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## **EDITORIAL**

I am happy to issue Indian Journal of Accounting for December 2013. This is my Last Issue of IJA and I express my sincere thanks to members and executive committee of IAA. The members are requested to see the details of our next conference at Lucknow. The papers published in the journal are as under :

- Dr. B. Charumathi & Ms. Hima Bindu Kota have examined whether the use of foreign denominated debt complements or acts as a substitute to derivative usage in the Indian context. *The results indicate that in the Indian context, foreign debt acts as complementary to derivative usage by the firms.*
- Prof. G. Soral and Anju Kamra have given imperical analysis of creative accounting. *The paper explores the ethical and unethical aspects of creative accounting with the help of cases from different companies.*
- Dr. K. B. Das and CA (Dr.) Sanjeev Singhal's article seeks to examine the impact of financial sector reforms on efficiency of commercial/banks in India.
- Dr. Sanjay Bhayani has made interesting study of corporate governance behaviour and market value of Indian firms. *The findings of the study indicate there is a strong relationship between corporate governance and firm value in Indian firms.*
- Dr. Martina. R. Noronha has discuss volatility of Indian Rupee against US Dollar. *This paper explains the position of the Indian rupee against the Chinese Yuan, falling rupee and Euro turmoil, reasons for the weakening rupee, the measures undertaken by the government and the possible remedies.*
- Dr. Kalpataru Bandopadhyay have given an empirical study of Capital Structure of Growth Companies with Reference to Indian Software Industry. *The article seeks to find out the reason behind almost debt-free capital structure and also demonstrates how liquidity management and risk management could take a pivotal role to determine the capital structure of these growth companies.*
- Dr. Yagnesh Dalvadi and Mr. Tejas Gandhi have nicely presented Social performance reporting practices and measurement of the selected index based companies of India.

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- *V. Ambilikumar has given new idea about Double Entry Accounting System requirement for Co-Operative Banks.*
- *Dr. A. Vinayagamoorthy and N. Sakila have presented a Study on Impact of E-Accounting. They evaluate the impact of computerized AIS, known as E-Accounting, after the section includes the measures of task performance and adoption and the last section presents the conclusion.*
- *Dr. Namrata Prakash has given new insight in Forensic Accounting. It seeks to examine the meaning and nature, activities and services rendered, by a forensic accountant in this specialized budding field in accountancy profession.*
- *Dr. Pushplata Chouksey and Miss. Rakhi Hotwani have made interesting study of liquidity analysis of Bajaj Auto Ltd. It is aimed at studying the different aspects of liquidity position of company in light of basic principles governing liquidity.*
- *P. Bhanu Sireesha and Prof. A. Sudhakar have given a critical evaluation of Estimation of NIFTY Volatility from Historical Data.*

December, 2013  
Ahmedabad

**Prof. Harish S. Oza**  
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(1994-2013)

## **PRESIDENT SPEAKS**

**Dear Members,**

Happy New Year, 2014

I am honored and privileged to serve as President of Indian Accounting Association for the year 2014 for which I express my sincere thanks and convey my gratitude and regards to all the members, executive committee and past president's of the Association for the confidence reposed in me. At the same time I seek your co-operation in elevating the Association to greater heights and I personally request you to give kind support and co-operation in developing the Association.

With the growth in the nature, size and complexity of business, an Accountant is not playing a mere role of stewardship, rather it is shifted as Management Accountant, Consultant, Advisor and pioneer, who is facing new challenges in the field of Accountancy. Recently, as the Accountant's we are facing many challenges to incorporate new developments in Accountancy.

In the 36<sup>th</sup> conference & International Seminar of IAA at Andhra University, Visakhapatnam. On January 11 & 12, 2014, we discussed at length about three challenges in different technical sessions viz. Government Accounting, Corporate Reporting & XBRL and Emerging dimensions of Accounting. Now, we are going to discuss three more challenges viz. Accounting for Financial Instruments, Commodity Markets & Risk Management and Creative Accounting in Forthcoming 37<sup>th</sup> Conference & International Seminar of IAA at University of Lucknow, Lucknow. These three themes of forthcoming conference are quite debatable as emerging dimensions in Accounting and it is expected that members will show their overwhelming response in it.

Research in Accounting is backbone of Accounting Education. Therefore, to develop the subject and the profession, every year an International Seminar is also being held at every Conference of the IAA : I hope that our participants will highlight not only Indian Research but also various researches at International level. For better future or the Accounting Profession, we require quality research from academicians and professionals.

Research and Development in Accounting is a continuous process not the annual feature only. For this, various Universities are organizing workshops ,seminars, National & International Conferences time to time. Many Institutions are publishing Journals also. IAA is also enhancing it by establishing various branches in various cities of entire country. Moreover, IAA is publishing a prestigious National bi-annual Journal "**Indian Journal of Accounting**" regularly. These academic activities are result of concrete efforts of different professors, academicians, research scholars and students. Branch Secretaries are making special efforts to continue these activities.



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I express my thanks for it and expect that more and more workshops, symposiums, seminars & conferences will be held on the main theme of three technical sessions and International Seminar going to be held at Lucknow, so that there is a better deliberation in the conference. Let me believe that Accounting would promote accountability, transparency and fairness as a discipline. I solicit the support and involvement of all my colleagues and friends in furthering the better performance of IAA.



**Prof. (Dr.) S. S. Modi,**

President, Indian Accounting Association

Former Head, Department of ABST (Commerce), University of Rajasthan, Jaipur

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## **INDIAN JOURNAL OF ACCOUNTING**

Indian Journal of Accounting is an official publication of Indian Accounting Association. It is a bi-annual research journal published in June and December each year. The scope of journal encompasses all areas of Accounting-Finance, Cost and Management – including Auditing, Taxation, Reporting and Information System. Two copies of the manuscript alongwith the soft copy in e-mail: [chiefeditorija@gmail.com](mailto:chiefeditorija@gmail.com) (M.S. Word Only) for publication should be submitted by the author(s) with summary has to be typed in double space. The article should not normally exceed 1500 words. Papers submitted for consideration in Indian Journal of Accounting should be accompanied by a declaration by the authors that they have not been published or submitted for publication elsewhere. Editorial decision regarding publication of articles will be communicated in 90 days' time. The name of the author(s) should not appear on the manuscript to facilitate blind review. Indian Journal of Accounting owns no responsibility for the views expressed by the author(s). For the book review to be included in the Journal, text books, reference books and research publications are considered. Two copies of each such publication with soft copy should be submitted. All submissions and editorial enquiries should be addressed to The Chief Editor, IJA. Membership of the Indian Accounting Association (set up in 1970 vide reg. no. 429/68-69) is open to academics and professionals. Members are entitled to participate in the activities of the Association and receive a free copy of Indian Journal of Accounting and selected research publications.



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## **FROM THE DESK OF GENERAL SECRETARY, IAA**

*Dr. G. Soral \**

Esteemed member of IAA,

Greetings !

We, in the Indian Accounting association, have cherished goals to witness recognition of the association as one of the most vibrant academic associations in the country and to elevate its stature in the international arena. In order to make another humble attempt in this direction, I would like to draw your kind attention and seek your cooperation to the following:

### **1 Focus on Branch Activities:**

Let us organise and participate in the activities of our IAA branch on regular basis. This would strengthen the roots of the association and help us in serving the cause of the subject at mass level.

### **1 37<sup>th</sup> All India Accounting Conference (Nov. 8-9, 2014)**

There is a long-felt need to improve the quality and size of participation in our annual convention. For this purpose, among other things, seminars and pre-convention tutorials may be organised at branch level. This may ensure larger participation of upcoming generation and improve quality of research contributions to the event. Details are available at [www.indianaccounting.org/conference](http://www.indianaccounting.org/conference)

### **1 Membership Directory**

This is proposed to bring updated version of IAA Membership Directory.

For this purpose, please upload your latest details on the website link

[www.indianaccounting.org/membershipForm.aspx](http://www.indianaccounting.org/membershipForm.aspx)

### **1 National Accounting Talent Search 2014-15 (Feb 22, 2015)**

The accounting knowledge competition organised by the association both for UG and PG students every year has made our presence felt and our activities known by the society all over the country. Efforts for ensuring more and more participation in the competition are always required. Details are available at [www.accountingtalent.org](http://www.accountingtalent.org)

Your suggestions and other communications are welcome.

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\* *General Secretary , IAA, Professor and Director, MFC, Deptt of Accountancy and Statistics, Mohanlal Sukhlhadia University, UDAIPUR - 313001 Rajasthan, E-mail : [generalsecretaryiaa@gmail.com](mailto:generalsecretaryiaa@gmail.com)*

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## FOREIGN DEBT : COMPLEMENTARY OR SUBSTITUTE TO FINANCIAL DERIVATIVES ? EVIDENCE FROM INDIA

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*Dr. B. Charumathi \**

*Ms. Hima Bindu Kota \*\**

### ABSTRACT :

*Several risk management studies in non-financial firms suggest that foreign debt when used for hedging purposes could act as a substitute to financial derivatives. Keloharju and Niskanen (2001) and Kedia and Mozumdar (2003) find that firms hedge their foreign exchange exposures with foreign debt. Similarly, Elliot, Huffman and Makar (2003) and Aabo(2005) find that foreign debt acts as a substitute to derivatives to reduce foreign currency risk. In the present study, we examine whether the use of foreign denominated debt complements or acts as a substitute to derivative usage in the Indian context. We study the derivative usage pattern of 500 companies from the BSE 500 index from 2008-2012. A total of 253 companies in 5 years have disclosed interest rate derivative (IRD) usage. Similarly, 900 companies and 936 companies disclosed foreign exchange derivatives (FXD) and total derivatives respectively from 2008 to 2012. Due to non-availability of foreign debt data and dividend rate, the total sample size reduced to 105 data points for IRD; 321 for FXD and 333 data points for total derivatives. The study uses cross-sectional panel data and uses multiple regression models. The dependent variables for the study include interest rate, foreign exchange and total derivatives used whereas the independent variables are revenue, foreign currency denominated debt and dividend rate. The results indicate that in the Indian context, foreign debt acts as complementary to derivative usage by the firms.*

### KEY WORDS :

*Foreign debt, Financial Derivative, non-financial firms, financial risk management.*

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\*\* Ph.D. Research Scholar, Department of Management Studies, School of Management, Pondicherry University & Assistant Professor, NIILM-Centre for Management Studies, New Delhi.

## **INTRODUCTION :**

In present times, firms are exceedingly becoming global in nature. Being a global player has its unique advantages. A firm is able to sell to a diverse clientele, access different markets, become more competent and so on. However, it also brings with it certain risks. Exchange rate fluctuation is one of them. A number of firms having any business linkage outside their country face this problem. There are different ways firms deal with this problem. Firms either hedge exchange rate risk through derivatives like foreign currency derivatives or issue foreign currency denominated debt. Apart from helping firms to hedge their risk, borrowing in foreign currency may cost less when compared to borrowing in domestic currency. The question remains whether foreign currency denominated debt and financial derivatives are complementary to each other or do they substitute each other?

## **LITERATURE REVIEW :**

Firms employ a variety of financial and non-financial methods or operational techniques to reduce or hedge their exposure to exchange rate movements (Bodnar et al., 1998, Marshall, 2000). Financial techniques include foreign denominated debt and financial derivative usage, where natural hedge associated with foreign debt may either complement or substitute derivative usage.

Several studies support that financial hedging reduced foreign exchange exposure (Allayannis and Ofek, 2001; Berkman, Bradbury, Hancock and Innes, 2002; Chiang and Lin, 2005; Nguyen and Faff, 2003, 2006; Al-Shboul and Alison, 2007). However, according to Logue (1995), Chowdhary and Howe (1999), Hommel (2003) and Wong (2005) operational hedging, and not financial hedging, is effective in reducing long-term exposure. (Chiang and Lin (2007) find that foreign currency derivatives are effective for a one-month horizon but less effective when horizon lengthens).

Contrary to this, Allayannis, Ihrig and Weston (2001) find that operational hedging is not an effective substitute for financial risk management and operational hedging strategies benefit shareholders only when used in combination of financial hedging strategies.

Simkins and Laux (1997), Carter, Pantzalis and Simkins (2001), Pantzalis, Simkins and Laux (2001), Kim, Mathur and Nam (2005), Gleason, Kim and Mathur (2005) and Al-Shboul (2007) study the combined use of financial and operational hedges on the foreign exchange exposure of firms and find that financial with operational hedging can reduce currency exposure. Clark and Judge (2009) study top 500 non-financial firms in UK and find that foreign debt is used to hedge long-term exposures from foreign operations.

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Allayannis et al (2003), Batten and Meller (1993) and Joseph (2000) find that non-US firms raise a large portion of debt in foreign currency. Berkman et al., (1997) find that about 70% of firms in New Zealand use foreign currency denominated debt. Kedia and Mazumdar (1999), Harvey (2001) and Keloharju and Niskanen (2001) find that hedging is the major determinant for raising foreign currency denominated debt.

Geczy et al. (1997), Hakkarainen et al. (1997) and Hagelin (2003) find that foreign debt acts as a substitute to derivative usage. Similarly, Elliot, Huffman and Makar (2002) and Kedia and Mazumdar (2003) find that US companies use debt to hedge foreign exposure and act as a substitute to derivative usage. Aabo (2006) study non-financial Danish firms and find that foreign debt is used as an alternative to currency derivatives. In a study comparing Korean and Swedish firms, Pramborg (2005) find that Korean firms substituted foreign debt for derivatives. A positive relationship between financial distress variables like debt ratio and leverage and the level of foreign operations signals the usage of foreign debt to hedge foreign currency risk. [Burgman (1996) and Chen, Cheng, He and Kim (1997)]. However, usage of foreign denominated debt increases foreign exchange exposure. [Chiang and Lin (2007), Geczy et al., (1997) and Bartram et al (2004)].

Rossi (2007) study a sample of Brazilian companies from 1996-2004 and find that firms with higher levels of foreign currency denominated debt make more extensive use of currency derivatives. Similarly, Fok et al. (1997) and Simkin and Laux(2001) and Al-Shboul (2007) provide evidence that natural hedges complement derivative usage. Allayannis and Ofek (2001) examine both the decision to issue foreign debt and the level of foreign debt chosen. However, they did not analyze the relationship between foreign debt and derivative usage.

**OBJECTIVE OF THE STUDY :**

The objective of the study is to examine whether the use of foreign currency denominated debt complements or acts as a substitute to derivative usage in the Indian context.

**RESEARCH METHODOLOGY :**

***Research Method***

This is an empirical study.

***Sample***

The sample is constructed of 500 companies from the BSE 500 index. The annual reports of all the 500 companies are studied for five years from 2008-2012. Since the derivative disclosure is voluntary in India, not many companies have disclosed the details of derivative usage in their annual reports. To qualify for the analysis, the company's

annual report should mention at least once that it uses derivatives (interest rate, foreign exchange, and commodity) to hedge risk and disclose the notional values of these derivatives. Furthermore, consistent with most studies, firms belonging to the banking sector were deleted from the sample due to specific nature of their business that often requires them to use derivatives for trading purposes or for performing dealer activities for their clients.

**Method of Data Collection :**

A total of 253 companies in 5 years have disclosed Interest Rate Derivative (IRD) usage (48 companies in 2008; 42 in 2009; 50 in 2010; 58 in 2011 and 55 companies in 2012) Similarly, 900 companies (173 companies in 2008; 171 companies in 2009; 186 companies in 2010; 199 companies in 2011; 171 companies in 2012) have disclosed Foreign Exchange Derivatives (FXD) and 936 companies (178 companies in 2008; 175 companies in 2009; 193 companies in 2010; 209 companies in 2011; 181 companies in 2012) have disclosed total derivatives from 2008-2012.

The next step is to find the data for foreign currency denominated debt for all the companies that have disclosed derivative usage in their annual reports. Due to non-availability of foreign debt data and dividend rate, the total sample size reduced to 105 data points for IRD (22 companies in 2008, 20 companies in 2009, 21 companies in 2010, 20 companies in 2011 and 22 companies in 2012); 321 for FXD (55 companies in 2008, 67 companies in 2009, 67 companies in 2010, 69 companies in 2011, 63 companies in 2012) and 333 data points for total derivatives (57 companies in 2008, 69 companies in 2009, 68 companies in 2012, 73 companies in 2011 and 66 companies in 2012).

All the financial data are taken from Prowess, a financial database of CMIE (Centre for Monitoring Indian Economy).

**Variables of the study :**

**Dependent Variables:** The dependent variable is the extent of derivative use which is defined as the log of total notional value of all types of derivatives (such as interest, currency (forex) and commodity derivatives) used by large companies. The three dependent variables are as follows:

**IRDER:** Log of the notional value of the interest rate derivatives used by the companies.

**FXDER:** Log of the notional value of the foreign exchange derivatives used by the companies.

**TOTALDER:** Log of the notional value of the total derivatives used by the companies.

**Independent Variables:** Following are the independent variables used in this study:

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**Revenue (REV) – Proxy for Firm Size:** To proxy for the firm size, we use natural logarithm of the total revenue (REV). We predict that there should be a positive relationship between the extent of derivatives used and firm size.

**Foreign Currency Denominated debt (FDD):** We use the natural logarithm of the total foreign currency denominated debt. The relationship between derivative usage and foreign currency denominated debt is empirical in nature.

**Dividend Payout Ratio (DIV):** Lower dividend-payout ratios send signals to bondholders that the firm will be able to pay fixed claims – this leads to lower financial distress and agency costs (Smith and Warber, 1979). Dividend restriction is also another means of reducing underinvestment problem (Kalay , 1982).

Several studies show that firms with higher dividend payout ratios have no liquidity concerns and therefore are predicted to hedge more (Mian , 1996 and Nguyen and Faff, 2003). Therefore, we predict a positive relationship between dividend payout ratio and derivative usage.

**Models Used :**

Following are the multiple regression models used in this study:

$$IRDER = \hat{a}_0 + \beta_1 REV + \hat{a}_2 FDD + \hat{a}_3 DIV + \epsilon_i$$

$$FXDER = \hat{a}_0 + \beta_1 REV + \hat{a}_2 FDD + \hat{a}_3 DIV + \epsilon_i$$

$$TOTALDER = \hat{a}_0 + \beta_1 REV + \hat{a}_2 FDD + \hat{a}_3 DIV + \epsilon_i$$

**Hypotheses :**

H<sub>01</sub>: There is no relationship between interest rate derivative usage and

H<sub>01a</sub>: Firm Size as proxied by the natural logarithm of the Total Revenue (REV)

H<sub>01b</sub>: natural logarithm of Foreign currency Denominated Debt (FDD)

H<sub>01c</sub>: dividend payout ratio

H<sub>02</sub>: There is no relationship between foreign exchange derivative usage and

H<sub>02a</sub>: Firm Size as proxied by the natural logarithm of the Total Revenue (REV)

H<sub>02b</sub>: natural logarithm of Foreign currency Denominated Debt (FDD)

H<sub>02c</sub>: dividend payout ratio

H<sub>03</sub>: There is no relationship between total derivative usage and

H<sub>03a</sub>: Firm Size as proxied by the natural logarithm of the Total Revenue (REV)

H<sub>03b</sub>: natural logarithm of Foreign currency denominated debt (FDD)

H<sub>03c</sub>: dividend payout ratio



**RESULTS AND DISCUSSION :**

**1) RELATION BETWEEN INTEREST RATE DERIVATIVE USAGE AND  
FOREIGN CURRENCY DENOMINATED DEBT**

**Table 1**

<b>DESCRIPTIVE STATISTICS-DEPENDENT VARIABLE (IRDER) AND PREDICTOR VARIABLES</b>			
	Mean	Std. Deviation	N
IRDER	7.6694	1.96712	105
REV	10.3951	1.19272	105
FDD	8.2602	1.79087	105
DIV	.9453	2.12300	105
<i>Note: Results computed by SPSS 17.1</i>			

**Table 2**

<b>MODEL SUMMARY AND ANOVA OF DEPENDENT VARIABLE (IRDER) AND PREDICTOR VARIABLES</b>				
R	R Square	Adjusted R Square	F	Sig.
.481 <sup>a</sup>	.231	.208	10.130	.000 <sup>a</sup>
<i>a. Dependent Variable : IRDER</i>				
<i>b. Predictor Variables : DIV, REV, FDD</i>				
<i>Note : Results computed by using SPSS 17.1</i>				

Table 1 portrays the descriptive statistics for the variables chosen for the study. Table 2 shows that model summary of the regression for the sample firms. The R-square of the model is equal to 48.1% and the adjusted R-square of the model equals 20.8%. This means that 20.8% of the changes in the interest rate derivative (IRDER) are due to the variations of the independent variables used in this model.

Table 2 also shows the result of ANOVA. By using the analysis of variance, it is found that F test of the model is equal to 10.130 and is significant at 5% level of significance.

***Testing for autocorrelation***

The Durbin Watson value (Table 3) of 1.916 indicates that the values are independent and there is no problem of autocorrelation.

**Testing for multicollinearity**

1. **Correlation among different independent variables:** A look at table 4 shows that the correlation coefficient between any two regressors is not high. Thus, it can be concluded that multicollinearity is not a problem in this case.
2. **Tolerance and Variance Inflation Factor:** Table 3 also shows that VIFs of all the independent variables are less than 10 and in fact close to the value of one. The tolerance is also greater than 0.5 in all the cases. This also shows that the problem of multicollinearity does not exist.
3. **Condition Index:** Table 3 shows that the condition index for all variables is less than 30, which suggest that there is no serious multicollinearity.

**Table 3**

TESTS FOR MULTICOLLINEARITY, AUTOCORRELATION AND HETEROSCEDASTICITY WHEN THE DEPENDENT VARIABLE IS IRDER				
Model	CollinerityStatistics		Collinearity Diagnostics	
	Tolerance	VIF	Eigenvalue	Condition Index
(Constant)			3.189	1.000
REV	.672	1.488	.782	2.019
FDD	.667	1.499	.024	11.637
DIV	.989	1.011	.005	24.255
Durbin- Watson	1.916			
Heteroscedasticity	Breusch-Pagan Test		7.449 (.0589)	
	Koenker Test		5.313 (.1503)	
<i>a. Predictor Variables: DIV, REV, FDD</i>				
<i>b. Dependent Variable: IRDER</i>				
<i>Note : Results computed by using SPSS 17.1</i>				

**Table 4**

<b>COEFFICIENT CORRELATIONS<sup>a</sup> WHEN THE DEPENDENT VARIABLE IS IRDER</b>			
	DIV	FDD	REV
DIV	1.000		
FDD	-.062	1.000	
REV	.105	-.573	1.000
<i><sup>a</sup> Dependent Variable: IRDER</i>			
<i>Note : Results computed by using SPSS 17.1</i>			

**Testing for Heteroscedasticity**

Breusch-Pagan and Koenker tests (Table 3) indicate that the error terms have constant variance and they are homoscedastic in nature.

**Robustness Tests :** We performed several robustness tests in our model. To begin with we used debt ratio and debt-equity ratio one by one and found that none of these variables were significant. We also performed robustness test with underinvestment variables like PE, EPS, Price-to-book ratio, Tobin's Q and R&D expenses and found that none of the variables were significant. Use of assets, revenue and size as a proxy for size lead to multicollinearity problems and since assets and size were also insignificant, we excluded them from the model and retained revenue as it lead to improvement in the model fit.

**Table 5**

<b>COEFFICIENTS<sup>A</sup> WHEN THE DEPENDENT VARIABLE IS (IRDER)</b>						
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	1.917	1.509		1.271	.207
	REV	.197	.176	.119	1.120	.265
	FDD	.443	.117	.404	3.780	.000
	DIV	.047	.081	.051	.580	.563
<sup>a</sup> Dependent Variable : IRDER <i>Note : Results computed by using SPSS 17.1</i>						

From table 5, it is clear that there is a positive relationship between interest rate derivative usage and a) revenue and b) dividend payout ratio. The coefficients of these variables are positive at 1.120 and .580 respectively but they are not significant at 5% confidence level. Hence, *the null hypotheses,  $H_{01a}$  and  $H_{01c}$  are accepted. Thus, there is no significant relationship between interest rate derivative usage and revenue and dividend payout ratio.*

Additionally, there is a positive relationship between interest rate derivative usage and foreign currency denominated debt. The coefficient of this variable is positive at 3.780 and is significant at 5% confidence level. The t-value of this variable is 3.780 and beta value is .443. Using the standardized coefficient and keeping all the other variables constant, if foreign currency denominated debt increases by 100, interest rate derivative usage will also increase by 44. Hence, *the null hypothesis  $H_{01b}$  is rejected. Thus, there is a significant and positive relationship between interest rate derivative usage and foreign currency denominated debt.*

**2) RELATIONSHIP BETWEEN FOREIGN EXCHANGE DERIVATIVE USAGE  
AND FOREIGN CURRENCY DENOMINATED DEBT**

**Table 6**

<b>DESCRIPTIVE STATISTICS-DEPENDENT VARIABLE (IRDER) AND PREDICTOR VARIABLES</b>			
	Mean	Std. Deviation	N
FXDER	8.2376	2.10896	321
REV	10.1952	1.41332	321
FDD	7.9784	1.81730	321
DIV	.9074	1.45905	321
<i>Note : Results computed by SPSS 17.1</i>			

Table 6 portrays the descriptive statistics for the variables chosen for the study. Table 7 shows that model summary of the regression for the sample firms. The R-square of the model is equal to 35.9% and the adjusted R-square of the model equals 12%. This means that 12% of the changes in the foreign exchange derivative (FXDER) are due to the variations of the independent variables used in this model.

Table 7 shows the result of ANOVA. By using the analysis of variance, it is found that F test of the model is equal to 15.606 and is significant at 5% level of significance.

**Table 7**

<b>MODEL SUMMARY AND ANOVA OF DEPENDENT VARIABLE (IRDER) AND PREDICTOR VARIABLES</b>				
R	R Square	Adjusted R Square	F	Sig.
.359 <sup>a</sup>	.129	.120	15.606	.000 <sup>a</sup>
<i>a. Dependent Variable : FXDER</i>				
<i>b. Predictor Variables: DIV, REV, FDD</i>				
<i>Note : Results computed by using SPSS 17.1</i>				

**Table 8**

Tests for Multicollinearity, Autocorrelation and Heteroscedasticity when the dependent variable is FXDER				
	Collinerity Statistics		Collinearity Diagnostics	
Model	Tolerance	VIF	Eigenvalue	ConditionIndex
(Constant)			3.329	1.000
REV	.668	1.496	.637	2.286
FDD	.680	1.471	.026	11.319
DIV	.979	1.021	.008	20.319
Durbin- Watson	1.900			
Heteroscedasticity	Breusch-Pagan Test		3.803 (.2835)	
	Koenker Test		2.666 (.4460)	
<i>a. Predictor Variables : DIV, REV, FDD</i>				
<i>b. Dependent Variable : FXDER</i>				
<i>Note : Results computed by using SPSS 17.1</i>				

**Table 9**

<b>Coefficient Correlations<sup>a</sup> when the dependent variable (IRDER)</b>			
	DIV	FDD	REV
DIV	1.000		
FDD	.041	1.000	
REV	-.137	-.564	1.000
<i><sup>a</sup> Dependent Variable : FXDER</i> <i>Note : Results computed by using SPSS 17.1</i>			

**Testing for autocorrelation**

The Durbin Watson value (Table 8) of 1.900 indicates that the values are independent and there is no problem of autocorrelation.

**Testing for multicollinearity**

**1. Correlation among different independent variables:** A look at table 9 shows that the correlation coefficient between any two regressors is not high. Thus, it can be concluded that multicollinearity is not a problem in this case.

**2. Tolerance and Variance Inflation Factor:** Table 8 shows that VIFs of all the independent variables are less than 10 and in fact close to the value of one. The

tolerance is also greater than 0.5 in all the cases. This also shows that the problem of multicollinearity does not exist.

**3. Condition Index :** Table 8 shows that the condition index for all variables is less than 30, which suggest that there is no serious multicollinearity.

***Testing for Heteroscedasticity***

Breusch-Pagan and Koenker tests (Table 8) indicate that the error terms have constant variance and they are homoscedastic in nature.

**Table 10**

<b>COEFFICIENTS<sup>a</sup> WHEN THE DEPENDENT VARIABLE IS FXDER</b>						
		Unstandardized Coefficients		Standardized Coefficients		
	Model	B	Std. Error	Beta	t	Sig.
1	(Constant)	3.238	.807		4.011	.000
	REV	.357	.096	.239	3.729	.000
	FDD	.154	.074	.133	2.087	.038
	DIV	.146	.077	.101	1.906	.058
<sup>a</sup> Dependent Variable: FXDER; Note: Results computed by using SPSS 17.1						

From table 10, it is clear that there is a positive relationship between foreign exchange derivative usage and dividend payout ratio. The coefficient of this variable is positive at 1.906 but is not significant at 5% confidence level. Hence, *the null hypothesis  $H_{02c}$  is accepted. Thus, there is no significant relationship between foreign exchange derivative usage and dividend payout ratio.*

Further, there is a positive relationship between foreign exchange derivative usage and a) foreign currency denominated debt and b) revenue. The coefficients of these variables are positive at 2.087 and 3.729 respectively and are significant at 5% confidence level. The t-value of foreign currency denominated debt is 2.087 and beta value is .154. Using the standardized coefficient and keeping all the other variables constant, if foreign currency denominated debt increases by 100, foreign exchange derivative usage will also increase by 15. Hence, *the null hypotheses  $H_{02a}$  and  $H_{02b}$  are rejected. Thus, there is a significant and positive relationship between foreign exchange derivative usage and foreign currency denominated debt and revenue.*

**3) RELATION BETWEEN TOTAL DERIVATIVE USAGE AND FOREIGN CURRENCY DENOMINATED DEBT**

Table 11 portrays the descriptive statistics for the variables chosen for the study.

Table 12 shows that model summary of the regression for the sample firms. The R-square of the model is equal to 77.8% and the adjusted R-square of the model equals 60.6%. This means that 60.6% of the changes in the total derivative (TOTALDER) are due to the variations of the independent variables used in this model.

**Table 11**

<b>Descriptive Statistics -Dependent Variable (TOTALDER) and predictor variables</b>			
	Mean	Std. Deviation	N
TOTALDER	8.4504	2.09218	333
REV	10.1767	1.40245	333
FDD	8.3253	2.10769	333
DIV	.9051	1.44802	333
<i>Note: Results computed by SPSS 17.1</i>			

**Table 12**

<b>Model Summary and ANOVA of dependent variable (TOTALDER) and predictor variables</b>				
R	R Square	Adjusted R Square	F	Sig.
.778 <sup>a</sup>	.606	.602	168.630	.000 <sup>a</sup>
<i>a. Dependent Variable: TOTALDER</i>				
<i>b. Predictor Variables: DIV, REV, FDD</i>				
<i>Note: Results computed by using SPSS 17.1</i>				

Table 12 shows the result of ANOVA. By using the analysis of variance, it is found that F test of the model is equal to 168.630 and is significant at 5% level of significance.



**Table 13**

Tests for Multicollinearity, Autocorrelation and Heteroscedasticity when the dependent variable is TOTALDER				
	Collinerity Statistics		Collinearity Diagnostics	
Model	Tolerance	VIF	Eigenvalue	Condition Index
(Constant)			3.327	1.000
REV	.880	1.136	.627	2.303
FDD	.886	1.128	.036	9.584
DIV	.972	1.029	.009	19.024
Durbin- Watson	2.012			
Heteroscedasticity	Breusch-Pagan Test		3.803 (.2835)	
	Koenker Test		2.6664460)	
a. Dependent Variable : TOTALDER				
Note : Results computed by using SPSS 17.1				

#### ***Testing for autocorrelation***

The Durbin Watson value (Table 13) of 2.012 indicates that the values are independent and there is no problem of autocorrelation.

#### ***Testing for multicollinearity***

**1. Correlation among different independent variables:** A look at table14 shows that the correlation coefficient between any two regressors is not high. Thus, it can be concluded that multicollinearity is not a problem in this case.

**2. Tolerance and Variance Inflation Factor:** Table 13 shows that VIFs of all the independent variables are less than 10 and infact close to the value of one. The tolerance is also greater than 0.5 in all the cases. This also shows that the problem of multicollinearity does not exist.

**3. Condition Index:** Table 13 shows that the condition index for all variables is less than 30, which suggest that there is no serious multicollinearity.

#### ***Testing for Heteroscedasticity***

Breusch-Pagan and Koenker tests (Table 13) indicate that the error terms have constant variance and they are homoscedastic in nature.

