>
<td>49.44</td>
</tr>
<tr>
<td>2012-13</td>
<td>180.36</td>
<td>56.37</td>
<td>73.42</td>
</tr>
<tr>
<td>2013-14</td>
<td>206.3</td>
<td>126.12</td>
<td>128.35</td>
</tr>
<tr>
<td>2014-15</td>
<td>218.73</td>
<td>183.48</td>
<td>205.18</td>
</tr>
</tbody>
</table>

Sources: Annual Reports of Seven Maharatna Companies from 2009-10 to 2014-15

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A STUDY OF CONSUMER BUYING BEHAVIOUR TOWARDS GOLD WITH REFERENCE TO WOMEN CONSUMER IN MANGALORE CITY

Dr. B. Shekhar34 Sharath35

ABSTRACT

This study has been conducted in Mangalore city by taking the women consumer in the city. This study has been conducted based on the objective of factors influencing the buying behaviour on the consumer towards gold. The buying behaviour is important stimuli for the purchase of the gold in the market if the consumer influenced by the buying motive then no one can stop him from buying the product in the market. To collect the study primary and secondary data is selected primary data mainly with the help of structured questionnaire and secondary data based on the past records. The analysis is based on the percentage and interpretation.

KEYWORDS

Workload, Autonomy, Personal Effectiveness, Higher Education etc.

INTRODUCTION

Gold is a thick, delicate, sparkly and adaptable unadulterated metal known. Immaculate gold has a brilliant yellow shading and shine generally thought to be alluring, which it keeps up without oxidizing in air or water. Gold is one of the coinage metals and has served as an image of riches and a store of worth all through history. Best quality levels have given a premise to money related strategies. Gold, similar to no other metal, has a captivating history and an extraordinary spot on the planet. Gold’s numerous extraordinary properties have secured it a focal part in history and human improvement. Gold is a striking, uncommon metal, with an unparalleled blend of synthetic and physical properties. It is the main yellow metal and bears its name from the Old English word for yellow, 'geolu'. Gold's extraordinary properties imply that it has a more prominent assortment of employments than any metal. Like her partners over the globe, India likewise held gold high for its valuable characters and irregularity and considers it as a standard for surveying virtue and quality. Today India is the richest gold customer on the planet. The yearly utilization of gold which was assessed at 65 tons in 1982, has expanded to more than 500 tons in the blink of an eye around 39% is for gems creation (primarily more than 22 carat virtue) for household request, 15% for financial specialist request and scarcely 5% for mechanical use. India holds the biggest supply of gold on the planet – 18,000 tons are held by families. The astounding component is the route interest in adornments has come to overwhelm the business sector, which is obvious from table, and diagram underneath.

BACKGROUND OF STUDY

Mangalorian are extremely enamored with jeweleries and there are numerous cast individuals they purchase gold on the normal premise. In Mangalore amid the April and May session there is an enormous interest for these jewelries in light of the fact that the marriage projects are hung on these session In Mangalore. In Mangalore there are conventional gem dealers having their family business and they have their own particular clients and there are private gold organizations likewise found in Mangalore like Joy talukas, Tanishq, Bhima jewelers so on, this study has been led in Mangalore city by taking the ladies respondents of this city. This study had led to think about the variables that impact purchasing choice of gold in Mangalore city.

Gold holding of the world (40 Countries)

Table-1: Top 40 Reported Official Gold Holdings (as at September 2015)

<table>
<thead>
<tr>
<th></th>
<th>Country</th>
<th>Tonnes</th>
<th>% of Reserves</th>
<th></th>
<th>Country</th>
<th>Tonnes</th>
<th>% of Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>United States</td>
<td>8,133.5</td>
<td>73%</td>
<td>21</td>
<td>Austria</td>
<td>280.0</td>
<td>44%</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>3,381.0</td>
<td>67%</td>
<td>22</td>
<td>Belgium</td>
<td>227.4</td>
<td>33%</td>
</tr>
<tr>
<td>3</td>
<td>IMF</td>
<td>2,814.0</td>
<td>-</td>
<td>23</td>
<td>Kazakhstan</td>
<td>213.5</td>
<td>27%</td>
</tr>
<tr>
<td>4</td>
<td>Italy</td>
<td>2,451.8</td>
<td>65%</td>
<td>24</td>
<td>Philippines</td>
<td>195.6</td>
<td>9%</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>2,435.5</td>
<td>62%</td>
<td>25</td>
<td>Algeria</td>
<td>173.6</td>
<td>4%</td>
</tr>
<tr>
<td>6</td>
<td>China</td>
<td>1,708.5</td>
<td>2%</td>
<td>26</td>
<td>Thailand</td>
<td>152.4</td>
<td>4%</td>
</tr>
</tbody>
</table>

34Associate Professor & Research Guide, Department of Studies and Research in Commerce, Tumkur University, Karnataka, India, drbstut@gmail.com
35Assistant Professor, Department of Commerce, Alva’s College, Karnataka, India, prabhu.sharath22@gmail.com

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Above table shows, the gold holdings and percentage of reserves of 40 countries in that India got 11th space and it has 557.7 tons of holding and 6% of reserve in world.

### Historical Demand for Gold Jewelry

#### Table-2: Historical Data for Gold Demand

<table>
<thead>
<tr>
<th>Year</th>
<th>Jewellery</th>
<th>Total Bar and Coin Invest.</th>
<th>ETFs and Similar</th>
<th>Technology</th>
<th>Central Banks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>2,721.0</td>
<td>418.1</td>
<td>211.1</td>
<td>440.4</td>
<td>-663.4</td>
<td>3,127.2</td>
</tr>
<tr>
<td>2006</td>
<td>2,301.4</td>
<td>429.8</td>
<td>258.7</td>
<td>471.7</td>
<td>-365.4</td>
<td>3,096.2</td>
</tr>
<tr>
<td>2007</td>
<td>2,424.9</td>
<td>437.5</td>
<td>259.6</td>
<td>477.7</td>
<td>-483.8</td>
<td>3,116.0</td>
</tr>
<tr>
<td>2008</td>
<td>2,306.2</td>
<td>917.9</td>
<td>325.0</td>
<td>464.7</td>
<td>-235.4</td>
<td>3,778.3</td>
</tr>
<tr>
<td>2009</td>
<td>1,816.3</td>
<td>832.3</td>
<td>644.6</td>
<td>414.4</td>
<td>-33.6</td>
<td>3,674.0</td>
</tr>
<tr>
<td>2010</td>
<td>2,051.4</td>
<td>1,201.8</td>
<td>420.8</td>
<td>459.9</td>
<td>79.2</td>
<td>4,213.0</td>
</tr>
<tr>
<td>2011</td>
<td>2,090.8</td>
<td>1,493.4</td>
<td>236.9</td>
<td>427.0</td>
<td>480.8</td>
<td>4,729.0</td>
</tr>
<tr>
<td>2012</td>
<td>2,133.8</td>
<td>1,299.0</td>
<td>306.6</td>
<td>379.1</td>
<td>569.3</td>
<td>4,687.8</td>
</tr>
<tr>
<td>2013</td>
<td>2,669.1</td>
<td>1,700.8</td>
<td>-915.9</td>
<td>354.3</td>
<td>625.5</td>
<td>4,433.7</td>
</tr>
<tr>
<td>2014</td>
<td>2,461.4</td>
<td>1,002.2</td>
<td>-183.1</td>
<td>346.4</td>
<td>590.5</td>
<td>4,217.4</td>
</tr>
</tbody>
</table>

**Source:** World Gold Council

**Interpretation:** The demand for jewelry from 2005 to 2014 was shown in the above table and it shows the demand has not constant there is a variation in the gold demand in the year 2009 the demand had been fallen when compared to previous years but the demand has picked up in the year 2010.

### OBJECTIVE OF STUDY

To study the factors influencing the buying decision of gold ornament in Mangalore city.

### RESEARCH METHODOLOGY

This study had directed in view of the primary data and secondary data. Primary data depended on organized survey, which will be disseminated to 100 women respondents of Mangalore city, and secondary data depended on the books, diaries and reports of world gathering. The information will be investigated in view of rate examination and positioning technique utilized.

### REVIEW OF LITERATURE

According to (Anand, 2003) there are two sort of customer, first the family unit or individual use buyer and second quick moving purchasers. The purchaser conduct will change as indicated by the item if the buyer's purchases costly item like auto, bike, generator and so on purchasing process includes misgiving. Nevertheless, when they purchase lower wage item there is no need of qualm. It likewise uncovers that elements which impact the purchasing conduct like feeling, inspiration, coherent, and mental inspiration and there are a few issues identifies with the purchaser conduct are unpredictable and dynamic buyer.
According to Untracht, Oppi (1997), he clarified that significantly more than simply a showcase of riches and taste, adornments is a basic component in the lives of the general population of India. Untracht in his study watched real Indian adornments frames and strategies, investigating Indian pearls and gems as both a progressing tasteful spreading over 5,000 years and an exceptionally critical type of social expression.

**FINDINGS OF STUDY**

Table-3: Showing the Demography Profile of the Respondents

<table>
<thead>
<tr>
<th>Variables</th>
<th>Number of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>20-30</td>
<td>21</td>
</tr>
<tr>
<td>30-40</td>
<td>35</td>
</tr>
<tr>
<td>40-50</td>
<td>20</td>
</tr>
<tr>
<td>50 and above</td>
<td>24</td>
</tr>
<tr>
<td>Monthly income</td>
<td></td>
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<tr>
<td>less than 16,000</td>
<td>27</td>
</tr>
<tr>
<td>16,000-31,000</td>
<td>22</td>
</tr>
<tr>
<td>31,000-46000</td>
<td>29</td>
</tr>
<tr>
<td>46,000 and above</td>
<td>22</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
</tr>
<tr>
<td>Salaried</td>
<td>39</td>
</tr>
<tr>
<td>Housewife</td>
<td>26</td>
</tr>
<tr>
<td>Professional</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
</tr>
</tbody>
</table>

Sources: Survey Data

Interpretation: Table-1 above gives the demographic profile of respondents where 21 percent respondents fit in with the age gathering of 20-30, 35 percent fit in with 30-40 age bunch, 20 percent had a place with the age gathering of 40-50, 21 percent fit in with the age gathering of 50 and above. Therefore, it can be construed that regardless of age gathering women purchase gold adornments. The table likewise clarifies the month-to-month pay of respondents. It can be deduced that 22 percent of respondents fit in with the month-to-month level of pay of Rs. 46000 or more, 29 percent of respondents have a month-to-month pay of Rs. 31,000-46000. 22 percent have a month to month wage between Rs. 16,000-31,000, and 27 percent fit in with the pay gathering of not as much as Rs 16,000. Table explains the occupation of respondents. 26 percent women are homemakers, 20 percent professionals, 39 percent salaried, 15 percent others.

Table-4: Shows the Purpose of Buying Gold

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal</td>
<td>57</td>
</tr>
<tr>
<td>Investment</td>
<td>38</td>
</tr>
<tr>
<td>Gift</td>
<td>05</td>
</tr>
</tbody>
</table>

Sources: Survey Data

Interpretation: It can be induced that 38 percent purchase gold on account of venture purposes. They normally purchase gold rolls and gold coins when the buy is monetarily spurred. Interestingly, the women who do not have little girls tend not to consider gold as a venture instrument. 57 percent purchase for their own utilization, which incorporate for their own particular use, for girls, as a blessing to companions and relatives and for religious purposes.

Table-5: Shows the Factor Influencing Buying Decision and Attribute of Gold

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tradition</td>
<td>4</td>
</tr>
<tr>
<td>Place of purchase</td>
<td>3</td>
</tr>
<tr>
<td>Purity</td>
<td>1</td>
</tr>
<tr>
<td>Design</td>
<td>2</td>
</tr>
<tr>
<td>Attribute</td>
<td></td>
</tr>
<tr>
<td>Brand Name</td>
<td>1</td>
</tr>
<tr>
<td>Price Discount</td>
<td>3</td>
</tr>
<tr>
<td>Exchange Offers</td>
<td>4</td>
</tr>
<tr>
<td>Variety</td>
<td>2</td>
</tr>
</tbody>
</table>

Sources: Survey Data
Interpretation: From Ranking, it is evident that purity is the most important factor followed by influence of design or place of purchase and so on. The most important attribute, which customer look in the gold was the brand name, variety, price discount and exchange offers for the gold.

FINDINGS OF STUDY

The above study uncovers the client conduct on the buy of gold decoration it demonstrates that there is no distinction in the age and salary for purchasing the gold and the most vital element which client look in the gold is its purity and the trait its image name.

CONCLUSION

Women’s are an unmistakable shopper portion. The item is gold, basically as adornments. Be that as it may, to some degree the women’s view gold as a speculation vehicle, which gives some measure of monetary security for themselves and/or their little girls. There are a couple Commodities in Mangalore that will dependably be in high demand. Gold is one among them. The yearning to obtain and accumulate it is by all accounts hard-wired.

REFERENCES


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A COMPREHENSIVE STUDY ON BANKRUPTCY MODELS AND ITS IMPLICATIONS IN AUTOMOBILE SECTOR

Dr. C. Rajanikanth36 Dr. E. Lokanadha Reddy37 C. Jyothsna38

ABSTRACT

Financial solvency and stability are major decisions of profit motive in manufacturing and service sector organisations. The manufacturing firms play a crucial role in development of the economy. The financial soundness is very important in the current financial crisis and competitive scenario. In this context, it is quite necessary to study solvency of manufacturing sector. The current research paper deals in measuring financial health of manufacturing firms with the help of Altman Z-score Model, Ohlson Score, Zmijewski model giving suggestions to take corrective decisions to avoid financial distress in firms.

KEYWORDS

Financial Performance, Bankruptcy, Z-Score, O-Score and Zm-Score etc.

INTRODUCTION

The financial crisis has already thrown many financially strong companies out of business all over the world. All these have happened because they were not able to face the challenges and the unexpected changes in the economy. Financial distress for a company is the ultimate declaration of its inability to sustain current operations given its current debt obligations. All firms must have some debt loads to expand operation or just to survive. Good economic planning often requires a firm to finance some of its operation with debt. The degrees to which a firm has debt in excess of assets or is unable to pay its debt as it comes due are the two most common factors in corporate financial distress.

Altman (1968) used the Multiple Discriminant Analysis to construct Z-score prediction model. The objective of the MDA technique is to “classify into several observation’s has individual characteristics and it has advantages when compared with the traditional univariate ratio analysis. First, analyze an entire set of explanatory variables simultaneously, as well as the interaction of these variables. Secondly, MDA reduces the number of explanatory variables under consideration.

Altman (1968) uses 33 bankrupt manufacturing firms as his sample. Altman (1968) used the cross-validation approach to validate the function. This means he used an estimation sample and a holdout sample. The estimation sample is used to estimate the function and the holdout sample is used to validate the estimated function. The estimation sample included 66 observations. The mean asset size of these firms is $6.4 million, with a range of between $0.7 million and $25.9 million. This means that small and very large firms are eliminated from the initial sample. The sample period spans from 1946 to 1965. Firms were defined as bankrupt when they filed bankruptcy in the period between 1946 and 1965. Firms were defined as non-bankrupt if they were still in existence in 1966. One point of attention is this definition of non-bankrupt firms. The process of bankruptcy could take several years. When a non-bankrupt firm is still in existence in 1966, the process of bankruptcy can already be initiated. This will lead to biased results because “non-bankrupt firms” can show ratios of bankrupt firms. Altman (1968) stratified and matched the firms in the two groups (bankrupt and non-bankrupt) by the variables industry and size (the proxy asset size is used). The constructed discriminant function with the variables and estimated coefficients from the study of Altman (1968) is as follows:

\[ Z = 1.2X1+ 1.4X2+ 3.3X3+ 0.6X4+ 0.9X5 \]

Ohlson (1980) used the logit model and he criticized Altman model based on following points:

- Assumption is that the explanatory variables are normally distributed and second assumption is equal variance and covariance of the explanatory variables for the bankrupt and non-bankrupt firms. The Z-score is an ordinal ranking device.

36 Associate Professor, Department of Management Studies, Sri Venkateswara College of Engineering & Technology (Autonomous), Andhra Pradesh, India, rajanisvcet@gmail.com
37 Professor, Department of Management Studies, Sri Venkateswara College of Engineering & Technology (Autonomous), Andhra Pradesh, India, elreddy123@gmail.com
38 Assistant Professor, Department of Management Studies, SITAMS (Autonomous), Andhra Pradesh, India, jyothsna chequekoori@yahoo.com
b) Bankrupt and non-bankrupt firms are matched according to criteria such as size and industry, and these tend to be somewhat arbitrary. The constructed logit function with the variables and estimated coefficients from the study of Ohlson is as follows:

\[
Ohlson = -1.3 - 0.4X_1 + 6.0X_2 - 1.4X_3 + 0.8X_4 - 2.4X_5 - 1.8X_6 + 0.3X_7 - 1.7X_8 - 0.5X_9
\]

Zmijewski (1984) used the probit technique to construct his bankruptcy prediction model. The accuracy rate of the Zmijewski (1984) model for the estimation sample was 99%.

The population of firms for the study of Zmijewski (1984) consists of all firms listed on the American and New York Stock Exchanges during the period 1972 through 1978, which have SIC-codes of less than 6000. This means that the finance, service and public administration industries are excluded from the research. Zmijewski (1984) defined bankrupt firms as the act of filing petition for bankruptcy. Bankrupt firms are identified as bankrupt if it filed a bankruptcy petition during this period and non-bankrupt if it did not. The final estimation sample of the study of Zmijewski (1984) contained 40 bankrupt and 800 non-bankrupt firms, and a holdout sample containing 41 bankrupt and 800 non-bankrupt firms. The constructed probit function with the variables and estimated coefficients from the study of Zmijewski (1984) is as follows:

\[
Zmijewski = -4.3 - 4.5X_1 + 5.7X_2 + 0.004X_3
\]

REVIEW OF LITERATURE

Grice and Dugan (2003) Specified that is no specifically models that used for identifying firms that are likely to go bankrupt or for identifying firms experiencing financial distress.

McKee (2003) and Grice and Dugan (2003) worked to simplify the problem and focused on predicting bankruptcy or non-bankruptcy. He stated the firm goes various stages of financial distress and indicates poor income and liquid asset position as the two stages before bankruptcy.

Platt and Platt (2002) Put efforts to predict corporate financial distress and define financial distress as a late stage of corporate decline that precede the more destructive event bankruptcy.


Wu, Gaunt and Gray (2010) referred the Bankruptcy as: “When a business is unable to service its debt or pay its creditors, the business or its creditors can file with a federal bankruptcy court for protection.” According to Wu et al. (2010) key models that have been developed to predict bankruptcy are: (i) Altman (1968), (ii) Ohlson (1980), (iii) Zmijewski (1984), (iv) Shumway (2001), and (v) Hillegeist, Keating and Cram (2004). The models of Altman (1968), Ohlson (1980) and Zmijewski (1984) are based on accounting variables and the models of Shumway (2001) and Hillegeist et al. (2004) are based on market variables.

OBJECTIVES OF STUDY

- Predict the financial health and viability of the company and know the efficiency in financial decisions and controlling.
- Analyze the bankruptcy position of the company by using various methods and suggesting corrective measures.

RESEARCH METHODOLOGY

The study is related to three manufacturing firms (TVs Motors, Bajaj Auto and Hero MotoCorp). This study was based on the secondary data, which was obtained from the published sources i.e. Annual report for the period of 5 years (2011 to 2015).

The collected data was analyzed with the help of ratio analysis. The many accounting ratios used to predict the financial performance of the company. Keeping the above view in mind, the “Z score”, “O score” and “Zm score” analysis were adopted to monitor the financial health of the companies and to predict as well as to avoid business failure and subsequent bankruptcy.

LIMITATIONS OF STUDY

- The study is confined to only three automobile companies and it covers only a period of five years.
- The collected data for the present study is secondary data.
ANALYSIS AND INTERPRETATION

Table-1: Shows Altman Z Score of TVS Motors

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>Altman Z Square</th>
<th>Zone of Discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>-0.20096</td>
<td>0.582972</td>
<td>0.196235</td>
<td>0.029097</td>
<td>3.850971</td>
<td>5.0525</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2012</td>
<td>-0.16862</td>
<td>0.59519</td>
<td>0.198195</td>
<td>0.025207</td>
<td>3.780959</td>
<td>5.0432</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2013</td>
<td>-0.23412</td>
<td>0.664863</td>
<td>0.119524</td>
<td>0.026834</td>
<td>4.367551</td>
<td>5.3843</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2014</td>
<td>-0.31069</td>
<td>0.723244</td>
<td>0.199846</td>
<td>0.025122</td>
<td>4.575017</td>
<td>5.8435</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2015</td>
<td>-0.21934</td>
<td>0.623162</td>
<td>0.188596</td>
<td>0.018529</td>
<td>4.21741</td>
<td>5.4179</td>
<td>Safe Zone</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Graph-1: Z score for Five Years

Table-2: Shows Altman Z Score of TVS Motors and its Probability

<table>
<thead>
<tr>
<th>Year</th>
<th>Altman Z Score</th>
<th>X-µ</th>
<th>(X-µ)/σ</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>5.052499816</td>
<td>-0.29579694</td>
<td>-1.0064</td>
<td>0.1586</td>
</tr>
<tr>
<td>2012</td>
<td>5.043237866</td>
<td>-0.30505889</td>
<td>-1.0379</td>
<td>0.1515</td>
</tr>
<tr>
<td>2013</td>
<td>5.384265276</td>
<td>0.035968517</td>
<td>0.1224</td>
<td>0.0477</td>
</tr>
<tr>
<td>2014</td>
<td>5.843541054</td>
<td>0.495244295</td>
<td>1.6849</td>
<td>0.4535</td>
</tr>
<tr>
<td>2015</td>
<td>5.417939784</td>
<td>0.069643025</td>
<td>0.2369</td>
<td>0.0909</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: The probability of Z score should be less than 0.5. The firm TVS motor showing less than 0.5, so the company is having good financial status. In the year 2014 it was 0.4535 likely to go bankruptcy and it was well managed in 2015.

Table-3: Shows Altman Z Score of Bajaj Auto

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>Altman Z Square</th>
<th>Zone of Discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>-0.26026</td>
<td>0.888294</td>
<td>0.836119</td>
<td>0.055627</td>
<td>3.331765</td>
<td>7.0223</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2012</td>
<td>-0.00203</td>
<td>0.93698</td>
<td>0.659506</td>
<td>0.04714</td>
<td>3.335599</td>
<td>6.8162</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2013</td>
<td>-0.10036</td>
<td>0.954769</td>
<td>0.535138</td>
<td>0.036293</td>
<td>2.64964</td>
<td>5.6271</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2014</td>
<td>-0.12174</td>
<td>0.964089</td>
<td>0.479273</td>
<td>0.029938</td>
<td>2.084628</td>
<td>4.8670</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2015</td>
<td>-0.06008</td>
<td>0.962871</td>
<td>0.378685</td>
<td>0.026784</td>
<td>2.084548</td>
<td>4.6054</td>
<td>Safe Zone</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Graph-2: Shows five year Z score of Bajaj Auto
Table 4: Shows Altman Z Score of Bajaj Auto and its Probability

<table>
<thead>
<tr>
<th>Year</th>
<th>Altman Z Score</th>
<th>X-µ</th>
<th>(X-µ)/σ</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>7.0223</td>
<td>1.2347</td>
<td>1.2532</td>
<td>0.3943</td>
</tr>
<tr>
<td>2012</td>
<td>6.8162</td>
<td>1.0286</td>
<td>1.0440</td>
<td>0.3508</td>
</tr>
<tr>
<td>2013</td>
<td>5.6271</td>
<td>-0.1605</td>
<td>-0.1629</td>
<td>0.4364</td>
</tr>
<tr>
<td>2014</td>
<td>4.8670</td>
<td>-0.9206</td>
<td>-0.9344</td>
<td>0.1761</td>
</tr>
<tr>
<td>2015</td>
<td>4.6054</td>
<td>-1.1822</td>
<td>-1.1999</td>
<td>0.1170</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Bajaj auto probability is showing less than 0.5, so the company is having healthy financial status. In the year 2013 it was 0.4364 likely to go bankruptcy and it was well managed in the year 2014 & 2015.

