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PAST GENERAL SECRETARIES

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PRESIDENTIAL REMARKS

Dear Members

You must be preparing research papers for presentation at the forthcoming annual conference of IAA to be held at Chandigarh in December, 2015 for which you must have received invitation for registration from the organising secretary Prof. Karamjeet Singh. We look forward to quality research papers which can help policy makers in our national mission of 'Resurgent India'.

Research for research sake or research for API sake is not enough. The real purpose of research must be to help decision makers in solving the critical problems faced by India and, thus, help in realizing the mission of 'Resurgent India'. To be more specific, the research must identify a critical problem faced by the nation and then develop alternative solutions to solve it. Examine pros and cons of each solution and also its feasibility. This type of applied accounting research will help in arriving at an informed decision. Let us take an example. The country is facing the problem of inflation. Cost-push inflation can be tackled to cost analysis with a special focus on cost control and cost reduction in an industry/ organization. How cost and prices can be reduced? This vital question be answered by accounting research.

Another area for such a research can be productivity accounting. Total and factor productivity be analysed with reference to industry bench marks.Determinants of productivity be found out. Their controllability is ascertained. Aproductivity improvement plan for industry/ organization may be provided as research outcome.

Role of Creative Accounting in corporate financial scams is a big cause of worry. Research must address to the solution of this to evaluate financial accounting standards, internal control systems and working of statutory audit system are urgently called for.

Tax avoidance / evasion by MNC through transfer pricing is giving intolerable headache to Governments of all developed and developing countries. Taxation of foreign companies, working of transfer pricing, identification of legal loopholes and suggestions to plug them must be the focus area of taxation re-search.

How can accounting research help to make Resurgent India? Think, interact and write on this.

Looking forward to your active response !

All the best wishes for new academic year 2015-16

Professor Pratap Sinh Chauhan
President IAA
Vice Chancellor, Saurashtra University, Rajkot

EDITORIAL

Welcome to the volume XLVII issue 1 of Indian Journal of Accounting, the Journal of Indian Accounting Association. The Journal has been well received by the research community at national and international level. I am glad to inform you all that our journal has been recognized by Global impact factor. It has been given rating of **.785** for the year 2014 and the inclusion of journal in a couple of more databases is under process.

India is a place that is known for varied culture, a nation with a rising economic growth, rich social legacy, largest democracy and a nation, which taught the world the standards of business. We are focus of fascination for entire of the world and it is the time, India ought to spread the relevance of Indian ethos, which laid down our milestones of success. Out of many ethical profits or "shubha labha" is one of the important notions and has been used by Indians from thousands of years. In Indian business system Profit means shubha labha but the question arises that what it is? In accounting literature any hypothetical assumptions on this concept is not available so far. In Indian mythology, Lord ganesha adorned with Riddhi and Siddhi. Riddhi is also known as wisdom and siddhi means advent of good fortune. Further philosophy move forward with the notion that Riddhi and Siddhi is the mother of shubh labha respectively. In todays business for getting the maximum satisfaction and long term profitability the need of the hour is to utilize our wisdom by employing auspicious and beneficial activities.

It is difficult to understand the profit term and deciding the limit of earning profit. But it is true that if profit (labha) generated through unethical means cannot be shubha. This implies that individual and corporate actions should be driven by the criterion of the overall benefit of the society. *Sarve Bhavantu Sukhina, sarve santu nirmaya* is an ancient Sanskrit shloka outlining the basic philosophy of life and implies welfare of all and survival of all. The next issue of the journal would like to invite articles on the theme of Shubh-labha in Indian perspective.

This time also the journal has received a number of empirical papers, like previous editions. The first paper of Tanaka G. on value relevance based on Ohlson model will help in understanding the valuation concept. Sarmah R. checked creditworthiness of MSMEs by projected cash flow statements. Readers who are interested in forward looking statements may find the paper of B. Charumathi worthy. Roy examined mutual fund performance, which may broaden the understanding on market timings of mutual funds. Readers who want to know co-integartion among BRICS countries may find Rao's paper suitable. The quest of readers about financial performance measurement is well take care by Mengi T.. Saini A. emphasized on cross border M & A while K. Nirmala on price discovery in commodity markets. Researchers interested in knowing the causality relationship of economic growth may find the paper of Negi P. and Singh G. appropriate. The study of Shukla A. aimed to know the stress experienced by accountants. The study of Sharma D. and Bhatia S. on working capital management will help in knowing the conventional concepts of finance. The study on banks will explore new vistas by Singh S. on selection of commercial banks and Nag A. on NPAs. Lastly, the journal includes the article of Dave M. on women empowerment included in the New companies act 2013.

We look forward to receiving more research papers for future issues and encourage further submissions. Hope you would appreciate the efforts of our editorial team. I would like to extend my sincere & heartfelt obligation to my scholars Ms Jaspreet Kaur and Ms Mamta Verma for their active cooperation. Trust you may like this issue.

Happy reading

Prof. Umesh Holani, Chief Editor, IJA, Journal of Accounting Association

CONTENTS

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VALUE RELEVANCE OF INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS): EVIDENCE FROM PERUVIAN COMPANIES

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ABSTRACT

The main purpose of this paper is to investigate the value relevance of accounting information of the firms listed at the Lima Stock Exchange (BVL) for the period of 1994-2012. The market value relevance was tested using the Ohlson (1995) model. According to previous studies, the combined value relevance of both book value and earnings per share was very high in the first years of adoption of international accounting standards (IFRS), but sharply decreased in the following period. On the contrary, in this research the empirical results generally indicate that the value relevance of the companies listed in the Peruvian stock market continues to be strong (even lower) after the early adoption period of IFRS in Peru. Moreover, the combined effect of book value, earnings per share and cash flow per share, proved to be particularly relevant, with higher relevance than the combined effect of book value and earnings per share. Furthermore, when investigated separately, the value relevance of book value was higher than that of cash flow per share or earnings per share (EPS).

Key Words: Value relevance, Accounting information, IFRS, Ohlson model, Peru

INTRODUCTION

Among the multiple goals of accounting information, valuation is arguably one of the most important. Valuation research aims at relating accounting numbers to measure a firm's value (Barth, 2000). The valuation research area which aims at investigating the empirical relation between stock market values (or changes in values) and particular accounting numbers for the purpose of assessing an accounting standard is broadly categorized as the ''value-relevance'' literature (Holthausen and Watts, 2001).

When a firm's value is summoned up by studying the financial statements of the company, it is referred to as value relevance (Hellstrom, 2006). A more comprehensive definition of value relevance is given by Barth *et al.*(2005)who state, that value relevance is an empirical operationalization of the criteria of relevance and reliability of accounting numbers as reflected in the equity value. It is expressed as the relationship between financial statements and stock returns of the company specific. Infact, it has been studied by various studies Ohlson model (1995) which has included these as the measure of value relevance.

This paper aims to investigate the value relevance of listed Peruvian companies in the period between 1994 and 2012.

In the Peruvian case, the CNC (Peruvian Accounting Standard Board) issued a series of resolutions from 1994 to 1998 through which it officially adopted IAS (former IFRS) as the Peruvian GAAP for the purposes of statutory financial reporting. Peru officially adopted 34 IAS standards and 32 interpretations by 1998. However, the previous adopted IAS were not updated in a timely manner due to the CNC's limited resources as well as domestic inflation (World Bank, 2004). Therefore, all companies must follow the Peruvian GAAP, which include IAS endorsed by the CNC (World Bank, 2004). On October 14, 2010, the Peruvian security market regulator, CONASEV (now known as SMV) required public companies in the local Stock Market to fully adopt IFRS starting from January 1, 2011(Deloitte IAS Plus, 2011).

This research becomes relevant for the following reasons; from the macroeconomic perspective Peru has been growing at a very high pace since the last decade and some institutional and regulatory changes –including the adoption of the international accounting standards- have contributed to this growth (see Appendix 1). From the accounting perspective not much research has been done regarding accounting –in general- and more specifically regarding value relevance of Peruvian companies' accounting information has been done before.

VALUE RELEVANCE

ORIGIN OF VALUE RELEVANCE

According to Barth *et al.* (2001) and Escaffre and Sefsaf (2011), although the literature examining value relevance dates back over almost 50 years (Miller and Modigliani, 1966), the first study that used the term "value relevance'' to describe this association is Amir (1993).

CLASSIFICATION OF VALUE RELEVANCE RESEARCH

A number of classifications of Value Relevance research have been done. Three of the classifications will be presented in the following paragraphs: Holthausen and Watts (2001), Ruland*et al.* (2007), and Morais and Curto (2009).Holthausen and Watts (2001) classify the value-relevance studies into three categories: (1) Relative association studies compare the association between stock market values (or changes in values) and alternative bottom-line measures; (2) Incremental association studies investigate whether the accounting number of interest is helpful in explaining value or returns (over long windows) given other specified variables and (3) Marginal information content studies investigate whether a particular accounting number adds to the information set available to investors.

Ruland *et al.*(2007) classify into two broad classifications with respect to experimental design: (1) between-country designs, and (2) within-country designs. Tsalavoutas *et al.*(2012) have a similar classification distinguishing between single country studies and studies comparing the effect of adoption in several countries.

Finally, Morais and Curto (2009) classify value relevance research into two groups: Studies on the value relevance of IASB standards, and Studies on the differences between accounting systems.

SOME IMPORTANT VALUE RELEVANCE STUDIES

The results of value relevance in a number of studies are mixed. Bruggemannet *al.* (2010), found evidence of increasing value relevance following mandatory IFRS adoption, especially in equity markets. Barth *et al.* (2008) compared the value relevance of accounting amounts for companies that applied IASB standards and companies that did not. They found that companies which applied IASB revealed more value relevance of accounting amounts than companies which followed local accounting standards. Several authors compared the value relevance of the German GAAP with that of the U.S. GAAP and IFRS with mixedresults (Bartov *et al.*, 2005; Schiebel, 2006; Hung and Subramanyam, 2007). There are also mixed views as to whether the U.S. GAAP are more value relevant than the IFRS (Harris and Muller, 1999; Van derMeulen *et al.*, 2007). Paanamen (2008) found no evidence of any improvement to Swedish accounting reporting quality after adoption of IFRS. In fact, some evidence suggested the contrary (the quality of Swedish financial reporting had declined after the adoption of IFRS). In a multi-nation study, Ali and Hwang (2000) found that esteem pertinence is lower in the Continental European bunch than it is in the Anglo-Saxon group. IFRS are not discovered to be more esteem applicable than the national GAAP in Finland (Niskanen et al., 2000) and Switzerland (Babalyan, 2001).

Morais and Curto (2009) examined quality pertinence in fourteen European nations (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) after the obligatory appropriation of IASB guidelines, and found that the worth significance of monetary data amid the period that organizations connected compulsory IAS/IFRS was higher than the worth importance for the period amid which they connected nearby bookkeeping principles. Similar studies have been conducted in other countries, and show mixed results. Gornik-Tomaszewski and Jermakowicz (2001) found that value relevance in Poland is similar to the levels found in more developed economies. Lin and Chen (2005) concluded that the Chinese GAAP are more value relevant than IFRS.

Devalle *et al.* (2010), in a research regarding value relevance in Europe after the introduction of IFRS, found a regression of share price on book value of equity per share and earnings per share for all companies in the sample. IFRS are found to have increased value relevance of earnings, while value relevance of book value of equity has decreased. The explanatory power of the regression has thus increased. For individual countries, the effects of IFRS are mixed.

Callaoet al. (2007) dissected the impact of the appropriation of IFRS in Spain. They found that there has been no change in the pertinence of budgetary answering to nearby securities exchange operators, because the hole in the middle of book and business qualities is more extensive when IFRS are connected.

RELEVANT LITERATURE

Regarding value relevance of Peruvian companies, two studies can be mentioned: Ndubizu and Sanchez (2006) and Liu*et al. (2012). Ndubizu* and Sanchez (2006) examined the

valuation properties of accounting standards in Chile and Peru between 1994 and 1999. They found that earnings and book value prepared under IAS in Peru offered value-relevant information to investors. Moreover, they also concluded that positive earnings are value relevant for the Lima Stock Exchange listed companies, while book value is not informative for loss firms in Peru. It is important to mention that the Ndubizu and Sanchez (2006) paper was lately criticized by Ruland *et al.* (2007), specifically issues with control variables in the former, which compared the Chilean and Peruvian systems.

On the other hand, Liu *et al.* (2012) reached different conclusions in a value relevance research of the Peruvian companies' stock values between 1999 and 2007. For their analysis, Liu *et al.*(2012) divided that period in to three groups, based on major changes that were made to the accounting system: early IFRS between 1999 and 2002, early IFRS between 2002 and 2004, and a more recent period of IFRS between 2005 and 2007. The empirical results generally indicated that value relevance improved as a result of the transition from the IAS period to the early IFRS period, when the International Accounting Standards Board (IASB) took over the International Accounting Standards Committee (IASC). Notwithstanding, esteem importance compounded as a consequence of the move from the early IFRS period to the late IFRS period, when additionally bookkeeping guidelines began to mirror IASB's inclination for reasonable worth estimation of advantages and liabilities.

The findings of Liu *et al.* (2012) support the hypothesis that major changes to accounting standards resulted in significant changes to accounting quality under IAS. Empirical evidence reveals that value relevance of accounting measures decreases with increased emphasis on fair value measurements in less liquid markets. In conclusion, accounting quality measured by value relevance improved as a result of the transition from the IAS period to the early IFRS period, but worsened as a result of the transition to the recent IFRS period among Peruvian firms (Liu *et al.*(2012).

Finally, a related research can also be mentioned. Martínez *et al.*(2012) in an analysis of several Latin American countries (included Peru) between 2002 and 2009 concluded that the Ohlson Model is a powerful tool for predicting the price of stocks for most Latin American stock markets, with the exception of Venezuela, Argentina, and Colombia.

RESEARCH METHODOLOGY

This paper's main purpose is to investigate the value relevance of listed Peruvian companies in the period between 1994 and 2012. This paper also aims at investigating whether the value relevance of accounting information of companies listed in the Peruvian stock exchange actually dropped in the period after the early adoption of IFRS (after 2004). Finally, another goal of this research is to determine which variables (EPS, book value per share and/or cash per share) are the most value relevant in the Peruvian market.

As expressed beforehand, in this examination the Ohlson model is utilized. The Ohlson model speaks to firm esteem as a direct capacity of book estimation of value and the present estimation of expected future irregular profit. The model expect flawless capital

markets, however allows flawed item advertises for a limited number of periods. With extra suppositions of direct data motion, firm esteem (measure utilizing stock cost) can be re-communicated as a straight capacity of value book worth, net salary, profits, and other data. (Barth et al. 2001).

According to Lambert (1996), the value-relevance literature uses stock prices to assess investors' use of financial reporting information because those prices ''represent the aggregation of individual investors' valuations of the firm and the information upon which that valuation is based.'' (Lambert, 1996, pp. 6–7).

Collins *et al.*(1999) point out that the role of book value of equity as a proxy for expected future -normal earnings is heightened for loss firms because negative earnings are not informative about future operation. Several papers report that the value relevance shifts from earnings to book values in the presence of losses (Collins *et al.*,1997, 1999), with book value being more value relevant than earnings for loss firms.

The stock price of a firm can be expressed as a function of its earnings and book value of equity (Ohlson, 1995; Collins *et al.*, 1997) as follows:

$$P_t = b_1 + b_2 EPS_t + b_3 BV_t + \varepsilon_t$$

Where P is the stock price per share of firm i three months after fiscal year-end t, EPS is earnings per share of firm i during year t, BV is the book value of equity per share of firm i at the end of year t and ε is other non-accounting value relevant information.

OHLSON MODEL´S USE JUSTIFICATION

A number of different models can be used to evaluate value relevance. Among the most used, the Ohlson model and the Chow test can be named. Pevalle *et al.*(2010) state that the Chow test is applied to compare the value relevance for different countries or time periods, and relies on the comparison of the explanatory power of the models, without testing for a structural break in the coefficients.

Durán *et al.* (2007) characterize valuation as an endeavor to clarify the inherent estimation of the firm and survey to what degree bookkeeping data may be valuable to recognize mispriced stocks. Book qualities and profit have been recommended as the two basic bookkeeping variables when attempting to clarify stock costs (Ohlson, 1995).

The Ohlson model (1995) underlies the conventional conviction that the organization quality is made out of two fundamental parts: the net estimation of the venture made in it (book worth), and the present estimation of the period advantages (income) that together bring the "clean excess" idea of the Shareholders' Equity esteem. All the more particularly, Ohlson (1995) inspires the appropriation of the authentic value show in quality pertinence studies, which communicates esteem as an element of profit and book values.

Book value and earnings perform a central reference role in the companies' valuation process. However, the way that both variables impact the price behavior in the market remains a question to be answered. In this study, a variation of the Ohlson model is applied.

HYPOTHESES DEVELOPMENT

Kwon (2009) states that some researches raise questions about the value relevance of earnings (Amir and Lev 1996; Basu 1997; Elliot and Hanna (1996); Francis and Schipper (1999). Furthermore, Kwon (2009) also posits that Wilson (1986), Bowen and Burgstahler (1986, 1987), Cheng, *et al.* (1997) find that cash flows have incremental information content consistent with earnings. Thus, in the Peruvian case, what variables (EPS, BV, CF) are more value relevant? Is the value relevance improved when those variables are analyzed alone or together? Consequently, the following research hypotheses emerge from the proceeding discussions of the paper.

H1: Earnings per share are value relevant relative to stock price:

$$P_t = b_1+b_2EPS_t+\varepsilon_t$$

H2: Book value of equity per share is value relevant relative to stock price:

$$P_t = b1+b_2BV_t+\varepsilon_t$$

H3: Cash per share is value relevant relative to stock price:

$$P_t = b_1+b_2CF_t+\varepsilon_t$$

H4: Combined earnings per share and book value are value relevant relative to stock price:

$$P_t = b_1+b_2EPS_t+ b_3BV_t+\varepsilon_t$$

H5: Combined earnings per share, cash per share and book value are value relevant relative to stock price:

$$P_t = b_1+b_2EPS_t+ b_3CF_t+b_4BVt+\varepsilon_t$$

where:

P_t: Stock price 1 month after the end of fiscal year t, where year t is the event year.

BV_t: Book value at the end of year t

EPS_t: Earnings per share in period t

CF_t: Operating Cash Flows in period t

$\varepsilon_{t:}$ a normally distributed error term

The reason why one month was considered is because Peruvian corporations have the obligation to submit their financial statements up to one month after closing the accounting period.

SAMPLE SELECTION AND DATA

The sample is selected for Peruvian firms for the period 1994–2012. All necessary data was obtained from the Thomson database. Consistent with Easton and Sommers (2003), in order to avoid scale effect in the regression of price per share, ‘‘per share’’ financial statement variables were used (i.e. cash per share, earnings per share and book value of equity per share).

A total of 2,858 firm-years were taken into consideration for this research. From them 792 (27.7%) observations were discharged for a number of reasons (incomplete data, outliers, etc.), leaving only 2,066 (72.3%) observations.

ANALYSIS OF THE RESULTS

The results presented in Appendix 2 support H1, H2, H3, H4 and H5. They indicate that earnings per share, cash per share and book value have the ability to reflect the variance in market value of equity. As can be seen, the value relevance is improved when the three variables (Cash Flow per share, earnings per share and book value of equity per share) were considered. When evaluated independently, BV per share proved to be the most value relevant, followed by Cash Flow per share and EPS (see Appendix 2, Table 6).

For a more comprehensive presentation of the analysis' results, see Appendix 2 (Statistics).

As concluded by other scholars, Barth *et al.* (2008), and Karðýn, M. (2013), the value relevance was very high in the first years after the adoption of IFRS, and then fell afterwards. However, despite the drop, the data proves that the Peruvian companies' accounting figures have high value relevance.

SUMMARY AND CONCLUSIONS

This paper studied the value relevance of accounting figures in the Peruvian stock market (Lima Stock Exchange) between 1994 and 2012. On one hand, this paper complements previous studies by Ndubizu and Sanchez (2006), Liu *et al.(2012) and also* Martínez*et al.* (2012), which cover different periods (from 1994 to 1999 for the first one, from 2002 to 2009 to the second and from 1999 to 2007 to the latter). On the other hand, contrary to the research of Liu *et al.* (2012) this paper reaches a different conclusion regarding the value relevance of accounting numbers in the period following the early adoption of IFRS in Peru: there is high value relevance not only in the early IFRS adoption period, but also in the period after 2004.

When analyzing value relevance of different variables, the combined effect of EPS, BV per share and Cash Flow per share proved to have the most value relevance. At the same time, when analyzing each variable independently, BV was shown to be the most effective variable as a predictor for price per share, followed by CF per share and EPS (see appendix 2, Table 6).

For a detailed presentation of all the statistics, see Appendix 3, Tables 1 to 8. The contributions of this research are multiple: 1) There is not much research regarding Peruvian accounting, in general, and specifically in the Value Relevance topic;2) This is the first study of Value Relevance of Peruvian listed companies using such a long period of time (nineteen years); and 3) This paper proves that Peruvian accounting figures are value relevant, which is a very important statement, especially for stakeholders like investors and shareholders.

The study faces some limitations. First, the data used in the research was collected to include only companies with available data for variables and years (1994 to 2012). A longer period was preferred but regretfully the sample size before 1994 was so low that it is was not appropriate for the analysis. A second limitation is that the sample size in the first years of analysis is not very large. However, the data's is consistent with the development of the Peruvian stock market. The market capitalization and the number of listed companies have increased considerably from 1994 to 2012. In 1994 the number of listed companies was 218 and the market capitalization was 8,163 million of US dollars (Delgado and Humala, 1996). In 2012 the figures were 153,404 million of US dollars (market capitalization) and 282 listed companies (Bolsa de Valores de Lima, 2013).

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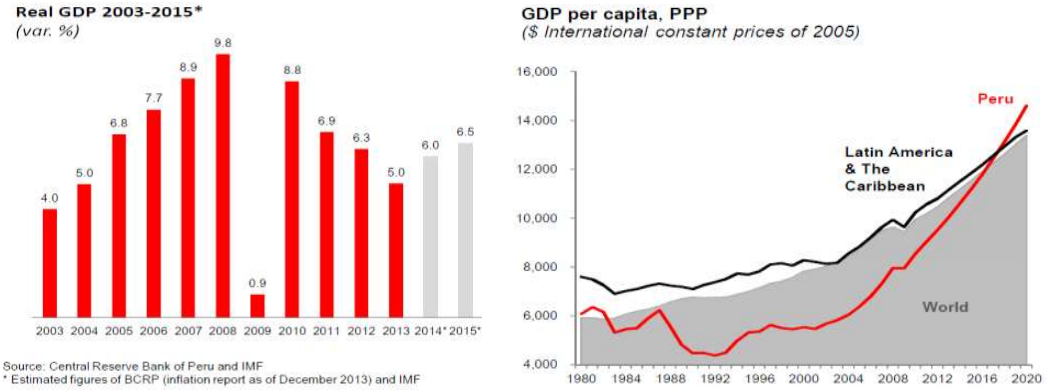
APPENDIXES

Appendix 1: Peruvian Economy



Appendix 2: Peruvian Accounting Standards for the Fiscal Year 2012

Peruvian IFRS set by the CNC (Peruvian Accounting Standards Board)

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SIC 32

Source : Resolution No. 053-2013-EF/30

Appendix 3 : Statistics Table 1 : Sample's Characteristics

Year	Total observations	Net considered (incomplete data outliers etc.)	Percentage from total	# Observations used in the regression	Percentage from total
1994	63	23	36.5%	40	63.3%
1995	52	21	40.5%	31	59.6%
1996	81	30	37.0%	51	63.0%
1997	82	28	34.1%	54	65.9%
1998	100	36	36.0%	64	64.0%
1999	134	44	32.8%	90	67.2%
2000	157	52	33.1%	105	66.9%
2001	157	51	32.5%	106	67.5%
2002	152	48	31.6%	104	68.4%
2003	147	46	31.3%	101	68.7%
2004	139	42	30.2%	97	69.8%
2005	205	58	28.3%	147	71.7%
2006	203	54	26.6%	149	73.4%
2007	215	55	25.6%	160	74.4%
2008	212	51	24.1%	161	75.9%
2009	207	46	22.2%	161	77.8%
2010	195	41	21.0%	154	79.0%
2011	193	38	19.7%	155	80.3%
2012	164	28	17.1%	136	82.9%
Total	**2,858**	**792**	**27.7%**	**2,066**	**72.3%**

Table 2 : Descriptive statistics for market measures and accounting measures

Year	Earnings per share		Book value per		Cash flow per share		Price per share	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
1994	1.4167	8.4695	7.5684	40.7126	0.8537	4.0638	4.0020	10.5389
1995	2.7672	13.2213	13.0462	62.0074	3.9331	18.1708	4.3852	12.4286
1996	1.4259	10.0178	10.5769	63.4696	1.6352	8.8079	4.4596	10.0069
1997	1.2764	8.7305	11.6391	72.2532	1.8181	11.4706	4.1441	8.8952
1998	0.7593	6.2463	9.3773	59.3911	2.8929	20.8400	3.2383	7.1979
1999	0.0912	1.1582	2.4477	7.2365	0.4697	1.7217	3.5107	11.9481
2000	0.1059	0.9291	1.1948	13.0881	0.3241	1.7132	3.1053	11.0741
2001	0.0916	0.6173	2.1224	5.1878	0.2353	0.6620	3.2334	11.4842
2002	0.1289	0.5304	1.9896	4.3356	0.4004	1.1259	2.7182	7.3717
2003	0.1496	0.4592	2.1796	5.0812	0.5217	1.1564	4.1656	12.8861
2004	0.2391	0.8033	0.2391	4.6809	0.5836	1.4856	4.5724	13.4987
2005	0.4694	2.2737	3.7293	11.8841	1.1167	4.6047	5.1773	14.9623
2006	0.9648	4.5856	4.6376	14.2824	1.6642	6.9285	7.9334	21.8281
2007	1.1871	6.4193	5.4674	17.3650	1.3056	4.6084	8.0218	18.6590
2008	0.3448	1.4704	5.2418	16.3065	0.3451	7.7232	6.6986	20.0684
2009	0.9914	4.0563	5.0354	13.6105	1.5591	6.0474	8.0145	19.0172
2010	0.8735	2.0684	5.3035	14.1098	1.9441	7.4966	9.0940	20.0061
2011	2.0790	11.5091	7.7926	25.4359	2.7753	12.0595	9.6037	22.6145
2012	1.3674	4.5829	9.0475	29.1173	2.4927	9.0629	12.2726	27.5974

Table 3 : Value relevance regression result (1)

$$Pt = b1 + b2EPSt + \varepsilon t$$

Year	R2	b2	t-value	p-value
1994	0.884769	1.170451916	17.08135233	2.01458E-19
1995	0.971382	0.933409016	31.37433449	6.22525E-24
1996	0.720522	0.847917219	11.23951774	3.61477E-15
1997	0.650862	0.821975851	9.845728365	1.7734E-13
1998	0.523158	0.833486757	8.247556793	1.4733E-11
1999	0.481044	7.155034555	9.031674613	3.53234E-14
2000	0.318952	6.731389512	6.945388482	3.48991E-10
2001	0.134862	6.832264713	4.026416766	0.30107813
2002	0.136861	5.141637783	4.0216086	0.30110995
2003	0.955676	8.679274686	3.25265873	0.001559482
2004	0.032427	3.025865969	1.784317149	0.077564612
2005	0.140836	2.469611926	4.875306739	2.81976E-06
2006	0.645474	3.824370558	16.35964349	6.45903E-35
2007	0.039915	0.580729037	2.562975016	0.011311596
2008	0.002742	0.71465288	0.661168078	0.509461441
2009	0.102652	1.5021001	4.251403812	3.62232E-05
2010	0.422940	6.290241422	10.55481418	7.01774E-20
2011	0.076529	0.543575514	3.560808656	0.000493033
2012	0.262058	3.08265888	6.89827391	1.89355E-10

Table 4 : Value relevance regression result (2)

$$Pt = b1 + b2bVt + \varepsilon t$$

Year	R2	b2	t-value	p-value
1994	0.900586	0.24565704	18.55375492	1.20837E-20
1995	0.970528	0.197460836	30.90276373	9.53969E-24
1996	0.758769	0.137338058	12.41469882	9.58336E-17
1997	0.698300	0.102877157	10.97071062	3.84935E-15
1998	0.573060	0.091745625	9.122461838	4.58521E-13
1999	0.405361	1.051216938	7.426003	1.5306E-11
2000	0.157040	0.33530377	4.380461444	2.85491E-05
2001	0.654789	1.79128644	14.04509501	9.17529E-26
2002	0.072071	0.456457445	2.814633183	0.00586119
2003	0.509528	1.810237742	10.1924017	3.74967E-17
2004	0.277747	1.515815628	6.0442337087	2.93022E-08
2005	0.359345	0.754725917	9.018354293	1.0421E-15
2006	0.441073	1.015011691	10.77050582	2.64414E-20
2007	0.281968	0.570575364	7.876921292	5.07606E-13
2008	0.36313	0.741627711	9.521600036	2.73919E-17
2009	0.197581	0.621076058	6.23735705	3.90246E-09
2010	0.263521	0.727862088	7.374779778	9.92052E-12
2011	0.211911	0.409276699	6.41409235	1.6747E-09
2012	0.096460	0.294367335	3.782258106	0.000233282

Table 5 : Value relevance regression result (3)

$Pt = b1 + b2CFt + \varepsilon t$

Year	R2	b2	t-value	p-value
1994	0.878341	2.52069572	15.89617755	1.339126E-17
1995	0.972183	0.685210393	2.51523E-23	0.640341674
1996	0.831161	1.04261761	14.88374183	5.36253E-19
1997	0.669403	0.646448151	10.06189363	1.30577E-13
1998	0.560514	0.262172226	8.747748125	2.62894E-12
1999	0.649305	5.681513033	12.54495902	4.85924E-21
2000	0.525832	4.687403295	10.68750228	2.19224E-18
2001	0.232838	8.370290156	5.61823427	1.62356E-07
2002	0.044864	1.386753538	2.188847536	0.030888831
2003	0.185964	4.805499136	4.779613499	6.04396E-06
2004	0.187876	3.938511381	4.687979567	9.21461E-06
2005	0.143656	1.231578246	4.931983969	2.20151E-06
2006	0.727052	2.686312593	19.78796164	2.73897E-43
2007	0.114476	1.373666594	4.505123764	1.28862E-05
2008	0.001797	0.110156458	0.935039483	0.5933734
2009	0.079748	0.890470854	3.688546341	0.000310387
2010	0.129251	0.959438676	4.749980624	4.66847E-06
2011	0.236606	0.912161628	6.886271156	1.391660E-10
2012	0.274042	1.624180304	6.951174786	1.65369E-10

Table 6 : Comparison of the value relevance of three independent variables

Independent variables : Earnings per share, book value per share and cash flow per share

Year	R2			Highest value relevance	
	Earnings per share	Book value per share	Cash flow per share	Amount	Independent Variable
1994	0.884759	0.900586	0.878341	0.900586	Book value per share
1995	0.971382	0.970528	0.972183	0.972183	Cash flow per share
1996	0.720522	0.758769	0.831161	0.831161	Cash flow per share
1997	0.650862	0.698300	0.669403	0.698300	Book value per share
1998	0.523158	0.573060	0.560514	0.573060	Book value per share
1999	0.481044	0.405361	0.649305	0.649305	Cash flow per share
2000	0.318952	0.157040	0.525832	0.525832	Cash flow per share
2001	0.134862	0.654789	0.232838	0.654789	Book value per share
2002	0.136861	0.072071	0.044864	0.136861	Earnings per share
2003	0.095676	0.509528	0.185964	0.509528	Book value per share
2004	0.032437	0.277747	0.187876	0.277747	Book value per share
2005	0.140836	0.359345	0.143656	0.359345	Book value per share
2006	0.645474	0.441073	0.727052	0.727052	Cash flow per share
2007	0.039915	0.281968	0.114476	0.281968	Book value per share
2008	0.002742	0.363136	0.001797	0.363136	Book value per share
2009	0.102652	0.197581	0.079748	0.197581	Book value per share
2010	0.422940	0.263521	0.129251	0.422940	Earnings per share
2011	0.076529	0.211911	0.236606	0.236606	Cash flow per share
2012	0.262058	0.096460	0.274042	0.247402	Cash flow per share

Table 7 : Value relevance regression result (4)

$Pt = b1 + b2EPSt + B3BVt + \varepsilon t$

Year	R2	b2	t-value	p-value	b3	t-value	p-value
1994	0.887250	-1.493554711	-1.747211256	0.088679021	0.563744946	3.180271176	0.002926532
1995	0.971391	1.037073743	0.918905745	0.36599354	-0.021947613	0.091885848	0.927442993
1996	0.815245	-2.916032703	-3.830508007	0.000370941	0.596065515	4.960800114	9.21199E-06
1997	0.785390	-3.451472	-4.5492909	3.35292E-05	0.51837477	5.654120589	7.10483E-07
1998	0.617943	-1.889883027	-2.676973754	0.009529652	-1.889883027	3.890182139	0.00025026
1999	0.530203	5.003828353	4.808217318	6.32699E-06	0.288844503	3.017219277	0.003345185
2000	0.332529	8.719764583	5.178563992	1.1287E-06	0.50254725	-1.440396064	0.152817874
2001	0.663554	1.855963142	1.638139205	0.104444073	-0.172174637	12.72220816	7.49973E-23
2002	0.207601	4.429042073	2.965205457	0.003766706	1.715045271	2.03178299	0.044775642
2003	0.519775	-3.50457317	-1.202642458	0.23201234	0.347251263	8.786746414	5.17467E-14
2004	0.337244	-5.595221682	-2.904931323	0.004579267	0.985163848	6.575168036	2.70509E-09
2005	0.394699	-2.109904779	-2.90012113	0.004315523	2.173487799	7.771331249	1.34391E-12
2006	0.656154	3.282924457	9.556416189	4.16386E-17	1.08169107	2.129484868	0.034891449
2007	0.359959	-1.194561889	-4.373908075	2.21436E-05	0.234874408	8.860350482	1.63133E-15
2008	0.414221	-3.409997007	-3.7122014807	0.000284532	0.894540629	10.53503343	5.43899E-20
2009	0.209965	-0.996232843	-1.568748572	0.118719802	0.87401119	4.617979328	8.01804E-06
2010	0.423235	6.088205552	6.466360997	1.31449E-09	0.038334834	0.27774779	0.781585892
2011	0.501574	-3.507395861	-9.398686273	7.95971E-17	1.922429109	11.38513482	4.17914E-22
2012	0.348993	6.3743441	7.182770587	4.37547E-11	-0.588657042	4.214326875	4.59371E-05