**Table 14**

<b>Coefficient Correlations<sup>a</sup> when the dependent variable is TOTALDER</b>			
	DIV	FDD	REV
DIV	1.000		
FDD	-.080	1.000	
REV	-.115	-.316	1.000
<sup>a</sup> Dependent Variable : TOTALDER Note : Results computed by using SPSS 17.1			

**Table 15**

<b>Coefficients<sup>a</sup> when the dependent variable is TOTALDER</b>					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	.881	.545		1.616	.107
REV	.141	.055	.094	2.560	.011
FDD	.735	.036	.740	20.138	.000
DIV	.020	.051	.014	.391	.696
<sup>a</sup> Dependent Variable : TOTALDER Note : Results computed by using SPSS 17.1					

From table 15, it is clear that there is a positive relationship between total derivative usage and dividend payout ratio. The coefficient of this variable is positive at .396 but is not significant at 5% confidence level. Hence, *the null hypothesis  $H_{03c}$  is accepted. Thus, there is no significant relationship between total derivative usage and dividend payout ratio.*

Further, there is a positive relationship between total derivative usage and a) foreign currency denominated debt and b) revenue. The coefficients of these variables are positive at 20.138 and 2.560 respectively and are significant at 5% confidence level. The t-value of foreign currency denominated debt is 20.138 and beta value is .735. Using the standardized coefficient and keeping all the other variables constant, if foreign currency denominated debt increases by 100, foreign exchange derivative usage will also increase by 73. Hence, *the null hypotheses  $H_{03a}$  and  $H_{03b}$  are rejected. Thus, there is a significant and positive relationship between total derivative usage and foreign currency denominated debt and revenue.*

Table – 16

Results Summary				
Variables	Relationship	Sig. at 5%	Hypothesis	H <sub>0</sub> Accepted/Rejected
<b>Summary of results when dependent variable is IRDER</b>				
REV	Positive	No	H <sub>01a</sub>	Accepted
FDD	Positive	Yes	H <sub>01b</sub>	Rejected
DIV	Positive	No	H <sub>01c</sub>	Accepted
<b>Summary of results when dependent variable is FXDER</b>				
REV	Positive	Yes	H <sub>02a</sub>	Rejected
FDD	Positive	Yes	H <sub>02b</sub>	Rejected
DIV	Positive	No	H <sub>02c</sub>	Accepted
<b>Summary of results when dependent variable is TOTALDER</b>				
REV	Positive	Yes	H <sub>03a</sub>	Rejected
FDD	Positive	Yes	H <sub>03b</sub>	Rejected
DIV	Positive	No	H <sub>03c</sub>	Accepted

Table 16 shows the summary of results. We find that there is a positive relationship between foreign currency denominated debt and interest rate derivative usage, foreign exchange derivative usage and total derivative usage. Therefore, there is evidence that foreign debt acts as a complement to the hedging by use of derivatives in the Indian context. Similar results were found by Rossi (2007), Fok et al. (1997), Simkin and Laux(2001) and Al-Shboul (2007).

We also find that larger firms use more of derivatives in India. This is in accordance with several studies that size reflects a firm's scale economies for maintaining an effective hedging program, implying a positive correlation between a firm's size and the magnitude of its hedging activities (Berkman & Bradbury, 1996; Mian, 1996; Nance et al, 1993; Jalilvand, 1999; Goldberg et al, 1998; Singh and Upneja, 2008, Booth, Smith and Stolz, 1984; Carneiro and Sherris, 2006; Muller and Verschnoor, 2005; Jorge and Augusto, 2011; Fok, Carroll and Chiou, 1997; Makar, DeBruin and Huffman, 1999; Davies, Eckberg and Marshall, 2006; Klimczak, 2008; Renolds and Boyle, 2005; Ramlall, 2009, 2010; Martin and Maeur, 2004; Marsden and Prevost, 2005; Schiozer and Saito, 2009; Singh, 2009; Charumathi and Kota, 2011a, 2011b, 2011c, 2012).

However, in the Indian context, we do not find any relationship between dividend payout ratio and derivative usage.

**CONCLUSION :**

In this paper, we examine whether the use of foreign denominated debt complements or acts as a substitute to derivative usage in the Indian context. We study the derivative usage pattern of 500 companies from the BSE 500 index from 2008-2012. The study uses cross-sectional panel data and uses multiple regression models. The dependent variables for the study include interest rate, foreign exchange and total derivatives used whereas the independent variables are revenue, foreign currency denominated debt and dividend rate. The results indicate that in the Indian context, foreign debt acts as complementary to derivative usage by the firms.

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## CREATIVE ACCOUNTING VIS-À-VIS ETHICS : SOME CASE STUDIES FROM INDIA AND ABROAD

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### ABSTRACT :

*Ethics can be defined as (i) the science of morals, (ii) moral principles, (iii) a philosophy or (iv) a code. Ethics in accounting are the code of conduct which regulates financial reporting in the books of accounts. In the accounting field, professional accounting organizations recognize the accounting profession's responsibility to provide ethical guidelines to its members. Accounting ethics is primarily a field of applied ethics, the study of moral values and judgments as they apply to accountancy. Accounting practices which comply with GAAP and Accounting Standards are ethical.*

*Creative accounting is a process whereby accountants use their knowledge of accounting rules to manipulate the figures reported in the accounts of business. It helps to maintain or boost the share price as well as boosting income as because of flexibility of rules and appraised report, a steady trend of growth in profit rather than to show volatile profits with a series of dramatic rises and falls which is achieved by creative accounting. It is totally legitimate only if, it is within the ramifications of the law and it achieves the company's ultimate goal of increasing stock values.*

*The paper explores the ethical and unethical aspects of creative accounting with the help of cases from different companies which are Satyam, Wipro Ltd., Larsen and Toubro Ltd., Bombay Dyeing and Mfg. Co., Hindustan Zinc Ltd., ONGC Ltd. WorldCom, Enron and Tyco International Ltd. The paper discusses the cases and explains how the figures were manipulated ethically and unethically. The ethical and unethical dimension of creative accounting and the result of it are discussed. This paper examines the effects of creative accounting on selected companies. Classification of companies on the basis of their creative accounting practices is done.*

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*The result of the study shows that creative accounting may be used by any company irrespective of nature, size, location, etc. but large size companies have more scope for using creative accounting practices. On the basis of study, it is also found that different companies are using creative accounting differently. Thus, there cannot be established any relationship or pattern between creative accounting used by different companies. Foreign companies have extreme knowledge of using creative accounting but big accounting scandals are also taken place in foreign companies in comparison to Indian companies. Lack of global financial accounting infrastructure are also motivating unethical practices. Measures are also suggested to curb unethical practice of creative accounting.*

**KEY WORDS :**

*Ethics, Accounting, Creative Accounting, Satyam Ltd., WorldCom Inc., Bankruptcy.*

**ETHICAL AND UNETHICAL ASPECTS OF CREATIVE ACCOUNTING**

Ethical means conforming to accepted standards of social or professional behavior. The prefix *un-* means “not,” so something or someone who’s *unethical* is literally “not ethical.” In other words, that someone is lacking principles or morals. In business, the purpose of ethics is to direct business men and women to abide by a code of conduct that facilitates public confidence in their product and services. When we talk about ethics, we always link the term with creative accounting, earnings management, misleading financial statements, securities fraud and insider’s transactions, bribery, executive compensation and many more.

Creative accounting is using the flexibility within the accounting process to present a preferred picture of the firm at a point in time. It can be done through:

- i. Accounting induced operational & financial decisions.
- ii. Choices of accounting policies
- iii. Manipulation of accounting estimates
- iv. Fraudulent transactions

**REVIEW OF LITERATURE :**

Syed Zulfiqar Ali Shah, Safdar A. Butt and Yasir Bin Tariq (2011) in their article ‘Use or Abuse of Creative Accounting Techniques’ conducted study to have a detailed view on creative accounting. A very important question has been tried to be answered in this study that why managers do creative accounting and how they become successful in performing such practice in the presence of stringent rules and procedures. This paper explored that whether this creative accounting practice is good for the companies or it brings companies

in crises situation. At the end it is concluded that the complex and diverse nature of the business transactions and the latitude available in the accounting standards and policies make it difficult to handle the issue of creative accounting.

Diana Balaciu, Victoria Bogdan and Alina Beattrice Vladu (2009) in their article 'A BRIEF REVIEW OF CREATIVE ACCOUNTING LITERATURE AND ITS CONSEQUENCES IN PRACTICE' had as main objective a short review of the aspects approached at the European level regarding the role that creative accounting plays in the life of an enterprise. In order to achieve their goal, they have analyzed approximately 40 academic articles indexed in international database, such as Science Direct, Emerald and ProQuest. In the end of their research, they have formulated their own conclusion, that there was no unanimously or unifying accepted theory at the international or European level regarding what is, what the creative accounting represents or what its basic principles are.

The lobbying of regulators to persuade them to produce regulation that was more favourable to the interests of preparers. 'Micro-manipulation' described the management of accounting figures to produce a biased view at the entity level. Both categories of manipulation could be viewed as attempts at creativity by financial statement preparers. They analyzed two cases of manipulation which were considered in an ethical context and concluded that the manipulations described in it could be regarded as morally reprehensible. They were not fair to users, they involved an unjust exercise of power, and they tended to weaken the authority of accounting regulators.

Ester Oliveras and Oriol Amat (2003) in their book entitled 'Ethics and Creative Accounting: Some Empirical Evidence on Accounting for Intangibles in Spain' mentions that financial reports were losing relevance. Mainly this was due to the growing strategic importance of intangible assets in the performance of a company. A possible solution was to modify accounting standards so that statements included more self-generated intangible assets, taking into account with their inherent risk and difficulty of valuation. The findings showed that capitalization was significantly more likely to attract a positive response to a loan request.

Oriol Amat, John Blake and Jack Dowds (1999) in their book entitled 'THE ETHICS OF CREATIVE ACCOUNTING' defined 'creative accounting' in a number of ways. To investigate the ethical issues raised by creative accounting they explored some definitions of creative accounting, considered the various ways in which creative accounting can be undertaken, explored the range of reasons for a company's directors to engage in creative accounting, reviewed the ethical issues that arise in creative accounting, and reported on surveys of auditors' perceptions of creative accounting in the UK, Spain and New Zealand.

Oriol Amat, John Blake and Ester Oliveras (2000) in their article entitled 'The Ethics of Creative Accounting: Some Spanish Evidence' took an example of Barcelona Football

Club and undermined the defense for creative accounting, based on the ability of users to identify manipulation.

The conclusions derived by different researchers from ethical and unethical aspect of creative accounting may be summarized as follows:

- a) Unlike accounting, ethics is difficult to be defined in today's business world because of the different ethical beliefs; however the peak of discussions about ethics in accounting started a few years back by cases such as the Enron case, where the accounting firm of Arthur Andersen utilized unethical accounting practices to hide company's debt.
- b) Tax evasion, manipulation of accounts, and conflict of interest are three ethical issues for practitioners.
- c) There is no set of specific rules that can distinguish between ethical and unethical behavior at any time.
- d) Revsine's(1991) offers a discussion of the 'selective financial misrepresentation hypothesis' and consider the problem in relation to both managers and shareholders and argues that each can draw benefit from 'loose' accounting standards.
- e) Similarly, Ruland(1984), Leung and Cooper(1995), Fischer and Rosenzweig(1995), Merchant and Rockness(1994), Oriol Amat, John Blake and Ester Oliveras(2000) presents their ethical perspective with the help of examples, case studies etc.

#### **METHODOLOGY :**

The paper seeks to conduct empirical analysis of certain large companies in order to explore various aspects of creative accounting. A convenient sample of nine such companies have been selected for the purpose, out of which six companies are Indian while the remaining three are the foreign companies.

Through various sources, which include secondary sources also, the researchers identified various aspects of creative accounting related with the sample companies. The sources of information have been appropriately acknowledged. A comparison of ethical and unethical aspect of creative accounting has also been presented in the paper.

#### **CASE ANALYSIS AND DISCUSSIONS :**

##### **CASE STUDY**

Table 1 contains some examples of Indian companies practicing creative accounting from 1996-97 to 2004-2005:

**Table 1**

**SUMMARY OF CASES OF CREATIVE ACCOUNTING IN INDIA**

<b>Company</b>	<b>Year</b>	<b>Nature of Creativity</b>
Satyam	1999-2009	Unethical manipulation of accounts and fraudulent transactions lead to the downfall of the company. Mr. Ramalinga Raju was fudging revenue figures every year and thus the gap between actual profit and book profit got widened every year. He raised fictitious bills for services that were never rendered. He also increased the cash and bank balances accordingly. Operating profits were artificially boosted from the actual ones. The Income Tax department is independently probing the accounting fraud in Satyam with a focus of tax deducted at source and BENAMI Deals.
Wipro Ltd.	1996-97 to 1999-2000	Transfer of land to stock-in-trade creating capital reserve to boost up net worth and to neutralize the effect on profit on reduction of land value.
Larsen & Toubro Ltd.	1999-2000 & 2001-02	Income recognition through transfer of loan liabilities at a lower consideration.
Bombay Dyeing and Manufacturing Company	2003-2004 & 2004-05	Creating provision for possible loss on firm purchase contract and subsequent write-back of such provision thereby converting operating losses into operating profit.
Hindustan Zinc Ltd	2003-04 & 2004-05	Reclassifying investments into tangible assets to blend the requirement of valuation of investments.
ONGC Ltd.	2004-2005	Capitalization of interest as well as other intangible assets to show fixed assets value upward and understating revenue expenses.
(Source: Global Data Services of India Ltd., Accounting and Analysis: The Indian Experience. 2006.)		

**Table2**

**CONTAINS SOME EXAMPLES OF FOREIGN COMPANIES PRACTICING  
CREATIVE ACCOUNTING FROM 1992-93 TO 2001-2002**

<b>Company</b>	<b>Year</b>	<b>Nature of Creativity</b>
WorldCom	1999-2002	<ol style="list-style-type: none"><li>1. Booking 'line costs' (interconnection expenses with other telecommunication companies) as capital on the balance sheet instead of expenses.</li><li>2. Inflating revenues with bogus accounting entries from "corporate unallocated revenue accounts".</li></ol>
Enron	1996-2001	Enron report the entire value of each of its trades as revenue. Enron had used hundreds of SPEs to hide its debt. Enron's balance sheet understated its liabilities, overstated its equity and profits. Enron's recorded assets and profits were inflated or even wholly fraudulent and nonexistent. In addition, its complex business model and unethical practices required that the company use accounting limitations to misrepresent earnings and modify the balance sheet to indicate favorable performance. Debts and losses were put into entities formed "offshore" that were not included in the company's financial statements.
Tyco International Ltd	1992-2002	<p>A 10 million dollar loan was totally forgiven by Tyco, and all interest was billed to the corporation. Kozlowski (CEO) was accused of tax evasion on some expensive art purchases, allegedly made with company funds.</p> <p>Kozlowski and Swartz were found guilty in 2005 of taking bonuses worth more than \$120 million without the approval of Tyco's directors, abusing an employee loan program, and misrepresenting the company's financial condition to investors to boost the stock price, while selling \$575 million in stock.</p>

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**CLASSIFICATION OF ABOVE MENTIONED COMPANIES ON THE BASIS  
OF THEIR CREATIVE ACCOUNTING PRACTICES :**

<b>Companies</b>	<b>Ethical (totally legitimate)</b>	<b>Unethical (not within the ramifications of law)</b>
1. Satyam		Mr. Ramalinga Raju said the manipulation of transaction started out small, and grew larger by the year, and later on turned into a big accounting scandal.
2. Wipro		Creative accounting practices used by Wipro are unethical because the requirement of AS 10 and AS 2 have not been followed in spirit.
3. Larsen and Toubro	Creative accounting practices used by L&T are justified because the requirement of AS is fulfilled, as holding company can transfer its liability to its subsidiary company.	
4. Bombay Dyeing and Manufacturing Company	Creative accounting practices used by Bombay Dyeing and Manufacturing company is ethical as it fulfills the requirements of AS-29. Accordingly, manager can make a provision for loss in the books of accounts, if loss is expected.	
5. Hindustan Zinc Ltd.	Company changed the classification of particular investment to Intangible assets, is justified as the investment entitles the company to draw power regularly whereas such reclassification does not fulfill the requirement of AS-13 although the transaction is not unethical because it is justified according to AS-26. The auditor qualified the accounts for the years 2002-03, 2003-04 and 2004-05 in respect of the investment disclosed by the company as intangible assets	
6. ONGC Ltd.		Creative accounting practices used by ONGC Ltd. are not justified because it overstated its profits.



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7. WorldCom		They classified over \$3.8 billion in payments for Line costs as capital expenditures rather than current expenses. According to proper accounting principles line costs are to be treated as revenue expenses. Future expenses are accounted as Accrual.
8. Enron		Enron's recorded assets and profits were inflated or even wholly fraudulent and nonexistent. Enron transfer liability so that it would not appear in its accounts, allowing it to maintain a robust and generally increasing stock price
9. Tyco International Ltd		The SEC and Tyco International have indicted the former executives on charges of civil fraud and theft. Kozlowski and Schwartz are accused of giving themselves interest-free or low interest loans for personal purchases of property, jewelry, and other frivolities. According to the SEC, these loans were never approved or repaid.

### **CONCLUSION :**

Creative accounting is totally legitimate and should be used if, only if, it is within the ramifications of the law and it achieves the company's ultimate goal of increasing profits. Accounting practices which comply with GAAP and Accounting Standards are ethical.

The findings of the study conclude that creative accounting may be used by any company irrespective of nature, size, location, etc. while accounting.

The overall findings have concluded that most of the studies related to creative accounting have been done regarding foreign countries and by foreign authors in comparison to Indian.

The result of the study shows that large size companies have more scope for using creative accounting practices whereas small size companies have restricted scope of getting creative with their books of accounts. On the basis of selected companies all three foreign companies are large in size in comparison to Indian companies. For Example Enron is a large size foreign company in comparison to all above mentioned Indian companies. So, scope for using creative accounting is large and wider for Enron in comparison to the selected Indian companies.

The study also gives light on the use of creative accounting i.e. foreign companies have extreme knowledge of using creative accounting in respect of Indian companies. For Example with the help of off-balance sheet financing Enron used number of SPEs to hide bil-

lions of dollars of debt. On the other hand Enron conned the public into investing trillions of dollars into their stocks based on their earnings – which were not even real and was transferring many of their liabilities to offshore accounting practices. Enron used complex dubious energy trading schemes Example: “Death Star” Energy Trading Strategy and took advantage of a loophole in the market rules governing energy trading in California

The findings of study show that big accounting scandals are also taken place in foreign companies in comparison to Indian companies. For Example- On October 16, 2001, in the first major public sign of trouble, Enron announces a huge third-quarter loss of \$618 million. According to Thomas, the drop of Enron's stock price from \$90 per share in mid-2000 to less than \$1 per share at the end of 2001, caused shareholders to lose nearly \$11 billion. And Enron revised its financial statement for the previous five years and found that there was \$586million in losses. Enron fall to bankruptcy on December 2, 2001.

On the basis of the above case studies it can conclude that foreign companies are using creative accounting more extensively and have been grossly unethical in comparison to Indian companies. Creative accounting practices used by Satyam, Wipro, ONGC, Enron, Tyco and WorldCom are unethical practices as these do not fulfill the requirements of AS, whereas the rest of the companies i.e. L&T, Hindustan Zinc Ltd. and Bombay Dyeing used creative accounting ethically for their benefit.

The result of the study shows that unethical practices used by the Indian and foreign companies may be due to loopholes and weaknesses in accounting principles and standards. Tax evasion, Conflict of interest, regulatory flexibility, increasing number of acquisition and mergers, multiple choices in accounting policies and estimates and lack of global financial accounting infrastructure are also motivating unethical practices. Companies are forced and under pressure of performing well and this become the major motivator of unethical practices. To be competitive and be in the race of competition, companies are trying to do anything even if it is unethical. The study also suggests that this problem may be solved by Accounting Harmonization (global financial accounting infrastructure).

On the basis of study, it is also found that different companies are using creative accounting differently. For example Wipro got creative by transfer of land to stock-in-trade creating capital reserve, while Hindustan Zinc Ltd., by reclassifying investments into tangible assets etc. WorldCom reduces their reserves to offset liabilities and used to inflate income with the help of creative accounting Techniques where as Enron had used hundreds of SPEs to hide its debt. The SPEs were used for more than just circumventing accounting conventions. As a result of one violation, Enron's balance sheet understated its liabilities, overstated its equity and profits. On the hand in WorldCom, Mr. Kozlowski was using creative accounting to hide their illegal actions and accounting fraud.

Thus, there cannot be established any relationship or pattern between creative accounting used by different companies.

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The findings of the study have concluded that proper knowledge of Ethics and information of analyzing financial statements may reduce unethical practices. Increase in awareness can reduce the probabilities of unethical practices by companies as well as auditors for their personal gains. The study also suggests that proper check system should be developed and updated regularly for the people in the top position, who make a clear violation of the rights provided to them.

The overall findings have concluded that continuation of unethical practices result into fraud or scandal. Continuation of unethical manipulation of accounts and fraudulent transactions lead to the downfall of the company.

To stop unethical practices of creative accounting, several measures are suggested which are as follows:

- i. Remove loopholes and weaknesses in accounting principles and standards with the help of Accounting Harmonization (i.e. global financial accounting infrastructure) provide framework that encompasses legal protections, competent professionals and adequate monitoring and enforcement.
- ii. Creative accounting should be used within the orbit of the law and accounting standards.
- iii. Give accountant an ethics course which should be updated regularly
- iv. Giving much importance to ethical codes by the accounting profession.
- v. Effective Internal control system should be developed.
- vi. Introduction of forensic accounting.
- vii. Punitive measures by national accounting bodies, courts and government.
- viii. A very soundly constituted stock market and 'securities and exchange commission'.
- ix. Prevention of fraudulent financial reporting by all means.
- x. Auditing firm should be honest.
- xi. SEBI plays an active role.
- xii. The increasing rates of white collar crimes demands stiff penalties and punishment.
- xiii. Periodic reviews of legal compliance reports by Independent directors are made.

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## IMPACT OF REFORMS ON EFFICIENCY OF THE COMMERCIAL BANKS IN INDIA

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### ABSTRACT :

*The main thrust of reforms in the financial sector has been on the creation of efficient and stable financial institutions and markets. In the banking sector; the particular focus was on imparting operational flexibility and functional autonomy with a view to enhancing efficiency, productivity and profitability, imparting strength to the system and ensuring financial soundness. The restrictions on activities undertaken by the existing institutions were gradually relaxed and barriers to entry were removed. The present article seeks to examine the impact of financial sector reforms on efficiency of commercial/banks in India.*

### INTRODUCTION :

The guiding objectives of financial sector reforms across countries have been to improve financial sector efficiency while strengthening financial stability. It was believed that stable and efficient financial systems provided the foundation for implementing effective stabilisation policies, stepping up savings and improving the efficiency of investment, all of which help in achieving sustainable and higher rates of economic growth. In India, until the early 1990s, the role of the financial system was primarily restricted to the function of channelling resources from the surplus to deficit sectors. Whereas the financial system performed this role reasonably well, its operations came to be marked by some serious deficiencies over the years. The banking sector suffered from lack of Competition, low capital base, low productivity and high intermediation cost. After the nationalisation of large banks in 1969 and 1980, the Government-owned banks have dominated the banking sector. The role of technology was minimal and the quality of service was not given adequate importance. Banks also did not follow proper risk management systems and the prudential standards were

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weak. All these resulted in poor asset quality and low profitability. It was in this backdrop that wide-ranging financial sector reforms in India were introduced as an integral part of the economic reforms initiated in the early 1990s.

The main thrust of reforms in the financial sector was on the creation of efficient and stable financial institutions and markets. Reforms in respect of the banking as well as non-banking financial institutions focused on creating a deregulated environment and enabling free play of market forces while at the same time strengthening the prudential norms and the supervisory system. In the banking sector, the particular focus was on imparting operational flexibility and functional autonomy with a view to enhancing efficiency, productivity and profitability, imparting strength to the system and ensuring financial soundness. The restrictions on activities undertaken by the existing institutions were gradually relaxed and barriers to entry in the banking sector were removed. The present study seeks to examine the impact of financial sector reforms on efficiency of commercial banks in India.

#### **LITERATURE REVIEW :**

The impact of financial sector reforms on its various constituents has been subject to a great deal of academic scrutiny. Examination of the empirical relationship between banking crisis and financial liberalization in a panel of 53 countries for the period 1980-95 found that banking crises are more likely to occur in liberalised financial systems. However, the impact of financial liberalization on banking sector fragility is weaker where the institutional environment is strong. An examination of the evidence on the behaviour of bank franchise values after liberalization and on the relationship among financial liberalization, banking crises, financial development, and growth supports the view that financial liberalization should be approached cautiously where the institutions necessary to ensure law and contract enforcement and effective prudential regulation and supervision are not fully developed, even if macroeconomic stabilization has been achieved. In the Indian case, for 1993-94 and 1994-95, it was observed that, in so far as profitability is concerned, foreign banks outperformed domestic banks and there was no discernible difference between unlisted domestic private and state-owned banks.

A study of the efficiency of a sample of 16 large and medium scale Turkish commercial banks over the period 1990-1997 found quite wide disparities in the level of efficiency, both over time and between banks. Non-parametric DEA approach was used to investigate whether the productive efficiency of European banking systems has improved and converged towards a common European frontier between 1993 and 1997, following the process of EU legislative harmonisation. For measuring efficiency in the pre and post liberalisation environment for the Turkish banks, DEA was used for each year from 1970 to 1994 to determine whether or not the liberalization program improved the efficiency of the Turkish banks by function and by ownership. Findings suggest that liberalization programs were followed by an observable decline in efficiency. Another finding of the study is that the Turkish banking



system had a serious scale problem during the study period. One major reason for such system-wide efficiency decline may be the increased macroeconomic instability in the Turkish economy in general and financial sector in particular experienced during the study period.

The productive efficiency of 103 banks in India for the year 1997-98 was measured using DEA. The study measured the efficiency scores for three groups of banks, that is, publicly owned, privately owned and foreign owned. The results show that the mean efficiency score of Indian banks compares well with the world mean efficiency of private sector commercial banks as a group is, paradoxically lower than that of public sector banks and foreign banks in India. The post reform performance of Indian banks was also examined using quantitative data on bank profitability and risk. An assessment of Indian banks indicated deteriorating profitability, heightened risk exposure and inadequate transparency of accounting disclosure. The study underscores an urgent need for an improvement in the risk management skills of Indian banks and their supervisors.

Using Stochastic Production Frontier Approach, it was examined whether the technical efficiency of scheduled commercial banks in India has improved after the implementation of Narsimahan Committee recommendation. The banks were classified into four groups viz. nationalized banks, SBI group, private sector banks and foreign banks. Result show that technical efficiency level of both public sector bank group has declined in the post liberalization period. During the same period the technical efficiency level of both domestic private sector banks has increased marginally. The difference in technical efficiency levels between the both groups declined in the post liberalization period, indicating enhanced competition among bank groups.

#### **RESEARCH METHODOLOGY AND DESIGN :**

In the present study, Data Envelopment Analysis (DEA) approach has been used. DEA is a linear programming technique initially developed by Charnes, Cooper and Rhodes (1978) to evaluate the efficiency of public sector non-profit organizations. DEA calculates relative efficiency scores of various Decision-Making Units (DMUs) in the particular sample. The DMU could be group of banks or their branches. The DEA measure compares each of the banks/group of banks/ branches in that sample with the best practice in the sample. DEA generally focuses on technological, or productive, efficiency rather than economic efficiency. The ability of the DEA to identify possible peers or role models as well as simple efficiency scores gives it an edge over other methods. The efficiency score is usually expressed as either a number between 0-1 or 0-100%. A decision-making unit with a score less than 1 is deemed inefficient relative to other units. There are a number of DEA models. We will use the two most frequently used models: the CCR Model (after Charnes, Cooper, Rhodes, 1978) and the BCC-Model (after Banker, Charnes, and Cooper, 1984). The main difference between the two models is the treatment of returns to scale. BCC allow for variable returns to scale; CCR assumes that each DMU operates with constant returns to scale.



**VARIABLES :**

To measure efficiency as directly as possible, i.e., management success in controlling costs and generating revenues (X-efficiencies) inputs and outputs have been based on the profit and loss account. Accordingly, for each  $j$ th Decision Making Unit (i.e., for each bank)

the input data ( $X_{ij}$ ) are:

Input 1( $X_{1j}$ )

**Interest Expended**

Input 2( $X_{2j}$ )

**Personnel Expenses**

Input 3 ( $X_{3j}$ )

**Rent, Taxes and Lighting Expenses**

The output data ( $Y_{ij}$ ) are:

Output 1 ( $Y_{1j}$ )

**Interest Earned**

Output 2 ( $Y_{2j}$ )

**Non-Interest Income (Fee, Brokerage and Commission)**

The above set of inputs and \_outputs has been referred to as Model A.

Input 1 (  $X_{ij}$ )

**Deposits**

Input 2 ( $X_{ij}$ )

**Personnel Expenses**

Output 1 ( $Y_{ij}$ )

**Loans and Advances**

Here,

**‘Deposits’** include all deposits with the bank such as

(a) Demand Deposits

❖ Demand Deposits from Banks

❖ Demand Deposits from others

(b) Saving Bank Deposits

(c) Term Deposits

❖ Term Deposits from Banks

❖ Term Deposits from Others

(d) Deposits of Branches

❖ Deposits of Branches in India

❖ Deposits of Branches outside India

**Interest expended** includes

❖ Interest on deposits

❖ Interest on RBI / Inter-bank borrowings

❖ Interest expended on others

**Personnel expenses** includes payments to and provisions for employees.

**Rent, Taxes and Lighting Expense** covers expense on rent, taxes and lighting.

**Advances** includes

- ❖ Bills purchased and Discounted
- ❖ Cash Credits, Overdrafts and Loan Repayable on Demand
- ❖ Term Loan
- ❖ Advances Secured by Tangible assets
- ❖ Advances covered by bank and Government Guarantees
- ❖ Unsecured Advances
- ❖ Advances in India
- ❖ Advances in India to priority Sector
- ❖ Advances in India to Public Sector
- ❖ Advances in India to Banks
- ❖ Advances in India to Others
- ❖ Advances outside India
- ❖ Due from Banks
- ❖ Bills purchased and Discounted (Foreign)
- ❖ Syndicate loans
- ❖ Advances outside India to Others

**Interest Earned** includes

- ❖ Interest/Discount on Advance / Bills
- ❖ Income on Investments
- ❖ Interest on Balances with RBI and other Inter- Banks Funds
- ❖ Interest Earned on Others

Income from Commission, Exchange and Brokerage represents non-fund based income.

The above set of inputs and \_outputs has been referred to as Model B.

(The above components have been selected based on the reporting standards adopted by banks. The same have been taken from RBI web-site ([www.rbi.org.in](http://www.rbi.org.in)))

### **Sample Period**

The study have considered the data for the period 1992-93 to 2010-11 so as to study the post reform era in the Indian Banking Sector.

### **Data Sources**

The data used in study has been collected from the Reserve Bank of India's various publications viz. Statistical Tables Relating to Banks in India (various issues); Annual

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Accounts Data of Scheduled Commercial Banks in India; Trends and Progress of Banking in India (various issues); Report on Currency and Finance (various issues). The data is available on the RBI web site and can be verified from there. ([www.rbi.org.in](http://www.rbi.org.in)).

#### **OBJECTIVE AND HYPOTHESIS :**

The study aims at examining whether the efficiency of the banks operating in the Indian environment has changed in the post reform era. The study highlights the trend of the banks both collectively and also under the different ownership groups. Ownership group for this purpose have been considered as under:

- (a) State Bank of India and its associates
- (b) Nationalised Banks .
- (c) Indian Private Sector Banks
- (d) Foreign Banks

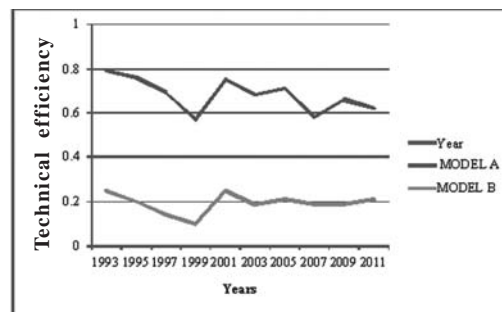
To meet the above objective, following hypothesis has been formulated. .

**Hypothesis:** The efficiency of the commercial banks operating in India has improved in post reform period.

#### **FINDINGS OF THE STUDY :**

Graph 1 depicts the mean technical efficiency scores for all banks taken together. It clearly indicates that the technical efficiency is not showing an upward trend in the post reforms period in Model A. Instead, it has come down in 2011 vis-a vis what it was in 1993. In Model B, it has shown a marginal decline in 2011 as compared to 1993. Further, the technical efficiency has shown wide fluctuations on a year-to-year basis in both the Models.

**GRAPH 1 : Average DEA Efficiency Scores-Technical efficiency**  
**Mean Technical Efficiency Scores**



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**Aggregate for All Banks**

<b>Year</b>	<b>MODEL A</b>	<b>MODEL B</b>
1993	0.79	0.25
1995	0.76	0.20
1997	0.69	0.14
1999	0.57	0.10
2001	0.75	0.25
2003	0.68	0.19
2005	0.71	0.21
2007	0.58	0.19
2009	0.66	0.19
2011	0.62	0.21

The table 1 shows that in Model A, Years 1999 and 2007 have been quite low on efficiency with year 1999 recording the lowest efficiency scores. Overall, there is no clear trend emerging in Model A.