Table 5: Shows Altman Z Score of Hero MotoCorp

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>Altman Z Square</th>
<th>Zone of Discrimination</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>-1.01445</td>
<td>0.658698</td>
<td>0.540519</td>
<td>0.009022</td>
<td>4.381634</td>
<td>5.8318</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2012</td>
<td>-0.46648</td>
<td>0.801681</td>
<td>0.526667</td>
<td>0.007534</td>
<td>4.44785</td>
<td>6.7085</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2013</td>
<td>-0.26573</td>
<td>0.935555</td>
<td>0.485755</td>
<td>0.007524</td>
<td>4.477453</td>
<td>7.0311</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2014</td>
<td>-0.21349</td>
<td>0.992868</td>
<td>0.514132</td>
<td>0.007132</td>
<td>4.849366</td>
<td>7.6356</td>
<td>Safe Zone</td>
</tr>
<tr>
<td>2015</td>
<td>-0.1248</td>
<td>0.993894</td>
<td>0.510586</td>
<td>0.006106</td>
<td>4.479661</td>
<td>7.3652</td>
<td>Safe Zone</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Hero MotoCorp probability is less than 0.5, so the company is having healthy financial status. In the year 2012 and 2014 it was 0.3483 and 0.3749 respectively, It means its solvency rate is likely to go up but it was well managed in the subsequent years.

Table 7: Shows O Score of TVS Motor

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>O-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2.26502</td>
<td>1</td>
<td>-0.2010</td>
<td>1.4079</td>
<td>0.1192</td>
<td>0.2176</td>
<td>0</td>
<td>0</td>
<td>0.37712</td>
<td>4.26411</td>
</tr>
<tr>
<td>2012</td>
<td>2.30673</td>
<td>1</td>
<td>-0.1686</td>
<td>1.3821</td>
<td>0.1321</td>
<td>0.2303</td>
<td>0</td>
<td>0</td>
<td>0.12282</td>
<td>4.259985</td>
</tr>
<tr>
<td>2013</td>
<td>2.209881</td>
<td>1</td>
<td>-0.2341</td>
<td>1.5009</td>
<td>0.0655</td>
<td>0.1660</td>
<td>0</td>
<td>0</td>
<td>-0.36443</td>
<td>5.012219</td>
</tr>
<tr>
<td>2014</td>
<td>2.472589</td>
<td>1</td>
<td>-0.3107</td>
<td>1.6090</td>
<td>0.1383</td>
<td>0.2560</td>
<td>0</td>
<td>0</td>
<td>0.38557</td>
<td>4.368659</td>
</tr>
<tr>
<td>2015</td>
<td>2.649267</td>
<td>1</td>
<td>-0.2193</td>
<td>1.4232</td>
<td>0.1357</td>
<td>0.2377</td>
<td>0</td>
<td>0</td>
<td>0.14144</td>
<td>4.192589</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

### Table-8: Shows O Score of TVS Motor and its Probability

<table>
<thead>
<tr>
<th>Year</th>
<th>O-Score</th>
<th>e^o-score</th>
<th>1+ e^o-score</th>
<th>Probability of Bankruptcy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>4.2641</td>
<td>71.10162</td>
<td>72.10162</td>
<td>0.986</td>
</tr>
<tr>
<td>2012</td>
<td>4.2600</td>
<td>70.80895</td>
<td>71.80895</td>
<td>0.986</td>
</tr>
<tr>
<td>2013</td>
<td>5.0122</td>
<td>150.2378</td>
<td>151.2378</td>
<td>0.993</td>
</tr>
<tr>
<td>2014</td>
<td>4.3687</td>
<td>78.93773</td>
<td>79.93773</td>
<td>0.987</td>
</tr>
<tr>
<td>2015</td>
<td>4.1926</td>
<td>66.19397</td>
<td>67.19397</td>
<td>0.985</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

**Interpretation:** Five-year TVS Motor O Score probability is showing greater than 0.5, so the company is having a problem with high bankruptcy.

### Table-9: Shows O Score of Bajaj Auto

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>O-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2.768242</td>
<td>1</td>
<td>-0.2603</td>
<td>2.1918</td>
<td>0.6420</td>
<td>0.8594</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.351261</td>
</tr>
<tr>
<td>2012</td>
<td>2.819583</td>
<td>1</td>
<td>-0.0020</td>
<td>1.0045</td>
<td>0.4894</td>
<td>0.6796</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.94984</td>
</tr>
<tr>
<td>2013</td>
<td>2.863411</td>
<td>1</td>
<td>-0.1004</td>
<td>1.4077</td>
<td>0.3817</td>
<td>0.5556</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.828839</td>
</tr>
<tr>
<td>2014</td>
<td>3.181097</td>
<td>1</td>
<td>-0.1217</td>
<td>1.6093</td>
<td>0.3355</td>
<td>0.4978</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.084817</td>
</tr>
<tr>
<td>2015</td>
<td>3.273914</td>
<td>1</td>
<td>-0.0601</td>
<td>1.3066</td>
<td>0.2604</td>
<td>0.4028</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.135052</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

**Interpretation:** Five-year Bajaj Auto O Score probability is showing greater than 0.5, so the company is likely to face high bankruptcy.

### Table-10: Shows O Score of Bajaj Auto and its Probability

<table>
<thead>
<tr>
<th>Year</th>
<th>O-Score</th>
<th>e^o-score</th>
<th>1+ e^o-score</th>
<th>Probability of Bankruptcy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2.3513</td>
<td>10.4988</td>
<td>11.4988</td>
<td>0.913</td>
</tr>
<tr>
<td>2012</td>
<td>1.9498</td>
<td>7.027561</td>
<td>8.027561</td>
<td>0.875</td>
</tr>
<tr>
<td>2013</td>
<td>2.8288</td>
<td>21.86346</td>
<td>22.86346</td>
<td>0.956</td>
</tr>
<tr>
<td>2014</td>
<td>3.0848</td>
<td>22.98983</td>
<td>23.98983</td>
<td>0.958</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

**Interpretation:** Five-year Bajaj Auto O Score probability is showing greater than 0.5, so the company is likely to face high bankruptcy.

### Table-11: Shows O Score of Hero MotoCorp

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>O-Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>2.698196</td>
<td>1</td>
<td>-1.01445</td>
<td>7.1772</td>
<td>0.4355</td>
<td>0.8594</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7.928878</td>
</tr>
<tr>
<td>2012</td>
<td>2.755893</td>
<td>1</td>
<td>-0.46648</td>
<td>3.4133</td>
<td>0.4486</td>
<td>0.6796</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4.477971</td>
</tr>
<tr>
<td>2013</td>
<td>2.686741</td>
<td>1</td>
<td>-0.26573</td>
<td>1.9513</td>
<td>0.3990</td>
<td>0.5556</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.541244</td>
</tr>
<tr>
<td>2014</td>
<td>2.944039</td>
<td>1</td>
<td>-0.21349</td>
<td>1.7001</td>
<td>0.3766</td>
<td>0.4978</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.301552</td>
</tr>
<tr>
<td>2015</td>
<td>3.055998</td>
<td>1</td>
<td>-0.1248</td>
<td>1.3453</td>
<td>0.3647</td>
<td>0.4028</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3.029462</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

### Table-12: Shows O Score of Hero MotoCorp and its Probability

<table>
<thead>
<tr>
<th>Year</th>
<th>O-Score</th>
<th>e^o-score</th>
<th>1+ e^o-score</th>
<th>Probability of Bankruptcy</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>7.9289</td>
<td>2776.311</td>
<td>2777.311</td>
<td>1.000</td>
</tr>
<tr>
<td>2012</td>
<td>4.4780</td>
<td>88.05585</td>
<td>89.05585</td>
<td>0.989</td>
</tr>
<tr>
<td>2013</td>
<td>3.5412</td>
<td>34.50984</td>
<td>35.50984</td>
<td>0.972</td>
</tr>
<tr>
<td>2014</td>
<td>3.3016</td>
<td>27.15475</td>
<td>28.15475</td>
<td>0.964</td>
</tr>
<tr>
<td>2015</td>
<td>3.0295</td>
<td>20.68611</td>
<td>21.68611</td>
<td>0.954</td>
</tr>
</tbody>
</table>

**Sources:** Authors Compilation

**Interpretation:** Five-year Hero MotoCorp O Score probability is showing greater than 0.5, so the company is having bankruptcy chances.
Table-13: Shows Zumjimnær Score of TVS Motor

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>Zmijewski Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.1192</td>
<td>1</td>
<td>0.7103</td>
<td>0.80804</td>
</tr>
<tr>
<td>2012</td>
<td>0.1321</td>
<td>1</td>
<td>0.7235</td>
<td>0.74950</td>
</tr>
<tr>
<td>2013</td>
<td>0.0655</td>
<td>1</td>
<td>0.6663</td>
<td>1.04994</td>
</tr>
<tr>
<td>2014</td>
<td>0.1406</td>
<td>1</td>
<td>0.6215</td>
<td>0.71108</td>
</tr>
<tr>
<td>2015</td>
<td>0.1357</td>
<td>1</td>
<td>0.7026</td>
<td>0.73360</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: TVS Motor probability is showing less than 0.5, so the company is having healthy financial status.

Table-14: Shows Zmijewski Score of TVS Motor and its Probability

<table>
<thead>
<tr>
<th>Zmijewski Score</th>
<th>X-µ</th>
<th>(X-µ)^2</th>
<th>S.D</th>
<th>(X-µ)^2/ σ</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.80804</td>
<td>-0.00239</td>
<td>0.0000</td>
<td></td>
<td>-0.0086</td>
<td>0</td>
</tr>
<tr>
<td>0.74950</td>
<td>-0.06093</td>
<td>0.0037</td>
<td>0.28</td>
<td>-0.2198</td>
<td>0.4168</td>
</tr>
<tr>
<td>1.04994</td>
<td>0.23950</td>
<td>0.0574</td>
<td></td>
<td>0.8639</td>
<td>0.3051</td>
</tr>
<tr>
<td>0.71108</td>
<td>-0.09936</td>
<td>0.0099</td>
<td></td>
<td>-0.3584</td>
<td>0.3632</td>
</tr>
<tr>
<td>0.73360</td>
<td>-0.07683</td>
<td>0.0059</td>
<td></td>
<td>-0.2771</td>
<td>0.3936</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-15: Shows Zmijewski Score of Bajaj Auto

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>Zmijewski Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.6420</td>
<td>1</td>
<td>0.4562</td>
<td>-1.5526</td>
</tr>
<tr>
<td>2012</td>
<td>0.4894</td>
<td>1</td>
<td>0.9955</td>
<td>-0.8616</td>
</tr>
<tr>
<td>2013</td>
<td>0.3817</td>
<td>1</td>
<td>0.7104</td>
<td>-0.3769</td>
</tr>
<tr>
<td>2014</td>
<td>0.3355</td>
<td>1</td>
<td>0.6214</td>
<td>-0.1688</td>
</tr>
<tr>
<td>2015</td>
<td>0.2604</td>
<td>1</td>
<td>0.7654</td>
<td>0.1707</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-16: Shows Zmijewski Score of Bajaj Auto and its Probability

<table>
<thead>
<tr>
<th>Zmijewski Score</th>
<th>X-µ</th>
<th>(X-µ)^2</th>
<th>S.D</th>
<th>(X-µ)^2/ σ</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-1.5526</td>
<td>-0.9948</td>
<td>0.9895</td>
<td></td>
<td>-1.6595</td>
<td>0.0495</td>
</tr>
<tr>
<td>-0.8616</td>
<td>-0.3037</td>
<td>0.0923</td>
<td>0.60</td>
<td>-0.5067</td>
<td>0.3086</td>
</tr>
<tr>
<td>-0.3769</td>
<td>0.1810</td>
<td>0.0327</td>
<td></td>
<td>0.3019</td>
<td>0.179</td>
</tr>
<tr>
<td>-0.1688</td>
<td>0.3890</td>
<td>0.1513</td>
<td></td>
<td>0.6489</td>
<td>0.2389</td>
</tr>
<tr>
<td>0.1707</td>
<td>0.7285</td>
<td>0.5308</td>
<td></td>
<td>1.2154</td>
<td>0.3868</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Bajaj Auto probability is showing less than 0.5, so the company is having healthy financial status.

Table-17: Shows Zmijewski Score of Hero MotorCrop

<table>
<thead>
<tr>
<th>Year</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>Zmijewski Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.4355</td>
<td>1</td>
<td>0.1393</td>
<td>-0.6218</td>
</tr>
<tr>
<td>2012</td>
<td>0.4486</td>
<td>1</td>
<td>0.2930</td>
<td>-0.6804</td>
</tr>
<tr>
<td>2013</td>
<td>0.3990</td>
<td>1</td>
<td>0.5125</td>
<td>-0.4557</td>
</tr>
<tr>
<td>2014</td>
<td>0.3766</td>
<td>1</td>
<td>0.5882</td>
<td>-0.3544</td>
</tr>
<tr>
<td>2015</td>
<td>0.3647</td>
<td>1</td>
<td>0.7433</td>
<td>-0.2999</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
Table-18: Shows Zmijewski Score of Hero MotorCrop and its Probability

<table>
<thead>
<tr>
<th>Zmijewski Score</th>
<th>X-µ</th>
<th>(X-µ)^2</th>
<th>S.D</th>
<th>(X-µ)^2 / σ</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.621750147</td>
<td>-0.48243</td>
<td>-0.13932</td>
<td></td>
<td>-0.94356</td>
<td>0.1737</td>
</tr>
<tr>
<td>-0.680362226</td>
<td>-0.48243</td>
<td>-0.19793</td>
<td></td>
<td>-1.34053</td>
<td>0.0902</td>
</tr>
<tr>
<td>-0.455746247</td>
<td>-0.48243</td>
<td>0.026687</td>
<td></td>
<td>0.180746</td>
<td>0.0714</td>
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<tr>
<td>-0.354379145</td>
<td>-0.48243</td>
<td>0.128054</td>
<td></td>
<td>0.867282</td>
<td>0.3051</td>
</tr>
<tr>
<td>-0.299929439</td>
<td>-0.48243</td>
<td>0.182504</td>
<td></td>
<td>1.236057</td>
<td>0.3906</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Hero MotoCorp probability is showing less than 0.5, so the company is having healthy financial status.

Table-19: Shows TVS Net Profit Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>NPTA</th>
<th>Net Sales</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>194.58</td>
<td>6288.02</td>
<td>0.03095</td>
</tr>
<tr>
<td>2012</td>
<td>249.07</td>
<td>7126.2</td>
<td>0.03495</td>
</tr>
<tr>
<td>2013</td>
<td>116.02</td>
<td>7065</td>
<td>0.01642</td>
</tr>
<tr>
<td>2014</td>
<td>261.63</td>
<td>7961.85</td>
<td>0.03286</td>
</tr>
<tr>
<td>2015</td>
<td>347.83</td>
<td>10098.22</td>
<td>0.03445</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: TVS NP in 2012 has increased compared to 2011, and in 2013, it has decreased in 2014 & 2015 NP is increased. The company should maintain proper stability. The decrease in NP leads to bankruptcy.

Table-20: Shows Bajaj Net Profit Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>NPTA</th>
<th>Net Sales</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>3339.73</td>
<td>16398.23</td>
<td>0.20366</td>
</tr>
<tr>
<td>2012</td>
<td>3004.05</td>
<td>19528.98</td>
<td>0.15383</td>
</tr>
<tr>
<td>2013</td>
<td>3043.57</td>
<td>19997.25</td>
<td>0.15221</td>
</tr>
<tr>
<td>2014</td>
<td>3243.32</td>
<td>20149.51</td>
<td>0.16096</td>
</tr>
<tr>
<td>2015</td>
<td>2813.74</td>
<td>21612.01</td>
<td>0.13019</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Bajaj NP in 2012 & 2013 has decreased compared to 2011, and in 2014, it has increased. The company should maintain proper stability. The decrease in NP leads to bankruptcy.

Table-21: Shows Hero Net Profit Ratio

<table>
<thead>
<tr>
<th>Year</th>
<th>NPTA</th>
<th>Net Sales</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1927.9</td>
<td>19397.93</td>
<td>0.099387</td>
</tr>
<tr>
<td>2012</td>
<td>2378.13</td>
<td>23579.03</td>
<td>0.100858</td>
</tr>
<tr>
<td>2013</td>
<td>2118.18</td>
<td>23768.11</td>
<td>0.089119</td>
</tr>
<tr>
<td>2014</td>
<td>2109.08</td>
<td>25275.47</td>
<td>0.086482</td>
</tr>
<tr>
<td>2015</td>
<td>2385.64</td>
<td>27585.3</td>
<td>0.086482</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: Hero NP in 2014 it has decreased compared to 2013, and in 2015, it has increased. The company should maintain proper stability. The decrease in NP leads to bankruptcy.

Table-22

<table>
<thead>
<tr>
<th>Year</th>
<th>Probability of Traditional Bankruptcy Model</th>
<th>Probability of Altman Z Score Bankruptcy Model</th>
<th>Probability of Ohlson O Score Bankruptcy Model</th>
<th>Probability of Zmijewisk Score Bankruptcy Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.01197</td>
<td>0.1586</td>
<td>0.986</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>0.01197</td>
<td>0.1515</td>
<td>0.986</td>
<td>0.4168</td>
</tr>
<tr>
<td>2013</td>
<td>0.00798</td>
<td>0.0477</td>
<td>0.993</td>
<td>0.3051</td>
</tr>
<tr>
<td>2014</td>
<td>0.01197</td>
<td>0.4535</td>
<td>0.987</td>
<td>0.3632</td>
</tr>
<tr>
<td>2015</td>
<td>0.01197</td>
<td>0.0909</td>
<td>0.985</td>
<td>0.3936</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
Interpretation: The comparison of probability between these three models shows different values and it has to be considered base on requirement situations.

Graph-4

Sources: Authors Compilation

Table-23

<table>
<thead>
<tr>
<th>Year</th>
<th>Probability of Traditional Bankruptcy Model</th>
<th>Probability of Altman Z Score Bankruptcy Model</th>
<th>Probability of Ohlson O Score Bankruptcy Model</th>
<th>Probability of Zmijewisk Score Bankruptcy Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.07926</td>
<td>0.3943</td>
<td>0.913</td>
<td>0.0495</td>
</tr>
<tr>
<td>2012</td>
<td>0.05962</td>
<td>0.3508</td>
<td>0.875</td>
<td>0.3086</td>
</tr>
<tr>
<td>2013</td>
<td>0.05962</td>
<td>0.4364</td>
<td>0.944</td>
<td>0.1179</td>
</tr>
<tr>
<td>2014</td>
<td>0.06356</td>
<td>0.1761</td>
<td>0.956</td>
<td>0.2389</td>
</tr>
<tr>
<td>2015</td>
<td>0.05172</td>
<td>0.117</td>
<td>0.958</td>
<td>0.3868</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Interpretation: The comparison of probability between these three models shows different values and it has to be considered base on requirement situations.

Graph-5

Sources: Authors Compilation

Table-24

<table>
<thead>
<tr>
<th>Year</th>
<th>Probability of Traditional Bankruptcy Model</th>
<th>Probability of Altman Z Score Bankruptcy Model</th>
<th>Probability of Ohlson O Score Bankruptcy Model</th>
<th>Probability of Zmijewisk Score Bankruptcy Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>0.03586</td>
<td>0.0419</td>
<td>1</td>
<td>0.1737</td>
</tr>
<tr>
<td>2012</td>
<td>0.07535</td>
<td>0.3483</td>
<td>0.989</td>
<td>0.0902</td>
</tr>
<tr>
<td>2013</td>
<td>0.03188</td>
<td>0.0714</td>
<td>0.972</td>
<td>0.0714</td>
</tr>
<tr>
<td>2014</td>
<td>0.03188</td>
<td>0.3749</td>
<td>0.964</td>
<td>0.3051</td>
</tr>
<tr>
<td>2015</td>
<td>0.03188</td>
<td>0.2642</td>
<td>0.954</td>
<td>0.3906</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
**Interpretation:** The comparison of probability between these three models shows different values and it has to be considered base on requirement situations.

**Graph-6**

**FINDINGS**

- While testing with Z Score probability, it was found that three companies are in safe zone because the probability is less than 0.5.
- It was found that O score for three companies was greater than 0.5, so there is a greater probability of bankruptcy.
- It was observed that the three companies are in good financial position by analyzing with Zmijewisk model.
- It showed good financial status for three companies by using traditional model.
- There is a problem with maintaining of current assets in three companies.
- It was observed that equity fluctuations are high.

**SUGGESTIONS**

- The Tvs Motors, Bajaj Auto and Hero MotoCorp current assets are less than the current liabilities; this is to be considered seriously by managers.
- While analyzing with O Score model the Tvs Motors, Bajaj Auto and Hero MotoCorp are showing high bankruptcy position for five years. It can be reduced by good finance cost controlling.
- The Z score uses only 5 components, Zmijewski score uses only 3 components, it advised to consider O score analysis because it includes 9 components and adjusted with inflation.
- Working capital should be properly managed and there is a greater fluctuation in the profits, and it has to be well managed.

**CONCLUSION**

The most important conclusion is that it is possible to predict financial distress and bankruptcy more accurately using the different combinations of financial ratios, when compared to the old and more prestigious model proposals. O-Score model is a proposal with a slightly better prediction performance since it uses the binary logistic regression technique against the existing model proposals of the past researchers. Findings show that none of the existing prediction models could achieve a satisfactory level of prediction performance.

The best model among the existing financial distress prediction models is Ohlson's O-Score Model. Automobile Industries should use O-Score model for prediction of bankruptcy. The probability of bankruptcy is increased over the years and hence steps must be taken to improve the profit. The company that predicts the future and works perfectly in the present shall win at any time.

**REFERENCES**


CREDIT DEFAULT SWAPS: EFFECT ON INDIAN MARKET

Dr. Puttanna K.39

ABSTRACT

Credit Default Swap (CDS) is a traded financial instrument that provides protection against credit risk in exchange for periodic premium payments. The company or entity referenced in the CDS is referred to as the reference entity, and a default by the reference entity is known as a credit event. In the case of a CDS, the protection buyer makes periodic payment to the protection seller in exchange for the right to sell a particular bond issued by the reference entity for face value upon the occurrence of a credit event. The bond is referred to as the reference obligation and the total face value of the bond that is specified in the CDS is known as the swap’s notional principal.

The result also shows that the upfront payments calculated by the proposed method, which are ambiguous, compared to a model that is consistent over the term structure. Therefore, investors do not use the proposed flat hazard rate model as a modeling tool, since this will lead to continuously inconsistent and ambiguous upfront results. The existing empirical evidence on many aspects of the CDS market tends to be mixed. There is mixed evidence on the impact of CDS on the orderly functioning of the primary and secondary markets of the underlying bonds and on creditor incentives, although the CDS market is found to have an important role in the price discovery process.

KEYWORDS

Credit Default Swaps, Financial Instruments, Risk, Primary Market etc.

INTRODUCTION

“Credit Default Swaps - Effect on Indian Market”

Credit Default Swap (CDS) is a traded financial instrument that provides protection against credit risk in exchange for periodic premium payments. It is analogous to an insurance contract between two parties, in which the insurance buyer pays a premium in exchange for loss payments. The company or entity referenced in the CDS is referred to as the reference entity, and a default by the reference entity is known as a credit event. In the case of a CDS, the protection buyer makes periodic payment to the protection seller in exchange for the right to sell a particular bond issued by the reference entity for face value upon the occurrence of a credit event. The bond is referred to as the reference obligation and the total face value of the bond that is specified in the CDS is known as the swap’s notional principal.