Table 8 : Value relevance regression result (4)

$Pt = b1 + b2EPSt + b3CFt + b4BVt + \varepsilon t$

Year	R2	b2	t-value	p-value	b3	t-value	p-value	b4	t-value	p-value
1994	0.916323	-2.674934747	-2.385237614	0.022966754	0.587202705	3.407723837	0.001741363	2.254453188	2.108210771	0.042689766
1995	0.973307	-2.182154311	-0.830231801	0.413966473	-0.132536023	-0.524817259	0.604156872	2.745312588	1.364250612	0.184182229
1996	0.831794	0.504350095	0.242017726	0.809916978	-0.110265048	-0.369575233	0.713512907	1.274922467	1.043992735	0.30232261
1997	0.801536	-0.557339972	-0.33418431	0.739696244	0.841318131	4.481071475	4.59951E-05	-4.312978739	-1.95574143	0.056329722
1998	0.617739	-1.962185907	-2.173899445	0.033807222	0.263839273	1.644107801	0.105564188	0.094103404	0.164286195	0.870077043
1999	0.688274	-2.738015608	-1.857348581	0.000130061	-0.754124319	-3.169475073	2.45146E-23	10.17727546	6.495396219	6.69056E-05
2000	0.582011	-4.880900865	-2.213662539	0.029101487	-0.11557911	-1.212309253	0.228222261	7.732347642	7.764223027	6.92758E-12
2001	0.712324	5.371038953	3.978174194	0.000130061	2.180004629	12.98333644	2.45146E-23	6.851010028	-4.15838545	6.69056E-05
2002	0.186573	5.921623252	3.699545179	0.000353303	0.824901329	2.464315212	0.015433158	-3.13104034	-2.20155833	0.029995521
2003	0.522411	-2.437422424	-0.878512998	0.381814269	2.07391642	8.307987433	5.56198E-13	-0.890616129	-0.69315825	0.489849758
2004	0.337376	1.624180304	-2.722109079	0.007745041	2.232908664	4.07394507	9.71736E-05	-0.243098367	-0.13632611	0.891858157
2005	0.395176	-1.981978955	-2.407554774	0.017334747	1.097003521	7.468750121	7.32176E-12	-0.12095837	-0.33578558	0.737524723
2006	0.778995	1.523594814	4.49714133	1.40068E-05	0.092387524	1.024949042	0.307094095	1.779776876	8.977515008	1.32293E-15
2007	0.375531	-1.738807794	-4.501566386	1.31821E-05	0.809628317	7.425694415	7.00266E-12	1.138972423	1.980489958	0.049418365
2008	0.421338	-3.559110812	-3.859338072	0.000165704	0.881024021	10.63898952	3.02584E-20	0.220780756	1.389598368	0.166618299
2009	0.219812	-0.919949181	-1.443934382	0.15077566	1.035150719	4.687830551	6.00807E-06	-0.518673343	-1.42210197	0.157005828
2010	0.484376	6.847516242	7.515287022	4.76919E-12	0.560020648	3.109078302	0.002246145	-1.327153517	-4.21743532	4.25664E-05
2011	0.547435	-3.652004708	-10.18173364	7.32131E-19	1.464883614	7.348265017	1.17391E-11	1.168604664	3.911781852	0.000138121
2012	0.353841	5.166196607	3.794926737	0.000228278	-0.53760294	-3.617776955	0.000428573	0.53994942	1.162477584	0.247238591

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CASH FLOW STATEMENT IS A USEFUL TOOL FOR MEASURING CREDIT WORTHINESS OF THE MSMEs - A CASE STUDY

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ABSTRACT

This paper is an attempt to justify how a projected cash flow statement be a useful tool for judging credit worthiness of MSMEs to measuring the credit risk involve in MSME finance. 100 MSMEs registered under DICC of Jorhat and Sivasagar districts of Assam have been randomly selected consisting 40 each from Micro and Small and 20 from Medium entrepreneurs based on their investment in plant and machinery as defined under MSME Act, 2006. 50 public sector bank branches have also been selected randomly from both the selected districts covering all the 17 community blocks. The study revealed that majority portion of respondent MSMEs (i.e. 80 percent) are dependent on professionals in filing their loan proposals and thereby misunderstands between the borrowers and lenders in presenting loan proposals. A majority portion of bank managers (i.e. 90 percent) are in favour of replacing income statement and position statement by cash flow statement , as cash flow statement reflect generation and utilization of cash of MSME units and this can be verified with the income tax return filled by the borrowers.

Key Words: MSMEs, Cash Flow Statement, Accounting ratio, Bank Credit, Financial Statements, Credit wordiness

INTRODUCTION

The Micro, Small and Medium sector has been consistently registered higher growth compared to the overall industrial growth in respect to GDP and employment generation in particular. As per the Fourth All India census of MSMEs, the sector employees around 60 million people across 30 million enterprises and in terms of value, the sector account for about 45 percent of India's manufacturing outputs and over 43 percent of the total export. Despite these effort banks credit to MSME sector witnessed a CAGR of 31.4 percent during the period of March 2006 to March 2012. Banks have been apathetic towards lending to MSMEs, apprehended that loans given to MSMEs may became non-performing assets.

The Micro, Small and Medium Enterprises (MSMEs) with its present strength of 2.5 crore units employs 60 million odd people is struggling to stay afloat as many as 4, 80,946 units closed down over the five years period preceding 2006 and another 77,723 units were declared sick as reported by "The Fourth All India Census of MSMEs", 2006-07, released on November 19, 2010. The report also highlights that obtaining adequate and timely credit especially working capital loan is the major problems for promotion of MSME sector.

Government is also taking steps to enhance the development of MSMEs, by introduction of various schemes involving credit rationing, training for technology and development of skills etc. This was first initiated in the Twelfth Five Year Plan (2012-17), where an expenditure of Rs 24,124 crore has been provided for Ministry of MSME. In comparison to Eleventh Five Year Plan, it was estimated to be an increase of 133.53%. There are 2887 specialized SME branches of public sector banks operational as on 31st March, 2014, including those existing SME clusters. In addition, Small Industries Development Bank of India (SIDBI) has set up Credit Advisory Centers (CACs) in partnership with cluster level industry association. So far 50 CACs conversing 306 clusters all over India, as reported by the Union MSME Minister Kalraj Mishra in the Lok Sabha on 13th August, 2014.

Banks have traditionally relied on a combination of documentary evidences for some information, interview with the applicants, experience after visiting field and the personal knowledge and expertise of managers/officials in assessing and maintaining business loans for sanctioning loan. However, in case of small business loan banks largely rely on standardized credit scoring techniques especially cash flow of business or owners.

A Cash Flow statement is a statement which is prepared by acquiring cash from different sources and the application of the same for the different payment throughout the year (Paul and Paul, 2013). The objective of cash flow statement is to present the historical changes of cash and cash equivalent of a firm by means of a cash flow statement which classifies cash flows during the period according to operating, investing and financing activities to be presented as per IND AS-3.

REVIEW OF LITERATURE

Global perspective: An Australian study conducted November, 2006 on accounting practice among SMEs revealed that the accounting services SMEs must concern a serious discussion need to be developed. Greenhalgh Robert included a survey based on empirical research on management accounting in SMEs which examine the influence of contextual variables.

The most ambitious attempt ever to harmonious accounting practice in SMEs was developed in International reporting standard for SME, IASB published draft SME on 3rd April, 2007. Statement of generally accepted accounting practice for SME an article published on 10th October, 2007 and by accounting practice board (APB) on 7th August, 2007 shows the importance of GAAP in SMEs.

Zaman and Gadenne (2002) developed a model for enhancing the performance of (SMEs), which was known to be 'best financial and cost accounting practice'. It aimed to bring effectiveness in the practices of strategic planning, budgeting and budgetary control. This helped in understanding the link between strategic planning in financial and cost accounting and financial effectiveness.

Moscove (1977) concluded that, accounting is mainly concern with converting the quantitative data into useful information through the process of interpretation and communication. The author stated that, before granting a loan to any organization the

bank want to be reasonably sure that the recipient will be able to pay it back plus interest, at the due date. The final decision on the loan application will be based on the information supplied by the financial accounting system.

Nickerson (1906) stated accounting is a language both figuratively and literally. It is a set of recognized symbols, arranged according to established roles and principles in such a way that they convey meaning. It has its own vocabulary and syntax like any language it has certain ambiguities. An understanding of accounting is essential for a good businessman. The author stress on income statement and fund flow statement rather than balance sheet and emphasizes on importance of transaction of critical accounting areas such as depreciation, inventory valuation, cost accounting and budgeting.

Bharadwaj (1996) explained his views by answering a few questions which demand reasonable answers, what skills should be adopted in processing and recording business figures? In what manner should the resultant information be presented to those for whom it is intended? Is that information in line with legal requirements? He also stated that, a very important function of modern accounting is reporting to the users and report should possess qualities such as relevance, understandability, verifiability timeliness completeness etc.

Ray (1994) expressed the importance of accounting by explaining the words such as debit, credit, ledger, day books, control account accruals provisions etc. and hence became an integral part of the accountant's language in order to maintained the separation between those in the known from those outside. The use of computers for accounting systems was perhaps one of the first steps in bringing the accountant's operation back within the reach of other part of the business so far accounting information is concern.

Egginton (1977) exclaimed that the banker's interest in accounting information in particularly concerned with lending. As a lender he has more opportunity to explore behind the customer's annual financial reports than the "arms length' user for whom those report are primarily prepared. The bank manager always insist on regular cash flow statement for granting overdraft to a firm and recognized as useful document for providing finance. The banker seeks details accounting information beyond the annual accounts tends to depend on the circumstances of the lending.

INDIAN PERSPECTIVES

In India, since the beginning of accounting education in Sydenham College at Bombay, accounting education has been occupying an important part of the university curriculum at both undergraduate and post graduate level. The Accounting Standard Board (ASB) of the Institute of Chartered Accountant of India (ICAI) expressed their views that an SME be required to choose either of accounting standards applicable for them.

The MSMED Act, 2006 rightly says that, Indian SMEs must adopt either of two basic accounting system (i.e. Single Entry System or Double Entry System) but some relaxation and exemption have been provided to SMEs in respect International standards and practice for accounting, Audit and non-financial disclosure of SMEs.

Lal (2009) opined that company financial reporting has been debated and discussed with a view to provide satisfactory solutions to many aspects of company reporting for the benefits of different user groups. He also expressed his view that, there is a need for bridging the gap between theory and practice to enhance relevance and meaningfulness of financial disclosure and to improve financial reporting practices.

The Auditing and Assurance Standards Board of the Institute of Chartered Accountant of India (ICAI), (2008) has taken a significant step as it has brought out "A Practitioner's Guide to Audit of Small Entities" . The Guide is an attempt to suggest a simplified application of the principles enunciated in the Auditing and Assurance Standards for small entities. It is felt that, application of auditing in case of small entities has been posing difficulties for the practitioners on account of factors such as peculiarities of the internal control systems in these type of clients, nature of transactions, nature of record keeping and time and cost involved in application of these standards. It is perhaps for the first time, the Institute is bringing out this kind of guide for the small entities.

Desai (2009) explained about the financial reporting. It deals with the presentation of data in a form for which it can be utilized comparative appraisal of the projects. It is concerned with the development of the financial profile of the project to find out whether the project is attractive enough to secure funds needed for its various constituent activities and once having secured the funds, whether the project will be able to generate enough economic values to achieve the objectives for which it is sought to be implemented. The author stated that, since the financial reporting is influence by certain factors such as large scale production, regulatory provision, income-tax accounting, executives, bankers, investors, mercantile credit etc., therefore it should be properly presented for the parties for whom it is prepared.

Khanka (2005) explained the main objectives of the accounting, to provide accounting information to the interested parties such as bankers, creditors, tax authorities, prospective investors, researchers etc. Hence accounting information should provide to these users to enable them to take sound and realistic decisions and it should be made available to them in the form of annual report.

Raju (2008) shows that, Income statement and balance sheet may be replaced by Cash flow statement while judging the financial soundness of the MSMEs .

The above reviewed literature indicates there is no in depth study has been carried out in the thrust area. The present study is an attempt to resolve the issue to promote the MSME sector by providing timely and adequate credit to the sector.

OBJECTIVES OF THE STUDY

The paper addressed the following objectives:

1. To identify whether poor presentation of financial statements is a major problem in credit wordiness of the MSME sector.

2. To see whether the projected cash flow statement is the best tool for judging the creditworthiness of the MSMEs in providing credit.
3. To test framed hypothesis whether a projected cash flow statement is an useful measuring tool for judging creditworthiness of MSMEs.

METHODOLOGY

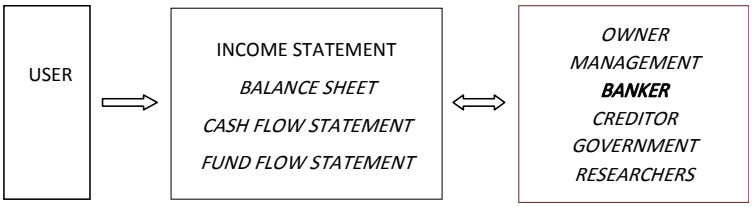
The present case study is analytical in nature and based on both primary and secondary data. 100 MSMEs registered under DICC of Jorhat and Sivasagar districts of Assam have been randomly selected consisting 40, each from Micro and Small and 20 from Medium entrepreneurs based on their investment in plant and machinery as defined under MSME Act, 2006. Selected MSMEs are categorized as profitable units but received inadequate finance. Stratified random sampling has been adopted to select the MSMEs. 50 public sector bank branches have also been selected randomly from both the selected districts covering all the 17 community blocks. A projected Cash Flow Statement is prepared based on the financial statements prepared by MSME respondents and same has been presented to the selected banks in the study area to draw the conclusion with the help of framed hypothesis. The collected data first inserted in the MS excel and then the same data has been placed in the Predictive Analysis Software Package to test the hypothesis.

HYPOTHESIS

The Null hypothesis has been framed for the study as, "There is no significant difference in the opinions of the Bank managers and Credit officers that, data contains in the cash flow statement is more authentic and hence a useful tool for measuring credit worthiness of MSMEs".

SIGNIFICANCE OF THE STUDY

Figure-1: Financial Statements User chain



MSMEs whenever approaches to banks and financial Institutions for financial assistance the banker at the first instance raised the questions, how's your unit financial health? Where does its revenue come from, and where does it spend its money? How much profit is it making? Where is its cash coming from, and where is it going to? The business unit provides answers to such questions through three documents, called financial statements: the Income Statement, the Balance Sheet and the Cash Flow Statement.

An income statement tells whether a business unit is making a profit, and a balance sheet can tell about the position of assets and liabilities for a specific period of time. It is the

cash flow statement that tells whether a business unit is turning its profits into cash. A cash flow statement provides various information to the banker relating to financial health of a firm in the following way:

- To assess the ability of a firm to pay its obligations as soon as it becomes due.
- To analyze and interpret the various transactions for future courses of action.
- To see the cash generation ability of a firm.
- To ascertain the cash and cash equivalent at the end of the period.
- To prepare the firm's cash planning for the future to avoid any unnecessary overdue.
- To exhibit the changes of financial positions relating to operation activities, investing activities and financing activities by which a banker can draw his conclusion on ability of firm to repay its loan.
- An income statement tells us about the profit earns by the firm but a cash flow statement tells us how the profit turn into cash.
- A balance sheet shows the position of assets and liabilities of a firm, but a cash flow statement shows whether cash generate or use from these assets and liabilities through investing and financing activities.

Accounting ratios such as Cash turnover ratio, Cash return on assets, Cash flow margin, Cash adequacy ratio, NPV, IRR, Break-even point calculates based on cash flow statement are the best tool for judging the financial health of the MSMEs.

A stable accounting database ensures standardization, uniformity, inter firm comparison and internal rating of the proposal form that need to fill by MSMEs while approaching banks for lending. The present study signifies how a projected cash flow statement is useful for measuring financial health of the MSMEs while lending them by banks. In this context the paper highlighted the need of presenting cash flow statement by MSMEs while approaching banks for financial assistance.

ANALYSIS AND FINDINGS OF THE STUDY

The data have been collected on five points rating scale by assigning 5,4,3,2 ,and 1 respectively for totally agree, partially agree, No opinion, Partially disagree and Totally disagree. The mean scores and Chi square values have been calculated accordingly. The chi square test has been used for operationalisation of hypothesis. The first part of the analysis of the study deals with the perceptions of bankers on acceptance of financial statements for judging the credit worthiness of the MSMEs.

Table 1: Responses of the bankers (50)

Financial Statements	Respondents in favour	Percentage	Respondents not in favour	Percentage (%)
Income Statement	8	16	42	84
Balance Sheet	9	18	41	82
Cash flow statement	45	90	5	10

Source: Compiled data

It is seen from the above table that, 90 percent of the respondents' bankers are in favour of accepting the Cash flow statement while judging the credit worthiness of the MSMEs. The respondents justifies that, data contains in the cash flow statement is more authentic and a cross verification can be done between cash flow statement and Income tax return.

The second part of analysis has been done by calculating the different accounting ratios from the data contained in the consolidated cash flow statement and presented to the bankers for the opinion pool adopting PASW- 18 package.

Table 2: Opinion about acceptance of Financial Statements for judging credit worthiness with the help of accounting ratios

Financial Statements	Accounting ratios used as determiners	Chi-square value	Df	Asymp. Signi	H_0
Income Statement & Balance Sheet	Cash Turnover Ratio	21.11	1	0	Rejected
	Cash Return on Assets	13.17	1	0	Rejected
	Cash Flow Margin	2.77	1	0.09	Accepted
	Cash Flow Adequacy Ratio	12.781	1	0	Rejected
	Cash Position to Total Assets ratio	16.213	1	0	Rejected
	Net Present Value (NPV)	12.347	1	0	Rejected
	Internal Rate of Return (IRR)	2.658	1	0.9	Accepted
	Breakeven Analysis	15.89	1	0	Rejected
Cash Flow Statement	Cash Turnover Ratio	2.679	1	0.102	Accepted
	Cash Return on Assets	2.437	1	0.103	Accepted
	Cash Flow Margin	2.145	1	0.9	Accepted
	Cash Flow Adequacy Ratio	2,098	1	0.105	Accepted
	Cash Position to Total Assets ratio	2.897	1	0.122	Accepted
	Net Present Value (NPV)	2.88	1	0.102	Accepted
	Internal Rate of Return (IRR)	2.675	1	0.112	Accepted
	Breakeven Analysis	2.876	1	0.109	Accepted

Source: Compiled from PASW-18

There is no significant difference in the opinions of the respondents (bankers) with respect to judging credit worthiness of the MSMEs with the help of accounting ratios based on cash flow statement is the perfect tool. It is found that, there is a significance difference in the opinions of the respondents on judging creditworthiness of the MSMEs with the help of accounting ratios based on Income statement and Balance sheet. The respondents stated that, data contains in the Income statement and Balance sheet is not authentic as these statements are prepared by the professional accountants as per demand of the loan proposals to satisfy the lenders.

The third part of the analysis deals with the accounting ratio based on data contains in the cash flow statement in judging financial health of the MSMEs whether effective.

Table 3: Perceptions about effectiveness of accounting ratios through cash flow statement

Accounting Ratio	Chi- Square Value	Df	Asymp. Signi	H_0	Mean Score	Interpretation
Cash Turnover Ratio	4.8	2	0.091	Accepted	1.64	Effective
Cash Return on Assets	5.889	2	0.053	Accepted	1.76	Effective
Cash Flow Margin	1.724	2	0.422	Accepted	1.79	Effective
Cash Flow Adequacy Ratio	11.726	2	0.033	Rejected	1.76	Effective
Cash Position to Total Assets	1.3	2	0.522	Accepted	1.9	Effective
Net Present Value (NPV)	1.863	2	0.394	Accepted	1.68	Effective
Internal Rate of Return (IRR)	0.315	2	0.854	Accepted	1.83	Effective
Breakeven Analysis	1.423	2	0.412	Accepted	1.78	Effective

Source: Compiled from PASW-18

There is no significance difference in the opinions of the respondents about the effectiveness of accounting ratio calculated from the cash flow statement while judging the credit worthiness of the MSMEs. All the respondents are in opinion that, calculated accounting ratios from cash flow statement are more authentic for judging credit worthiness of the MSMEs.

The major findings of the study are:

1. The result of hypothesis shows that, there is no significance difference in the opinions of the respondents (Bankers) with respect to cash flow statement is the best tool for judging the credit worthiness of the MSME units. As 85 percent of the selected respondent felt that the cash flow statement is most effective in calculating the Internal Rate of Return (IRR) on the basis of Net Present Value (NPV) which can be compared with the hurdle rate or base rate at the time of selecting MSMEs for finance.
2. 90 percent respondents stated that, since according to IFRS the banks are to follow fair value technique while valuing assets and liabilities of the banks, it is the cash flow statement which can give best support in this context.
3. 75 percent respondents stated that, data contains in the income and position statements are manipulated as it is prepared by the professional accountant as per the demand of the loan proposals to satisfy the lender and hence it is not an authentic document.
4. 87 percent respondents expressed their views that a cross verification can be made for the data contains in the cash flow statement with the Income tax return filled by the MSME borrowers which can be judged the financial health of the MSMEs.
5. 75 percent respondents stated that, calculating IRR on the basis of NPV from projected cash flow statements gives more accurate result than calculating it from income and position statement.

CONCLUSION

The banking companies are to present their financial statements under International Financial Reporting Standard (IFRS) w.e.f. 1st April, 2013 where fair value method to be adopted by the banks under this situation NPV and IRR should be made compulsory while judging the MSMEs. Credit worthiness of the MSMEs should be addressed in the right way in order to promote the sector by providing adequate and timely credit as bankers do not consider the MSMEs as their valuable customer because of volatile profitability. In this context the regulatory bodies like SEBI, RBI, ICAI, and academicians should formulate a measuring tool to judge the financial health of the MSMEs. The cash flow statement may be taken into consideration to resolve the issue. The study revealed 90 percent respondents are in favour of opinions that, cash flow statement is the best tool for judging credit worthiness on their ability to repay the loan amount. The study suggests adopting a revised format of cash flow statement and direct method for calculating cash flow from operating activities for MSME units would be more appropriate.

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ON THE DETERMINANTS OF FORWARD LOOKING DISCLOSURES BY INDIAN COMPANIES

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ABSTRACT

The investors and analysts use financial statements to decide on the potential performance of the companies and thus it is pertinent that the companies disclose some of them voluntarily. This paper is a longitudinal analysis of such discretionary forward looking statements found in the annual report of Indian Companies. For this purpose, a set of discretionary forward looking statements were identified by benchmarking the global practices. The study then found that there was a little progress in such disclosure statements for the last five years from 2010-2014 in the BSE 100 companies. Using panel data Regression, the study found that promoters holding, Institutional holding and industry type have association with the forward looking disclosure score. The study is important in the present regime of regulators moving towards transparency and fair value accounting in developing countries such as India and is original in terms of identifying the forward looking statements specific to Indian scenario.

Key Words: Voluntary Disclosure, Forward Looking Statements, Financial Reporting.

INTRODUCTION

Financial statements provide historical presentation of the financial state of affairs of the company and not necessarily useful to make assumptions of the future prospects. The managements' perspective on the future economic performance thus plays an important role for the users to make informed decisions. In corporate form of business, there exists information asymmetry where a set of insider shareholders possess more information than the rest of the other investors. If there is information known to the managers and not revealed to the stakeholders, there is information asymmetry which could result in adverse selection .In spite of such scenario, the capital markets are vibrant due to signalling which can be partly done through the quality of financial reporting (Spence, 1973). With proper and timely disclosures of financial affairs, firms can mitigate the problem of adverse selection and can raise funds at reasonable rates, which is one of the important features of a well organised capital market.

A major contributing reason for the economic crisis in the market in the past had been the opaqueness of financial reporting. International financial crisis and corporate scandals such as Asian financial crisis of 1997, the debacle of Enron triggered the debate of the role of the regulators and policy makers and resulted in regulations such as Sarbanes Oxley Act.

In order to reduce the price dispersion, information asymmetry should be maintained (Singhvi and Desai, 1971). It is important for a firm to disclose financial, economic and non financial information wherever required. A good corporate disclosure is one of the important factors to reduce the information asymmetry (Healy & Palepu, 2001). There are several ways the companies communicate with the external stakeholders through several means such as prospectus, quarterly reports, earnings conference calls, press releases etc., By far the most recognised means of communication is the annual reports which contain a multitude of information about the affairs of the company.

The paper focuses on one of the dimensions of the corporate disclosure practices involving forward looking statements in the annual report of Indian companies. The information contained in the annual report could be classified as historical (that is backward looking) and futuristic (forward looking). The forward looking statements are basically non financial in nature involving projection of revenue, capital expenditure plan etc., set out by the board of management.

The forward looking statements generally contain words such as “anticipate,” “plan”, “expect” , “Intends”, “believes”, “estimates” and similar words and be accompanied by cautionary statements identifying the various factors that could impact the actual results to be materially different from the predicted duly tailored to the particular business. The risk factors should also be separately identified to enable the users to make informed decisions (Chivers & Quinn, 2009).

In the Indian context, the capital market regulator SEBI (Securities and exchange Board of India) prescribes the disclosures of risk factors both internal and external in the offer document of Initial public offer. In the annual report, the companies are expected to give a disclaimer that the forward looking statements in the report may or may not be realised due to uncertainties, risks, or even inaccurate assumptions. In spite of such disclaimers, the contents of such statements help the users to make reasonable assumptions on the prospects of the company.

The study identifies a set of forward looking statements that the users look forward in the corporate communication, measures the extent of such disclosure practices in Indian companies and explores the factors determining such disclosures. The paper is organised in the following style. The ensuing section discusses the literature on voluntary disclosures with special emphasis on the forward looking disclosures, the determining factors from different countries all round the world. The third section develops the research objective and hypotheses. The fourth section presents the research methodology, the fifth explains the results and the concluding sixth section summarises and discusses the implication of the study.

REVIEW OF LITERATURE

STUDIES ON THE VOLUNTARY DISCLOSURES

The literature is very rich in terms of voluntary disclosure practices of various countries in the economy. As multi countries study, Hope (2003) analysed the data the data of 890 companies across 22 countries to analyse the relationship between forecast accuracy and disclosure practices .The index consisted of 86 items with seven categories.

The studies that compared the voluntary disclosure of the respective countries primarily conducted content analysis to record the presence of the disclosure items. Most of these studies used a disclosure index to measure the extent of disclosures. The disclosure index either were self-constructed by the authors or adopted version of the VDI practiced elsewhere. For example, Cheng &Courtenay (2008) adopted a disclosure index followed by Botoson (1997) and revised it to the requirement of Chinese regulations.

Few studies used primary data in form of questionnaire to assess the importance of the disclosure items. Binh(2012) conducted survey of financial analysts and the financial managers- users and providers of financial information to short list the number of disclosure items. Another study by Zeghal, Moueli, & Louti (2008) surveyed the financial analysts to understand the important R&D disclosure items.

There are different categories of voluntary disclosures both under financial and non-financial aspects. Financial information included financial instruments disclosures (Chan & Watson, 2011) Non GAAP financial reporting (Mitchell, Chia, & Loh 1995), interim reporting (Lakhal, 2005); (Skinner, 1994); (El-Gazzar, Fornaro, & Jacob, 2008) (Manegena, 2007) and segment disclosures by Mitchell et al (1995), Prencipe (2004).

STUDIES ON CONSTITUENTS OF FORWARD LOOKING STATEMENTS

There are studies available on the specific category of forward looking disclosures. Bryan (1997) found that the future looking statements contained in the MD&A (Management Discussion and Analysis) segment of the annual report were able to assist in the short term prospects of the company though the same was not necessarily true for long term. Smith &Taffler (1995) investigated the quality of the contents of the chairman's message in the annual report and found that qualitative disclosures on the future strategies had a positive effect on the market performance. According to Clarkson et al (1994) companies tend to project favourable aspects of the business. This was also established by Cen & Cai (2013) in the context of chairman's message in the annual report of Chinese Companies. Miller (2009) explored the disclosure quantitative forecast of earnings of companies and cautioned that some disclosures could be opportunistic resulting in higher pay outs for the managers. Mostafa (2009) constructed a set of risk disclosures done by companies to understand the practices of disclosures in the companies of UAE. Urquiza, Navarro, Trombetta, Lara (2010) presented the set of criteria used to validate the contents of

disclosure items. Walker and Tsalta (2001) found that the companies which had good quality of forward looking statements had a positive association with the accuracy of the analysts forecast underlying the need for the companies to include in the communication.

There were studies indicating the importance of the disclosure of various types of risks the companies could be undergoing. The literature had defined the following sub categories of risks namely business; strategy; operating; market and credit (Cabedo and Tirado ,2004). Beretta and Bozzoloan (2008) found that the disclosure in respect to the political economic, financial, legal disclosures form a major source of forward looking statements. Kent and Ung concluded that Australian companies had a low extent of forward looking statements and only bigger companies with more stable earnings provide such disclosures.

STUDIES ON THE FACTORS DETERMINING FORWARD LOOKING DISCLOSURES

The extent of foreign income was considered as significant factors for companies to disclose information voluntarily to win the trust of the customers and regulators abroad. Baroko (2006) found that geographical spread of revenue constitute a major factor for the companies to cater to different nationalities and governance culture.

Studies have found positive relationship between size and extent of disclosures. Alsaeed (2006) argued that larger companies had sufficient resources to provide more information and with a higher interest of government agencies with bigger companies, the companies would also try to reduce agency cost of the widespread shareholders The companies listing the securities abroad also have incentive for higher disclosures as found by Watson et al (2002).

Karamanou and Vafeas (2005) found that an effective board was likely to make a more precise forecast of future performance resulting in better quality of reporting. According to Lee, Matsunaga & Park (2012) the ability of a board with diverse skills reduces the inaccurate forecasts.

There is empirical evidence of companies with higher promoters holding having lesser incentive for higher disclosures Studies found that the percentage of institutional ownership had a positive association with disclosures(Belkaoui ,2001; Murcia & Santos,2012)

Study by O'Sullivan,Percy and Stewart (2008) indicated the presence of higher forward looking statements in the companies with higher proportion of independent directors. Hossain,Ahmed & Godfrey (2005) found that the companies with higher fixed assets and large amount of outside directors provided higher levels of disclosures. A study in China by Qu,Leung & Cooper (2013) found that independent directors on the board act with the primary concern of the shareholders. Darmadi and Sodikin (2013) established that companies with family owned structure had lesser incentive to disclose and a higher proportion of independent directors in the board could bring in transparency.

The profitability of the companies also found to determine with the level of disclosures though the results are mixed with respect to positive or a negative association. Ahmed

and Courtis (1999) linked the higher disclosure for profitable companies with the managers' incentive for enhanced compensation while Skinner (1994) argued that the companies with lower profitability tend to be transparent to avoid the possible litigation costs.

RESEARCH OBJECTIVE AND HYPOTHESIS DEVELOPMENT

With the extant of literature on the specific area of discretionary forward looking statement disclosures, the authors found dearth of studies in India, which is going through significant transition in financial reporting regime. In India both public and private sector enterprise thrive and attracted the interest of investors both domestic and foreign Institutions. Indian capital market is one of the fastest growing in the emerging economies and there is a great need for transparent disclosures to attract investors. Understanding the gap, the present study intends to :

(a) Identify the list of forward looking statements that are applicable in the Indian context by referring the international practice.

(b) Measure the extent of disclosures.

(c) Understand the difference in disclosures across time periods and ownership types.

(d) explore the association between the forward looking disclosures and the corporate governance variables.

The study proceeded the following way to enlist the forward looking disclosures.

(a) Study the previous studies across the world to identify the various items of disclosures.

(b) Read the annual reports of companies which were ranked high on the content of disclosures.

(c) Collate all the items found in the previous two steps.

(d) Consolidate the various items for the sake of simplicity.

(e) Consider the opinions of academic and industry experts on the importance of the items.

By following the methodical approach the study came up with twelve items of forward looking statements found in appendix 1. The index was tested for reliability and validity (Charumathi & Ramesh, 2013).

Proceeding with the second research objective, the study investigated the trend in the forward looking statements over the period from 2010 to 2014. This period is significant in the reporting regime of India with the enactment of Companies Act 2013 and the commitment of India to converge towards fair value reporting with IFRS (International Financial Reporting Standards). The following hypotheses were formed to understand the trend in disclosures of forward looking statements.

H_{01}: There is no significant difference in FLS disclosures of Indian companies over the five years from 2010 to 2014.

H_{02}: There is no significant difference in the FLS disclosures of Private sector and public sector companies.