On the other hand, in Model B, peaks have been achieved in years 1993 and 2005 whereas year 1999 has recorded the lowest efficiency.

The technical efficiency scores were further decomposed into pure technical efficiency and scale efficiency in order to study as to how much of the improvement in technical efficiency (or decline) can be attributed to scale effect. The balance represents pure technical impact. Graphs 2 and 3 represents the mean pure technical efficiency and scale efficiency scores respectively. The picture becomes somewhat clear now. In Model A, pure technical efficiency is almost stable over the years whereas the scale efficiency has shown a decline over the years. On the other hand, Model B has behaved almost in an opposite manner, while the pure technical efficiency is showing a downward trend, scale efficiency is showing upward trend with an exception in years 1999, and 2007. The results require somewhat explanation. The technical efficiency scores gives the gross efficiency (or inefficiency) of a Decision Making Unit, here a bank. This efficiency comprises pure technical efficiency as well as scale efficiency. Pure technical efficiency describes the efficiency in converting inputs to outputs, while scale efficiency recognises that economy of scale cannot be attained at all the level (scales) of production, and that there is one most productive scale size where the scale efficiency is maximum at 100 percent (or 1). If scale efficiency of a particular bank is equal to 1, it is said that the bank is operating at the most efficient scale size. When it is less than unity (1) this means the bank is scale inefficient. . It may be noted here that

$$\text{Technical Efficiency} = \text{Pure Technical Efficiency} * \text{Scale Efficiency}$$

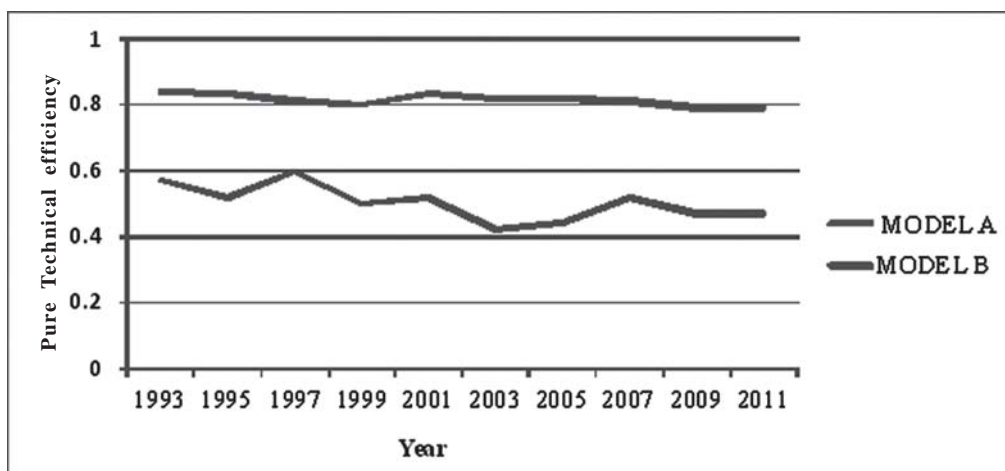
Thus, if the pure technical efficiency score is higher, scale efficiency will be lower and vice-versa. Table 2 presents a year by year listing of the pure technical efficiency and scale efficiency scores. The scores represent the geometrical mean scores of individual banks in a particular year.

The study also examined the variations in efficiency scores of various banks in each year. In model A, the variations in the efficiency scores have been higher in terms of pure technical efficiency, the highest being 0.1835 and the lowest at 0.1323. On the other hand, though the highest standard deviation is higher in the scale efficiency, in as many as, 10 years the standard deviation is less than 0.14.

Model B basically examines efficiencies of banks in terms of their ability to convert deposits into loans and advances with the help of the staff employed. The problem with the public sector banks on these fronts is known to all. Public sectors banks are surplus both on staff and on deposits. While excessive staff drives the personnel expenses upward, idle deposits aggravates the problem further. In Model A this problem does not come to light, as the variables considered are different. We also examined the variations in efficiency scores of various bank in each year. In Model A, the variations in the efficiency scores have been higher in terms of pure technical efficiency, the highest being 0.1835 and the lowest at 0.1323. On the other hand, though the highest standard deviation is higher (at 0.2031 in year 1995) in the scale efficiency, in as many as 10 years (out of total 13) the standard deviation is less than 0.14. The trend is different in Model B. Scale efficiency scores here have accounted for higher deviations as compared to pure technical efficiency. The reason is based on the explanations given in the preceding paras. The public sector banks are highly scale inefficient, as compared to their foreign and private counterparts, on the parameters taken in Model B.

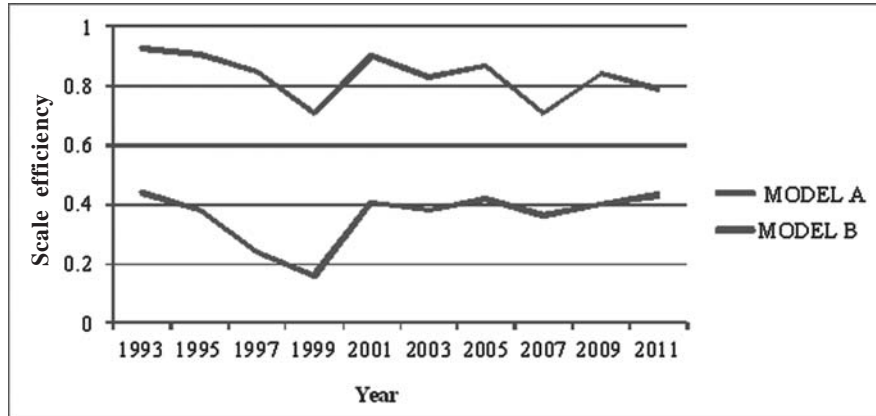
**GRAPH 2**

**Average DEA Efficiency Scores-Pure Technical efficiency**



**GRAPH 3**

**Average DEA Efficiency Scores-Scale efficiency**



**TABLE2**

**PURE TECHNICAL EFFICIENCY & SCALE EFFICIENCY SCORES-MEAN  
FOR ALL BANKS**

Year	Pure technical efficiency		Scale efficiency	
	MODEL A	MODEL B	MODEL A	MODEL B
1993	0.84	0.57	0.93	0.44
1995	0.83	0.52	0.91	0.38
1997	0.81	0.60	0.85	0.24
1999	0.80	0.50	0.71	0.16
2001	0.83	0.52	0.90	0.41
2003	0.82	0.42	0.83	0.38
2005	0.82	0.44	0.87	0.42
2007	0.81	0.52	0.71	0.36
2009	0.79	0.47	0.84	0.40
2011	0.79	0.47	0.79	0.43

The study also ranked the banks on the basis of their efficiency scores. Efficiency scores, in turn, represent the geometric mean of the efficiency scores obtained by a bank in all years. The banks have been arranged in ascending order of technical efficiency rank obtained.

The top 5 performers on technical efficiency and scale efficiency scores have been shown in Table-3.

**TABLE -3**  
**THE TOP PERFORMER BANKS**  
(Based on mean for the study period)

<b>MODEL A</b>			
<b>RANK</b>	<b>CRITERIA</b>		
	<b>Technical Efficiency</b>	<b>Pure Technical Efficiency</b>	<b>Scale Efficiency</b>
1	Cho Hung Bank (1.000)	American Express Bank, British Bank of Middle East, Cho Hung Bank, Citi Bank, State Bank of India, Indus Ind Bank, Jammu & Kashmir Bank, Punjab National Bank (All ranked 1 with PTE score of 1.000) C h o Hung BankBank of Ceylon(both ranked 1 with SE score of 1.000)	Cho Hung Bank
2	Bank of Ceylon (0.9983)		Bank of Ceylon (both ranked 1 with SE score of 1.000)
3	Indus Ind Bank (0.9930)		Indus Ind Bank (0.9930)
4	British Bank of MiddleEast (0.9682)		Oman International Bank (0.9801)
5	Citi Bank (0.9357)		SBI Commercial & International Bank (0.9705)

<b>MODEL B</b>			
<b>RANK</b>	<b>CRITERIA</b>		
	<b>Technical Efficiency</b>	<b>Pure Technical Efficiency</b>	<b>Scale Efficiency</b>
1	Indus Ind Bank (0.8908)	Siam Commercial Bank (0.9927)	SBI Commercial & Interna- tional Bank (0.9403)
2	Siam Commercial Bank (0.8490)	Indus Ind Bank (0.9772)	Centurion Bank (0.9181)
3	Sanwa Bank (0.8274)	Sanwa Bank (0.9175)	Indus Ind Bank (0.9117)
4	Bank of Nova Scotia (0.7443)	Bank of Nova Scotia (0.9110)	Sanwa Bank (0.9018)
5	Bank of Ceylon (0.7007)	State Bank of India (0.9036)	Abu Dhabi Commercial Bank (0.8876)

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In model A, only two banks viz Cho Hung Bank and Indus Ind Bank appear in the top 5 brackets on all the three efficiency parameters. Besides Bank of Ceylon, Citi Bank and British Bank of Middle East are appearing as top performers on two parameters each. On the other hand, in Model B, Indus Ind Bank and Sanwa Bank have consistently done well on all the efficiency parameters.

**TABLE -4**  
**THE BOTTOM FIVE ON EFFICIENCY SCORES**

(Based on mean for the study period)

<b>CRITERIA</b>		
<b>Technical Efficiency</b>	<b>Pure Technical Efficiency</b>	<b>Scale Efficiency</b>
<b>MODEL A</b>		
Bank Muscat International (0.0696)	Bank Muscat International (0.0754)	Bank Muscat International (0.0924)
Commerz Bank (0.2964)	Dresdner Bank (0.3686)	American Express Bank (0.5060)
KarurVysya Bank (0.3171)	Fuji Bank (0.3983)	Krung Thai Bank (0.6482)
Dresdner Bank (0.3219)	Commerz Bank (0.4356)	Canara Bank (0.6571)
ING Bank (0.3561)	Oversea Chinese Bank (0.4424)	Standard Chartered Grindlays Bank (0.6591)

<b>CRITERIA</b>		
<b>Technical Efficiency</b>	<b>Pure Technical Efficiency</b>	<b>Scale Efficiency</b>
<b>MODEL B</b>		
Sonali Bank (0.0468)	Bareilly Corporation Bank (0.0886)	KBS Bank (0.0095)
UCO Bank (0.0488)	Nainital Bank (0.0928)	UCO Bank (0.0788)
Barclays Bank (0.0593)	Benares State Bank (0.1028)	Sonali Bank (0.1222)
Bareilly Corporation Bank (0.0728)	Ratnakar Bank (0.1810)	State Bank of India (0.1672)
Nainital Bank (0.0799)	Barclays Bank (0.1840)	Syndicate Bank (0.1896)



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In Model A, Bank Muscat International has performed poorly on all parameters. However, two prominent banks viz American Express Bank and Canara Bank are the surprise inclusion in the list. The geometric mean of scale efficiency of American Express Bank is 0.5060 whereas that of Canara Bank is 0.6571. In other words, American Express Bank is 49.4% scale inefficient whereas the scale inefficiency is 34.29% for Canara Bank. The reason perhaps is the relatively high percent of outgo on interest and personnel expenses, in relation to the interest income vis-a-vis other banks.

In Model B, the list of non-performers again has a few surprises like UCO Bank, State Bank of India and Syndicate Bank. The primary reason for the same is their uneconomical size or their inability to convert their resources into productive assets. The scale inefficiency for UCO Bank, State Bank of India and Syndicate Bank is 92.12%, 83.28% and 81.04% respectively. It may be noted that for selecting the top and the worst performers, only those banks have been considered that have been in operations for at least five consecutive years during the study period.

On study of the above, the following emerge:

- ❖ There are wide variations in efficiency scores of foreign banks and private sector banks within their group. This is evident from the fact that both the lists ,i.e., the top five and bottom five has maximum entries from foreign banks group followed by private sector banks' group.
- ❖ In general, the public sector banks are not present on the two extremes (subject to certain exceptions)

### **COMPARISON OF RESULTS OF PRESENT STUDY WITH OTHER STUDIES**

Results of present study compare well with the findings of Sathey M (2001). Sathey studied the efficiency of commercial banks operating in India during 1997-98. Though only year has been considered in the study, the results can still be compared with the present study as we have the yearly efficiency scores as well. Indus Ind Bank has been rated perfectly efficient bank by Sathey M with an efficiency score of 1 in his study. The study by Sathey indicated that as a group more foreign banks are in the highest efficiency quartile (11 as against 9 in our model) than the public sector banks and also vis-a vis the private sector banks (11 vis-à-vis 3 in our model). As a group, the private sector banks displayed lower efficiency levels. In 1997-98 as many as 11 banks were in the highest efficiency quartile in model A of our study. These numbers compare well with the findings of Sathey M.

The number of banks from public sector and also the private sector, in the highest efficiency quartile are much lower than the foreign banks. Das A (1997) has also arrived at similar findings in his study relating to efficiency of public sector banks in India. His results indicate that state bank group is more efficient than the nationalized banks. The study reported that while in 1970, 25% of the banks falling in the very high efficiency range were from

the SBI group, as many as 87.5% of the very highly efficient banks were from the SBI group in 1990. In 1996, the percentage though has fallen to 62.5% for the SBI group, considering the fact that there are only 8 banks in SBI group whereas the nationalized banks group has 19 banks, this percentage assumes significance. It implies that as many as 62.5% of all the banks in SBI group were highly efficient whereas compared to this, only 15.8% of the nationalized banks were highly efficient. Further all the banks in the low efficiency category are from the nationalized banks. Naidu V.N. and Nair Manju S. (2003) also studied the impact of financial sector reform on the banking sector performance in India. They carried out a study on the technical efficiency of commercial banks between the pre & post reform period. The result shows that the technical efficiency of the SBI group as well as nationalized banks has declined in the post reform period whereas about 2.1% improvement has been achieved by private sector banks in the post reform period. The foreign banks have shown a very nominal improvement of 0.05%. The technical efficiency was not decomposed further in their study and, hence, the other results cannot be compared with the study conducted by Naidu and Nair

#### **CONCLUSION :**

The result of the tests applied on the post reform period performance of banks do not show any signs of improvement in mean. Technical efficiency or mean total factor productivity growth on an aggregate basis. However, contrary to the general belief, the public sector banks' performance is comparable to that of private sectors and foreign banks indicating a weak ownership performance linkage.

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## THE CORPORATE GOVERNANCE BEHAVIOUR AND MARKET VALUE OF INDIAN FIRMS

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Dr. Sanjay Bhayani \*

### ABSTRACT :

*The extant research in corporate governance has been focused in assessing the relationship between governance and performance based on two assumptions. First, that good governance is valuable and, second, that efficient markets 'capture' the value of good governance and reflect it in the price of the stocks. In this situation researcher has tried to study the impact of corporate governance on firm value for Indian firms listed in BSE 200 index for the period of 2009-10 to 2011-12. For the purpose of analysis financial and market based performance indicators are used in relation to governance – performance relation. For the purpose of analysis pooled regression analysis techniques used. The findings of the study indicate there is a strong relationship between corporate governance and firm value in Indian firms. A result of analysis further indicates that firm value of the firm is also influenced by corporate governance indicators and found sound relation with them. The result of study indicates lack of relation of outside directors on board and firm value.*

### KEY WORDS :

*Corporate Governance, Firm Value, Pooled Regression Analysis, India*

### I. INTRODUCTION :

Corporate governance is concerned with ways in which all parties interested in the well-being of the firm (the stakeholders) attempt to ensure that managers and other insiders take measures or adopt mechanisms that safeguard the interests of the stakeholders. Such measures are necessitated by the separation of ownership from management, an increasingly vital feature of the modern firm. A typical firm is characterized by numerous owners having no management function, and managers with no equity interest in the firm. Shareholders, or owners of equity, are generally large in number, and an average shareholder controls a minute proportion of the shares of the firm. This gives rise to the tendency for such a shareholder

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to take no interest in the monitoring of managers, who, left to themselves, may pursue interests different from those of the owners of equity. For example, the managers might take steps to increase the size of the firm and, often, their pay, although that may not necessarily raise the firm's profit, the major concern of the shareholder.

Financial economists have long been concerned with ways to address this problem, which arises from the incongruence of the interests of the equity owners and managers, and have conducted significant research towards resolving it. The literature emanating from such efforts has grown, and much of the econometric evidence has been built on the theoretical works of Ross (1973), Jensen and Meckling (1976), and Fama (1980). At the initial levels of the development of the theory of agency, especially as it relates to the firm, concern seemed to focus more on the relationship between the management and shareholders than between them and other categories of stakeholders. The stakeholder theory has of late captured the attention of researchers and a survey of literature on this aspect of corporate finance can be found in the works of John and Senbet (1998). According to this theory, the firm can be considered as a nexus of contracts between management on the one hand and employees, shareholders, creditors, government and all other stakeholders on the other. Thus, from the point of view of the stakeholder theory, concern should go beyond the traditional management–shareholder relationship to include all other stakeholders such as mentioned above. The stakeholder theory has undergone some refinements in the work of Jensen (2001), who presents what he terms the “enlightened stakeholder theory”. For him, the traditional stakeholder theory encourages managers to be servants of many masters, with no clear guidance whenever trade-offs (or indeed, conflicts) occur, as they often do. He argues that the absence of any criterion for choice in cases of trade-offs (or conflicts) tends to give managers some discretionary powers to serve the master of their own choice. As we will see in a subsequent section, Jensen proposes a single criterion – addition to the long-term value of the firm – for managers to pursue so that the interests of all key stakeholders can be served. This is based on the idea that changes in the long-term value of the firm would be difficult to materialize if the interest of a key stakeholder were not protected.

Empirical work in the area of corporate governance has undergone a remarkable growth, founded mostly on the basis of management–shareholder conflict and to a lesser but increasing extent on the stakeholder theory. Despite the volume of empirical evidence, there has been no consensus on how to resolve the problem. The lack of consensus has produced a variety of ideas (or mechanisms) on how to deal with the problem of agency. The mechanisms we are concerned with in this study can be divided into five: striking a balance between outside and inside directors; promoting insider (i.e., managers and directors) shareholding; keeping the size of the board reasonably low; encouraging ownership concentration; and encouraging the firm to have a

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reasonable amount of leverage in the expectation that creditors might take on a monitoring role in the firm in order to protect their debt holdings.

The purpose of this research is to study the impact of governance variables on the firm value. This study extends prior research on Indian firms by looking at a three year time series of governance variables and by considering all manufacturing firms covered in BSE 200 index.

The remainder of the paper is organized as follows: Section II discusses prior research and develops hypotheses. Section III presents a methodology of the study. Analysis of results presented in section IV and Section V concludes the paper with a conclusion and potential for future research in this area.

## **II. LITERATURE REVIEW :**

The literature suggests that both market and non-market mechanisms could be used to promote the alignment of interest of managers and stakeholders. The managerial labour market and the market for corporate takeover tend to exert pressures both within and outside the firm in order to achieve such an alignment of interest. Fama (1980) asserts that a firm can be viewed as a team, whose members realize that in order for the team to survive, they must compete with other teams, and that the productivity of each member has a direct effect on the team and its members. Thus, within the firm, each manager has the incentive to monitor the behaviour of other managers, whether subordinates or superiors. Secondly, Fama (1980) argues that the firm is in the market for new managers and the reward system must be based on performance in order for it to attract good managers or even to retain existing ones. Demsetz and Lehn (1985) provide an explanation for the weakness of the market- induced mechanisms as a means of protecting stakeholder interests. They observe that the free rider problem tends to prevent any of the numerous owners of equity from bearing the cost of monitoring the managers. Empirical works abound on the mechanisms aimed to help reduce the agency problem. Abstracting from other dimensions of corporate governance (such as incentive schemes) we focus on five mechanisms – insider shareholding, board composition, board size, ownership concentration and debt.

Several studies examine Indian corporate governance generally. World Bank (2005), Sarkar & Sarkar (2000), and Mohanty (2003) examine how firm-level governance influences the behavior of institutional investors, or vice-versa. Mohanty (2003) finds that institutional investors own a higher percentage of the shares of better-governed Indian firms. This is consistent with research in other countries (Aggarwal, Klapper and Waddock, 2005; Ferreira and Matos, 2007).

Bhattacharyya and Rao (2005) examine whether adoption of Clause 49 (an important set of governance reforms in India) predicts lower volatility and returns for large Indian firms. Black & Khanna (2007) conduct an event study of the adoption of Clause 49. They rely

on the phased implementation schedule, in which “large” firms were required to comply before “small” firms, and report positive returns to a treatment group of large firms relative to a control group of small firms, around the first important legislative announcement. Dharmapala and Khanna (2008) report that small Indian firms which are subject to Clause 49 react positively to announced plans by the Indian securities regulator to enforce the Clause, relative to similar firms not subject to clause 49.

Other studies of Indian firms are more peripherally related to this one. Khanna, Kogan and Palepu (2006), study instances of minority shareholder expropriation by Indian firms. Bertrand, Mehta and Mullainathan (2002) provide evidence on tunnelling within Indian business groups. Deb and Chaturvedula (2004) study the relationship between ownership concentration and firm market value.

Balasubramanian B. N., Black Bernard S. and Khanna Vikramaditya (2009), has study Firm-Level Corporate Governance In Emerging Markets: A Case Study of India, and they have also made study on The Relation between Firm-Level Corporate Governance and Market Value: A Study of India” in 2010. The goal of this research is to contribute to the literature on the connection between firm-level governance and firm market values and support the research conducted by researcher on India.

Although the preceding studies generally establish a positive association between corporate governance measures and firm value, these studies construct their own corporate governance indices and then test whether good governance is associated with stock returns or higher firm value.

### **III. METHODOLOGY OF THE STUDY :**

The sample for the study is Bombay Stock Exchange (BSE) 200 Index firm. The reason behind selection of BSE 200 index is that this index covers the major sector of industries so, it can be considered as representative sample. The period of the study is 2009-10 to 2011-12. Researcher has divided 200 companies as per CMIE industry classification. These firms are classified as manufacturing and service firm. In final selection of sample researcher has included 104 manufacturing firm. The data for this study derived from a number of sources. Data on financial information of the extracted from the Capitaline database provide by Capital Market. The second set of data extracted from annual reports of sample firm. This set comprises the information related to corporate governance mechanism of the firm.

Researcher took six independent parameters that are Directors shareholding, Board size, Number of outside directors on board, Ownership concentration, Leverage, Firm size in terms of total assets owned. To examine the relationship between corporate governance and firm valuation, Tobin Q is used as a valuation measure.

We calculated the dependent variable, Tobin’s Q as Year-end market capitalization

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divided by the book value of total assets. And the sum of the market value of equity and the book value of debt divided by the book value of total assets.

The variables are identified as follows:

Y = Tobin's Q

X1 = Directors shareholdings (DS)

X2 = Board Size (BS)

X3 = Number of outside directors on board (OD)

X4 = Ownership Concentration (OC)

X5 = Leverage (LEV)

X6 = Firm Size in terms of total assets (FS)

The statistical techniques of pooled regression were used to explore relationship between these variables. On the basis of the above parameters and keeping objective of our study in mind, we developed a Multiple regression equation as:

$$\text{Tobin's Q} = \alpha + \beta_1 \text{DS}_{i,t} + \beta_2 \text{BS}_{i,t} + \beta_3 \text{OD}_{i,t} + \beta_4 \text{OC}_{i,t} + \beta_5 \text{LEV}_{i,t} + \beta_6 \text{FS}_{i,t} + \epsilon_{i,t}$$

#### **IV ANALYSIS OF RESULTS :**

Table 1 presents results that examine the association of the firm governance score and Tobin's Q.

**Table -1**  
**Estimated Coefficiency from the Regression Models**

<b>Variable</b>	<b>Tobin's Q</b>
Constant	3.556(1.254)*
Directors shareholdings	2.880*(3.38)
Board Size	0.061**(2.20)
Number of outside directors on board	-0.40(-1.22)
Ownership Concentration	4.55(3.75)*
Leverage	0.34*(0.75)
Firm Size in terms of total assets	-0.125*(-1.78)
F Ratio	6.68*
R <sup>2</sup> Adjusted	0.57

❖ \*, \*\*, \*\*\* significant at 1% , 5% and 10% level respectively.

❖ t - statistics are given in parenthesis.

A review of the results presented in the Table 1 indicates R square of 0.57 depicts



that our model has accounted for 57 percent of the variance in the criterion variable. The t statistics show that Directors shareholdings, Ownership Concentration, Leverage and firm size are significant at 1percent level of significance. Board size is significant at 5 percent level of significance. Thus we can interpret that Directors shareholdings, Ownership Concentration, firm size and Board size affects the firm value. The Number of outside directors on board has not any significant effect on the firm value.

## **V. CONCLUSIONS AND FUTURE RESEARCH :**

The present study covers a sample size of 104 manufacturing firm of BSE 200 index firms for the period of three financial years. The results of our study show that of the six independent variables that we took, out of it five variables Directors shareholding, Board size, Ownership concentration, Leverage, Firm size in terms of total assets owned were found to be significant and had a positive coefficient. This proves that larger the assets size affects the firm value. Similarly, firms that had high

Promoter's holding and higher leverage had higher firm value. This supports the literature survey which says that inclusion of promoter in board increases Tobin's Q. This study justifies the model by only 57 percent. So a researcher can include more variables and can also increase the sample size for further research on this topic.

This paper extends the existing Indian research by examining corporate governance parameters over a three year period. We conclude with a discussion of caveats and directions for future research. It is possible that the governance parameters developed by the researcher do not adequately capture the true state of overall corporate governance of our sample firms. Although our study examined three years of time series data, it is possible that corporate governance is manifested in the market value of a firm over a much longer period of time. It is possible that these extraneous events may be confounding some of the association that may be present in our sample firms. We suggest that it would be useful to extend research on the Indian market by examining a longer time series and focusing on the governance of firms.

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## **VOLATILITY OF INDIAN RUPEE AGAINST US DOLLAR**

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### **ABSTRACT :**

*India has been plagued by free fall of the rupee. This paper explains the position of the Indian rupee against the Chinese Yuan, falling rupee and Euro turmoil, reasons for the weakening rupee, the measures undertaken by the government and the possible remedies.*

### **INTRODUCTION :**

Exchange rate can be best understood as nothing more than a benchmark for a nation's money supply. The rupee's value is directly linked to the amount of US dollars available in the Indian market. India receives dollars in three ways: through exports, through foreign investments into India, and through NRI remittances into India. When the rupee depreciates against the dollar, it simply means value of the Indian currency has gone down relatively against the greenback. This can happen because of increase in rupees in the market or decrease of dollars in the market. The less dollars there are in the market, the more the dollar is worth (basic laws of demand and supply), and, so, the rupee depreciates. Demand for dollars may be created by importers requiring more dollars to pay for their imports or by Foreign Institutional Investors (FII's) withdrawing their investments and taking the dollars outside India, thus creating a shortage of dollar supply, which, in turn, can also increase the demand for the dollar. Supply can be created by exporters bringing in more dollars from their revenues or FIIs bringing more dollars in India to spur their investments.

India, however, is not the only country suffering from a weakening currency. Other emerging markets like Brazil, Indonesia, Russia, Turkey and South Africa are also witnessing a huge currency volatility because of fears that US may end its quantitative easing by year-end. Indian rupee's slide to record lows has been extraordinary. It's been driven by weakness across emerging markets and rising rates in the US.

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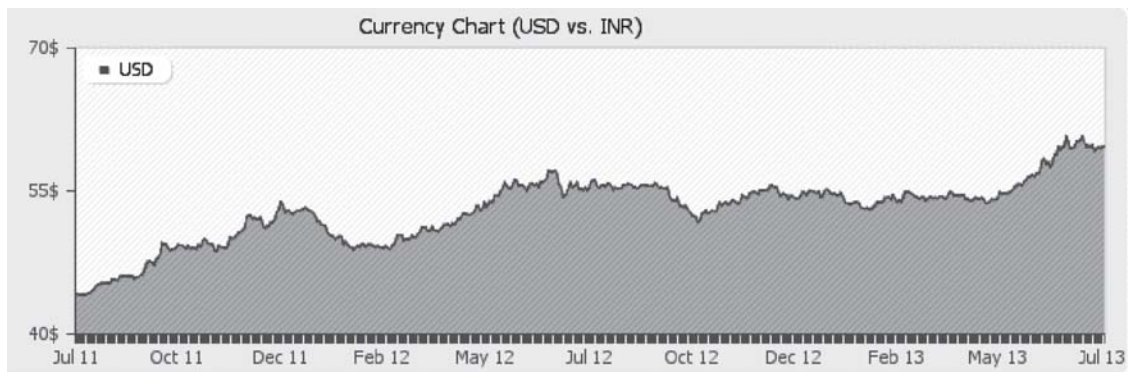
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#### Currency Chart for USD vs. INR over 2-years

The following currency chart displays the value of the US Dollar in relation to INR Indian rupee (USD/INR) over a 2-year period.



At the time of independence when India had no foreign borrowings the rupee was at par with the dollar. With the introduction of the 5 years plan and the subsequent requirements for foreign investments the dollar slowly rose. In 1985, after the Bofors scam, the dollar was equal to 12.35 rupees and since the economic liberalization in 1991, there was a sharp devaluation of rupee and the rupee had dropped to Rs.24.5 against a Dollar. The dawn of the third millennium gave a further worsened the condition rupee against dollar and the rupee has hit an all time low of Rs. 65.42 against a dollar on the 22nd of August 2013. The rupee has come to the level of 62.44 in October.

### Indian Rupee Vs Chinese Yuan

The history of rupee's depreciation against dollar is given below:

Historical Indian Rupee Rate (INR USD)							
Year	INR/USD	Year	INR/USD	Year	INR/USD	Year	INR/USD
1973	7.66	1984	11.36	1995	32.43	2006	45.17
1974	8.03	1985	12.34	1996	35.52	2007	41.20
1975	8.41	1986	12.60	1997	36.36	2008	43.41
1976	8.97	1987	12.95	1998	41.33	2009	48.32
1977	8.77	1988	13.91	1999	43.12	2010	45.65
1978	8.20	1989	16.21	2000	45.00	2011	46.61
1979	8.16	1990	17.50	2001	47.23	2012	53.34
1980	7.89	1991	22.72	2002	48.62		
1981	8.68	1992	28.14	2003	46.60		
1982	9.48	1993	31.26	2004	45.28		
1983	10.11	1994	31.39	2005	44.01		
Average annual currency exchange rate for the Indian Rupee (Rupees per U.S. Dollar) is shown in this table: 1973 to present.							

It is very clear that rupee has fallen down against dollar substantially during last forty years, barring some exceptions. It can also be seen that China which is the fastest growing economy of the world has not experienced this kind of fall in its currency value. The data below shows this:

Historical Chinese Yuan Rate (CNY)							
Year	CNY/USD	Year	CNY/USD	Year	CNY/USD	Year	CNY/USD
1981	1.71	1990	4.80	1999	8.28	2008	6.95
1982	1.90	1991	5.33	2000	8.28	2009	6.83
1983	1.98	1992	5.53	2001	8.28	2010	6.77
1984	2.33	1993	5.78	2002	8.28	2011	6.46
1985	2.94	1994	8.64	2003	8.28	2012	6.31
1986	3.46	1995	8.37	2004	8.28		
1987	3.73	1996	8.34	2005	8.19		
1988	3.73	1997	8.32	2006	7.97		
1989	3.77	1998	8.30	2007	7.61		
Average annual currency exchange rate for the Chinese Yuan (Yuan per U.S. Dollar) is shown in this table: 1981 to present.							

While Chinese currency fell against dollar from 1982 to 1994, it has almost got stabilized against dollar post that and has appreciated against dollar in recent times. So while Indian and China are often put in the same league as far as two fastest growing economies of the world are concerned, the currency performance of rupee and Yuan has not been same.

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## FALLING RUPEE AND EURO TURMOIL :

There is a myth that the recent disturbances in the rupee value is mostly because of the euro turmoil.

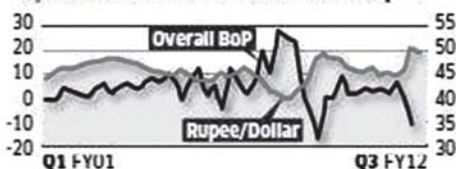
**Table 1: Why Euro Crisis Can't be Blamed for ₹ Slide?**

	Deleveraging in 2011 by EU banks (\$ m & % of GDP)	EU total claims as a % of GDP	US total claims as a % of GDP	Currency slide (Aug '11- Jun 20, '12)
Indonesia	5.19 (0.6)	4.9	2.0	12.0
Malaysia	2507 (4.5)	20.3	6.9	7.0
Thailand	5470 (1.6)	6.5	3.0	6.0
Korea	31992 (4.4)	12.8	8.0	10.0
Philippines	2481 (1.1)	7.5	3.8	0.3
Turkey	11989 (1.5)	20.0	3.0	7.0
India	19166 (0.8)	7.2	3.6	27.0

**Table 2: Does Current Crisis Mimics 1991 Crisis?**

	Dec '11	Mar '91
CAD to GDP	4.3	3.0
Ratio of Total Debt to GDP	20.0	28.7
Ratio of Reserves to Total Debt	88.6	7.0
External Debt (\$ b)	334.9	83.8

**Exposition 1: Co-Movement of BoP & Rupee**



SOURCE: RBI, Ministry of Finance, BIS & IMF

ILLUSTRATION: ARINDAM

As Table 1 shows, there are two reasons to believe that the euro crisis is not driving the free fall in rupee value.