LITERATURE REVIEW

The opinions of various authors towards the ‘Credit Default Swaps’ have been briefly discussed. Jerry Tornqvist (2010) tells about CDS in his paper and the results indicate in his paper that the proposed conversion method is inconsistent over time when calculating default probabilities compared to a model that is consistent over the term structure. The argument made by Beumee, et. al. (2009) regarding the proposed conversion method is inconsistent is required to strengthen. The result also shows that the upfront payments calculated by the proposed method, which are ambiguous, compared to a model that is consistent over the term structure. Therefore, investors do not use the proposed flat hazard rate model as a modeling tool, since this will lead to continuously inconsistent and ambiguous upfront results.

The International Organization of Securities Commissions(IOSCO) tells about the Credit Default Swap Market (2012) in their report that there is no conclusive evidence on whether taking short positions on credit risk through naked CDS is harmful for distressed firms or high-yield sovereign bonds. IOSCO will continue to monitor market developments on this issue. The existing empirical evidence on many aspects of the CDS market tends to be mixed. There is mixed evidence on the impact of CDS on the orderly functioning of the primary and secondary markets of the underlying bonds and on creditor incentives, although the CDS market is found to have an important role in the price discovery process.

Patrick Augustiny (2014) reviews the steadily growing literature on sovereign CDS. In addition, it highlights some key debates and discusses controversial statements about the economics of sovereign CDS in relation to basic statistics from the Bank for International Settlements and the Trade Information Warehouse from the Depository Trust and Clearing Corporation. In addition, describes key statistical facts and features of prices, about the market, its players and related trading activities and attempts to raise some thought-provoking questions.

39Assistant Professor, Department of Business Administration, Mangalore University, Karnataka, India, puttannak@hotmail.com
Kevin L. Lam (2007) in his paper ‘An Evaluation of Credit Default Swap and Default-Risk Using Barrier Option’ examined the Merton model of credit risk and introduced its applicability in valuing CDS positions under a plain vanilla setting. Limitations are inherent in the Merton model, particularly its failure to capture the various forms of default timing were noted. As an alternative, a theoretical model using barrier options as a proxy for valuing default risk is introduced to address the limitations in the Merton model. His study concluded that the use barriers of options could possibly offer a more accurate measure of default risk. The implications of this study suggest that other exotic options, such as compound options or Asian-style option should be explore in future studies of credit risk and credit risk modeling.

Stefano Giglio (2011) in his paper Default Swap Spreads and Systemic Financial Risk shows that bond prices and CDS spreads represent a rich information set for learning about joint default probabilities of intermediaries in the financial network. This information set can be used to construct bounds on the probability of systemic events, defined as the probability of several institutions defaulting within a short time horizon. These bounds are the best possible ones given the available information, and they are obtained as the solution to a linear programming problem.

From the above discussions of various authors, it can be said that, there is gain from credit default swaps. CDS are important risk transfer instruments in today’s global economy. CDS opened up important new avenues to speculators. CDS market will play an increasingly important role as an indicator of credit risk development.

OBJECTIVES OF THE STUDY

- To understand the risk and profitability of CDS.
- To understand the vital role of CDS as credit risk derivatives.
- To know about the CDS market and its effect on Indian market.

SCOPE OF THE STUDY

The main purpose of the paper is to know about CDS market and its functions and various products available in the market. CDS are playing an important role as risk transfer instruments in today’s global economy and opened up as an important avenue to the speculators to trade in. It also acts as an indicator of credit risk development.

RESEARCH METHODOLOGY

Data have been collected from the website of association of Credit Default Swaps (www.cmegroup.com) related to currency rates, bond rate and stock levels. Data for a period of three months from 06th February, 2015 to 30th April, 2015 pertaining to CDS have been considered for study. Collected data are arranged separately on daily basis as individual product in case of CDS and country wise in case of currency rates, bond rates and stock level. There are 62 products in case of CDS, 155 countries in case of currency, 55 countries in case of bonds and 81 countries in case of stock level. The number of observations in case of CDS products is 59 and 66 in case of currency, bonds and stock levels.

To study the CDS products, Currencies, Bond Rates, and Stock level descriptive statistics method is applied. The descriptive statistics used for the study are Sum, N, Mean, Standard Deviation, Skewness, Kurtosis, and Maximum / Minimum Quartiles. Regression analysis applied for analyzing the data. For fitting the Simple Regression and Multiple Regression values from February 6th – April 30th of CDS product prices on daily basis have taken. In case of CDS, daily price as Y variable (dependent variable) and Coupon Rate as X variable considered by taking 59 observations. In case of Multiple Regression related to CDS product daily price as Y variable (dependent variable) and Open Interest and daily Volume as X variables considered by taking 59 observations.

For analyzing the risk and returns of Futures stocks, regression measures such as Multiple R square, R square, Significance F, Intercept co-efficient, Observations (N), & P value and X variable co-efficient & P value have been used. A Master Table of simple as well as multiple Regression and summery measure sets was made for the easier analysis and for further calculation. For analyzing the CDS products, Master Table is sorted according to Mean (highest to lowest) in case of summary measure and according to R square in case of Simple and Multiple Regression. In addition, 10 products are Randomly Selected for Interpretation. For analyzing the currency, bonds and stock levels, Master Table is sorted according to Mean. In addition, 10 countries stats are analyzed. Countries like India, Australia, China, United States etc., are selected.
ANALYSIS AND INTERPRETATION

Table-1: Showing Simple Regression of Products of Credit Default Swap

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Observations</th>
<th>R Square</th>
<th>Significance F</th>
<th>Intercept Coefficient</th>
<th>P-value</th>
<th>Coupon Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKIT CDXHY16V5.SR.XR.USD</td>
<td>60</td>
<td>0.638671662</td>
<td>2.51E-13</td>
<td>105.9052</td>
<td>1.1E-111</td>
<td>5.71E-09</td>
<td>5.26E-13</td>
</tr>
<tr>
<td>MARKIT CDXHY14V5.SR.XR.USD</td>
<td>60</td>
<td>0.533913345</td>
<td>3.56E-10</td>
<td>103.2926</td>
<td>3.3E-111</td>
<td>9.23E-09</td>
<td>2.43E-10</td>
</tr>
<tr>
<td>MARKIT CDXIG9V4.SR.XR.USD</td>
<td>60</td>
<td>0.532178483</td>
<td>3.96E-10</td>
<td>101.1111</td>
<td>2.1E-136</td>
<td>-1.3E-09</td>
<td>9.42E-11</td>
</tr>
<tr>
<td>MARKIT CDXIG20.SR.XR.USD</td>
<td>60</td>
<td>0.402631001</td>
<td>4.2E-07</td>
<td>103.5644</td>
<td>9.1E-99</td>
<td>-2.2E-10</td>
<td>8.42E-08</td>
</tr>
<tr>
<td>MARKIT CDXIG14.SR.XR.USD</td>
<td>60</td>
<td>0.390230268</td>
<td>7.54E-07</td>
<td>100.9173</td>
<td>4.4E-150</td>
<td>6.52E-10</td>
<td>1.38E-07</td>
</tr>
<tr>
<td>MARKIT CDXIG18.SR.XR.USD</td>
<td>60</td>
<td>0.368858944</td>
<td>2.01E-06</td>
<td>104.219</td>
<td>8.46E-74</td>
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<td>4.26E-07</td>
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<td>MARKIT CDXHY19.SR.XR.USD</td>
<td>60</td>
<td>0.297506107</td>
<td>4.26E-05</td>
<td>105.5487</td>
<td>5.44E-73</td>
<td>2.71E-09</td>
<td>0.000183</td>
</tr>
<tr>
<td>MARKIT CDXHY15V5.SR.XR.USD</td>
<td>60</td>
<td>0.270335228</td>
<td>0.000126</td>
<td>105.2927</td>
<td>5.7E-106</td>
<td>2.57E-09</td>
<td>4.88E-05</td>
</tr>
<tr>
<td>MARKIT CDXIG19.SR.XR.USD</td>
<td>60</td>
<td>0.254649142</td>
<td>2.92E-07</td>
<td>102.374</td>
<td>3.29E-79</td>
<td>-1E-08</td>
<td>3.93E-05</td>
</tr>
<tr>
<td>MARKIT CDXIG15.SR.XR.USD</td>
<td>60</td>
<td>0.243242777</td>
<td>0.000355</td>
<td>101.1198</td>
<td>2E-126</td>
<td>3.82E-10</td>
<td>9.83E-05</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

The R square is the square of the correlation co-efficient. In R square, the degrees of freedom are not taken into consideration. Therefore, it does not affected by the observations taken for the calculation of regression. The Significance F indicates the overall regressions we have calculated are good fit or not. If the significance F is, less than 0.05 then it is a good fit and if it is more than 0.05 then we will consider regressions are not good fit. In the above table, it is clear that all the Products are significant because their value is less than 0.05

The Intercept is Alpha value. Alpha indicates that if Coupon rate does not give any return then what percentage of return this Product will give. If the returns are positive then it is considered as positive relationship between dependent variable (Coupon Rate) and independent variable (Product Price). If the returns are negative then there is an inverse relationship between dependent variable and independent variable. If we apply this to above table, we can tell that all the products giving positive returns.

The Intercept P value tells us whether the co-efficient is significant or not. Here the level of significance is 0.05%. If P value is less than 0.05, we say that intercept value is significant. That means it significantly influence the Coupon Rate. If the P value is more than 0.05, then it is considered, as intercept value is not significant. If we look at above table, all the 10 products co-efficient is significant because it is having value less than 0.05.

The Coupon co-efficient is Beta. It tells us what is the variation in the Product Price that is caused by the Coupon Rate. The Coupon P value tells us whether the co-efficient is significant or not. Here P indicates Probability. When we look at the above table, it shows that all the Product co-efficient is significant as these are having value less than 0.05.

Table-2: Showing Multiple Regressions of Products of Credit Default Swap

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Observations</th>
<th>R Square</th>
<th>Significance F</th>
<th>Intercept Coefficient</th>
<th>P-value</th>
<th>Open Interest Coefficient</th>
<th>P-value</th>
<th>Daily Volume Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKIT CDXHY16V5.SR.XR.USD</td>
<td>60</td>
<td>0.638672</td>
<td>2.51E-13</td>
<td>105.9052</td>
<td>1.1E-111</td>
<td>5.71E-09</td>
<td>2.56E-13</td>
<td>4.76E-09</td>
<td>0.015067</td>
</tr>
<tr>
<td>MARKIT CDXHY14V5.SR.XR.USD</td>
<td>60</td>
<td>0.533913</td>
<td>3.56E-10</td>
<td>103.2926</td>
<td>3.3E-111</td>
<td>9.23E-09</td>
<td>2.43E-10</td>
<td>7.99E-09</td>
<td>0.036051</td>
</tr>
<tr>
<td>MARKIT CDXIG9V4.SR.XR.USD</td>
<td>60</td>
<td>0.532178</td>
<td>3.96E-10</td>
<td>101.1111</td>
<td>2.1E-136</td>
<td>-1.3E-09</td>
<td>9.42E-11</td>
<td>-9.2E-10</td>
<td>0.124814</td>
</tr>
<tr>
<td>MARKIT CDXIG20.SR.XR.USD</td>
<td>60</td>
<td>0.402631</td>
<td>4.2E-07</td>
<td>103.5644</td>
<td>9.1E-99</td>
<td>-2.2E-10</td>
<td>8.42E-08</td>
<td>-8.6E-11</td>
<td>0.641428</td>
</tr>
<tr>
<td>MARKIT CDXIG14.SR.XR.USD</td>
<td>60</td>
<td>0.39023</td>
<td>7.54E-07</td>
<td>100.9173</td>
<td>4.4E-150</td>
<td>6.52E-10</td>
<td>1.38E-07</td>
<td>1.09E-10</td>
<td>0.798376</td>
</tr>
</tbody>
</table>
The R square is the square of the correlation coefficient. In R square, the degrees of freedom are not taken into consideration. Therefore, it does not affect the observations taken for the calculation of regression. The Significance F indicates the overall regressions we have calculated are good fit or not. If the significance F is, less than 0.05 then it is a good fit and if it is more than 0.05 then we will consider regressions are not good fit. In the above table, it is clear that all the Products are significance because their value is less than 0.05. The Intercept is Alpha value. Alpha indicates that if market does not give any return then what percentage of return this Product will give. If the returns are positive then it is considered as positive relationship between dependent variable (Product Price) and independent variable (Open Interest and Daily Volume). If the returns are negative then there is an inverse relationship between dependent variable and independent variable. If we apply this to the above table, all product is giving positive returns.

The Intercept P value tells about whether the co-efficient is significant or not. Here the level of significance is 0.05%. If P value is less than 0.05, we say that intercept value is significant. That means it significantly influence the market returns. If the P value is more than 0.05, then it is considered, as intercept value is not significant. If we look at above table, products co-efficient is significant because it is having value less than 0.05. The Open Interest co-efficient is Beta. It tells about what is the variation in the product Price that is caused by the open interest. If the value is more than 1, then it gives return more than market return. If it is less than 1, then it gives return less than market return. When we are considering these 5 companies the value of all the products were below 1. The Open Interest P value tells whether the co-efficient is significant or not. Here P indicates Probability. When we look at the above table it shows that all the products co-efficient is significant, as these are having value less than 0.05.

The Daily Volume co-efficient is Beta. It tells about what is the variation in the Product Price that is caused by the Daily volume. If the value is more than 1, then it gives return more than market return. If it is less than 1, then it gives return less than market return. When we are considering the value of all the products were the values of the products are negative, it can be said that, those product price and Daily Volume are moving in the opposite directions. The Daily Volume P value tells whether the co-efficient is significant or not. Here P indicates Probability. When we take a look at the above table it shows that 7 out of 10 products co-efficient is insignificant and remaining 3 products co-efficient is significant, as these are having value less than 0.05.

Table-3: Showing Summery Measure of Products of Credit Default Swaps

<table>
<thead>
<tr>
<th>Product</th>
<th>SUM</th>
<th>N</th>
<th>Mean</th>
<th>STD DIV</th>
<th>MAX</th>
<th>MIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKIT CDXIG18.SR.XR.USD</td>
<td>0.008537</td>
<td>59</td>
<td>0.000145</td>
<td>0.001653</td>
<td>0.00452</td>
<td>-0.0054</td>
</tr>
<tr>
<td>MARKIT CDXIG20.SR.XR.USD</td>
<td>0.008519</td>
<td>59</td>
<td>0.000144</td>
<td>0.001619</td>
<td>0.005793</td>
<td>-0.0053</td>
</tr>
<tr>
<td>MARKIT CDXIG19.SR.XR.USD</td>
<td>0.008323</td>
<td>59</td>
<td>0.000141</td>
<td>0.001587</td>
<td>0.005221</td>
<td>-0.0049</td>
</tr>
<tr>
<td>MARKIT CDXIG18.SR.XR.USD</td>
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<td>3.88E-05</td>
<td>0.000568</td>
<td>0.001712</td>
<td>-0.0014</td>
</tr>
<tr>
<td>MARKIT CDXIG14.SR.XR.USD</td>
<td>0.001552</td>
<td>59</td>
<td>2.63E-05</td>
<td>0.000431</td>
<td>0.001105</td>
<td>-0.0008</td>
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<tr>
<td>MARKIT CDXIG17.SR.XR.USD</td>
<td>0.001121</td>
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<td>1.9E-05</td>
<td>0.000389</td>
<td>0.000967</td>
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<tr>
<td>MARKIT CDXIG21.SR.XR.USD</td>
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<td>0.000376</td>
<td>0.000822</td>
<td>-0.0007</td>
</tr>
<tr>
<td>MARKIT CDXHY14V5.SR.USD</td>
<td>-0.01137</td>
<td>59</td>
<td>-0.00019</td>
<td>0.000201</td>
<td>0.007532</td>
<td>-0.0063</td>
</tr>
<tr>
<td>MARKIT CDXHY12V12.SR.XR.USD</td>
<td>-0.0114</td>
<td>59</td>
<td>-0.00019</td>
<td>0.002857</td>
<td>0.012616</td>
<td>-0.0129</td>
</tr>
<tr>
<td>MARKIT CDXHY15V5.SR.USD</td>
<td>-0.01223</td>
<td>59</td>
<td>-0.00021</td>
<td>0.000299</td>
<td>0.008144</td>
<td>-0.00687</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Quartile 1</th>
<th>Quartile 3</th>
<th>Percentile10</th>
<th>Percentile 90</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.201192</td>
<td>4.286613</td>
<td>-0.00048</td>
<td>0.000761</td>
<td>-0.00149</td>
<td>0.001759</td>
</tr>
<tr>
<td>0.467706</td>
<td>4.692714</td>
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<td>0.000718</td>
<td>-0.00148</td>
<td>0.00181</td>
</tr>
<tr>
<td>0.288933</td>
<td>3.58697</td>
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<td>0.001788</td>
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<td>0.241708</td>
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<td>0.000701</td>
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<tr>
<td>0.327123</td>
<td>0.020192</td>
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<td>0.332759</td>
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<td>-0.00026</td>
<td>0.000216</td>
<td>-0.00049</td>
<td>0.000567</td>
</tr>
</tbody>
</table>
Defaults swaps are important financial instruments because, they allow credit market participants to manage credit exposures in new ways and they represent an needed complement to both the cash and financing markets for credit sensitive instruments. By analyzing the CDS products and major countries Currency, Stock level and Bond rates that the product MARKIT CDXIG18.SR.XR.USD is giving high return and product MARKIT CDXHY15V5.SR.XR.USD is giving low return. Russia currency is giving high and Brazil currency giving low return when we compare to major countries currency. India stock level is giving high and China stock level low mean. Japan bond gives more return and France bond will give low return. The product MARKIT CDXHY12V12.SR.XR.USD is giving high variability and product MARKIT CDXIG21.SR.XR.USD is having less deviation. Russia currency is having high deviation or variability and whereas China currency is having high uniformity or less variability. Japan stock level is having greater variability and Australia stock level is less deviation. Euro Area bonds are having high deviation and South Africa bonds are having high uniformity.

REFERENCES


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(EDITOR-IN-CHIEF)
THE RURAL MARKETING STRATEGIES ADAPTED BY HINDUSTAN UNILEVER LIMITED TO ATTRACT THE CONSUMERS

Dr. S. Prasad

ABSTRACT

Rural marketing determines the carrying out of business activities bringing in the flow of goods from urban sectors to the rural regions of the country as well as the marketing of various products manufactured by the non-agricultural workers from rural to urban areas. Number of strategies like product, price, promotion, distribution, marketing and sales strategies can help various organizations to capture large market share of rural India. However, it is not that easy to operate in rural market because of several problems such as underdeveloped people and underdeveloped markets, Inadequate Media coverage for rural communication, Multi language and Dialects, Traditional Values, Lack of proper physical communication facilities. However, every problem has its solution. So, the problems of rural marketing can be solved by improving infrastructure, transportation, communication, warehousing and packing facilities.

KEYWORDS

Consumer Preference, FMCG Products, Rural Marketing etc.

RURAL MARKETING IN INDIA

In recent years, rural markets have acquired significance, as the overall growth of the economy has resulted into substantial increase in the purchasing power of the rural communities. Because of green revolution, the rural areas are consuming a large quantity of industrial and urban manufactured products. In this context, a special marketing strategy, namely, rural marketing has emerged. Rural marketing in Indian economy can be classified under two broad categories. These are: (i) The market for consumer goods that comprise of both durable and non-durable goods (ii) The market for agricultural inputs that include fertilizers, pesticides, seeds, and so on The concept of rural marketing in India is often been found to form ambiguity in the minds of people who think rural marketing is all about agricultural marketing. However, rural marketing determines the carrying out of business activities bringing in the flow of goods from urban sectors to the rural regions of the country as well as the marketing of various products manufactured by the non-agricultural workers from rural to urban areas. To be precise, Rural Marketing in Indian economy covers two broad sections, namely:

- Selling of agricultural items in the urban areas.
- Selling of manufactured products in the rural regions.

FEATURES OF RURAL MARKETING

Some of the important features or characteristics of Rural Marketing in Indian Economy are being listed below:

- With the initiation of various rural development programme, there have been an upsurge of employment opportunities for the rural poor. One of the biggest cause behind the steady growth of rural market is that it is not exploited and yet to be explored.
- The rural market in India is vast and scattered and offers a plethora of opportunities in comparison to the urban sector. It covers the maximum population and regions and thereby, the maximum number of consumers.

Marketing strategy for Capturing the Rural Consumer

Prof. C. K. Prahalad elaborates on the great opportunity and challenge before the Indian marketers. The main challenge is to deploy technology to come out with rural centric products that would be able to create a new-consuming class out of the poor consumer. Low price and functional value being the driving forces, this new category of products would be able to offer higher value than the ones' currently available in rural markets. Firms have the opportunity to go for the real Indian mass markets that want good quality at lower price points, well designed and packaged, branded and well-advertised, Rural markets currently account for more than fifty percent of the total FMCG consumption in the country. The rural FMCG market has grown significantly in the last five years. The major players in the FMCG category in rural markets are HUL, ITC, Dabur, Marico, Colgate, Nirma, Cavinkare and Godrej. Consumer durables like Usha, Bajaj, Philips, Titan, Godrej, Nokia, Micromax, Karbon,

40Assistant Professor, Department of International Business and Commerce School of Management, Alagappa University, Tamil Nadu, India, prasadselvaraj@gmail.com
LG, Samsung, Hero, and Tata. Among the high priced durables, television has penetrated the rural market with highest degree of success. We shall now discuss each element of the marketing mix and the rural market specific marketing mix strategy.

NEED FOR STUDY

The present study has revealed the extent to which rural consumers living around the rural areas. The consumer requires the product quality, price realization, channels of distribution, availability and promotion. This study attempts to ascertain the view of the rural consumer is pre-purchasing behaviour variables such as attitude towards brand preference and purchase decision making. There were studies about the marketing strategies obtained through the various companies such as P&G, ITC, Colgate Palmolive which focuses on marketing to urban but the study on rural marketing strategies were found to be rare but Hindustan Unilever Limited is a company which caters to the needs of rural market and Hindustan Unilever Limited has a wide range of product mix, many people are prefer to buy a HUL products. Since, this study could supplement the needs of rural marketing strategies of HUL such as Small unit packaging strategies, Premium products strategies through this fulfills the need for the study on rural marketing strategies on Hindustan Unilever Limited.

STATEMENT OF PROBLEM

Rural marketing includes all these activities of assessing, stimulating and converting the rural purchasing power into an effective demand for specific products and with the aim of raising the standard of living. Rural marketing is any marketing activity in which one dominant participant from rural areas. Various factors influence the purchase decisions of the consumers, packaging, brand name, quality, price and promotions are influence the rural purchase. The main problem faced by the rural consumers namely lack of distribution, lack of availability of the products, limited of the choice of the products. Hence, the researcher has to analyze these problems faced by the rural consumers.

REVIEW OF LITERATURE

The research carried out by NCAER (2011) suggested that Indian FMCG covers the industry overview, general economic environment, food inflation, food and beverages industry, household care and personal care. It also covers the market trends and outlook, Union Budget 2010-2011, C-Chou pal, growth in rural areas, regulatory issues namely National Food Processing Policy, FDI policy in retail trading and government policies and initiatives, plus the comparative matrix and SWOT of the industry leading players: Hindustan Unilever Nirma Ltd, Dabur India Ltd, Colgate-Palmolive India Ltd, and Godrej Consumer Products Ltd. It speaks about brand consolidation, product innovations, lifestyle products, third party manufacturing, expanding horizons and backward integration.

Mamatha (2002) explained that consumer behavior is a very complex phenomenon, which needs more efforts to understand, explain and predict. In order to get a clear understanding of the same, every marketer should realize that consumer behavior is, in fact, an assumption every marketing manager must make, if he plans to market on any basis other than hit-or-miss. Although some individuals find it difficult to make this assumption, one must agree that behavior is not so erratic or mysterious that it defies explanation.