Moving towards the determinants of FLS , the hypotheses are summarised in Table 1

Table 1 : Hypothesis statements for determinants

There is no significant association between forward looking statement disclosure and	Export Revenue	H_{03}
	Size	H_{04}
	Listing status	H_{05}
	Proportion of Independent directors	H_{06}
	Promoters holding	H_{07}
	Institutional holding	H_{08}
	Profitability	H_{09}
Compiled by authors based on earlier literature and after several iterations using multiple regression with model fit		

The study used industry type as the control variable and the nature of industry consistent with Hashim, Saleh (2007) and Barako, Hancock And Izan (2006)

METHODOLOGY SAMPLE

The sample for the study was non financial companies in the BSE 100 Index. This is a broad based index diversified in terms of industries and sizes and hence was considered as appropriate proxy of corporate India. Since banking industry have a set of different disclosures, it is excluded from the purview of the study. This resulted in 393 companies, consisting of 83 in 2009-10; 79 in 2010-11 and 77 from 2011-12 to 2013-14 and used to test the H_{01} and $H_{02.}$

For investigating the factors determining the FLSD through Hypotheses H_{03} to H_{09}, the study used balanced panel data to observe the disclosure practice of companies over the five years and hence only those forming part of the index in all the five years were finally included in the sample thus resulting in 325 firm year observations.

MEASUREMENT OF DEPENDENT VARIABLE- FORWARD LOOKING DISCLOSURE SCORE (FLDS)

The study used content analysis to find of key words as mentioned before to measure the extent of such disclosures. The study used dichotomous score in the sense if the items were found it was marked as one otherwise zero. The percentage of disclosures was then obtained by dividing the score by 12. The resultant variable FLSDS (Forward Looking Statement Disclosure Score). Other variables are calculated using the database Prowess, developed by CMIE (Centre for Monitoring Indian Economy).

Measurement of Independent variables

Consistent with the hypothesis, the variables selected are presented in Table 2

Table 2 : Variables used in the Study

Variables	Code	Explanation
Industry type	IND	It is the type of the industry. The companies in the sample are classified into ten different types and each of them are coded from 1 to 10
Export revenue	EXPRE	It is the proportion of revenue earned in countries other than home country on the total revenue of the companies
Size of the firm	LnTA	The proxy for the size of the firm is the natural logarithm of the total assets
Listing Status	LIST	This is a dichotomous variable depending on the listing status of the companies in a country in foreign country. It was coded as 1 if listed aboard and 0 if it not listed in any other country
Proportion of Independent directors	INDIR	It is the proportion of independent directors to the total size of the board
Promoters' holding	PROMHO	It is the proportion of the shares held by promoters on the total share capital
Institutional holding	INSTI	It is the proportion of shares held by institutions on the total share capital of the company
Profitability	ROE	It is the profitability of the company on the equity consisting of share capital and reserves and surplus and calculated as Profit after Tax / Equity
Forward Looking disclosure score	FLSDS	This score is obtained by adding the number of items disclosed and divide it by 12 (the total number of items)
Compiled by authors		

DATA ANALYSIS

The data was first checked for normality using Kolmogorov- Smirnova tests and found to be normal. To understand the differences in disclosures across time period and ownership group, one way ANOVA was used. The study employed panel data regression to establish the association between the score and the independent variables. Panel data regression consists on fixed effects, random effects and panel ordinary least square. Fixed effects model is on the assumptions that individual group and time have different intercept while the random models hypothesise that to have different disturbance (Baltagi, 2001). Hausman test is employed to choose between fixed and random effects and LM test is employed to choose between random effects and POLS. The model used for the study is as follows:

$$FLSDS = \beta 0 + \beta 1 EXPRE + \beta 2 LnTA + \beta 3 LIST + \beta 4 PROMHO + \beta 5 INSTI + \beta 6 ROE + \varepsilon i$$

RESULTS AND DISCUSSIONS

The descriptive statistics of the variable is found in Table 3

Table 3 : Descriptive Statistics of the variable

	Minimum	Maximum	Mean	Std. Deviation
FLDS	0.00%	91.67%	42.12%	16.85%
EXPREV%	0	100	17	.37.5
TA (in INR million)	18884	3677440	402785	540709
INDIR(%)	12.45	80	50.6276	12.74365
PROHO	15.94	90	54.185	17.72
INSTI(%)	5	57	30.14	12.84
ROE(%)	0	113.03	22.35	17.95
Calculated using SPSS 22				

The average forward looking disclosure score of the companies during the study period was around 42%, less than the average marks. The range of scores from 0% to 92% also showed that few companies had incentive for prospective disclosures while the other companied did not opt to divulge single forward looking statements. The average promoters holding of the sample companies stand at about 54% indicating the concentration of promoters controlled business. The Institutional holding of the sample companies averaged at 30% indicating a fairly wider base of institutional investors. On an average, the proportion of Independent directors was 50% point to the compliance of the corporate governance norms. Table 4 depicts the disclosures score of the FLD industry wise.

Table 4 : Industry wise Average Score of FLDS

Industry Type	FLSD Score
Diversified	38%
Cement	41%
Infrastructure	38%
Automobile	37%
Capital Goods	48%
Miscellaneous	38%
Service	49%
Mining, Minerals& Refinery	42%
FMCG	45%
Pharma	40%
Calculated by authors	

The table shows higher extent of disclosures by service and capital goods industries. Service companies in India have higher foreign operationswhich could give the reasoning. Capital goods have huge outlay of capital expenditure which could necessitate higher amount of FLD.To further understand this the study used one way Anova to check if there is any significant difference exist in FLD across the time period and the results are found in Table 5.

Table 5 : Anova results of FLDS across the five year time periods

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.6	4	0.15	6.225	0
Within Groups	9.354	388	0.024		
Total	9.954	392			
Calculated using SPSS 22					

The results indicated significant difference of FDLS in the five year time period and hence H_{01} stands rejected indicating that over the period there is significant change in FLSD of the sample companies.

To further test if FLSD difference in terms of the FLDS, Table 6 containing the Anova results is presented

Table 6 : Anova Results of FLDS Across Ownership Types

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.019	1	0.019	0.74	0.39
Within Groups	9.936	391	0.025		
Total	9.954	392			
Calculated using SPSS 22					

Table 6 did not show significant difference thus H_{02}cannot be rejected which could mean there is no significant difference in disclosure of private and public sector companies.

Proceeding further, correlation matrix was performed and presented in Table 7.

Table 7 : Coefficient of correlation

	FLSD	EXPREV	LNTA	LIST	INDIR	PROMHO	INSTI	IND	ROE
FLSD	1								
EXPREV	0.04	1							
LNTA	0.087	-.116*	1						
LIST	0.088	.213**	-.142*	1					
INDIR	-0.071	.232**	-.171**	0.08	1				
PROHO	-0.04	-.194**	.140*	-.184**	-0.102	1			
INSTI	0.022	.124*	-.124*	0.03	0.042	-.556**	1		
IND	0.078	.352**	-0.089	.254**	.172**	-0.102	0.081	1	
ROE	0.045	-.116*	-0.056	-0.031	-0.052	0.02	-0.033	.190**	1
Calculated using SPSS 22									

Table 7 shows negative correlation between size of the firm and the proportion of Independent directors. Another observation of negative relationship between promoter holding and independent directors show that promoters run companies had less incentive to have independent members on the board. It also indicates highest correlation was found between promoter holding and Institutional holding but then it did not exceed 0.7 hence all the variables were taken in the model (Hanniffa & Cooke, 2002) .

Panel data regression was carried out with Ordinary Least Square (OLS), Fixed Effects (FE) and Random Effects (RE). Hausman test was carried out between FE and RE and if that showed significant value, then Fixed Effects is chosen as the appropriate model (The null hypothesis of hausman test is Random effect model is suitable). If not, then RE model is checked with OLS with the help of Langrenge Mulitplier test (LM) and if LM shows significant value, RE model was taken and otherwise, it would be OLS. Using this procedure, the analysis was carried out and the results are consolidated in Table 8.

Table 8 : Results of the Panel data regression

SFL	OLS	FE	RE
EXPREV	0.0784067	0.0438854	0.0708856
	-0.059	(0.075)*	-0.099
LNTA	0.038999	0.0071556	0.0368921
	0	(0.001)***	-0.004
LIST	0.0426887	0.2070721	0.0436761
	-0.069	-0.184	-0.08
INDIR	0.2254862	0.2893953	0.2286529
	-0.004	(0.027)**	-0.005
PROHO	0.0000235	-0.005446	0.000151
	-0.983	-0.147	-0.895
INSTI	0.0010146	0.0037739	0.0007213
	-0.514	-0.192	-0.657
	0.0034287	0.0439496	0.0033164
IND	-0.415	(0.069)*	-0.458
ROE	0.055038	0.2913475	0.0546301
	-0.308	(0.013)**	-0.34
_cons	0.0340133	1.125372	0.01153
	-0.874	-0.04	-0.959
R squared	0.0914	0.033	0.1269
Hausman Test		18.1 (0.0533)	
F test		1.41 (0.0505)	
Breusch and Pagan			NA
*Results calculated using stata *,**,*** denote the significance at 10%,5% and 1% respectively*			

Table 8 shows the positive relationship between profitability and FLS. As the profitability increases, the managers have incentive to disclose major prospective plans such as capital expenditure and order books. Another observation is the larger extent of revenue outside the domestic country gives better motivation for forward looking disclosures. Other finding of a positive association between institutional ownership could bring forth the point of the importance of FLSD for such investors. The study also found that industry type could control the level of disclosure for several reasons such as barriers to entry, the position of the competitors.

SUMMARY OF THE FINDINGS AND CONCLUSIONS

Table 9 summarises the results of the hypothesis.

Table 9 : Summary of the hypothesis on determinants of FLDS

Variable	H_0	Actual sign	Significance	%
Export Revenue	H_{03}	+	Yes	10
Size	H_{04}	+	Yes	1
Listing status	H_{05}	+	No	
Proportion of Independent directors	H_{06}	+	Yes	5
Promoters holding	H_{07}	-	No	
Institutional holding	H_{08}	+	No	
Profitability	H_{09}	+	Yes	5
Summarised by authors				

The paper measured the forward looking disclosure practices of Indian companies from 2010-14, which is considered as important period in the financial reporting and regulation regime of India. The study found that Indian companies still need to go a long way in providing relevant and objective disclosure on the future prospects of the business. The presence of independent directors in the board seems to help higher FLDS in a country like India where the role of Independent directors are evolving to become more constructive. The nature of the industry having an association is in line with Hashim, Saleh (2007). The study also found that size is not a factor determining the prospective disclosure.

The study has several implications. First of all, it has collated a set of key forward looking statements that could help the users of the financial statements. It has also measured the forward looking statement practices of Indian companies at a juncture where Indian corporate is moving towards improving the quality of financial reporting. The study also establishes the role of corporate governance factors leading to higher disclosure of prospective information.

The limitations of the study which could lead to future research are as follows. The study used manual content analysis which could be laborious given the volume of information in the corporate disclosure. Automatic content analysis using software such as NuDist or similar could mine more results and be extended to a larger sample size.

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AN EMPIRICAL STUDY BETWEEN TRADITIONAL AND CONDITIONAL MUTUAL FUND PERFORMANCE: INDIAN EVIDENCE

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ABSTRACT

The present study examines the selectivity and market-timing performances of the selected open-ended mutual fund schemes of Unit Trust of India (UTI) based on traditional as well as conditional performance measures proposed by Jensen (1968) and Treynor & Mazuy (1966). The theories provide that the public information when is included for evaluating the portfolios and make market timing effective, a better performance estimator is seen. This is known as conditional CAPM (Proposed by Ferson and Schadt 1996).

Key Words: Conditional Model, Ferson & Schadt, Mutual Fund, Market-Timing, Selectivity, Traditional Model, Unit Trust of India

INTRODUCTION

The analysis of investment performance is a source of academic interest over the many years. A considerable study is dealt with the problem of stock-selection and market-timing (Jensen 1968, Treynor & Mazuy 1966 and Henrikson & Merton 1981 etc) but, the traditional measures suffer from a number of problems in practice. In particular, the traditional measures implicitly assume that risk and expected return are constant overtime and hence, the problem of unconditional measures don't take into consideration the fact that risk and expected returns vary with the change of time and therefore, such an unconditional approach is likely to be untrustworthy and have failed to capture the dynamic behaviour of market returns with the change of the state of the economy. As a consequence, Ferson & Schadt (1996) develop a performance evaluation measure to address this problem. They believe that conditional approach is especially popular in investment performance for two reasons. One is discussed above and the other is trading behaviour of the managers that results in more complex and interesting dynamics than even those of the underlying assets they trade.

The research on conditional performance evaluation of mutual fund is sparse in India. Most of the studies have evaluated mutual fund performance by using the traditional measures of Sharpe 1966, Treynor 1965, Jensen 1968, Treynor & Mazuy 1966 and Henrikson & Merton 1981. Therefore, a better performance evaluation is possible with the help of conditional measure. Hence, the present study examines the stock-selection and market-timing performance of the mutual fund managers based on traditional as well as conditional measures.

LITERATURE REVIEW

The investors willing to invest in mutual fund with the hope of higher expected returns with a minimum degree of probable risk. The performance of the managers must be judged in the light of the results. However, this seemingly straightforward endeavour is deceptively difficult owing to two foremost issues namely the choice of benchmark and the choice of appropriate measure. Regarding this two issues no strong consensus has been reached. Although, the performance evaluation of investment has received serious attention after the establishment of portfolio selection model by Markowitz in 1952. His contribution has completely revolutionized in the way of thinking on that particular issue. Other prominent contributors include Sharpe (1964 &1966), Linter (1965), Treynor (1965), Jensen (1968) and Fama (1972) etc whose contributions in investment performance have still been considered as path breaking. In 1958 James Tobin showed an investment decision can be taken, in two segments. One of them is the alternatives selection where favourable option towards utilization of financial resources, is done. The second step is the separate choice concerning with the allocation of funds between such a combination of assets and single risk less asset. After a few years Hicks (1962) develops a model, which is similar to Tobin's measure that is able to derive corresponding conclusions about individual investor behaviour dealing somewhat more openly with the nature of the conditions under which the process of investment choice can be dichotomized. In line with this Gordon & Gangolli (1962) have elaborately discussed the Hick's process including a rigorous proof in the context of a choice among lotteries. But, it is true that Markowitz has shown the way of thinking on the issue relating to portfolio selection on which the CAPM is based. The subsequent studies have crystallized discussion on the subject with added refinement, up-gradation and extension of the dimension of the earlier contributions. Since then, various improvements and innovations have been taken place.

When we are going to evaluate mutual fund performance, it is very much obligatory to explain one of the most well known studies of the academic literature is Sharpe (1966). Within the last few years, a remarkable development has been taken place in three closely related areas of portfolios' performance namely (1) the theory of capital asset pricing (CAPM) under condition of risk, (2) theory of portfolio selection and (3) the general behaviour of stock prices. In the field of portfolio analysis, Treynor (1965) has proposed a new measure which is different from those used earlier by incorporating the volatility of a fund's return in a simple yet meaningful manner. William Sharpe attempts to extend the Treynor's effort by subjecting his proposed measure to empirical test in order to evaluate its predictive ability. Sharpe used reward to variability ratio, where it was found to be significant contributor for adding value, when the investment was made in D-J industry, instead of Mutual Fund industry.

In this complex situation Jensen (1968) proposes an absolute measure of portfolio performance that is able to examine the efficiency of the portfolio managers and provides adequate control over the risk component. His model is a practical application of the

theoretical results of the CAPM, which is independently developed by Sharpe (1964), Linter (1965) and Mossin (1966). Jensen is interested in whether mutual fund managers add value over the long period. Whether they have thorough skill, privileged information or insight to outperform the market reasonably consistently year after year? The CAPM doesn't accommodate this possibility. Due to this problem, Jensen adds a new term in the CAPM model called alpha (á) in place of risk-free rate. This allows for a persistent positive contribution to a portfolio's expected return due to the manager's skill. Jensen doesn't say that some mutual fund managers do consistently outperform the market. The model simply allows for that possibility in order to test for it. He performs a regression for each mutual fund to determine its alpha. Jensen's results depict strong support of the efficient market hypothesis and suggest that no investment managers have positive alphas. After the establishment of Jensen measure in the perspective of stock-selection, a large number of researchers have empirically examined the above issues. However, Arditti (1971) shows that if another variable (i.e, sum of dividend, capital gains distribution, and change in net asset value etc) is introduced into the investors' decision making process then Sharpe's conclusion could be changed. It was found that, some authors were not consistent with the results of Jensen, on the other hand, it was an important measure to evaluate the portfolio (see Kon & Jen 1978, Chang & Lewellen 1984, Lee & Rahman, 1990, Coggin et al, 1993, Graham & Harvey, 1996, Moreno et al, 2003 and Koulis et al, 2011, etc). But, a criticism of Jensen Theory was that, that it was based on the choice of market index. Also if the managers focus on market timing, beta could go unfavourable affecting the alpha, resulting in uncertainty of portfolio analysis towards its correction. The work contributed by Treynor & Mazuy (1966) helps in improving the measure of Jensen where the beta would not affect the alpha.

Furthermore, there are some studies in the past which are attempted to identify the market-timing and stock-selection skills of the mutual fund managers. But most of the recent empirical studies of investment performance have focused on selectivity and market-timing, which are based on a mean-variance CAPM framework. The study of Treynor & Mazuy (1966) elaborates the expectations of an investor from the fund manager, for predicting the volatility. This information helps them to take a decision of timing the market by the manager himself, in order to provide the safe returns. The authors presented through the upward concave characteristics lines, that the managers were not able to read the market, as it moved in the direction of public information.

Jensen in 1972 reformulates the model (Jensen 1968) and corrects the results in Jensen (1968) for a portfolio manager's performance when he engages in forecasting the prices of individual securities (stock-selection) and or forecasting the general behaviour of the security prices (market-timing). The analysis indicates that managers successfully engage in timing activities are penalized by downward biased estimates of performance when using OLS regression. In 1978, Kon & Jen evaluate mutual fund performance by taking into consideration of four issues. One of them is the formulation of an econometric model to

evaluate an investment manager when he explicitly engages in forecasting the prices of individual securities and in forecasting the future realizations of market factors. They design their performance model in the context of the SLM, Black (1972) and Jensen (1972) models. Although, they develop an estimation procedure with the help of switching regression equation, which is proposed by Quandt (1972) by including a new identifiably condition. Their empirical evidence regarding their sample mutual funds indicate that the large number of funds have significantly changed their risks pattern during the measurement intervals and the behaviour regarding change in risk level reveals significantly different selectivity, market-timing and diversification performances.

To test the market-timing performance of the managers, Merton (1981) develops an equilibrium theory where the predictor guesses the market movement when stocks will outperform the bonds and consequently, bonds will outperform the stocks. But, the model does not predict the magnitude of the superior market-timing performance. Therefore, Henrikson & Merton (1981) extend the work of Merton (1981) to solve the above problem which is highlighted in the Merton's model. They exhibit that the pattern of returns from successful market-timing has an isomorphic correspondence to the pattern of returns from certain option investment strategies where the implicit prices paid for the options are less than their fair or market values. They suggested that managers can effectively deal with market timing process, if the study the events related to the same. Further, it was proposed that the market-timing performance of the portfolio managers is a function of asset allocation policy, of the equities and risk free bonds portfolios. In the same line, Henrikson (1984) also revealed that CAPM can be used to time the market provided some assumptions. The study reports absence of market-timing performance. He argues that the managers have no valuable information by which they can generate higher returns because the market is informationally efficient, which supports EMH. Jagannathan & Korajczyk (1986) examined the market-timing performance of the mutual funds based on parametric test that is proposed by Henrikson & Merton (1981). Similarly, Chang & Lewellen (1984) also examine the market-timing performance of the investment managers by using parametric statistical procedure that is proposed by Henrikson & Merton (1984).

It was found that through review, that managers are not efficient to time the market suing traditional measures. (see, Lee & Rahman 1990, Athanassakas et al 2002, Santos, Costa et al 2005, Thanou 2008, Koulis et al 2011, etc). Even some studies carrying the unconditional measures, have shown positive and in sometimes significant market-timing performances (see, Bollen et al 2001, Jiang et al 2007, Mansor et al 2011). But still, these measures are not ideal methodologies which can used to time the market.

Furthermore, the traditional measures of fund performance (Treynor 1965, Sharpe 1966, Jensen 1968) are not considered to be consistent because of unsatisfactory explanations towards the concepts and tools used. The basic flaw of these assumptions is the constant risk and return, over the time (Leite & Cortez 2005), which is impractical. In piece of evidence, it is well known that the traditional measures are unbiased when portfolio managers exhibit

macro-forecasting skills or pursue some vibrant investment strategies resulting in time-varying risk (see Jensen 1972, Dybvig & Ross 1985, Grinblatt & Titman 1989 etc.). The view is in direction, to include the public information in the model, in order to make the market timing estimates accurate. Therefore, conditional performance measure can be used.

The evidences to include the public information is provided by Fama & French, (1989); Ilmanen (1995); Pesaran & Timmermann (1995); Silva, Cortez & Armada, (2003). They included the informations like dividend yields of index or exchange rates or interest rates, when conditioned in CAPM, performance evaluation is improved. This improved the asset pricing model, which can be a performance appraisal measures. The conditional measure evaluates the managers' performance at the time of return creation process (Farnsworth 1997). In fact, when empirically examined (see Ferson & Schadt 1996, Ferson & Warther 1996, Christopherson, Ferson & Glassman 1998, Christopherson, Ferson & Turner 1999, Ferson & Qian 2004), conditional measures appear to provide better performance estimates in terms of statistical significance. According to the arguments of some studies that conditional models may produce better performance estimates and the models are relevant from an economic point of view because of its ability to detect blueprints in fund betas and sometime allow the investors to scrutinize the dynamic behaviour of the mutual fund managers (Otten & Bams 2004).

The performance evaluation of the investment managers by using conditional model particularly in India remains unexplored. A limited numbers of studies have examined the mutual fund performance based on conditional model (see Roy & Deb 2004, Deb and Mafisetty 2004, Deb et al, 2007, Shanmugham & Zabiulla 2011 etc) and the findings of those studies in relation to the majority of other empirical studies are in fact that conditional performance measures are better than the unconditional measures.

OBJECTIVE OF THE STUDY

It is assumed that conditional model provides more reliable estimates in terms of statistical significance. In particular, the objective of the present study is to examine the stock-selection and market-timing performances based on conditional as well as traditional performance measures.

RESEARCH METHODOLOGY

The journey of mutual fund in India started after the establishment of UTI in 1964 and till now UTI is the market leader in mutual fund operation in India. For the empirical examination, the study primarily considers all the open-ended equity mutual fund schemes, which are at least three years existence in mutual fund operation and some of the schemes have stopped their operation during the study period also taken into consideration. Hence, the study is not free from survivorship bias. However, some of the authors have addressed that there is no consensus as to the magnitude and significance of this bias and suggested that its impact is very negligible and / or not statistically significant (see Grinblatt & Titman

1989a, Brown et al 1992, Brown & Goetzmann 1995 and Romacho & Cortez 2006 etc). The study considers the monthly closing net asset value (NAVs) which is obtained from the website of AMFI (www.amfiindia.com). Association of Mutual Fund of India (AMFI) is the regulatory body which provides all types of information on mutual fund in India and the mutual fund companies provide all records to AMFI. The respective sources are crossed checked with other sources to ensure validity of the data and observed no differences. In order to evaluate the investment performance of sample mutual fund schemes it must be compared with the selected benchmark portfolio. As, the sample schemes are greater equity exposure hence, the study uses BSE sensex as a benchmark portfolio which is considered an appropriate measure of market proxy for the comparison of investment performance. The monthly information with regard to monthly closing index value is obtained from the website of Bombay Stock Exchange (www.bseindia.org).

This study exclusively uses a set of relevant Indian publicly available information which is expected to produce the estimated coefficients with more accuracy under the assumption that risk and expected returns are time variant with the change of the economy. The one month lagged information variables are monthly 91-day Treasury bill yield (TB) of Government of India obtained from the website of RBI that carries a fixed rate of return and enjoys a high rate of liquidity and safety since they are backed by the Govt., monthly Rupee-dollar exchange rates (EX) obtained from the website, www.xrates.com, monthly inflation rate (FL) that obtained from the Centre of Statistical Organisation, monthly dividend yield (DY) of the BSE sensex obtained from the website of Bombay Stock Exchange, monthly Sales volume of mutual fund schemes (SK) obtained from the Association of Mutual Funds of India (AMFI), monthly Repurchase / Redemptions of mutual fund schemes (MV) obtained from the Association of Mutual Funds in India (AMFI) and monthly total assets under management (UM) of the mutual fund companies obtained from the Association of Mutual Funds of India (AMFI). Finally, with a view to examine the conditional performance of the sampled open-ended mutual fund schemes, a period of twelve calendar years (1st January 2001 – December 2012) is taken into consideration, which is long enough to have seen a variety of ups and downs in the stock market and recent enough to reflect the complete picture about mutual fund performance.

TRADITIONAL PERFORMANCE MEASURE

The past studies are mainly concentrated with the problems of measurement of risk and its control due to the lack of any absolute measure. In 1968, Jensen proposes an absolute measure of portfolio performance by specifying with the problems of evaluating the predictive abilities of the portfolio managers, which is based on CAPM framework where the risk premium of a mutual fund scheme i (excess return of mutual fund scheme i over the risk free rate) is a linear function of the systematic risk (beta) of the scheme and market risk premium (R_m-R_f). The CAPM based Jensen's model is as under:

$$R_{it} = \alpha_i + \beta_i(R_{mt}) + e_{it} \quad (1)$$

Where, R_{it} is the excess return of the i^{th} mutual fund scheme at time period t, R_{mt} is the excess return of the market portfolio at time period t, β_i is the index of systematic risk of scheme i, α_i is the unconditional alpha coefficient and e_{it} is the random error term of the scheme i at time period t that has zero mean and constant standard deviation with the following properties: $E(e_{it}) = 0$, $Var(e_{it}) = \alpha^2 e_{it}$ and $Cov(e_{it}, e_{ij}) = 0$. The statistical significance of alpha may be judged by the t statistic, which is measured by the estimated value of the alpha divided by its variances. If the values of alphas are assumed to be normally distributed then the t statistic greater than 2 implies that the probability of having obtained the result through luck, and not through expertise, is strictly less than at 5% level of significance and thus, the average alpha is significantly different from zero.

Treynor & Mazuy (1966) is the first who have tried to enumerate the timing component of stock return in a meticulous way and so, they just insert a quadratic term in the CAPM based regression model, which is become a standard for measuring market-timing ability of the investment managers. The unconditional measure of timing-ability is given below:

$$R_{it} = \alpha_i + \beta_i(R_{mt}) + \gamma_i(R_{mt})^2 + e_{it} \quad (2)$$

Where, R_{it} is the excess return of the mutual fund scheme i at time period t, R_{mt} is the excess return of the market at time period t, α_i, β_i and γ_i are the coefficients of the mutual fund scheme i and e_{it} is the error term with zero mean and constant standard deviation. A cursory look into the above measure would reveal that the return of the mutual fund scheme i and that of the market are in the excess return forms. Treynor & Mazuy (1966) argue that if the managers are able to predict the market return efficiently then they will clutch a greater proportion of the market portfolio when the return of the market is high and hold a smaller proportion when the return of the market is low or in other words, adjust the portfolio's beta according to the market condition. Thus, the portfolio return is a non-linear (convex) function of the market return that is captured by the coefficient of the parabolic term (gamma, γ_i).

FORMULATION OF CONDITIONAL PERFORMANCE MEASURE

Selectivity and Market-timing abilities can only be accurately measured under the assumptions of highly stylized models (Ferson & Schadt 1996). The traditional models, in addition to their strong assumptions about how managers' use their abilities have taken the view that any information correlated with future market returns is said to be superior information. Yet any ability to predict the security prices or market that can be matched using the public information should not be considered to truly reflect stock-selection or market-timing ability on the part of fund managers beyond that of the funds' investors. Ferson & Schadt (1996) use basically the same simplifying assumptions as the traditional models, but to assume semi-strong-form of market efficiency. The idea is to distinguish stock-selection and market timing based on public information from stock-selection and market-timing information that is superior to the lagged information variables.

When the CAPM is conditioned with the public information, which is dependable on semi strong form of market efficiency, explaining the effect of the same on the returns of the stock market (Fama, 1970).

According to the conditional version of the CAPM, the return of a mutual fund scheme i can be written as follows:

$$R_{it} = \beta_{im}(A_{t-1})R_{mt} + e_{it} \quad (3a)$$

With $$E(e_{it} / A_{t-1}) = 0 \quad (3b)$$

And $$E(e_{it} R_{mt} / A_{t-1}) = 0 \quad (3c)$$

Where, R_{it} is the excess return of mutual fund scheme i between the time period t and t-1, R_{mt} is the excess return of the benchmark index over the risk free asset and A_{t-1} denotes a vector of instruments for the information available at time period t-1. The beta of the regression equation $\hat{a}_{im}(A_{t-1})$ is the conditional market beta of excess return of the mutual fund scheme i at time period t-1 that depends on the information vector A_{t-1}. Thus, beta varies over time due to certain number of factors. The conditional market beta of excess return of the mutual fund scheme i can be defined as follows:

$$\beta_{it-1} = Cov(R_{it}, R_{mt}/A_{t-1}) / Var(R_{mt}/A_{t-1}) \quad (3d)$$

The equation 3a does not provide the alpha term because it uses information variables A_{t-1} when the latter is null. The error term in the above regression equation is independent as per equation 3b that leads to the assumption of efficient market hypothesis (EMH) and equation 3c tells that the $\beta_{im}(A_{t-1})$ is the conditional regression coefficient.

Equation 3 entails that any unbiased forecast of the difference between the return of a scheme and the product of its beta and the excess return on the market factor which differs from zero must be based on an information set that is more informative than A_{t-1} (Ferson & Schadt 1996). Hence, the forecast of this difference will be zero if only information A_{t-1} is used. Then, the portfolio return relationship can be established by using the asset return relationship with the assumption that the investors use no information other than the public information. So, it may be said that the investors' portfolio beta β_{pm} depends on public information A_{t-1} or in other words $\beta_{pm}(A_{t-1})$ is a function of A_{t-1}. Then, beta can be approximated of a mutual fund scheme i through a linear function by using a development from Taylor series following Shanken (1990) as under:

$$\beta_{im}(A_{t-1}) = b_{oi} + B'_i a_{t-1} \quad (4)$$

This relationship can be interpreted as an average beta i.e. that corresponds to the unconditional mean of the conditional beta that can be defined as under:

$$b_{oi} = E(\beta_{im}(A_{t-1})) \quad (5)$$

The elements of vector B_i are the response coefficients of the conditional beta with respect to the information variables A_{t-1}. a_{t-1} denotes a vector of the differentials of A_{t-1} from the unconditional means that can be written as follows:

$$a_{t-1} = A_{t-1} - E(A_{t-1}) \quad (6)$$

Now, it is possible to formulate a conditional measure of managed portfolio return by combining the above equations as under:

$$R_{it} = b_{oi}R_{mt} + B'_i(a_{t-1})R_{mt} + e_{it} \quad (7)$$

Where, $$E(e_{it} / A_{t-1}) = E(e_{it}R_{mt} / A_{t-1}) = 0 \quad (8)$$

The stochastic factor of the above measure is a linear function of the market return in excess of the risk free rate (R_f). Where, the coefficients of the above measure are conditional on public information A_{t-1}.

APPLICATION TO PERFORMANCE MEASURE

The traditional unconditional measures don't draw a distinction between the skill in using public information, which is available to everybody and a manager's specific stock picking ability. The conditional approach allows these to be separated. Therefore, to evaluate stock-selection performance the empirically developed model incorporates the term α_{ci} and the measure is as under:

$$R_{it} = \alpha_{ci} + b_{0i}R_{mt} + B'_{at}R_{mt} + e_{it} \quad (9)$$

Where, α_{ci} implies the average conditional differentials between the excess return of i^{th} mutual fund scheme and the excess return of a vibrant reference strategy. Hence, it may be assumed that the above measure will offer a better forecast of alpha (or stock selection performance). Therefore, it may be assumed that a mutual fund manager with a positive conditional alpha achieves higher return than the average return from the active reference strategy.