First is the absolute level of claims of European banks on South Asian economies, including India. Second is the decline in liabilities of the European banks on such economies in 2011. Both these factors should result in weakening of the domestic currency. As far as the first point is concerned, even though countries like Malaysia, Korea and Thailand had significant bank exposures, the pace of currency depreciation was much lower than India. For example, Malaysian banks' exposure was at 20.3% of GDP but its currency depreciated only by 7% during August 2011-June 20, 2012. On the other hand, Indian banks' exposure was at 7.2% of GDP but the rupee depreciated by as much as 27% during the same period. Secondly, the extent of deleveraging is higher for countries like Thailand and Philippines as compared to India during 2011, yet, the extent of currency depreciation is much smaller for these countries compared to India. Thus the euro crisis is not the reason for rupee decline.

The second myth that various analysts point out is that the Indian currency is the worst performing. This is not entirely correct. For example, in May 2012, rupee declined by 6%, but the decline was still less than the slide of currencies of Brazil, South Africa and Russia against the dollar.

## REASONS FOR DEPRECIATION OF RUPEE :

There are domestic and global reasons for the rupee's free fall against the US dollar.

**END TO STIMULUS PROGRAMME BY FED :**

The immediate trigger for the bout of fall in rupee was the announcement by US Fed that it may call an end to stimulus programme which was in place for nearly four years. The decision to roll back liquidity is because of the improvement in the macro-economic indicators of US. Quantitative Easing and liquidity overhang had provided a continuous stimulus to global markets. Currencies from India to Indonesia have tumbled as investors fear tighter Fed policy will starve emerging markets of investment. The announcement of withdrawal has impacted all the emerging economies with their currencies falling. But the impact has been steeper on Indian rupee because of additional contribution of internal factors.

**CURRENT ACCOUNT DEFICIT (CAD) :**

CAD is considered to be the key factor behind the steep volatility of rupee against dollar. CAD occurs when the total import of goods and services of a country is greater than the total export goods and services thus making India a debtor to the rest of the world. The current account deficit is a measure that easily tells us the difference between exports and imports, and, hence, is a good indicator for the supply of US dollars and other major currencies. If a country's current account deficit is seen rising, it means that the country is importing more goods than it is exporting. India's current account averaged a deficit worth 1.5 billion USD since 1947 until 2013. In the first quarter of 2013 the CAD was 18.1 billion and at present it has gone up over 20 billion. This has hit hard on the rupee.

Reasons for high CAD are lower exports in recent months due to stagnation in developed economies and increased imports. Imports have not shot up significantly; rather they have become expensive due to erosion of rupee value. One of the reasons for the rising account deficit is the fact that India is a heavy importer of crude oil and, of course, gold. But not enough attention has been paid to the fall in exports of iron ore. Scams in mining have caused huge national losses and not sorting out these issues is costing us dearly in terms of lost opportunity of exporting and generating revenues. The government has been unable to come up with any new destinations for exporting its products and this has also hampered the growth in this sector. There are other crucial reasons like the lack of one window for clearance purposes and procedural delays. As per a report in Business Today, the international investors in India have withdrawn to the tune of INR 44,162 crore during June 2013 and this is a record amount. This has also created a current account deficit (CAD) that is only increasing, thus contributing significantly to the depreciation of the INR.

**STRENGTHENING OF DOLLAR :**

In the last six months the dollar has strengthened by 3.52 percent with the



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strengthening of the US economy. The dollar has been rising on signs of growing economic momentum and talk of an early end to the Fed's stimulus effort. US recovery is also boosting the dollar strength

In the winter of 2008 post the financial crisis , the US economy was , at worst written off or at best summed up as being in a permanent state of decline . The same economy has shown a remarkable resilience. A combination of factors both fortuitous and planned has seen a resurgence of the economy in a very short span of time.

Statistically, the US has added half a million new jobs and finally house prices has risen after a 3-4 year hiatus. Additionally the US manufacturing productivity index has steadily improved making it one of the most productive and competitive manufacturing bases in the world. As a result new manufacturing facilities are coming up which will enhance the productivity and employment further.

Foresight coupled with swift action by the US policy makers ensured a speedy recovery. Government bailout for the banks which was criticized both within the US and outside resulted in a USD 25 billion for the Government and a banking industry which is much stronger than its European counterpart . Similarly the decisive Quantitative Easing program, increased liquidity in the markets , maintained low interest rates , increased corporate profits buoyed a rising capital market restoring and creating additional wealth for the US investors.

#### **VOLATILITY IN THE EQUITY MARKET :**

The equity markets in India have been volatile for a certain period of time. This has put the FIIs into a dilemma as to whether they should be investing in India or not. In recent times their investments have touched an unprecedented level and so if they pull out then the inflow will go down as well. Therefore, the decrease in supply and increase in demand of dollars results in the weakening of the rupee against the dollar.

The Indian bond market has also seen withdrawals by FIIs. With a risk-off environment setting in globally, there have been redemptions from global exchange-traded funds (ETFs). This has led to selling by FIIs in the Indian equity market, compounding the rupee's woes. A weaker rupee further erodes the returns earned by the foreign investors in the Indian market. FIIs have turned net sellers of debt securities here for the first time in 13 months.

#### **DOWNGRADING OF INDIAN STOCKS :**

Goldman Sachs, one of the leading banks in the world, has rated Indian stocks as being underweight. It has also asked investors to be careful given the concerns surrounding the recovery of the growth of Indian economy. Also Moody's downgrade of three public sector banks has turned sentiment negative.

**RISING IMPORTS :**

India's import bill has been going up of late and most of this can be attributed to gold. This has also hampered India's efforts to arrest the slide of the INR. Gold alone takes up more than 10 per cent of India's import bill – in April 2013, 141 tons of gold were imported and it went up to 162 during May. Gold is the second most expensive import for the country after crude oil. Falling gold prices have offset the government's and the central bank's moves to reduce gold imports, which increase current account deficit and weighs on the currency. Rising demand for dollar adversely impacts rupee as people convert rupee into dollar to meet foreign exchange requirements. This puts Indian currency under stress.

**INFLATION :**

The most important factor to cause this fall is high inflation. Rising inflation makes our goods costlier. If the purchasing power parity has to hold good, which does hold good, the rupee has to adjust to the change in inflation against dollar. Let us look at an example to understand this. Imagine that only sugar is traded between India and USA. Suppose the price of sugar is Rs. 30 a kg in India and \$1 a kg in USA. By this logic, \$1=Rs.30. Now imagine that inflation in India is 10% per annum while in USA it is only 2%. So after one year sugar will sell at Rs. 33 a kg (10% of Rs.30 added to inflation) and \$1.02 in per kg in USA. These two new prices of sugar will set a new exchange rate which is 33/1.02. The new exchange rate after a year will be Rs.32.35. The higher price of imported goods, especially oil that is now ruling at over \$ 107 per barrel has led to an increase in domestic inflation and a fall in the value of Indian currency.

**PRICE OF CRUDE OIL :**

India's main import is crude oil. The price of crude puts tremendous stress on the Indian Rupee. India has to import a bulk of her oil requirements to satisfy local demand, which is rising year-on-year. Globally, the price of oil is quoted in dollars. Therefore, as the domestic demand for oil increases or the price of oil increases in the international market, the demand for dollars also increases to pay our suppliers from whom we import oil. This increase in demand for the dollar weakens the rupee further. India has to import crude oil to meet its domestic requirement. Traders say there has been continuous demand for the greenback from oil importers, the biggest buyers of dollars in the domestic currency market, pushing the rupee lower. Oil and gold imports account for 35 per cent and 11 per cent of India's trade bill respectively. India is a heavy importer of oil and the current spurt in crude oil prices has impacted the rupee.

**INSUFFICIENT INFLOW OF FDIS AND OUTFLOW OF THE FOREIGN INVESTMENTS :**

The downfall in the Indian economy has worsened the situation and the government is unable to generate heavy capital inflows. Despite all the government effort to allow Foreign



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Direct Investment (FDI), there hasn't been significant FDI inflow. The US federation has withdrawn some of its bond buying programmes resulting in a sudden outflow of money that in return has left India far behind in the race. Foreign investors have been pulling out of the Indian economy. The month of May has seen a record outflow of foreign investments of Rs. 44162 crore. With the giants like Posco pulling out of its Rs. 30000 crore steel plant project in Karnataka followed by Arcelor Mittal pulling out of its Rs. 50,000 crore project in Odisha due to delays and land acquisition delays. This has shrunk the total inflow of capital in India. Indian investors have been spending more abroad than foreign investors have been spending in India. In fact, of late, the Foreign Institutional Investors have been heading to greener pastures like Singapore owing to the greater operational efficiency and lesser bureaucratic problems that have unsettled the Indian business fraternity and hampered its overall economic growth. This has led to the further deficit of current account.

India has been one of the worst hit countries on this count, as foreign funds took flight, thereby making dollars scarce. The sudden and colossal demand for the US greenback has seen it strengthen, while the rupee's exchange rate has depreciated dramatically during the same period.

Uncertainty about India's commitment to economic reforms, retrospective taxes, and policy paralysis within the government have forced foreigners to either postpone their investment decisions, or take money out of Indian stock markets.

#### **CONTRACTION OF INDIAN ECONOMY :**

The various important sectors of Indian economy such as manufacturing, mining and agriculture have seen poor growth in 2013 and this has made them less appealing propositions for the investors. During June 2013, the aggregate industrial production in India reduced by 2.2 per cent. Economic growth rate slowed to around 5.0% for the 2012-13 fiscal year compared with 6.2% in the previous fiscal. It is to be noted that India's GDP grew by an astounding 9.3% in 2010-11. Thus, the growth rate has nearly halved in just three years. GDP growth went up marginally to 4.8% during the quarter through March 2013, from about 4.7% in the previous quarter. The government has forecasted a growth of 6.1%-6.7% for the year 2013-14, whilst the RBI expects the same to be at 5.7%. The Gross Domestic Product (GDP) has hit its lowest patch in the last 10 years. With fall of the GDP to 4.8%, it had significant effect on the stock markets and the falling rupee.

#### **MEASURES TO CONTROL THE DOWNSLIDE :**

There have been a slew of measures that have been undertaken by the government but to no avail.

The Indian authorities firefighting did more damage to the rupee than salvaging it. While the government has opened up sectors for foreign direct investment, the RBI has

resorted to interest-rate defense of the currency. FDI measures are likely to be fruitful only over the long term, while RBI steps are seen largely as bandages that will be effective only for the short-term.

In order to arrest the volatility in the forex market, the RBI started tightening its monetary policy. On July 15, it signaled an increase in short-term rates by hiking marginal standing facility rate by 200 basis points. All this while, the rupee continued to decline and interest rates kept going up. On 20 August, the RBI signaled a reversal of tightening policy. RBI's announcement to buy bonds has confused the market and by buying bonds the central bank is subsidising outflow at a better price, so the market is still looking to sell the rupee. The Reserve Bank of India's bid to sell dollars in the open market to restrict the rupee slide has failed in the past few weeks and months.

On 28th August 2013, the Reserve Bank of India decided to open a special window for helping state owned oil companies – Indian Oil Corp Ltd., Bharat Petroleum Corp and Hindustan Petroleum Corp. The beneficiaries will be able to buy dollars through this window till further notice is provided. These companies, together, require about 8.5 billion dollars every month to import oil and it is expected that this will help them meet the requirements.

Also RBI restricted how much Indian citizens and companies can invest abroad to reduce pressure on the rupee, while targeting the current account deficit by banning imports of gold coins and medallions among other measures. The RBI also eased some of the rate limits for deposits targeted at non-resident Indians (NRIs), though it is unlikely to attract inflows in the near term given that NRI deposits have seen net withdrawals of \$1.1 billion in May and June.

The RBI, in order to stall the rupee slide, has prohibited purchase of real estate by Indians in overseas markets, lowered the ceiling on outward remittance from \$200,000 to \$75,000 a year and increased the import tax on gold from 8% to 10% on 14 August. The government has raised import taxes on gold and silver in an attempt to narrow the burgeoning current account deficit. The import duty on gold was hiked to a record 10 percent, the third such increase in eight months, while duty on silver was hiked from 6 percent to 10 percent. The excise duty on gold bars was hiked to 9 per cent from 7 percent. The central bank has also banned import of gold coins and medallions. Apart from these, any approved agency importing gold should ensure that at least 20% of the imported metal is used for exports.

The limited freedom that Indians—ordinary citizens and businesses—enjoyed on capital account convertibility is now being rolled back bit by bit. They can't buy gold without paying more for it; they can't buy property; and they can't invest abroad easily to expand business opportunities.

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Banks have been asked to refrain from 'proprietary trading', i.e., not to trade in rupee on their own. They are advised to enter the market only when on behalf of their customers to either sell/buy dollars. Further, margins for currency futures have been doubled and upper limit has been prescribed in respect of some of these instruments.

Oil companies have been asked to approach one bank only for their requirements of hard currency to pay for imports. It is felt that the present practice of these firms approaching multiple banks is giving an impression of heightened demand for dollar. The cumulative effect of these measures, it is hoped, would be to curb speculative activity in Rupee trading. Also

the government has allowed unlisted companies to directly list on stock exchanges abroad to raise funds for acquisitions or retiring funds in order to lower CAD.

**The position of the rupee after Raghuram Rajan took over as the new RBI Governor**

Mr Rajan, who took over as RBI chief on September 4, had announced various steps to attract dollar inflows, including enhanced limits for exporters to re-book cancelled forward exchange contracts and a window to swap foreign currency deposits.

The Reserve Bank of India relaxed the minimum maturity tenure for banks' foreign currency borrowings' to one year from three years, in order to use the central bank's swap facility which was set up to support the ailing rupee.

The partially convertible rupee rose to 62.13 per dollar versus its close of 62.44/45 in October after the RBI eased norms for providing swaps to banks that are borrowing funds overseas.

The Reserve Bank of India also said that it will take action, including conducting open market operations, to ensure adequate liquidity is available in the banking system, acknowledging that liquidity conditions have been tightening.

Foreign Institutional investors (FIIs) have pumped in \$1.7 billion (over Rs. 11,000 crore) in the Indian stock market following Reserve Bank of India (RBI) Governor Raghuram Rajan's measures to boost the weakening rupee and revive economic growth.

Moreover, the Federal Reserve's decision to leave its stimulus unchanged also encouraged FIIs to park their funds in the Indian stock market.

Besides, the US central bank's decision to continue with its \$85 billion per month in bond buys and wait for more signs of growth recovery have encouraged FIIs to invest in Indian equity market.

Some of the other possible remedies that can be emphasized are:

There is a high level of pessimism in the markets. The government needs to address

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the rising current account deficit and slow growth until optimism finally settles in. To prop up the rupee in the near-term, markets would need assurances that India can attract foreign flows in an increasingly difficult global environment.

- ❖ NRI bank deposits can be made more attractive and foreign loan norms eased.
- ❖ Remove roadblocks to foreign direct investments proposals.
- ❖ Electronic goods top the list when it comes to making big business. In order to stabilize rupee a significant increase in customs duty on Electronic goods needs to be exercised.
- ❖ Another point that can be kept on the anvil is that some imports should be denied. The products can include crude palm oil, copper and certain varieties of coal.
- ❖ Trade deficit with China is estimated at \$40 billion which is not only huge but is also increasing with every passing day. China has to open up its markets to Indian goods and services failing which the only alternative would be to curb imports from that country.

### **CONCLUSION :**

It is only through continued efforts that the Indian government will be able to retrieve the situation. However, it will take a Herculean effort to help the INR get back to the 55 mark. This situation can only be addressed by exporters who can bring in dollars in the system. If somehow the FIIs can be wooed back, then this imbalance can also be addressed to a certain extent.

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## CAPITAL STRUCTURE OF GROWTH COMPANIES WITH REFERENCE TO INDIAN SOFTWARE INDUSTRY

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Dr. Kalpataru Bandopadhyay \*

### ABSTRACT :

*The decision on capital structure makes an impact on the overall cost of capital and consequently value of the firm. The capital structure decision of growth companies is even more important as the companies require fresh fund to finance growth. In this study, the sales of software companies in India during 2000-2012 have demonstrated that they certainly fall under the category of growth companies. However, these companies are mostly debt-free during the period of study. It seemed that these companies follow Pecking Order Theory. This paper seeks to find out the reason behind almost debt-free capital structure and also demonstrates how liquidity management and risk management could take a pivotal role to determine the capital structure of these growth companies.*

**JEL Classification:** G32, L86, O16, O43

### KEY WORDS :

Capital Structure, Debt-equity Ratio, Growth Companies, Net Income Approach, Net Operating Income Approach, Pecking Order Theory

Capital Structure refers to the debt-equity (d/e) ratio of a company that indicates long term liquidity of the business. According to Net Income Approach, it is argued that a company should keep incorporating debt into its capital structure till it can acquire debt at a lower rate than the rate of return of the business as it reduces overall cost of capital. As a result, value of the firm by increases due to increase in value of each project under it. In that case, higher the proportion of debt in the capital structure, lower would be the overall cost of capital. However, according to Net Operating Income Approach, the above proposition might not be realistic. The cost of debt is deterministic and can be known before hand. On the other hand, rate of return is probabilistic and can be estimated but can not be determined exactly until it is realised at a future date. So, both can not be compared beforehand with certainty. The debt is associated with a

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contractual cost — interest that is required to pay out of earnings of the company. Naturally, some sort of uncertainty is there when the question of meeting the contractual cost arises. We understand a risk is always there for incorporating debt into capital structure. The higher the debt-equity ratio, higher is the risk. This risk affects both ways. The company has the risk of not being able to meet contractual obligation in time where as the loan (debt) provider bears the risk of not getting there due interest and even own fund. Thus, the higher the risk, the higher is the cost of debt, so also the higher weighted average cost of capital.

To attract borrowed fund in a risky firm, the company is to offer higher interest rate for debt ( $K_d$ ). Thus  $K_d$  rises. The cost of equity ( $K_e$ ) also rises because expectation of shareholders from a risky firm rises. As a result of this, weighted average cost of capital (WACC) also increases accordingly. As WACC increases, the Net Present Value (NPV) of each project gets down, so also the profitability and value of the company. Table-I shows d/e ratio and return on equity (ROE) of some companies:

**Table-I**

**Companies with higher debt-equity ratio than industry average**

Companies	d/e	ROE	Industry Average (No. of Companies)
Asahi Ind. Glass	7.1	7.0	1.6 (6)
Bharati Shipyard	3.7	11.9	4.4 (5)
Hind Motors	4.0	1.8	1.4 (3)
HMT	3.4	-45.3	1.2 (3)
Jet Airways	16.1	0.4	5.1(3)
<b>Source: Capitaline Database, 2013</b>			

The d/e ratio depends a lot on the nature of business. So, industry average might be considered as standard ratio in this respect. The above table relates to the financial year 2010-11. It suggests that, all five companies have high debt equity ratios, mostly higher than the industry average. It is observed from the table that all the companies have poor return on net worth. Very grossly, this suggests that high debt equity ratio in above cases might put stress and consequently reduces profitability of projects by increasing WACC. Only Bharati Shipyard has yielded around 12% ROE, with d/e of 3.7. Due to the inherent nature of ship building business, the industry average is high. However, the d/e ratio of Bharati Shipyard is lower than the industry average. So, indiscriminate debt in capital structure not only reduces the profitability but also might financially jeopardize the company in the long run. However, there is another way of looking at the above

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financials. It may be argued also that the companies with financial stress are resorting to high debt to come out of crisis. But, from the date of introduction of debt for above companies, it is clear that, second argument does not hold good.

The above discussion supports the trade-off theory that suggests there is an optimal capital structure where value of the firm would be maximized. That means upto a certain level debt might increase value of the firm but beyond that it may be counterproductive.

This paper seeks to answer the question whether some sort of debt is productive always for any type of firms. For this purpose the cases of growth companies have been considered. The features of the growth companies have been discussed to understand what type of capital structure might be suited to it. Then data of software companies have been analysed to find the justification as proposed in the theoretical section.

There are several literatures on capital structure decision. However, there are not too many serious attempts on how growth firms should be financed ideally. Booth & Cleary (2007) observed that probability of bankruptcy cost and financial distress costs rise exponentially as proportion of debt increases in capital structure for all types of firms including growth firms. Mayers (1977) commented that firms expecting high future growth should use a greater amount of equity. Gatchev (2009) observed growth firms maintains financial flexibility by keeping less reliance on long term debt. Ellul (2009) observed that promoters and shareholders influence capital structure decision significantly. However, non-family firms have lower leverage than family controlled firms be it a growth firm or not. Boyum (2011) demonstrated how growth firms are utilising financial flexibility to fund growth opportunity and finally end up with huge leverage.

Till date there very few serious study to understand the capital structure of software companies. In this paper an attempt has been made to understand the nature of growth companies in respect of software companies in India.

#### **FEATURE OF GROWTH COMPANIES:**

Let us discuss the features of growth companies in relation to the capital structure.

#### **ESTIMATION FOR GROWTH AND RISK :**

First of all, like all other companies, growth companies estimate the future growth for planning to grab the opportunity in coming days. Due to inherent nature of future, however, realised growth rate may be very much different from estimated growth rate. In some cases, the company may be forced to run in under capacity and may have to incur cost for the unutilised capacity if actual realized growth rate falls short of estimated growth rate.



#### **INFRASTRUCTURE TO CATCH UP GROWTH :**

A company with prospective high growth rate gets prepared for future with adequate infrastructure — physical infrastructure and human infrastructure. However, there is some sort of risk in the sense that if estimated future growth does not take effect, the company has to face huge problem to maintain profit level because of already committed capital cost and cost related to salary of permanent staffs.

#### **LIQUIDITY MANAGEMENT AND FINANCING GROWTH :**

A company which is on a growth curve earns higher profit and piles up cash due to higher sales realisation. It is an important issue to manage cash flow for any company specially for the growth companies. The firm has to decide whether to invest liquid cash as long term or short term investment or to finance growth with surplus cash only or to borrow also.

#### **LAG IN LONG TERM FINANCING & GROWTH :**

During period of growth, growth in sales is followed by investment for that. The growth might be estimated beforehand with some degree of certainty. The company should prepare itself with its infrastructure. The issuance of equity shares is not possible every now and then. The preference share capital mostly does not attract investors. So, the company has option to arrange fund through debt or retained earnings. However, there is a difference as regards time taken to arrange the fund. The debt can be arranged to finance the infrastructure whenever needed. On the other hand, to finance with retained earnings a company may require to wait even quarters depending upon the requirement and quantum of growth. Again, unlike debt, the amount of retained earnings is restricted to generation of surplus.

In this context, the growth companies are to take a decision whether to be aggressive enough to catch the growth as it is estimated with or to wait for the retained earnings to accrue to finance for the growth by then the growth would be more evident. The above decision could change the risk profile of the firm. In this perspective, the risk management of the company gets very much relevant.

#### **RISK MANAGEMENT OF GROWTH COMPANIES :**

The total risk of a company is resultant product of operating risk and financial risk. A growth company is characterized by above normal rate of growth. However, the growth rate generally does not sustain for a very long time. The above normal growth rate is sure to subside sometimes in future. Again, the miscalculation of growth estimate is not also very unusual. The company may fall in problem if it already commits capital expenditure for that. We understand, as far as operating risk is concerned, the growth companies are more risky than normal companies. Let it be explained.



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Let, projected growth in sales = R; Overall Industrial growth rate of the country = r; Risk factor= (R-r); Many companies maintain R at conservative level, to reduce risk factor (R-r). In that case, Investment (I) also get reduced.

Normally, Degree of Operating Leverage (DOL) = % change in EBIT/ % change in Sales ;

So, DOL for growth companies may be = Normal DOL \* (R-r)/r\*100

Total Leverage= Normal DOL \* (R-r)/r\*100 \* Degree of Financial Leverage (DFL)

From the discussion above, we understand that, DOL of growth companies might be higher than normal companies. Booth & Cleary (2007) observed that probability of bankruptcy cost and financial distress costs rise exponentially as proportion of debt increases in capital structure.

In this back drop, introduction of d/e into capital structure would increase the total risk further by increasing degree of Degree of Financial Leverage (DFL). As degree of risk of a firm influences cost of capital positively, risk should not be allowed to move up to an alarming level to maintain cost of capital at manageable level. Now let us discuss the features of Indian software companies in the context of above discussion.

**DISCUSSION ON INDIAN SOFTWARE COMPANIES :**

In this study, we have considered six software companies. The Table-II suggests that sales volume at the year end of 2000, 2006 & also 2012. During 2000-06 period there was stupendous sales growth of all six companies. The minimum annual growth was over 50% during the period. Infosys demonstrated annual 154% sales growth. However, due to the impact of global recession around 2008, the sales figure was adversely impacted. Even then the companies registered much above yearly growth than the growth of industrial production in India. There was no doubt that software companies were growth companies.

**Table-II**

**Sales volume of software companies**

Companies	2000	2006	2012	Growth (%)	
	Rs. Cr.	Rs. Cr.	Rs. Cr.	2000-06	2006-12
HCL Tech	400	3033	8907	110	32
Infosys	882	9028	31254	154	41
Wipro	2360	10264	31803	56	35
Tata Consultancy Services	NA	11236	38859	NA	41
Tech Mahindra	235	1197	5243	68	56
Polaris Fin.	146	684	1762	61	26
Source: Capitaline Database, 2013					

The software companies estimated the projected sales growth. They also got themselves prepared in terms of required infrastructure — physical infrastructure as well as human infrastructure. From the following table, we can observe the growth in physical infrastructure in the form of gross block that increase even at over 200% annually during 2000-06.

**Table-III**  
**Gross block of software companies**

Companies	2000	2006	2012	Growth (%)	
	Rs. Cr.	Rs. Cr.	Rs. Cr.	2000-06	2006-12
HCL Tech	98	1186	3497	185	32
Infosys	284	2837	7173	150	25
Wipro	571	2365	8807	52	45
Tata Consultancy Services	NA	1695	7282	NA	55
Tech Mahindra	107	307	1397	31	59
Polaris Fin.	22	365	674	260	14

During the same period, employee cost has also been increased many folds. This is because the companies estimating future growth, added huge number of technical staff to get ready for the future. The employee cost of HCL Tech has increased by as high as @265% per annum. **Table-IV Employee cost of software companies**

Companies	2000	2006	2012	Growth (%)	
	Rs. Cr.	Rs. Cr.	Rs. Cr.	2000-06	2006-12
HCL Tech	69	1168	3923	265	39
Infosys	334	4257	15473	196	44
Wipro	250	4271	13311	268	35
Tata Consultancy Services	NA	7314	19566	NA	28
Tech Mahindra	52	464	2251	132	64
Polaris Fin.	82	487	1203	82	25

**Source: Captaline Database, 2013**

To grab the growth opportunity, the software companies have to increase employees strength at a very high rate. The employee cost has increased over @ 100 % per annually in many cases specially prior to global financial crises. This phenomenon indicated preparedness for company to get ready to manage employee cost.

To invest the surplus cash in short term or long term instrument in one hand and to borrow to expand its capacity on the other for future growth does not make any sense.

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Because generally investment carries lower interest rate than the interest to be paid for borrowed fund. Again, no one knows with surety how long the growth rate would be maintained and the cash inflows would keep coming. To avoid this risk, cash flows of software companies are linked to finance infrastructure. So, Indian Software Companies utilises surplus cash to invest in infrastructure required to grab future growth story. Gatchev (2009) found that firms increase excess cash holdings when investing in net fixed assets. He further observed that firms generally use their retained earnings to reduce their reliance on long-term debt. They also found that small firms which have high growth rate generally utilise a larger share of their profits to develop financial flexibility.

Many software companies had d/e ratio at 0.0 or around. At, the year ended 2006, all the six companies has got d/e ratio at 0.0. But, even with low d/e, ROE is quite high. During, 2000-2006, ROE ranges from 33% to 55%.

**Table-V**  
**Debt-equity ratio of software companies**

Companies	2000		2006		2012	
	d/e	ROE (%)	d/e	ROE (%)	d/e	ROE (%)
HCL Tech	0.00	32	0.04	21	0.17	31
Infosys	0.00	41	0.00	40	0.00	31
Wipro	0.31	55	0.01	36	0.22	21
Tata Consultancy Services	NA	NA	0.00	61	0.00	50
Tech Mahindra	0.00	52	0.00	41	0.34	15
Polaris Fin.	0.02	33	0.00	3	0.05	19
Source: Capitaline Database, 2013						

From the above table, we can observe that, Indian Software companies have adopted ‘go slow’ approach to finance growth. Thus, it manage its risk well, by waiting for the retained earnings and surplus cash to accrue and then to finance the growth with that and did not allow the risk profile of the company to move up further.

It is also to be noted that, unlike manufacturing or capital intensive growth companies, the software companies is rather characterized by lower capital turnover ratio. So, retained earnings with a lag in period might be sufficient to meet up the finance required for growth.

We observe that the software companies follow pecking order theory where the company prefer internal fund to debt or fresh equity. A pecking order theory could also be advocated from economic sense. The debt and also fresh equity causes issue cost. On the other hand, retained earnings has no issue cost. Again, lower the debt equity

ratio, greater is the financial slack. In that case, finance is easily accessible when good investment opportunity comes.

**CONCLUSION :**

The growth companies estimate the growth rate and generate huge cash surplus. The companies have a proactive liquidity management in place. It piles up huge liquid and medium term non-trading investments. The companies are required to set up adequate physical and human infrastructure to maintain the growth momentum going. However, preparing with huge infrastructure beforehand is a risky proposition. In this context, resorting to borrowed fund to finance infrastructure would be even more risky. From the financials of software companies, it was observed that those companies were not aggressive enough to catch up growth by setting up infrastructure with the help of debt. These companies waited the cash to generate and utilize the investable cash into infrastructure. This way they managed the risk profile of the firm at lower level. It is further observed that the Indian Software companies follow Pecking Order Theory and as such growth is financed retained earnings as far as possible. This observation also follow Mayers (1977) that the firms expecting high future growth should use a greater amount of equity in their capital structure.

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## SOCIAL PERFORMANCE REPORTING PRACTICES AND MEASUREMENT OF THE SELECTED INDEX BASED COMPANIES OF INDIA

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### ABSTRACT :

*A growing emphasis on social responsibility by companies has taken the concept of “ethical” business into new horizons, including the disclosure of social performance. Everywhere a much is being talked about for the social reporting. Social Reporting is due to the stakeholders’ awareness that companies are the part of the society and therefore it is their prime duty to give something back to the society within which it exists. Every company has engaged itself into such reporting, to more or less extent. However, there exists a problem of “How to measure” and “How to report”. This paper attempts to clarify what social accounting is all about by focusing on the reporting practices and measurement of the selected Indian companies. The objective of this study is to measurement of the quantity and quality of voluntary social disclosures in the annual reports or sustainability reports of the few selected Indian companies. The result may serve a base or the path towards better Social disclosures in India.*

### KEYWORDS :

*Sustainability, Social Performance, Social Reporting, Global Reporting Initiatives (GRI)*

### INTRODUCTION :

Social Performance Reporting is an important tool for understanding the role played by the companies in fulfilling their social obligations towards the society, at large. Measuring social performance helps the companies to improve its bonding with the society. It also helps to improve its own social performance which in turn, would lead to more profit in the long run.

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Companies, being the part of the society, have an obligation towards the society and to create a social impact and to know its social impact upon, an accurate measurement is foremost.

In addition, the firm also has obligations to all its stakeholders to disclose information about how well it performs with respect to all its stakeholders and a better disclosure practice would be a yardstick for the firm itself and its competitors also.

#### **CONCEPTUAL FRAMEWORK :**

“Social Performance Reporting” refers to disclosing or reporting on the fair, ethical, and beneficial business practices of a corporation towards its own employees, community, and country in which a corporation conducts its business.

Social Performance Reporting refers to the reporting of the companies about the social activities undertaken by them for the benefit of its own employees and all the other interested parties with which it is associated with. In short, it is believed that social performance can be measured in fairly objective ways, and that firms should use these results in order to improve their social performance. Moreover, they should report these results as a matter of principle, and in using and reporting on these additional “bottom lines” firms can expect to do better by their financial bottom line in the long run.

#### **WHAT IS SOCIAL PERFORMANCE REPORTING IN GENERAL SENSE?**

- ❖ It's reporting company's social performance back to the people whom it does business with.
- ❖ The way the company present this information can take many different forms, including: Pages on their website; Articles in any leading/local newspapers or through any other means of communication that can directly reach to the general public, or A bound annual/sustainability report.
- ❖ The three stage process of compiling business's social performance involves: planning what the form and content of the document will be; analyzing the social performance; and distributing the information to the needed parties.