Skinner (1990) opined that when a consumer purchases an unfamiliar expensive product he uses a large number of criteria to evaluate alternative brands and spends a great deal of time seeking information and deciding on the purchase. The type of decision making used varied from person to person and from product to product.

Singh (1980) examined that the consumer’s store loyalty and preferences in his study and revealed that nearness, reputation of the store and acquaintance with store owner attracted store loyalty while analyzing correlation between store loyalty and brand loyalty, store loyalty was found stronger than the other. Singh and Singh (1981), while studying the brand loyalty in India observed that, single brand loyalty is very less and dual or multi brand loyalty is existing now. He also ranked reasons for loyalty based on importance of factors such as quality, previous usage, availability and company / brand reputation

Bhavani Prasad and Sitakumari (1987) study found that evaluating the impact of advertising on consumer durables market observed that ‘friends’ is the main influence followed by relatives and hence they should be given more emphasis while planning promotion strategies Advertisement is the next major influencing factor for the consumer durables.

Philip Kotler (1965) opined that, all the models so far developed by various scientists should be used in an integrated manner in order to understand the consumer in general. In his opinion, buying patterns are being influenced by price, quality, availability, service, style, option and image. Depending on the product, involved, different variables and behavioral mechanisms assume different degrees of importance in influencing the purchase decision process.
SCOPE OF STUDY

The researcher has studied about the rural consumer behaviour, brand preferences and pre purchasing behavior. The researcher studied about the strategies like small unit packaging strategies, premium product strategies of Hindustan Unilever Limited. The geographical coverage of the study is limited to Manamadurai only.

OBJECTIVES STUDIED

- To analyze the rural marketing strategies adapted by Hindustan Unilever Limited to attract the consumers.
- To study the demographic profile of the consumers in rural market.

HYPOTHESIS

- There is no significant relationship between the demographic variables viz, age, sex, education, occupation and income of the consumers and the brand preferences of the products in rural consumers.
- There is no significant relationship between the effects of rural marketing strategies on purchase decision making.

RESEARCH METHODOLOGY

Research Design

Research design used in the study was Descriptive research design. A descriptive research design is the one, which is description of the state of affairs, as it exists at present. It includes survey and fact finding enquiries of different kinds. The researcher has no control over the variables.

The study were based on both primary and secondary data for these purpose of collecting primary data a structured questionnaire is prepared on the basis of literature on the subject. The questionnaire consists of questions about personal data of the consumers, sources of information for pre-purchase behaviour, brand preferences, small unit packaging strategies and the problems of rural marketing. Based on the data collected, the final format of the questionnaire was prepared then the researcher had interviewed each respondent and recorded the information supplied by them with respect to every item in the questionnaire.

Sampling Technique

The researcher has adapted Mall Intercept method of sampling which is one of the Non-probability sampling methods to select the sample respondents. A Mall-intercept method is a method whereby respondents are intercepted in shopping malls. The process involves interacting with the shoppers, screening them for appropriateness, and administering the survey on the spot or inviting them to the shopping place to complete the questionnaire.

Sample Size

The target sample for this study is 160 respondents in various areas of Manamadurai that was done independently and they are further divided into 80 males and 80 females that lies in age group of 20–40 including business class, service class, students and house wives, two of the questionnaires were in completed. So that the sample size is 158. The formula for calculating the sample size is as follows:

\[ SS = \frac{Z^2 \times (p) \times (1 - p) \times (1.96)^2 \times 0.5 \times 0.5}{C^2 \times (0.008)^2} = 160 \]

Statistical Tools Used

The collected data have been processed with the help of appropriate statistical tools using SPSS package the tools include Descriptive statistics, Analysis of Variance, Karl Pearson’s Correlation Co-efficient, Factor Analysis.
The Buyer Preferences of HUL Products by Various Members of the Family

Table-1

<table>
<thead>
<tr>
<th>Buyer Preferences</th>
<th>N</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influencer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of Household</td>
<td>158</td>
<td>10</td>
<td>6.3</td>
<td>2.84</td>
<td>0.644</td>
</tr>
<tr>
<td>House Wife</td>
<td></td>
<td>17</td>
<td>10.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td>119</td>
<td>75.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Parents</td>
<td></td>
<td>12</td>
<td>7.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decider</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of Household</td>
<td>158</td>
<td>23</td>
<td>14.6</td>
<td>2.31</td>
<td>0.930</td>
</tr>
<tr>
<td>House Wife</td>
<td></td>
<td>91</td>
<td>57.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td>16</td>
<td>10.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Parents</td>
<td></td>
<td>28</td>
<td>17.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buyer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head of Household</td>
<td>158</td>
<td>89</td>
<td>55.3</td>
<td>1.87</td>
<td>1.161</td>
</tr>
<tr>
<td>House Wife</td>
<td></td>
<td>31</td>
<td>22.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td>10</td>
<td>4.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Parents</td>
<td></td>
<td>28</td>
<td>17.7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Primary Data

From the above table, it represents the descriptive statistics of buyer preferences of Hindustan Unilever Limited products by various members of the family such as influencer to Purchase the products, Decider to buy and the Buyer of the products. Among the influencer category 75.3% of the respondents belong to the children’s, 10.8% of the respondents belong to house wife, 7.6% of the respondents belong to the grandparents and 6.3% of the respondents belong to the head of the household. The mean score of the category was found to be 2.84 and standard deviation was found to be 0.644.

Among the decider category 57.6% of the respondents belong to the housewife, 17.7% of the respondents belong to the grandparents, 14.6% of the respondents belong to the head of household and 10.1% of the respondents belong to the children. The mean score of the respondents was found to be 2.31 and the standard deviation was found to be 0.930. Among the buyer category 55.3% of the respondents belong to the head of the household, 22.7% of the respondents belong to the housewife, 17.7% of the respondents belong to the grandparents and 4.3% of the respondents belong to the children. The mean score of the respondents was found to be 1.87 and the standard deviation was found to be 1.161.

Data Analysis on Inferential Statistics

The inferential statistics includes that the Karl Pearsons Co-efficient Correlation, Multiple Regression analysis, one way ANOVA, Factor Analysis, Garret ranking test.

Table-2: Showing the Relationship between Price and the Sources of Information

<table>
<thead>
<tr>
<th>Pearson Correlation</th>
<th>Newspapers</th>
<th>TV</th>
<th>Relatives</th>
<th>Internet</th>
<th>Hoarding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Pearson Correlation</td>
<td>.440***</td>
<td>.299***</td>
<td>.354***</td>
<td>.175***</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.027</td>
</tr>
</tbody>
</table>

N 158 158 158 158 158

Note: **Correlation is significant at the 0.01 level (2 tailed)
*Correlation is significant at the 0.05 level (2 tailed)

Sources: Authors Compilation

From the above table shows that the correlation exists between price and newspaper, television, relatives, internet and hoardings. Among these variables, the relationship between price and newspaper, TV, relatives are positive and significant at 1% level and the positive relationship between price and internet are significant at 5% level. The relationship between price and hoardings is found to be negative and significant at 1% level.
Table-3: Showing the Relationship between Popularity and the Sources of Information

<table>
<thead>
<tr>
<th>Factors Influencing Pre-purchasing Behaviour</th>
<th>Newspapers</th>
<th>Wall Painting</th>
<th>TV</th>
<th>Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popularity</td>
<td>Pearson Correlation</td>
<td>.470**</td>
<td>.528**</td>
<td>.493**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.005</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

**Note:** **Correlation is significant at the 0.01 level (2 tailed)

**Sources:** Authors Compilation

From the above table shows that the correlation exists between popularity and newspapers, wall painting, TV, internet among these variables the relationship between popularity are positive and significant at 1% level.

Table-4: Showing the Relationship between Discount and the Sources of Information

<table>
<thead>
<tr>
<th>Factors Influencing Pre-purchasing Behaviour</th>
<th>Magazines</th>
<th>Internet</th>
<th>Hoarding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discount</td>
<td>Pearson Correlation</td>
<td>.324**</td>
<td>.367**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.000</td>
<td>.003</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

**Note:** **Correlation is significant at the 0.01 level (2 tailed)

**Sources:** Authors Compilation

From the above table shows that the correlation exists between discount and magazines, internet, hoardings among these variables the relationship between discount and magazines, internet are positive and significant at 1% level. The relationship between the discount and the hoardings is found to be negative and significant at 1% level.

Table-5: Showing the Relationship between Availability and the Sources of Information

<table>
<thead>
<tr>
<th>Factors influencing Pre-purchasing Behaviour</th>
<th>Newspapers</th>
<th>Wall Painting</th>
<th>TV</th>
<th>Retail Shop</th>
<th>Internet</th>
<th>Hoarding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Pearson Correlation</td>
<td>.170'</td>
<td>.343**</td>
<td>-.184'</td>
<td>.361**</td>
<td>.200'</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.032</td>
<td>.000</td>
<td>.021</td>
<td>.000</td>
<td>.012</td>
<td>.001</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

**Note:** **Correlation is significant at the 0.01 level (2 tailed)

*Correlation is significant at the 0.05 level (2 tailed)

**Sources:** Authors Compilation

From the above table shows that the correlation exists between Availability and Newspapers, Wall Painting, TV, Retail Shop, Internet, Hoardings. Among these variables the relationship between availability and newspapers, internet are significant at 5% level. In addition, the positive relationship between availability and wall painting, retail shop, hoardings are significant at 1% level. The relationship between availability and TV is found to be negative and significant at 1% level.

Table-6: Showing the Relationship between Warranty and the Sources of Information

<table>
<thead>
<tr>
<th>Factors Influencing Pre-Purchasing Behaviour</th>
<th>Newspapers</th>
<th>Wall Painting</th>
<th>Relatives</th>
<th>Hoardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warranty</td>
<td>Pearson Correlation</td>
<td>-.084</td>
<td>.064</td>
<td>-.224**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.295</td>
<td>.421</td>
<td>.005</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

**Note:** **Correlation is significant at the 0.01 level (2 tailed)

**Sources:** Authors Compilation
From the above table shows that the correlation exists between warranty and newspapers, wall painting, relatives and hoardings. Among these variables the relationship between warranty and wall painting, hoardings are positive and significant at 1% level. The relationship between warranty and newspapers, relatives are found to be negative and significant at 1% level.

Table-7: Showing the Relationship between Prize and the Sources of Information

<table>
<thead>
<tr>
<th>Factors Influencing Pre-Purchasing Behaviour</th>
<th>Newspapers</th>
<th>TV</th>
<th>Retail Shop</th>
<th>Magazines</th>
<th>Hoardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prize Pearson Correlation</td>
<td>-.293**</td>
<td>-.213**</td>
<td>-.274**</td>
<td>-.313**</td>
<td>.178'</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>.007</td>
<td>.000</td>
<td>.000</td>
<td>.026</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (2 tailed)
* Correlation is significant at the 0.05 level (2 tailed)
Sources: Authors Compilation

From the above table shows that the correlation exists between prize and newspapers, TV, retail shop, magazines and hoardings. Among these variables the relationship between prize and hoardings are positive and significant at 5% level. The relationship between prize and newspapers, TV, retail shop, magazines are found to be negative and significant at 1% level.

Table-8: Showing the Relationship between Special Gift and the Sources of Information

<table>
<thead>
<tr>
<th>Factors Influencing Pre-Purchasing Behaviour</th>
<th>Wall Painting</th>
<th>TV</th>
<th>Relatives</th>
<th>Hoardings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Gift Pearson Correlation</td>
<td>-.160'</td>
<td>-.443**</td>
<td>-.218**</td>
<td>.430**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.045</td>
<td>.000</td>
<td>.006</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>158</td>
<td>158</td>
<td>158</td>
<td>158</td>
</tr>
</tbody>
</table>

Note: ** Correlation is significant at the 0.01 level (2 tailed)
* Correlation is significant at the 0.05 level (2 tailed)
Sources: Authors Compilation

From the above table shows that the correlation exists between special gift and wall painting, TV, relatives and hoardings. Among these variables the relationship between special gift and hoardings are positive and significant at 1% level. The relationship between special gift and wall painting, TV, relatives, hoardings are found to be negative and significant at 5% and 1% level.

Multiple Regression Analysis Showing the Relationship between Small Unit Packaging Products and the Problems of Rural Marketing

Dependent Variable Y= Small unit packaging
Independent variable X1= word of mouth communication
X2= Forced to buying
X3= Lack of distribution
Multiple R=0.451
R Square =0.203
Adjusted R Square=0.177
Standard Error=2.56

The products provided by the HUL using Garret Ranking method- Garret Scores

Table-9 shows the Garret scores.

First, the Garret ranks are calculated by using appropriate Garret ranking formula. Then based on the Garret ranks, the garret table value is ascertained. The tables and scores of each product are multiplied to record scores. Finally by adding percent=100(R-0.5)/N
Where, R=Rank given by the respondents
N= No. of factors ranked by the respondents
Table 9: Percent Position and Garret Value

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Calculation</th>
<th>Calculation Value</th>
<th>Garrets Table Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>100(1-0.5)/4</td>
<td>12.5</td>
<td>73</td>
</tr>
<tr>
<td>2.</td>
<td>100(2-0.5)/4</td>
<td>37.5</td>
<td>57</td>
</tr>
<tr>
<td>3.</td>
<td>100(3-0.5)/4</td>
<td>62.5</td>
<td>43</td>
</tr>
<tr>
<td>4.</td>
<td>100(4-0.5)/4</td>
<td>87.5</td>
<td>27</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table 10: Garret Scores for the Products sold by HUL

<table>
<thead>
<tr>
<th>Products</th>
<th>Rank</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Garrets Score</th>
<th>Garrets Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soaps</td>
<td>1</td>
<td>4818</td>
<td>2336</td>
<td>1971</td>
<td>2409</td>
<td>11534</td>
<td>1</td>
</tr>
<tr>
<td>Shampoos</td>
<td>2</td>
<td>1539</td>
<td>2508</td>
<td>2508</td>
<td>2451</td>
<td>9006</td>
<td>2</td>
</tr>
<tr>
<td>Toothpaste</td>
<td>3</td>
<td>516</td>
<td>1419</td>
<td>2322</td>
<td>2537</td>
<td>6794</td>
<td>3</td>
</tr>
<tr>
<td>Cosmetics</td>
<td>4</td>
<td>1161</td>
<td>1323</td>
<td>891</td>
<td>891</td>
<td>4266</td>
<td>4</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table 10 portrays the garret scores the highest score is awarded to the product “Soap” is ranked as the product first, followed by the “Shampoo”. The lease score is awarded to “Cosmetics” and hence it is inferred that the “Soaps” is the major products provided by the Hindustan Unilever limited.

Factor Analysis for Problems of Rural Marketing

Table 11: Rotated Component Matrix

<table>
<thead>
<tr>
<th>Factors</th>
<th>Component</th>
<th>Factors</th>
<th>Component Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lack of Education</td>
<td>.682</td>
<td>.334</td>
<td>-.264</td>
</tr>
<tr>
<td>Familiarity about the Products</td>
<td>.881</td>
<td>-.308</td>
<td>.025</td>
</tr>
<tr>
<td>Lack of New Products</td>
<td>-.112</td>
<td>.911</td>
<td>.095</td>
</tr>
<tr>
<td>Lack of Distribution</td>
<td>.132</td>
<td>.019</td>
<td>.866</td>
</tr>
<tr>
<td>Over Pricing</td>
<td>.096</td>
<td>.563</td>
<td>-.076</td>
</tr>
<tr>
<td>Forced to Buying</td>
<td>-.396</td>
<td>-.127</td>
<td>.654</td>
</tr>
<tr>
<td>Limited Choice</td>
<td>-.446</td>
<td>-.649</td>
<td>.156</td>
</tr>
<tr>
<td>Influence to Retailers</td>
<td>-.664</td>
<td>-.418</td>
<td>-.075</td>
</tr>
</tbody>
</table>


Sources: Authors Compilation

In this study, the factor analysis has been used to find out the dominant variables influenced in the problems of rural marketing. Through the analysis “Lack of education” (0.682) and “familiarity about the products” (0.881) are identified in the first factor. Familiarity about the products has the highest significant positive loading. The factor one is characterized as good.

The second factor includes the variables namely “lack of new products” (0.911) and over pricing(0.563) are identified in the second factor. Lack of new products has the highest significant positive loading. The factor II is characterized as the arrival of new products.

The third factor consists of the variables lack of distribution (0.688) and forced to buying (0.654) which are identified in the third factor. Lack of distribution networks has the highest significant positive loading. The factor III is characterized as the improvement of the distribution networks.

Through the factor analysis, it is inferred that most of the respondents and their problems have significantly improved. Out of eight factors, six factors are identified and these factors are influenced on their problems of rural marketing.
SUGGESTIONS

- The company must educate to rural marketing schemes for a better performance not only northern states but also in Tamil Nadu and the brand name should be simple and easy to remember and pounce.
- The company has to target the influencers of the family in which they make the decider to buy the products. Therefore, the target element of a rural market should focus on the influencers of the family.
- Necessary efforts have to be initiated to conduct awareness programmes on regular basis.
- Rural marketers should design innovative promotional strategies for rural markets that can express messages easy to the villagers and compatible with their education and understanding levels.

CONCLUSION

Rural marketing has witnessed an increase in the buying power of consumers, accompanied by their desire to upgrade the standard of living. The marketing mix of many companies is now being tailored to rural taste and life style. From the findings of the study, the researcher concluded that there are factors like price of the products, popularity of the products, availability of the products and the sources of information about knowledge of the products, which place an important role in rural consumer buying decisions. Moreover that it can be said that majority of the respondents are satisfied with the selected products of HUL. The rural marketing strategies such as small unit packaging strategies and premium product strategies. The rural consumers are willing to buy a small unit packaging products, Because of the more availability than the premium products of Hindustan Unilever Limited.

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PERCEPTION OF SIDBI ENTREPRENEURS: AN INTROSPECTION

Dr. Shallu Sharma

ABSTRACT

Small Industries Development Bank of India (SIDBI) was established under Section 3(1) of Small Industries Development Act, 1989. The bank was established on April 2, 1990 as a wholly owned subsidiary of Industrial Development Bank of India (IDBI). The bank extends its support through its various schemes for growth, expansion, diversification and rehabilitation of new and existing micro, small and medium (MSME) units. The present paper seeks to examine the perception of entrepreneurs regarding operational aspects of SIDBI. The study is based on the primary data collected through questionnaire from 100 entrepreneurs who have availed loans from the different branches located in the Punjab. So, to ascertain the worth of SIDBI for its entrepreneurs, they were asked to give their opinion on a five-point scale. The respondents perception has been evaluated on the basis of various opinion statements like, 'SIDBI lays emphasis on MSME sector', 'SIDBI provides need-based finance to the entrepreneurs', 'The bank also gives priority to women entrepreneurs', 'The bank aims at boosting the budding entrepreneurs' etc. The results have been analyzed by computing average weighted scores. The analysis revealed that the vast majority of the respondents have given their assent in context to, 'SIDBI lays emphasis on MSME sector' (91 per cent) and 'SIDBI provides need-based finance to the entrepreneurs' (91 per cent). Further, the mean value of average weighted scores related to respondents consent in regard to various opinion statements is highest in Chandigarh branch (4.1077), followed by Ludhiana branch (4.0976) and Jalandhar branch (4.0261). Thus, overall analysis concludes that branch-wise, organisation set up-wise and turnover-wise classification of respondents have shown low level of agreement in comparison to other opinion statements as regard, 'the branch network of the bank is located at convenient places'. Therefore, it is required that more branches should be opened in the Punjab state to cater the diversified needs of entrepreneurs belonging to different areas.

INTRODUCTION

Small Industries Development Bank of India (SIDBI) was established under Section 3(1) of Small Industries Development Act, 1989. The bank was established on April 2, 1990 as a wholly owned subsidiary of Industrial Development Bank of India (IDBI). The bank extends its support through its various schemes for growth, expansion, diversification and rehabilitation of new and existing micro, small and medium (MSME) units. The bank also co-ordinates the functions of other financial institutions engaged in the promotion and financing of MSMEs. The basic motive of this institution is to fill up the gap that exists in the present financial system.

In this context, the present paper seeks to examine the perception of entrepreneurs regarding operational aspects of SIDBI. The study is based on the primary data collected through questionnaire from 100 entrepreneurs who have availed loans from the different branches located in the Punjab. For the purpose of analysis, the collected primary data has been classified as 'branch-wise', 'organisation set up-wise' and 'turnover-wise'. Further, branch-wise respondents have been bifurcated into, 'Jalandhar', 'Ludhiana' and 'Chandigarh', organization set up wise respondents have been divided into 'Proprietorship', 'Partnership' and 'Company' form of organization and turnover-wise respondents have been categorized into, 'below Rs 5 crore', 'Rs 5 to 15 crore' and 'above Rs 15 crore'. So, to ascertain the worth of SIDBI for its entrepreneurs, they were asked to give their opinion on a five-point scale. The respondents perception has been evaluated on the basis of opinion statements like, 'SIDBI lays emphasis on MSME sector', 'SIDBI provides special attention to minorities like S.C., S.T. etc.' 'SIDBI provides need-based finance to the entrepreneurs', 'The bank also gives priority to women entrepreneurs', 'The bank aims at boosting the budding entrepreneurs', 'The bank leads to upliftment of the weaker sections of the society', 'The banks assistance leads to upliftment of the weaker sections of the society' (91 per cent). Further, the mean value of average weighted scores related to respondents consent in regard to various opinion statements is highest in Chandigarh branch (4.1077), followed by Ludhiana branch (4.0976) and Jalandhar branch (4.0261). Thus, overall analysis concludes that branch-wise, organisation set up-wise and turnover-wise classification of respondents have shown low level of agreement in comparison to other opinion statements as regard, 'the branch network of the bank is located at convenient places'. Therefore, it is required that more branches should be opened in the Punjab state to cater the diversified needs of entrepreneurs belonging to different areas.

Average Weighted Scores have been computed for branch-wise, organisation set up-wise and turnover-wise categories of respondents by attributing weights as 5, 4, 3, 2, 1 to ‘strongly agreed’, ‘agreed’, ‘neither agreed nor disagreed’, ‘disagreed’ and ‘strongly disagreed’ respectively. Table 1.2, 1.3 and 1.4 respectively shows branch-wise, organisation set up-wise and turnover-wise distribution of respondents in this regard.