The conditional market-timing model of Ferson & Schadt (1996) is as under:

$$R_{it} = \alpha_{ci} + b_{0i}R_{mt} + B'_i(a_{t-1}R_{mt}) + \gamma_i(R_{mt})^2 + e_{it} \quad (10)$$

Where, the coefficient vector B'_i captures the linear response of the manager's beta to the public information variables A_{t-1}. The set of information vector a_{t-1} represents information available at time t-1 for estimating schemes' returns that indicates changing nature of the state of the economy that finally changes the beta coefficient. The term $B'_i(R_{mt}a_{t-1})$ controls public information effect, which would bias the coefficients in the original Treynor & Mazuy (1966) model. By capturing information available to managers at time t-1, the set of vector $(R_{mt}a_{t-1})$ precludes strategies that can be replicated using public information from being ascribed with superior selectivity or market-timing ability on the basis of this information. Here, the interaction term measure the covariance between conditional beta and the expected value of the market return using lagged instruments. The coefficient of γ_{ci} measures the sensitivity of the manager's beta to the private market-timing signal. The conditional alpha is a linear function of the conditional public information a_{t-1} that can be shown as under:

$$\alpha_i(a_{t-1}) = \alpha_{0i} + ?'_i(a_{t-1}) \quad (11)$$

At the beginning it is very much important to determine the kind of information variables to be used. This is almost same as using explanatory variables. Ferson & Schadt (1996) propose a link to the portfolio risk to market indicators, such as dividend yield of market index and the return on short term T-Bills lagged by one period compared to the estimation period. This study uses a set of one month lagged publicly available information which is assumed to be reliable and important market indicators in the Indian context at the time of examine conditional market-timing performance. Now, dy_{t-1}, tb_{t-1}, fl_{t-1}, ex_{t-1}, sk_{t-1}, mv_{t-1} and um_{t-1} represent the differentials compared to the average of the variables DY_{t-1}, TB_{t-1}, FL_{t-1}, EX_{t-1}, SK_{t-1}, MV_{t-1} and UM_{t-1} that can be written as follows:

$$dy_{t-1} = DY_{t-1} - E(DY_t), \quad tb_{t-1} = TB_{t-1} - E(TB_t),$$
$$fl_{t-1} = FL_{t-1} - E(FL_t), \quad ex_{t-1} = EX_{t-1} - E(EX_t),$$
$$sk_{t-1} = SK_{t-1} - E(SK_t), \quad mv_{t-1} = MV_{t-1} - E(MV_t)$$
and $$um_{t-1} = UM_{t-1} - E(UM_t) \qquad (12)$$

Then, the relationship can be written as under:

$$a_{t-1}\begin{bmatrix} dy_{t-1} \\ tb_{t-1} \\ fl_{t-1} \\ ex_{t-1} \\ sk_{t-1} \\ mv_{t-1} \\ um_{t-1} \end{bmatrix} \text{ and } B_i \begin{bmatrix} b_{1i} \\ b_{2i} \\ b_{3i} \\ b_{4i} \\ b_{5i} \\ b_{6i} \\ b_{7i} \end{bmatrix} \qquad (13)$$

Hence, the conditional beta is the function of a set of information vector. The conditional beta can be interpreted by using the approach of Rosenberg & Mckibben (1973) and Rosenberg & Marathe (1975) as under:

$$b_i = b_0 + b_{1i}dy_{t-1} + b_{2i}tb_{t-1} + b_{3i}fl_{t-1} + b_{4i}ex_{t-1} + b_{5i}sk_{t-1} + b_{6i}mv_{t-1} + b_{7i}um_{t-1} + e_{it} \qquad (14)$$

Hence, the conditional measure of stock-selection and market-timing can be formulated as under:

$$R_{it} = \alpha_{ci} + b_{0i}R_{mt} + b_{1i}dy_{t-1}R_{mt} + b_{2i}tb_{t-1}R_{mt} + b_{3i}fl_{t-1}R_{mt} + b_{4i}ex_{t-1}R_{mt} + b_{5i}sk_{t-1}R_{mt} + b_{6i}mv_{t-1}R_{mt} + b_{7i}um_{t-1}R_{mt} + e_{it} \qquad (15)$$

$$\text{And } R_{it} = \alpha_{ci} + b_{0i}R_{mt} + b_{1i}dy_{t-1}R_{mt} + b_{2i}tb_{t-1}R_{mt} + b_{3i}fl_{t-1}R_{mt} + b_{4i}ex_{t-1}R_{mt} + b_{5i}sk_{t-1}R_{mt} + b_{6i}mv_{t-1}R_{mt} + b_{7i}um_{t-1}R_{mt} + \gamma_{ci}(R_{mt})^2 + e_{it} \qquad (16)$$

Where, α_{ci} represents the conditional alpha. In other words it is the difference between a scheme's excess return and the excess return to the particular combination of market index and the set of information variables that replicates the scheme's time varying risk

exposure. The term b_{0i} represents the conditional beta, however, it no longer represents the systematic risk of the scheme with respect to the market, nor should one assume that it takes the same value because of the multiplicative nature in the way the market indicators enter into the model. In other words, it can only be viewed as the separate influence of the market after taking into consideration the influence of public information variables. The coefficients b_1, b_2, b_3, b_4, b_5, b_6 and b_7 measure the variations of the conditional beta to the lagged information variables.

It is well known that better estimation of the beta allows to better estimation of the alpha. Therefore, for the evaluation of stock-selection performance, the value of alpha also follows conditional process. Thus, the relationship depicted by the conditional alpha can be written as follows:

$$\alpha_{ci} = \phi_i(a_{t-1}) = \phi_{0i} + ?_i a_{t-1} \quad (17)$$

Now, the regression equation that allows the Jensen alpha can be written as follows:

$$R_{it} = \phi_{0i} + ?_i a_{t-1} + b_{0i} R_{mt} + B'_i a_{t-1} R_{mt} + e_{it} \quad (18)$$

Then again, the alpha coefficient can be written by taking into consideration the information variables, which is made up by seven components as under:

$$\alpha_{ci} = \phi_{0i} + {}_{1i}dy_{t-1} + \phi_{2i}tb_{t-1} + \phi_{3i}fl_{t-1} + \phi_{4i}ex_{t-1} + \phi_{5i}sk_{t-1} + \phi_{6i}mv_{t-1} + \phi_{7i}um_{t-1}$$

with

$$\phi_i = \begin{bmatrix} \phi_{1i} \\ \phi_{2i} \\ \phi_{3i} \\ \phi_{4i} \\ \phi_{5i} \\ \phi_{6i} \\ \phi_{7i} \end{bmatrix} \quad (19)$$

Finally, the conditional measure of stock-selection performance can be written as under:

$$R_{it} = \phi_{0i} + \phi_{1i}dy_{t-1} + \phi_{2i}tb_{t-1} + \phi_{3i}fl_{t-1} + \phi_{4i}ex_{t-1} + \phi_{5i}sk_{t-1} + \phi_{6i}mv_{t-1} + \phi_{7i}um_{t-1} + b_{0i}R_{mt} + b_{1i}dy_{t-1} R_{mt} + b_{2i}tb_{t-1}R_{mt} + b_{3i}fl_{t-1}R_{mt} + b_{4i}ex_{t-1}R_{mt} + b_{4i}sk_{t-1}R_{mt} + b_{4i}mv_{t-1}R_{mt} + b_{4i}um_{t-1}R_{mt} + \varepsilon_{it}$$ **(Model 20)**

Here, ϕ_{1i}, ϕ_{2i}, ϕ_{3i}, ϕ_{4i}, ϕ_{5i}, ϕ_{6i} and ϕ_{7i} measure the variations in conditional alpha compared to the dividend yield, the return on the T-bills, change in rupee-dollar exchange rate, change in inflation rates etc. The coefficients of the model are estimated through regression equation from the time series data.

The coefficient $\tilde{a}_{ci}$ measures the sensitivity of the scheme's beta to any private market-timing signals above and beyond the information about the future shape of the market return, which is contained in the above described information variables. Hence, the gamma coefficient also changes like the changes of beta. The gamma coefficient is also a non-

linear function of beta sensitivity and the expected value of the future market return with the lagged instruments that can be written as follows:

$$\gamma_{ci} = f(\phi'_i R^2_{mt} a_{t-1}) \quad (21)$$

Therefore, the conditional market-timing measure for each mutual fund scheme i for each period t will be as follows:

$$E(R_{it}/a_{t-1}) = \alpha_{ci} + b_{0i}R_{mt} + B'_i(a_{t-1}R_{mt}) + \phi_{0i}R^2_{mt} + \Omega'_i(a_{t-1}R^2_{mt}) + e_{it} \quad (22)$$

Where, the coefficient ϕ_{0i} measures the sensitivity of the scheme's beta or the average sensitivity of the scheme's beta. Where, the term $\Omega'_i(a_{t-1}R^2_{mt})$ manages the effect of the parabolic term that is attributed to the lagged public information variables. Consequently, the conditional gamma coefficient in equation 15 can be written as under:

$$\gamma_{ci} = \phi_{0i} + \phi_{1i}dy_{t-1} + \phi_{2i}tb_{t-1} + \phi_{3i}fl_{t-1} + \phi_{4i}ex_{t-1} + \phi_{5i}sk_{t-1} + \phi_{6i}mv_{t-1} + \phi_{7i}um_{t-1} \quad (23)$$

Then the relationship between the conditional gamma coefficients and the set of lagged information variables can be written as under:

$$\phi_i = \begin{bmatrix} \phi_{1i} \\ \phi_{2i} \\ \phi_{3i} \\ \phi_{4i} \\ \phi_{5i} \\ \phi_{6i} \\ \phi_{7i} \end{bmatrix} \quad \text{and} \quad a_{t-1} = \begin{bmatrix} dy_{t-1} \\ tb_{t-1} \\ fl_{t-1} \\ ex_{t-1} \\ sk_{t-1} \\ mv_{t-1} \\ um_{t-1} \end{bmatrix} \quad (24)$$

Finally, the modified conditional model can be written as under:

$$R_{it} = \alpha_{ci} + b_{0i}R_{mt} + b_{1i}dy_{t-1}R_{mt} + b_{2i}tb_{t-1}R_{mt} + b_{3i}fl_{t-1}R_{mt} + b_{4i}ex_{t-1}R_{mt} + b_{5i}sk_{t-1}R_{mt} + b_{6i}mv_{t-1}R_{mt} + b_{7i}um_{t-1}R_{mt} + \phi_{0i}R^2_{mt} + \phi_{1i}dy_{t-1}R^2_{mt} + \phi_{2i}tb_{t-1}R^2_{mt} + \phi_{3i}fl_{t-1}R^2_{mt} + \phi_{4i}ex_{t-1}R^2_{mt} + \phi_{5i}sk_{t-1}R^2_{mt} + \phi_{6i}mv_{t-1}R^2_{mt} + \phi_{7i}um_{t-1}R^2_{mt} + e_{it} \quad \textbf{(Model 25)}$$

Where, the coefficients ϕ_0, ϕ_1, ϕ_2, ϕ_3, ϕ_4, ϕ_5, ϕ_6 and ϕ_7 capture the non-linear variations of the conditional gamma in respect of sensitivity of scheme's beta that attributed to the lagged information variables about the future shape of the expected market return. The coefficients of the above model are estimated through the regression equation. The heterocedasticity and multicolinearity problems in the regression model are corrected through statistical test.

The monthly rate of return of each mutual fund schemes and the market index (BSE Sensex) are computed as follows:

$$R_{i,t} = \log \frac{\log NAV_{i,t}}{NAV_{i,t-1}} \quad (26)$$

$$R_{m,t} = \frac{\text{Market Index}_t}{\text{MarketIndex}_{t-1}} \quad (27)$$

Where, R_{it} is the logarithm return of the i^{th} mutual fund scheme at the end of time (month) t. $NAV_{i,t}$ is the net asset value of the i^{th} mutual fund scheme at time (month) t and $NAV_{i,t-1}$ is the net asset value of the i^{th} mutual fund scheme at the end of the previous time (month) period 't-1'. Similarly, R_{mt} is the logarithm return of the market.

DISTRIBUTION OF DATA

To observe the pattern of the time series data Jarque-Bera test of normality is applied. Similarly, the unit root problem is corrected through DF test.

RESULT & ANALYSIS

Table.1 represents the summary statistic for monthly raw returns of the individual open-ended equity mutual fund schemes. The computed J-B statistic of the individual return series of the schemes is far from zero (J-B>0) which confirms rejection of null hypothesis of a normal distribution.

Table 1 : Descriptive Statistic of the mutual fund schemes

Sl. No	OB	Mean	Median	Max	Min	SD	Skewness	Kurtosis	JB
1	53	1.4957	0.67	13.36	-15.1	5.8981	-0.563	0.969	11.9092
2	53	1.5865	1.3318	55.6109	-28.5257	9.9336	2.6	17.791	542.738
3	77	1.0777	0.0734	17.0146	-17.0508	4.0599	0.38	8.374	94.5094
4	64	0.9752	0.6071	13.6538	-3.8353	3.0247	2.407	7.314	111.427
5	64	1.1996	0.4901	13.7101	-2.1758	2.9803	2.579	6.991	113.421
6	64	0.9642	0.3984	26.018	-19.4558	5.1211	1.309	13.534	314.184
7	64	1.0323	0.3303	11.9102	-2.6877	2.5794	2.67	7.513	130.354
8	64	1.1651	0.6321	16.8589	-31.3171	5.5334	-2.824	19.482	809.483
9	64	1.1534	0.7722	9.0226	-2.6769	2.1275	1.588	3.626	27.943
10	64	1.2089	0.8649	9.0226	-2.6718	2.0654	2.012	5.443	59.095
11	88	1.1987	0.3097	16.2653	-0.7813	2.8903	3.132	11.34	398.808
12	88	1.0364	0.5808	7.4351	-3.8996	1.9145	0.981	1.844	19.0145
13	88	1.1028	0.6938	10.6253	-1.7241	1.6367	2.403	11.976	380.109
14	88	1.1153	0.6684	13.519	-2.8174	2.5517	2.689	9.692	2701.25
15	88	1.0139	0.9081	6.6657	-7.5124	2.052	-0.62	4.072	9.8515
16	88	0.6055	0.4599	9.5172	-6.3826	2.1786	0.544	4.717	15.1501
17	88	1.0311	0.7229	7.3243	-4.8402	1.5966	1.185	6.241	59.1103
18	88	0.179	0.5393	7.6243	-19.2277	3.371	-2.945	14.469	609.51
19	88	0.9714	0.7024	4.4293	-0.23	0.9097	1.743	2.97	44.5614
20	88	1.2178	0.7434	7.7535	-1.8719	1.4838	1.981	5.335	77.5488

21	88	0.6787	0.7175	5.6174	-13.8577	2.3626	-3.091	17.373	897.6
22	88	1.0674	0.7576	9.3563	-4.1256	1.7232	1.894	7.686	133.127
23	88	0.5056	0.7913	13.8023	-9.7287	3.4064	0.447	5.192	20.5484
24	88	1.4247	0.6368	37.5249	-11.2652	5.1631	4.582	29.454	2873.9
25	88	1.0864	0.6999	20.6603	-13.3468	3.0958	1.851	22.87	1497.91
26	88	0.7663	0.5799	4.7118	-13.3468	2.0154	-3.777	27.346	2382.56
27	88	0.8897	0.8012	32.0503	-26.8475	4.6964	1.035	35.818	3964.78
28	88	0.7743	0.4735	16.8589	-10.4888	2.7322	2.01	17.123	790.604
29	88	0.6193	0.5359	4.9342	-2.2624	1.0504	1.021	4.236	20.8907
30	88	1.1879	0.8228	6.945	-3.0958	1.4325	1.038	4.238	21.4222

Note: The name of the schemes is given in Table. 7

Similarly, Table.2 shows the summary statistic of the pre-determined information variables namely market index R_m, dividend yield (DY), 91-day treasury bill rate (TB), inflation rate (FL), Ruppe-Dollar exchange rate (EX), monthly sales volume of mutual fund schemes (SK), monthly redemption / repurchase of mutual fund schemes (MV) and monthly total asset under management (UM). The computed J-B statistic of the information variables is different from zero which indicates rejection of null hypothesis of a normal distribution.

Table 2: Descriptive Statistic of the pre-determined information Variables

Sl. No	OB	Mean	Median	Max	Min	SD	Skewness	Kurtosis	JB
1	144	1.4496	0.9457	49.94	-30.24	9.07	0.578	6.366	75.9978
2	144	1.5794	1.5266	2.52	0.85	0.42	0.329	-0.963	96.83
3	144	0.3739	0.6024	59.19	-39.65	9.17	0.531	15.644	965.995
4	144	2.4207	2.5333	5.6	-2.1	1.35	-0.716	1.337	28.9872
5	144	0.2019	0.5393	7.16	-6.8	2.22	0.545	2.291	1.1447
6	144	944510	521514.5	2669515	2219c1.00	879956	0.523	-1.225	107.104
7	144	925459	471821	2667929	20097	879900	0.566	-1.164	104.033
8	144	362465	318526.5	759452	79464	240919	0.254	-1.575	125.583

The empirical work based on time series data assumes that the underlying time series is stationary that means its mean, variance and auto-covariance (at various lags) remain the same. In this study Dickey-Fuller (DF) test is used to test stationarity of the individual time series data. Table.3 presents the summary statistic of the individual time-series data. It is observed from the table that the computed absolute tau statistic (|ô|) of fourteen (14) individual time series return data is exceed the DF critical absolute tau values at 5% significance level which indicates rejection of null hypothesis that means the time series of 14 schemes is stationary. In case of the remaining individual time series return data the computed tau statistic is lower than the DF critical absolute tau statistic at 5% significance level which means acceptance of the null hypothesis. Hence, in this case, the return data is seen to be non-stationary. An important assumption of any regression based model is

that the disturbances are homoscedastic, which means they all have the same variances. Practically, it is happened that the disturbances may not have the same variances or in other words they are heteroscedacticity. To test this problem, general heteroscedasticity test is applied. It is observed that the computed chi-square values of the individual regression are lower than the critical chi-square value at 5% level of significance and hence, it may be argued that there is no existence of such problem.

Table 3: Unit root and Heteroscedasticity tests of the return series of the schemes

Sl. No	Estimated Coefficient	Standard Error	Tau Statistic	DF Statistic	R^2	χ^2	Table Value (5% level)
1	0.337	0.134	2.5149	-2.89	0.065	3.445	19.6751
2	-0.276	0.136	-2.0294	-2.89	0.054	2.862	19.6751
3	0.288	0.112	2.5714	-2.89	0.049	3.773	19.6751
4	0.427	0.119	3.5882	-2.89	0.168	10.752	19.6751
5	0.398	0.12	3.3167	-2.89	0.028	1.792	19.6751
6	-0.224	0.126	-1.7778	-2.89	0.159	10.176	19.6751
7	0.328	0.125	2.624	-2.89	0.084	5.376	19.6751
8	0.084	0.128	0.6563	-2.89	0.094	6.016	19.6751
9	0.679	0.116	5.8534	-2.89	0.094	6.016	19.6751
10	0.557	0.127	4.3858	-2.89	0.159	13.992	19.6751
11	0.56	0.094	5.9574	-2.89	0.186	16.368	19.6751
12	0.628	0.094	6.6809	-2.89	0.105	9.24	19.6751
13	0.738	0.113	6.531	-2.89	0.105	9.24	19.6751
14	0.618	0.098	6.3061	-2.89	0.105	9.24	19.6751
15	0.612	0.092	6.6522	-2.89	0.094	8.272	19.6751
16	0.503	0.099	5.0808	-2.89	0.083	7.304	19.6751
17	-0.123	0.119	-1.0336	-2.89	0.059	5.192	19.6751
18	0.114	0.111	1.027	-2.89	0.253	22.264	19.6751
19	0.339	0.107	3.1682	-2.89	0.159	13.992	19.6751
20	0.231	0.093	2.4839	-2.89	0.084	7.392	19.6751
21	0.292	0.104	2.8077	-2.89	0.062	5.456	19.6751
22	0.449	0.114	3.9386	-2.89	0.062	5.456	19.6751
23	0.381	0.106	3.5943	-2.89	0.205	18.04	19.6751
24	0.228	0.107	2.1308	-2.89	0.205	18.04	19.6751
25	0.104	0.108	0.963	-2.89	0.159	13.992	19.6751
26	0.204	0.105	1.9429	-2.89	0.094	8.272	19.6751
27	0.009	0.11	0.0818	-2.89	0.056	4.928	19.6751
28	0.112	0.108	1.037	-2.89	0.179	15.752	19.6751
29	0.47	0.096	4.8958	-2.89	0.084	7.392	19.6751
30	-0.067	0.108	-0.6204	-2.89	0.094	8.272	19.6751

Table.4 reports Pearson Correlation Matrix, which reveals that the highest simple correlation coefficient between independent variables (MV and SK) is 0.687. It is assumed that the simple correlation not exceeding 0.90 between the independent variables should not be considered harmful. The R^2 value higher that 0.800 is considered to be harmful because of the presence of multicolinearity problem. The computed R^2 values of the individual schemes' are lower than the cut-off point (0.800), which necessarily proves that the explanatory variables in the regression model is free from the problem of multicolinearity. VIF is another popular measure of multicolinearity. It is generally held that the value of VIF higher than ten (10) is likely to cause a multicolinearity problem. In the present study the values range between 1.0471 and 1.9685 (i,e. less than 10) that means absence of multicolinearity problem. Tolerance (TOL) may also be used as a measure of examine multicolinearity problem. The tolerance value more than 0.20 may be used as a criterion for considering the influence of explanatory variables in the regression model being free from the problem of multicolinearity. Here, the computed tolerance value ranges between 0.508 and 0.955 which clearly demonstrates the fact that the individual regression models are free from the problem of multicolinearity of the explanatory variables. Here, the results of R^2, VIF and TOL are discussed but the values are not presented here.

Table 4 : Test of Multicolinearity (Pearson Correlation matrix)

Variable	Rm	DY	TB	FL	EX	SK	MV	UM
Rm	1							
DY	0.1032	1						
TB	-0.0278	-0.2145	1					
FL	-0.1859	-0.2156	0.1752	1				
EX	-0.2702	-0.0434	0.0445	0.2074	1			
SK	-0.0231	-0.5142	0.2231	-0.2345	0.356	1		
MV	-0.0398	-0.5912	0.0874	-0.2231	0.345	0.687	1	
UM	-0.0874	-0.5612	0.341	-0.1512	0.379	0.545	0.601	1

Table.5 represents the selectivity and market-timing performances of the open-ended mutual fund schemes based on traditional measures of Jensen (1968) and Treynor & Mazuy (1966). We know that positive alpha value (a measure of stock-selection) represents that the managers are able to select the under-priced securities, which generally provide average return to the investors. But, statistically significant alpha value indicates that the managers are efficient to select under-priced securities that offer abnormal return to the investors. If we look back to the past studies on selectivity performance of the mutual fund managers, we can see that not all of the managers are successful in stock-selection activities. Some of them are superior by providing statistically significant alpha (provide extra return). Most of them are average performers by providing positive alpha values (normal return) and many of them are very poor in stock-selection activities by generating

negative alpha (unable to add value to the mutual fund portfolios). It is observed from Table.6 that the alpha values of all the schemes are positive. This performance may be considered as the reflection of the managers' ability to predict the security prices correctly, which has resulted in the generation of the extra return to the portfolios. On the other hand, the mutual funds managers add abnormal return if they generate statistically significant positive alpha value by applying their skills on the selection of under-priced securities from the volatile market. It is observed from the table that 22 schemes out of 30 schemes have offered statistically significant alpha values. No doubt, the result is very satisfactory because 73.33% of the managers of the sample schemes are superior stock pickers and they provide additional return to the investors.

It is also observed from the table that the gamma values of six schemes are positive. The cause of probable reason of obtaining negative market-timing performance may be considered as the reflection of inability of the managers to predict the market movement correctly and managers have failed to earn extra return from the activities of market-timing. The earlier researchers have shown very poor performance in this regard. Here, the managers have failed to earn abnormal return by capturing the activities of market movement and hence, the mangers are unable to generate statistically significant gamma values. Table.5 also presents the test statistic of autocorrelation. The observed 'd' values of all the schemes are more or less are two (2) that indicates the returns data are free from the problem of first order autocorrelation.

Table 5 : Selectivity & Market-timing performance based on traditional measure

Sl. No	Beta value (β)	t-Statistic	Alpha (α)	t-Statistic	Gamma value (γ)	t-Statistic	D-W statistic
1	0.538	5.669	1.322	1.642	-0.01	-0.983	1.998
2	0.577	3.068	0.721	0.452	-0.004	0.184	2.873
3	0.2	3.923	0.792	1.557	-0.002	-0.718	1.808
4	0.094	2.176	0.99	2.269*	0.003	-1.043	1.885
5	0.077	1.781	0.436	2.828*	-0.004	0.349	1.852
6	0.004	0.053	1.281	1.67	-0.001	-0.84	2.444
7	0.054	1.419	0.996	2.606*	-0.001	-0.446	14.956
8	0.12	1.471	0.977	1.192	-0.003	-0.204	1.92
9	0.072	2.379	1.212	4.001*	-0.001	0.152	1.903
10	0.054	1.785	1.175	3.879*	-0.002	-0.578	1.948
11	-0.008	-0.021	1.312	3.670*	-0.002	-0.589	1.891
12	0.027	1.025	1.156	4.943*	-0.002	-1.364	1.83
13	0.051	2.335	1.17	5.990*	-0.002	-1.423	1.759
14	0.114	3.585	0.707	2.456*	0.004	1.807	1.874
15	0.068	2.509	1.1	4.515*	-0.003	-1.495	1.987

16	0.051	1.771	0.792	3.043*	-0.004	-2.019	2.131
17	-0.014	-0.657	1.048	5.605*	0.005	0.03	2.036
18	0.004	0.088	0.029	0.069	0.002	0.712	1.747
19	-0.015	-1.18	1.024	9.178*	-0.001	-0.6	2.294
20	0.01	0.48	1.331	7.326*	-0.002	-1.43	2.326
21	-0.016	-0.483	0.764	2.614*	-0.001	-0.449	1.894
22	0.011	0.466	1.13	5.307*	-0.001	-0.743	2.07
23	0.028	0.607	0.723	1.729	-0.004	-1.252	2.341
24	0.108	1.543	1.432	2.269*	-0.002	-0.5	1.681
25	0.048	1.139	1.049	2.753*	-0.001	-0.149	1.865
26	-0.006	-0.203	0.826	3.308*	-0.001	-0.424	1.683
27	0.049	0.757	0.861	1.483	-0.001	-0.13	1.986
28	0.061	1.633	0.804	2.414*	-0.002	-0.693	1.809
29	0	3.224	0.007	5.386*	-0.004	-1.623	1.809
30	0.003	0.147	1.103	6.241*	0.001	0.947	2.113

* Significant at 5% level

Ferson & Schadt argue that conditional model provides better selectivity and market-timing performances than the traditional measures. Now, come to the result, which is depicted in Table.6. If we observe the estimated conditional alpha values (a measure of conditional selectivity performance) then we find that conditional stock-selection performances of twenty nine (29) schemes are positive and the remaining is negative. A careful inspection of the result reveals that after inclusion of public information variables in the conditional framework the managers have failed to transform negative alpha into positive and we don't observe any radical changes in alpha values based on two measures (conditional & traditional). But, empirical result shows that twenty-five schemes (25) out of 30 schemes have provided significant selectivity performances. No doubt, the result is very satisfactory (83.33%) and it may be said that the managers are superior stock pickers as compared to the traditional measure (73.33%) and finally, provided extra returns to the investors. Now, if we compare the significant selectivity performance based on two measures (conditional & un-conditional) we find that significant stock-selection performance in conditional measure is better than the unconditional measure. Therefore, we can conclude that after inclusion of public information variables in the conditional framework the significant stock-selection performance looks better.

On the other hand, it is observed from the table that the gamma values of seven schemes are positive as compared to the traditional measure where it is only six and the change is very insignificant. It may not be said that a radical improvement has been taken place in market-timing performance after consideration of publicly available information. It may be opined that the managers cannot properly predict the market movement at right time. Only then the managers are said to be superior when they predict the market movement correctly and generate statistically positive significant gamma values. In conditional

approach two schemes have provided statistically significant gamma values as compared to the traditional measure where the significant performance is absent. Hence, it may be concluded that after incorporation of publicly available information variables in the conditional model the managers have been able to generate statistically significant positive gamma values. However, it may not be said a radical change in significant gamma value.

Table 6 : Selectivity & Market-timing performance based on conditional measure

Sl. No	Name of the Scheme	Alpha (αc)	t-Statistic	t-Statistic	Gamma (γc)	t-Statistic
1	UTI-Grand Master 1993	0.96	2.085*	-1.555	2.056	0.161
2	UTI-PEF 95	0.473	0.272	-0.56	-0.642	-0.043
3	UTI-Sunder	0.638	1.783	2.457	-1.981	-0.738
4	UTI-Dynamic Equity Fund-Dividend	1.017	2.011*	2.374	-4.138	-0.568
5	UTI-Dynamic Equity Fund-Growth	1.518	3.127*	3.025	-0.187	-1.157
6	UTI-Growth & Value Fund- Annual Dividend	2.046	2.079*	1.923	-0.105	-0.32
7	UTI-Growth & Value Fund-Growth	0.832	2.014*	2.737	-0.001	-0.007
8	UTI-Gr & Value Fund-Semi Annual Dividend	0.316	0.317	1.513	-0.403	-1.213
9	UTI-India Advantage equity Fund-Dividend	1.151	3.748*	2.748	0.027	0.261
10	UTI-India Advantage equity fund-Growth	1.112	3.555*	2.81	-0.02	-0.193
11	UTI-Equity fund-Growth Option	1.246	2.928*	0.988	0.036	0.326
12	UTI-Equity fund-Income Option	0.951	3.693*	1.543	-0.126	-1.879
13	UTI-Master index fund-Growth Option	0.89	4.603*	0.056	-0.056	-1.118
14	UTI-Master index fund-Income Option	0.957	3.091*	1.148	-0.055	-0.676
15	UTI-Master plus unit scheme-Growth Option	1.023	3.794*	2.895	-0.253	-3.595
16	UTI-Master plus unit scheme-Income Option	0.823	2.757*	0.537	-0.022	-0.281
17	UTI-Master Share-Growth Option	0.825	3.889*	-2.749	0.156	2.813
18	UTI-Master share-Income Option	-0.125	-0.252	-0.606	-0.024	-0.184
19	UTI-Master Value Fund-Growth Option	0.828	6.879*	0.645	-0.079	-2.498
20	UTI-MNC fund (UGS 10000)-Growth Option	1.22	5.506*	0.28	-0.048	-0.835
21	UTI-MNC fund (UGS 10000)-Income Option	0.697	2.164*	-0.875	0.197	2.345
22	UTI-Nifty index fund-Growth Option	0.925	3.838*	0.049	0.005	0.083
23	UTI-Banking sector fund-Income Option	0.759	1.665	2.284	-0.331	-2.779
24	UTI-Banking sector fund-Income Option	1.364	2.856*	-0.038	-0.267	-1.39
25	UTI gr sector funds-UTI-GSF- pharma -Gr Op	1.268	2.870*	1.36	-0.199	-1.726
26	UTI-Gr sector funds-UTI-GSF-Pharma-Inc Op	0.797	2.696*	1.184	-0.102	-1.32
27	UTI-Gr sector funds-UTI-GSF-Service-Gr Op	1.118	2.667*	0.491	-0.154	-0.878
28	UTI infrastructure fund-Growth Option	0.813	1.978*	1.222	-0.103	-0.958
29	UTI Mid cap fund-Growth Option	0.523	3.885*	1.261	-0.102	-2.892
30	UTI opportunities fund-Growth Option	1.105	5.237*	0.127	0.018	0.328

* Significant at 5% level.

CONCLUSION

The traditional measures are extensively used in the measurement of investment performances. But, after the development of conditional measures, the measurement of investment performance can be possible to make more accurately. After inclusion of publicly available information variables in the conditional models the stock-selection and market-timing performances have been slightly improved. To improve the performance to a greater extent more information variables have to be considered in the conditional performance measures and further research is needed in estimating the stock-selection and market-timing performances. In addition to this, the improvements of multi-index conditional sustainable time-lags measures are the natural extension of this paper particularly in the developing markets.

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LINKAGES AMONG STOCK MARKETS: BRICS COUNTRIES

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ABSTRACT

The purpose of the study is to look into the short-run and long-run relationships between Indian stock market (Nifty) and stock indices of BRCS countries. Monthly closing stock market indices of India (Nifty) and that of the Brazil (IBOVESPA), Russia (RTSIndex), China(SSE Composite) and South Africa (FTSE)for the period of April, 2009 to March, 2014 are taken as sample.

The study is tested with Cross correlation, Unit root test, Granger causality test and Johansen cointegration test to seek the relationship, stationarity, directional causality and either short or long run equilibrium between the Nifty and the selected indices of BRCS stock markets. The result obtained by the econometric tools shows that the correlation between the Nifty and the other selected indices is significant, the data are stationary at their level and its first difference (ADF and PP), both unidirectional and bidirectional causality occurs and the long term relationship is found between Nifty and selected indices.

Key Words: Stock Indices, BRICS, Cointegration, Causality

INTRODUCTION

The globalization of the world stock markets is the most noteworthy development that has occurred during the last decade. Various factors contributed to this including: the advancement of technology and remote access which have been utilized in security trading, the emergence of new international financial institutions offering financial services regardless of geographical jurisdictions, trends of liberalization and the removal of restrictions used to be imposed on foreign ownership, and the movement towards regional integration of that stock exchanges, clearing and settlements organizations, and other financial institutions. Along with various measures, opening up of the home market for the foreign investors is one of the important steps taken by the Indian Government that may lead the Indian stock market to be strongly integrated with the stock market of the rest of the world.

The globalization phenomenon may be blessing, since many experts believe that globalization may improve market efficiency, lower its risk due to the possibility of diversification, and use arbitrage in a relevant way. On the other hand, it may increase pricing volatility and trading instability, due to the high correlation between leading - major-stock markets (BRICS) and other markets as well as to the fact that the irrational trading in one market may move to other markets as witnessed in the last two decades.

IMPORTANCE OF BRICS NATIONS

In the past few decades, some large economies such as Brazil, Russia, India and China, (BRICs) have acquired a vital role in the world economy as producers of goods and services, receivers of capital, and as potential consumer markets. The BRICs economies have been identified as some of the fastest growing countries and the engines of the global recovery process, which underscores the changed role of these economies. Even in the G-20 countries' forum, BRICs are playing a formidable role in shaping the macroeconomic policy after the recent financial crisis. At present, these four countries encompass over 40 per cent of the global population and a share in world GDP (in PPP terms) that increased from 16 per cent in 2000 to nearly 27 per cent in 2011, and is expected to rise significantly in the near future. If one compares the GDP in PPP terms for 2011, four economies figure among the G-20 top ten, with China, India, Russia and Brazil in 2nd, 4th, 6th and 8th place respectively. In terms of contribution to growth of PPP-adjusted global GDP of the world, these four economies accounted for 55 per cent during 2000–11, and their contribution is expected to rise in the coming years.

According to an estimate by Goldman Sachs, the four original BRICs countries are expected to represent 47 per cent of global GDP by 2050, which would dramatically change the list of the world's 10 largest economies. An important change that we may expect over the medium to long term is that the top 10 countries in terms of GDP may be different from the top 10 countries in terms of per capita GDP. The inherent strength of the BRICs emanates from strong domestic demand-based economies in the case of India and Brazil and the significant outward linkages of China and Russia.

LITERATURE REVIEW

Bailey & Stulz (1990) applied simple correlation technique to find interrelationship among US and Pacific basin stock market and found that the correlation differed in terms of daily, weekly and monthly time series data.

Arshanapalli & Doukas (1996) applied Johansen cointegration technique on daily data belonging to different Asian markets and found that there was no long term relationship among the Asian stock market.

Ghosh (1999) in contrary to Arshanapalli & Doukas (1996) found that some of the Asian market showed a long runequilibrium relationship with the world's major stock market.