#### **WHAT ARE THE KEY STEPS FOR SOCIAL PERFORMANCE REPORTING?**

##### **❖ *Stage One-Planning your Social Performance report***

The first step is detailing why companies need to report their social performance. Every business must have some predetermined social obligations being the important part of the society, you might consider writing one before proceeding further, and then set your business's social objectives and targets. This is also where the firm identifies its stakeholders, the audience they are reporting to. Talking to these stakeholders is essential

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to determine what social performance information the audience is interested in reading about, and how it would be most effectively presented.

❖ *Stage Two-Analyzing the Social Performance*

Here the company looks at the major impacts of itself on the society, the activities it carries on for the benefit of society at large, and the fulfillment of those predetermined activities. For that it is needed to develop indicators to monitor and measure inputs and outputs, and set targets stating firms' intention for better social performance. This helps the business to use resources more efficiently and improve social performance year by year.

❖ *Stage Three-Disclosing Social Performance information about the business*

The data collected from analyzing firms' social performance in stage two is then formatted into a report and disclosed to the stakeholders. The format chosen to distribute this information depends on what the stakeholders would prefer, and how much money the firm wants to allocate in designing and distributing it.

**SOCIAL PERFORMANCE REPORTING THROUGH GLOBAL REPORTING INITIATIVES (GRI) GUIDELINES AS A BASE**

The GRI was established in late 1997 with the mission of developing globally applicable guidelines for reporting on all these three areas, i.e., economic, social and environmental performance, initially for corporations and eventually for any business, governmental, or non-governmental organization (NGO). Convened by the Coalition for Environmentally Responsible Economies (CERES) in partnership with the United Nations Environment Programme (UNEP), the GRI incorporates the active participation of corporations, NGOs, accountancy organizations, business associations, and other stakeholders from around the world. The GRI's Sustainability Reporting Guidelines were released in exposure draft form in London in March 1999.

However, GRI guidelines are voluntary reporting initiatives; hence companies are not obliged to inform GRI of their reporting confirmation. It is, however, to be noted that the GRI guidelines are dynamic and the Exposure Draft issued in March 1999 represents only a primary step in the development of a framework for sustainable reporting. Companies may take it as a way towards better reporting practices.

**OBJECTIVES OF THE STUDY**

The prime objective of this study is to measure the Social Performance Reporting Disclosures of the selected Indian companies. In order to evaluate the social reporting practices, the categorization contained in the Global Reporting Initiatives (GRI) guidelines broadly has been used to an extent. However, it also mainly throws light upon the quantity and quality analysis of the social performance reporting practices of the selected companies



whereby, better social performance reporting practices in India can be arrived at.

The objective of the study was to determine the following in the annual reports (sustainability reports or corporate social responsibility reports) and separate social reports (if prepared by the selected Indian companies):

- ❖ Quantity of disclosure, using a sentence based approach (Hackston and Milne, 1996; Buhr, 1998) which were then accumulated into page proportions; and
- ❖ Quality of disclosures (Gamble *et al.*, 1995; Wiseman, 1982; Guthrie and Parker, 1990; Walden and Schwartz, 1997; Kusumo *et al.*, n.d.).

## REVIEW OF LITERATURE

Social Performance Reporting is the key ingredient of the TBL (Triple Bottom Line) concept. It is the most crucial component which relates the company with all its stakeholders. Although, one need to study all the three areas of Triple Bottom Line Reporting, viz., Economic (Financial), Environmental and Social.

TBL may be an emerging concept for the Indian corporate, but it was coined way back. Discussion of the quantification of social and environmental performance is not entirely new and predates Elkington's (1997) book. In 1972, David Rockefeller said that he 'can foresee the day when, in addition to the annual financial statements certified by independent accountants, corporations may be required to publish a social audit similarly certified' (cited in Gray, Owen, et al, 1987, pix).

In 1992, the European Union Fifth Action Programme called for a redefinition of accounting concepts and methods to account for inclusion into product market prices (EU, 1992). In 1977, the American Institute of Certified Public Accountants published a book entitled *The Measurement of Corporate and Social Performance* (AICPA, 1977).

Elkington's book reinforced the view that corporations were accountable for their impact on sustainability through TBL and that accountants had a substantial role in measuring, auditing, reporting, risk rating and benchmarking it (Elkington, 1997).

Under the leadership of Swiss business entrepreneur Stephan Schmidheiny, a coalition of around 50 international companies formed the Business Council for Sustainable Development (Timberlake, 2006). The BCSD prepared a "Declaration of the Business Council on Sustainable Development" and a book, *Changing Course* (Schmidheiny, 1992). "Gathering the expertise of more than 50 leaders of multinational corporations and backed by an array of case studies showing existing best practices", the book claimed to provide "an extensive analysis of how the business community can adapt and contribute to the crucial goal of sustainable development - which combines the objectives of environmental protection and economic growth." After UNCED, the ICC formed the World Industry Council on the



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Environment, which merged with BCSD on 1 January 1995 to form the World Business Council on Sustainable Development (WBCSD).

This triple bottom line conception of corporate sustainability is now widely used among business practitioners. For example, the WBCSD claims to bring together its 180 member international companies “in a shared commitment to sustainable development through economic growth, ecological balance and social progress.” This is made more significant by the fact that, in 2006, the WBCSD was rated by sustainability experts worldwide as the business organisation most likely to play a “major role” in advancing sustainable development over the next five years (Globescan, 2006).

According to Holsti (1969), content analysis categorises narrative matter into themes, a method consistently used in Corporate Social Reporting research (Adams and Roberts, 1995), Zeghal and Ahmed (1990), Gamble *et. al.* (1995). Hackston and Milne (1996) and Krippendorff (1980. p. 21) define content analysis as “a research technique for making replicable and valid inferences from data according to their context”.

## **METHODOLOGY**

The nature of the said research work is analytical. This study is based on the Primary Data collected from annual reports/ sustainability/ corporate social responsibility reports downloaded from the websites of the selected companies. The study is based for a five year period starting from 2008-2012. Out of the 30 Sensex based companies, 10 companies were randomly selected for the purpose of this study viz., Bajaj Ltd. (BAJ Ltd.), Bharti Airtel Ltd. (BHA Ltd.), Bharat Heavy Electricals Ltd. (BHEL- BHE Ltd.), Cipla Ltd. (CIP Ltd.), Delhi Land & Finance Ltd. (DLF Ltd.), Hero Motocorp Ltd. (HMC Ltd.), Hindalco Industries Ltd. (HDI Ltd.), Hindustan Unilever Ltd. (HUL Ltd.), Infosys Ltd. (IFS Ltd.) and Imperial Tobacco Company of India Ltd. (ITC Ltd.).

In order to measure the social performance reporting practices by the selected Sensex based Indian companies, GRI guidelines were taken as a base. Analysis of the data is based on a few selected categories comprised of in GRI guidelines to have a better measurement.

## **QUANTITATIVE AND QUALITATIVE MEASUREMENT OF SOCIAL PERFORMANCE REPORTING BY SELECTED INDIAN COMPANIES**

Freedman and Jaggi (1986), Kelly (1981) and Roberts (1992) are of the opinion that the use of annual reports as a primary communication vehicle for environmental performance serves a better measurement tool. For the purpose of this study also, annual reports or sustainability/ environmental reports are used as a data source.

The point of commencement was to determine if the annual reports included disclosure on environment issues.

The annual report information was initially analyzed using a dichotomous variable (Yes=1;

No=0). Once it was ascertained that the environmental information was present in the reports, it was necessary to determine how it was to be coded.

**Table I: Social Performance Information**

Information	BAJ Ltd.	BHA Ltd.	BHE Ltd.	CIP Ltd.	DLF Ltd.
Present	1	1	1	1	1
Information	HMC Ltd.	HDI Ltd.	HUL Ltd.	IFS Ltd.	ITC Ltd.
Present	1	1	1	1	1

It is clear from Table I, that all the selected companies included social related information in their reports which is resembled by “1” as per dichotomous variable, i.e., Yes.

#### **QUANTITATIVE AND QUALITATIVE MEASUREMENT STANDARDS OF SOCIAL PERFORMANCE REPORTING PRACTICES**

**Table II : Quality and Quantity definitions of the Content Analysis**

Quantity of Disclosures “How Much”	Quality of Disclosure “How measured”	Quality definitions
1 = sentence	1 = Monetary	Disclosure in monetary/ currency terms
2 = paragraph	2 = Non-Monetary	Quantified in numeric terms of weight, volume, size, etc. but not financial/ currency
3 = half A4 page	3 = Qualitative only	Descriptive prose only
4 = 1 A4 page	4 = Qualitative and Monetary	Descriptive prose and currency
5 = >1 A4 page	5 = Qualitative and Non- Monetary  6 = Monetary and Non- monetary  7 = Qualitative, Monetary and Non-monetary	Descriptive prose and numeric terms  A combination of currency and numeric terms  Descriptive prose, financial and numeric terms

Table II, above exhibits the “Quantity” and “Quality” definitions of the content analysis to be made in respect of the social performance indicators selected. It has further been divided into two categories in order to have a clear insight into the content. Table III shows the social indicators to be measured in quantitative and qualitative terms. Table IV shows the score to be allotted while measuring the “Quantity” aspect. Table V shows the quantity of disclosures “How much” and a score to the content present. Table VI shows the score to be allotted while measuring the “Qualitative” aspect. Table VII, shows the quality of disclosures “How measured” and a score, thereof of the selected Indian companies and Table VIII shows overall social performance disclosure practices of the selected Indian companies both in “Quantitative” and “Qualitative” terms.

### **SOCIAL PERFORMANCE INDICATORS MEASURED TO BE MEASURED IN “QUANTITATIVE” AND “QUALITATIVE” TERMS**

Once we have known about the status of the social information present in the annual/ sustainability/ corporate social responsibility reports, few selected social indicators which play a major role in social responsibility of a firm, were selected for the measurement purpose. The said indicators were selected taking into consideration the Global Reporting Initiatives (GRI) guidelines.

Following social performance indicators were selected for this study purpose:

**Table III: Social Performance Indicators Measured**

<b>Sr. No.</b>	<b>Indicators</b>	<b>Codes</b>
<b>1.</b>	<b>LABOUR PRACTICES &amp; DECENT WORK</b> a. Employment b. Labour/ Management Relations c. Occupational Health and Safety d. Training and Education e. Diversity and Equal Opportunity	<b>LPDW</b> EM LMR OHSAS TE DEO
<b>2.</b>	<b>HUMAN RIGHTS</b> a. a. Investment and Procurement Practices b. Non-discrimination c. Freedom of Association and Collective Bargaining d. Child Labour e. Forced and Compulsory Labour	<b>HR</b> IPP ND FACB CL FL
<b>3.</b>	<b>SOCIETY</b> a. Community b. Corruption c. Public Policy	<b>SOC</b> COMM CORUP PP
<b>4.</b>	<b>PRODUCT RESPONSIBILITY</b> a. a. Customer Health and Safetyb. b. Product and Service Labelingc. c. Marketing Communications	<b>PR</b> CHS PSL MC

The above are few indicators which contribute for a better social performance and social responsibility and would be analyzed on the basis of its information present in the report.

**QUANTITATIVE MEASUREMENT OF SOCIAL REPORTING PRACTICES OF THE SELECTED INDIAN COMPANIES**

Each category of Table III above has been measured in quantitative terms (via., sentence, paragraph, half A4 page, 1 A4 page and >1 A4 page) and has been allotted 10 points each, However, the content was measured in the “Quantity” aspect of the study and Table IV depicts the score to be allotted.

**Table IV : Quantity Measurement “Score Board”**

Quantity of Disclosures “How Much”	Score (Points to be allotted)
1 = sentence/s	10
2 = paragraph/s	20
3 = half A4 page	30
4 = 1 A4 page	40
5 = >1 A4 page	50

**Table V : Shows the Quantity of Disclosures “How much” of the selected Indian companies**

Code	Score Board (Quantity)										
	BAJ Ltd.	BHA Ltd.	BHE Ltd.	CIP Ltd.	DLF Ltd.	HMC Ltd.	HDI Ltd.	HUL Ltd.	IFS Ltd.	ITC Ltd.	Avg Ltd.
<b>LPDW</b>											
EM	20	50	20	30	20	20	50	00	20	30	26
LMR	00	00	00	00	00	00	20	00	10	20	5
OHSAS	00	00	10	10	00	10	40	50	50	50	22
TE	00	10	20	00	00	20	30	20	50	40	19
DEO	00	00	00	00	00	00	30	00	50	30	11
<b>HR</b>											
IPP	10	00	00	00	00	00	20	00	20	20	7
ND	00	00	00	00	00	00	00	00	10	20	3
FACB	00	00	00	00	00	00	00	00	10	20	3
CL	00	00	00	00	00	00	10	10	10	10	4
FL	00	00	00	00	00	00	00	00	10	10	2

<b>SOC</b>											
COMM	50	50	20	10	50	20	20	10	20	50	30
CORUP	20	00	10	00	00	00	00	00	10	20	6
PP	00	00	00	00	00	00	30	00	10	20	6
<b>PR</b>											
CHS	00	40	20	00	30	00	20	50	00	50	21
PSL	00	00	20	00	00	20	20	20	10	40	13
MC	10	00	00	00	00	00	00	00	10	20	4
<b>TOTAL</b>	<b>110</b>	<b>150</b>	<b>120</b>	<b>50</b>	<b>100</b>	<b>90</b>	<b>290</b>	<b>160</b>	<b>300</b>	<b>450</b>	<b>182</b>

**Source : Sustainability/Annual/CSR reports**

We can observe from Table V, among all the selected companies “ITC Ltd.” earns the highest score of 450 points followed by Infosys Ltd. (300 points), Hindalco Industries Ltd. (290 points), Hindustan Unilever Ltd. (160 points), Bharti Airtel Ltd. (150 points), BHEL Ltd. (120 points), Bajaj Ltd. (110 points), DLF Ltd. (100 points), Hero Motocorp Ltd. (90 points) and Cipla Ltd. scoring the least (50 points) in “Quantitative” measurement of social performance.

#### **QUALITATIVE MEASUREMENT OF SOCIAL PERFORMANCE REPORTING PRACTICES OF SELECTED INDIAN COMPANIES**

A firm providing a combination of discussion on social goals and objectives, and outcome in qualitative, non-monetary and monetary terms was considered to be more meaningful to aid stakeholder decisions by linking disclosure, social performance, and economic performance (Belkaoui and Karpik, 1989).

Each indicator of Table III, was individually measures in “Qualitative” terms (viz., monetary, non-monetary, qualitative only, qualitative and monetary, qualitative and non-monetary, monetary and non-monetary and qualitative, monetary and non-monetary) to know the content disclosed in qualitative terms.

**Table VI : Quality Measurement “Score Board”**

<b>Quality of Disclosure “How measured”</b>	<b>Score (Points to be allotted)</b>
1 = Monetary	<b>10</b>
2 = Non-Monetary	<b>10</b>
3 = Qualitative only	<b>10</b>
4 = Qualitative and Monetary	<b>20</b>
5 = Qualitative and Non- Monetary	<b>20</b>
6 = Monetary and Non- Monetary	<b>20</b>
7 = Qualitative, Monetary and Non-Monetary	<b>30</b>

**Table VII :**  
Shows the Quality of Disclosures “How measured” of the selected Indian companies

Code	Score Board (Quantity)										
	BAJ Ltd.	BHA Ltd.	BHE Ltd.	CIP Ltd.	DLF Ltd.	HMC Ltd.	HDI Ltd.	HUL Ltd.	IFS Ltd.	ITC Ltd.	Avg Ltd.
<b>LPDW</b>											
EM	20	20	20	20	20	20	20	00	20	30	19
LMR	00	00	00	00	00	00	20	00	10	10	4
OHSAS	00	10	10	10	00	10	20	20	20	20	12
TE	00	10	20	00	00	10	20	20	20	20	12
DEO	00	00	00	00	00	00	20	00	10	20	5
<b>HR</b>											
IPP	10	00	00	00	00	00	10	00	20	30	7
ND	00	00	00	00	00	00	00	00	10	10	2
FACB	00	00	00	00	00	00	00	00	10	10	2
CL	00	00	00	00	00	00	10	10	10	10	4
FL	00	00	00	00	00	00	00	00	10	10	2
<b>SOC</b>											
COMM	30	10	10	10	30	10	10	20	20	20	17
CORUP	10	00	10	00	00	00	00	00	10	10	4
PP	00	00	00	00	00	00	10	00	10	10	3
<b>PR</b>											
CHS	00	10	10	00	10	00	10	20	00	20	8
PSL	00	00	20	00	00	10	10	20	20	10	9
MC	10	00	00	00	00	00	00	00	10	10	3
<b>TOTAL</b>	<b>80</b>	<b>60</b>	<b>100</b>	<b>40</b>	<b>60</b>	<b>60</b>	<b>160</b>	<b>110</b>	<b>210</b>	<b>250</b>	<b>113</b>

**Source : (Computed from Sustainability/Annual/CSR reports)**

We can observe from Table VII, among all the selected companies “ITC Ltd.” earns the highest score of 250 points followed by Infosys Ltd. (210 points), Hindalco Industries Ltd. (160 points), Hindustan Unilever Ltd. (110 points), BHEL Ltd. (120 points), Bajaj Ltd. (80 points), Bharti Airtel Ltd. , DLF Ltd. and Hero Motocorp Ltd. with equal score (60 points), and Cipla Ltd. scoring the least (40 points) in “Qualitative” measurement of social performance.

### **OVERALL PERFORMANCE IN DISCLOSING SOCIAL PERFORMANCE INFORMATION IN THE REPORTS OF THE SELECTED COMPANIES**

Overall score is made up of the qualitative and quantitative information disclosed pertaining to social performance information (exhibited by Table V and VII) of the selected Indian companies.

**Table VIII : Overall Score**

	<b>BAJ Ltd.</b>	<b>BHA Ltd.</b>	<b>BHE Ltd.</b>	<b>CIP Ltd.</b>	<b>DLF Ltd.</b>	<b>HMC Ltd.</b>	<b>HDI Ltd.</b>	<b>HUL Ltd.</b>	<b>IFS Ltd.</b>	<b>ITC Ltd.</b>	<b>Avg. Ltd.</b>
<b>Quan.</b>	110	150	120	50	100	90	290	160	300	450	182
<b>Rank</b>	7	5	6	10	8	9	3	4	2	1	—
<b>Quali.</b>	80	60	100	40	60	60	160	110	210	250	113
<b>Rank</b>	6	7	5	8	7	7	3	4	2	1	—
<b>Total</b>	<b>190</b>	<b>210</b>	<b>220</b>	<b>90</b>	<b>160</b>	<b>150</b>	<b>450</b>	<b>270</b>	<b>510</b>	<b>700</b>	<b>295</b>
<b>Rank</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>10</b>	<b>8</b>	<b>9</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>1</b>	

**(Source: Computed)**

Combining the overall score of both “Quantitative” and “Qualitative” measurement of the social performance indicators, it is clear that ITC Ltd. discloses the maximum information on social aspect followed by IFS Ltd., HDI Ltd., HUL Ltd., BHE Ltd., BHA Ltd., BAJ Ltd., DLF Ltd., HMC Ltd., and CIP Ltd. starting from highest to lowest disclosures respectively. We can observe that overall disclosure of ITC Ltd. is best among selected companies followed by IFS Ltd. however the company CIP Ltd. and HMC Ltd. disclosure is pure among selected companies.

#### **HYPOTHESIS :**

$H_0$  = There is no significant difference in the Quantitative disclosure of Selected companies.

$H_1$  = There is significant difference in the Quantitative disclosure of Selected companies.

$H_0$  = There is no significant difference in the Qualitative disclosure of Selected companies.

$H_1$  = There is significant difference in the Qualitative disclosure of Selected companies.

To test the hypothesis we have applied ANOVA, following is the result of ANOVA test.

**Table IX : Result of ANOVA**

Criteria	Quantitative			Qualitative		
	F-value	P-value	Hypothesis	F-value	P-value	Hypothesis
LPWD	3.900	0.001	Rejected	2.732	0.014	Rejected
HR	9.791	0.000	Rejected	8.118	0.000	Rejected
SOC	0.697	0.704	Accepted	0.593	0.788	Accepted
PR	1.566	0.193	Accepted	1.250	0.321	Accepted



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As P-value is less than 0.05 in LPWD and HR for qualitative as well as quantitative disclosure, we reject the null hypothesis i.e. there is significant difference in the disclosure of quantitative and qualitative aspects of LPWD and HR. However, for SOC and PR aspect of quantitative and qualitative disclosure, P-value is more than 0.05 so we accept the null hypothesis. i.e. there is no significant difference.

### **CONCLUSION :**

The said study gives a clear idea that all the selected Indian companies have to an extent disclosed social information and taken keen steps in fulfilling their corporate social responsibility, which is a positive and a progressive sign, indeed.

### **LIMITATIONS OF THIS STUDY :**

The study considers only few randomly selected index based Indian companies which just gives a brief view of the social performance reporting practices carried out in India. It does not purport to demonstrate the exact results and reporting practices which can be considered as an ideal measure for such reporting.

Also, the study has been taken on for only five years period which gives a very brief view of the social performance reporting practices of the selected companies.

Though efforts were undertaken to ensure coding reliability, there remains a degree of subjectivity in the determination and undertaking of coding practices in content analysis research.

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## COOPERATIVE BANKS REQUIRE DOUBLE ENTRY ACCOUNTING SYSTEM

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V. Ambilikumar \*

### ABSTRACT :

*The accounting system followed by the cooperatives needs changes. Most of the cooperatives still follow the cooperative accounting system which is unique. However, a study conducted among the Primary Agricultural Credit Cooperative Societies (PACS) highlights the need for adopting double entry accounting system in the sector. Wide variation is observed among the PACS in the style of preparing final accounts and also in the treatment of different items.*

### KEY WORDS :

**PACS, Cooperative Accounting, Double Entry Accounting**

### INTRODUCTION :

Accounting is intended not only to control the utilization of the financial resources of an organization but also to bring out the real picture of the operating result of that organization. Initially, accounting was known as a business language, later on it was developed as a management control system and today it is recognized as a management information system. The changes in technology and modern living style have influenced the accounting system too.

The double entry accounting system which is popularly used in almost all types of business and non business organizations is undergoing change. International Financial Reporting Standards (IFRS) are well accepted by over 110 countries today. The IFRS got acceptance in India w.e.f. 1<sup>st</sup> April 2012. Necessary training to the accountants and related practitioners, teachers and students in this respect has been started in the country. All these are meant for the refinement of the existing accounting system and at the same time meet the challenges of the change. The universal recognition of IFRSs has established a common platform for accounting profession in the whole world and created

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a need for finance and accounting professionals to gain knowledge and experience on these standards.<sup>1</sup>

However, the cooperative sector which is deep rooted in the society has been following a unique accounting system, known as 'cooperative accounting'. Of course, after realizing the merits of double entry accounting system, few cooperative societies have started adopting this scientific accounting system. But, still a large number of cooperatives follow the traditional cooperative accounting system.

Originally, the cooperative accounting system was developed in such a manner that enabled the members of cooperative societies to understand the affairs of the societies. It was fundamentally based on the receipts and payments only. The cooperative accounting system has the quality of simplicity mainly due to the reason that the members in the cooperatives during the olden days were illiterate. An accounting system that enabled the illiterate members to understand about the affairs of the cooperative societies was an essential requirement during that time.

But, today it is a fact that the accounting system that is used by the cooperatives in different sectors does not maintain uniformity, when compared to double entry accounting system. For instance, the system of accounting that is followed by the Primary Agricultural Credit cooperative Societies (PACS) and the Service Cooperative Banks (SCB) is different from the one which is followed by the cooperative hospitals or consumer cooperatives. Even the cooperatives in the same sector follow different patterns in maintaining their records and also in the preparation of their final accounts. PACS are mainly concentrated in providing agriculture credit and inputs, while the SCBs are engaged in banking business as well as agriculture credit, distribution of agricultural inputs, consumer business, etc.

#### **STATEMENT OF THE PROBLEM :**

Most of the State Cooperative Societies Acts have provisions regarding the preparation of Trading Account, Profit and Loss Account and the Balance Sheet of PACS and SCBs and their publication in time. However, the formats for financial statements of PACS and SCBs have not been prescribed in many States. The existing formats have evolved over a period of time on the basis of instructions from the RCS, Director of Audit, etc., There is no uniformity and transparency in the formats adopted by PACS within the States.

The Task Force on Revival of Short-Term Cooperative Credit Structure observed that PACS, in many states, do not follow standard accounting systems and do not make adequate provisions against Non- Performing Assets (NPAs) and follow proper income recognition norms. While PACS, in some States, make provisions for bad and doubtful debts as per the guidelines issued by the erstwhile Agriculture Credit Department (ACD)

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of Reserve Bank of India, PACS in other States like Andhra Pradesh, Uttarakhand and Kerala follow Income Recognition and Asset Classification (IRAC) norms as applicable to the District Central Cooperative Banks (DCCBs) / SCBs as prescribed by the Registrar of Cooperative Societies of the State concerned<sup>2</sup>. A large number of PACS and SCBs in many States continue to adopt single entry system of accounting, even though a number of PACS/ SCBs in these States have adopted double entry system of accounting.

It is the final accounts that bring into light a picture about the total operation of a business unit. The net profit or loss is ascertained with the help of the Trading and Profit and Loss Account and the financial position is ascertained by preparing the Balance Sheet. In Kerala, the service cooperative banks play a key role in agriculture credit, collection of deposits and lending of money for various purposes. All the SCBs prepare and publish the final accounts and get audited by the concerned department. However, considerable variations can be observed in the pattern and style of preparation of final accounts of the service cooperative banks in Kerala. Uniformity in accounting, as followed by the joint stock companies, banks, etc. is necessary for making a meaningful comparison and evaluation of the performance. Maintenance of uniformity in accounting also will enable the members and other stakeholders to understand about the performance of the society clearly.

It is in this background, a study was conducted to know the extent to which uniformity in accounting is lacking in the case of Service Cooperative Banks in Kerala.

### **METHODOLOGY :**

#### **Objectives :**

The study was undertaken with the following important objectives;

1. To know whether the SCBs follow a uniform pattern in the preparation of final accounts,
2. To identify the major aspects in the case of which uniformity is lacking, if so, and
3. To suggest measures, if found necessary, for the improvement of the accounting system followed by the SCBs in Kerala.

### **AREA OF STUDY AND SAMPLING :**

As on 31<sup>st</sup> March 2011, there were 3299 credit cooperative societies consisting of 1634 Primary Agricultural Credit Societies, 1601 Service Cooperative Banks, 49 Primary Agricultural and Rural Development Banks, 14 District Central Cooperative Banks and the State Cooperative Bank.<sup>3</sup> The study covered the service cooperative banks functioning in Thiruvananthapuram district , where the capital city of the state is located.

As the geographical location of the banks do not influence the accounting system

followed by the service cooperative banks, the findings of the study covering the sample units will throw light into the general condition prevailing in the sector. This is true, particularly, due to the fact that the overall functioning of the service cooperative banks is controlled by the Registrar of Cooperative societies, Government of Kerala.

In Thiruvananthapuram district, as on 31<sup>st</sup> March 2011, there were 121 SCBs as per the records of the RCS.<sup>4</sup> Of this, 20 per cent banks are selected as sample units. The sample units are selected under the stratified random sampling method. The district consists of four Taluks, Viz., Thiruvananthapuram, Nedumangad, Neyyattinkara and Chirayinkeezh. Equal representation from all the Taluks is ensured while selecting the sample units. Thus, the sample units were distributed as shown below;

Name of Taluk	Number of SCBs included
Thiruvananthapuram	6
Nedumangad	6
Neyyattinkara	6
Chirayinkeezh	6
<b>Total</b>	<b>24</b>

#### **DATA COLLECTION AND ANALYSIS :**

Data pertaining to the accounting system were collected from the sample units. The final accounts prepared and published by the sample units were collected and used for the purpose of the study. The data included in the respective final accounts were analysed and the results are presented in a descriptive way. Besides the published data, information obtained from the secretaries of the SCBs on personal discussions were also used.

#### **Results and Discussion :**

The final accounts of the SCBs consists of

1. The Receipts and Disbursement Statement,
2. The Trading Account,
3. The Profit and Loss Account and
4. The Balance Sheet.

The Receipts and Disbursement (R&D) Statement

The R & D statement shows the receipts and payments effected during the accounting year. The accounting year followed by the SCBs is the financial year. A comparison of the R & D statement of the SCBs covered under the study indicates that there is no uniformity in presenting the items of receipts and payments. For example, the

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wordings of different items included in the R & D statement are different among the sample units. Only 25 per cent of the sample units follow almost same order in the preparation of R & D Statement. Fifty per cent of the sample units limit the items of receipts and disbursements to 20 – 25 , while 25 per cent of the units display these items under 95 -106 heads. Similarly, 50 per cent of the units were found using serial number for the items in the R & D statement. The remaining do not use any serial number in the R & D statement. All the SCBs covered under the sample were found preparing the R & D statement in time.

### **TRADING AND PROFIT AND LOSS ACCOUNT :**

Difference is noted in the preparation of trading and Profit and Loss account which shows the volume of purchase and sale of goods. Besides the banking business, the service cooperative banks also deals in fertilizers, pesticides, consumer goods, collection of copra, sale of household equipments, etc. Some SCBs also operates Neethi medical stores, Neethi gas supply, furniture shops and ration shops.

Opening stock, purchases, wages, loading and unloading charges, sales tax, value added tax, license fee, etc. are shown as expenses in the trading account and commission for ration shop, sale of goods and coolie are shown as the source of income.

In the case of Trading Account, 25 per cent of the sample units showed the break up of the items purchased but 33.3 per cent of the sample units use separate schedules for the same. Others do not give the details of goods purchased.

When compared to the Trading account under the double entry system, the trading account of the SCBs clearly shows the cost of the goods sold and the trade profit in a different way. For instance, the Trading account of a SCB covered under the sample reads as below;

#### **Navaikulam Service Cooperative Bank Ltd.No.964**

#### **Trading Account for 2010-11**

Expenses	Amount Rs.	Income	Amount Rs.
Opening stock	8,33,015	Cost of Goods Sold	51,73,759
Purchases	46,36,214	Closing stock	5,90,728
Trade Expenses	1,46,421	Trade Profit	59,091
Total	<u>56,15,650</u>	Total	<u>58,23,578</u>
Gross Profit	<u>2,07,928</u>	Gross Loss	<u>Nil</u>
Grand Total	58,23,578	Grand Total	58,23,578

Source: Annual Report of Navaikulam Service Cooperative Bank Ltd. No. 964



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On the other hand, the trading account of another SCB is prepared as shown below;

#### **Chemmaruthy Service Cooperative Bank Ltd.**

##### **Trading Account for 2010-11**

Particulars	Expenses Rs.	Particulars	Income Rs.
1. Opening stock	2,08,662	Sales-	
Purchases-		1. Neethi (without subsidy)	3,62,747
2. Neethi (without subsidy)	2,11,481	2. Neethi ( subsidy)	21,56,722
3. Neethi ( subsidy)	22,61,836	3. Local sales	3,47,514
4. Local Purchase	3,06,981	4. Neethi Gas	23,470
5. Neethi Gas	18,590	5. Neethi comm. & other income	1,44,045
6. Neethi-Expenses	87,052	6. Closing Stock	1,20,506
Total	<u>30,94,602</u>		<u>31,55,004</u>
		Grand Total	<u>31,55,004</u>

Source : Annual Report of Chemmaruthy Service Cooperative Bank Ltd.

It is noted that some SCBs use the words 'expenses' and 'income' in the Trading account, while some others use 'loss' and 'profit' respectively. In reality, these terms give different meanings.

#### **PROFIT AND LOSS ACCOUNT :**

Similarly, differences are observed in the preparation of Profit and Loss Account too. When some SCBs use the words 'Loss' and 'Profits' on the left and right hand side respectively, others use the words 'Expense' and 'Income'. No order is found followed for arranging the items of expenses or profits in the Profit and Loss account. It is noted that only 33.3 per cent of the SCBs covered under the sample, give separate schedules for the important items shown in the Profit and Loss account. In the case of remaining units, the details are not given in separate schedules. Eight SCBs covered under the sample gave the details of the items in the Profit and Loss Account itself.

An analysis of the items shown in the expenses side and income side of the Profit and Loss Account reveals that 'provision' for different items of expenses and incomes are common. For example, provision for overdue interest during the current year is made on the 'expenses' side and of the previous year is made on the 'income' side. Similarly, 'provision for loans awarded', provision for overdue loans', 'provision for advances due to', etc. are given on both sides of the P&L Account. In short, this type of items in the P&L Account creates confusion to one who goes through this account.