41Assistant Professor, Department of Commerce & Management, Goswami Ganesh Dutta Sanatan Dharma College, Chandigarh, India. shallu_21@rediffmail.com
Table 1.1: Respondents Perception Regarding Various Opinion Statements

<table>
<thead>
<tr>
<th>Opinion Statements</th>
<th>Strongly Agreed</th>
<th>Agreed</th>
<th>Neither Agreed Nor Disagreed</th>
<th>Disagreed</th>
<th>Strongly Disagreed</th>
<th>Average Weighted Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDBI lays emphasis on MSME sector.</td>
<td>55 (55.00)</td>
<td>36 (36.00)</td>
<td>5 (5.00)</td>
<td>2 (2.00)</td>
<td>2 (2.00)</td>
<td>4.40</td>
</tr>
<tr>
<td>SIDBI provides special attention to minorities like S.C. S.T. etc.</td>
<td>40 (40.00)</td>
<td>41 (41.00)</td>
<td>12 (12.00)</td>
<td>4 (4.00)</td>
<td>3 (3.00)</td>
<td>4.11</td>
</tr>
<tr>
<td>SIDBI provides need-based finance to the entrepreneurs.</td>
<td>45 (45.00)</td>
<td>46 (46.00)</td>
<td>4 (4.00)</td>
<td>3 (3.00)</td>
<td>2 (2.00)</td>
<td>4.29</td>
</tr>
<tr>
<td>The bank also gives priority to women entrepreneurs.</td>
<td>37 (37.00)</td>
<td>42 (42.00)</td>
<td>10 (10.00)</td>
<td>6 (6.00)</td>
<td>5 (5.00)</td>
<td>4.00</td>
</tr>
<tr>
<td>The banks assistance leads to upliftment of the weaker sections of the society.</td>
<td>37 (37.00)</td>
<td>43 (43.00)</td>
<td>10 (10.00)</td>
<td>7 (7.00)</td>
<td>3 (3.00)</td>
<td>4.04</td>
</tr>
<tr>
<td>The bank aims at boosting the budding entrepreneurs.</td>
<td>39 (39.00)</td>
<td>44 (44.00)</td>
<td>8 (8.00)</td>
<td>7 (7.00)</td>
<td>2 (2.00)</td>
<td>4.11</td>
</tr>
<tr>
<td>The branch network of the bank is located at convenient places.</td>
<td>32 (32.00)</td>
<td>35 (35.00)</td>
<td>10 (10.00)</td>
<td>15 (15.00)</td>
<td>8 (8.00)</td>
<td>3.68</td>
</tr>
<tr>
<td>The staff of SIDBI is knowledgeable and well acquainted with the loaning procedure.</td>
<td>38 (38.00)</td>
<td>43 (43.00)</td>
<td>11 (11.00)</td>
<td>5 (5.00)</td>
<td>3 (3.00)</td>
<td>4.08</td>
</tr>
<tr>
<td>The financial assistance provided by SIDBI helps in increasing business turnover.</td>
<td>35 (35.00)</td>
<td>41 (41.00)</td>
<td>15 (15.00)</td>
<td>5 (5.00)</td>
<td>4 (4.00)</td>
<td>3.98</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table-1.1 highlights that vast majority of the respondents have given their assent in context to, ‘SIDBI lays emphasis on MSME sector’ (91%), ‘SIDBI provides need-based finance to the entrepreneurs’ (91%), ‘The bank aims at boosting the budding entrepreneurs’ (83%), ‘SIDBI provides special attention to minorities like S.C., S.T. etc.’ (81%), ‘The staff of SIDBI is knowledgeable and well acquainted with the loaning procedure’ (81%), ‘The banks assistance leads to upliftment of the weaker sections of the society’ (80%) and ‘The bank also gives priority to women entrepreneurs’ (79%). Further, 76% of the respondents have given their consent with regard to statement, ‘The financial assistance provided by SIDBI helps in increasing the business turnover’, while 15% of the respondents have shown their indifferent attitude in this regard. Moreover, 23% of the respondents have disagreed about ‘The branch network of the bank is located at convenient places’.

Table-1.2: Average Weighted Scores Corresponding to Opinion Statements

<table>
<thead>
<tr>
<th>Opinion Statements</th>
<th>Jalandhar</th>
<th>Ludhiana</th>
<th>Chandigarh</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDBI lays emphasis on MSME sector.</td>
<td>4.2647</td>
<td>4.4242</td>
<td>4.5152</td>
<td>4.400</td>
</tr>
<tr>
<td>SIDBI provides special attention to minorities like S.C. S.T. etc.</td>
<td>4.1176</td>
<td>4.0303</td>
<td>4.1818</td>
<td>4.1100</td>
</tr>
<tr>
<td>SIDBI provides need-based finance to the entrepreneurs.</td>
<td>4.2353</td>
<td>4.3636</td>
<td>4.2727</td>
<td>4.2900</td>
</tr>
<tr>
<td>The bank also gives priority to women entrepreneurs.</td>
<td>3.9706</td>
<td>4.0303</td>
<td>4.0000</td>
<td>4.0000</td>
</tr>
<tr>
<td>The banks assistance leads to upliftment of weaker sections of society.</td>
<td>3.9118</td>
<td>4.0909</td>
<td>4.1212</td>
<td>4.0400</td>
</tr>
<tr>
<td>The bank aims at boosting the budding entrepreneurs.</td>
<td>4.1765</td>
<td>4.0909</td>
<td>4.0606</td>
<td>4.1100</td>
</tr>
<tr>
<td>The branch network of the bank is located at convenient places.</td>
<td>3.5294</td>
<td>3.7576</td>
<td>3.7576</td>
<td>3.6800</td>
</tr>
<tr>
<td>The staff of SIDBI is knowledgeable and well acquainted with the loaning procedure.</td>
<td>4.0882</td>
<td>4.1212</td>
<td>4.0303</td>
<td>4.0800</td>
</tr>
<tr>
<td>The financial assistance provided by SIDBI helps in increasing business turnover.</td>
<td>3.9412</td>
<td>3.9697</td>
<td>4.0303</td>
<td>3.9800</td>
</tr>
<tr>
<td>Mean Value of AWS</td>
<td>4.0261</td>
<td>4.0976</td>
<td>4.1077</td>
<td>4.0767</td>
</tr>
</tbody>
</table>

Note: The Kendall’s Co-efficient of Concordance= .238, Chi-Square value= 4.286, d.f. = 2, Not significant at 5% level of significance.
Table 1.2 reveals that all the respondents surveyed have strongly agreed with the opinion statement, ‘SIDBI lays emphasis on MSME sector’ (4.4000) and ‘SIDBI provides need-based finance to the entrepreneurs’ (4.2900). Likewise, the respondents have given their assent with respect to all the other opinion statements. Branch-wise analysis reveals that respondents financed by Jalandhar branch have given their consent with regard to, ‘The bank aims at boosting the budding entrepreneurs’ (4.1765). The respondents financed by Ludhiana branch have agreed about the statement that, ‘The staff of SIDBI is knowledgeable and well-acquainted with the loaning procedure’ (4.1212). Further, the respondents belong to Chandigarh branch have expressed their assent with regard to, ‘SIDBI provides special attention to minorities like S.C., S.T. etc.’ (4.1818). However, all the respondents seem to have less agreed to the statement that, ‘The branch network of the bank is located at convenient places’.

The mean value of average weighted scores related to the degree of consent expressed by the respondents in regard to various opinion statements is the highest in Chandigarh branch (4.1077), followed by Ludhiana branch (4.0976) and Jalandhar branch (4.0261). The Kendall’s co-efficient of concordance shows that there exists no significant concurrence of rankings (w=0.238), among the respondents of SIDBI with regard to various opinion statements.

### Table-1.3: Average Weighted Scores Corresponding to Opinion Statements (Organisation Set up-wise classification)

<table>
<thead>
<tr>
<th>Opinion Statements</th>
<th>Proprietorship</th>
<th>Partnership</th>
<th>Company</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIDBI lays emphasis on MSME sector.</td>
<td>4.5263</td>
<td>4.3548</td>
<td>4.2903</td>
<td>4.4000</td>
</tr>
<tr>
<td>SIDBI provides special attention to minorities like S.C., S.T. etc.</td>
<td>4.1579</td>
<td>4.2258</td>
<td>3.9355</td>
<td>4.1100</td>
</tr>
<tr>
<td>SIDBI provides need-based finance to the entrepreneurs.</td>
<td>4.3947</td>
<td>4.2258</td>
<td>4.2258</td>
<td>4.2900</td>
</tr>
<tr>
<td>The bank also gives priority to women entrepreneurs.</td>
<td>4.0263</td>
<td>4.2258</td>
<td>3.7419</td>
<td>4.0000</td>
</tr>
<tr>
<td>The banks assistance leads to upliftment of the weaker sections of the society.</td>
<td>4.1053</td>
<td>4.1613</td>
<td>3.8387</td>
<td>4.0400</td>
</tr>
<tr>
<td>The bank aims at boosting the budding entrepreneurs.</td>
<td>4.2368</td>
<td>4.2581</td>
<td>3.8065</td>
<td>4.1100</td>
</tr>
<tr>
<td>The branch network of the bank is located at convenient places.</td>
<td>3.7368</td>
<td>3.7742</td>
<td>3.5161</td>
<td>3.6800</td>
</tr>
<tr>
<td>The staff of SIDBI is knowledgeable and well-acquainted with the loaning procedure.</td>
<td>4.1842</td>
<td>4.0323</td>
<td>4.0000</td>
<td>4.0800</td>
</tr>
<tr>
<td>The financial assistance provided by SIDBI helps in increasing business turnover.</td>
<td>4.2105</td>
<td>3.9677</td>
<td>3.7097</td>
<td>3.9800</td>
</tr>
</tbody>
</table>

**Mean Value of AWS**

| Total | 4.1754 | 4.1362 | 3.8961 | 4.0767 |

**Note:** The Kendall’s Co-efficient of Concordance= 0.689, Chi-Square value= 12.400, d.f. =2, Not significant at 5% level of significance.

Organisation set up-wise, Table 1.3 shows that all the respondents surveyed have strongly agreed in context to, ‘SIDBI lays emphasis on MSME sector’ and ‘SIDBI provides need-based finance to the entrepreneurs’. The analysis further reveals that the respondents from proprietorship (4.2368) and partnership form of organisation (4.2581) have expressed their consent about statement, ‘The bank aims at boosting the budding entrepreneurs’. The satisfaction level of respondents belong to partnership form of business organisation is identical (4.2105) for opinion statements, SIDBI provides special attention to minorities like S.C., S.T. etc.’ and ‘The bank also gives priority to women entrepreneurs’. Further, the respondents particularly from company form of organisation have shown their consent concerning statement, ‘The staff of SIDBI is knowledgeable and well-acquainted with the loaning procedure’. The table also highlights that all the respondents have shown their divergent view about, ‘The branch network of the bank is located at convenient places’.

The mean value of average weighted scores related to the degree of consent expressed by the respondents in regard to various opinion statements is the highest in proprietorship form of organisation (4.1754), followed by partnership (4.1362) and company (3.8961). The Kendall’s co-efficient of concordance shows that there exists no significant concurrence of rankings (w=0.689), among the respondents of SIDBI with regard to various opinion statements.
The financial assistance provided by SIDBI helped in increasing the business turnover, while 15 percent of the respondents have shown their indifferent attitude in this regard.

Moreover, 23 per cent of the respondents have disagreed about ‘The branch network of the bank is located at convenient places’ and 20 per cent have disagreed about ‘The staff of SIDBI is knowledgeable and well acquainted with the loaning procedure’ (81 per cent). ‘The bank also gives priority to women entrepreneurs’ (79 per cent). Further, 76 per cent of the respondents have given their assent in context to, ‘SIDBI lays emphasis on MSME sector’ and ‘SIDBI provides need-based finance to the entrepreneurs’. Further, the respondents with turnover below Rs 5 crore have expressed their consent about, ‘The banks assistance leads to upliftment of the weaker sections of the society’ (4.1842). The respondents generating turnover of Rs 5 to 15 crore have given their assent in respect to opinion statement, ‘SIDBI provides special attention to minorities like S.C. S.T. etc.’ (4.1628). Similarly, the respondents with turnover above Rs 15 crore have given favourable opinion about, ‘The staff of SIDBI is knowledgeable and well-acquainted with the loaning procedure’ (4.3158). However, the analysis has shown low level of satisfaction as compared to other opinion statements in reference to, ‘The branch network of the bank is located at convenient places’ among the respondents from all turnover groups.

The mean value of average weighted scores related to the degree of consent expressed by the respondents in regard to various opinion statements is the highest for respondents generating turnover above Rs 15 crore (4.1228), followed by those with turnover below Rs 5 crore (4.0936) and those receiving turnover of Rs 5 to 15 crore (4.0413). The Kendall’s co-efficient of concordance shows that there exists significant concurrence of rankings (w=0.022), among the respondents of SIDBI with regard to various opinion statements.

FINDINGS

The vast majority of the respondents have given their assent in context to, ‘SIDBI lays emphasis on MSME sector’ (91 percent), ‘SIDBI provides need-based finance to the entrepreneurs’ (91 per cent), ‘The bank aims at boosting the budding entrepreneurs’ (83 per cent), ‘SIDBI provides special attention to minorities like S.C., S.T. etc.’ (81 percent), ‘The staff of SIDBI is knowledgeable and well-acquainted with the loaning procedure’ (81 per cent), ‘The banks assistance leads to upliftment of the weaker sections of the society’ (80 per cent) and ‘The bank also gives priority to women entrepreneurs’ (79 percent). Further, 76 per cent of the respondents have given their consent with regard to statement, ‘The financial assistance provided by SIDBI helps in increasing the business turnover,’ while 15 percent of the respondents have shown their indifferent attitude in this regard. Moreover, 23 per cent of the respondents have disagreed about ‘The branch network of the bank is located at convenient places.’

The mean value of average weighted scores related to respondents consent concerning various opinion statements is highest in Chandigarh branch (4.1077), followed by Ludhiana branch (4.0976) and Jalandhar branch (4.0261). Further, the respondents consent about various opinion statements is highest in proprietorship form of organisation (4.1754), followed by partnership (4.1362) and Company (3.8961). Further, the intensity of consent expressed by the respondents in regard to various opinion statements is the highest for respondents earning turnover above Rs 15 crore (4.1228), followed by those whose turnover is below Rs 5 crore (4.0936) and those receiving turnover of Rs 5 to 15 crore (4.0413).

Table 1.4: Average Weighted Scores Corresponding to Opinion Statements (Turnover-wise classification)

<table>
<thead>
<tr>
<th>Opinion Statements</th>
<th>Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below 5</td>
</tr>
<tr>
<td></td>
<td>Crore</td>
</tr>
<tr>
<td>SIDBI lays emphasis on MSME sector.</td>
<td>4.3421</td>
</tr>
<tr>
<td>SIDBI provides special attention to minorities like S.C. S.T. etc.</td>
<td>4.1053</td>
</tr>
<tr>
<td>SIDBI provides need-based finance to the entrepreneurs.</td>
<td>4.3684</td>
</tr>
<tr>
<td>The bank also gives priority to women entrepreneurs.</td>
<td>4.0000</td>
</tr>
<tr>
<td>The banks assistance leads to upliftment of the weaker sections of the society.</td>
<td>4.1842</td>
</tr>
<tr>
<td>The bank aims at boosting the budding entrepreneurs.</td>
<td>4.1316</td>
</tr>
<tr>
<td>The branch network of the bank is located at convenient places.</td>
<td>3.7895</td>
</tr>
<tr>
<td>The staff of SIDBI is knowledgeable and well acquainted with the loaning procedure.</td>
<td>3.9737</td>
</tr>
<tr>
<td>The financial assistance provided by SIDBI helped in increasing business turnover.</td>
<td>3.9474</td>
</tr>
<tr>
<td>Mean Value of AWS</td>
<td>4.0936</td>
</tr>
</tbody>
</table>

Note: The Kendall’s Co-efficient of Concordance= 0.022, Chi-Square value= 0.400, d.f. =2, Significant at 5 per cent level of significance.
CONCLUSION

The perception of respondents regarding various opinion statements showed that majority of the respondents surveyed have strongly agreed about statement, ‘SIDBI lays emphasis on MSME sector’ and ‘SIDBI provides need-based finance to the entrepreneurs.’ Further, branch-wise, organisation set up-wise and turnover-wise classification of respondents have shown low level of agreement in comparison to other opinion statements as regard, ‘the branch network of the bank is located at convenient places’. It is thus necessary that SIDBI should open more branches near industrial areas for easy accessibility of entrepreneurs.

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FOREIGN REMITTANCES OF THE NON-RESIDENT KERALITES: A STUDY OF ITS IMPACT ON KERALA BASED PRIVATE BANKS

Dr. Manoj P. K.42

ABSTRACT

Kerala has the unique distinction of having abundance of funds from the Non-Resident Indians (NRIs) more popularly called Non-Resident Keralite (NRKs). Of late, it is noted that NRK remittances contribute nearly one-third of Kerala’s gross state domestic product (GSDP). Earlier studies have revealed that huge remittances of NRKs have positive influence on the performance of banks based in Kerala, particularly the private sector banks. Considering the enviable track record of private banking in Kerala from the time immemorial and the fact that even in this 2016 as high as four out of the total 13 old private sector banks (OPBs) in India are of Kerala-origin, this paper makes a closer study of the impact of NRK remittances on the business performance of the Kerala-based OPBs; using the data available till 2015. Based on the findings of the study the paper suggests strategies for the enhanced performance of Kerala-based OPBs.

KEYWORDS

Non-Resident Keralite (NRKs), Old Private Sector Banks, NR Deposits, CD Ratio etc.

INTRODUCTION

Kerala has an enviable history of private banking in the whole of India. Even in the nineteenth century, there existed one Kerala-based bank (viz. the Nedungadi Bank established in 1899 by Appu Nedungadi at Kozhikode). In fact, Nedungadi Bank was one among the five banking establishments existing in India during those days; the other four banks being Allahabad Bank (1965), Oudh Commercial Bank (1881), Ayodhya bank (1884), and Punjab National Bank (1894). This is because of the fact that right from historical times Kerala had a climate that is conducive for banking [Manoj P K, 2010 (a) [9]. Kerala was one of the most over-banked state in India during the pre-independence era, and there were many instances of failure of such banks too. The number of Kerala based banks have been on the decline because of consolidations (like, take-overs, acquisitions, mergers etc. owing to bank failures). Still, even in this 2016 as high as four old private sector banks (OPBs) are based in Kerala out of the total 13 OPBs in the whole of India. Therefore, Kerala is still ahead of other states in India. The vast network of private banks in Kerala contributed tremendously towards the growth of banking system in the state [Manoj P K, 2010 (a) [9] & 2010 (b)] [10]. Because of the vast population of Keralite in other countries, often called Non-Residents Keralite (NRKs), who constitute a large segment of the total NRls (Non Resident Indians), the huge NRK remittances into Kerala have been a boon to the banking system of the state. In Kerala, the service sector dominates its economy. Kerala leads most of the other Indian states in respect of per capita GDP and several socio-economic indices particularly those related to education; healthcare etc. Human Development Index (HDI) of Kerala is the best in India. Kerala. The higher development indices of Kerala are supposed to be significantly because of the large foreign remittances into the state by the NRKs.

The low productivity figures for the state juxtaposed with higher development figures than in most Indian states is often dubbed the ‘Kerala Phenomenon’ or the ‘Kerala Model’ of development by economists, political scientists, and sociologists. Some call Kerala’s economy as a ‘democratic socialist welfare state’ while some others term it as a ‘Money Order Economy’ looking into the huge inflow of foreign funds into Kerala, but relatively low internal production. Kerala can boast of an enviable history of private banking from the time immemorial, as already noted, and the availability of huge NRK deposits makes the funds position of Kerala-based banks relatively more comfortable than banks elsewhere in the country.

EARLIER STUDIES AND RESEARCH GAP

Amandeep (1983) [1] has studied the various factors which affect the profitability of commercial banks in India with the help of multiple regression analysis. Tools like, trend analysis, ratio analysis are also used along with multiple regression analysis. Angadi and Devraj (1983) [2] have studied the factors determining the profitability and productivity of public sector banks (PSBs) in India and have observed that though PSBs have discharged their social responsibilities, their limitations in respect of effective mobilization of funds at lower costs, attracting retail banking business, augmenting earnings from other sources, effective cash and portfolio management etc. have resulted in their lower productivity and profitability. Chakrabarty, (1986)5 has made an empirical study of the relative performance of different groups of banks (public, private and foreign) based on three basic parameters viz.(i) profit, (ii) earnings, and (iii) expenses. The author has computed Herfindahl’s index to measure the inequality in

42Assistant Professor, Department of Applied Economics, Cochin University of Science and Technology (CUSAT), Kerala, India, manoj_p_k2004@yahoo.co.in

the sharing of profits, earnings and expenses by each group of banks. The author has suggested that scheduled commercial banks should take up some exercise to evaluate the relative performance of each of their offices for more profit that is effective planning. Arora, S. and Kaur, S (2008)[3] have studied the internal determinants of diversification moves by banks taking two dependent variables, (i) net interest margin, (ii) non-interest margin. It has been noted that the explanatory variables viz. (i) risk, (ii) technological change, (iii) cost of production, and (iv) regulatory cost have significant influence on the variations in the structure of income of the banks.

Manoj P K (2010) (a) [10] in his research paper “Determinants of Profitability and Efficiency of Old Private Sector Banks in India with Focus on Banks in Kerala State: An Econometric Study” in International Research Journal of Finance and Economics (IRJFE) has sought to identify the determinants of profitability and efficiency of Old Private sectors Banks (OPBs) in India with a focus on Kerala-based OPBs (or, KOPBs). In another study by the author, Manoj P K (2010) (b) [10] entitled “Financial soundness of old private sector banks (OPBs) in India and benchmarking the Kerala based OPBs: a ‘CAMEL Approach’ in American Journal of Scientific Research (AJSR), the author has made a study of the financial soundness of 13 Old Private sector Banks (OPBs) in India with a focus on the Kerala-based OPBs (KOPBs), the data used being those for 10 years from FY 2000 to FY 2009. The poor performance of three out of the total four KOPBs, i.e. all KOPBs, except Federal Bank (FB), was revealed in the study. Even FB, the best performer among KOPBs, was included only in the second group (‘Good’) of OPBs though as the top-most player. Kumar, Mishra A. et. al. (2012)[7] who have studied soundness of Indian commercial banks for a 11-years' period (FY 2001 to FY 2011) using CAMEL model, the banks included being 12 major banks in the public and private sector, all private sector banks included being new generation banks. Aravind, Maddali & Nagamani, Pallutla (2013) [4] have done financial analysis of State Bank of India, for the period FY 2000 to FY 2012. Erari, Anita. et.al (2013)[6] who have analyzed the financial performance of PT. Bank Papua in Indonesia.

In spite of many studies on the financial soundness of commercial banks in India, those focusing on Kerala-based OPBs (KOPBs) are very rare. The author’s own study Manoj P K (2010) (b) [10] is an exception to this but it has covered only upto FY 2009. Hence this study has been explored further by the author in a more recent study using ten years’ data till FY 2013, viz. Manoj P K (2014) [12] entitled, “Financial Soundness of Old Private Sector Banks (OPBs) in India with a Focus on Kerala-based OPBs (KOPBs): A Re-look”. This study has revealed the changes that have taken place in the relative position in financial soundness of the OPBs as of FY 2013 vis-à-vis their position as of FY 2009.

In a more recent study by Manoj P K (2013) [11] entitled as ‘Foreign remittances of the Non-Resident Keralite and the Performance of Kerala based Private Banks’ the author has studied the impact of the NRK remittances on the performance of Kerala-based banks. A very recent study report, India Migration Report, by Irudaya Rajan (2015) [8], inter alia, deals in detail the implications of migration from India (Kerala as well as other parts of India), the linkage between migration and gender, etc. In a very recent study by Reni Sebastian (2015) [15] focusing on remittances from migrants from Kerala staying in foreign countries and their influence on banks in Kerala a positive impact has been noted, similar to the observation by the author’s own earlier study, Manoj P K (2013) [11]. In spite of a number of studies as above, including the one by the present author, Manoj P K (2013) [11], studies that focus on the four Kerala-based Old Private sector Banks (OPBs) are virtually nil. Hence, this paper makes a focused study on the impact of NRK remittances on the four Kerala-based OPBs, largely as a continuation of authors earlier work, Manoj P K (2013) [11]. The motivation for this study is the changes observed in further exploration of an original study using the latest data; like the one already pointed out viz. Manoj P K (2014)[12] which is a re-look of Manoj P K (2010)(b)[10].

RELEVANCE AND SIGNIFICANCE OF THE STUDY
The ‘Kerala Phenomenon’ arises primarily from Kerala's land reforms, social upliftment of the entire communities and reforms introduced by the communist party which held the state for a long period of time Kerala's economic progress is above the national average, but relatively few major corporations and manufacturing plants are headquartered in Kerala. As of 2013, it is noted that Kerala has attained a Gross State Domestic Product (GSDP) which is higher than the GDP of India consecutively for the last two years (2012 and 2013) Manoj P K (2013) [11]. Besides, funds from the NRKs contribute substantially to Kerala’s GSDP. There were 3430889 NORKs as of 2011 as against 33,50,538 in 2008. As of 2011, as high as Rs.49,965 Crore accounting for 31.2 per cent of the GSDP of Kerala was the share of NORKs. Besides, as high as four out of the total 13 old (traditional) private banks (OPBs) in India are located in Kerala, as of 2013. Besides, one among the total 27 public sector (government-owned) banks (PSBs) viz. State Bank of Travancore (SBT) is also head quartered in Kerala. The four Kerala-based OPBs (KOPBs) alone are focused in this paper, and the case of Kerala-based PSB viz. SBT is not within its purview.