Floros (2005) found a long term relationship among the stock prices of US, Japan and UK. He also observed that through Granger causality test some of the stock indices have shown bidirectional effect and some other showed unidirectional effect.

Amanulla & Kamaiah (1995) examined the long run equilibrium between the RBI stock price indices of Bombay, Calcutta, Madras, Delhi and Ahmedbad. They found that there existed long run equilibrium. Nath & Verma (2003) tested the cointegration between Indiaand other selected countries with daily price indices and found that no cointegration

existed among India, Taiwan and Singapore for the period January 1994 to November 2002. Jayanthi & Pandiyan (2008) tested the cointegration between the stock price indices of India, Malaysia, Taiwan, china, South Korea, US, UK, Germany, Singapore, Hong Kong and Japan. The study period was from April 2000 to March2007 and they found that no correlation and cointegration among the selected stock price indices.

Chakravarty & Ghosh (2011) made an attempt to find the relationship among the indices of Sensex 30, S&P 100 and FTSE 100 through Granger causality test and found that unidirectional causality occurred for S&P100 and FTSE 100 from Sensex.

Sen (2011) made an attempt to investigate the relationship between Sensex and some selected Stock Price Indices of the Asia Pacific region and found that the correlation among the selected Stock Price Indices were highly correlated and significant. Granger causality test revealed the unidirectional effect from the Asian tigers to Sensex and Johansen cointegration test clearly showed that there existed a long run relationship between sensex and stock indices of the major Asian Pacific countries.

It is worth mentioning that the present study is carried out as an extension of the study of Sen (2011) with the time interval from January 2000 to June 2013 to find out the relationship among the selected market indices in amid strident recessionary trends.

OBJECTIVES OF THE STUDY

1. To test the stationarity of the BRICS Stock Market Indices
2. To examine directional effect among the BRICS Stock indices
3. To understand the effect of Long term relationship among the BRICS market.

METHODOLOGY

This study is conducted in an empirical format by using secondary data gathered from monthly stock market indices of India (Sensex) and that of the Brazil (IBOVESPA), Russia (RTSIndex), China(SSE Composite) and South Africa (FTSE).

DATA

Monthly time series data of the above- mentioned indices have been used for the purpose of empirical investigation covering the study period from April, 2009 to March 2014. The data for these indices were collected from the website www. Finance-yahoo.com

The following standard statistical and economic tools have been applied for empirical investigation.

- Cross Correlation,
- Unit root test,
- Granger causality test, and
- Johansen cointegration test.

Cross-Correlation

Cross-Correlation is a useful statistical tool to measure the co movement of variables and the lead-lag relationship between them.

Using the following formula, pair-wise cross-correlations between Sensex and other prices indices have been computed

$$r = \frac{\sum_i (x_i - \bar{x})(y_{i-d} - \bar{y})}{\sqrt{\sum_i (x_i - \bar{x})^2} \sqrt{\sum_i (y_{i-d} - \bar{y})^2}} \quad \text{(A1)}$$

Where r is greater than, equal or less than zero.

From the cross-correlations, it would be clear whether Nifty is correlated to other selected stock price indices in different times (monthly) lags.

Unit Root Test

Before using the time series data for further investigation, all the time series data must be tested for stationarity. Mean, Variance and covariance of such stationary time series data do not change with the time sift. If the data is non-stationary, then regression results using such data would be spurious, as the usual t test would not be applicable to test the significance of coefficients.

To test the stationarity, the unit root test has been applied on the time series index data. In this, regard, the Phillips-Perron unit root test has been preferred against ADF test, as the latter is considered the low power test. In Phillips-Persson test, non-parametric statistical methods are used to take care of the serial correlation in the error term(μt) of the following equation.

$$\nabla y_t = \nabla y_{t-1} + u_t$$

The test is based on the null hypothesis H0:Ytis notI (0). If the computed PP statistics are less that the critical value, the Yt is non-stationary.

Granger Causality Test

Granger causality test has carried out to observe the direction of the short-run relationship between the sensex and other indices. To test for Granger causality between two stock price indices Yt and Xt, the following two equations have been estimated.

$$Y_t = \sum_{i=1}^{m} \alpha_1 Y_{t-i} + \sum_{i=t}^{m} \beta_1 X_{i-t} + it_i$$

$$X_t = \sum_{i=1}^{m} \gamma_1 Y_{t-i} + \sum_{i=1}^{m} \delta_1 X_{t-i} + e_t$$

Where Yt and Xt are the first difference of time series variable.

Therefore, F-test has been conducted for joint insignificance of the coefficients. The null hypothesis of such test Yt does not Granger cause Xt and vice versa. A rejection of the null hypothesis indicates the existence of Granger causality; for each of the stock indices, two Granger causality tests have been performed to investigate whether Y Granger causes X or X Granger causes Y or both or there is no causal relationship between the variables.

Johansen cointegration test

The condition for testing Johansen cointegration test for anytime series data is that the data should be non stationary at their level i.e. the natural logarithm of time series data should be non stationary and the first difference in the data should be stationary. If the return indices of different markets are correlated, the value may raise or fall. On the other hand, if the time series data are cointegreted, then the series in the long run will come to equilibrium point.

EMPIRICAL RESULTS AND ANALYSIS

Descriptive statistics results

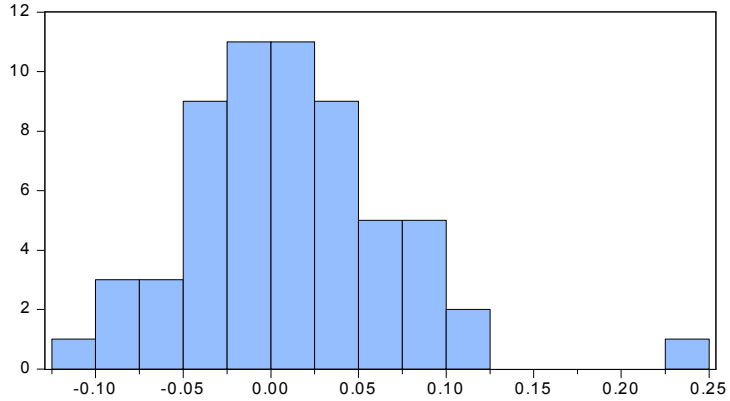
figure 1 to 5 revealed that the variables considered in the scope of the analysis are examined, the average values of variables were found to be Nifty (0.011316), BOVESPA (0.001169), SSE (-0.0028), RTSINDEX (0.0065) and FTSE (0.0142), standard deviation values are found to be Nifty (0.06075), BOVESPA (0.054), SSE (0.068), RTSINDEX (0.0882) and FTSE (0.038),When average values of the variables are considered in terms of the case that data do not have normal distribution and that variables are not distributed normally in full, but are distributed very close to normal distribution as the median values of variables are very close to average values.

Regarding whether series are distributed normally or not; skewness, kurtosis and Jarque-Bera statistics were considered. If kurtosis value of relevant variables is bigger than three, it indicates that series is sharp, if it is smaller than three, it indicates that series is oblate. In consideration of skewness values, if skewness value is equal to zero, it indicates that series has normal distribution, if the skewness value is bigger than zero; it means that series is skew in the positive direction, if skewness value is smaller than zero; it indicates that series is skew in negative direction.

Following values were found: skewness value of Nifty variable 0.8622), kurtosis value (5.32), Jarque-Bera value (20.95), skewness value of BOVESPA (0.142), kurtosis value (2.831), Jarque-Bera value (0.27), skewness value of SSE(-0.5356), kurtosis value (4.5619), Jarque-Bera value (8.968), skewness value of RTSINDEX(-0.2595), kurtosis value (4.5022), Jarque-Bera value (6.3152) and skewness value of FTSE(0.2547), kurtosis value (2.488), Jarque-Bera value (1.303).

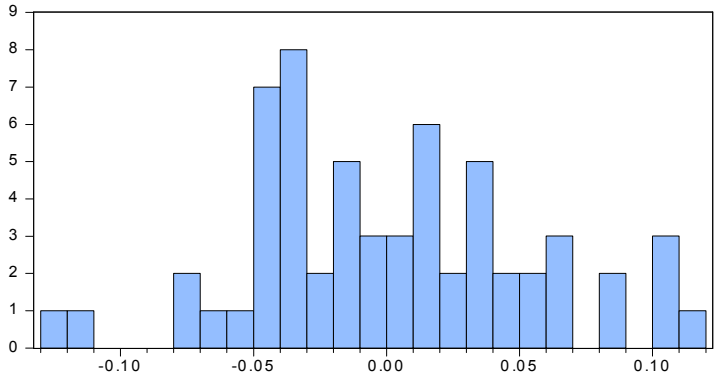
It has been found that Nifty variable is skew (inclined) and sharp in the positive direction, BOVESPA variable is skew (inclined) and oblate in positive direction and SSE variable is skew (inclined) and sharp in negative direction, RTSINDEX variable is skew (inclined) and sharp in negative direction and FTSE variable is skew (inclined) and oblate in positive direction.

Figure: 1



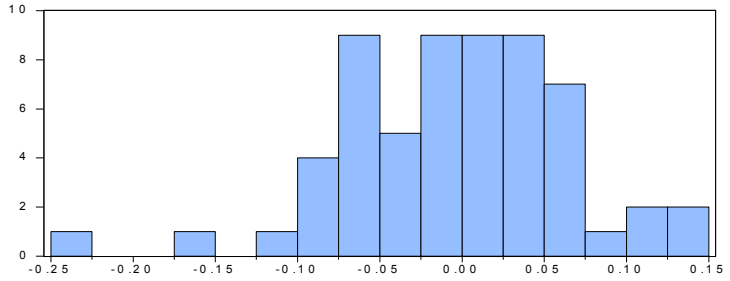
Series: NIFTY	
Sample 1 61	
Observations 60	
Mean	0.011316
Median	0.005571
Maximum	0.247376
Minimum	-0.108108
Std. Dev.	0.060756
Skewness	0.862211
Kurtosis	5.325072
Jarque-Bera	20.94897
Probability	0.000028

Figure: 2



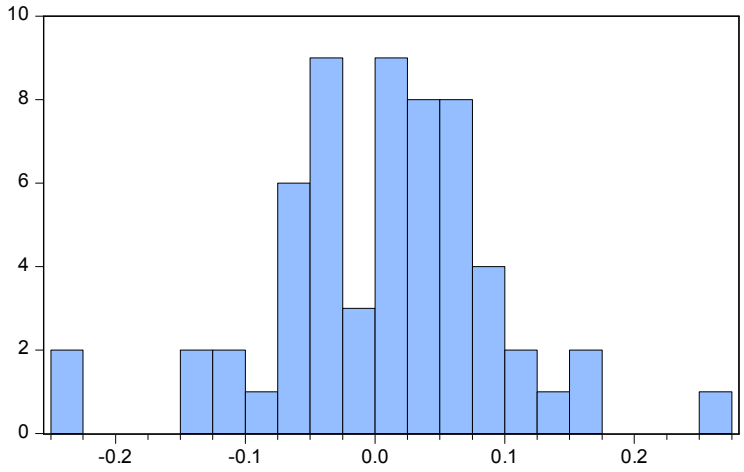
Series: BOVESPA	
Sample 1 61	
Observations 60	
Mean	0.001169
Median	-0.002305
Maximum	0.117722
Minimum	-0.126210
Std. Dev.	0.053658
Skewness	0.142132
Kurtosis	2.831104
Jarque-Bera	0.273330
Probability	0.872262

Figure: 3



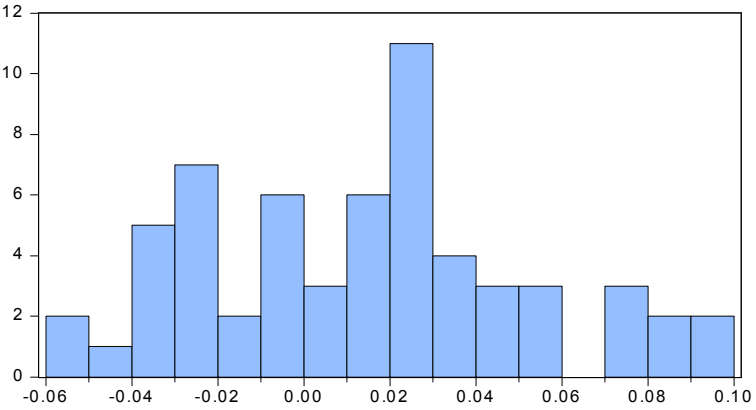
Series: SSE	
Sample 1 61	
Observations 60	
Mean	-0.002763
Median	-0.001903
Maximum	0.142343
Minimum	-0.246081
Std. Dev.	0.068450
Skewness	-0.535630
Kurtosis	4.561922
Jarque-Bera	8.968002
Probability	0.011288

Figure: 4



Series: RTSINDEX	
Sample 1 61	
Observations 60	
Mean	0.006503
Median	0.009242
Maximum	0.266842
Minimum	-0.249303
Std. Dev.	0.088165
Skewness	-0.259505
Kurtosis	4.502245
Jarque-Bera	6.315281
Probability	0.042526

Figure : 5



Series: FTSE	
Sample 1 61	
Observations 60	
Mean	0.014211
Median	0.015858
Maximum	0.097900
Minimum	-0.059785
Std. Dev.	0.038195
Skewness	0.254723
Kurtosis	2.488402
Jarque-Bera	1.303167
Probability	0.521220

Table 1 : Unit Root Statistics

Country	Augmented Dickey-Fuller test statistic		Order of integration
	Level	1st Difference	5 % level -2.88
Brazil	-3.6897	-5.1982	Stationary at level and 1st difference
Russia	-3.0949	-5.1411	Stationary at level and 1st difference
India (Nifty)	-3.9177	-6.1017	Stationary at level and 1st difference
China	-3.4205	-4.8305	Stationary at level and 1st difference
South Africa	-3.6552	-4.8777	Stationary at level and 1st difference

Note: ADF Test critical values: 5% level-2.88.
Source: Computed Data

Table 2 : Unit Root Statistics

Country	Phillips-Perron test statistic		Order of integration
	Level	1st Difference	5 % level -2.88
Brazil	-7.0434	-21.2432	Stationary at level and 1st difference
Russia	-7.9918	-23.4722	Stationary at level and 1st difference
India (Nifty)	-9.0819	-23.0056	Stationary at level and 1st difference
China	-8.9224	-24.7345	Stationary at level and 1st difference
South Africa	-11.083	-36.5119	Stationary at level and 1st difference

Note: PP Test critical values: 5 % level -2.88
Source: Computed Data

Table 3 : Unit Root Statistics

Country	Kwiatkowski-Phillips-Schmidt-Shin test statistic		Order of integration
	Level	1st Difference	5% level 0.46
Brazil	0.3491	0.1067	Non-Stationary at level and 1st difference
Russia	0.4373	0.07307	Non-Stationary at level and 1st difference
India (Nifty)	0.2251	0.10202	Non-Stationary at level and 1st difference
China	0.1957	0.07949	Non-Stationary at level and 1st difference
South Africa	0.1654	0.08274	Non-Stationary at level and 1st difference

Note: KPSS Asymptotic critical values: 5% level 0.46, 10% level 0.34.
Source: Computed Data

The BRICS stock market indices are tested with both ADF and PP test and it is shown in the Table 1 and Table 2. The results obtained by both the tests to seek for stationarity revealed that all time series data are stationary at their level and also attained stationarity after first differencing. Therefore, all time series data achieved stationarity at their level and first differenced.

Table 3 revealed that the KPSS results obtained that all time series data are non stationary at their level and after first differencing.

Table 4: Cross- Correlation between S&P CNX Nifty to other Selected Indices

Lag	IBOVERSPA	RTSINDEX	SSE	FTSE
-5	-0.0244	0.0314	-0.1287	0.0900*
-4	-0.05	-0.121	0.1351	-0.0771
-3	-0.1017	-0.1596	-0.0743	-0.005
-2	0.0436	0.1787*	-0.1654	0.1412*
-1	0.0854*	0.1002*	0.1663*	-0.2074
0	-0.1014	-0.364	-0.0734	0.0521*
1	0.6662*	0.6234*	0.2570*	-0.0004
2	-0.0814	0.0691*	0.1537*	-0.0849
3	-0.1392	-0.19	-0.0024	0.0915*
4	0.1027*	-0.1879	-0.0905	0.1121*
5	0.1237*	0.0543*	0.2350*	-0.0263

Note: *significant at 1% level

Source: Computed Data

The pair-wise cross correlation co-efficient between Nifty and other indices are presented in table 4. It that there is a positive correlation between the Nifty and other selected indices at 1% level of significance.

The pair wise Granger causality test is shown (Table-5) that no causality exists between

(i) RTSINDEX and BOVESPA
(ii) NIFTY and BOVESPA
(iii) BOVESPA and NIFTY
(iv) SSE and BOVESPA
(v) BOVESPA and SSE
(vi) FTSE and BOVESPA
(vii) BOVESPA and FTSE
(viii) NIFTY and RTSINDEX
(ix) RTSINDEX and NIFTY
(x) SSE and RTSINDEX
(xi) RTSINDEX and SSE
(xii) FTSE and RTSINDEX
(xiii) RTSINDEX and FTSE
(xiv) SSE and NIFTY
(xv) FTSE and NIFTY
(xvi) NIFTY and FTSE and
(xvii) SSE and FTSE.

The only Bidirectional causality exists between

(i) BOVESPA and RTSINDEX
(ii) NIFTY and SSE and
(ii) FTSE and SSE.

It is important to note that the pronouncement of causality between the selected variables does not mean that movement in one variable actually causes movements in another variable. To a certain extent, causality basically entails in order of movements in the time series.

Table 5 : Granger Causality Test-Results

Null Hypothesis	F-Stat.	P-Value	Decision
RTSINDEX does not Granger Cause BOVESPA	2.08192	0.1348	No Causality
BOVESPA does not Granger Cause RTSINDEX	3.47199	0.0383	Bi-directional
NIFTY does not Granger Cause BOVESPA	19.4874	5.00E-07	No Causality
BOVESPA does not Granger Cause NIFTY	2.71817	0.0754	No Causality
SSE does not Granger Cause BOVESPA	1.54488	0.2228	No Causality
BOVESPA does not Granger Cause SSE	2.36276	0.104	No Causality
FTSE does not Granger Cause BOVESPA	26.1302	1.00E-08	No Causality
BOVESPA does not Granger Cause FTSE	0.05678	0.9449	No Causality
NIFTY does not Granger Cause RTSINDEX	14.5548	1.00E-05	No Causality
RTSINDEX does not Granger Cause NIFTY	1.84631	0.168	No Causality
SSE does not Granger Cause RTSINDEX	0.06349	0.9386	No Causality
RTSINDEX does not Granger Cause SSE	3.09227	0.0537	No Causality
FTSE does not Granger Cause RTSINDEX	17.6885	1.00E-06	No Causality
RTSINDEX does not Granger Cause FTSE	0.81435	0.4485	No Causality
SSE does not Granger Cause NIFTY	2.40146	0.1006	No Causality
NIFTY does not Granger Cause SSE	4.06017	0.023	Bi-directional
FTSE does not Granger Cause NIFTY	2.05702	0.1379	No Causality
NIFTY does not Granger Cause FTSE	1.64957	0.2018	No Causality
FTSE does not Granger Cause SSE	8.39016	0.0007	Bi-directional
SSE does not Granger Cause FTSE	0.41982	0.6594	No Causality

The result obtained in the table 6 through Johansen cointegration test revealed that trace statistics is significant at 5% level in cases and it leads to conclude that there is long run equilibrium between the Nifty and other selected indices of the stock market. Therefore, this suggests that there will belong run relationship among the BRICS economics.

Table 6: Johansen Cointegration Test Results (Lags Interval: 1 to 4)

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.508015	119.8398	69.81889	0.0000
At most 1 *	0.383041	80.11860	47.85613	0.0000
At most 2 *	0.341966	53.07321	29.79707	0.0000
At most 3 *	0.260582	29.63730	15.49471	0.0002
At most 4 *	0.203355	12.73137	3.841466	0.0004

Note: Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-value

CONCLUSION

The study revealed certain facts that there is positive correlation between Nifty and other selected indices (BRCS) during the study period April, 2009 to March 2014. Further it is worth noted that both unidirectional and bidirectional causality effect took place among the selected indices. The result obtained through cointegration test proved that long run equilibrium exists between the Nifty and other selected market indices. Due to this cointegration prices indifferent markets cannot move away far from each other and therefore the investor community cannot get abnormal gain due to the price differences among the markets.

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FINANCIAL PERFORMANCE MEASUREMENT OF INDIAN COMPANIES: AN EMPIRICAL ANALYSIS OF RELATIVE AND INCREMENTAL INFORMATION CONTENT OF EVA & TRADITIONAL ACCOUNTING MEASURES

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ABSTRACT

Financial performance measurement is an important area in the field of finance and one of its indicator is market value added (MVA). It is essential to identify the parameters that affect market value added so that they can be stimulated in a positive manner. Hence, the present study tries to examine traditional accounting measures and economic value added (EVA) as explanatory variables of market value added.

In order to achieve the aforementioned objective, the financial data of 100 Indian companies for a period of eight years (2005-2012) is used. The sample companies are categorized into four different industry segments namely; Industrials, Oil & Gas, Financials and Health Care.

Correlation and regression analysis have been used to analyze the collected data of the sample companies. The results of the study indicates that different measures appear as better predictors of market value added for different industry groups thus highlighting the complexity of financial performance measurement.

Key Words : Market Value Added (MVA), Economic Value Added (EVA), Financial Performance Measurement, Relative and Incremental Information Content.

INTRODUCTION

With the change in the economic scenario and increased awareness among the investors, companies need to focus on shareholder wealth creation. This would be possible if companies use their resources efficiently and earn return greater than that required by

the investors on their invested capital. So it is essential that the company understands how the overall value is created. In other words, the company should identify the financial performance parameters that have substantial impact on the value of the firm so that the company can use these measures for future planning.

In order to proceed the traditional approaches to ascertain the wealth of the shareholders, a new method of estimating the value shareholders, was developed, which came to be known as Economic Value added (EVA). This meant that, by calculating the Net profits after taxes, exclusive of the cost borne for the capital, would help to know the value added to the firm economically.

The study aimed to compare traditional performance measures with EVA as measures of value creation. In order to achieve the above mentioned objective, 12 internal performance measures are considered of which 11 are traditional measures and one is modern value based measure. The eleven traditional measures include: Current ratio (CR), Quick ratio (QR), Asset turnover ratio (ATR), Debtor's turnover ratio (DTR), Debt Equity ratio (DE ratio), Price Earning Ratio (P/E ratio), Earnings per share (EPS), Net profit Margin (NPM), Return on equity (ROE), Dividend per share (DPS) and Dividend payout ratio (DPR).

The value based measure included is economic value added (EVA). The value created or destroyed by the company has been measured through an external performance measure that is market value added (MVA).

However, the firm sample cannot be taken to be a homogeneous group as no single measure can be used as predictor of MVA for all types of firms. So in order to have better understanding regarding the above mentioned performance drivers, the sample companies are divided into four different industries namely; Industrials, Oil & Gas, Health Care and Financials. Hence the study tries to check whether different performance indictors provide better and additional information on value created by different industry groups.

Computation of MVA & EVA

MVA is the stock market's assessment regarding the financial performance of the company. It is the value created by the company in excess of capital invested by shareholders.

Market Value Added (MVA) = Market value of company - Capital employed

The concept of EVA is not a new invention. Its roots can be traced back to an accounting performance measure called residual income which can be defined as operating profit subtracted with capital charge. Similarly, EVA is just a measure of the incremental return that the investment earns over the market rate of return. It is calculated as the net operating profit minus a charge for the cost of all the capital invested in an enterprise.

EVA = NOPAT – Weighted Average Cost of Capital*Capital Employed

Where: - EVA is Economic Value Added and NOPAT is Net Operating Profit after Taxes

REVIEW OF LITERATURE

With the increasing importance of EVA as financial performance measurement tool, various studies have been conducted on EVA. Studies like that of O'Byrne (1996), Hall and Brummer (1999), Singer & Millar (2003), Popa et al (2009), Hall (2013) supports EVA in terms of its association with firm value and stock returns. The results of these studies showed that EVA is a better indicator of MVA and that a company that can consistently improve its EVA should be able to boost its MVA and therefore its shareholders' value. Similar results were revealed by studies conducted in the Indian context by Irala (2007), Vijayakumar (2012), Chauhan and Patel (2013). These studies provided evidence of superiority of EVA as predictor of MVA for Indian companies.

But on the other hand studies like that of Biddle et al (1997), Chen & Dodd (1998), Kramer and Peters (2001), Kyriazis and Anastassis (2007), Erasmus (2008), Holler (2008) support traditional measures as predictors of MVA. These studies empirically examined the value-relevance of traditional measures in comparison to EVA and concluded that market place higher reliance on accounting measures than the EVA metric. Further, studies conducted for the Indian companies by Ramana (2004), Sweety (2010), Kumar & Sharma (2011) also failed to support the assertion that EVA is the best measure for valuation purposes.

Based on the above studies it can be concluded that there is inconsistency in the results of these studies. Also, very few studies related to inter industry analysis have been conducted. Hence, the present study tries to provide better insight related to value drivers and information content of performance measures using inter industry analysis.

METHODOLOGY

The study is conducted to test that among traditional accounting measures & EVA which measure(s) better predict the market value added (MVA) of Indian companies in four different industry categories. In order to achieve this following specific objectives are framed:

- To examine the relative and incremental information content of EVA as compared to traditional performance measures in predicting MVA of Indian companies for different industry categories.
- To determine the best internal predictor of value in different industry groups.

Based on these objectives, following hypotheses are tested in the study:

$H_0$1: The relative information content of EVA is superior as compared to traditional performance measures in predicting market value added of Indian companies.

$H_0$2: EVA provides additional information beyond that provided by traditional performance measures in explaining market value added of Indian firms.

$H_0$3: There is difference in the performance measure having highest impact on MVA for different industry categories.

Relative information content test is used when a comparison between the variables is to be done and incremental information content test is used to verify whether a particular variable adds extra information over and above the other variables.

A total of 100 Indian companies listed on CNX 500 index has been used in the study. These companies were grouped into four categories namely; Industrials, Oil & Gas, Health Care and Financials using Industry Classification Benchmark (ICB). The data collected for these companies covers a period of eight years ranging from 2005-2012. The twelve internal performance measures are taken as independent variables and MVA is taken as dependent variable.

RESULTS & ANALYSIS

Correlation and ordinary least square regression analysis have been used to analyze the data. Before proceeding to regression analysis, the existence of significant relationship among twelve independent variables and MVA is checked at 10% level. Those variables which are able to establish significant relationships with MVA are further included in the regression model. The results of the same for four different industry categories are presented below:

Industrials

A total of 53 companies dealing with construction & materials, electronic & electrical equipments, packaging, commercial vehicles etc. were included in this group.

The results of correlation analysis signaled that none of the variables have correlation to be significant up to our decided level of 10%. So in order to form the regression models, variables having significance more than 0.1 were considered. The following variables materialized and hence were included for further analysis:

- Return on Equity: Correlation coefficient = 0.208 (Sig. = 0.135)
- Economic Value Added: Correlation coefficient = 0.211 (Sig. = 0.130)

Using the above mentioned two variables, the following regression model was developed:

$$MVA_i = \beta_0 + \beta_1 ROE_i + \beta_2 EVA_i + e_i \quad (1)$$

Here,

MVA_i is the Market Value Added for the i^{th} firm

Return on equity (ROE_i) and economic value added (EVA_i) are the independent variables for the i^{th} firm, e_i represents the error term

The univariate regression equations developed for testing the relative information content are:

$$MVA_i = \beta_0 + \beta_1 ROE_i + e_i \quad (2)$$

$$MVA_i = \beta_0 + \beta_1 EVA_i + e_i \quad (3)$$

For knowing the incremental information content of EVA following models were used:

$$MVA_i = \beta_0 + \beta_1 ROE_i + \beta_2 EVA_i + e_i \quad (1)$$

and

$$MVA_i = \beta_0 + \beta_1 ROE_i + e_i \quad (2)$$

In the regression results of equation 1, there existed the problem of auto correlation while using normal data and first difference data. So in order to draw conclusion, second difference data is used for this category.

Table 1: Regression Results of Relative Information Content Test (Industrials)

Rank order of R^2	1	2
	EVA	ROE
R^2 (percentage)	83.20%	4.80%
Adjusted R^2 (percentage)	82.80%	3%
Standardized Coefficients (Beta)	0.912	0.22
t- statistics	15.881	1.611
Sig (t- statistics)	0	0.113
F	252.198	2.595
Sig (F)	0	0.113

(**Source:** Analysis of data collected for this research)

The results of the univariate regression analysis presented in table 1 show that it is not ROE, the traditional measure (R^2 of 4.8%), that has more value of coefficient of determination, but indeed it is EVA that has higher value (R^2 = 83.2%). This implies that our hypothesis that the relative information content of EVA is superior as compared to traditional performance measures in predicting MVA of Indian companies is accepted for industrials category.

Table 2: Regression Results of Incremental Information Content Test (Industrials)

Independent Variables		Model 1	Model 2	
ROE	β coefficient	0.035	0.22	
	t- statistics (sig)	.591(.557)	1.611 (.113)	
EVA	β coefficient	0.905		
	t- statistics (sig)	15.324 (.000)		
R^2		83.30%	4.80%	
Adjusted R^2		82.60%	3%	
F- value		124.664	2.595	
Sig		0	0.113	
R^2				78.50%

It is surprising to know from the results presented in table 2 that excluding EVA from the model decreases R^2 value from 83.3% to 4.8% (R^2 = 78.5%). This means that EVA accounts for a substantial amount of variation in MVA. So the research hypothesis that EVA provides

additional information beyond that provided by traditional performance measures in explaining market value added of Indian firms is accepted for industrials category.

OIL & GAS

For a sample of 13 companies included in this category; EVA and EPS are significantly associated with MVA at 1% level while DPS established a significant association with MVA at 5% level.

On the basis of correlation values the following regression model has been developed:

$$MVA_i = \beta_0 + \beta_1 EPS_i + \beta_2 DPS_i + \beta_3 EVA_i + e_i \quad (4)$$

Where,

Market value Added: Dependent variable

Earnings per share, Dividend per share and Economic Value Added: Independent variables

As three independent variables established significant correlation, hence relative information content would also be analyzed using following three equations:

$$MVA_i = \beta_0 + \beta_1 EPS_i + e_i \quad (5)$$

$$MVA_i = \beta_0 + \beta_1 DPS_i + e_i \quad (6)$$

$$MVA_i = \beta_0 + \beta_1 EVA_i + e_i \quad (7)$$

For incremental information content, the two equations described below were used:

$$MVA_i = \beta_0 + \beta_1 EPS_i + \beta_2 DPS_i + \beta_3 EVA_i + e_i \quad (4)$$

and

$$MVA_i = \beta_0 + \beta_1 EPS_i + \beta_2 DPS_i + e_i \quad (8)$$

Table 3: Regression Results of Relative Information Content Test (Oil & Gas)

Rank order of R^2	1	2	3
	EVA	EPS	DPS
R^2 (percentage)	89.80%	73.40%	45%
Adjusted R^2 (percentage)	88.90%	71%	40%
Standardized Coefficients (Beta)	0.948	0.857	0.671
t- statistics	9.84	5.507	3.003
Sig (t- statistics)	0	0	0.012
F	96.822	30.332	9.015
Sig (F)	0	0	0.012

(**Source:** Analysis of data collected for this research)

From the data in table 3 it can be concluded that by having the maximum value of coefficient of determination (R^2) EVA turns out to be the best predictor of MVA. Hence the hypothesis that the relative information content of EVA is superior as compared to traditional performance measures in predicting MVA of Indian companies is accepted for Oil & Gas sector.

Table 4: Regression Results of Incremental Information Content Test (Oil & Gas)

Independent Variables		Model 4	Model 8	
EPS	β coefficient	0.345	0.878	
	t- statistics (sig)	2.137 (.061)	3.267 (.008)	
DPS	β coefficient	-0.321	-0.027	
	t- statistics (sig)	-2.269 (.049)	-.099 (.923)	
EVA	β coefficient	0.91		
	t- statistics (sig)	5.713 (.000)		
R^2		94.30%	73.40%	
Adjusted R^2		92.30%	68.10%	
F- value		49.208	13.806	
Sig		0	0.001	
R^2				20.90%

(**Source:** Analysis of data collected for this research)

It can be seen from table 4 that the value of R^2 for Oil & Gas industry comes out to be 20.9%. The results reveal that EVA adds more information content to that provided by the traditional accounting measures in explaining the market value of firms. So the research hypothesis that EVA provides additional information beyond that provided by traditional performance measures in explaining market value added of Indian firms is accepted for Oil & Gas category.

HEALTH CARE

20 Pharmaceutical companies and 2 hospitals were included in the health care category. According to correlation results, only current ratio and price earning ratio are significantly associated with MVA. So the regression model would be;

$$MVA_i = \beta_0 + \beta_1 CR_i + \beta_2 \text{ PE ratio}_i + e_i \quad (9)$$

Where, CR_i = Current ratio for i^{th} company

PE ratio_i = Price earning ratio for i^{th} company and

MVA_i is the dependent variable which denotes Market Value Added for i^{th} company.

This clearly depicts that in case of health care sector traditional measures are better drivers of MVA in comparison to EVA. But in order to know that among the two traditional ratios which one is better predictor of MVA the following univariate regression equations are used:

$$MVA_i = \beta_0 + \beta_1 CR_i + e_i \quad (10)$$

$$MVA_i = \beta_0 + \beta_1 \text{ PE ratio}_i + e_i \quad (11)$$

The regression results for equation 9 revealed the problem of autocorrelation. To deal with this problem, relative & incremental information results have been taken using first difference data.