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On the other hand, if the item shown on both sides is shown on any one side after making necessary adjustments, as done under the double entry accounting system, there will not be any room for confusion. It is found that approximately 42 per cent of the units do not give the details of various incomes and expenses in the P&L account. The Trading and profit and Loss Account of such units appeared as shown below;

#### Trading and Profit and Loss Account 2010-11

Expenses	Amount Rs.	Income	Amount Rs.
Opening Stock	xxxx	Receipt from sale of goods	xxxx
Purchase of goods	xxxx	Trade income	xxxx
Trade expenses	xxxx	Closing stock	xxxx
Trade profit	xxxx	Shortage in stock	xxxx
<b>Total</b>	<u>xxxx</u>	<b>Total</b>	<u>xxxx</u>
Salaries & allowances	xxxx	Trade profit	
Establishment expenses	xxxx	Misc. income	xxxx
Interest :		Interest :	xxxx
Paid during the year      xxx		Received during the year      xxx	xxxx
Outstanding                      xxx		Outstanding                      xxx	
Outstanding- prev. year      xxx	xxxx	Outstanding of prev. year      xxx	xxxx
Prov. for overdue interest	xxxx	Prov. for overdue interest of previous year	xxxx
Reserve for depreciation	xxxx	Prov. for arbitration & execution	xxxx
Reserve for gratuity			
Interest on staff security	xxxx	Interest on staff security deposit	xxxx
<b>Total</b>	<u>xxxx</u>	<b>Total</b>	<u>xxxx</u>
Profit			
<b>Grand Total</b>	<u>xxxx</u>	<b>Grand Total</b>	<u>xxxx</u>

It is noted that the period for which the Trading and P&L A/c is prepared is also not mentioned clearly in title of the account. Under double entry accounting system, the words (for the year ended ..... ) is compulsory. This will clearly explain the period for which the accounts are prepared.

#### BALANCE SHEET :

Balance sheet, the statement showing the financial position of the SCBs is also

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prepared according to the guidelines of the Registrar of Cooperative Societies. However, it is noted that all the SCBs covered under the study do not strictly observe these guidelines. For instance, 75 per cent of the SCBs covered under the study do not indicate the opening balance and closing balance of each and every item shown in the Balance Sheet in separate columns. Approximately 42 per cent of the SCBs covered under the study do not even give the schedule of assets and liabilities. The balance sheet prepared by nearly 25 per cent of the sample units are in order and follows a specific pattern over different years. Nearly 50 per cent of the units give subheads for various items of assets and liabilities in the balance sheet. While 25 per cent do not give any title, but give serial number for all the items. The remaining 25 per cent give serial number for sub heads only.

In the case of a joint stock company, the format in which the balance sheet has to be prepared is prescribed under the Indian Companies Act of 1956. As such, the balance sheet prepared by different companies will be uniform. Because of this uniformity in the way of presentation and principles followed, a meaningful comparison is easy.

A comparison of the balance sheets of the SCBs covered under the study reveals that there is no uniformity among the SCBs in the preparation of the balance sheet. Fifty eight per cent of the SCBs covered under the study present the details of assets and liabilities under different specific categories. However, the remaining 42 per cent do not follow any such categorization. They arrange the items of assets and liabilities simply by giving a serial number. Here, it is to be noted that the joint stock companies arrange the assets and liabilities usually in the order of permanency. This enables an easy comparison of the position with another firm. Moreover, the joint stock companies compulsorily give the full details of fixed assets and the amount of depreciation charged thereon. However, no such details are given in the balance sheets of the SCBs covered under the present study.

The title of the balance sheet is worded differently as Balance Sheet (31.3.2011), Statement of Assets and Liabilities as on 31.3.2011, Balance Sheet as on 31.3. 2011, etc. It is really funny to note that no order is followed by the SCBs in arranging the items of assets and liabilities.

### **CONCLUSION :**

The study conducted among the 24 SCBs clearly indicates that no SCB follows the double entry accounting system in its complete form. Wide variation is found in the preparation of R&D statement onwards. The Trading Account, P&L Account and the Balance Sheet prepared by the selected SCBs are in no way comparable with one another, thus, lacks uniformity. It is found that there is no uniformity in the heads of accounts, treatment of items in the final accounts, pattern of preparation of final accounts and also in the preparation of schedules or even budgets.

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Personal discussions with the secretaries of the SCBs revealed that they are forced to complete the preparation of final accounts, in any way, by the given date. They are not well versed in double entry accounting system. Of course, most of them have received short - term training from the institutes but could not expertise the application of double entry accounting principles.

Thus, in this modern business world, it is necessary that the SCBs should adopt double entry system of accounting in its complete form. For this purpose, the need for the introduction of double entry system of accounting has to be convinced among the members, board of directors and the officials. The Registrar of Cooperative Societies need to take initiative including arrangement for necessary training to the selected officials of the SCBs on a time bound basis.

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## A STUDY ON IMPACT OF E-ACCOUNTING

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N. Sakila \*\*

### ABSTRACT :

*The Accounting Act of 1997 and further guidelines issued by the Accounting Board in 2000 provide an institutional setting for the use of electronic data media in financial accounting for registering, transferring and storing data as well as reporting information electronically. Thus, source documents and accounting records exist in digital form instead of on paper in an electronic accounting system. New technologies, like the Internet and mobile solutions, have provided new business opportunities and operations. E-Accounting is new development in field of accounting. In e-accounting, source documents and accounting records exist in digital form instead of on paper. E-accounting concept is adopted at international level. E-accounting helps businesses keep their financial data and accounting software in a safe, secure environment, allowing real time access to authorized users, irrespective of their location or computing platform. Therefore this paper is based on Basic Concepts and features of e-accounting, problems of e-accounting have been discussed in the paper comprehensively. This paper is carried out to evaluate the impact of computerized AIS, known as E-Accounting, after the section includes the measures of task performance and adoption and the last section presents the conclusion.*

### KEYWORDS :

*E-Accounting, Task performance, Accounting Information System.*

### 1.1 INTRODUCTION :

The introduction of advanced information technology (IT) has changed the way that businesses or organizations conduct their businesses. The capabilities of IT have led to the introduction of various information systems, such as, accounting information system (AIS), Manufacturing resource planning system (MRP) and human resource system (HRM) to manage the various aspects of a business.

The proper use of this technology may create competitive advantage for most businesses

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and organisations in all fields, including accounting. As a single largest user of IT and purveyor of information for the organization, the evolution of IT in accounting has transformed the accounting information flow within and outside the organisations. Previous inefficient traditional paper-based manual accounting methods caused some problems, such as, wrong data entry, slow and inefficient task performance and massive utilization of paper products. Lack of data security was also a major issue. But, the emergence of computer based IT has changed not only the accounting profession itself, but also the accounting information systems and practices. IT as a key resource in accounting and financial information processing has enabled the tedious task of manual bookkeeping to be substantially eliminated through the implementation of computerised accounting information systems. The accounting-related task performance or task performance outcome (TPO) is defined as the capability of the system to perform specific tasks with explicit outcomes. Such task may be budgeting, or accounting and reporting, or auditing or controlling. The effective system will help the users to perform all the tasks efficiently and effectively.

## **1.2 CONCEPT OF E-ACCOUNTING :**

There has been a constant growth in the use of information and communication technology in business to support the exchange of data and information within and between organisations. New technologies, like the Internet and mobile solutions, have provided new business opportunities and operations. E-business is believed to have a significant impact also on accounting systems, through changing business processes. The introduction of the internet has revolutionized the process of business automation. Revolution is all about transformation for the good.

E-Accounting is new development in field of accounting. In an electronic accounting system, source documents and accounting records exist in digital form instead of on paper. E-Accounting might just be the beginning of a new era where world would be extending its arms to India with perspective that “India is the place which can deliver the best”. So e-Accounting has visited India with a rainbow of opportunities.

If one tries to define e-accounting, it can be defined as the application of online and internet technologies to the business accounting function. Similar to e-mail, being an electronic version of traditional mail, e-accounting is “electronic enablement” of accounting and accounting processes which are more traditionally manual and paper based. E-accounting involves performing regular accounting functions, accounting research and the accounting training and education through various computer based /internet based accounting tools such as: digital tool kits, various internet resources, international web-based materials, institute and company databases which are internet based, web links, internet based accounting software and electronic financial spreadsheet tools to provide efficient decision making. This discussion implies that e-accounting can also be viewed as online accounting.

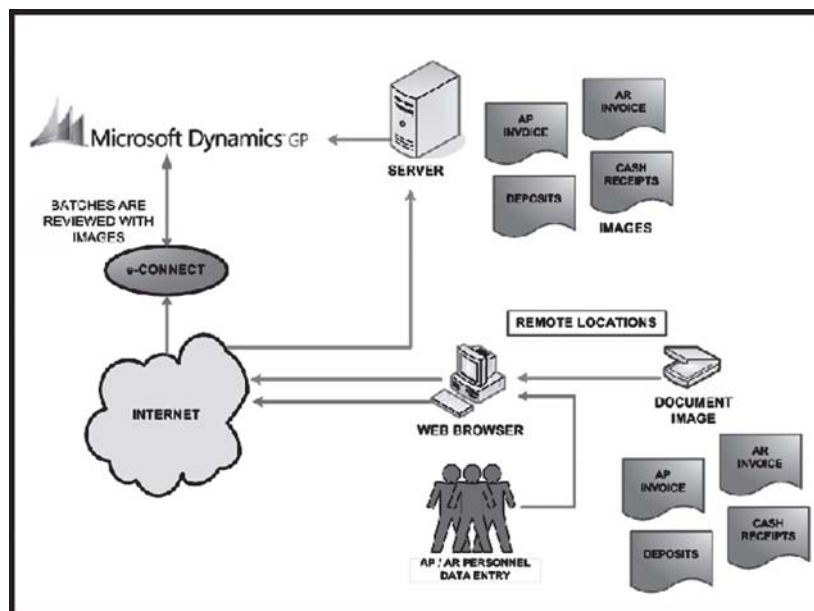
E-accounting concept is adopted at international level. There are large number of

companies who started e-accounting. It is developing new standards which can be utilized for e-Accounting at international level. is searching all the tools of e-accounting for quality accounting education and its development. There are long list of international accounting organisations, who is supporting e-accounting. Such list includes- The UK's Financial Reporting Review Panel, The UK and Irish Auditing Practices Board, American Accounting Association (AAA), Association of Chartered Certified Accountants, Accounting Education foundation of Nova Scotia, . i.e. to say that all major institution and organization are in the favour of e-accounting. All major accounting relating to General ledger Book keeping and maintenance, Bank reconciliation, MIS Cash Management, Account Payable and Receivables, Billing Payroll, Budgeting Management of Records Asset, Management Detailed financial analysis, Collection management, Credit management, Generation of financial reports, Financial statements are totally online. Company's all accounting project can be easily outsourced by e-accounting system.

### **1.3 FEATURES OF E-ACCOUNTING :**

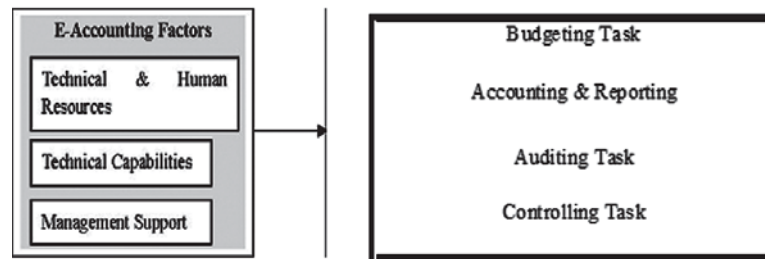
E-accounting can be recognized by the following characteristics which all make for a much more efficient accounting process.

1. Multi-user access
2. Multi-site access
3. A single / multiple, shared database(s)
4. Zero system administration for end-users
5. Very economical to provide service to large number of clients





6. Enhancements and fixes continuously developed and installed by service provider



#### **1.4 E-ACCOUNTING IMPACT :**

##### **E-Accounting Task Performance Outcome Dimensions**

#### **1.5 OLD METHODS AND MACHINES USED IN ACCOUNTING :**

The most common method of keeping the financial records of a company was manually. A bookkeeper kept the journals, the accounts receivable, the accounts payable and the ledgers in his best possible penmanship. In later years, an accounting machine, which was capable of performing normal bookkeeping functions, such as tabulating in vertical columns, performing arithmetic functions, and typing horizontal rows was used. The billing machine, which was designed to typewrite names, addresses, and descriptions, to multiply and extend, to compute discounts, and to add net total, posting the requisite data to the proper accounts, and so to prepare a customer's bill automatically once the operator has entered the necessary information, was used. Early accounting machines were marvels of mechanical complexity, often combining a typewriter and various kinds of calculator elements. The refinements in speed and capacity made possible by advances in electronics and operating complexity of these machines. Many of the newer "generations" of accounting machines are operated by a computer to which they are permanently connected.

#### **1.6 USE OF COMPUTERS IN ACCOUNTING :**

Because of the minute by minute change in finances, accurate record keeping is critical. Computerizing a business's general ledger, payroll, and other accounting tasks increases office efficiency. With a computer, you can request and receive an in house balance sheet, an income statement, or other accounting reports at a moment's notice. While keeping your checkbook on a computer may not be practical, computers are great for handling complex home financial records. You can get statements on net worth and year's tax deductible expenses within minutes.

##### **A. Spreadsheets**

Electronic spreadsheets allow you to do anything that you would normally do with a

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calculator, pencil and columnar scratch pad. Spreadsheets were primarily designed for managers who in the process of planning must do “what if” calculations. Due to their flexibility, electronic spreadsheets have found their way into small businesses and, to a lesser extent to homes. A typical integrated double entry accounting system will contain some or all of the following components: accounts receivable, accounts payable, general ledger, inventory, order entry, payroll, time, and billing.

It takes its name from the accountant’s spreadsheet—a sheet of paper with rules for rows and columns—on which such work was usually done. Spreadsheet programs are much faster, more accurate, and easier to use than traditional accounting techniques. The programs are widely used on personal computers for keeping sales, expense and inventory records, and for budgeting and forecasting future sales and expenses. As a result of these and many other applications, computer spreadsheets have become the most important of all software tools for modern businesses.

Early programs such as VisiCalc provided 254 rows and 63 columns for entering data and formulas for calculations. Some modern programs for computers with large memories provide thousands of rows and hundreds of columns. VisiCalc was introduced by Robert Frankston, a young computer programmer, and Dan Bricklin, a Harvard Business School student who was looking for a way to use the power of a computer to simplify complex time-consuming financial analyses. VisiCalc proved so useful in such applications that it provided an entry for personal computers into the business world. In 1980, the Sorcim Corporation introduced SuperCalc, a similar spreadsheet program for personal computers using the CPM operating system.

A new generation of computer software for business began with integrated spreadsheet programs, which can be used to prepare spreadsheets, create graphs, and manage data. In such programs, for example, it is easy to display spreadsheet data in the form of a graph or to transfer data from a data base to a spreadsheet. One of the first such programs was Lotus 1-2-3, an immediate success following its introduction in 1983.

In the third generation of integrated business software, spreadsheet, graphics, and data management capabilities were supplemented by word processing and communications capabilities. With such comprehensive programs, it became possible to create multiple windows on the computer display. Each window could contain a different application—a graph in one, a spreadsheet in another, and word processing in a third. The window capabilities of integrated programs such as Symphony and Framework make it easy, for example, to transfer a spreadsheet or a data-base report to word processing for styling and formatting before printing.

#### **B. General Ledger**

General Ledger is a labor saving device for the preparation of financial statements and for establishing multiple income and cost entries.

### **C. Accounts Receivable**

Accounts receivable, when computerized, can get your bills out the same day you've performed a service. An accounts receivable module prepares invoices and customer accounts, adds credit charges where appropriate, handles incoming payments, flags your attention to customers that are delinquent, and produces dunning notices. It allows you to have daily cash control. You get out the bills on time, yet you avoid errors such as billing a customer twice for the same item. The further advantage is that debits and credits are posted automatically to the general ledger, order entry, and in some instances inventory, once they are entered in accounts receivable.

### **D. Accounts Payable**

Accounts payable, when computerized, will provide for purchase order control, invoice processing, payment selection and handling, check writing and control, cash-requirements, forecasting, and Form 1099 preparation. It will also double-check the accuracy of the vendor's invoice, and some software systems will cross-check it against the purchase order and the inventory module.

### **E. Inventory Control**

Inventory Control module has multiple functions, including tracking inventory for both costing and tax purposes, controlling purchasing (and the overall level of expenditure) and minimizing the investment in inventory (and subsequent loss of cash flow). The payroll module prepares and prints payroll checks, including all itemized deductions. It is integrated with the general ledger so you automatically set aside the correct amount for FICA and withholding.

### **F. Point of Sale**

Point of sale module captures all sales information at (or in place of) the cash register, including salesperson, date, customer, credit information, items, and quantity sold. It can produce sales slips or sales invoices, plus it reports on items, customer, and salesperson activity.

### **G. Purchasing and Receiving**

Purchasing and receiving module can represent an invaluable addition. It can generate purchase orders and track their fulfillment. You can find out which vendors are delivering on time and saving you the expense of having to follow up on partial and incomplete orders.

### **H. Time and Billing Module**

Time and billing module reduces manual and clerical work, simplifies the billing process, prompts you and your partners to bill on time, reduces unbilled work-in progress, minimizes unreported time, reduces unbilled time, measures and analyzes nonchargeable time and provides criteria to analyze staff performance. Because a computerized accounting system is basically a

computerized data management system, the disposition of labor is almost the same. One staff member must serve as a data-base manager and be in charge of setting up the chart of accounts, establishing the interrelationships among the files and establishing and maintaining an audit trail.

### **1.7 Advantages of Using the Computer in Accounting**

The most important advantage of using the computer is the speed with which we can get Accounting done. In addition, we find that it is very easy to do accounting functions. Posting to the ledger, a tedious task of double entry, when done directly from the general ledger module, can be largely automated when done through special purpose modules like accounts payable or accounts receivable. With an accounts receivable module, you just need to enter the actual cash totals of items purchased and the software distributes these amounts to the general ledger so they become credits to corresponding revenue accounts. At the same time, an offsetting entry is made automatically to the accounts receivable account.

With a computer, one can receive a balance sheet, income statement or other accounting reports at a moment's notice. We also find that some day to day data entry can be turned over to relatively unskilled workers.

### **1.8 Disadvantages of using the Computer in Accounting**

When you use a computer, it is possible that data can be lost because of hardware or software damage. Since the computer has no judgment of its own, it does not pick up on errors as a human being does. There can be loss of data due to accidents like fire etc.. There can be loss of data or change of data due to fraud or embezzlement. There can be loss or unavailability of data due to loss of staff. Inaccurate data may be due to clerical error or mistakes in programming. Total security is economically unachievable and some failures must be expected. The right level of expenditure on security measures will minimize the sum of the cost of the measures and the expected loss. There will always be some risks that are best shared through insurance, rather than prevented or avoided.

Much computer-related crime is opportunist: people who were not seeking any advantage had temptation thrust under their noses. Copies of computer printouts get mis-directed, or thrown in a waste paper basket in a public place. Magnetic tapes from bankrupt companies have been sold with data still on them. Often a programming error reveals a system flaw: someone who by chance reads a magnetic tape file that he should have been writing discovers interesting data on it.

Sabotage, vandalism, malicious damage, and arson tend to be even more destructive than the Acts of God they emulate. Political and industrial action, riots and civil commotions, may not be aimed specifically at the computer but they can be very effective in preventing its operation.

Fraud and embezzlement are usually achieved on a computer system by altering data or programs. There are numerous techniques, varying from additions and deletions to input data, through changing the standing information files, modifying the behavior of programs, to duplicating or suppressing output. Although most frauds that have been reported had gone on for some time, it could be that 'one shot' frauds have been more frequent but more often escape detection.

## **1.9 CONCLUSION**

In Present years, continuous change and development in the technological field forced a change in the accounting Sectors. This change find itself in the execution of activities, recording these activities and auditing record by showing itself through the process of the realization of control. Recording activities in a correct, honest, and time saving manner is extremely important in terms of faithful reflection of the economic status of institutions and making a sound estimate for various aspects of organizations' development. At the accounting process that serves this important function, taking advantage of superior technology has become an inevitable necessity for the institutions. In this context, technology-oriented changes in accounting practices, along with "e-accounting" have been initiated all over the world. Associated initiatives in the public and private sectors in Turkey have been started and continuing throughout the e-accounting applications.

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## FORENSIC ACCOUNTING : A BUDDING FIELD IN INDIA

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Dr. Namrata Prakash \*

### ABSTRACT :

*Forensic accounting has come into limelight due to rapid increase in financial frauds and white-collar crimes. But it is largely untrodden area in India. The integration of accounting, auditing and investigative skills creates the speciality known as Forensic accounting. The opportunities for the Forensic Accountants are growing fast; they are being engaged in public practice and are being employed by insurance companies, banks, police forces, government agencies etc. This paper aims to show the scope of this emerging profession in India. It seeks to examine the meaning and nature, activities and services rendered, by a forensic accountant in this specialized budding field in accountancy profession.*

### KEYWORDS :

*Forensic Accounting, Litigation Support, Investigative Accounting, Forensic Audit, Scams.*

### INTRODUCTION :

The growth of the public limited liability companies and large increase in the number of investors owning share and the divorced of ownership from control of companies has called for regular auditing of corporate financial reports. Despite the mandatory audit requirements there are many instances of frauds and scams in India. Needless, to mention the case of Harshad Mehta, Hiten Dalal, Batliwala & Karani, M/s V.B. Desai, N.K. Aggarwala & Co., Mukesh Babu, Ketan Parekh, and the recent Ramalinga Raju's Satyam scam etc. which have put question mark on the efficacy of the existing regulation regime of Indian financial market. In spite of so called sturdy regulatory mechanism, the significance of Forensic investigation of accounts has come to limelight due to rapid increase in financial frauds and white-collar crimes. The forensic accounting objectives

include : assessment of damages caused by an auditor's negligence, fact-finding to see whether an embezzlement has taken place, in what amount, and whether criminal proceedings

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are to be initiated; collection of evidence in a criminal proceeding; and computation of asset values in a divorce proceeding. In India the formation of Serious Fraud Investigation Office (SFIO), however, is the landmark creation for the forensic accountants. Growing cyber crimes, failure of regulators to track the security scams, series of co-operative banks bursting— all point to the need of forensic accounting, irrespective of whether we understand the need or not. In the Indian context, the forensic accountants are most required in the wake of the growing frauds. “Forensic Accounting”, provides an accounting analysis that is suitable to the court which will form the basis for discussion, debate and ultimately dispute resolution. The integration of accounting, auditing and investigative skills yields the specialty known as Forensic Accounting. It is a type of accounting that is suitable for legal review, offering the highest level of assurance, and including the now generally accepted connotation of having been arrived at in a scientific fashion. That is, forensic accounting is sufficiently thorough and complete so that an accountant, in his/her considered independent professional judgement, can deliver a finding as to accounts, inventories, or the presentation thereof that is of such quality that it would be sustainable in some adversarial legal proceeding, or within some judicial or administrative review. Findings are based upon the scientific detection and interpretation of the evidences of phenomena introduced into the books and records of an accounting system (expansively defined) and the effects of such phenomena upon the accounts, inventories, or the presentation thereof. On the other hand, if there is no impact on an accounting system, there is no accounting evidence, nor is there any effect upon the accounts, inventories, or the presentation thereof; and such situations are not within the realm of forensic accounting. The primary orientation of forensic accounting is explanatory analysis (cause & effect) of phenomena - including the discovery of deception (if any), and its effects - introduced into an accounting system domain. The primary methodology employed by forensic accountants is objective verification.

#### **LITERATURE REVIEW :**

According to the Webster’s Dictionary, Forensic Accounting mean, “Belonging to, used in or suitable to court, of judicature or to public discussions, debate and ultimately dispute resolutions, it is also defined as an accounting analysis that is suitable to the court which will form the basis for discussion, debate and ultimately dispute resolution. Joshi(2003) defined Forensic accounting as the application of specialized knowledge and specific skill to stumble up on the evidence of economic transactions. Zysman(2001) put Forensic accounting as the integration of accounting, auditing, and investigative skills. Simply put, forensic accounting is accounting that is suitable for legal review offering the highest level of assurance and including the now generally accepted connotation of having been arrived at in a scientific fashion (Crumbley, 2006) Coenen (2005) stated that forensic accounting involves the application of accounting concepts and techniques to legal problem. It demands reporting, where the accountability of the fraud is established and the report is considered as evidence in the court of law or in the administrative proceeding (Joshi). It provides an accounting analysis

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that is suitable to the court, which will form the basis of discussion, debate and ultimately dispute resolution (Zysman, 2001). Forensic accounting is the practice of utilizing accounting auditing and investigative skill to assist in legal matter and the application of specialized body of knowledge to the evidence of economic transaction and reporting suitable is the purpose of establishing accountability or valuation of administrative proceeding. In wide sense, it can be said as the integrity of accounting auditing and investigative skill to abstain a particular result.

U.S. news and world report listed “Forensic accountant” as one of the 20 not job tracks” of the future and has made this branch of accounting trendy. But Kessler International experts said that the field’s popularity has attacked many in experience accountant who lack skills for carefully and cost effectively conduct inquiries.

In India the formation of Serious Fraud Investigation Office is the landmark creation for the Forensic Accountants. Growing cyber crimes, failure of regulators to track the security scams, series of co-operative banks bursting - all are pinpointing the need of forensic accounting, irrespective of whether we understand the need or not. In the Indian context the Forensic Accountants are the most required in the wake of the growing frauds. The law enforcement officers are the experts of analyzing the fingerprints and the Narcotics but what about the digital evidence analysis. Very few know about it.

It’s a thrill of hunt. Maurice E. Peloubet who coined the term Forensic Accountant in 1946 said that the preparation of financial statements has some but not all of the characteristics of forensic accounting. This statement is enough for the chartered accountants in India to foray in this field. It is new child on the block. Both CBI and CID cops do the forensic accounting work. Until recently there was no separate community in India. But now movement of India forensic community is gathering the pace. The growing number of regulator and the administrative agencies will demand the services in the nature of forensic practice. Chartered Accountants are going to find themselves more involved in what is essentially a type of forensic practice.

**OBJECTIVES OF STUDY :**

1. To know the various uses of forensic accounting in India.
2. To know the role and scope of activities of Forensic Accountants in fraud examination.

**METHODOLOGY :**

The paper is based on secondary data and some discussion with eminent persons in the corporate sector. The failure of statutory audit to prevent and reduce miss-appropriation of corporate fund and an increase in corporate crime has put pressure on the professional accountant and legal practitioner to find a better way of exposing frame in business world.

The study is a theoretical analysis of the role of forensic accountant as watchdog who may keep a watchful eye on the financial operation of the firms so as to minimize the occurrences of financial frauds in future. The analysis is being supported by the secondary data in the form of available literature on forensic accounting and its application in modern corporate world. Forensic accounting plays a key role in tracing the financial frauds and white-collar crimes. However, forensic accounting covers a wide range of operations of which fraud examination is a small part where it is most prevalent

#### **NEED FOR FORENSIC ACCOUNTING :**

There are various factors like intense economic pressure, cut throat competition , high parameters for performance appraisal , to make a quick buck, high pressure on employees to maintain and support performance levels, for out of the way promotions, etc. making scenario more risk prone or forcing many to commit corrupt actions .But whatever the reasoning may be, more and more forensic accountants are being called up to meticulously search through documents, discover new information and help in putting together the irregular pieces of company's financial puzzle to solve the worrisome issues. Forensic Accountants are trained to look beyond the numbers and deal with the business reality of the situation. Forensic Accounting encompasses both litigation support and investigative accounting. The utilization of specialized investigative skills in carrying out an inquiry conducted in such a manner that the outcome will have application to a court of law. So this accounting helps in investigative audit or forensic audit which further includes internal and external audit. The internal audit is performed by an employee who examines operational evidence to determine whether prescribed operating procedures have been followed or not. And the external audit is performed by an auditor engaged in public practice leading to the expression of a professional opinion which lends credibility to the assertion under examination.

The forensic accounting provides litigation support, which provides assistance of an accounting nature in a matter involving existing or pending litigation. It deals primarily with issues related to the quantification of economic damages. A typical litigation support assignment would be calculating the economic loss resulting from a breach of contract. The forensic accounting sustained by parties involved in the legal disputes and can assist in resolving dispute, even before they reach the contraction, if dispute researchers the courtroom, the forensic accountant may testify as an expert witness on the other hand the latter is the out of determining, whether criminal matters such as securities fraud which include financial settlement, identify theft and insurance fraud, e.t.c. in such complex cases forensic accountants make some recommendations/actions that can be taken to minimize future risk or loss.

Therefore this accounting undertakes investigations of criminal matters. A typical investigative accounting assignment would be an investigation of employee theft. Other examples include securities fraud, insurance fraud, kickbacks and proceeds of crime investigations.

## **THE ROLE OF FORENSIC ACCOUNTANT :**

A Forensic Accountant undertakes the investigation and analysis of financial evidences, develop computerized applications to assist in the analysis and presentation of financial evidence , communicate the findings in the form of reports, exhibits and collections of documents, and assist the team in legal proceedings, including testifying in court as an expert witness and preparing visual aids to support trial evidence.

The areas where the services of these investigative accountants are required are:

- ❖ Criminal Investigations whereby they may assist the police forces and organizations such as the Law Society by preparing and presenting evidence in a professional and concise manner. Shareholders' and Partnership Disputes which involves analysis of various accounting records by quantifying the issues in dispute. Personal Injury Claims / Motor Vehicle Accidents requires the services of Forensic Accountant to quantify the economic losses resulting from a motor vehicle accident to settle claims. And to detect the cases of medical malpractice and wrongful dismissal often involve similar issues in calculating the resulting economic damages. Business Interruption / Other Types of Insurance Claims which involves a detailed review of the policy to investigate coverage issues and the appropriate method of calculating the loss. Examples of these types of assignments include; business interruptions, property losses and employee dishonesty (fidelity) claims. Business/Employee Fraud Investigations involves funds tracing, asset identification and recovery, forensic intelligence gathering and due diligence reviews.
- ❖ Matrimonial disputes from a Forensic Accounting point-of-view often involve the tracing, locating and evaluation of assets. The assets to be evaluated and valued may be businesses, property or other assets.
- ❖ Business Economic Losses investigation which involves business economic losses including contract disputes, construction claims, expropriations, product liability claims, trademark and patent infringements and losses stemming from a breach of a non-competition agreement.
- ❖ Professional Negligence is of grave importance which studies the technical cases of a breach of Generally Accepted Accounting Principles or Generally Accepted Auditing Standards or other standards of practice occurred and it also includes loss quantification.
- ❖ Mediation and Arbitration is one of the desired area for investigative accounting. Because of their familiarity and comfort with legal issues and procedures some Forensic Accountants have sought out special training and become involved in alternative dispute resolution (ADR). ADR services include both mediation and arbitration and are designed to help individuals and businesses resolve disputes with minimal disruption and in a timely fashion.

**TYPES OF FRAUDS AND SCAMS :**

Following are the types of frauds:

- 1) Bank frauds
- 2) Corporate frauds
- 3) Insurance frauds
- 4) Cyber frauds
- 5) Securities frauds

**1) Bank Frauds :**

The number of bank frauds in India is substantial. It is increasing in different areas like bank deposits, loan, inter branch, accounting, transaction etc. Bank fraud is a big business in today's world.

**2) Corporate Frauds :**

In India, it is rising and accounts for 45% of total fraud done. e.g. Satyam Computers stunned the national financial world in 2009 when Satyam founder B. Ramalingan Raju declared he had inflated profit and jacked up the company's Balance Sheet by more than one billion dollars.

**3) Insurance Frauds :**

There is different type of frauds in insurance sectors. E.g. health insurance, claims fraud, false claims, insurance speculations, application frauds etc.

**4) Cyber Frauds :**

There is lot of misuse of credit cards, ATM cards, cyber taking work at home etc.

**5) Securities Frauds :**

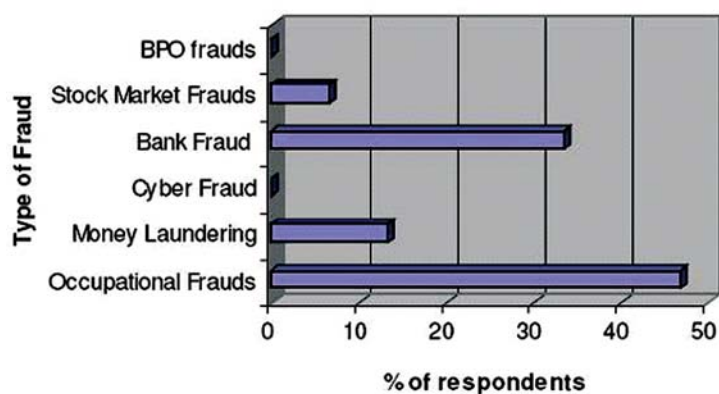
Investor community cannot forget the Rs. 4000 crore Harshad Metha scam and over Rs. 1000 Crore Ketan Parekh scams which adversely affected the shareholders wealth in a big way.

The occupational and bank frauds are the frauds which worry the Indians most.

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To conclude, the forensic accountants can specially be hired by Lawyers, Police Forces, Insurance Companies, Government Regulatory Bodies and Agencies, Banks, Courts and Business Community.