In Manoj P K (2010) (a) [9], “Determinants of Profitability and Efficiency of Old Private Sector Banks in India with Focus on Banks in Kerala State: An Econometric Study”, the various determinants of profitability and efficiency of KOPBs have been sought to be identified by the present author. However, aspects like the deposits, credit, credit-deposit ratio (CDR) etc. of KOPBs have not been analyzed in detail in the above research paper. The fact is that KOPBs are substantially benefitted NRK remittances,
and NR deposits constitute 30 to 50 per cent of the total deposits of KOPBs. In this context, it is relevant to study the impact of NRK remittances (in terms of NR deposits) on the performance of KOPBs. This paper is an attempt in this direction.

OBJECTIVES OF THE STUDY

The objectives of this study are (i) to analyze the influence of remittances from Non-Resident Keralite (NRKs) on the growth of banks functioning in Kerala, particularly the Kerala-based Old Private sector Banks (KOPBs), (ii) to study the pattern of non-resident (NR) deposits of the KOPBs and that of the Credit Deposit Ratio (CDR), and (iii) to suggest strategies for the sustained growth of KOPBs, given their peculiar features especially their access to NR deposits.

METHODOLOGY AND DATA SOURCES

The study is primarily exploratory in nature, and is descriptive-analytical too. Data from secondary sources like the publications of the Reserve Bank of India (RBI), State Level Bankers’ Committee (SLBC) (Kerala), research journals, reputed business dailies and such other periodicals are used for the study. These are analyzed using popular tools of statistical analysis, to arrive at meaningful conclusions from the findings of the study.

REMITTANCES OF NON-RESIDENT KERALITES (NRKS) AND THE KERALA ECONOMY: A REVIEW

A constant and steady rise in the immigration of the nationals from Kerala to the foreign countries like the gulf countries, the UK, the US etc. has been there since the mid-1900s and this trend continues even now. This trend is more prominent during the ongoing era of globalization, particularly in the post-2000 regime. Other immigrants have come as asylum seekers, seeking protection as refugees under the United Nations 1951 Refugee Convention, or from member states of the European Union, exercising one of the European Union's Four Freedoms. About 23.65 lakhs Keralite are working abroad, mainly in Persian Gulf; to where migration started with the Gulf Boom. The Kerala Economy is therefore largely dependent on remittances.

The ‘Kerala Phenomenon’ arises from Kerala's land reforms, social upliftment of the entire communities, huge remittances from abroad from Non-Resident Keralite (NRKs), and reforms introduced by the communist party. For a long period, Kerala's economic progress is above the national average, though relatively few major corporations and manufacturing plants are headquartered in Kerala. It is noted that Kerala has attained a Gross State Domestic Product (GSDP) that is higher than the GDP of India for the last four years (2012, 2013, 2014 and 2015). Besides, funds from the NRKs contribute substantially to Kerala’s GSDP. As of 2011, as high as Rs.49,965 Crore accounting for 31.2 per cent of the GSDP of Kerala was the share of NRKs. There were 3430889 NORKs as of 2011 as against 33,50,538 in 2008.

At the global level itself, the performance of Kerala is commendable. As of 2013, NRK remittances account for not less than one-fifth (20 per cent) of the total NRI remittances to India. While India received a total foreign remittances of USD 71 Billion in 2013 which is higher by USD 2 Billion than the corresponding figure of 2012 (USD 69 Billion), one-fifth of the same is contributed by Kerala state – the small and southernmost state in India. [Manoj P K (2013)] [11]. The recent report by the World Bank (2014) [18] has pointed out that India would be the top destination for global remittances in 2014 pushing China to the second position. Huge remittances from Non-Resident Keralite (NRKs), have got tremendous influence on the performance of Kerala-based banks, particularly the private sector banks. Remittances from NRKs contribute nearly one-third of Kerala’s gross state domestic product (GSDP).
The study by Manoj P K (2013) [11] on the foreign remittances by the NRKs using the data till Dec. 2013 has noted the high significance of the business from NRKs on the running of Kerala-based OPBs. The status in this regard based on the more recent data till June 2015 is shown in Table I. Accordingly, as of June 30 2015, the NRI deposits in the banks in Kerala are as high as Rs. 1.17 lakh Crore (Table I).

Table-I: NRK Remittances and the Performance of Commercial Banks in Kerala

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Percentage</td>
<td>Value</td>
<td>Percentage</td>
<td>Value</td>
</tr>
<tr>
<td>Number of Branches</td>
<td>5004</td>
<td>5331</td>
<td>5755</td>
<td>6010</td>
<td>255</td>
</tr>
<tr>
<td>Number of ATMs</td>
<td>4419</td>
<td>5111</td>
<td>7284</td>
<td>7951</td>
<td>667</td>
</tr>
<tr>
<td>Total Deposits</td>
<td>20948991</td>
<td>239214</td>
<td>283928</td>
<td>328763</td>
<td>44835</td>
</tr>
<tr>
<td>Deposits from NRKs (Percentage)</td>
<td>5566261</td>
<td>75883</td>
<td>94097</td>
<td>117349</td>
<td>23252</td>
</tr>
<tr>
<td>Domestic Deposits (Percentage)</td>
<td>15382730</td>
<td>163331</td>
<td>189831</td>
<td>214141</td>
<td>21583</td>
</tr>
<tr>
<td>Total Advances</td>
<td>15199917</td>
<td>174331</td>
<td>192561</td>
<td>218739</td>
<td>71013</td>
</tr>
<tr>
<td>CD Ratio (CDR)</td>
<td>72.56</td>
<td>72.88</td>
<td>67.82</td>
<td>66.53</td>
<td>-1.29</td>
</tr>
</tbody>
</table>

Sources: State Level Bankers Committee (SLBC), Kerala, June 2015 Statistics

From Table I it is noted that as noted in the findings of Manoj P K (2013) [11] in respect of the recent years viz. 2014 and 2015 also there is commendable improvement in NRK remittances as evident from the steady growth. As shown in Figure I, there is a constantly rising trend in NRK deposits and constantly falling trend in Resident (Domestic) deposits. In absolute terms the advances (credit) of banks in Kerala is on the rise year after. However, in relative terms i.e. credit as a percentage of deposits accepted or as Credit Deposit Ratio (CDR), the credit has been generally on the decline. There is a constantly declining trend in respect of CDR of banks functioning in Kerala, which suggests that their fast growing deposits, primarily because of huge inflow of NRK remittances, could not be effectively recycled in the form of credit (advances). It may be noted that there is an utmost need for encouraging credit and hence improving the Credit Deposit Ratio (CDR) by the banks in Kerala (Table I). Credit should go up to keep pace with growing deposits of the banks in Kerala so that CDR is maintained at more comfortable levels (Figure I).

Figure-I: Trend of Deposits (Non-Resident & Resident) and CD Ratio of Banks in Kerala

Sources: State Level Bankers Committee (SLBC), Kerala, June 2015 Statistics

In Figure I, the fast declining trend in CDR of the banks in shown accordingly there is a high negative slope of (-) 2.315 resulting in a CDR of just 66.53 per cent as of June 2015 as against as high as 72.56 per cent as of June 2012.

REMITTANCES OF NON-RESIDENT KERALITES (NRKS): NON-RESIDENT (NR) DEPOSITS BANKS

The case of the four Old Private sector Banks (OPBs)\(^3\) based in Kerala are discussed in this session. These Kerala-based OPBs (KOPBs, in short) are (i) Federal Bank Ltd. (FB), (ii) South Indian Bank Ltd. (SIB), (iii) Catholic Syrian Bank Ltd. (CSB), (iv) Dhanalaxmi Bank Ltd. (DB). Including these four KOPBs, there are 13 OPBs in India. Besides, there are seven New Generation Private sector Banks (NGPBs)\(^4\), all of which are of origin outside Kerala. The performance of these four Kerala-based old private...
sector banks (KOPBs) in response to NRK remittances (measured in terms of their NR deposits) over the last four years viz. June 2012 to June 2015 alone are analyzed in detail in this paper. But, even though the focus of attention is the group of four KOPBs (and the four KOPBs individually), the general scenario in respect of all major groups of commercial banks (CBs) functioning in Kerala is also studied; these groups being (i) All CBs, (ii) All public sector banks (PSBs), and (iii) All private banks. (Table II).

From Table II, it is noted that there is a significant improvement in the deposits of the four KOPBs in the four years’ period, as their deposits have steadily increased from Rs. 5542697 Lakhs (June 2012) to as high as Rs. 9115793 Lakhs (June 2015); an increase of 65.5 per cent over the four years. On a closer analysis, it is noted that this increase in deposits has essentially been because of non-resident (NR) deposits, or more specifically the deposits of non-resident Keralite (NRKs). This is because of the fact that in the total deposits of KOPBs, the NR deposits have been steadily on the rise year after year, from 27.17 per cent in June 2012 to as high as 42.58 per cent in June 2015. Moreover, it is noted that a steady and constant increase of NR deposits (during June 2012 to June 2015 period) is observed not only in respect of KOPBs alone, but also across all broad groups of banks as follows: (i) All commercial banks (CBs) functioning in Kerala, from 26.57 per cent to 35.69 per cent; (ii) All public sector banks (PSBs) functioning in Kerala, from 26.15 per cent to 33.05 per cent; (iii) All private banks functioning in Kerala (these include KOPBs as well), from 27.39 per cent to 40.34 per cent. (Table II).

In respect of the group of four KOPBs in particular, as already noted above, the increase in NR deposits over the period June 2012 to June 2015 is from 27.17 per cent to 42.58 per cent. The case of individual the four individual KOPBs are as follows: (i) Federal Bank (FB), the largest KOPB, from 23.65 per cent to 37.06 per cent, (ii) Catholic Syrian Bank (CSB), the third largest KOPB, from 18.78 per cent to 29.65 per cent, and lastly (iv) Dhanalakshmi Bank, the fourth and the smallest KOPB, from 12.95 per cent to 18.79 per cent. (Table II).

### Table II: NRK Remittances and the Performance of KOPBs – A Comparative Perspective

<table>
<thead>
<tr>
<th>Particulars – the four KOPBs</th>
<th>June 2012</th>
<th>June 2013</th>
<th>June 2014</th>
<th>June 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Branches (Nos) – 04 KOPBs</td>
<td>1349</td>
<td>1390</td>
<td>1460</td>
<td>1476</td>
</tr>
<tr>
<td>Total Deposits – 04 KOPBs</td>
<td>5542697</td>
<td>6576819</td>
<td>7777119</td>
<td>9115793</td>
</tr>
<tr>
<td>Total Advances – 04 KOPBs</td>
<td>2777891</td>
<td>3309219</td>
<td>3899874</td>
<td>4467051</td>
</tr>
<tr>
<td>NR Deposits – 04 KOPBs</td>
<td>1505872</td>
<td>2411342</td>
<td>3031878</td>
<td>3881501</td>
</tr>
<tr>
<td>Resident Deposits (%) – 04 KOPBs</td>
<td>72.83</td>
<td>63.34</td>
<td>61.02</td>
<td>57.42</td>
</tr>
<tr>
<td>NR Deposits (%) – 04 KOPBs</td>
<td>27.17</td>
<td>36.66</td>
<td>38.98</td>
<td>42.58</td>
</tr>
<tr>
<td>NR Deposits (%) – All PSBs</td>
<td>26.15</td>
<td>29.39</td>
<td>30.70</td>
<td>33.05</td>
</tr>
<tr>
<td>NR Deposits (%) – All Private Banks</td>
<td>27.39</td>
<td>36.06</td>
<td>37.57</td>
<td>40.34</td>
</tr>
<tr>
<td>NR Deposits (%) – All CBs</td>
<td>26.57</td>
<td>31.72</td>
<td>33.14</td>
<td>35.69</td>
</tr>
<tr>
<td>NR Deposits (%) – FB</td>
<td>34.28</td>
<td>47.65</td>
<td>49.71</td>
<td>52.41</td>
</tr>
<tr>
<td>NR Deposits (%) – SIB</td>
<td>23.65</td>
<td>31.51</td>
<td>32.73</td>
<td>37.06</td>
</tr>
<tr>
<td>NR Deposits (%) – CSB</td>
<td>18.78</td>
<td>21.64</td>
<td>26.89</td>
<td>29.65</td>
</tr>
<tr>
<td>NR Deposits (%) – DB</td>
<td>12.95</td>
<td>14.39</td>
<td>15.67</td>
<td>18.79</td>
</tr>
<tr>
<td>CD Ratio (%) – 04 KOPBs</td>
<td>46.86</td>
<td>47.64</td>
<td>48.44</td>
<td>47.33</td>
</tr>
<tr>
<td>CD Ratio (%) – All Private Banks</td>
<td>62.01</td>
<td>62.45</td>
<td>60.05</td>
<td>59.21</td>
</tr>
<tr>
<td>CD Ratio (%) – All CBs</td>
<td>72.56</td>
<td>72.88</td>
<td>67.82</td>
<td>66.53</td>
</tr>
<tr>
<td>CD Ratio (%) – FB</td>
<td>53.68</td>
<td>51.6</td>
<td>51.81</td>
<td>48.37</td>
</tr>
<tr>
<td>CD Ratio (%) – SIB</td>
<td>49.93</td>
<td>53.35</td>
<td>50.26</td>
<td>53.65</td>
</tr>
<tr>
<td>CD Ratio (%) – CSB</td>
<td>47.5</td>
<td>46.29</td>
<td>44.55</td>
<td>42.69</td>
</tr>
<tr>
<td>CD Ratio (%) – DB</td>
<td>36.31</td>
<td>39.3</td>
<td>47.12</td>
<td>44.62</td>
</tr>
</tbody>
</table>

**Sources:** State Level Bankers Committee (SLBC), Kerala, Statistics up to June 2015.

It is noted that NR deposits have had positive impact on all bank groups and on each of the four KOPBs under detailed study (Table II). The impact has been steady and constant across all the bank groups and the four individual KOPBs, as noted above. But, it is noted as follows: (i) Private banks are impacted more than the public sector banks (PSBs); (ii) KOPBs within the private banks are impacted more than the broader group of all private banks, and also (iii) among the KOPBs, Federal Bank (FB) has got the highest share of NR deposits, and is followed by South India Bank, Catholic Syrian Bank (SIB), and Dhanalakshmi Bank (DB) in that order. The share of NR deposits of FB (52.41 per cent) is higher than the average in respect of all KOPBs (42.58 percent), or all private banks (40.34 per cent) and all CBs (35.69 per cent).
TREND OF NR DEPOSITS AND CD RATIOS OF THE INDIVIDUAL KOPBs: A COMPARATIVE STUDY

Now let us make a comparative study of the trend of the share of NR deposits of the four KOPBs and the trend in respect of their CD ratios over the years. From Table II, it is noted that there is a clear positive trend in the share of NR deposits, showing a constant increase year after year. However, NR deposits of Federal Bank (FB) is the highest of all and its growth rate too is the highest (slope 5.645) whereas that all KOPBs taken together comes second with a growth rate (slope) of 4.855. All the three other KOPBs have their growth rates in NR deposits lower than the average for all KOPBs as above viz. 4.855. South Indian Bank (SIB) follows KOPBs with a growth rate of 4.145 and in turn is followed by Catholic Syrian Bank (CSB) with a growth rate of 3.786. Dhanalaxmi Bank (DK) comes last with the least share of NR deposits and the lowest growth rate of these deposits of just 1.88. (Figure II).

Figure II: Trend of NR Deposits of KOPBs as a Whole and the Individual KOPBs

Figure III shows the trend in respect of the credit deposit ratios (CD ratios or CDRs) of the KOPBs as a whole and also that of the four individual KOPBs. It is noted that SIB comes first in respect of CD ratio with an average value of 49.78 per cent and a positive slope of 0.807; unlike in the case of the NR deposits wherein SIB’s position was quite below FB as well as KOPBs as a whole. FB comes second whose CD ratio is falling (slope -1.572) from an initially high value of 53.68 per cent in June 2012. Falling CD ratio of FB is a matter of concern for FB.

Figure III: Trend of CD Ratios of KOPBs as a Whole and the Individual KOPBs

From Figure III, it is further noted that CD ratio of KOPBs as a whole comes third and its average value is about 47 and is growing with a small positive slope of 0.2232. As in the case of NR deposits, two KOPBs viz. CSB and DB, in that order, have lowest positions for CD ratio too. CSB’s CD ratio is fast declining year after year with a negative slope (-1.617, higher than FB) from an initially high CD ratio of 47.5 per cent. In respect of DB, the CD ratio is fast growing from an initial low value of 36.31 per cent at a high rate (slope 3.275) to reach a reasonably high value of 44.62 in June 2015. (Figure III).
SUMMARY OF FINDINGS AND SUGGESTIONS

The major findings of this study may be summarized as follows:

- The share of NR deposits has been increasing steadily in respect of all KOPBs and all bank groups. This increasing trend is similar in all cases studied, banks and bank-groups. Therefore, NRK remittances do have a definite positive impact on all banks functioning in Kerala.
- Federal Bank has been the largest beneficiary of NR deposits among all banks as is evident from its highest and fast growing trend in the percentage share of NR deposits. FB is also the only KOPB with a share of NR deposits higher than the average for all KOPBs.
- All the other three KOPBs than FB (viz. SIB, CSB and DB) have had their shares of NR deposits lower than the average for all KOPBs; but in all cases (including KOPBs as a whole) the trend is that of steadily growing, throughout the period.
- Unlike in the case of NR deposits, CD ratio in respect of FB comes second to that of SIB, and further it is fast coming down. This is a negative signal and needs to be reversed. The CD ratio of SIB is the highest and is showing an increasing trend too. This is a positive indication and needs to be maintained or further improved to the extent possible.
- The CD ratio of CSB is fast declining from an initially comfortable level. This fast falling trend in the CD ratio of CSB is definitely a matter of concern and needs to be reversed.
- As in the case of NR deposits, in respect of CD ratio too, DB has the least (lowest) rank. However, in respect of CD ratio, there is a gradually increasing trend and is a positive one.

Based on the findings of the study, the following are the broad suggestions by the author:

- KOPBs, particularly FB and CSB (both being banks with fast declining CD ratios), have to invariably increase their advances (credit) portfolio in tune with their fast growing deposits. While all banks functioning in Kerala, both KOPBs and other banks, show steady increase in deposits (particularly NR deposits) year after year, credit is not keeping pace with the deposits thus resulting in falling trend in CD ratios (e.g. FB and CSB) which needs to be reversed. Besides, the general level of CD ratio also needs to be scaled up substantially.
- Enhanced thrust in credit, particularly retail credit, is suggested. This is because, retail credit ensures risk diversification by way of relatively smaller loans to larger number of customers rather than larger loans to smaller number of customers in respect of corporate (industrial) credit. Besides, ensuring lower risk (risk diversification) retail credit helps to kick-start a recession hit banking system or economy as a whole. This is because of the vast forward and backward linkages of many retail products (e.g. housing finance) as pointed out by the author in his earlier works; Manoj P K (2003) [13] and Manoj P K (2004) [14].
- Because of the high level of deposits and low credit, off-take (as evidenced by the lower CD ratios) banks in Kerala should go for scientific investment management to profitably use their idle funds. Though they can increase their operating income by focusing more on credit as already noted, they can go for setting up effective investment management departments also so as to generate ‘Non-Operating Income’ or ‘Other Income’ which of late has become a hallmark for excellence in competitiveness in the banking industry.
- Whether they focus on credit or investment for utilizing the idle funds or both (which is the preferred option), banks in Kerala have to put in place robust risk management systems. For example, stricter due diligence is essential for ensuring quality of assets because it enhances the objectivity in credit decisions. Similarly, strict adherence to group exposure norms, restricting exposure to sensitive sectors (e.g. stock market, commercial real estate) reduces risks associated with investment management.

In short, while it is beyond doubt that NRK remittances have led to higher NR deposits for all banks operating in the state of Kerala, proper utilization of the huge funds so raised is also important for enhancing their profitability, operational efficiency and long-term sustainability.

SCOPE FOR FURTHER EXPLORATION OF THE PRESENT STUDY

The scope of the present study is limited to the impact of NRK remittances as reflected in the form of NR deposits with reference to KOPBs. Though the trends of NR deposits and CD ratios of KOPBs, both collectively and individually, are studied, the following relevant aspects are not covered: (i) association between share of NR deposits and cost of funding (or operating costs) and profitability, (ii) association between CD ratios and profitability and operational efficiency, (iii) association between CD ratios and asset quality etc. Hence, as a continuation of this study it is highly advisable to extend the same to the areas like the ones noted above.
CONCLUDING REMARKS

In spite of a generally satisfactory trend of CD ratios for KOPBs as a whole, considering the falling CD ratios of KOPBs like FB and CSB, banks like FB and CSB have to focus on credit or other means of deployment of funds, but in a more judicious manner, with utmost priority on asset quality and risk management. Focus on retail credit, particularly housing finance, is always advisable for all banks in India because ‘Housing for All by 2022’ is now a national priority in India, and India’s banking sector needs a ‘kick-start’ or ‘push’ to enable it to pick up momentum.

REFERENCES


17. Reserve Bank of India (RBI), Mumbai. Retrieved from www.rbi.org.in


**End Notes**

iOld Private sector Banks (OPBs) are Commercial Banks (CBs) in India in the private sector, which have been functioning even before the financial sector reforms initiated in the early 1990s. As they commenced their operations before the ongoing reforms era, they are bound by the old (traditional) banking regulations. Hence, OPBs may be considered as Traditional Private sector Banks. The regulatory framework of OPBs are as rigorous as that of the Government-owned banks called Public Sector Banks (PSBs). For instance, Priority Sector Loans (PSL) norms in granting advances are mandated to the extent of 40 per cent of the total advances in respect of OPBs (as in the case of PSBs) unlike in the case of New Generation Private sector Banks.

iiNew Generation Private Sector Banks (NGPBs) are Commercial Banks (CBs) in the private sector which have been granted license during the ongoing era of financial sector reforms initiated in the early 1990s. Most NGPBs commenced their operations during the early or mid-1990s, say, 1993 onwards. As they were granted license and hence commenced their operations in the ongoing reforms era, NGPBs are not bound by the old banking regulations. Rather, there are governed by the more liberal and flexible regulations applicable to modern banks. NGPBs are modern banks, often high-tech in nature, and are somewhat like the Foreign Banks (FBs) in India. Hence, unlike the Government-owned banks called Public Sector Banks (PSBs) in India and the traditional private sector banks or Old Private sector Banks (OPBs), NGPBs are not supposed to abide by the Priority Sector Loans (PSL) norms while granting advances or such other norms of the pre-reforms era.

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THE RAISE AND FALL OF ANGLO FRENCH TEXTILE MILLS, PONDICHERRY

G. Gopalakrishnan43 Dr. G. Brindha44

ABSTRACT

Anglo French Textile Mill, popularly known as Rodier Mill in Pondicherry was started in the year 1898 by Frenchmen. When the French left India, the mill was taken over by M/s. Best and Crompton. Until 1981, the mill was doing well, in 1982; the mill was taken over by M/s. Somani group. Due to mismanagement of M/s. Somani group, the mill’s future started falling and the mill was closed for the first time in its history. After 2 years, the management was taken over by Pondicherry Textile Corporation. The mill was handed over to Mr. Nair, under his Chairmanship, the mill started reviving, but later due to poor attention by the government and labour problems, the mill is in the verge of its last breadth. Will the government do the needful towards the survival of the mill?

KEYWORDS

Mutual Fund, Returns, Causality etc.

INTRODUCTION

Anglo French Textile Mill, spread over in 56 acres of land, in short, popularly known as “AFT” was incorporated as limited concern in the year 1898 in England and celebrated its centenary in 1998, it was then called as “Rodier Mill”. In 1899, the mill was even provided with a railway branch line connecting the Pondicherry - Villupuram railway mainline to facilitate the transportation of goods and rose to become a major exporter of cotton fabrics.