Table 5: Regression Results of Relative Information Content Test (Health Care)

Rank order of R^2	1	2
	CR	PE ratio
R^2 (percentage)	30.80%	14.50%
Adjusted R^2 (percentage)	27.30%	10.20%
Standardized Coefficients (Beta)	0.555	0.38
t- statistics	2.982	1.839
Sig (t- statistics)	0.007	0.081
F	8.891	3.381
Sig (F)	0.007	0.081

(**Source:** Analysis of data collected for this research)

Comparison of R^2 values of the equations 10 & 11 shows that current ratio (R^2 = 30.8%) has more information content in comparison to price earning ratio (R^2 = 14.5%). Also the insignificant correlation of EVA with MVA has already established the superiority of traditional measures as drivers of MVA in case of health care sector. Hence, the hypothesis that the relative information content of EVA is superior as compared to traditional performance measures and EVA provides additional information beyond that provided by traditional performance measures in explaining market value added of Indian firms are rejected for health care sector.

FINANCIALS

Twelve companies related to finance sector were identified and included in this category. Four variables that reported significant correlation with MVA in this sector are debtor's turnover ratio, return on equity, dividend per share and economic value added. The regression models used in this category are presented below:

Ordinary least square regression model

$$MVA_i = \beta_0 + \beta_1 DTR_i + \beta_2 ROE_i + \beta_3 DPS_i + \beta_4 EVA_i + e_i \quad (12)$$

Univariate regression equations

$$MVA_i = \beta_0 + \beta_1 DTR_i + e_i , \quad (13)$$

$$MVA_i = \beta_0 + \beta_1 ROE_i + e_i , \quad (14)$$

$$MVA_i = \beta_0 + \beta_1 DPS_i + e_i , \quad (15)$$

$$MVA_i = \beta_0 + \beta_1 EVA_i + e_i . \quad (16)$$

Multiple regression equations

$$MVA_i = \beta_0 + \beta_1 DTR_i + \beta_2 ROE_i + \beta_3 DPS_i + \beta_4 EVA_i + e_i$$

and

$$MVA_i = \beta_0 + \beta_1 DTR_i + \beta_2 ROE_i + \beta_3 DPS_i + e_i \quad (17)$$

Dependent variable: Market value Added

Independent variables: Debtors turnover ratio, Return on equity, Dividend per share and Economic Value Added

In table 6, rank 1 is given to debtors' turnover ratio because it has the highest value for R^2 (88.3%). It is followed by return on equity (R^2 = 44.3%) and economic value added (R^2 = 43.1%). The measure to be ranked last is dividend per share because of its lowest R^2 value (29.9%).

Table 6: Regression Results of Relative Information Content Test (Financials)

Rank order of R^2	1	2	3	4
	DTR	ROE	EVA	DPS
R^2 (percentage)	88.30%	44.30%	43.10%	29.90%
Adjusted R^2 (percentage)	87.10%	38.70%	37.40%	22.90%
Standardized Coefficients (Beta)	0.94	0.665	0.656	0.547
t- statistics	8.688	2.819	2.75	2.067
Sig (t- statistics)	0	0.018	0.02	0.066
F	75.487	7.948	7.561	4.273
Sig (F)	0	0.018	0.02	0.066

(**Source:** Analysis of data collected for this research)

This means that the traditional performance measures better explain the variation in MVA of the sample companies. Hence, the results denies the hypothesis that the relative information content of EVA is superior as compared to traditional performance measures and identifies that traditional accounting measures dominate EVA in explaining the market value of firms in case of financials category.

Table 7: Regression Results of Incremental Information Content Test (Financials)

Independent Variables		Model 12	Model 17	
DTR	β coefficient	1.223	0.878	
	t- statistics (sig)	5.745 (.001)	6.120 (.000)	
ROE	β coefficient	-0.264	-0.039	
	t- statistics (sig)	-.961 (.369)	-.132 (.898)	
DPS	β coefficient	0.352	0.192	
	t- statistics (sig)	1.488 (.180)	.740 (.480)	
EVA	β coefficient	-0.346		
	t- statistics (sig)	-1.984 (.088)		
R^2		93.90%	90.40%	
Adjusted R^2		90.40%	86.80%	
F- value		26.813	25.191	
Sig		0	0	
R^2				3.50%

(**Source:** Analysis of data collected for this research)

Our results for the incremental information content test shown in table 7 reveal that EVA adds marginally (3.5%) in explaining the market value of the firms as compared to analysis without consideration of EVA. Hence the research hypothesis that EVA provides additional information beyond that provided by traditional performance measures in explaining market value added of Indian firms is rejected.

An analysis of the different industrial segments considered in the study reveals that different variables emerged as better predictors of MVA in different industry categories. In case of industrials and oil & gas category EVA emerged as better predictors of MVA. On the contrary, traditional performance measures dominated EVA as value drivers in case of health care & financials category. Current ratio emerged as better predictor of MVA in health care sector while debtors' turnover ratio dominated in case of financials category. Hence the research hypothesis that there is difference in the performance measure having highest impact on MVA for different industry categories is accepted.

CONCLUSION & RECOMMENDATIONS

MVA as depicted by market price of shares is affected by a number of factors and one important factor is the extent to which company is able to fulfill shareholders expectations. In other words, companies need to work for shareholder wealth maximization. Various studies have been conducted in past to identify the measures that can be used to check whether company has created wealth for its shareholders or not, but they provide mixed results.

Hence in order to get more comprehensive information regarding shareholder value creation measures, the study tried to investigate which measure best explain MVA for different industry categories. The results of the study revealed that EVA is significantly associated with MVA for industrials and oil & gas category. In case of health care sector, current ratio dominated other internal measures while debtors' turnover ratio appeared to be better predictor of MVA for financials category.

The findings of this study suggest that no single measure can be used as value driver for different industry categories. Hence the study highlights the complexity of financial performance measurement and advocates the use of inter industry analysis before making investment decision. However, inclusion of more industry categories along with intensification and refinement of dependent and independent variables would provide significant contribution to this subject matter.

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CROSS-BORDER MERGERS & ACQUISITIONS (A PERFORMANCE REVIEW OF TATA GROUP OF COMPANIES)

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ABSTRACT

Since the last decade, participation of Indian companies in cross-border mergers and acquisitions are rising at a good pace. Almost all the major business houses in India experienced the so-called module of corporate restructuring. Here, Tata is leading the chart with more than 50 cross-border acquisitions. This research work is focused on the deals undertaken by this group since last decade (2000 to 2010). A sample of twelve companies has been taken to gauge the impact of this activity on the financial performance of the acquirer companies. The present study also examines the impact of this activity on the wealth of shareholders of Tata Group of companies. By comparing the pre-acquisition performance with post-acquisition numbers, insignificant decline is found in liquidity and solvency parameters considered for evaluation of financial performance. At profitability front, a significant decline is monitored in industry adjusted ROCE and RONW. The market reaction to this activity revealed an insignificant negative response during the event window period. A downward trend in Cumulative Average Abnormal Return (CAAR) during the event window period of 59 days is also witnessed.

Key Words : Cross-border, Acquisitions, Financial Performance, Event Study and Shareholders' Wealth

INTRODUCTION

Indian corporate sector is known for its global leaders in different business segments like Reliance, Infosys, Wipro, Mahindra and Mahindra and of course Tata. Approximately all the prominent business houses registered their name in the list of cross-border acquirers in their respective domain areas. During the last one decade, our business houses surprised the corporate world by having acquisition in U.S, U.K and other parts of Europe. Here, Tata is leading the chart with more than fifty cross-border acquisition deals. As this group is having its presence since 1868 in India. This group is known for its variety of product and services, good work culture, excellence in business and its values & ethics. Tata group deals in seven prominent business sectors; information technology, iron and steel,

engineering materials, power and energy, consumers products, chemicals and telecommunications. All the major companies of this group are part of the benchmark indices of prominent stock exchanges, i.e., S & P CNX Nifty 50 and S & P BSE Sensex of National and Bombay Stock Exchange of India respectively. In todays' scenario, Indian companies acquiring foreign businesses are more common than the other way around and it is visible through the domestic and overseas acquisitions made by Tata group. Here, the prominent deals are acquisition of Tetley Group (U.K) by Tata Global Beverages, Daewoo Commercial Vehicles (U.K) by Tata Motors, Corus Steel (U.K) by Tata Steel, Citi Group Global Services (U.S) by Tata Consultancy Limited during the last one decade. This group will continue to take the acquisition route as on the modes of growth for the over $100 million conglomerate and keep to the path intensely (Rajan, 2013). This kind of showcase by Indian corporate lured the attention of many researchers to deal in the business of corporate restructuring. The so-called work can be served as basis for many companies to take a decision of M & A. As mentioned above, Tata is the largest group and experienced a large number of deals across the globe. So, it becomes important to conduct a study on a single group and to learn from the outcomes. This kind of study on a single group is not conducted so far in India and would be served as empirical evidence. The present study is dealing with the cross-border acquisitions deals conducted by this group in the countries like U.S, U.K, Russia, Australia, Indonesia, Morocco, Spain and Sri-Lanka. The study is covering the aspect of financial performance of acquirer companies affected due to this corporate action and stockholders' wealth of Tata group of companies over a short span of time.

REVIEW OF LITERATURE

A study on cross-border mergers and acquisitions is now one of the favourite areas of interest of many researchers. The majority of studies are conducted outside India. Indian companies started aggressively with this restructuring option in the last decade at national and international level. A large amount of work is not conducted so far in India on this topic. The studies conducted at international level measured the impact of this activity on financial performance of acquirer companies and its impact on stockholders' wealth separately. The results of these studies are not able to generalize the common conclusion for all the sectors and economies studied earlier. The outcomes of the previous studies are contradictory and vary from country to country. So, the results derived from one country or industry cannot be directly applied to another country or industry. The prominent researches and their findings are summarized in the following paragraph.

Lowinski et al (2004), in their study, analyzed shareholders' perspective in case of domestic as well as cross-border acquisitions by Swiss companies. They took a sample of 114 domestic and international acquisitions announced by Swiss corporations during 1990 to 2001. They found no significant difference between the national and cross-border merger deals in terms of announcement effect. Franceour (2005) in his research studied the impact of international mergers and acquisitions (M & As) on the wealth of acquirer firms' shareholders. For this purpose, he took a sample of 847 M & A deals occurred during the

period of 1990 to 2000 in Canada. The study found that acquirer firms engaged in cross-border M & As had realized efficiency gains and created value for their shareholders. Elango (2006) conducted his research on international acquisitions deals accomplished by U.S-based firms in the insurance sector during the period of 1997 to 2003. He studied the impact of these acquisitions on shareholders' wealth. The sample was based on 52 international acquisitions done by the U.S firms in 24 different countries. The event-study methodology was applied to examine the impact of international acquisition announcements on the acquirer firms' shareholder wealth. On the basis of the analysis, he found that acquirer firms had created statistically insignificant negative market returns during the event window period. Martynova and Rennboog (2006) studied the domestic and cross-border corporate takeovers realized by European companies. The period for the study was 1993 to 2001. The various attributes covered by the study were type of takeover deal, bid attitude, payment method, legal status of target firm and takeover strategy. They found that various attributes of takeovers had a significant impact on the wealth of shareholders. Hassan et al (2007) in their study analyzed M & A deals took place in U.S pharmaceutical industry. They selected 405 companies for the research during the period of 1981 to 2004. They separated the domestic U.S-based target companies from foreign-based targets, the tests suggested that mergers with domestic companies, i.e., US-based targets were not value destroying. Zhu and Malhotra (2008) examined the short-term stock market reaction towards the sample of Indian firms acquiring US firms for the period of 1999 to 2005. It was revealed by the study that the Indian stock market had positively reacted to the acquisition announcements. Wang and Liao (2008) examined the impact of cross-border takeovers on the wealth of shareholders. They took a sample of cross-border acquisitions of Western European firms during the period 2000 to 2007. The findings of the study revealed that cross-border acquisitions were proved as wealth-creating corporate activities. Zou and Simpson (2008) investigated the behaviour, at an industry level, of cross-border mergers and acquisitions (M & As) in the People's Republic of China for the period of 1991 to 2005. The study reported that many of the cross-border M & As over the past decades in China haves been driven by broad fundamental factors, such as industry size and profitability. Moreover, technological intensity was significantly positively associated with the level of acquisition activity. It is found that deregulation, as a specific industry shock, affected acquisition activities significantly. Saboo and Gopi (2009) investigated the impact of mergers on the operating performance of acquirer firms. They took 54 cases of mergers between the years 2000-07. Their research work observed variations in the post-merger performance of acquirer firms in relation to type of firm acquired, that is, domestic or cross-border. They found a positive effect on the key financial ratios of acquirer firms at domestic level, while the same had found slightly negative for the cross-border mergers. Uddin and Boateng (2009), in their study examined the impact of cross-border M & As on the share price performance of the acquiring companies. The study applied event methodology to analyze short period share price performance. They took a sample of 373 acquisitions over a period of 1992 to 2003. The study revealed that

the U.K. acquisitions did not fetch statistically significant positive returns in the shorter period. Stieble (2011) analyzed the impact of cross-border M & As on the financial performance of investing firms in the U.K and France that went for this activity during the period 2000 to 2007. They concluded that cross-border deals enhanced the acquirer companies' domestic sales and investment after the merger and acquisition deal.

NEED AND SCOPE OF THE STUDY

The present study is based on the international acquisitions undertaken by Tata group. This group is pioneer in cross-border deals and done with more than fifty acquisitions in approximately fifteen different countries. The outcome of present study will help the Indian companies to pursue this module of corporate strategy. Here, the study is considering the aspect of financial performance and shareholders' wealth of Tata group of companies; those are listed on prominent stock exchanges in India, i.e., National and Bombay Stock Exchange.

OBJECTIVES OF THE STUDY

1. To analyze the impact of acquisitions on the financial performance of acquirer companies.
2. To examine the instantaneous impact of acquisitions on the wealth of shareholders of acquirer companies.

HYPOTHESES OF THE STUD

1. *Ho (1): Post-acquisition financial performance of acquirer companies is not significantly indifferent from pre-acquisition financial performance.*
2. *Ho (2): There is no significant impact of acquisitions' announcement on the wealth of acquirer companies' shareholders.*

RESEARCH DESIGN

The present empirical study is validating the impact of cross-border acquisitions on the financial performance and shareholders' wealth of Tata group of companies. The sample comprises twelve cross-border acquisitions in eight different countries during the period of 2001 to 2010. Financial data related to three year prior and after this deal is taken to evaluate the financial performance. So, M & A deals after the year 2010 are not considered for. Those companies, which are listed on Indian stock exchanges, considered for sample selection.

DATA COLLECTION

Secondary financial data is collected to achieve the objectives of the study. Data belongs to financial parameters of each acquirer company along with its corresponding industry averages is compiled from the prominent database CAPITALINE. To examine the impact of acquisitions on the wealth of acquirer companies' shareholders, the daily share prices

along with values of bench mark index (S & P CNX Nifty 50) is collected from the official website of National Stock Exchange (NSE).

RESULTS AND ANALYSIS

Financial Performance of acquirer companies is evaluated by considering their liquidity, profitability and solvency position. The relevant data required for the study is collected from the prominent data base CAPITALINE. All the relevant financial parameters to justify the liquidity, profitability and solvency positions (Table-1) are adjusted with the corresponding industry numbers. The average value is taken for these adjusted numbers on the basis of three years prior acquisition financial performance. The same calculations are also done for post-acquisition period and compared with each other. Student t-test is applied on these tabulated values and it is evident from the results that there is no significant change in the liquidity position. Marginal decline is noticed in industry adjusted current and inventory turnover ratio, whereas a marginal positive change is witnessed in industry adjusted debtors turnover ratio. As far as solvency position is concerned, pre-acquisition and post-acquisition position is not statistically significant but marginal improvement is there in industry adjusted debt-equity and long term debt to equity ratio. But, the deterioration in profitability ratios led to decline in interest coverage ratio. Finally, profitability margin changes are not significant in case of industry adjusted profit before interest and tax and cash profit margins, but a significant decline is noticed in case of industry adjusted ROCE and RONW. The value change in case of ROCE during post-acquisition period is significant at 10% level only (t-value=1.796), whereas decline registered in case of RONW is significant at 5% level (p-value=0.048<0.05). It can be considered as a negative sign for the shareholders of the acquirer companies. Broadly, these all results lead to the acceptance of first null hypothesis, as pre-acquisition performance is quite similar as compared to post-acquisition performance.

Table 1 : Comparative Results of Financial Parameters between Pre-and Post-acquisition Period

Financial Parameters (Industry adjusted)	Mean Values	Mean Differen-tiation	Dispersion	t-Value	Signific-ance (two-tailed)
Current ratio (b)	1				
Current ratio (a)	0.996	-0.004	0.36	-0.035	0.972
Inventory turnover ratio (b)	1.263				
Inventory turnover ratio (a)	1.15	-0.113	0.574	-0.635	0.54
Debtors turnover ratio (b)	0.987				
Debtors turnover ratio (a)	1.16	0.173	0.497	1.204	0.254
Debt-Equity ratio (b)	0.947				
Debt-Equity ratio (a)	0.838	-0.109	0.622	-0.571	0.58

Long term debt equity ratio (b)	0.814				
Long term debt equity ratio (a)	0.803	-0.011	0.411	-0.098	0.924
Interest coverage ratio (b)	2.044				
Interest coverage ratio (a)	1.186	-0.858	2.842	-1.045	0.318
Profit before interest and tax (b)	1				
Profit before interest and tax (a)	0.996	-0.004	0.36	-0.035	0.972
Cash profit margins (b)	0.9				
Cash profit margins (a)	1.422	0.522	1.145	1.578	0.143
ROCE (b)	1.347				
ROCE (a)	0.855	-0.492	0.95	-1.796	0.100*
RONW (b)	1.505				
RONW (a)	1.051	-0.454	0.427	-2.6	0.048**

Source: Authors' Calculation from the data compiled from CAPITALINE database (http://www.capitaline.com)
**Values significant at 5% level, *Values significant at 10%* level.

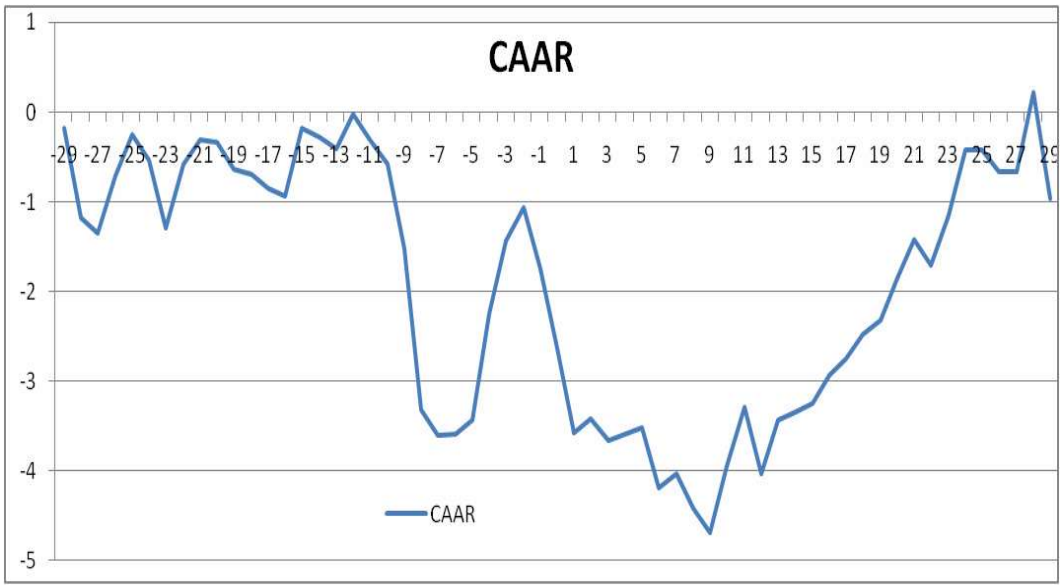
Note: (a) Denotes post-acquisition period. (b) Denotes pre-acquisition period.

Further, to achieve the second objective, market model of event study methodology is applied. Hence, the abnormal returns of all the sample companies are predicted on the basis of following.

$$AR_t = R_t - E(R_t)$$

Where ARt is the excess return on the stock for the day 't' and 't' depicts the day relative to an event, Rt is the actual return on the stock for the day 't' and $E(R_t)$ is the predicted rate of return on the security for day 't'. With this application, the abnormal return (AR) for each relative day (-29 to +29) for all the sample companies is calculated. The abnormal return is calculated by using capital asset pricing model for an event window of 59 days, which are 29 days prior to the announcement date and 29 days after the same. The day of announcement is designated as '0'. Beta estimation is taken for 150 days prior to the event window to estimate the expected return. The average return for all the companies averaged out for each day and t-test has been applied to check significant abnormal values (Appendix-2). It is observed from the trend that out of 59 observations (including announcement date) only three values found significant at 95% and 99% level of confidence. Out of these three values two values found prior to the acquisition announcement and one is after the same. It is evident from the (Appendix-2) the corresponding values for (-9th, -8th and 24th) days are (-2.516, -4.259 and 2.473). This shows that no major significant abnormal trend is observed during this period. The overall trend shows sluggishness for the investors. It is observed that eighteen AAR values found negative out of 29 abnormal returns related with pre-acquisition announcement period. In the second half of event window, ten AAR values found negative. The negative trend remained in the market from -29 to +9 days. The so-called trend lasted for 38 days and never allowed the CAAR to become positive.

Figure-1 Cummulative Average Abnormal Return of Acquirer Companies.



(**Source:** Authors' Calculations from daily stock prices and Nifty 50 values available at http://www.nseindia.com)

The positivity that came in to the market lasted for next 20 days only, recorded as a recovery phase and finally led the CAAR to grow up to the positive level on +28th day. The above discussion shows that overall result is not statistically significant but the trend is not in the favour of the shareholders of Tata group of companies.

FINDINGS OF THE STUDY

The outcome of the analysis shows no significant improvement in terms of liquidity, profitability and solvency position of the acquirer companies, though marginal decline is noticed in all the three relative aspects. As far as profitability position is concerned a significant decline is registered in case of ROCE and RONW. Secondly, the market reaction to this activity is very sluggish and put the market in negative zone, though this is not statistically significant.

RECOMMENDATIONS

1. The reasons behind the marginal declines in financial parameters after the acquisitions must be indentified by the Tata Group of companies and properly addressed for its next course of action.
2. The financial aspects of target Company must be studied properly by the acquirer company to make this activity more fruitful.
3. This corporate restructuring module should be based upon the objective of maximizing shareholders' wealth.

LIMITATIONS AND SCOPE FOR FURTHER RESEARCH

1. The given study is only considering those companies of Tata Group, which are incorporated in India and listed on Indian stock exchanges.
2. Impact on shareholders' wealth is studied for a shorter period. This can be extended for the long-term also.

CONCLUSION

On the basis of our research it is found that the financial performance of acquirer companies registered a marginal downfall in liquidity, solvency and profitability position. Here, acquirer companies have witnessed a significant decline in return on capital employed and return on net-worth only. At market front, very few values found significant. Apart from the same, insignificant negative abnormal returns are observed during the event window, which have led to the decline in cumulative average abnormal return. The overall results at both front does not seem in favour of Tata group companies along with its shareholders.

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14. Retreived from http://www.capitaline.co

Appendix-1 List of Cross-border Mergers and Acquisitions by Tata Group of Companies

S. No.	Acquirer company (Tata group)	Acquired Company	Stake Acquired	Country	Year of Merger/ Acquisition
1	Tata Global Beverages Ltd.	Tetley Group	100%	U.K	Feb-00
2	Tata Motors Ltd.	Daewoo Commercial Vehicle Company	100%	U.K	Mar-04
3	Tata Chemicals Ltd.	Indo Maroc Phasphorus SA (IMACID)	50%	Morocco	Mar-05
4	Indian Hotels Ltd.	Starwood Group (W Hotel)	100%	Australia	Dec-05
5	Tata Steel Ltd.	Corus Ltd	100%	U.K	Jan-07
6	Tata Power Ltd	P.T Kaltim Prima Coal and P.T Arutmin	30%	Indonesia	Jun-07
7	Tata Chemicals Ltd.	General Chemicals Industrial Products (Now Tata Chemicals North America)	100%	U.S	Jan-08
8	Tata Consultancy Ltd.	Citi Group Global Services	100%	U.S	Dec-08
9	Tata Global Beverages Ltd.	Grand Ltd.	33.20%	Russia	Mar-09
10	TRF Ltd.	Dutch Lanka Trailer Manufacturers	51%	Sri Lanka	Jul-09
11	Tata Motors Ltd.	Haspano Carrocera SA	79%	Spain	Oct-09
12	Tata Communication Ltd.	B.T Group's (B.T) Mosaic Business	100%	U.K	Jan-10

Source: http://www.tata.in/htm/Group_MnA_CompanyWise.htm?sectid=Mergers-and-acquisitions

Appendix-2 Table of Average Abnormal Returns during Event Window.

Day (prior Merger)	Average Abnormal Return (AAR)	Standard Error (Mean)	t-Value	Day (Post Merger)	Average Abnormal Return (AAR)	Standard Error (Mean)	t-Value
-29	-0.0017	0.0141	-0.4097	1	-0.0094	0.03	-1.0839
-28	-0.01	0.0193	-1.7976	2	0.0016	0.0302	0.1797
-27	-0.0018	0.0284	-0.2151	3	-0.0024	0.0188	-0.4499
-26	0.0064	0.026	0.8518	4	0.0008	0.0284	0.0919
-25	0.0046	0.0162	0.9859	5	0.0007	0.0333	0.0752
-24	-0.0028	0.0134	-0.7158	6	-0.0068	0.0178	-1.3269
-23	-0.0076	0.0149	-1.7623	7	0.0016	0.0445	0.1256
-22	0.0071	0.022	1.124	8	-0.0038	0.0527	-0.2517

-21	0.0026	0.0217	0.4161	9	-0.0027	0.0246	-0.3843
-20	-0.0002	0.0188	-0.0452	10	0.0075	0.0217	1.1912
-19	-0.003	0.0183	-0.5639	11	0.0066	0.0187	1.2136
-18	-0.0006	0.0316	-0.07	12	-0.0074	0.0183	-1.4065
-17	-0.0016	0.0435	-0.1253	13	0.0059	0.0166	1.243
-16	-0.0009	0.0229	-0.1301	14	0.0009	0.0098	0.3124
-15	0.0076	0.0189	1.401	15	0.001	0.033	0.1065
-14	-0.0009	0.0183	-0.1788	16	0.0031	0.0171	0.6367
-13	-0.0014	0.0212	-0.2241	17	0.0018	0.0458	0.1374
-12	0.0039	0.0157	0.8585	18	0.0028	0.0174	0.5493
-11	-0.0028	0.0149	-0.6555	19	0.0015	0.018	0.2901
-10	-0.0028	0.0286	-0.3354	20	0.0048	0.0168	0.9928
-9	-0.0094	0.0129	-2.5169**	21	0.0042	0.0173	0.8519
-8	-0.0181	0.0147	-4.2595**	22	-0.0029	0.0128	-0.7943
-7	-0.0028	0.0267	-0.3631	23	0.0056	0.022	0.8786
-6	0.0001	0.0397	0.0084	24	0.0074	0.0103	2.4738**
-5	0.0016	0.0382	0.1439	25	0.0001	0.0168	-0.0177
-4	0.0118	0.0219	1.8748	26	-0.0024	0.0198	-0.4209
-3	0.0082	0.0187	1.5129	27	0	0.0233	0.0065
-2	0.0038	0.0182	0.7181	28	0.0088	0.0183	1.673
-1	-0.0069	0.0274	-0.8738	29	-0.0118	0.0356	-1.1492
0	-0.0088	0.0262	-1.1635				

Source: http://www.nseindia.com/products/content/equities/equities/equities.htm

Note: Values significant at 95% level of confidence * Values significant at 99% level of confidence**

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PRICE DISCOVERY IN COMMODITY MARKETS: A STUDY OF INDIAN CARDAMOM MARKET IN MULTI COMMODITY EXCHANGE

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ABSTRACT

Price discovery is one of important economic functions of commodity futures market as it provides competitive futures price from which spot price can be derived. This study analyses whether Cardamom futures market serves as a price discovery mechanism for spot market prices and vice versa. The analysis involves use of econometric tools like Augmented Dickey Fuller (ADF) test, Granger Causality test and Co-integration technique. The daily closing data from 1st Jan 2012 to 31st Dec 2013 has been taken for the study for analysis. Our findings suggest that, cardamom futures price movement can be used as price discovery vehicle for spot market transactions. This study can be further validated by comparing the results of international futures cardamom prices and there is scope to extend this model to other commodities for further validation of the results.

Key Words: Spot prices, Future prices, Cardamom, Johansen's co-integration, Granger Causality.

INTRODUCTION

Cardamom is known as the "Queen of Spices". It is known to be the costliest and unusual spices globally. Till 2000, India used to be the largest producer of Cardamom, and thereafter, Guatemala pushed her to the second position. Kerala, Karnataka and Tamilnadu are the major producers of Cardamom commodity. Its cultivation is concentrated on the Western Ghats in the country; and the Western Ghats are also known as "Cardamom Hills". In 2012-13, as per provisional trade estimates, India's production is around 12,000 MT. It is generally produced in the tropical regions of the world. Guatemala is the largest cardamom producing country followed by India. The total world production of this spice is around 35,000 MT per annum (source: Spices Board). Consumption of cardamom has sharply increased throughout the world during the last two decades.

Price discovery and hedging are the major economic functions of commodity futures market. Volatile raw material price is one of the prime concerns of business entities as they have direct and considerable impact on the profits margins of organisations. Therefore, price discovery becomes important in order to reduce fluctuations in commodity prices. In this regard, the present study has been undertaken to examine the price discovery process of Cardamom.

REVIEW OF LITERATURE

The execution of products fates business sector can be assessed on different wide parameters like premise danger, value revelation and effect of prospects exchanging on spot value instability. The value revelation is one of the essential parameters which measure the execution of fates markets. Despite the fact that extensive number of writing is accessible on created worldwide fates markets and extremely restricted endeavors are made to gauge the execution in Indian connection and that too on cardamom. Hypothetically, the relationship in the middle of spot and prospects costs can be gotten from the spot-future equality, which suggests that spot and fates costs ought to move together crosswise over time to evade consistent arbitrage opportunities in view of the spot-futures relationship. Zheng, Xu et al (2012) inspected the short run and long run value combination in new exchanging framework utilizing standard OLS and blunder rectification models in view of information from 2003 to 2010. The outcome demonstrated that the Chinese non-GMO soyabean fates business sector in light of information is productive, prospects costs react adequately to exogenous value stuns and that money costs move taking after these prospects costs. Consequently Baldi et al (2013) researched the long run relationship in the middle of spot and prospects costs for corn and soyabean for a long time which highlights that break identify with occasions that have fundamentally influenced the supply and interest of corn and soybeans for nourishment and vitality reason. Despite what might be expected Harper et al (2011) inspected the value unpredictability in the silver which demonstrates that both positive and negative stuns don't have a huge impact on instability in the silver spot business sector furthermore watched that instability is not consistent after some time. The results provide evidence that both good and bad news have no significant effect on silver price volatility.

Srinivasan (2013) in study confirmed the existence of trade off between the futures price and its underlying spot price of the commodity markets and also indicates that although bi-directional volatility spill over persists, the volatility spill over from spot to the futures market are dominant in case of all MCX commodity market. The same is evidenced by the examination by Yang, Bessler and Leatham (2001) who also claim that asset storability does not affect the existence of co-integration between cash and futures prices but it may affect the magnitude of bias in estimation of cash prices. A similar study of impact of climate shocks on spot futures prices of agricultural commodities in India by Bhanumurthy, Dua and Kumawat (2012) found that there is a bivariate relationship between rainfall and prices of rice, wheat and pulses showed non-linearity with the structural change happening after the introduction of future market, The present study is an attempt to analyse the existence and direction of price discovery process of Cardamom futures and spot prices in India.

OBJECTIVE OF THE STUDY

To analyse the Price discovery process of Cardamom future and spot price contracts

HYPOTHESIS

To achieve the above objective the following Hypothesis has been formulated

H1= Future prices cause spot prices for Cardamom

METHODOLOGY

The present study is an analytical study based on secondary data. Secondary data for the study consists of Cardamom futures prices from 01st January 2012 to 31st December 2013 and daily closing spot price of cardamom from 01st January 2012 to 31st December 2013. All the time series data are obtained from MCX (Multi Commodity Exchange) database. The study uses econometric tools like Augmented Dickey Fuller (ADF) test to check stationarity of data, Granger Causality to study the existence and nature of causality relationship between futures and spot prices of cardamom and Co-integration technique for examining the long term relationship between future and spot prices of cardamom.

Stationarity Test

Augmented Dickey–Fuller test (ADF) is a test for a unit root in a time series data. It is an augmented version of the Dickey–Fuller test for a larger and more complicated set of time series models. The augmented Dickey–Fuller (ADF) statistic, used in the test, is a negative number. The more negative it is, the stronger the rejection of the hypothesis that there is a unit roots at some level of confidence.