**What worries Indians the Most ?**



**THE SCAMS IN INDIA :**

- 1) 2G Spectrum scams
- 2) Commonwealth Games scams
- 3) Satyam scams
- 4) The fodder scams
- 5) The Howala scandal
- 6) Harshad metha
- 7) Ketan Parekh Stock Market Scam.

**Table 1 : Statistics of scam in India**

	Scam Amount
2G Spectrum ScaK	Rs. 175000 Crore
Satyam Scam	Rs. 8000 Crore
Stock Exchange (Harshad Mehta)	Rs. 4000 Crore
Stock Exchange (Ketan Parekh)	Rs. 1500 Crore
C. R.Bhansali	Rs. 1200 Crore
Fodder Scam	Rs. 950 Crore

Source : Indian Stream Research Journal

**SUMMARY AND CONCLUSION :**

It has been observed that the financial scams in India are unbridled due to lack of stringent surveillance authority. If we consider the quantum of losses from these scams, they are an eye-opener. Satyam's scam, the latest and the biggest corporate scam in India, was a fraud involving about Rs 8,000 crore (Rs 80 billion). Harshad Mehta and his associates triggered a securities scam diverting funds to the tune of Rs 4000 crore (Rs 40 billion) from the banks to stockbrokers between April 1991 to May 1992. Ketan Parekh followed Harshad Mehta's footsteps to swindle crores of rupees from banks. Ketan borrowed Rs 250 crore from Global Trust Bank to fuel his deceitful ambitions. When, according to RBI regulations, a broker is allowed a loan of only Rs 15 crore (Rs 150 million). The C R Bhansali scam resulted in a loss of over Rs 1,200 crore (Rs 12 billion). Sohin Daya, son of a former Sheriff of Mumbai, was the main accused in the multi-crore shoes scam. Dinesh Dalmia was the managing director of DSQ Software Limited when the Central Bureau of Investigation arrested him for his involvement in a stocks scam of Rs.595 crore(Rs.5.95 billion). The Abdul Karim Telgi case is another big scam that rocked India. The fake stamp racket involving Abdul Karim Telgi was exposed in 2000. The loss is estimated to be Rs 171.33 crore (Rs 1.71 billion). Virendra Rastogi chief executive of RBG Resources was charged with for deceiving banks worldwide of an estimated \$1 billion.He was also involved in the duty-drawback scam to the tune of Rs 43 crore (Rs 430 milion) in India. Former UTI chairman P S Subramanyam and two executive directors , M M Kapur and S K Basu and a stockbroker Rakesh G Mehta, were arrested in connection with the UTI Scam.UTI had purchased 40,000 shares of Cyberspace between September 25, 2000, and September 25, 2000 for about Rs 3.33 crore (Rs 33.3 million) from Rakesh Mehta when there were no buyers for the scrip. The market price was around Rs.830. The CBI said it was the conspiracy of these four people which resulted in the loss of Rs 32 crore (Rs 320 million). Uday Goyal, managing director of Arrow Global Agrotech Ltd, was another fraudster who cheated investors by promising high returns through plantations and conned investors to the tune of over Rs 210 crore (Rs 2.10 billion).

On the basis of above mentioned facts and figures , we have learned that , India has already faced substantial losses due to rapid increase in white-collar crimes and the belief that our law enforcement agencies do not have sufficient expertise or the time needed to uncover frauds. Moreover, the Forensic Accounting is in an infancy state in India. It is still an untrodden area in India. But due to ever increasing cases of bank & cyber-frauds its growing importance cannot be denied.The immediate landmark creation is "Forensic Research Foundation".They provide support for investigation of fraud.They publish one bi-monthly journal named as "White Crimes".It relates to forensic and economic crimes. Another international organization named as KPNG has set up investigation detection centre in India.Networks Limited, a Delhi based organization, working in the similar field, they are also trying to innovate ways and means to detect financial irregularities and crimes in India.



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Serious Investigation Fraud Offices(SIFO), has been established in India for the same reason, i.e. detection and prevention of economic irregularities and crimes. The need for such bodies and the importance of Forensic Accountants have been highlighted by L.N.Roy Committee.Lenin Parekh Committee has also expressed the view that one “fraud detection committee”need to be established. The main aim of such boards should be to prevent the interest of the stakeholders.To combat the frauds effectively one needs the active support of government at every stage. There are three-four such agencies in India, which are dedicated to the mission of combating frauds. Serious Fraud Office looks into violations of Income Tax, FEMA, RBI Act, etc.; CBI (Economic Office Wing) deals with big financial frauds; Central Vigilance Commission deals with corruption. These are the major government agencies that combat frauds of different types. Unfortunately, there is no specialized education provided by any of the Universities in the country. TCS has also came out with software to combat money laundering and Subex Systems have designed software to combat the telecom frauds. Thus, combating the frauds with software has started picking up in India, with few big companies like ACL and IDEA, joining the race. The government should take up the initiative to provide specialized education in this field of forensic accounting and well designed course curriculum should be offered by all central and state universities in India to train and develop the required skills in students so that they may help in preventing financial frauds and scams as in future.The various agencies fighting corruption worldwide will need to engage the service of Forensic accounting to compliment efforts of other professional in reducing fraudulent activities an installing fraud proof internal control system in corporate organization. So it is beyond doubt that the role of forensic accountant will become very major in corporate field, public accounting and in all awareness of government in the days to come. According to a forensic accounting expert, “the traits of a forensic accountant could be compared to a well-baked pizza. The base of forensic accounting is accounting knowledge. Size and the extent of baking decide the quality of the pizza. A middle layer is a dispersed knowledge of auditing, internal controls, risk assessment and fraud detection. It is like the spread of the cheese in pizza. The toppings of this pizza are a basic understanding of the legal environment. The legal environment is essential in order to support the litigations. The cherry on the toppings of the pizza is a strong set of communication skills, both written and oral. It is just the beautification part. Perfect combination of the pizza base, cheese spread and good toppings makes the pizza delicious .

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## LIQUIDITY ANALYSIS OF BAJAJ AUTO LTD.

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*Dr. Pushplata Chouksey \**  
*Miss. Rakhi Hotwani \*\**

### ABSTRACT :

*The study examines the Liquidity Position of Bajaj Auto Ltd. for the past ten years. It involves in-depth analysis of working capital of the company, calculation of liquidity ratios, discussion about results and conclusions. It is aimed at studying the different aspects of liquidity position of company in light of basic principles governing liquidity.*

### KEYWORDS :

*Liquidity, Liquid Assets, Liquidity analysis*

### INTRODUCTION :

Liquidity is having enough financial resources to cover financial obligations in a timely manner with minimal costs. It is that amount of internal cash flow, which relates to a firm's ability to pay for its current obligations. The better equipped the organization is to obtain finance, the better its prospects for growth. On the other hand, lack of liquidity may seriously affect the continuity of the company activities.

### Liquidity Analysis

Liquidity analysis shows the organization's ability to manage its current assets and current liabilities. It measures resource availability of the firm for discharging its short term liabilities. Investors, lenders and regulators analyze liquidity of a given organization in order to determine how well it can meet its obligations.

### ABOUT THE COMPANY :

Bajaj Auto limited is one of the largest two wheeler manufacturing company in India. The company had started way back in 1945. The present Chairman of the group, Rahul Bajaj, took charge of the business in 1965. Under his leadership, the turnover of the Bajaj Auto the flagship company has gone up from INR.72 million to INR. 120 billion, its product portfolio has expanded and the brand has found a global market.

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### Objective of the Study

- ❖ To analyze the Liquidity position of a company
- ❖ To evaluate the management of working capital of the company

### Methodology Adopted

The study is concerned with the ten year's data of Bajaj Auto Ltd. i.e. (2002- 2011).The data is secondary in nature and is obtained from the published annual reports of Bajaj Auto Ltd. Different components of current assets & current liabilities are evaluated in context of fundamental principles of working capital. Data is analyzed through various liquidity ratios and statistical techniques to comment upon the liquidity position of the company.

### Results & Discussions

#### WORKING CAPITAL ANALYSIS OF BAJAJ AUTO LTD.

Working Capital is that part of firm's capital which is required for financing current assets. Funds so invested in current assets keep revolving fast and get converted into cash. Further, this cash flow again gets converted into current assets and the cycle continues for a business entity.

It is calculated by subtracting current liabilities from current assets.

The statement below shows the Current Assets & Current Liabilities of Bajaj Auto.Ltd. for knowing the working capital for the past ten years.

**Table 1**

**Statement showing Current assets & Current liabilities of Bajaj auto. Ltd.**

	Amount as on 31st March (Rs Crores)									
PARTICULARS	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
<b>Current Assets</b>										
Inventories	179.10	207.98	202.56	224.17	272.93	309.70	349.61	338.84	446.21	547.28
Debtors	198.17	167.04	133.95	176.35	301.55	529.83	275.31	358.65	272.84	362.76
Cash-Bank Balances	25.20	30.03	79.37	108.68	82.09	83.48	56.07	136.87	101.41	556.49
Other Current Assets	55.32	59.44	45.48	68.53	72.13	36.22	79.95	125.68	105.97	216.42
Loans & Advances	1,532.03	1,690.64	1,591.68	2,012.01	2,127.37	2,859.40	888.77	1,365.23	2,074.52	1,189.64
<b>Total Current Assets</b>	<b>1,989.81</b>	<b>2,155.13</b>	<b>2,053.05</b>	<b>2,589.74</b>	<b>2,856.07</b>	<b>3,818.63</b>	<b>1,649.71</b>	<b>2,325.27</b>	<b>3,000.95</b>	<b>2,872.59</b>
<b>Current liabilities</b>										
Current Liabilities	454.94	454.90	672.60	785.07	1,228.87	1,498.97	1,043.25	1,213.41	2,026.25	2,426.65
Provisions	1,199.60	1,485.79	1,653.47	2,008.90	2,315.89	2,833.79	834.04	1,224.15	2,248.72	1,528.63
Cash Credit A/c	31.83	53.91	-	-	-	-	6.95	-	2.98	3.53
<b>Total Current Liabilities</b>	<b>1,686.36</b>	<b>1,994.60</b>	<b>2,326.07</b>	<b>2,793.97</b>	<b>3,544.76</b>	<b>4,332.76</b>	<b>1,884.24</b>	<b>2,437.56</b>	<b>4,287.95</b>	<b>3,978.81</b>

Source: Published annual reports of Bajaj Auto Ltd.

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And the table below shows the position of Net Working Capital of Bajaj Auto.Ltd.

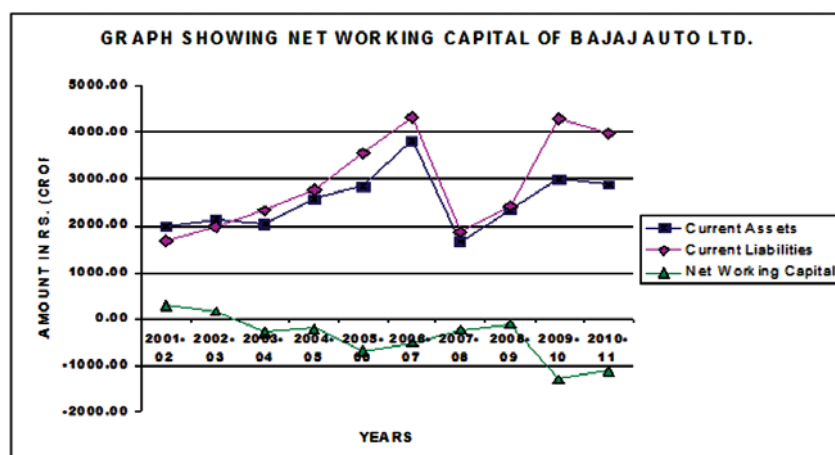
**Table 2**  
**Position of Net working capital of Bajaj auto. Ltd.**  
**Amount as on 31st March (Rs Crores)**

Years	Current Assets	Current Liabilities	Net Working Capital
2001-02	1989.81	1686.36	303.45
2002-03	2155.13	1994.60	160.53
2003-04	2053.05	2326.07	-273.02
2004-05	2589.74	2793.97	-204.22
2005-06	2856.07	3544.76	-688.69
2006-07	3818.63	4332.76	-514.13
2007-08	1649.71	1884.24	-234.53
2008-09	2325.27	2437.56	-112.29
2009-10	3000.95	4287.95	-1287.00
2010-11	2872.59	3978.81	-1106.22
Average	2531.10	2926.71	-395.61
Std. Deviation	631.25	1023.64	511.57
C.V. %	24.94	34.98	-129.31

Source: Published annual reports of Bajaj Auto Ltd.

Note: Std. Dev.- Standard Deviation, C.V.- Coefficient of Variance

**Figure 1**



Source: Published annual reports of Bajaj Auto Ltd.

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Working capital Analysis of Bajaj Auto Limited highlights insistent strategy of the company for financing its operations. Since Financial Year 2003-04, Company has been consistently maintained negative working capital as shown in Table 2. Besides, substantial fluctuations can be observed in working capital figure as reflected by standard deviation of 511.57 and C.V. of 129.31%.

*Average working capital of the company comes to -382.69 for a period of ten years from Year 2001 to 2011. Such negative working capital implies that company has over financed its operating assets and may face problems in discharging its short-term liabilities in due time. Such a scenario also indicates deployment of short-term funds for long-term usage.*

However, much depends on the timing of the payment of liabilities and receipt of currents assets. If receivables mature before the payments become due, then it can be said that company would be able to meet its obligations in due time owing to this leverage effect. Consistent negative working capital of the company also indicates that it enjoys good credit period from its suppliers. Inventory turnaround period of the company could also be high which entails high investment in stock

Nonetheless, company has a task of improving its liquidity position to adequately cover its current liabilities. Faster realization of current assets would ensure more liquidity for the company to discharge its short term liabilities.

### **LIQUIDITY RATIOS OF BAJAJ AUTO LTD.**

**Current Ratio:** Current ratio is a method to ascertain the working capital of the entity. It is expressed as the figure referring number of times current assets exceed current liabilities in Table 4. Current Ratio is also known as Working Capital Ratio as it measures short term financial position or Liquidity of a firm.

The Table 3 below shows the key Liquidity figures, which are Current Assets, Current Liabilities, Liquid Assets and Cash & Bank Balances for calculating the Liquidity Ratios.

*Dr. Pushplata Chouksey & Miss. Rakhi Hotwani*

**Table 3**  
**Position of key Liquidity figures of Bajaj auto. Ltd.**  
**Amount as on 31st March (Rs Crores)**

<b>Years</b>	<b>Current Assets</b>	<b>Current Liabilities</b>	<b>Liquid Assets</b>	<b>Cash &amp; Bank Balance</b>
<b>2001-02</b>	1989.81	1686.36	223.37	25.2
<b>2002-03</b>	2155.13	1994.60	197.07	30.03
<b>2003-04</b>	2053.05	2326.07	213.32	79.37
<b>2004-05</b>	2589.74	2793.97	285.03	108.68
<b>2005-06</b>	2856.07	3544.76	383.64	82.09
<b>2006-07</b>	3818.63	4332.76	613.31	83.48
<b>2007-08</b>	1649.71	1884.24	331.38	56.07
<b>2008-09</b>	2325.27	2437.56	495.52	136.87
<b>2009-10</b>	3000.95	4287.95	374.25	101.41
<b>2010-11</b>	2872.59	3978.81	919.25	556.49

Source: Published annual reports of Bajaj Auto Ltd.

**Table 4**  
**Liquidity ratios of Bajaj auto. Ltd. (In times)**

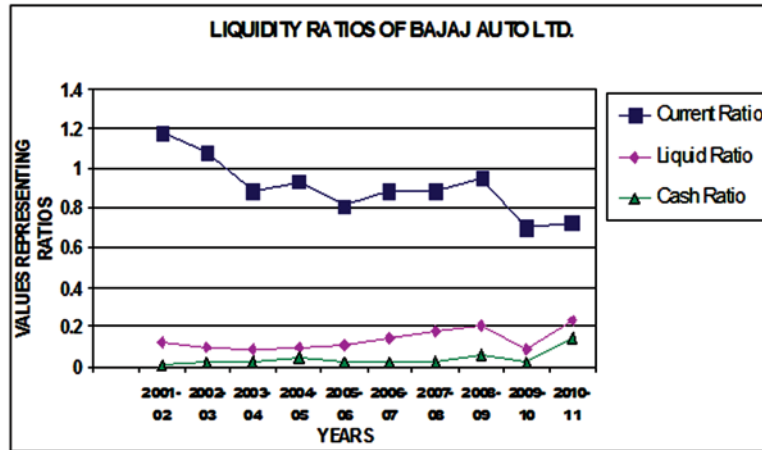
<b>Years</b>	<b>Current Ratio</b>	<b>Liquid Ratio</b>	<b>Cash Ratio</b>
<b>2001-02</b>	1.18	0.13	0.01
<b>2002-03</b>	1.08	0.10	0.02
<b>2003-04</b>	0.88	0.09	0.03
<b>2004-05</b>	0.93	0.10	0.04
<b>2005-06</b>	0.81	0.11	0.02
<b>2006-07</b>	0.88	0.14	0.02
<b>2007-08</b>	0.88	0.18	0.03
<b>2008-09</b>	0.95	0.20	0.06
<b>2009-10</b>	0.70	0.09	0.02
<b>2010-11</b>	0.72	0.23	0.14
<b>Average</b>	<b>0.90</b>	<b>0.14</b>	<b>0.04</b>
<b>Std.Deviation</b>	<b>0.15</b>	<b>0.05</b>	<b>0.04</b>
<b>C.V. %</b>	<b>16.37</b>	<b>36.42</b>	<b>97.79</b>

Source: Published annual reports of Bajaj Auto Ltd.

Note: Std. Dev.- Standard Deviation, C.V.- Coefficient of Variance



Figure 2



Source: Published annual reports of Bajaj Auto Ltd.

Generally, a current ratio of 2:1 is considered to be the good ratio. In case of Bajaj Auto Limited, it can be observed from the Table 2 that company has maintained sufficient current assets to cover its short term liabilities till Financial Year 2002-03. Afterwards, working capital of the company has become negative and current ratio has gone below 1.

*Average current ratio of the company for last ten years is 0.907 with a standard deviation of 0.15 and coefficient of variance as 16.37%. Low standard deviation implies proximity of average current ratio with actual current ratios of the company for years under study. Coefficient of variance of is also relatively low. Thus, it can be construed that company's current assets are just falling short to match the current liabilities.*

This could be due various factors like slow recovery from debtors, high inventory turnaround period, good credit period available to the company etc.

**Liquid Ratio:** Liquid Ratio is also referred to as quick ratio or acid test ratio. It evaluates the efficiency of company to discharge its current liabilities *minus* Inventory from current assets. Average ratio for the company is 0.14 with a standard deviation 0.05 and C.V. of 36.42 %. It means that company has meager current assets to pay off its short term liabilities. Such a low ratio implies below par security for creditors of the company at given point of time. Company has considerable investment in the form of Inventory. Further, inventory to debtor conversion period of the company could also be high due to long drawn processes starting from procuring raw material to produce a finished product. Substantial amount of the company is stuck with government agencies like VAT & Excise Department in the form of Refunds and Export Incentives.

*Liquid ratio of the company has shown improvement in the year 2010-11 and has increased to 0.23 from 0.09 which is highest in the ten years under study. Having*

**Dr. Pushplata Chouksey & Miss. Rakhi Hotwani**

*regard to the liquidity position of the company, we construe that company has not maintained enough liquidity and has thrived on availing long credit periods for financing its operations.*

**Cash Ratio:** Cash Ratio measures the cash availability of the firm to discharge its current liabilities. Cash Ratio of 0.5 is supposed to be the ideal ratio. And from Table 4, it can be seen that *Company has maintained a low cash ratio, as the average ratio for ten years is 0.04. Coefficient of Variance stands at 97.97% implying huge variations in samples under study. This indicates low cash maintenance policy of the company. It also implies availability of long credit period by suppliers of the company.*

**CONCLUSION :**

Liquidity plays a vital role in survival of a business. The study clearly indicates that the company has not maintained enough liquidity to match its current liabilities. This could be due to prevalence of various factors in the company.

Bajaj Auto Limited is one of the top automobile companies of India. It has garnered immense goodwill for itself in the auto industry over the years. It seems to be the conscious decision of the company to avail long credit periods offered by the suppliers. Company's overall liquidity position represents its highly aggressive yet balanced approach of financing its operations. It is also to be appreciated that such a situation can develop unhealthy notion between creditors & other financiers.

As evident from the study, company has a task of maintaining sufficient current assets to meet its current liabilities in due time. Company may adopt various suitable measures to improve its liquidity. Company has substantial investments in the form of various long-term & short-term instruments. Company can safeguard the interest of creditors by maintaining sufficient cash and parting with its short term investments.

Some other suggestive measures for the company are as under:

- ❖ To reduce the inventory turnaround time.
- ❖ Reduce the credit period to debtors suitably to ensure swift collection of payments.
- ❖ Speeding the collections from debtors by offering suitable discount
- ❖ Reducing the overall expenditure to minimize current liabilities

Bajaj Auto Limited is on a spree of expanding its operations which involves substantial expenditure on Research & Development of automobile products. Huge expenditure implies huge working capital requirements. Under such backdrop, Importance of maintaining sufficient liquidity cannot be overemphasized. Therefore, company has to initiate suitable measures to maintain sufficient liquidity to meet its working capital requirements and above measures would go a long way to improve the liquidity position of the company.

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## ESTIMATION OF NIFTY VOLATILITY FROM HISTORICAL DATA

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### ABSTRACT :

*This study is carried out with an aim of performing autocorrelation tests, estimating the mean equation through ARCH model and estimating the conditional variance equation of sample return series through GARCH model. The sample selected was CNX Nifty for a 20 year period. It was identified that AR(1) and GARCH(1,1) models best fitted the sample return series, Nifty.*

### KEYWORDS :

*Volatility, Standard Deviation, Auto Correlation, Conditional Variance, ARCH, GARCH*

### JEL CLASSIFICATION

G10, G11, G17

### ESTIMATION OF NIFTY VOLATILITY FROM HISTORICAL DATA

#### 1. INTRODUCTION :

The industrial development of a nation largely depends on the allocative efficiencies of the stock market, which acts as a barometer of a country's health. Indian stock market has a long history but as an agent of development it has only a few glorious occasions to its credit to reckon. A number of committees were appointed to review functioning of stock market that submitted innumerable suggestions to minimize speculative activities thereby fluctuation of share prices. Ironically all these efforts by and large ultimately failed to control a rational share price movement that is crippling functioning of the market for long.

There have been a lot of empirical studies to test volatility in the stock markets globally.

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Research has proved that stock markets have become more volatile in the recent times due to the emergence of “New Economy” stocks, which are valued highly as compared to their “Old Economy” counterparts on the expectations of giving very high returns in future. Thus this high expectation has brought about wide fluctuations in the prices making the markets turbulent.

Further, extreme stock return volatility could disrupt the smooth functioning of the financial system and lead to structural or regulatory changes. Systems that work well with normal return volatility may be unable to cope with extreme price changes. Changes in market rules or regulations may be necessary to increase the resiliency of the market in the face of greater volatility.

The stock market in India has had its fair share of crises engendered by excessive speculation resulting in excessive volatility. Undoubtedly, the enthusiasm of investors in the early 1990's to some extent has been replaced by a growing concern about the excessive volatility of the Indian stock market in recent years. The widespread concern of the exchange management, brokers and investors alike has underlined the importance of being able to measure and predict stock market volatility. Only then can effective monitoring mechanisms be put in place, which would help in avoidance of such episodes in future.

## **2. REVIEW OF LITERATURE :**

Bollerslev (1986) introduced model Generalized Autoregressive Conditional Heteroskedasticity (GARCH). The GARCH model allows the conditional variance to be dependent upon its own lags. He estimated GARCH(1,1) model on the quarterly data set of U.S. inflation for the period 1948-II to 1983-IV. The results suggested the presence of GARCH effect in the inflation data. It indicated that the volatility of inflation was persistent.

To compute the conditional variance of sample return series, GARCH (1,1) model has been applied by Susan Thomas (1995), Madhusudan Karmakar (2003) and Puja Padhi (2005). According to Jean and Peters (2001), GJR and APARCH give better forecasts than symmetric GARCH. But increased performance of the forecasts could not be clearly observed when using non-normal distributions.

Brailsford and Faff (1996) find that the GARCH models are superior to other models to forecast Australian monthly stock index volatility. Brooks (1998) found that the FARCH models outperform other techniques while modeling volatility. Jayanth R Varma (1999) tested the relevance of GARCH-GED (Generalized Auto-Regressive Conditional Heteroskedasticity with Generalized Error Distribution residuals) model and the EWMA (Exponentially Weighted Moving Average) model and evaluated their performance in the VaR framework in Indian stock market.

The GARCH (1, 1) model has been found to be the overall superior model based on

most of the symmetric loss functions, though ARCH has been found to be better than the other models for investors who are more concerned about under predictions than over predictions (Deb et al 2003). According to Ravi Madapati (2005), the conditional heteroskedastic models fit the Indian data quite satisfactorily, providing good forecasts of volatility.

Bhaskkar Sinha (2006) found the EGARCH for BSE Sensex and GJR-GARCH for NSE Nifty best for modeling volatility clustering and persistence of shock. Mahajan and Singh (2008) examined the empirical relationship between return, volume and volatility in Indian stock market using GARCH (1,1) and EGARCH (1,1) estimated for Nifty index.

Atanu Das et al (2009) compared the predictive power of Stochastic Volatility Model (SVM) and Kalman Filter (KF) based approach vis-à-vis EWMA and GARCH based approaches with data from Indian security indices. Vipul Singh and Ahmad (2011) compared several GARCH family models in order to model and forecast the conditional variance of S&P CNX Nifty Index with special focus on the fitting of first order GARCH models to Nifty financial daily return series and explaining financial market risk.

Rajan (2011) discussed different mathematical models to model the volatility of the stock market in general and apply it to Indian context to pin down one that captures the irregular behavior of the Indian stock market. Asad Ahmad and Rana (2012) attempted to determine the forecasting performance of symmetric and asymmetric volatility forecasting models in terms of error estimators using the intra-day of highly liquid stocks in the Indian stock market. Superiority of forecasting performance of asymmetric GARCH model over symmetric model has been established.

### **3. OBJECTIVES OF THE STUDY :**

The overall objective of the present study is to estimate volatility behavior of the Indian stock market, through the CNX Nifty. However, the following are set as the specific objectives for the study:

1. To subject the CNX Nifty prices to autocorrelation tests
2. To estimate the conditional variance of sample return series through suitable GARCH model

### **4. DATABASE AND METHODOLOGY :**

For analysis, the principal stock index of the country, CNX Nifty is selected, for a period of 20 years from January 4, 1993 to December 31, 2012 totaling 4922 trading days.

The daily close prices of Nifty are obtained from the official website of NSE ignoring the days when there was no trading.

The price changes are calculated from the last day the market was open.

The autocorrelation tests, ARCH and GARCH models are calculated by using 'E Views 6' statistical package.

Daily stock returns are calculated by the log difference change in the price, using the formula:  $r_t = \ln\left(\frac{I_t}{I_{t-1}}\right)$

## 5. EMPIRICAL INVESTIGATION :

The process of Volatility estimation includes calculation of Skewness and Kurtosis, Jarque Bera Test, Unit Root Test, Auto Correlation Test, Estimation of Mean Equation and Estimation of Conditional Variance Equation.

## 6. SKEWNESS AND KURTOSIS :

a. Skewness is calculated using the following formula, where n denotes the number of trading days,  $x_t$  denotes the return of the index on day t,  $\bar{x}$  denotes average return and s denotes the standard deviation.

b. Kurtosis is calculated using the following formula, where n denotes the number of trading days,  $x_t$  denotes the return of the index on day t,  $\bar{x}$  denotes average return and s denotes the standard deviation.

$$\text{Kurtosis} = \frac{\frac{1}{n} \sum_{t=1}^n \left( \frac{x_t - \bar{x}}{s} \right)^4}{\left[ \frac{1}{n} \sum_{t=1}^n \left( \frac{x_t - \bar{x}}{s} \right)^2 \right]^2} - \frac{3(n-1)^2}{(n-2)(n-3)}$$

From table 1 it can be observed that skewness (or distribution shape) of the return series of Nifty has been shifting between positive and negative for individual years taken into consideration. But the overall period of 20 years showed a negative skewness in the distribution of Nifty returns.

It can also be observed from this table that Kurtosis was beyond 3 in the years 1997, 2004 and 2009 when individual years are taken into consideration. For the overall period of 20 years, Kurtosis ended up at 5.9963 which is almost double the required standard value of 3. This clearly proves that the Nifty return distribution is Leptokurtic in nature. As this is one of the important characteristics of financial time series data, it enables the applicability of ARCH / GARCH.

*Table 1 : Skewness and Kurtosis*

<b>Year</b>	<b>Skewness</b>	<b>Kurtosis</b>	<b>No. of Obs.</b>
1993	-0.33569	0.33082	213
1994	0.63399	1.96098	230
1995	-0.10597	0.75154	236
1996	0.70025	1.09674	249
1997	0.05845	7.56417	244
1998	-0.09430	1.61662	250
1999	0.04450	2.24681	254
2000	-0.10528	1.49105	250
2001	-0.46151	2.26191	248
2002	0.07770	1.45728	251
2003	-0.33654	0.47011	254
2004	-1.80181	14.39703	254
2005	-0.51667	0.59184	251
2006	-0.61989	2.73131	250
2007	-0.25819	1.55815	249
2008	-0.28344	1.68816	246
2009	1.50835	12.62100	243
2010	-0.27696	0.67026	252
2011	0.27044	0.05748	247
2012	0.07563	0.66164	251
1993-2012	-0.13085	5.99630	4922

#### **7. JARQUE BERA TEST :**

The Jarque Bera Test is a goodness of fit test of whether the sample data have the skewness and kurtosis matching a normal distribution. It is calculated using the following formula where n is the number of observations (or degrees of freedom in general), S is the sample skewness and K is the sample kurtosis.

$$JB = \frac{n}{6} \left( S^2 + \frac{1}{4} (K - 3)^2 \right)$$

The descriptive statistics of Log Returns of Nifty close values for the 20 year period given in Table 2 indicate that the mean return (0.041620) is closer to zero, when relatively



compared to the standard deviation (1.6404111). The return series is negatively skewed for the 20 year period. The Kurtosis, which measures the magnitude of the extremes, is greater than three, which means that the return series are leptokurtic in shape, with higher and sharper central peak, and longer and fatter tails than the normal distribution. The daily stock returns are thus not normally distributed. The high Jarque Bera statistic also proves that the returns are not normally distributed. Hence, ARCH / GARCH modeling is suggested.

*Table 2 :*

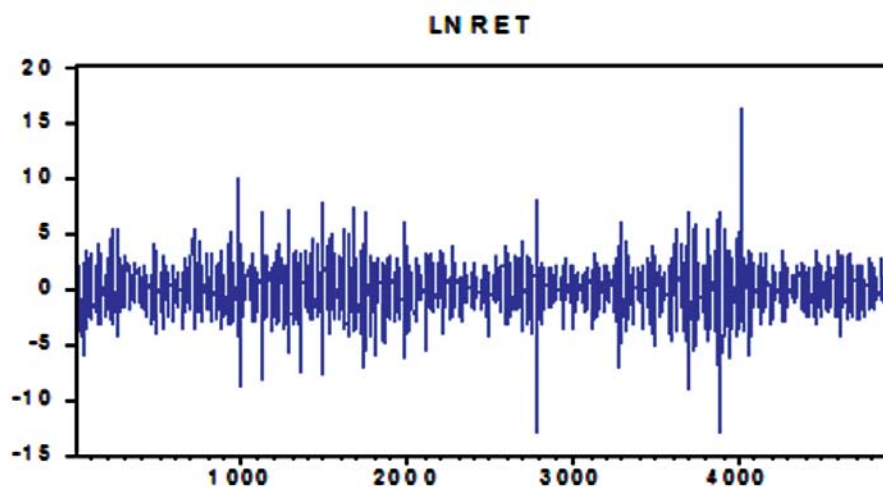
<i>Descriptive Statistics of Log Returns of Nifty close values from 4 Jan 1993 to 31 Dec 2012</i>	
Mean	0.041620
Median	0.076938
Standard Deviation	1.640411
Kurtosis	5.996300
Skewness	-0.130850
Minimum	-13.05386
Maximum	16.33432
Count	4922
Jarque-Bera	7369.966
Probability	0.000000

## **8. UNIT ROOT TEST**

Augmented Dickey-Fuller Test is conducted on the Nifty close values at “Level” and “First Difference” forms which resulted in the attainment of stationarity in the series at first difference level. The results are presented in Table 3.

**Table 3 : Result of ADF Test**

<b>At Level</b>		<b>t-Statistic</b>	<b>Prob.*</b>
Augmented Dickey-Fuller test statistic		-0.267402	0.9272
Test critical values:	1% level	-3.431497	
	5% level	-2.861932	
	10% level	-2.567021	
<b>At First Difference</b>		<b>t-Statistic</b>	<b>Prob.*</b>
Augmented Dickey-Fuller test statistic		-24.38754	0.000
Test critical values:	1% level	-3.431503	
	5% level	-2.861935	
	10% level	-2.567023	
*MacKinnon (1996) one-sided p-values.			