THE RAISE

In the beginning, Africa and Madagascar countries were the prominent buyers from AFT. The clothes exported then were popularly known as “Sendura” clothes. When the French left the Pondicherry, until 1963, the mill was managed by M/s. Best and Crompton company private limited. At the end of 1963, the management of the company was taken over by late Mr. CS Ramachari, well-known industrialist in textile industry. Under the guidance and management of Mr. CS Ramachari, the mill flourished. Initially, the mill had only two departments – weaving and spinning, later the infrastructure underwent several developments. In 1964, the company had secured a Letter of Indent for an expansion of its capacity by 25000 spindles and 400 picanol automotive looms. It commissioned a new mill in 1970 at a total cost of 2.4 crores. Because of renovation, the production and sales were increased resulting in higher profitability.

In 1973, company took up canvas mill project involving the installation of additional 12400 spindles and 72 heavy-duty looms at an estimated cost of Rs. 4 crores. It started its operations in 1975-76. Subsequently, a modernization scheme was implemented in 1976. IDBI sanctioned a soft loan of Rs. 75 lakhs for renovation and modernization of the mill.

THE FALL

The company had a share capital of Rs. 48 lakhs in 1951, which increased to 99 lakhs in 1982. In 1981, the management of the company was taken over by M/s. Somani Group who acquired 52 % of equity of the company. Though the performance of the company was not good, it got aggravated. The financial position deteriorated very fast, this culminated in the first time closure of the AFT Mill’s history on 4th July 1983 under the management of M/s. Somani Group. (1)

The reason for the closure of the mill were:

- Mismanagement of the company, particularly by M/s. Somani Group.
- Siphoning of funds by the management.
- Labour problems, strikes, go-slow, absenteeism, destructive attitude of trade union.
- Recession in demand, particularly foreign market.
- Obsolete plant and machinery in all three units.
- Very high labour turnover of skilled and trained labours.

43Research Scholar, Department of Management Studies, Bharath University, Tamil Nadu, India. govi_gopal@hotmail.com
44Research Supervisor, Department of Management Studies, Bharath University, Tamil Nadu, India. bkk28@yahoo.co.in
This situation lead to stoppage of operations in mill; ultimately the mill ceased to function from Jul 1983, and remained closed until 1986.

**THE REVIVAL**

After 2 years, the AFT was taken over by Pondicherry Textile Corporation in Dec 1985. Pondicherry Textiles Corporation handed over the mill to Mr. Nair, who accepted the task with determination but laid down the condition of complete functional autonomy with no political interference in internal affairs of the company, which was agreed in words and actions by the government. “I must accept they stuck to their words”, Nair said to Business World, Feb 28 - Mar 13, 1990.

Having taken over the challenge, he set up a task force with an action plan and made an open appeal to the workers to come and talk directly to the management and rejoin the organization. He was firm not to deal with the workers through unions (26 unions) which were very active and allegedly responsible for the closure of the mill. He did not yield to the pressure of the union. Ultimately, his open appeal to the workers had positive effect and list of workers willing to rejoin the unit was prepared. It was considered significant to the management towards the revival of the unit. It opened the channel of communication that helped in building up a culture of free and frank discussion. Because of this, all the decisions were being taken in consultation with the workers directly.

**Apart from this wide range of actions were taken towards reformation:**

- All assets were taken over by the management without any liability,
- Special allocation of Rs. 12 Crores were made by the government,
- Instead of contracting out, existing workers and engineers were assigned the task of repairing the old machines and put them in to use,
- As a cost cutting measure, 1155 workers were retrenched,
- Product were diversified,
- Rigorous quality control was exercised,
- Various labour welfare / motivational steps were taken.

Thus, he transformed AFT from “DEBIT CRIPPLED” company in to a very dynamic form where “Quality is by design and excellences are passion”. The company employed around 5000 employees; the mill was expanded with additional machines. Over the years, the mill has gained expertise in cotton to the level of fine art; the production capacity was about 1-lakh meters of grey fabric per day. The products were exported to various customers in UK, USA, France, Italy, Germany, Belgium, and Switzerland, UAE, Australia and many other Far East countries, and export of cloth received greater attention of all.

**THE DESCEND**

From the date of acquisition, the Government was funding the Mills in order to protect the labour force and their families. 'A' Unit buildings were more than 110 years old and the major portion of Spinning Department collapsed twice and other old buildings in 'A' Unit were not in a fit condition to continue the operation endangering the lives of many workers and causing damages to the machineries. According to AITUC Leader Mr. Abishegam, despite getting the profit from the mill, the government has done nothing to revamp or repair the buildings.

The issue of modernizing the Anglo French Textile Mills was under consideration for several decades. In 1994, the Administrator of Pondicherry constituted a Committee of experts to examine its working and submit a report to the Government for implementation of the necessary changes so that the Anglo French Textile Mills with its export potential cover further new horizons. The Expert Committee submitted its report in Dec 1994 and gave several recommendations for modernization.

The Executive Engineer, Buildings and Roads (Central) Division, PWD, Pondicherry, vide their letter, dated 06.12.1999, informed that after verification of Girders and Terrace of 'A' Unit of Spinning Section which is in collapsed condition and also the remaining standing portion adjoining the damaged portion to a length of 80 meters x 14.5 meters, the building, which is 100 years old, is structurally unsafe for occupation. Chief Inspector of Factories and Boilers stated that the building where the incident occurred is 80 years old and a similar incident had occurred earlier in the year 1999. To avoid any casualties due to recurrence of such incidents in future and to ensure a safe working environment for the workers, it is considered necessary that the manufacturing activities in this section be discontinued until it is completely strengthened, restructured and renovated. Pondicherry Engineering College was also requested to submit a report on the condition of the building, which suggested that for a total safety and good working condition, an alternate roofing system had to be made.

It is the 'A' Unit, in which the maximum or majority of the workers are employed. Out of the total strength of 2402 workers, about 1387 workers are employed in 'A' Unit. If the workers are redeployed, it will result in the retrenchment of workers in 'B' and 'C'
Units every likelihood. Under the circumstances, the Government has decided to discontinue the operations in ‘A’ Unit adopting the due process of law in order to ensure the safety of the workmen and also to discontinue the uneconomical activities and reduce the loss to ensure that the Corporation may be made viable again in the interest of the labour force. The proposal of complete revamping and modernization of AFT at a cost of Rs.104 crores was approved by the government in Nov 2001. The government for modernization sanctioned an amount of Rs.14 crores.

Despite various steps taken, the mill was continuously making loss, by 2005-2006, the loss had risen to 100 per cent. AFT Chairman, Mr. Bhalan said the mismanagement of the mill since 2006 had led to the mill running in loss and finally leading to closure. (2)

In the year 2007, the South India Textile Research Association (SITRA) carried out Techno Economic Viability study of Anglo French Textiles, Pondicherry. In addition, the Government of Pondicherry appointed a two member Committee with regard to revision of wages and other demands. The two member Committee, by its report, Nov 2008, recommended the closing of the Spinning and Weaving Operation and shifting of processing Section of ‘A’ Unit to ‘B’ Unit.(3)

In a statement, Mr. VS Abishegam demanded that the government order a detailed probe into alleged illegal practices by officials of the government owned textile mills, which they said had resulted in hefty losses between 2005 and 2010. He also said in a press release for confiscation of properties of these officials of the three mills i.e. Sri Bharathi Mills, Swadeshi Mill and the Anglo French Textile Mills. He wanted that the government should not remain a silent spectator but bring them to book after holding a probe into the losses the major undertakings suffered.(4)

Finally, cyclone Thane struck the mill in December 2010. The loss incurred to the mill in the Thane cyclone was estimated at 18.45 crores and the mill is yet to get any compensation from the government. Since the takeover of the mill, the government had pumped in 493.20 crores to the mill, which includes 361.35 crores as share capital and 151.85 crores as grant-in-aid. Until date, the accumulated liabilities have risen to more than 100 crores. (2)

RTI application filed by activist P. Ragupathy reveals that AFT management had declared paid holiday from December 2014. Since the closure of units A, B and C, salary for two months was paid to the staff, which accounted to around Rs 6 crores. Information gathered through another RTI reveals that when there was no production in unit ‘A’ during 2010-11, staff and workers claimed a sum of Rs 30 lakhs as overtime (While the staff claimed a sum of Rs 11 lakhs, the workers took Rs 18 lakhs), which is just only one of the classic examples of mismanagement. Modern hi-tech machinery installed at a cost of Rs 3 crores was being rusted, as it had never been made operational is another example of mismanagement (4).

In the year 2012, the mill had a strength of 1,779, which includes 1,508 workers. The workers Provident Fund (PF) has also gone unremitted resulting in the PF dues along with the interest climbing up to 20.47 crores. Even the 94 lakhs collected as ESI contribution from workers went unremitted. The gratuity to those who have retired has also not been paid for want of funds. The workers have refused to work unless the management pays up the pending salary, said V S Abishegam, president of Joint Co-ordination of Trade Unions of Textile Mills in Pondicherry. The options before the government were to run the mill by providing funds for running the mills is a difficult proposition, as the government was reeling under financial crunch. Even lay off labour would mean payment of 50 per cent wages which is not possible. A decision is awaited on this regard.

Putting the fear of closure of AFT, the management and representatives of 21 trade unions have agreed up on a charter of demands including new VRS scheme announced by the management. According to Mr. Bhalan, chair of AFT, workers have agreed to accept voluntary retirement scheme and for recruitment of fresh workforce whenever new equipment was put to use. They have agreed to the management’s decision to downsise workforce at the level of staff and officers as per the recommendations given by the South India Textile Research Association. The workers also agreed to follow austerity measures such as supply of milk only to those workers who really deserves, he said. The workers have also given consent to sell unused properties at Gorimedu, Thegaithittu, Thirubuvanai and Vadalur on condition that the money raised through the sale would be used for the voluntary retirement scheme, payment of PF arrears, gratuity and for further modernization of the mill. The Gorimedu property, which is around 55 acre, would fetch more than Rs. 50 crores. However, the management needs the approval of government to sell the property. (5)

Except for a few days in the end of Jan 2013, the mill has been closed since Thane cyclone. The workers were not paid their salary. More than 300 workers have staged a protest on 23rd February, 2013 in front of AFT, demanding the wage for the previous months. The workers who blocked the traffic for some time walked to assembly to meet Chief Minister were asked to meet the Speaker who in turn promised the workers that steps would be taken to disperse the salary. (6)

In Mar 2013, the mill management has decided to reduce the strength by implementing the voluntary retirement scheme (VRS) and had signed an agreement with the workers. There are 1,059 staff and workers above the age of 50 year who can opt for the
Workers staged protest from 10th ~ 15th April, 2013 against the closing of the mill. According to the workers, the cloth that was produced when the mill was open would earn Rs. 10 crores. Earlier, the workers had been depending on various trade unions and political parties to conduct their protests. On 7th April 2013, Sunday, however, they decided to form their own association when 1,200 workers under the newly formed association met at the Botanical Gardens. (8)

On 17th April, 2013 a joint meeting of leaders of various trade unions of workers of the three textile mills in the union territory adopted a resolution called upon the territorial administration to make out a strong case with the Centre and procure as much as Rs. 500 crores needed for modernization of the mills. AITUC Pondicherry unit Secretary and convenor of the joint action committee of trade unions V S Abishegam said that already a delegation of trade unions had presented a memorandum at a meeting with the Prime Minister in Delhi in 2012 pleading for the grant. “Nothing had however been done by the Centre and the State government leaving the mills in a quandary”. (9)

In Dec 2013, Trade union leaders have staged a three-day demonstration in New Delhi seeking the immediate intervention of the Centre for the revival of Anglo French Textile mills. Members of various political parties took part in the agitation aimed at pressing the Centre to take steps on a proposal seeking Rs.500 crores for revival of the mill. The union leaders also met the Prime Minister, Home Minister and Minister for Textiles. Chief Minister N. Rangasamy also met the Prime Minister in this regard. (10) On 22nd Dec 2013, in consultation with all stakeholders, including the territorial administration, AFT management has extended the lay-off given to workers for 30 more days. Balan, Chairman, AFT mill, told that the decision was taken in the interest of workers. On 10th January 2014 the Pondicherry government had agreed in principle to allot Rs. 15 crores to restart the mill, which remained closed since December 2011. A sum of Rs.1 crores was allotted for replacing a defunct boiler and transformer. A section of workers was engaged for maintenance works.

The government has sanctioned Rs 7 crores for resuming the operations of the mill. The AFT Mill, which remained closed after Cyclone Thane wreaked destruction in 2011, was decided reopened on February 2014. AFT Mill Chair Bhalan said that the cabinet has granted permission to sell a 56-acre land of the mill at Pattanur. The Pondicherry government has sent the proposal seeking the permission of the Union government to sell the land to mobilize funds for running the mill. However, the Union government has not responded. Similarly, the Union government has not responded to Pondicherry government's request to grant financial assistance to the tune of Rs 500 crores for modernization of the mill. (13)

The state of the mill was also due to the lack of commitment on the part of the workers who had not cooperated in ensuring enough production to make the establishment viable. He further said that the government could not endlessly extend financial help to a unit, which was incurring loss for years together. Hence, he advised them to strive and make the mill run on profit in their own interest. (11)

In the Assembly, Mr. Rangasamy said his government had urged the Union government to extend financial assistance to reopen AFT mill and had sought Rs. 500 crores for reviving the mill. The government sought permission from the Union government to sell land belonging to the AFT Mills in Pattanur village and the amount from the sale would be used to pay the dues to the workers who had opted for voluntary retirement scheme. According to the Welfare Minister P. Rajavelu approval was accorded to discontinue all operations in the ‘A’ Unit of AFT and a Voluntary Retirement Scheme (VRS) extended to all staff. (15)
Alleging that the management has been trying to lease out the mill to private parties, workers affiliated to various trade unions have agitated for a few days. They met under its president and AITUC leader V. S. Abishegam and discussed various issues. At the end of meeting, they also passed resolutions urging the Chief Minister N. Rangasamy to take steps to commence the operations of the mill immediately as he had promised in the Assembly. They also said the management should disburse gratuity and other benefits to those retired from service and opted for voluntary retirement scheme. As per recommendations of Dr. Chenna Reddy committee, the mill should be modernized with financial assistance from the Union Government. Meanwhile, the management of AFT Mills made it clear that it has no plans to lease it out private parties as of now. (16)

The management on 22nd Jul 2015 stated that “A” unit had suffered severe structural damage in the Thane cyclone and buildings were then declared unsafe for use by Inspector of Factories. Orders were issued prohibiting entry of workers in the campus, which included the engineering department. Operations in these wings were consequently discontinued operations in these wings. After perusal of the AFT management’s application and also supporting documents, the mill has been permitted to lay off workmen in A, B and C units (except the spinning unit) in the for a further six month period from 21 July 2015. It was also pointed out that AFT’s net worth had already been in the negative side as on March 31, 2014 and that there were no funds available even to meet the day-to-day expenses.

The share capital and grant in aid released by government had also ‘drastically declined’ in the last six years and the latter amount released now was enough only to pay the layoff compensation and wages and not to run the mill fully, AFT said. The machinery was very old and without modernization, it was difficult to operate the mill effectively. AFT was not in a position to adopt any action plan to operate it without settling statutory dues to workers. Banks, government and other institutions are not granting loans to it to settle the statutory and non statutory dues amounting to 130.02 crores. The proposal of selling Pattanur land had been approved by government and had been sent to the Home Ministry for clearance. AFT said if sanction was got from the centre, e-auction of the site could fetch around Rs 80 crores as per present market value, enabling it to settle the dues to workers. (17)

A spokesperson of the Joint Action Council of AFT mills said the management had announced a package of Rs. 25,000 to around 650 employees who had opted for the VRS scheme. About 50 employees of AFT mills owing allegiance to various trade unions on 19th October 2015 have picketed the mill demanding the Pondicherry Government to increase the package offered to workers who had opted for the Voluntary Retirement Scheme. JAC said that as many as 7,600 workers were on the rolls of the mills until 2000. However, the mill was pushed to the current situation due to the wrong policies of successive governments. (18)

**THE BURDEN**

In order to revamp the building, modernize the machineries, and reopen the mill the management requires Rs. 500 crores. Neither the state nor the centre is willing to fund.

Knowing the fact, even the banks are not granting loan, since the same will not be utilized for reopening of the mill rather will be used for paying statutory obligations like Provident Fund, ESI contributions, payment of salaries and settlement to workers who have opted for VRS.

Even the central government is keeping quiet to the proposal towards sale of Pattanur land knowing that the sale amount is too little to meet their demand.

Employees and the management have no common understanding towards sale of Pattanur land to meet their end.

Employees are in dilemma whether to depend on trade union or to approach directly.

In short, it looks as if the AFT is LET TO DIE ITS OWN.

**CONCLUSION**

The fall started in 1981, when M/s. Somani group which took over the Mill due to their mismanagement and siphoning of fund from the mill.

When the mill was taken over by Pondicherry Textile Corporation, the government initiated wide range of actions towards reformations, but due to subsequent government’s poor policies and failure of the management to automate the mill and renovate the buildings lead to the present situations.

Due to labour problems and destructive attitude of the unions, the mill management failed to get the support from its employees, which is the main cause continuous loss.
Since the management has not paid the statutory dues like ESI, Provident fund, and settlement to its employees who had resigned and retired, fetching of money by selling the Pattanur land owned by the mill will go towards settlement of dues. The money will not be available for reopening of the mill. As on Jun 2015, Rs. 131 crores outstanding against statutory dues alone.

Even if the central government supports the fund, it is not enough to renovate the building, repair the machines, and automate the production line in order to meet the competitive market.

The mill is in its last breath, wholehearted support by the union and its employees and government unconditional support without any political interference and complete functional autonomy is the need of the time to make the mill alive.

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PERFORMANCE EVALUATION OF INDEX FUNDS IN INDIA

Mamatha N.45 Dr. Kushalappa S.46

ABSTRACT

Mutual Funds have become a widely popular and effective way for investors to participate in financial markets in an easy, low-cost fashion, while muting risk characteristics by spreading the investment across different types of securities. Mutual fund can be classified in to various types of schemes based on investment objectives. One of the important types of mutual fund is index fund. Index tracking products was introduced in 1970s. Index funds mainly invest in the securities that form the part of one or the other Index. Its objective is to track a specified share index and offer returns equal to the return from that Index. During the last few years, many extraordinary and rapid changes have been seen in the Mutual fund industry. The performance of mutual funds varies from time to time due to various internal and external factors. Therefore, due to the changed environment it becomes important to investigate the mutual fund performance. Here in this study, an attempt is made by the researchers to analyses the performance of various index funds traded in India.

INTRODUCTION

Mutual fund schemes provide new opportunities for investors. Mutual fund Industry was introduced in 1963 in India with the formation of Unit Trust of India. During the last few years, many extraordinary and rapid changes have been seen in the Mutual fund industry. Therefore, due to the changed environment it becomes important to investigate the mutual fund performance. Mutual Funds have become a widely popular and effective way for investors to participate in financial markets in an easy, low-cost fashion, while muting risk characteristics by spreading the investment across different types of securities. Mutual funds offer many benefits like; growth in the capital, income in the form of dividend or interest, risk diversification, professional portfolio management etc.

Mutual fund can be classified in to various types of schemes based on investment objectives. One of the important types of mutual fund is index fund. Index tracking products was introduced in 1970s. Index funds mainly invest in the securities that form the part of one or the other Index. Its objective is to track a specified share index and offer returns equal to the return from that Index. Index funds are investment funds set up to specifically match the performance of an aggregate stock market series such as the Standard & Poor's 500 Composite Index.

During the last few years, many extraordinary and rapid changes have been seen in the Mutual fund industry. The performance of mutual funds varies from time to time due to various internal and external factors. Therefore, due to the changed environment it becomes important to investigate the mutual fund performance. Thus, an attempt is made here to analyses the performance of various index funds traded in India.

LITERATURE REVIEW

Sharifzadeh Mohammad (2010) in his research “An analytical performance comparison of exchanged traded funds with index funds” examined risk adjusted return performance of ETFs and index funds and examined if there is a statistically significant difference between the two. The researcher examined the risk-return characteristics of the ETFs and index funds from the fund’s perspective and not from the perspective of investors. Therefore, factors like bid-ask spread and taxes on dividends, which affect the investors’ return, are not considered in their study. Narend S. (2014) made a research on the topic of “Performance of ETF’s and Index Fund’s: A Comparative Analysis” It was found in his study that ETF’s performed better than Index Funds. Inder Shivani, Vohra Shikha (2012) made a research on the topic of “Mutual Funds Performance: An Analysis of Index Funds”. The main aim of their paper was to evaluate the long run performance of the selected index fund schemes and to make comparative analysis of the performance of the funds based on the risk-return framework during the period January 2005 to December 2011. Based on their evaluation researcher concluded that Index funds are a great avenue for investment but they are just the follower of market. Ferry Richard A. I., Benke Alex C., (2013) made a research on the topic of “A Case for Index Fund Portfolios”. The main objectives of this study was to compare and document the past performance of investable index fund portfolios relative to investable actively managed fund portfolios. They found in their study that Mutual fund portfolios holding only index funds have performance advantages over comparable portfolios. Yogesh, Mehta (2012) made a research on the topic of “An Analytical Study

45Student, II Year MBA, A.I.E.T., Karnataka, India, mamatha1588@gmail.com
46Associate Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com
of Index Mutual Funds in India”. The prime objective of the study was to examine the investment pattern of mutual funds with a view to judging the effectiveness of their portfolio management. Finally, they found that their study public sector mutual funds of this category performed brilliantly and maintained their monopoly.

OBJECTIVES OF STUDY

The main objective of the study was to compare the performance of both public sector and private sector index fund in India. The specific objectives are:

- To measure risk-return characteristics of both public sector and private sector index fund.
- To evaluate the performance of public sector and private sector index fund by using various portfolio evaluation techniques.
- To offer the meaningful suggestions to the investors on their investment in mutual fund.

SCOPE OF THE STUDY

The study deals with performance evaluation of various index funds traded in India. A comparison is made between the performance of the public sector and private sector index funds. The study period is three months from 30/10/2015 to 23/06/2015.

METHODOLOGY OF STUDY

The entire study is based on the secondary data, procured and extracted from various sources like e-source, books etc. For analyzing the market performance of the selected funds and to test the hypothesis, different statistical tools and financial models are used. They are mean, standard deviation, alpha, beta coefficient, Sharpe index, Treynor index and Jensen alpha, Fama’s ratio. The sample size is 10 funds five each from private and public sector. Simple random technique is being used for selecting the sample.

Daily Return of the Fund

The daily return is calculated by using the NAVs of the funds under study. The model used for this purpose is:

\[ R_{Pt} = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}} \times 100 \]

Where, \( R_{Pt} \) is the return from a fund at time \( t \), \( NAV_t \) and \( NAV_{t-1} \) are net assets values for time period \( t \) and \( t-1 \) respectively.

Average Return of the Fund

Average return of the fund is calculated with the following equation:

\[ R_p = \frac{\sum_{t=1}^{n} R_{Pt}}{n} \]

Where, \( n \) is the time of the study

Daily Index Return

Daily market return is calculated as follows:

\[ R_{mt} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100 \]

Where, \( P \) is the market price.

Average Index Return

The average market return is calculated by using the following equation:

\[ R_m = \frac{\sum_{t=1}^{n} R_{mt}}{n} \]
Sharpe’s Reward to Variability Ratio

\[ SR_p = \frac{R_p - R_f}{\sigma_p} \]

Where, \( SR_p \) is the Sharpe’s Ratio for the portfolio, \( R_p \) is the mean return of the portfolio, \( R_f \) is the risk free rate of return and \( \sigma_p \) is the standard deviation of the fund returns.

Treynor’s Reward to Volatility Ratio

\[ TR_p = \frac{R_p - R_f}{\beta_p} \]

Where, \( TR_p \) is the Treynor’s Ratio for the portfolio, \( R_p \) is the mean return of the portfolio, \( R_f \) is the risk free rate of return and \( \beta_p \) is the sensitivity of the fund returns to index returns.