The test consists of estimating the following regression.

$$\Delta R_t = \beta_1 + \beta_2 t + \rho R_{t-1} + \sum_{i=1}^{m} \alpha_1 \Delta R_{t-1} \qquad ...(1)$$

Where, ΔR is the first difference of Rt, β_1 is the intercept, β_2, ñ are the coefficients, t is the time or trend variable, m is the number of lagged terms chosen to ensure that $_t$ is white noise, i.e. $_t$ contains no autocorrelation and is the pure white noise error term, and

$\sum_{i=1}^{m} \alpha_1 \Delta R_{t-1}$ is the sum of the lagged values of the dependent variable ΔR

Causality Test

The Granger causality test is a statistical hypothesis test for determining whether one time series is useful in forecasting another. This study examines the lead-lag relationship between futures trading activity and cash price volatility using Granger Causality (1969) test. The dynamic linkage between the futures prices series and the spot prices series is given by the Pair-wise Granger Causality tests (Granger, 1986). Testing the causality between two stationary series S_t and F_t are based on the following equations:

$$S_t = \sum_{i=1}^{n} \alpha_i F_{t-1} + \sum_{j=1}^{n} \beta_j S_{t-j} + \mu_{1t} \quad ...(2)$$

$$F_t = \sum_{i=1}^{n} \lambda_i F_{t-1} + \sum_{j=1}^{n} \delta_j S_{t-j} + \mu_{2t} \quad ...(3)$$

Where, F_t is the future price return series and S_t is spot price return series. λ_i , δ_j , α_i and β_j are the coefficients of the respective variables. μ_{1t} *and* μ_{2t} *are* the error terms assumed to be uncorrelated. If all the coefficients of F_t in the regression equation (2) of S_t, i.e. α_i *for* i=1.....i are significant that the null hypothesis F_t does not cause S_t is rejected, then it can be said there is a causality from futures to spot. If only one of the two variables causes the second variable but the second variable does not cause the first variable, it is called one-way causality. If both the variables cause each other, it is called as bi-directional (feedback) causality. However, the significance of the coefficient is evaluated by the help of F-statistic.

Johansen Co-integration

Co-integration of two price series is a necessary condition for market efficiency, since the Efficient Market Hypothesis implies that the future price is an unbiased predictor of the future spot price. If the two series are co-integrated, St and Ft-n move together and will not tend to drift apart over time. If this is the case, then the futures price is an unbiased predictor of the spot price.

RESULTS AND DISCUSSIONS

Unit Root Test

Results of Augmented Dickey Fuller test and Phillip-Perron tests are done to check the stationarity of the data series. We have identified that the absolute value of the ADF and PP test statistic is more than the critical value at 5% level (Refer Table 1 below). Therefore, the lag-differenced series can be taken to be stationary. The hypothesis that near month futures price and Spot close price has a unit root can be rejected and accept the hypothesis that time series data is stationary at first difference and not at level. For all our vectors, the lag differenced price series are considered to be stationary. From the result is found that cardamom futures and spot prices are integrated of order 1. Therefore, the necessary condition for testing co-integration is satisfied.

Table 1 : Results of Augmented Dickey Fuller Test and Phillip-perron Tests

	Spot At Level		Spot at 1st Differencing		Futures At Level		Futures at 1st Differencing	
Unit Root Test	ADF Test Statistic	PP Test Statistic	ADF Test Statistic	PP Test Statistic	ADF Test Statistic	PP Test Statistic	ADF Test Statistic	PP Test Statistic
Calculated value	-1.546281	-1.591377	-9.85537	-22.21464*	-2.296069	-1.902930	-26.71045	-27.84057*
P Value	0.5095	0.4864	0.0000*	0.0000*	0.1736	0.3310	0.0000	0.0000*
Conclusion	Non-Stationary		Stationary		Non-Stationary		Stationary	

Granger Causality Test

Granger causality tests shows that there exists a uni-directional causality relationship between the spot and futures prices of Cardamom. The test results indicate that future prices influence spot prices and not vice versa. The rationalization of the result is that futures influence spot market prices for cardamom due to lower transaction costs and flexibility of short selling and (Diks and Bekiros). Moreover, it helps hedgers with storage constraints to manage their exposure by purchasing future contracts. Therefore, both hedgers and speculators will react to the new information by preferring futures transactions for decision making. Hence we accept the hypothesis that future prices cause spot prices and not vice versa.

Table 2 : Results of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Probability	Decision
SPOT does not Granger Cause FUTURE	592	0.40898	0.6645	Accept
FUTURE does not Granger Cause SPOT		50.8596	4.00E-24	Reject

Johansen Co-integration Test

By using trace statistic and maximum Eigen value statistic, we have identified that there exists two co-integration equation between the futures and spot cardamom price (Refer Table 3 below), The hypothesis of zero cointegrating vectors is rejected, whilst the null of two cointegrating vector cannot be rejected at the 5% level. Thus, the spot and futures prices are I(1), with linear combinations being I(0), so the two price series are CI(1,1). The existence of co-integration between the cardamom spot prices and the near month futures prices, using both the Engle-Granger and Johansen tests, confirms the first necessary condition for long-term market efficiency.

Table 3 : Result of Johansen Co-integration Test

Hypothesized No. of CE(s)	Eigen Value	Trace Statistic	Critical value at 5% level)	Prob.**	Max-Eigen Statistic	Critical Value at 5% level)	Prob.**
None *	0.0626	42.5866	15.49471	0.0000	38.10519	14.2646	0.0000
At most 1 *	0.0076	4.481409	3.841466	0.0343	4.481409	3.841466	0.0343

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

***Mackinnon-Haug-Michelis (1999) p-values

CONCLUSION

This study attempts to examine the evidence of price discovery in cardamom futures market. The co-integration test shows that cardamom futures and spot prices are co-integrated and there exists 2 co-integration equations which confirm the long-term relationship between the futures and spot price series. The Granger causality test shows

that there is uni-directional relationship between cardamom futures and spot prices and futures price significantly influences spot price. Similar to the studies on various other commodities, the inference that futures price serve as a price discovery tool is valid for cardamom. This study, thereby, contributes to the existing literature by providing evidence for the presence of price discovery process in cardamom market. Overall, our findings suggest that, cardamom futures price movement can be used as price discovery vehicle for spot market transactions. This study can be further validated by comparing the results of international futures cardamom prices and there is scope to extend this model to other commodities for further validation of the results.

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CORPORATE PROFITABILITY AND WORKING CAPITAL MANAGEMENT: A CASE STUDY OF STEEL AUTHORITY OF INDIA LIMITED (SAIL)

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ABSTRACT

Profitability is the financial measure of corporate ability to earn profit. It can be measured through profitability ratio such as gross profit ratio, net profit ratio, return on capital employed, return on total assets, return on equity etc. Working capital management refers to the management of current assets and current liabilities. It reflects the corporate ability to continue its operation. It can be assessed through current ratio, liquid ratio, debtor turnover ratio, working turnover ratio and inventory turnover ratio. The Steel Authority of India Limited (SAIL), a leading steel company in India, shows a tremendous growth over the year. It contributed to approx. 66.23% of total India steel production in 2013-14. It has a turnover of Rs. 51,866 crore in 2013-14 which is 5% higher from previous year. The present study analyzes the profitability and working capital management of SAIL. It also studies the relationship between these variable using correlation and regression analysis.

Key Words: Profitability, Working Capital Management, SAIL, Steel Sector, Economic Growth

INTRODUCTION

The economic reform initiated in 1991, paved the path of economic growth in the country. The concept of LPG and other policies initiative give the impetus for the entry of new players in steel industry. The Indian steel sector plays a vibrant and dynamic role in economy development. The Indian steel industry is poised for a robust growth over the year and become a backbone of economic growth which indicates that the economic growth can be measured in term of steel sector growth i.e., per capita steel consumption. From the research it has been found that there exists a strong relationship between the level of economic growth and quantum of steel consumption in India.

The present study deals with the corporate profitability and working capital management of Steel Authority of India Limited (SAIL). A finance manager is required to take a decision regarding working capital management in such a way that there is a trade-off between liquidity and profitability. Various research finding validates that working capital management has a significant impact on firm liquidity and profitability.

The term corporate profitability refers to the ability of corporate to earn profit. It reflects the optimum utilization of available resources by the company. It acts as a gauge to compute the operational efficiency and performance of the company. Higher the value of profitability indicates the higher performance or vice-versa. There is difference between profit and profitability. Profit is the excess of revenue over the cost (absolute measure) while profitability is the ability to make profit (relative measure). The corporate profitability can be measured through profitability ratio. In this study gross profit ratio, net profit ratio, operating profit ratio, return on capital employed, return on total assets, return on equity and earnings per share has been used. Many analysts prefer return on capital employed and return on total assets to measure the overall profitability of the company (Bhalla, 2000).

Working capital management is one of the financial decision through which a financial manager manages the working capital. Working capital management involves the decision regarding the composition and amount of current assets and current liabilities. Basically it is the management of short term (current) assets and liabilities. A working capital is the life blood of any corporate. It is the amount which is required for meeting the day-to-day expenses. There are two concept of working capital i.e., gross working capital and net working capital. The gross working capital is the sum total of current assets while the net working capital is the excess of current assets over current liability. There are different approaches to working capital policies i.e., aggressive, conservative, matching and zero working capital policy (Khan and Jain, 2010). An efficient working capital management reflects the corporate ability to continue its operations and shows its ability to meet short-term obligations. This leads to the value creation for the shareholders (Neab abd Noriza, 2010). A working capital management also affects the liquidity and profitability of the company. An efficient working capital increases the profitability of the company and ensures sound liquidity (Sen and Eda, 2009). Excess or shortage of working capital is dangerous for the company. Working capital management can be measured with the help of current ratio, liquid ratio, debtor turnover ratio, working turnover ratio, inventory turnover ratio etc. To analyze the efficiency of working capital of SAIL, the above discussed ratio has been used.

STEEL INDUSTRY OF INDIA

Developing country like India, the steel industry plays a significant role in economy development. The socio-economic development of the country can be measured through per capita steel consumption. The per capita steel consumption in India has risen from 45

kg in 2008-09 to about 60 kg in 2013-14. If we talk about the steel production, India has 4th position in crude steel production (First: China) and is expected to become 2nd largest steel producer in the world by 2016. The production has risen from 65.84 million tonnes per annum (MTPA) in 2009-10 to 81.54 MTPA in 2013-14 at a Compound Annual Growth Rate (CAGR) of 7% (Chatterjee, 2000) The domestic demand of steel is expected to grow at an annual average growth rate of 10%. The contribution of steel sector in country GDP is approx. 2% and provides an employment to more than 6 lakh people. Being a key contributor, the Government of India allow 100% FDI in this sector. In 2005, the Government announced a National Steel Policy to provide proper guidelines and framework for the development of steel industry. With the passage of time and global changes, the National Steel Policy, 2005 required changes. To make the National Steel Policy more effective, the Ministry of Steel, GOI proposed a draft of New National Steel Policy to replace the existing National Steel Policy, 2005 to cater the current requirement and targeted the production of crude steel to 300 MPTA.

Steel Authority of India Limited (SAIL)

The Steel Authority of India Limited (SAIL), a Central Public Sector Enterprise (CPSE) having a status of Maharatna Company registered under the Companies Act, 1956. It headquarter is located at New Delhi. Over the year, it shows a tremendous growth and become a leading steel producing company in the country. It produces a wide variety of iron and steel products for domestic and industrial purpose at its five integrated steel plants located at Bhilai, Rourkela, Durgapur, Bokaro and Burnpur and three special and alloy steels plants located at Durgapur, Salem and Bhadravati. SAIL has its own Central Marketing Organisation (CMO) which is located at Kolkata to manage the countrywide marketing and distribution network. The authorised capital of SAIL is 5000 crores while the paid-up capital was 4130.52 crore as on 31.03.2014, out of which 80% is held by the Government of India and rest 20% by the Financial Institutions/GDR holders/Banks/ Employees/Individuals etc. SAIL's provides an employment to approx. 97897 people as on April 1, 2014.

REVIEW OF LITERATURE

Practically speaking, working capital management has turn into a standout amongst the most critical issues in the associations where numerous monetary officials are attempting to recognize the essential working capital drivers and the suitable level of working capital (Lamberson 1995). Shin and Soenen (1998), Filbeck and Thomas (2005) in their paper stated that working capital has a significant impact on profitability and liquidity both. The efficient working capital management was mandatory for enhancing the net wealth. They used correlation coefficient and regression analysis to analyze the relationship. Further they stated that there was a strong negative relationship between lengths of firm's net trading cycle and profitability. Deloof (2003) stated that most of Belgian firms had a high proportion of cash in working capital. It can be expected that the way in which working

capital is managed, will have a significant impact on the profitability of those firms. Through various analyses he concluded that there is a negative relationship between corporate profitability and working capital components.

Padachi (2006); Raheman and Nasr (2007) stated the impact of different variables of working capital management on the Net Operating Profitability of Pakistani Firms. They concluded that there was a strong negative relationship between working capital management variables and profitability. He also stated that with the increase of cash conversion cycle, profitability decreases. So firm and managers should try to reduce the cash conversion cycle to create a positive value for shareholders. In the same line Dong (2010) studied the companies listed in Vietnam stock market. The study reveals that the working capital management has a significant impact (strong negative) on firms' profitability and liquidity. He also suggested that decrease in account receivable and inventories period will increases the profitability of the firm. The study carried out by Mathuva (2010) presented a positive relationship between working capital management and profitability.

Bagchi, Chakrabarti et al (2012) studied the impact of working capital management components on profitability of FMCG firms. He suggested that working capital management is very crucial decision in financial management and have a significant effect on liquidity and profitability of the firm. The same relationship was seen in the study of Ghosh and Maji (2003).

Maheshwari (2014) studied the Indian steel industry by selecting the top four Indian steel Companies including Steel Authority of India Limited (SAIL). The study shows that the performance of steel industry is quite satisfactory. The efficient working capital management performs the crucial role in maintaining proper liquidity, solvency and profitability of the concern.

OBJECTIVE OF THE STUDY

1) To study the profitability and working capital management of SAIL.
2) To study the relationship between profitability and working capital management.

RESEARCH METHODOLOGY

The present study is a descriptive and analytical in approach. It is purely based on secondary data which were collected from the published annual reports of SAIL and Ministry of Steel, journals, books, newspaper, other publications, various websites etc. To analyze the SAIL's corporate profitability and working capital management various tools such as ratio analysis, mean, standard deviation, coefficient of variation, skewness, and kurtosis have been used. For studying the relationship between the corporate profitability and working capital management, coefficient of correlation, regression analysis and F-test have been used. The study covers the period from 2006-07 to 2013-14.

HYPOTHESES

H_0: There is no relationship between corporate profitability and working capital management of SAIL.

H_1: There is relationship between corporate profitability and working capital management of SAIL.

ANALYSIS OF PROFITABILITY AND WORKING CAPITAL MANAGEMENT OF SAIL

The corporate profitability and working capital management of SAIL has been analyzed through ratio analysis. Corporate profitability is measured through gross profit ratio, net profit ratio, operating profit ratio, return on capital employed, return on total assets, return on equity and earnings per share while the working capital management is measured through current ratio, liquid ratio, debtor turnover ratio, working capital turnover ratio and inventory turnover ratio. To examine the relationship between profitability and working capital management, correlation and regression analysis has been used.

Profitability of SAIL

The gross profit ratio (GPR) reflects the production efficiency of the corporate. It expresses the relationship between gross profit and net sales. Table 1 portray that the GPR of SAIL's has been decrease from 32.17% in 2006-07 to 14.38% in 2013-14. The net profit ratio (NPR) reflects the management efficiency in managing the corporate activities. Table 1 depict that the NPR has been decreases from 18.28% in 2006-07 to 5.66% in 2013-14. The return on capital employed (ROCE) reflect the profitability or overall efficiency of capital employed. It is also known as return on investment (ROI). If the value of ROCE is less than cost of capital employed, it is very difficult to the company to operate and sustained its business. The ROCE of SAIL shows a declining trend. It was 38.29% in 2006-07 which goes down to 10.90% in 2013-14. The return on total assets (ROTA) reflects the productivity of total assets. It can be calculated by dividing the net profit after depreciation & tax but before interest to total assets. Table 1 show that ROTA has been declined from 19.32% in 2006-07 to 3.90% in 2013-14. The return on equity (ROE) reflects the corporation's profitability which has been shared by the shareholders. It shows the relationship between net profit after interest, tax and preference dividend to net worth or equity shareholders' fund. Table 1 revels that ROE has been declined from 36.09 % in 2006-07 to 6.13% in 2013-14. The earnings per share (EPS) reflect the profitability of the concern. It can be calculated by dividing the net profit available to equity shareholder to number of equity shares. The table 1 shows that the SAIL's EPS has been decreases from Rs. 15.02 in 2006-07 to Rs. 6.30 in 2013-14. The above discussed ratio has been used in determining the corporate profitability. There are no standard criteria's for the above ratio but higher the value of these ratios indicates higher profitability (favorable). In the case of SAIL, all the above ratios show a declining trend from 2006-07 to 2012-13 which indicates the poor performance and profitability. In 2013-14, the value of these ratios increase which signifies the improvement in the performance.

Table 1 : Profitability Ratios of SAIL

	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	2007-08	2006-07	Mean (X)	SD	CV	Skewness
GPR	14.38	12.09	16.62	21.14	29.3	25.35	32.58	32.17	22.95	8.09	35.26	-0.08
NPR	5.66	4.94	7.76	11.48	16.66	14.28	19.08	18.28	12.27	5.66	46.13	-0.16
ROCE	10.90	13.44	18.50	19.13	25.26	27.83	41.20	38.29	24.32	11.04	45.38	0.50
OPR	9.08	9.59	13.34	17.66	25.98	22.35	29.66	28.76	19.55	8.34	42.67	-0.09
ROTA	3.90	3.46	5.53	7.07	10.46	11.87	19.05	19.32	10.08	6.34	62.84	0.65
ROE	6.13	5.29	8.9	13.23	20.27	21.92	32.76	36.09	18.07	11.79	65.25	0.51
EPS	6.3	5.3	8.6	11.87	16.35	14.94	18.25	15.02	12.09	4.86	40.17	-0.31
CR	1.77	2.12	2.33	3	3.54	2.82	2.79	3.14	2.68	0.59	22.07	-0.22
LR	0.77	0.89	1.2	2.07	2.72	2	2.06	2.11	1.72	0.7	40.92	-0.27
DTR	8.43	9.94	9.61	10.34	11.61	14.27	12.96	14.66	11.48	2.29	19.92	0.28
WCTR	3.95	3.01	2.82	1.75	1.44	1.93	2.34	2.44	2.49	0.82	32.99	0.6
ITR	3.04	2.75	3.32	3.78	4.49	4.25	5.76	5.1	4.06	1.04	25.61	0.4

Sources: Compiled from the various Annual Reports of SAIL

Working Capital Management of SAIL

The current ratio (CR) reflects the corporate ability to meet its current obligation. It gives the idea about the short term solvency. The standard norm for CR is 2:1. Table 1 reveals that the CR has been decrease from 3.14:1 in 2006-07 to 1.77:1 in 2013-14. Up to the 2012-13, the CR was above the standard norms. In 2013-14, the CR becomes 1.77 which indicates that there may be a little bit problems in meeting the short term obligation if the quality of current assets is not so good. The liquid ratio (LR) reflects the corporate ability to meet short term obligations from liquid assets. It is the ratio between liquid assets (current assets – inventory) and current liabilities. The standard norm for LR is 1:1. Table 1 reveals the decreasing trends in LR. It decrease from 2.11:1 in 2006-07 to 0.77:1 in 2013-14 which indicates that SAIL has some problems in meeting its short term obligations. The debtor turnover ratio (DTR) reflects the efficiency with which the debtors are managed. A higher value of DTR represents more efficient management of receivables or sales. But a very high DTR restricted the credit sale which leads to the loss revenue. In case of SAIL, it decreases from 14.66 in 2006-07 to 8.43 in 2013-14. The working capital turnover ratio (WCTR) reflects the working capital efficiency of the corporate. It can be calculated by dividing the net sales to working capital. Higher value of WCTR indicates the efficient utilization of working capital. Table 1 reveals that WCTR decrease from 2.44 in 2006-07 to 1.44 in 2009-10 but from onwards it shows an increasing trends and risen up to 3.95 in 2013-14. The inventory turnover ratio (ITR) reflects the efficiency with which the inventory is utilized which means how effectively inventory is converted into sales. A very high or very low ITR is unfavourable for the company because it indicates low or high investment in inventory respectively. The ITR of SAIL decreases from 5.10 in 2006-07 to 3.04 in 2013-14 with the average of 4.06.

Correlation Analysis

The relationship between corporate profitability and working capital management component was analyzed through Pearson Correlation Coefficient (r) Analysis. The value of Correlation Coefficient varies between -1 to +1 and has a different interpretation for different values. **Table 2** portray the relationship amongst the studying parameters. The corporate profitability has been measured through GPR, NPR, ROCE, OPR, ROTA, ROE and EPS while the efficiency of working capital management has been measured through CR, LR, DTR, WCTR and ITR. The analysis reveals that GPR, NPR and OPR have a high degree of positive relationship with CR, LR, DTR and ITR and this relationship are statistically significant. But it has a negatively related with WCTR and is not statistically significant. The ROCE and ROTA are positively related with CR, LR, DTR, ITR and negatively related with WCTR but only the relationship with DTR and ITR is statistically significant. The ROE is positively related with CR, LR, DTR, ITR and negatively related with WCTR but the relationship with CR and WCTR are not statistically significant. EPS has positive relationship with CR, LR, DTR, and ITR and negative relationship with WCTR but all these relationship are statistically significant. From the analysis it can be conclude that there is a significant relationship between corporate profitability and working capital management.

Table 2 : Pearson Correlation Coefficient between Profitability and Working Capital Management Parameters

Parameters	GPR	NPR	ROCE	OPR	ROTA	ROE	EPS	CR	LR	DTR	WCTR	ITR
GPR	1	.998**	.936**	.995**	.940**	.956**	.968**	.820*	.866**	.833*	-0.66	.972**
NPR		1	.935**	.998**	.933**	.949**	.978**	.837**	.883**	.841**	-0.7	.971**
ROCE			1	.947**	.989**	.980**	.885**	0.637	0.68	.871**	-0.5	.971**
OPR				1	.940**	.955**	.971**	.833*	.871**	.854**	-0.69	.970**
ROTA					1	.996**	.865**	0.623	0.67	.875**	-0.45	.966**
ROE						1	.879**	0.679	.712*	.895**	-0.5	.960**
EPS							1	.839**	.908**	.795*	-.765*	.943**
CR								1	.981**	0.659	-.928**	0.695
LR									1	0.673	-.923**	.762*
DTR										1	-0.57	.795*
WCTR											1	-0.553
ITR												1

Sources: Based on Calculation (Using SPSS)

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

HYPOTHESIS TESTING

H_0 (Null Hypothesis): There is no relationship between corporate profitability and working capital management of SAIL

H_1 (Alternate Hypothesis): There is relationship between corporate profitability and working capital management of SAIL.

To test the hypothesis regression analysis has been used. In regression analysis we make a prediction about the variable. The variable whose value is predicted called dependent variable while the variable whose value is used for prediction called independent variable. The corporate profitability can be effectively measured with the help of ROCE/ROI and ROTA. For establishing and determining the contribution of working capital management component in corporate profitability we required to develop a functional model. From the analysis of those models we can easily explain the relationship among the variables. The models are as follows:

Model 1 $ROCE = \beta 0 + \beta 1\ (CRt) + \beta 2\ (LRt) + \beta 3\ (DTRt) + \beta 4\ (WCTRt) + \beta 5\ (ITRt) + \varepsilon_t$

Model 2 $ROTA = \beta 0 + \beta 1\ (CRt) + \beta 2\ (LRt) + \beta 3\ (DTRt) + \beta 4\ (WCTRt) + \beta 5\ (ITRt) + \varepsilon_t$

The result of regression analysis of first model is showed is **table 3**. The value of R (multiple correlation coefficients) is 0.999 which indicate a very high degree of association between models variable. The value of R square indicates that 99.9% variability in ROCE is caused by CR, LR, DTR, WCTR and ITR. It means there is a strong relationship between ROCE and working capital management component. **Table 4** indicates that the formulated model is statistically significant and can be used for the prediction of ROCE. This favors the rejection of null hypothesis.

Table 3 : Model Summary

Model	R	R Square	Adjusted R Square	R Square Change	F Change	Sig. F Change	Durbin-Watson
1	.999a	0.999	0.995	0.999	269.756	0.004	3.228

a. Predictors: (Constant), ITR, WCTR, DTR, CR, LR

b. Dependent Variable: ROCE/ROI

Table 4: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	851.316	5	170.263	269.756	.004a
	Residual	1.262	2	0.631		
	Total	852.578	7			

a. Predictors: (Constant), ITR, WCTR, DTR, CR, LR

b. Dependent Variable: ROCE/ROI

Table 5 shows the beta coefficient of the independent variable and its significance. The p value of ITR and LR is less than 0.05 which reflects that these variables have a major contribution in deciding the value of ROCE. Now the Model 1 can be written as

$ROCE = -29.414 + 12\ (CRt) + -17.648(LRt) + 1.1019(DTRt) + -2.823(WCTRt) + 11.632(ITRt) + \varepsilon_t$

Table 5: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-29.414	6.423		-4.58	0.045
	CR	12	3.061	0.642	3.921	0.059
	LR	-17.648	3.371	-1.123	-5.235	0.035
	DTR	1.019	0.243	0.211	4.187	0.053
	WCTR	-2.823	1.256	-0.21	-2.247	0.154
	ITR	11.632	0.8	1.096	14.544	0.005

a. Dependent Variable: ROCE

The result of regression analysis of second model is showed is **table 6**. The value of R (multiple correlation coefficients) is 0.999 which shows a tight bound in model variables. The value of R square indicates that 99.8% variability in ROTA is caused by CR, LR, DTR, WCTR and ITR. **Table 7** indicates that the formulated model is statistically significant because the p value of f-test is less than 0.05. It indicates that the value ROTA is influenced by working capital management which means there is a relationship between these two. So the null hypothesis is rejected and alternate is accepted.

Table 6 : Regression Statistics Model Summary[b]

Model	R	R Square	Adjusted R Square	R Square Change	F Change	Sig. F Change	Durbin-Watson
2	.999a	0.998	0.993	0.998	194.352	0.005	2.946

a. Predictors: (Constant), ITR, WCTR, DTR, CR, LR

b. Dependent Variable: ROTA

Table 7 : ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	280.389	5	56.078	194.352	.005a
	Residual	0.577	2	0.289		
	Total	280.966	7			

a. Predictors: (Constant), ITR, WCTR, DTR, CR, LR

b. Dependent Variable: ROTA

Table 8 shows the beta coefficient of the independent variable and its significance. The p value of ITR and DTR is less than 0.05 which reflects that these variables have a major contribution in deciding the value of ROTA. Now the Model 2 can be written as:

ROTA = -33.432 + 6.357 (CRt) + -5.395(LRt) + 0.843(DTRt) + 1.666(WCTRt) + 5.402(ITRt) + ε_t

Table 8: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	-33.432	4.343		-7.698	0.016
	CR	6.357	2.07	0.593	3.072	0.092
	LR	-5.395	2.279	-0.598	-2.367	0.142
	DTR	0.843	0.165	0.304	5.124	0.036
	WCTR	1.666	0.849	0.216	1.961	0.189
	ITR	5.402	0.541	0.887	9.99	0.01

a. Dependent Variable: ROTA

CONCLUSION

The corporate profitability reflects the ability to make profit from the business activity. It is an indicator of management efficiency to utilize the available resources. The corporate profitability can be measured with the help of profitability ratio (relative measure) such as gross profit ratio, net profit ratio, operating profit ratio, return on capital employed, return on total assets, return on equity etc. Most of analysts prefer ROCE/ROI and ROTA to measure the corporate profitability. There are several factors which affect the corporate profitability; working capital management (WCM) is one of them. WCM deals with the management of working capital. Working capital is the amount which is required to meet the expenses of day-to-day operation. It is just like the heart of business. The efficiency of working capital is measured through current and liquid ratio, debtor turnover ratio, working capital turnover ratio, inventory turnover ratio. From the study it has been found out that SAIL corporate profitability and working capital management component has strong relationship. Through the regression analysis, we validate the model which can be used to predict the value of ROCE and ROTA. The profitability ratio has been negatively related with working capital turnover ratio while it has positively related with CR, LR, DTR and ITR. The profitability and working capital management variables of SAIL's show a downward trend for studied period except in 2013-14. In 2013-14 SAIL's shows an increasing behaviour in almost all studied variable which reflect the improvement in the performance.

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CAUSALITY BETWEEN EXPORT AND ECONOMIC GROWTH: A CASE STUDY OF INDIA

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ABSTRACT

T*he study investigates the relationships between export and economic growth, over the period April 2005 to March 2014. Index of industrial production is used as indicator of economic growth. Johansen's co-integration and Granger causality test have been applied to explore the long-run & short run equilibrium relationship between export and economic growth. The analysis reveals that export and economic growth are co-integrated and, hence, a long-run equilibrium relationship exists between them. It is observed that the export and index of industrial production as indicator of economic growth are positively related to each other. The export is found to be significant in determining economic growth and economic growth significantly affects export. In the Granger causality sense, export granger causes economic growth and economic growth granger causes export or there is bi-directional causality between export and economic growth in both long run and short-run.*

Key Words: Export, Economic Growth, Causality Test, Co-integration Test

INTRODUCTION

The outside exchange of India portrays relentless shortage since its commencement because of poor exchange execution. Fares were included low esteem included rural items. So as to build offer of produced merchandise India received Import substitution industrialization strategies amid 1950 - 1960. A few import substitution businesses are produced and shielded from outside rivalries. Local interest of outside products is, moved towards locally created ones. These strategies came about improvement of numerous essential and profitable modern units. The economy thus watches incredible development in 1960s. These internal arranged exchange arrangements effectively established framework of industrialization.

Numerous creating economies, which received import substitution approaches amid, face drowsy financial execution and embraced fare advancement arrangements. A considerable lot of these economies fundamentally accomplished high financial development rate. India propelled by exceptional development these dynamic economies consented to change its economy in 1975s, however kept up its defensive approaches until late 1990.

These defensive approaches slowly obliterate aggressively of household generation units i.e. nutritional categories and material.

Development of world exchange association (WTO) in 1995 and its amendment by dominant part of world economies changed the example of world exchange. India embraced fare drove development technique amid mid 2000s and opened its economy for universal rivalry without accomplishment of noteworthy intensity in any generation area. The economy as an outcomes watch noteworthy increment in exchange shortfall.

The achievement of fare drove development methodology relies on upon level of specialization underway of products having near favorable position. Those economies, which intensely build up its creation side, watch critical monetary success. The defensive approaches brought about pulverization of intensity, which thus brought about noteworthy contortion of exchange and monetary development amid post liberalization period. The customary measure for genuine monetary action is the (GDP) or the gross national item (GNP). Then again, the information inaccessibility for these variables on a month to month premise confines numerous analysts to utilize IIP as a different option for consolidate the genuine yield. The ascent in mechanical creation flags the financial development (Maysami, Howe, & Hamaz, 2004). Also, it may illuminate more return assortment than GNP or GDP (Ratanapakorn & Sharma, 2007).Based on the above talk, the present study tries to examine the long run and short run relationship between the fare and financial development. Fare drove development speculation amended by numerous studies in India give generally bigger weight of monetary development to fares. This study researches climate fare cause development or development cause financial thriving in short and long run. This study will give approach to long run monetary flourishing of India.

The rest of this paper is, organized in following order; Section 2 presents review of literature. Section 3, presents data, methodology and results, whereas Section 4 concludes the study.

LITERATURE REVIEW

Fare drove development speculation is experimentally explored for determination of effect of fares on financial development. There are by and large two sorts of exact studies i.e. Cross-sectional studies, which focus fare affect on gathering on nations, and cross-country time arrangement studies, which separately explore fare sway monetary success of single nation.

Lorde (2011) examines legitimacy of fare drove development speculation for Mexico, utilizing co-mix and Granger causality for the time of 1960-2003. The observationally result uncovers just short run causality from fare to development. In long run, he watches reverse causality running from financial development to fares. Safdari et al (2011) investigates causal relationship in the middle of fare and monetary development for 13 creating nations, for time of 1988-2008, utilizing board VECM. There result delineates unidirectional converse causality running from financial development to fares. Ullah et al., (2009) re-explored the fare drove development speculation utilizing time arrangement econometric methods over the time of 1970 to 2008 for Pakistan. The outcomes uncover that fare extension prompts monetary development.

Pazim (2009) tried the legitimacy of fare drove development speculation in three nations by utilizing board information examination. Also, it is presumed that there exists no noteworthy relationship between the size on national pay and measure of fares for these nations on

the premise of restricted arbitrary impact model. The board unit root test demonstrates that the procedure for both GDP and fares at first look is not stationary, while the board co-mix test shows that there is no co-combination relationship between the fares and financial development for these nations. Rangasamy and Logan (2008) inspected the fares and monetary development relationship for South Africa, and give the proof that the unidirectional Granger causality keeps running from fares to financial development. Parida and Shahoo (2007) analyzes export driven development hypothesis for four creating nations of South Asia like India, Pakistan, Bangladesh and Sri Lanka, utilizing Pedroni's board co-mix system. The outcomes adjusts legitimacy of fare drove development hypothesis. Cross-sectional studies accommodates blended conduct of fares on financial development.

Jordaan & Eita (2007) examined the causality in the middle of fares and GDP of Namibia for the period 1970 to 2005. The fare drove development theory is tried through Granger causality and co-coordination models. It tests whether there is unidirectional or bi-directional causality in the middle of fares and GDP. The outcomes uncovered that fares Granger-cause GDP and GDP per capita, and proposed that the fare drove development methodology through different motivating forces has a positive impact on development. Tang (2006) stated that there is no long-run relationship among exports, real Gross Domestic Product, and imports. This study further shows no short- and long-run causality between export expansion and economic growth in China on the basis of Granger causality test while economic growth does Granger-cause imports in the short-run. Mah (2005) studied the long-run causality between exports and economic growth for China with the help of the significance of error correction term. This study indicates that export expansion is insufficient to explain the patterns of real economic growth.

Shirazi et al (2004) concentrated on the short-run and long-run relationship among genuine fares, genuine imports, and monetary development on the premise of co-combination and multivariate Granger causality test as grew by Toda and Yamamoto (1995) for the period 1960 to 2003. This study demonstrated a long-run relationship among imports, sends out, and financial development and discovered unidirectional causality from fares to yield. Yet, it didn't locate any huge causality in the middle of imports and fares. Lin & Yo-Long (2003) expressed that 10 for each penny increment in fares cause 1 for every penny increment in GDP in the 1990s in China on the premise of new proposed estimation technique, when both immediate and roundabout commitments are considered.