**Figure 1 : Graph of NSE Nifty Log Returns on attainment of stationarity**

The series is found to have a constant mean showing the stationarity of the data. It is seen that the returns fluctuated around the mean value, which is close to zero. The series has a non constant variance, i.e. heteroskedasticity, which is the typical feature of a financial time series data. Volatility clustering in the returns was observed, where periods of low volatility are followed by periods of low volatility and periods of high volatility are followed by periods of high volatility. Statistically, volatility clustering implies a strong autocorrelation in squared returns.

As the series follows the characteristics of financial time series data, i.e. heteroskedasticity, leptokurtosis and volatility clustering, a linear model would not be able to capture the volatility of the series. Hence non linear models such as ARCH / GARCH have been used for modeling the volatility on the Indian Stock Market.

## **9. AUTO CORRELATION TEST :**

The Autocorrelation test involves calculation of the Ljung Box Q Statistic, followed by the Arch LM test and Serial Correlation LM test to confirm the presence of Arch effect and Serial Correlation effect on the residuals.

### **a. Ljung Box Q Statistic**

The Ljung Box Q statistic is calculated using the following formula where  $n$  is the sample size,  $p_k$  is the sample autocorrelation at lag  $k$ , and  $h$  is the number of lags being tested.

$Q(k)$ , the Ljung Box statistic, identified the presence of first order autocorrelation in the Nifty log returns with a lag of 15 days. The Q statistic showed a p-value of 0 rejecting the null hypothesis “There is no autocorrelation in the log return series”. Thus it could be concluded that there exists an autocorrelation in the log return series.

### **b. Arch LM test and Serial Correlation LM test**

Since an ARCH model can be written as an AR model in terms of squared residuals, a simple Lagrange Multiplier (LM) test for ARCH effects and serial correlation effects can be constructed based on the auxiliary regression. The test statistic is:

$$LM = T \cdot R^2 \sim \chi^2(p)$$

where  $T$  is the sample size and  $R^2$  is computed from the regression equation using estimated residuals.

Serial correlation LM test was performed on the residuals of log return series with a lag of 2 days. The null hypothesis was set as “There is no serial correlation effect on the residuals of log return series”. The probability of Chi-square with 2 degrees of freedom was found to be less than 0.05; hence the null hypothesis was rejected. Thus the test indicated presence of serial correlation in the residuals of log return series.

Heteroskedasticity test for ARCH effect was also performed on the residuals of log return series with 1 day lag. The null hypothesis “There is no ARCH effect on the residuals of log return series” was rejected as the probability of Chi square with 1 degree of freedom

was found to be less than 0.05. Hence it is concluded that ARCH effect exists on the residuals of log return series.

With the existence of autocorrelation in the Nifty returns series, and the presence of serial correlation effect as well as ARCH effect on the residuals of the Nifty log return series, the series is proved to be eligible for estimation of the ARCH and GARCH models.

## **10. ESTIMATION OF MEAN EQUATION :**

To estimate mean equation, the Autoregressive Integrated Moving Average (ARIMA) model, as developed by Box and Jenkins, has been widely applied in a variety of economic and financial time series. Box-Jenkins method consists of the following steps to estimate ARIMA mean equation.

### **a. Identification**

The input series for ARIMA needs to be stationary, which has been attained for the select market, Nifty, by using the first difference level. Here the appropriate values of p, d and q were found out as 1,0,0 using autocorrelation (ACF) and partial autocorrelation (PACF) functions. The PAC function of the Ljung-Box-Pierce Q Statistic correlogram of log return series at lag 1 is found to be highly significant, which indicates the first order serial correlation in the return series. The Akaike information criterion (AIC) is found to be least in case of “with intercept”. Thus, AR(1) with intercept is identified to be applicable for modeling the mean.

### **b. Estimation**

After identifying the appropriate values of p and q, the parameters of the autoregressive and moving average terms included in the model were estimated. AR(1) model has been used with the Box Jenkins methodology to model the conditional mean equation with  $Y_t$  denoting the first differenced Nifty return series. The regression equation,\*

when run with AR(1) resulted in the following tentatively identified AR model:

$$Y_t = 0.042113 + 0.08929 y_{t-1} + \varepsilon_t$$

**Table 4 : AR(1) model**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.042113	0.025575	1.646647	0.0997
AR(1)	0.08929	0.014198	6.288664	0.0000
R-squared	0.007976	Mean dependent var		0.042071
Adjusted R-squared	0.007774	S.D. dependent var		1.640273
S.E. of regression	1.633885	Akaike info criterion		3.820204
Sum squared resid	13131.66	Schwarz criterion		3.822847
Log likelihood	-9397.613	Hannan-Quinn criter.		3.821131
F-statistic	39.5473	Durbin-Watson stat		1.992952
Prob(F-statistic)	0.0000			

From this estimated equation, it is observed that the AR(1) value, i.e.  $\alpha_1 = 0.08929$ , is positive. It suggests that if volatility was high in the previous period, it will continue to be high in the current period and vice-versa. Thus the estimated AR(1) equation indicates volatility clustering in the series.

#### **c. Diagnostic Checking**

After choosing particular ARIMA model and having estimated its parameters, the next step was to see whether the chosen ARIMA model fitted the data reasonably well.

The estimated ACF and PACF from the residuals as well as the squared residuals of the equation showed no significance for the existence of serial correlation upto lag of 15 days (since in both cases the probability was above 0.05). Hence, the residuals from this model were found to be white noise.

These residuals were further subjected to ARCH LM test and Serial Correlation LM Test. The F statistic is reported significant in both cases at 5% level of significance, rejecting the null hypotheses of no ARCH effect and no serial correlation effect. Thus, the particular fit of the model was accepted. This test further suggests for the use of non linear model for capturing volatility.

### **11. ESTIMATION OF CONDITIONAL VARIANCE EQUATION :**

The conditional variance of the GARCH(p,q) process is specified as

$$\sigma_t^2 = \beta_0 + \beta_1 \varepsilon_{t-1}^2 + \sigma_1 \sigma_{t-1}^2$$

After confirming the presence of clustering volatility and ARCH effect on the log return series, the GARCH model was run. The model was run with an error distribution function

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of “student’s t with fixed df” and “student’s t” separately and results were compared with each other to find which of these best fitted the model. It was found that all requirements for the model run were fulfilled by both the functions. The function showing smaller absolute value of Akaike information criterion (AIC) will be chosen as the best fitted model. It is observed that the absolute AIC value is smaller for the “Student’s t with df” function which is identified as the best fitted model for Nifty for the select period.

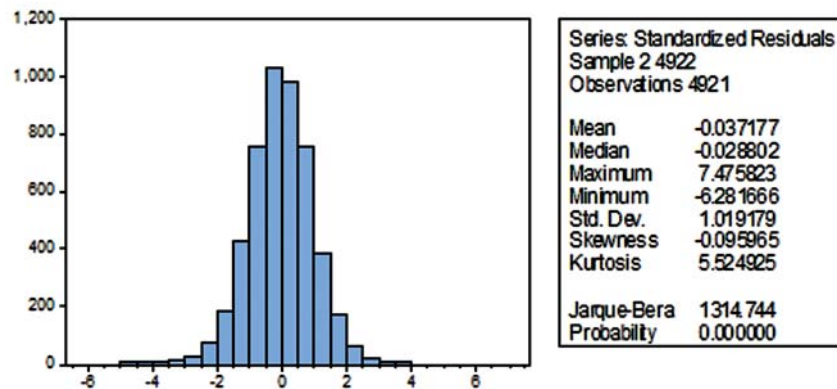
**Table 5 : Estimated GARCH Equation at Student’s t with df**

Dependent Variable : LNRET				
Method: ML - ARCH (Marquardt) - Student’s t distribution				
Sample: 1 4922				
Included observations: 4922				
Convergence achieved after 12 iterations				
Presample variance: backcast (parameter = 0.7)				
t-distribution degree of freedom parameter fixed at 10				
GARCH = C(4) + C(5)*RESID(-1) <sup>2</sup> + C(6)*GARCH(-1)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
@SQRT(GARCH)	0.369844	0.051541	7.175735	0.0000
C	0.035825	0.008072	4.438016	0.0000
U	0.999837	0.001408	710.2163	0.0000
Variance Equation				
C	0.000891	0.00015	5.954406	0.0000
RESID(-1) <sup>2</sup>	0.113218	0.00994	11.39011	0.0000
GARCH(-1)	0.862069	0.010934	78.84313	0.0000
R-squared	0.986073	Mean dependent var		0.04162
Adjusted R-squared	0.986059	S.D. dependent var		1.640411
S.E. of regression	0.19369	Akaike info criterion		-0.71204
Sum squared resid	184.4275	Schwarz criterion		-0.70412
Log likelihood	1758.34	Hannan-Quinn criter.		-0.70926
F-statistic	69611.96	Durbin-Watson stat		1.825068
Prob(F-statistic)	0.0000			

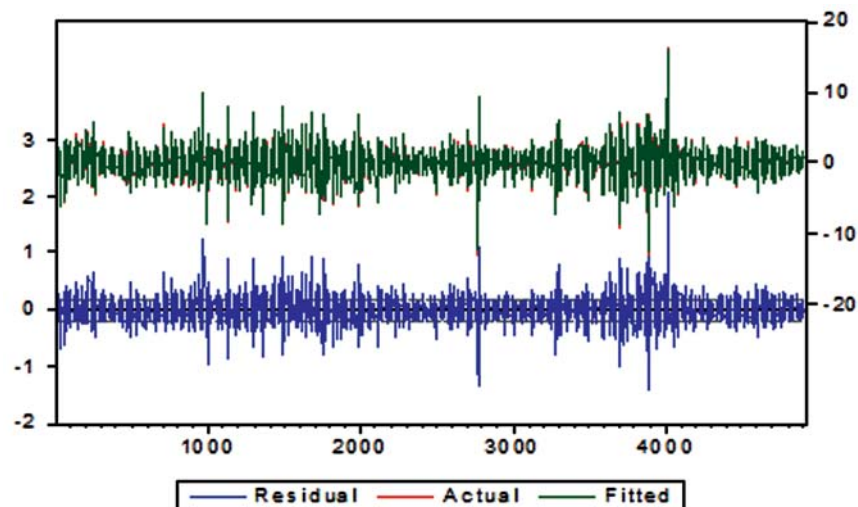
It is observed from the best fit estimated GARCH equation, that the value of RESID(-1)<sup>2</sup>, 0.113218, is smaller in magnitude, which implies that the shocks to conditional variance take lesser time to die out. It becomes imperative to observe that the GARCH(-1) value,

0.862069, is large enough in magnitude, to imply that volatility reacts intensely to the market movements.

The half life of volatility persistence (shock) is calculated and found to be 27.699 days, using the formula  $[\ln(0.5) / \ln(\hat{\alpha} + \hat{\beta})]$ . This implies that the persistence in volatility would die out within an approximate time of 28 trading days.



**Figure 2: Descriptive statistics of Residuals of fitted GARCH(1,1) Model**



**Figure 3: Volatility Clustering of fitted GARCH(1,1) Model**

Thus, it could be concluded from this estimation that volatility in the Nifty movements reacts intensely to the market movements but takes lesser time to die out the shocks it faces. This may mean that the Nifty market is improving its efficiency to tackle the shocks faced by the market.

## **12. CONCLUSIONS :**

The study is carried out with an aim of performing autocorrelation tests, estimating the

mean equation through ARCH model and estimating the conditional variance equation of sample return series through GARCH model. It was identified that AR(1) and GARCH(1,1) models best fitted the sample return series, Nifty.

The study led us to the following conclusions:

- i. Daily stock returns are found not normally distributed as the return series is leptokurtic in nature which is also proved by the high Jarque Bera statistic.
- ii. This non-normal return series could be converted to stationary form at first difference level. The residuals of the series are identified to possess serial correlation as well as volatility clustering in them.
- iii. With this the series is identified to follow all the characteristics of financial time series data, i.e. heteroskedasticity (volatility clustering), leptokurtosis and serial correlation.
- iv. Due to this the series allowed for modeling the volatility on the Indian stock market
  - a. The estimation of mean equation through AR(1) model and
  - b. The estimation of the conditional variance equation through GARCH(1,1) model
- v. The persistence in volatility of Nifty return series is identified to die out within an approximate time of 28 days.

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**INDIAN ACCOUNTING ASSOCIATION  
37<sup>TH</sup> ALL INDIA ACCOUNTING CONFERENCE AND  
INTERNATIONAL SEMINAR (NOV. 8 - 9, 2014)**

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**CALL FOR PAPERS AND REGISTRATION**

Department of Commerce, University of Lucknow and Indian Accounting Association, Lucknow Branch consider it a privilege and a matter of great pride to host the 37<sup>th</sup> All India Accounting Conference and the International Seminar of Indian Accounting Association on Nov. 8 & 9, 2014.

The conference would provide a forum for interaction on contemporary issues and Development in Accounting, Finance & Taxation to provide vital inputs for research in Accounting. It would create an interface among professionals, academicians and experts in the field of Accounting education & research in India and abroad.

---

**SEMINAR AND TECHNICAL SESSIONS DETAILS ARE AS FOLLOWS:**

**International Seminar     Accounting Education and Research:**

With Prof. Ranjan K Bal as Chairman

**Technical Session-I:     Creative Accounting**

With CA K Ch AVSN Murthy as Chairman

**Technical Session - II:     Commodity Markets & Risk Management**

With Prof. K Eresi as Chairman

**Technical Session - III:     Accounting for Financial Instruments**

With Prof. Daksha Chauhan as Chairperson

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Last date for paper submission is **August 31, 2014** Communication regarding acceptance or otherwise based on blind review by the committee shall be sent by **September 30, 2014**.

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*Registration fee details are as follows:*

	<b>Fee up to August 31, 2014 (Rs)</b>	<b>Fee after August 31, but up to Oct 15, 2014 (Rs)</b>
IAA Members	1,200	1,500
IAA Non-members	1,700	2,000
Accompanying Persons	1,500	1,500
Corporate Delegates	2,500	2,800

\* No conference kit will be provided to the accompanying person.

Registration fee is to be remitted through demand draft only in favour of **“Conference Secretary, 37<sup>th</sup> All India Accounting Conference”** payable at **Lucknow** along with the enclosed registration form duly filled in. Papers without registration fee shall not be considered.

**PLEASE NOTE THAT THERE IS NO SPOT REGISTRATION**

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**Note for Paper Contributors :**

1. The paper should normally be of about 3000-5000 words in length and should be submitted with an abstract of not more than 300 words.
2. Author(s) name(s) and affiliations should be shown only on a separate sheet to facilitate blind review.
3. The author should provide confirmation that the paper is the original work of the author(s) and it has neither been published nor been sent for publication elsewhere.
4. All paper submissions and the other communications regarding the conference shall be made through the official website of IAA [www.indianaccounting.org](http://www.indianaccounting.org)
5. If a paper contributor does not make presentation during the conference, the certificate shall mention "paper contributed" only.

We cordially invite you to participate in the conference and seminar and contribute papers in the seminar as well as in technical sessions based on the themes identified above.

**PROF. ARVIND KUMAR**

Conference Secretary, Professor and Head,  
Department of Commerce, Lucknow University, Lucknow.  
(M.) 09415028817  
E-mail : arvindk.lu51@gmail.com

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**Registration Form :**

*37<sup>th</sup> All India Accounting Conference & International Seminar, Nov 8-9, 2014  
Department of Commerce, University of Lucknow.*

1. Name & Address with mobile & email (Block Letters):
2. IAA Membership Number:
3. Paper Title (Full paper-Hard and Soft copies, & Abstract of 250 words :
4. Food Habits (Please Tick) : (i) Veg. (ii) Non-Veg.
5. Travel Plan: (i) Arrival: (ii) Departure:
6. Delegate Fee: Demand Draft Number \_\_\_\_\_ Dated \_\_\_\_\_ for Rs. \_\_\_\_\_
7. Any other Information:

Signature

**TO GIVE INOVATIVE IDEA ABOUT THE THEME AND SUB TOPICS OF  
INTERNATIONAL SEMINAR AND TECHNICAL SESSION THE RESPECTIVE  
CHAIRMAN/CHAIR PERSON HAS GIVEN THE FOLLOWING NOTES FOR  
BETTER PAPER WRITING TO PAPER CONTRIBUTORS  
INTERNATIONAL SEMINAR : ACCOUNTING EDUCATION & RESEARCH -  
SOME SUB-THEMES :**

- \* Accounting & Companies Act 2013
- \* AS, Ind AS & IFRS
- \* Financial Statements & Shareholders Value
- \* Ethical Issues in Accounting
- \* Accounting & Corporate Governance
- \* Case Study Method of Teaching Accounting
- \* Management Theories & Management Accounting
- \* Sustainability & Integrated Reporting
- \* Innovative Accounting Courses for +2, +3 & P. G. Level
- \* XBRL
- \* Corporate Accounting & Modern Business Reporting
- \* Analysis of Financial Statements
- \* Financial Statements & Capital Markets
- \* Emerging Issues in Accounting

**TECHNICAL SESSION-1 : CREATIVE ACCOUNTING**

An empirical analysis of manipulation of accounts by corporate sector by misusing the loopholes of the Act is obvious. Quite unsurprisingly come across of several findings, facts on the subject revenue recognition clearly indicate how many entities instead of recognizing revenue, de-recognize revenue. Whether it is wrong numbers or accounting red flags or difference between gross and net revenue or accounting frauds or camouflage accounting or sales manipulation game or tax evasion or material accounting manipulations or characterization of income or creative accounting or deferment or postponement or judgment or concealment or window dressing or painting green or painting red or painting invisible or rapid accounting or false accounting or misrepresentation or pushing at the boundaries of law or innovative or aggressive or artificial or omission or not reporting or adapting unsuitable or recasting or restatement regrouping or re-classification or re-arrangement, there appears to be a possibility of leading to frauds.

**Creative Accounting – What?**

- o Refers to accounting practices that may follow the letter of the rules of standard accounting practices, but certainly deviate from the spirit of those rules.

### *Indian Journal of Accounting*

- o systematic misrepresentation of the true income and assets of corporations
- o Is Accounting fraud
- o Engaging in creative accounting is a possible first step towards pushing at the boundaries of the law. And the danger is that respectable executives lose sight of where the boundaries are, and end up like directors committing fraud
- o Innovative and aggressive Hide a particularly bad year for the company
  - o force an exceptionally good year or continue the pressure to always be the best
  - o smooth out results to give an impression of stability or sustained improvement
  - o hide large profits by monopolies under anti-trust threat
  - o boost assets to avoid take-over
  - o to maintain EPS and a good market value
  - o Acquisitions can hide poorer results or boost EPS.
  - o A large provision can be taken to cover reorganization costs. These do not affect profitability but are taken against the assets of the company.
  - o Off-balance sheet financing.
  - o Items of the financial reports are omitted.

#### **Earnings Management – What?**

- o artificial increase (or decrease) of revenues, profits, or earnings per share figures through aggressive accounting tactics.
- o alter financial reports to either mislead some stakeholders about the underlying economic performance of a company or influence contractual outcomes that depend on reported accounting numbers
- o Not reporting error
- o satisfy projections by financial analysts
- o market expectations
- o personal realization of a bonus
- o maintenance of position within a market sector
- o when a company is affected by a downturn in business
- o Unsuitable revenue recognition
- o Inappropriate accruals and estimates of liabilities
- o Excessive provisions and generous reserve accounting
- o Booking revenues before they materialize
- o Fictitious sales
- o Expenses / Cash manipulation
- o Invisible restatement of previous periods
- o Transferring other income to operational income
- o Intentional minor breaches of financial reporting requirements that aggregate to a material breach.

## **TECHNICAL SESSION-2 : COMMODITY MARKETS AND RISK MANAGEMENT**

Commodity Derivatives and Risk Management are essential components of financial and operations planning for any business organization. In the current scenario, the growing economic uncertainty and developments call for a tool or mechanism that can be used by investors to reduce and minimize the risk exposure. The speeds at which these changes happen sometimes are beyond the comprehension of many in the business. The best option in such situation is to have proper derivative tools and Risk Managementsystem in place. By taking a position in the futures market, which is equal and opposite to the one physical market, an investors/famers/business organizations can trade with the objectives of reducing risks associated with changes in price levels.

An understanding of commodity prices and their determinants are therefore crucial for economic and social development, poverty reeducation and stability. There are several factors influencing commodity derivatives, including fundamental demand and supply side and macro economic factors and macroeconomic developments. Regulations are another important factor that would substantially reduce the dominance of financial investors and ensure the dominance of fundamentally based the trading and price stabilization mechanisms.

### **SUB THEMES**

1. Price Discovery and Price Risk Management.
2. Commodity derivatives Markets in India; Issues and Challenges.
3. Impact of Commodity Transaction taxes on Trading volumes and participation.
4. Regulation and Supervision of Commodity Markets.
5. Impact of commodity prices on inflation and economic growth.
6. Recent developments in Commodity markets.

## **TECHNICAL SESSION-3 : ACCOUNTING FOR FINANCIAL INSTRUMENTS**

A real or virtual document representing a legal agreement involving some sort of monetary value. In today's financial marketplace, financial instruments can be classified generally as equity based, representing ownership of the asset, or debt based, representing a loan made by an investor to the owner of the asset. Foreign exchange instruments comprise a third, unique type of instrument. Different subcategories of each instrument type exist, such as preferred share equity and common share equity, for example. Financial instruments can be thought of as easily tradeable packages of capital, each having their own unique characteristics and structure. The wide array of financial instruments in today's marketplace allows for the efficient flow of capital amongst the world's investors.

### **Type of Financial Instruments**

**Equity Finance**, covering : equity securities *of which equity in mutual funds of which equity in money market mutual funds* -reinvestment of earnings<sup>1</sup> - other equity (not including net equity in insurance technical reserves and pension funds)

**Debt**, covering : - debt securities - long-term - short-term - loans - currency and deposits - accounts receivable/payable - trade credit and advances - other accounts receivable/payable - other debt instruments

**Other instruments**, covering : - monetary gold - *financial gold*<sup>3</sup> - SDRs - net equity in insurance technical reserves and pension funds - financial derivatives and employee stock options - financial derivatives - forwards - options - employee stock options

Researcher may write on any accounting for financial instruments. An empirical research will be most appropriate in the conference.

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### **36TH ALL INDIA ACCOUNTING CONFERENCE-BEST PAPER AWARDS**

#### **International Seminar on Accounting Education & Research**

**CMA Chandana Bose & Parimal Kr Sen**

**Paper Title :** *Emerging Dimensions of Global Accountancy Profession in Changing Business Scenario : Challenges Ahead*

#### **Technical Session-I**

##### **GOVERNMENT ACCOUNTING**

**Dr. Sidharda Sankar Saha**

**Paper Title :** *Resondents' Perceptions on Ethical Responsibility of Statutory Auditors in the Backdrop of Corporate Accounting Scandals : An Empirical Study*

#### **Technical Session-II**

##### **CORPORATE REPORTING & XBRL**

**Dr. Sandeep Kr Goel**

**Paper Title :** *Environmental Reporting Practices of Indian Banks*

#### **Technical Session-III**

##### **EMERGING DIMENSIONS OF ACCOUNTING**

**Dr. Ashok Kr Gupta & Dr Pradeep Kr Dubey**

**Paper Title :** *Emerging Issues in Accounting*

*Indian Journal of Accounting*

**REPORT ON THE XXXVI  
ALL INDIA ACCOUNTING CONFERENCE & INTERNATIONAL SEMINAR  
*Organized by*  
INDIAN ACCOUNTING ASSOCIATION-VISAKHAPATNAM BRANCH  
&  
DEPARTMENT OF COMMERCE & MANAGEMENT STUDIES,  
ANDHRA UNIVERSITY**

*January - 11 & 12, 2014*

**The XXXVI All India Accounting Conference and International Seminar** on Accounting Education and Research was held at Andhra University, Visakhapatnam, during Jan.11&12,2014, under the joint auspices of IAA Visakhapatnam Branch and Andhra University's Department of Commerce & Management Studies with Prof D. Prabhakara Rao as the Conference Secretary while Prof GSN Raju,Vice-Chancellor,Andhra University and Prof K.Parvathi Kumar,Chairman-IAA Visakhapatnam Branch are the Conference Chief Patrons.

**The Conference was inaugurated** by the Chairman of AP State Council of Higher Education Prof L.Venugopal Reddy on 11<sup>th</sup> Jan 2014 at 10 am in Dr B.R. Ambedkar Assembly Hall of Andhra University. In his Inaugural address, Prof L.Venugopal Reddy called for healthy practices of Corporate Accounting and Reporting in line with the International developments in the discipline and practice while recalling his sweet memories as former Vice-Chancellor of Andhra University. Prof. K Sasi Kumar delivered the Presidential address with a number of key issues in Accounting Education and Research in India and abroad. The Inaugural function was graced by a number of distinguished guests including Prof K. Parvathi Kumar,Chairman of IAA,Vizag Branch; Sri KP Shasidharan, Director General(Revenue),CAG of India Office; Sri Madan Mohan,Chairman-SP Capital IQ; Sri P Madhusudan,CMD of RINL Vizag Steel; Sri CVR Rajendran, CMD of Andhra Bank; Prof. RP Srivasthava of Kansas University, USA; Prof Nageshwar Rao, Pro Vice-Chancellor,IGNOU; Prof KV Rao,Vice-Chancellor,Acharya Nagarjuna University and Prof Lajipathi Rai,Vice-Chancellor,Dr BR Ambedkar University. Prof M Madhusudan Rao, Joint Secretary; Prof P Viswanatham, Joint Secretary; Prof B.Mohan Venkat Ram; Prof Dhanunjaya Rao; Prof T. Narayana and Dr KV Siva Prasad took active part in making conference arrangements. Prof EA Narayana, Rector,Andhra University; Prof K. Ramamohana Rao, Registrar,Andhra University; Prof R Sayta Raju, Organising Secretary; and Prof J.Ravi, Joint Secretary took active part in the Inaugural function while Prof P Hrushikesava Rao, Joint Secretary of the conference proposed a formal vote of thanks.

**The Plenary Session** was chaired by Prof RL Godara,Vice-Chancellor of North Gujarat University. Sri P Madhusudan,CMD of RINL Vizag Steel delivered Key Note Address



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of the International Seminar on Accounting Education and Research; Sri KP Shasidharan, Director General(Revenue),CAG of India Office, delivered Key Note Address on Government Accounting; Prof. R P Srivasthava of Kansas University, USA, gave Key Note Address on XBRL, Sri Sunil Gandhi delivered Key Note Address on Emerging Dimensions of Accounting while Sri A Chandrasekhar delivered Key Note Address on Corporate Reporting.

**The International Seminar** on Accounting Education and Research was chaired by Prof Nageshwar Rao, Pro Vice-Chancellor, IGNOU, New Delhi, with Prof KV Rao, Vice-Chancellor of Acharya Nagarjuna University as the Co-Chairman. A number of thought provoking research papers were presented followed by discussion threadbare into some of the interesting research areas of Accounting Education and Research.

**The three technical sessions** took place concurrently wherein high quality research papers were presented followed by rich deliberations. 1<sup>st</sup> Technical Session on Government Accounting(in the AC Seminar Hall of the Department of Commerce & Management Studies(DCMS) of Andhra University(AU)) was chaired by Prof RK Bal of Utkal University with Prof P Viswanaatham of Andhra University as the Co-Chairman; 2<sup>nd</sup> Technical Session on Corporate Reporting and XBRL (in the DCMS Heritage Gallery-105) was chaired by Prof Rajendra P Srivasthava, USA, with Prof V Appa Rao of Osmania University as the Co-Chairman while the 3<sup>rd</sup> Technical Session on Emerging Dimensions of Accounting(in the English Gallery of Arts College, AU) was chaired by Prof B Ramesh of Goa University with Prof ML Vadera of Jodhpur as the Co-Chairman.

**The Cultural Event** excited the delegates excellently, with the world famous three Classical Dance Forms viz., (i) Kuchipudi dance by Ms Rupa Kiran of Hongkong; (ii) Odissi dance by the team of Pandit Shibu Pradhan of Konark Dance Festival and (iii) Kathak dance by the team of Ms Anurekha Ghosh of United Kingdom. The event was ignited with highly melodious Telugu and Hindi Gazals by Sri Chandrasekhar, who provided music support to more than thirty three movies.

**The Valedictory Function** was held on 12<sup>th</sup> Jan.2014 with Prof GSN Raju, Vice-Chancellor of Andhra University as the Chief Guest. The detailed Proceedings of the Sessions held are presented by Prof Hitesh Shukla of Rajkot; Prof PK Pradhan of Bhubaneswar and Dr Shiva Ram of Guntur. The Valedictory event was graced by a number of distinguished guests including Prof P Vijay Prakash, Vice-Chairman, AP State Council of Higher Education; Sri K Srikanth, Joint Director, Anti-Corruption Bureau, Govt. of AP; Sri A. Narayana Prasad, General Manager, Andhra Bank; Dr K Kumar Raja, Managing Director, K Kumar Raja Projects and Dr O Naresh Kumar, CEO, Symbiosys Technologies.

**IAA Executive Committee and General House meetings** were held during the conference as per agenda with healthy discussions on a number of issues concerning the Association. Prof SS Modi of the University of Rajasthan became President of IAA; Prof Pratap S Chouhan of Sourashtra University became Sr Vice-President of IAA while the

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name Prof D. Prabhakara Rao of Andhra University was proposed by the Nomination Committee as Jr Vice-President under Section-9 of IAA Constitution amidst cheerful congratulations and garlanding by the Honourable members.

**A Pre-conference informal fellowship get-together** of the IAA Executive members was celebrated with the Chief Guest and Distinguished Guests of Honour of the conference on 10<sup>th</sup> evening of January-2014 in the Waltair Club, by the side of Governor Bungalow of Visakhapatnam. As a whole the 36th All India Accounting Conference was highly successful and the delegates expressed high degree of delight with the rich academic contributions and comfortable stay arrangements made by the Conference Secretary and his team.

**The Conference was concluded** with a hearty vote of thanks by Prof D. Prabhakara Rao, the Conference Secretary to the Chief Guests, Distinguished Guests of Honour, Chief Patrons, Patrons, IAA Office Bearers, EC members, Past Presidents, Technical Chairmen, Key-note Speakers, Paper writers, Delegates, Sponsors, Faculty Colleagues, University Administration, Research Scholars, Student Volunteers and supporting staff, who worked for the conference.

**Elections were conducted by Prof. M. B. Shukla**, who was nominated as the Election Commissioner by the President Prof. K. Sasi Kumar. The New List of Executive Committee-2014 is listed on Title Page-3.

**PROF D. PRABHAKARA RAO**  
**General Secretary-IAA**

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## **ROUND TABLE DISCUSSION**

On 23<sup>rd</sup> April 2013 Indian Accounting Association, Kota Branch in collaboration with the Institute of Cost Accountants Kota Chapter organised a Round Table Discussion on “Importance of Research and Research Methodology ” under the Chairmanship of Dr. Ashok Kumar Gupta Chairman IAA Kota Branch. Dr. Meenu Maheshwari , General Secretary IAA Kota Branch highlighting the objectives of the programme announced that there is not only the need for equipping research scholars with conceptual clarity but also inculcating in them interest, commitment, motivation and objectivity in collecting and analysing data. A new researcher possesses little knowledge of types of research, research design, procedure and methods. As a result he feels difficulty during the research work and does not produce qualitative results. All this allured conducting such a programme where every participant may know the various dimensions of research methodology.

Key note speaker Prof. G. Soral of MLS U Udaipur expressed his views saying that research is an activity. It emphasises to discover new facts. It is onerous task to compare and predict that which one of the known and unknown is wider. A researcher finds something new from unknown. It is too difficult to think about progress without research. Today's development is the result of research done by our ancestors. It is surprising that without wasting a single minute other developed countries are using Indian sources and producing new knowledge before the world. Prof Soral explained research methodology in detail and suggested researchers to make a budget of cost and energy for creative knowledge

CMA Tapes Mathur shown concerns on deterioration of quality of research due to attention on only money making trend of present generation. CMA J.P. Sarda suggested that commitment is must for qualitative research. Mrs. Priya Sodani and Ms. Jyoti Mishra of MIMT Kota and Anubhav Singh, Hemendra of University of Kota, Kota raised some queries.

At the end of the programme Dr. Ashok Kumar Gupta Chairman IAA Kota Branch in his presidential address quoted a stanza of Kalidas which means “every old is not worst and every new is not good and vice-versa. A wise man takes decision after proper investigation of facts. Dr. Gupta emphasised on scientific and question raising attitude. He urged for objectivity in research work and base of research should be welfare of a common man. Dr. Meenu Maheshwari General Secretary IAA Kota Branch coordinated the programme and CMA Mr. S.N. Mittal presented vote of thanks.

**CMA Dr. Meenu Maheshwari**  
General Secretary  
IAA Kota Branch

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