RESULTS AND DISCUSSION

Table 1: Actual returns of Private Sector Index Fund Schemes

<table>
<thead>
<tr>
<th>Average Returns / Fund</th>
<th>ICICI Peru Nifty Junior Index Fund (g)</th>
<th>Principal Index Fund – Midcap-DP(G)</th>
<th>GS CNX 500 Fund Direct(G)</th>
<th>GS CNX 500 Fund (G)</th>
<th>HDFC Index Nifty Plan - Direct</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 days A R</td>
<td>-0.0765</td>
<td>-0.0177</td>
<td>-0.0383</td>
<td>-0.0413</td>
<td>-0.0439</td>
</tr>
<tr>
<td>30 days A R</td>
<td>-0.0109</td>
<td>0.0904</td>
<td>0.0858</td>
<td>0.0824</td>
<td>0.0851</td>
</tr>
<tr>
<td>45 days A R</td>
<td>0.0524</td>
<td>0.1274</td>
<td>0.0922</td>
<td>0.8873</td>
<td>0.0783</td>
</tr>
<tr>
<td>60 days A R</td>
<td>-0.0911</td>
<td>-0.0583</td>
<td>-0.0814</td>
<td>-0.8706</td>
<td>-0.0843</td>
</tr>
<tr>
<td>75 days A R</td>
<td>-0.0359</td>
<td>-0.0050</td>
<td>-0.0419</td>
<td>-0.0445</td>
<td>-0.0522</td>
</tr>
<tr>
<td>90 days A R</td>
<td>0.0067</td>
<td>0.0294</td>
<td>-0.0134</td>
<td>-0.0160</td>
<td>0.0080</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation

Table 1 shows the fact that among the private sector index funds under study, the 15 days average returns, 60 days and 75 days average returns of all the funds is negative. Except 45 days average returns, the average returns for all other time period is highest with Principal Index Fund-Midcap-DP (G). GS CNX 500 Fund Direct (G) has highest return only with 45 days average returns. Similarly, when we look at the lowest average return for various time, it is clear that ICICI Pru Nifty Junior Index Fund (g) has lowest average returns for 15 days, 30 days and 45 days. GS CNX 500 Fund (G) has lowest average return for 60 days and 90 days and HDFC Index Nifty Plan-Direct lowest average return for 75 days. Thus, it can be concluded that among the various private sector funds under study, Principal Index Fund-Midcap-DP (G) is the best performer in terms of returns.

Table 2 shows the fact that, among the public sector index funds under study, SBI Nifty Index Fund Direct (G) Fund has the highest 15 days average return and UTI Nifty Index Fund Direct (G) has highest 30 days and 45 days and 60 days average return. IDBI Nifty Junior Index-Direct (2) has highest 90 days average return and IDBI Nifty Index Fund direct (G) has highest 75 days average return.

Table 2: Actual Returns of Public Sector Index Fund Scheme

<table>
<thead>
<tr>
<th>Average Returns / Fund</th>
<th>IDBI Nifty Junior Index – Direct (2)</th>
<th>IDBI Nifty Junior Index Fund (G)</th>
<th>UTI Nifty Index Fund-Direct(G)</th>
<th>IDBI Nifty Index Fund direct (G)</th>
<th>SBI Nifty Index Fund-Direct(G)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 days A R</td>
<td>-0.0816</td>
<td>-0.0828</td>
<td>-0.0426</td>
<td>-0.0816</td>
<td>-0.0407</td>
</tr>
<tr>
<td>30 days A R</td>
<td>-0.0169</td>
<td>-0.0216</td>
<td>0.0869</td>
<td>-0.0169</td>
<td>0.0855</td>
</tr>
<tr>
<td>45 days A R</td>
<td>0.0509</td>
<td>-0.0456</td>
<td>0.0815</td>
<td>0.0509</td>
<td>0.0800</td>
</tr>
<tr>
<td>60 days A R</td>
<td>-0.0909</td>
<td>-0.0956</td>
<td>0.0797</td>
<td>-0.0909</td>
<td>-0.0857</td>
</tr>
<tr>
<td>75 days A R</td>
<td>-0.0377</td>
<td>-0.0388</td>
<td>-0.0520</td>
<td>-0.0347</td>
<td>-0.0529</td>
</tr>
<tr>
<td>90 days A R</td>
<td>0.0080</td>
<td>0.0043</td>
<td>-0.0279</td>
<td>0.0080</td>
<td>-0.0287</td>
</tr>
</tbody>
</table>

Sources: Authors Compilation
When we look at the performance of the index funds under study, irrespective of whether they are sponsored by private sector or public sector AMCs, Principal Index Fund (G) has obtained the first rank under both the techniques, IDBI Nifty Junior Index-Direct (2) have obtained second rank.

Table 5 reveals the fact that all private and public sector funds have obtained negative ratios under Treynor and Sharpe ratio. When we look at the performance of the index funds under study, irrespective of whether they are sponsored by private sector or public sector AMCs, Principal Index Fund-Midcap DP (G) has obtained the first rank under both the techniques, IDBI Nifty Junior Index-Direct (2) have obtained second rank.

Table 6: Paired Comparison between Private Sector Index Funds and Public Sector Index Funds

<table>
<thead>
<tr>
<th>Fund</th>
<th>Number of Private Sector Index Fund</th>
<th>Number of Paired Matches</th>
<th>Number of Public Sector Index Funds Outperformed</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDBI Nifty Junior Index-Direct (2)</td>
<td>5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>IDBI Nifty Junior Index Fund (G)</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>
It is fact from Table 6 that IDBI Nifty Junior Index-Direct (2) and IDBI Nifty Index Fund direct (G) have outperformed over four private sector index funds, IDBI Nifty Junior Index Fund (G) has outperformed over two private sector index funds, UTI Nifty Index Fund-Direct (G) and SBI Nifty Index Fund-Direct (G) have underperformed with all private sector funds. Over all, out of 25-paired matches’ public sector funds out performed only 10 times and underperformed over 15 times.

FINDINGS AND CONCLUSION

It is found in the study that in terms of returns, Principal Index Fund-Midcap-DP (G) has performed better than the remaining private sector index funds under study. Among the public sector funds, short-term performance of SBI Nifty Index Fund Direct (G) Fund is better than the rest of the funds. IDBI Nifty Junior Index-Direct (2) and IDBI Nifty Index Fund direct (G) have shown higher long-term average returns.

It is clear from the study that none of the public sector and private sector funds has earned positive Sharpe ratio and Treynor’s ratio. Among the public sector funds, IDBI Nifty Junior Index-Direct (2) and IDBI Nifty Index Fund Direct (G) fund have obtained the first rank under both the techniques. As per the Treynor’s ratio, SBI Nifty Index Fund-Direct (G) is the poor performer and according to Sharpe ratio, UTI Nifty Index Fund-Direct (G) is the poor performer. Among the private sector funds, Principal Index Fund-Midcap DP (G) fund has obtained the first rank under both the techniques According to Sharpe ratio, HDFC Index Nifty Plan-Direct is the least performer and according to Treynor’s ratio, GS CNX 500 Fund (G) is the least performer. It is clear from the study that when we rank all funds together, Principal Index Fund-Midcap DP (G) has obtained the first rank under both the techniques, IDBI Nifty Junior Index-Direct (2), IDBI Nifty Index Fund direct (G) have obtained second rank.

Sharpe and Treynor’s techniques are widely used by researchers, investors and investment advisors for portfolio analysis. If the ranks obtained under both the techniques are same for a fund, such fund is treated as best diversified or well diversified fund. In the present study, Principal Index Fund-Midcap DP (G) IDBI Nifty Junior Index-Direct (2), IDBI Nifty Index Fund direct (G) have obtained same rank under both the techniques. Thus, we conclude that they are the most diversified funds. In the study, an attempt is made to compare the performance of private sector mutual funds with public sector mutual funds and concluded that the performance of most of the private sector funds are better than the performance of the public sector mutual funds.

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ABSTRACT

Before discussing Blue Ocean Strategy in detail, an overview can be set up. Blue Ocean Strategy is a fast developing strategy in the corporate world and more and more Organizations are increasingly adopting the Blue Ocean Strategy. Blue Ocean Strategy possesses incredible potential, which promises to help the organizations achieve their prime objectives. It can be summarized that the 2 logics namely the conventional logic and the Blue Ocean Strategy logic are very distinct. Conventional logic believes that when functioning in an industry, the conditions are rigid and already given. However, Blue Ocean believes that the industry conditions can be shaped and modified. It claims that a quantum leap in the buyer value must be created to dominate the market. Blue Ocean is an analogy to describe the wider, deeper potential of market space that is not yet explored. Like the “blue” ocean, it is vast, deep, powerful, in terms of profitable growth, and infinite. The in-depth analysis and study of this particular topic is important from a research point of view simply because there is an incredibly strong competition present in any market. Every single organization is very vigorously exploring their options in terms of innovations, adopting some effective strategy, diversifying etc. In such a highly competitive scenario it is crucial for us, as future corporate persons to gather an in-depth knowledge of such effective strategies. Researching the Blue Ocean Strategy will equip us to understand one of the most successful and novel strategies accepted by the world and help us understand the marketing world better. The methodology in this research is a mix of the review of literature and gathering of information from the various secondary sources of data and a case study analysis of Yellow Tail Wines and how it successfully created a completely new uncontested market for itself using this particular strategy. This research can be helpful to anyone who wishes to study the intricacies of blue ocean strategy and how other companies and organizations can be taken forward by this strategy.

KEYWORDS

Blue Ocean Strategy, Red Ocean, Value Innovation, Strategy Canvas, Yellow Tail Wines etc.

INTRODUCTION

In an ever-competitive market that we witness today, organizations have been extremely proactive in inventing novel and innovative ways of capturing the maximum market share. Though there have been many such theories, one such recent theory that has been massively successful in attaining the desired result is the Blue Ocean Strategy. As the name itself suggests, Blue Ocean Strategy simply refers to the creation of an entirely new, uncontested market space that makes competitors irrelevant and that creates new consumer value often while reducing the costs. The pioneers of this hugely successful strategy are W. Chan Kim and Renée Mauborgne while they were professors at INSEAD. The study illustrates what the pioneers believe is the best organizational strategy to enhance growth and generate profits. Blue Ocean Strategy suggests that a particular organization should create new demand in an uncontested market space, or a “Blue Ocean”, rather than compete head-to-head with other suppliers in an existing industry. It is based on a study of 150 strategic moves spanning more than 100 years and 30 countries. Blue Ocean Strategy is the simultaneous pursuit of differentiation and low cost. Research on this particular strategy will prove to be beneficial for us as we are students currently versed with marketing and a deeper insight into such ‘out of the box’ strategies which would enable us to understand the marketing scenario better and implement the strategies practically at a later stage.

OBJECTIVE OF STUDY

- To understand the strategy behind Blue Ocean and how it differs from the Red ocean.
- To evaluate the current situation of Blue Ocean Strategy.

LIMITATIONS

- This study analyzes just one such case of successful implementation of the Blue Ocean Strategy and so it cannot be concretely generalized.
It is a challenge in itself for organizations to assimilate and effectively identify the Blue Ocean in order to implement it.

REVIEW OF LITERATURE

Chan Kim and Maughrone (2004) in their research titled, “Blue Ocean Strategy” explain the significance of adopting and researching the new and innovative ways of improving the share of the market. They provide us with an example of the Cirque de soleil, which despite the decline in the circus industry profitably increased revenues twenty-two-fold over the last 10 years by reinventing the circus. Cirque created an uncontested market space that made the competition irrelevant. It created a Blue Ocean for itself. They pointed out that, as the market space gets more crowded, prospects for profits and growth decline, products turn into commodities and in order to counter that the best policy is to create an uncontested market wherein the competition is diluted by creating an uncontested market space. This research established a base when it came to understanding the concept of Blue Ocean Strategy and enabled us to further learn more.

Kabukin (2014) in his paper "Reviewing the Blue Ocean Strategy; Is the Blue Ocean Strategy valid and reliable?" explains the past decades famous strategy frameworks for the creation of new business models one of them being Porter's model and the relatively new the Blue Ocean Strategy (BOS) framework. The main objective of the paper was to research the validity and reliability of the Blue Ocean Strategy with a two-way approach, first testing the framework on a theoretical basis and then examining its practical adaptability. The methodology used by the author was a mix of a literature review about the BOS itself and an additional cross-case analysis. The Blue Ocean Strategy as a whole summarized compelling ideas about innovation and market creation that catches the interest of many business economy and academic readers.

RESEARCH METHODOLOGY

Blue Ocean Strategy is a fast developing strategy in the corporate world and more and more Organizations are increasingly adopting the Blue Ocean Strategy. Blue Ocean Strategy possesses incredible potential, which promises to help the organizations achieve their prime objectives. We as a group thought Blue Ocean as a viable research methodology topic as it relates to the businesses that are relatively being set up in order to search for new avenues and increase their market share.

We selected the topic based on two logics namely the conventional logic and the Blue Ocean Strategy logic which are very distinct.

- The Conventional logic says that - Retain and expand the customer base through further segmentation and customization. Think in terms of embracing customer differences.
- The Blue Ocean logic for the same says - Go for the mass of buyers and willingly let some existing customers go. Think in terms of embracing key customer value commonalities.

Collection of Data

Data was collected from Secondary sources only. That is why we have used books, thesis, surveys, organizational records and data collected through qualitative methodologies or qualitative research. We looked for reliable, suitable and adequate sources. Data are reliable because we checked who collected the data, the sources, methods used and accuracy. Data is suitable because it answers definitions and fill with my objectives, scope and nature of the surveys. Data are adequate because we checked the accuracy and completeness.

YELLOW TAIL WINES: CASE STUDY

Yellow Tail (officially typeset [yellow tail]) is a brand of wine produced by Casella Wines Pty Ltd. Casella wines is based in Yenda, Australia, which has a population of approximately 1400 people. The Casella family has produced wines since the 1820s in Italy. However, in 1957 the Casella family, headed by Filippo Casella and his wife Maria, moved to Australia for a better life. Yellow Tail is a new wine brand and was a chance for the family winery to enter into the bottled wine market having previously supplied bulk wine to other wineries. YellowTail was developed around the year 2000, originally marketed to export countries and became the number one imported wine to the USA by 2003. In that, time the family-owned winery expanded 10 times its original size. The winery has the capacity to have approximately 300 million liters on site with more wine produced and stored elsewhere.

Yellow Tail faced rigorous competition in the United States Market since the United States Wine industry is a highly competitive industry. There was an abundance of Wine making companies in the United States market. Some facts about the American Wine Industry are as follows:
American wine industry is the 3rd largest wine industry in the World estimating around $20 billion. The state of California alone makes 66% share – the rest is from Italy, France, Spain, Chile, Argentina and Australia. The industry has been every exploding with new vineyards regularly coming up in Oregon, Washington and New York. Top 8 producers in the American Wine industry had 75% of the market; 1600 had the remaining 25%. Millions of Dollars are spent for marketing in the American Wine Industry. There are Titanic battles fought due to intense competition. The dominant growth strategy was towards premium wines – more complexity, better image, more prestigious vineyards, and number of medals won at wine festivals. The American Industry offered both premium and budget wines to their customers. Yellow Tail then decided to try to implement the Blue Ocean Strategy and hoped that it was the best solution to their problem. Yellow Tail implemented ideas that were absolutely contrasting to the traditional wines.

The features of traditional wine being offered then were:

- An elite refined image in packaging with heavy use of wine terminology,
- Aging quality,
- Prestige of a vineyard and its legacy,
- Complexity and sophistication of a wine’s taste such as tannins or oak,
- A diverse range of wines to cover all varieties of grapes & consumer preferences.

The features Yellow Tail wine offered to counter the Traditional wines are as follows:

- Yellow Tail wines offered wine bottles with no Jargon; they had an immensely simple and nontraditional label. They also offered simple and vibrant packing.
- Yellow Tail wines claimed that Aging of the wine was not important, which was a clear counter to the traditional wine makers claims.
- Yellow Tail claimed their wines to be fruity, soft on palate and somewhat sweetish. They claimed that this wine was perfect for the people who had not consumed wine before. Yellow Tail offered only 2 types of wines initially, one being the Red named Shiraz and the second one being White named Chardonnay. They also used same bottles for the packing of both the wines which contributed in lowering their logistics cost considerably.
- Yellow Tail wines adopted a different way of selling their wines. They claimed to be selling “The essence of a Great land….Australia” hence; they were NOT just selling wine.

Given below is the approach of Yellow Tail wines in a very detailed manner.

Yellow Tail is the fastest-growing foreign wine label in U.S. history. In less than three years, it became the No. 1 imported wine in the U.S., selling more than 11.2 million cases in 2004. Casella Wines began its meteoric rise by taking a different perspective on the wine market. It looked across the alternatives to wine: Beer, spirits and ready-to-drink cocktails, which capture more than three times as much in consumer sales, does as wine. Casella also discovered that most Americans actually found wine a turnoff. Wine was intimidating and pretentious, a highly acquired taste. While the wine industry long competed on how to make a sophisticated wine for special occasions, Casella redefined the market and made wine an everyday enjoyable experience.

Gone were the intimidating labels, the discussions on tannins and oak. Endless choice was clipped to two varieties, one red and one white. The labels were simple and colorful, the taste sweet and fruity. With no promotional campaign, Yellow Tail rendered its competition irrelevant. It did not simply steal market share; it grew the market, bringing in 6 million new wine drinkers. Novice wine drinkers began to drink more wine, jug-wine drinkers moved up market and expensive-wine drinkers moved down to Yellow Tail.

ANALYSIS OF DATA

The following Analytic Tools/Strategy Tools to break a problem down into the elements necessary to solve it were used to analyze the problems faced by Yellow Tail Wines. It was used to combine the power of the Scientific Method with the use of formal...
process to solve any type of problem. The various Analytic Tools, which we used, were Value Innovation, visualizing strategy, strategy canvas, four actions framework etc.

RESULTS

Strategy Canvas of Blue Ocean Strategy

Discussion: The strategy canvas is the central diagnostic and action framework for building a compelling blue ocean strategy. The horizontal axis captures the range of factors that the industry competes on and invests in, while the vertical axis captures the offering level that buyers receive across all of these key competing factors.

The white Triangle path denotes the EXPENSIVE WINES
The Green Rhombus denotes the CHEAP WINES and,
The Yellow Oval denotes the YELLOW TAIL WINES.

The above results are in accordance with the results of Chan Kim and Maugborne who in (2004) also found that how Yellow Tail wines went about in the United States Market, they had set their prices low, lower than Expensive wines and a slightly more than the Cheap wines. The Use of technology in manufacturing the wines in case of Yellow Tail was very low, so was above the line marketing and aging quality.

Discussion: From figure 5 it can be seen that the Business Launch with Red Oceans is 86% while a minor figure of 14% is attached with Blue Oceans, but the Profit Impact of Blue Oceans is higher (61%) than Red Oceans (39%).
The above results are in agreement with the results of Kabukin who in 2014 found that launches in Blue Oceans have a higher and positive impact on the profits of the company that tend to launch a business to a Blue Ocean market. A new market space with high profitability, irrelevant competition and many opportunities is created.

Non

Chan Kim and Mauborgne created the three tiers of noncustomers. Typically, to grow their share of a market, companies strive to retain and expand their existing customer base. This often leads to finer segmentation and greater tailoring of offerings to better meet customer preferences. The more intense the competition is, the greater, on average, the resulting customization of offerings. As companies compete to embrace customer preferences through finer segmentation, they often risk creating too-small target markets.

To maximize the size of their blue oceans, companies need to take a reverse course. Instead of concentrating on customers, they need to look to noncustomers. Instead of focusing on customer differences, they need to build on powerful commonalities in what buyer’s value. This reorientation allows companies to reach beyond existing demand to unlock a new mass of customers that did not exist before.

**Figure-3: Three Tiers of Non-Customers**

**Discussion:** The above figure explains how the companies strive to retain and expand their existing customer base to grow their share of a market, leading to finer segmentation and greater tailoring of offerings to better meet customer preferences. To maximize the size of their blue oceans, companies need to take a reverse course. Instead of concentrating on customers, they need to look to noncustomers.

**Figure-4: Buyer Utility Map**

**The Six Stages of Buyer Experience Cycle**

<table>
<thead>
<tr>
<th>The Six Utility Levers</th>
<th>Purchase</th>
<th>Delivery</th>
<th>Use</th>
<th>Supplements</th>
<th>Maintenance</th>
<th>Disposal</th>
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</thead>
<tbody>
<tr>
<td>Customer Productivity</td>
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<tr>
<td>Simplicity</td>
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<td>Convenience</td>
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<td>Risk</td>
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<td>Fun and Image</td>
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<td>Environmental Friendliness</td>
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</tr>
</tbody>
</table>

**Sources:** Authors Compilation

- Current Industry Focus
- Blue Ocean Offering
Discussion: The Buyer Utility Map, developed by Chan Kim and Mauborgne, helps to get managers thinking from a demand-side perspective. It outlines all the levers companies can pull to deliver exceptional utility to buyers as well as the various experiences buyers can have with a product or service. This mindset helps managers identify the full range of utility spaces that a product or service can potentially fill. It has two dimensions: The Buyer Experience Cycle (BEC) and the Utility levers.

The Buyer Experience Cycle (BEC): A buyer’s experience can usually be broken into a cycle of six stages, running more or less sequentially from purchase to disposal. Each stage encompasses a wide variety of specific experiences.

The Buyer Utility Map helped Yellow Tail Wines to think from a demand-side perspective. It outlined all the levers companies could pull to deliver exceptional utility to buyers as well as various experiences buyers can have with a product or a service. This mindset helped Yellow Tail Wines management to identify the full range of utility spaces that a product or service can potentially fill. It traditionally has two dimensions:

- The Buyer Experience Cycle
- The Utility Levers

CONCLUSION

After considering everything about Blue Ocean Strategy, it can be summarized that the two logics namely the conventional logic and the Blue Ocean Strategy logic are very distinct. Conventional logic believes that when functioning in an industry, the conditions are rigid and already given. However, Blue Ocean believes that the industry conditions can be shaped and modified. Similarly, Conventional logic supports the building of competitive advantages to beat the competition but the Blue Ocean logic claims that a quantum leap in the buyer value must be created to dominate the market.

The Conventional logic says that - Retain and expand the customer base through further segmentation and customization. Think in terms of embracing customer differences. The Blue Ocean logic for the same says - Go for the mass of buyers and willingly let some existing customers go. Think in terms of embracing key customer value commonalities. Blue Ocean Strategy creates a completely new aspect; a completely new side to marketing, its creativity cannot be ignored. Other than Yellow Tail, wines a number of other firms have adopted the same strategy and their approaches are now increasingly being rendered successful. Companies like Microsoft, Nintendo, Apple, Gillette, etc. have turned to this strategy and in every single case; success has come as a reward. Blue Ocean Strategy is no less than a mini revolution in the world of marketing, which compels the marketer to think in a diverse and a new manner. This diverse thinking/thinking out of the box in turn gives birth to the creativity.

RECOMMENDATIONS

In the light of this study, the following recommendations are made:

- In order to compete in the dynamic and highly competitive market, organizations should adopt out of the box marketing strategies, one such strategy is the Blue Ocean Strategy.
- The awareness about Blue Ocean Strategy and its success is still very limited when it comes to the practical application; such case studies can help enlarge the scope of successful implementation of the Blue Ocean Strategy.
- The strategy tools involved in implementation of Blue Ocean Strategy are highly logical and economical, that is another crucial advantage.

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**Editor-In-Chief**

Pezzottaite Journals,

24, Saraswati Lane, Bohri, Near Modern Dewan Beverages, Jammu Tawi – 180002, Jammu and Kashmir, India.

(Mobile): +91-09419216270 – 71

ditorinchief@pezzottaitejournals.net, contactus@pezzottaitejournals.net