Amavilah & Voxi (2003) decided the part of fares in monetary development by examining Namibia's information from 1968 to 1992. Results clarified the general significance of fares, yet the study discovers no detectable indication of quickened development because of fares. Hatemi-j (2002) looks at causal relationship between fare development and financial development in Japan by increasing Granger causality test, by bootstrap method for time of 1960-1999. The estimation result portrays bi-directional causality run. Ramos (2001) Investigates causal relationship between fares, imports, and monetary development in Portugal, for the time of 1865-1998, utilizing Johansen co-coordination and Granger causality test. The outcome demonstrates no causality in any run.

Subasat (2002) researched the experimental linkages in the middle of fares and financial development. The study proposed that the more fare arranged nations like center wage nations become speedier than the generally less fare situated nations. The study further demonstrated that fare advancement does not have any noteworthy effect on monetary development for low and high salary nations. Vohra (2001) demonstrated the relationship between the fares and financial development in India, Pakistan, Philippines, Malaysia, and Thailand for the period 1973 to 1993. The exact results demonstrated that when a nation has accomplished some level of monetary improvement then the fares have a positive and huge effect on financial development.

The study additionally demonstrated the significance of liberal business arrangements by seeking after fare development methodologies, and by drawing in remote ventures. Ekanayake (1999) investigates causal relationship in the middle of fare and monetary development in eight Asian creating nations, utilizing yearly time arrangement information of 1960- 1997. Results accommodate legitimacy of fare drove development speculation for all nations with the exception of Malaysia. Erfani (1999) inspected the causal relationship between financial execution and fares over the time of 1965 to 1995 for a few creating nations in Asia and Latin America. The outcomes demonstrated the huge positive relationship in the middle of fares and financial development. This study gives the proof of fare drove development hypothesis.

Ukpolo (1998) utilizes Granger causality test to focus the relationship in the middle of fares and monetary development in South Africa for the time of 1964-1993. The outcomes neglect to accept fare drove development as opposite causality is watched. Thornton (1997) analyzes legitimacy of fare drove development for six European nations, from mid 19th century to 1913, utilizing cointegration and granger causality. The outcomes show blended conduct: Unidirectional running from fare to GDP in Italy, Norway, and Sweden, Causality running from GNP to Exports in UK, while bidirectional causality is, see in Denmark and Germany. Kim (1993) has inspected the real patterns of key macroeconomic variables in South Korea and Chile and connected them to fare execution. Kim recognized fares as a noteworthy wellspring of monetary development and gave the confirmation of the legitimacy of the case that an open and exchange arranged economy is not just the best ensure for long haul financial development, however it helps the introductory effects of outer stuns. Kim, further, specified that there are components other than exchange which increment monetary development. Darrat (1986) took a shot at four Asian nations, (Hong Kong, South Korea, Singapore, and Taiwan) and discovered no confirmation of unidirectional causality from fares to financial development in all the four economies. On account of Taiwan, nonetheless, the study identified unidirectional causality from financial development to fare development.

The investigation of the progress of the connection between development of fares and financial development has been tended to by various explores in the setting of India. (Dash, 2009) investigates the causal relationship between development of fares and financial development in India for the post-liberalization period 1992-2007, and the outcomes demonstrate that

there exists a long-run relationship in the middle of yield and fares, and it is unidirectional, running from development of fares to yield development. Raju et al (2005) dissected the relationship in the middle of fares and monetary development in India over the preliberalization period 1960-1992, and discovered solid backing for unidirectional causality from fares to financial development utilizing Granger causality relapses in view of stationary variables, with and without a slip remedy term. Sharma and Panagiotidis (2005) test the fare drove development speculation in the connection of India, and the outcomes fortify the contentions against the fare drove development theory for the instance of India.

Chandra (2002) discovered bi-directional causal relationship between development of fares and GDP development which is a short-run causal connection, as co-incorporation between development of fares and GDP development was not found. Kemal et al (2002) discovers a positive relationship in the middle of fares and financial development for India and also for different economies of South Asia. Anwar and Nidugala (2001) found that fares had a critical part in affecting GDP development in the 1980s. Dhawan and Biswal (1999) look at the same issue for the period 1961 to 1993, and find that development in GDP causes development in fares while causality from fares to GDP gives off an impression of being a short run wonder. Ghatak et al (1997) reasoned that development of fares is created by yield development in India. Bhat (1995) reevaluates the fares financial development nexus for India, and discovers proof of bi-directional causality between development of fares and monetary development. Sharma and Dhakal (1994) offer some proof of the fare drove development theory for India, yet the experimental confirmation offered by it is inconsistent. The study reasons that the salary and fare arrangement for India are non-stationary utilizing the Phillip-Perron test. It tests for causality, yet does not test for co-reconciliation. Be that as it may, the right utilization of Granger tests requires the ID of a conceivable co-incorporating relationship. Nandi and Biswas (1991) discovered the proof of unidirectional causality from development of fares to financial development. This study does not test for stationarity and behavior Sims causality test on the levels of the wage and fare variables. Given that the levels of the wage and fare variables are typically non-stationary, the outcomes are untrustworthy.

Based on the above discussion, the present study tries to investigate the long run and short run relationship between the export and economic growth by considering the following model:

$$Xt = (EXPORTt, IIPt)'$$

Where, EXPORT is the monthly export data in Rs. billion, IIP is industrial production index, and X is a 2×1 vector of variables.

DATA & METHODOLOGY

The aim of this paper is to investigate the relationship between the export and economic growth. To accomplish the research objective monthly data ranging from April 2005 to March 2014 are obtained which comprises 108 data points for the analysis. The choice of study period is based on the availability of data series. Descriptions of variables and data sources are presented in Table 1. All variables are converted into natural logarithmic form.

Table 1 : Description of Variables

Acronyms	Construction of Variable	Data Source
EXPORT	Natural Logarithm of the Export (Rs. Billon)	RBI Website
IIP	Natural Logarithm of the Index of Industrial Production	RBI Website

The present study employs the time series data analysis technique to study the relationship between the export and economic growth. In a time series analysis, the results might provide a spurious if the data series are non-stationary. Thus, the data series must obey the time series properties i.e. the time series data should be stationary, meaning that, the mean and variance should be constant over time and the value of covariance between two time periods depends only on the distance between the two time period and not the actual time at which the covariance is computed. The most popular and widely used test for stationary is the unit root test. The presence of unit root indicates that the data series is non-stationary. The standard procedures of unit root test namely the Augmented Dickey Fuller (ADF) (1979) (1981) is performed to check the stationary nature of the series. Assuming that the series follows an AR (p) process the ADF test makes a parametric correction and controls for the higher order correlation by adding the lagged difference terms of the dependent variable to the right hand side of the regression equation. In the ADF test null hypothesis is that data set being tested has unit root. This provides a robustness check for stationary. The unit root tests also provide the order of integration of the time series variables. In a multivariate context if the variable under consideration are found to be I (1) (i.e. they are non-stationary at level but stationary at first difference), but the linear combination of the integrated variables is I (0), then the variables are said to be co-integrated (Enders, 2004). The Augmented Dickey Fuller (ADF) (1979; 1981) is performed to check the stationary nature of the series. The complete model with deterministic terms such as intercepts and trends is shown in equation (1).

$$\Delta Y_t = \alpha + \pi + \sum_{i=1}^{m} \delta Y_{t-1} \Delta\beta_i + Y_{t-1} + \varepsilon_t \qquad (1)$$

Lag length for VAR system is, selected based on minimum sequential modified LR test statistic (each test at 5% level) (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Information Criterion (SC) and Hannan-Quinn Information Criterion (HQ). The estimation of co-integration using this method, involves estimation of following unrestricted VAR model

$$Y_t = A_0 + \sum_{i=1}^{n} A_i Y_{t-i} + \varepsilon_t \qquad (2)$$

Where: Yt is n × 1 vector of non stationary I (1) variables, Ao is an n × 1 vector of constants, *n* is no of lags. A*i* is an n × n matrix of estimated parameters. Yt is n × 1 vector independent error term.

With the non-stationary series, co-integration analysis has been used to examine whether there is any long run relationship exists. However, a necessary condition for the use of co-

integration technique is that the variable under consideration must be integrated in the same order and the linear combinations of the integrated variables are free from unit root. According to Engel and Granger (1987), if the variables are found to be co-integrated, they would not drift apart over time and the long run combination amongst the non-stationary variables can be established. To conduct the co-integration test, the Engel and Granger (1987) or the Johansen and Juselius (1990) or the Johansen (1991) approach can be used. The Engel-Granger two step approaches can only deal with one linear combination of variables that is stationary. In a multivariate practice, however, more than one stable linear combination may exist. The Johansen's co-integration method is regarded as full information maximum likelihood method that allows for testing co-integration in a whole system of equations.

The Johansen methods of co-integration can be written as the following vector autoregressive framework of order p.

$$X_t = A_0 + \sum_{j=1}^{p} B_j X_{t-i} + \varepsilon_t \quad (4)$$

Where, Xt is an n×1 vector of non stationary I(1) variables, A0 is an n×1 vector of constants, p is the maximum lag length, Bj is an n×n matrix of coefficient and et is a n×1 vector of white noise terms. The number of characteristic roots can be tested by considering the following trace statistic and the maximum eigenvalue test.

$$\lambda_{trace}(r) = -T \sum_{i=j+1}^{p} \ln+(1-\hat{\lambda}_j) \quad (5)$$

$$\lambda_{max}(r, r+1) = -T \ln+(1-\hat{\lambda}_j) \quad (6)$$

Where, r is the number of co-integrating vectors under the null hypothesis, T is the number of usable observations and $\hat{\lambda}_j$ is the estimated value for the j^{th} ordered characteristic roots or the eigenvalue from the Π matrix.

A significantly non-zero eigenvalue indicates a significant co-integrating vector. The trace statistics is a joint test where the null hypothesis is that the number of co-integration vectors is less than or equal to r against an unspecified general alternative that there are more than r. Whereas, the maximum eigenvalue statistics test the null hypothesis that the number of co-integrating vectors is less than or equal to r against the alternative of r+1 (Enders, 2004) (Brooks, 2002).

At the end, the Granger Causality test (Engel & Granger, 1987) has been used to find out the direction of causality between the variables. To test for Granger Causality, the following bi-variate regression model can be used:

$$y_t = \alpha_0 + \sum_{i=1}^{m} \alpha_i Y_{t-i} + \sum_{j=1}^{n} \beta_j X_{t-i} + \varepsilon_t \quad (9)$$

$$x_t = \omega_0 + \sum_{i=1}^{m} \gamma_i Y_{t-i} + \sum_{j=1}^{n} \theta_j X_{t-i} + \varepsilon_t \quad (10)$$

If all the coefficients of x in the first regression equation of y, i.e. βi for i = 1.....l are significant, then the null hypothesis that x does not cause y is rejected.

EMPIRICAL ANALYSIS

The descriptive statistics for all the variables under study, namely, export and index of industrial production as indicator of economic growth are presented in Table 2. The value of skewness and kurtosis indicate the lack of symmetric in the distribution. Generally, if the value of skewness and kurtosis are 0 and 3 respectively, the observed distribution is said to be normally distributed. Furthermore, if the skewness coefficient is in excess of unity it is considered fairly extreme and the low (high) kurtosis value indicates extreme platykurtic (extreme leptokurtic). From the table it is observed that the frequency distributions of underlying variables are not normal. The significant coefficient of Jarque-Bera statistics also indicates that the frequency distributions of considered series are not normal. The value of standard deviation indicates that the export is relatively more volatile as compare to IIP.

Table 2 : Descriptive Statistics of Variables

	LNEXPORT	LNIIP
Mean	6.668227	4.998349
Median	6.620861	5.030433
Maximum	7.491668	5.268889
Minimum	5.78748	4.596129
Std. Dev.	0.481634	0.165739
Skewness	-0.008158	-0.744918
Kurtosis	1.797241	2.7166
Jarque-Bera	6.511032	10.34966
Probability	0.038561	0.005657
Sum	720.1685	539.8217
Sum Sq. Dev.	24.82091	2.939245
Observations	108	108

Source: Author's Estimation

To check the stationarity of the underlying data series, we follow the standard procedure of unit root testing by employing the Augmented Dickey Fuller (ADF) test. The results are presented in Table 3. On the basis of the ADF test, all the series are found to be non-stationary at level with intercept. However, after taking the first difference these series are found to be stationary at 1, 5 and 10 percent level. Thus the stationary test indicates that all series are individually integrated of the order I (1).

Table 3: Result of Augmented Dickey-Fuller Unit Root Test

Variable			Trend		Trend & Intercept		None	
			t-Statistic	Prob.*	t-Statistic	Prob.*	t-Statistic	Prob.*
D(LNEXPORT)	Augmented Dickey-Fuller test statistic		-5.8963	0	-5.8676	0	-5.6051	0
	Test critical values:	1% level	-3.4957		-4.0505		-2.5874	
		5% level	-2.89		-3.4545		-1.9439	
		10% level	-2.582		-3.1529		-1.6147	
D(LNIIP)	Augmented Dickey-Fuller test statistic		-3.0293	0.0368	-19.2725	0	-2.6288	0.0092
	Test critical values:	1% level	-3.5216		-4.0696		-2.5966	
		5% level	-2.9012		-3.4635		-1.9453	
		10% level	-2.588		-3.1582		-1.6139	

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

Source: Author's Estimation

The presence and the number of co-integrating relationships among the underlying variables are tested through the Johansen procedure i.e., Johansen and Juselius (1990) and Johansen (1991). Specifically, trace statistic and the maximum eigenvalue are used to test for the number of co-integrating vectors. The result of VAR leg order selection criteria are presented in the Table 4. Leg order selected for the study is based on LR, FPE, AIC and HQ criterion. The results of both trace statics and the maximum eigenvalue test statistics are presented in Table 5. The trace statistic indicates two co-integrating equations and the maximum eigenvalue statistics identify no co-integrating equations. The results show that a long-run equilibrium relationship exists between the export and economic growth.

Table 4 : VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	80.08824	NA	7.19E-04	-1.561765	-1.509661	-1.540678
1	264.3717	357.5099	1.95E-05	-5.167434	-5.011124	-5.104173
2	285.1501	39.47899	1.40E-05	-5.503002	-5.242485	-5.397567
3	295.2084	18.70831	1.24E-05	-5.624167	-5.259443*	-5.476557
4	302.4899	**13.25247***	**1.16e-05***	**-5.689799***	-5.220868	**-5.500014***
5	304.2307	3.098513	1.21E-05	-5.644613	-5.071476	-5.412654
6	308.7351	7.837706	1.20E-05	-5.654702	-4.977358	-5.380569
7	311.2294	4.240276	1.24E-05	-5.624588	-4.843037	-5.30828
8	316.1319	8.138234	1.22E-05	-5.642639	-4.756881	-5.284156

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion
Source: Author's Estimation

Table 5: Result of Johansen's Co-integration Test

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob.**	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.11498	20.72623	18.39771	**0.0232**	12.58088	17.14769	0.2046
At most 1 *	0.07604	8.14535	3.841466	**0.0043**	8.14535	3.841466	**0.0043**

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
Max-eigenvalue test indicates no cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Author's Estimation

The co-integration results indicate that causality exists between the co-integrated variables but it fails to show us the direction of the causal relationship. The pair-wise Granger Causality test (1987) is performed between all possible pairs of variables to determine the direction of causality. The rejected hypotheses are reported in Table 6. The results show that there is bidirectional causality exists between export and economic growth.

Table 6: Result of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.	Decision
LNIIP does not Granger Cause LNEXPORT	104	2.63721	0.0387	Reject
LNEXPORT does not Granger Cause LNIIP		3.01378	0.0218	Reject

Source: Author's Estimation

CONCLUSION

This study examined the inter-linkage between the Indian export and economic growth using Johansen's co-integration test and Granger causality test framework. The analysis used monthly data over the period April 2005 to March 2014 which is obtained from RBI website. The index of industrial production is used to represent the economic growth. It is believed that, the selected macroeconomic variables namely index of industrial production, among others; represent the state of the economy.

To conclude, the analysis revealed that the index of industrial production represented as economic growth in study formed significant long-run relationship with export. The Johansen's co-integration test suggests that the export and economic growth are co-integrated with each other. It is observed that in the long-run, export and index of industrial production as indicator of economic growth are positively related to each other. The export is found to be significant in determining economic growth and economic growth significantly affects export.

The findings from Granger causality test indicate a bi-directional causality between export and economic growth. Export granger causes economic growth and economic growth granger causes export in both long run and short-run.

The present study confirms the beliefs that export continue to affect the economic growth. However, the limitations of the study should not be over looked. The present study is limited to only two selected macroeconomic variables. Inclusion of more variables with a longer time period may explain the research objective in better way. A logical extension of the study can be done by including more variables and analyzing it.

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STRESS AND PERSONALITY TRAITS RELATIONSHIP: A STUDY OF ACCOUNTING PROFESSIONALS IN RAJASTHAN

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ABSTRACT

Stress is considered to be a state of mind, to be the feeling of emotional imbalance, which results in detrimental behavior, when the person is not able to cope with the desired requirements. It arises when employment requests can't be met, unwinding has swung to fatigue, and a feeling of fulfillment has transformed into emotions of pressure. So, the laborer feels excessively saddled both mentally and physically, and the stage is situated for sickness, damage, and employment disappointment. The present study is an effort to evaluate the stress experienced by professionals in Rajasthan with varied personality traits. The purpose of this study was to examine relationships between personality traits and perceived stress of accounting professionals. Specific personality traits were found to be correlated with perceived stress when studying the accounting professional's population.

Strong correlations were found between the personality trait Extraversion, Self Control, Anxiety, Independence and Tough Mindedness. A linear relationship was found between job stress and the Global factors, namely Tough Mindedness and Anxiety found to be a valid predictor of perceived stresses. As well Independence, Self Control and Extraversion are also the traits which have liner relationship with perceived stress and are good predictor. Inter Correlation between Global Personality Traits of Accounting Professionals resulted into significant relationship among all traits. Tough-Mindedness with Anxiety has the weakest Correlationship and Independence with Self Control Has the strongest Correlations.

Key Words: Stress, stress-related illnesses, Personality, Extrovert, Self, Anxiety, Independence, Control

INTRODUCTION

"Stress is a consequence of a imbalance between a person and his other environment, and the perceived inability to manage the hurdles ad resultant demands" (Selye, 1936; Allport, 1937). Eminent behavioural scientist Stephon Robbins opines that "stress arises

from an opportunity, demand, constraints, treats or challenge when the outcome of the event is important and uncertain" (Robbins, 1993). As a consequence, stress is the highest among individuals who are uncertain whether they will win or loss, and lowest among individuals who think that winning or losing is inevitable (Kotterman, 2006).

REVIEW OF LITERATURE

Abush et al (1984) mulled over the relationship among midlife working ladies' sort an identity, saw work attributes and feeling of occupation strain. The study was directed by utilizing Type-An identity Index-short frame, the Job qualities stock and employment related strain list. Different reg. examination uncovers a critical relationship between occupation pressure and straight blend of sort an identity and employment qualities.

Bindu (2007) explored the relationship between burnout, identity attributes and occupation stressors in 447 essential educator consequences of this study demonstrated that both identity and business related stressors were connected with burnout measurements. Neuroticism was a typical indicator of all measurements of burnout albeit individual achievement had an alternate heading.

Shimizutani et al (2008) led a study to explore the relationship of attendants burnout with identity attributes and adapting conduct. The study was led on 770 medical attendants by utilizing Copenhagen Burnout Inventory, Nursing Job Stressor Scale, Eysenck Personality Questionnaire and Japanese rendition of brief COPE. The study uncovered that among the attendants with low neuroticism and high extroversion, customer related burnout associated with adapting conduct of behavioral contradiction and clash with patients. While adjusting investigation has continued growing, the a piece of key assessment and the significance individuals accommodate asking for encounters has not, at any rate in work nervousness examination, got the thought it justifies. Work uneasiness research (Dewe, 1993; Lowe & Bennett, 2003) has, exactly when researching work stressors, delineated that individuals can perceive the objective way of a stressor and its hugeness, and examined whether concealed examinations like test and hindrance help to better perceive among essential work stressors (Cavanaugh, Boswell et al, 2000) . In any case, a couple of experts have tended to whether, by focusing on intra singular system like examination, such individual-level examination degrades us from what should be Dewe (1993) our key target of recognizing work stressors that impact the working presences of most workers (George and Brief,1992) . In like manner, request have been raised as to the utility of this philosophy with respect to how such information lights up decisions about how to intervene (Schaubroeck, 1999). Taking all things into account, a long way from examining the theoretical meticulousness and careful significance of Lazarus' quality based speculation, with its highlight on the examination process, most faultfinders watch that there are, in the work anxiety arrangement, open entryways for all parts of the nervousness system to be mulled over (Frese & Zapf,1999).

STATEMENT OF THE PROBLEM

Knowledge of perceived Stress and Personality of accounting processional can be helpful as trait predictor for perceived stress; accordingly methodology can be devised to modify it.

OBJECTIVES & HYPOTHESES

The study is aimed at enhancing understanding about stress experienced by accountants and its relationship with personality traits.

- To find out possible personality reasons of stress for accounting professionals.
- To understand the relationship of stress level with different personality traits of accounting professionals.

The study addresses to the following hypothesis.

- There is no significant difference in the level of stress of high extraversion and low extraversion respondents..
- There is no significant difference in the level of stress of high anxiety and low anxiety respondents..
- There is no significant difference in the level of stress of high toughness and low toughness respondents.
- There is no significant difference in the level of stress of high Independent and low Independent respondents.
- There is no significant difference in the level of stress of high self control and low self control respondents.

RESEARCH METHODOLOGY

About the study

The descriptive research design was used in the present study. The study was conducted in the state of Rajasthan in Udaipur, Rajasmand, Kota, Banswara, Jaipur, Jodhpur. Bikaner. The districts were selected purposively for data collection to get data from all over Rajasthan. For the present study is the accounting professionals from selected cities of Rajasthan. From the study point of view, data has been collected with convenience sampling from different types of respondents so as to have a clear picture about the personality traits and its relationship with stress. Accounts Professionals who had at least two years of experience in their respective field were selected through non probabilistic (purposive and convenience sampling) method. The sample size is 150 in number. Data for this investigation has been collected through primary and secondary sources.

Tools for Data Collection: Primary data been collected majorly through:

1. Perceived stress scale instrument Developed by S. Cohen, T. Kamarck & R. Mermelstein.
2. 16 PF Instrument developed by Cattle.

Statistical Tools Applied: After the analysis of primary data utilizing the above methods of data analysis, the results were interpreted, elicited and supported with secondary information and data to draw the conclusion. Stress and Global Factors were correlated using Pearson's correlation coefficient where critical "r" > 0.6 is considered Strong correlation. Z-test was used for judging the significance of difference between means of two independent sample To test the significance of difference between the two sample means, the difference is expressed in terms of standard normal variate (Z) by dividing the difference by standard

$$Z = \frac{\left|\bar{X}_1 - \bar{X}_2\right|}{SE}$$

where

$\bar{X}_1$ = mean of first series

$\bar{X}_2$ = mesan of second series

SE = standard error

$$SE = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$$

RESULTS AND FINDING

Correlations Analysis between Stress and Five Global Factors

Correlation between Stress and Extraversion

Table 1 : Correlation between Stress and Extraversion

R	N	Significance
-0.623	150	***

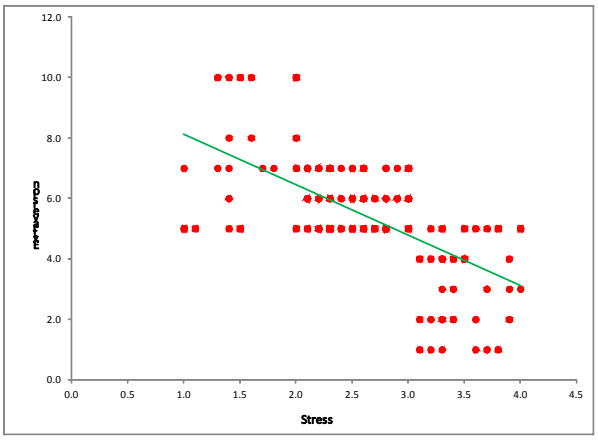

Figure : 1 Correlation between Stress and Extraversion

Table 1 and Figure 1 presents that Extraversion significantly and negatively correlated with perceived stress.(r = - 0.623)

r = Pearson's correlation coefficient

The Table and figure 1 shows the correlation between Stress and extraversion. The test results shows that there is highly significant negative correlation between stress and extraversion (r = - 0.623, p < 0.001). The highly significant inverse relationship between stress and extraversion shows that with increase in stress, the person in stress becomes introvert and socially inhibited.

Hence on the basis of above results it can be said that stress and extraversion are inversely related.

Correlation between Stress and Anxiety

Table 2 : Correlation between Stress and Anxiety

R	N	Significance
0.663	150	***

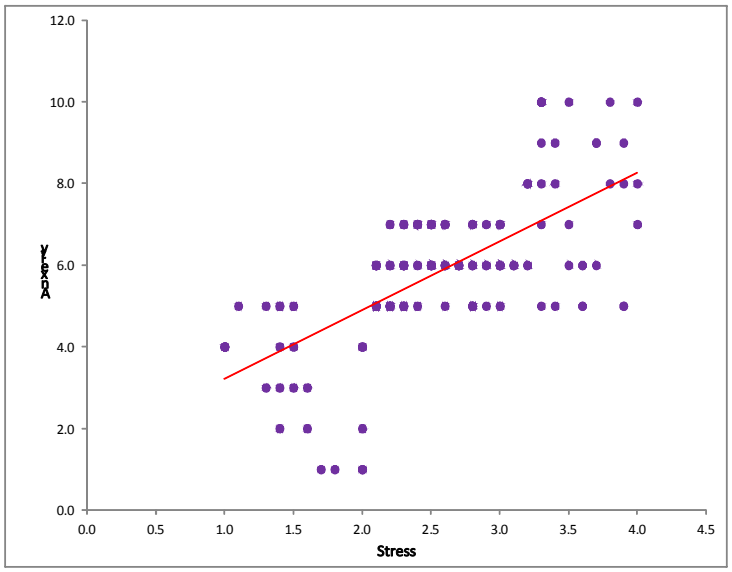

Figure : 2 Correlation between Stress and Anxiety

Table 2 presents that Anxiety significantly and positively correlated with perceived stress (r =0.663). The Table and figure 2 shows the correlation between Stress and anxiety. The test results shows that there is highly significant positive correlation between stress and anxiety (r = 0.663, p < 0.001).

Correlation between Stress and Tough mindedness

Table 3 : Correlation between Stress and Tough mindedness

R	N	Significance
-0.702	150	***

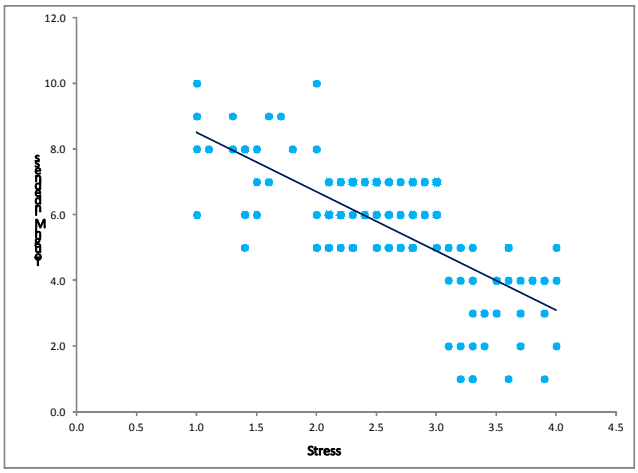

Figure 3: Correlation between Stress and Tough mindedness

Tough Mindedness is significantly and negatively correlated with perceived stress (r =0.7)

The Table and graph above shows the correlation between Stress and Tough-mindedness. The test results shows that there is highly significant positive correlation between stress and anxiety (r = - 0.7, p < 0.001).

Correlation between Stress and Independence

Table 4 : Correlation between Stress and Independence

R	N	Significance
-0.675	150	***

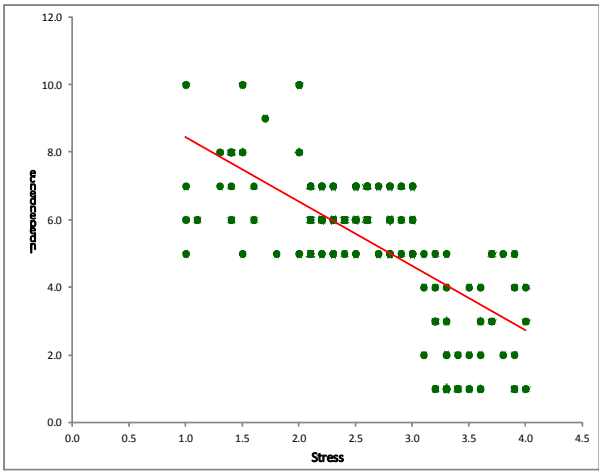

Figure 4 : Correlation between Stress and Independence

Independence is significantly and negatively correlated with perceived stress.(r = - 0.675) .The Table 4 shows the correlation between Stress and Independence. The test results shows that there is highly significant negative correlation between stress and Indepedence (r = - 0.675, p < 0.001).

Accounting Professionals who are low on Independence tend to give in to other's wishes and demands. They tend to go with whatever is being done at the time rather than think of new ideas. They also do not like to be as assertive as others. Low on Independence accounting professionals feel high work stressed.

Hence on the basis of above results it can be said that stress and Independence are inversely related.

Correlation between Stress and Self Control

Table 5: Correlation between Stress and Self Control

R	N	Significance
-0.697	150	***

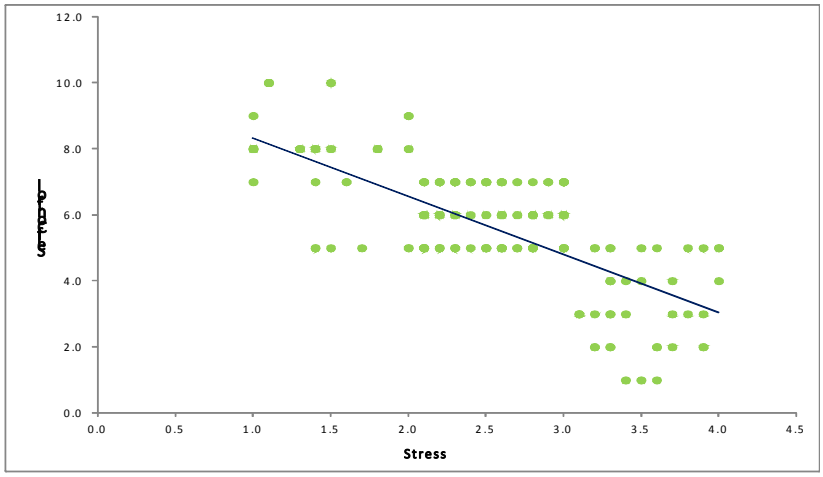

Figure 5: Correlation between Stress and Self Control

Self Control is significantly and negatively correlated with perceived stress (r = - 0.69) The Table and graph above shows the correlation between Stress and Self Control. The test results shows that there is highly significant negative correlation between stress and Self Control (r = - 0.69, p < 0.001).

The highly significant inverse relationship between stress and Self Control shows that accounting professionals with High Self Control feels less self control. And people with low on self control perceived high stress on the job.

Hence on the basis of above results it can be said that stress and Self Control are inversely related.

HYPOTHESIS TESTING

H_{01}: There is no significant difference in the level of stress of high extraversion and low extraversion respondents.

H_{A1}: There is significant difference in the level of stress of high extraversion and low extraversion respondents.

Extraversion & Stress

Table 6 : Extraversion & Stress

Extraversion	N	Stress Mean	SD	Z
High	77	2.32	0.49	-5.54
Low	73	2.91	0.78	

To test the above hypothesis Respondents having score ranging between 0-5 were considered Low Extrovert and ranging between 5-10 considered as High Extrovert. A test for difference of mean was applied. The test results given above shows that there is highly significant difference in the stress level of persons with high and low extraversion ($Z = -5.54$, $p < 0.001$). The data presented in the table above shows that persons with high level of extraversion were found to have low stress level, whereas on the other hand person with low level of extraversion were found to have high level of stress. Hence the null hypothesis that – "There is no significant difference in the level of stress of high extraversion and low extraversion respondents" is rejected and it can be concluded that there is highly significant difference in the level of stress of high extraversion and low extraversion respondents and there is inverse relationship between extraversion and level of stress.

H_{02}: There is no significant difference in the level of stress of high anxiety and low anxiety respondents.

H_{A2}: There is significant difference in the level of stress of high anxiety and low anxiety respondents.

Anxiety & Stress

Table 7 : Anxiety & Stress

Extraversion	N	Stress Mean	SD	Z
High	91	2.9	0.52	6.88
Low	59	2.15	0.73	

To test the above hypothesis Respondents having score ranging between 0-5 were considered Low Anxiety and ranging between 5-10 considered as High Anxiety

To test the above hypothesis test for difference of mean was applied. The test results given above shows that there is highly significant difference in the stress level of persons with high and low extraversion ($Z = 6.88$, $p < 0.001$). The data presented in the table above shows that persons with high level of Anxiety were found to have High stress level, whereas on the other hand person with low level of Anxiety were found to have low level of stress.

Hence the null hypothesis that – "There is no significant difference in the level of stress of high Anxiety and low Anxiety respondents" is rejected and it can be concluded that there is highly significant difference in the level of stress of high Anxiety and low extraversion respondents and there is positive relationship between Anxiety and level of stress.

H_{03}: There is no significant difference in the level of stress of high tough-mindedness and low tough mindedness respondents.

H_{A3}: There is significant difference in the level of stress of high tough-mindedness and low tough mindedness respondents.

Tough-mindedness & Stress

Table 8 : Tough-mindedness & Stress

Extraversion	N	Stress Mean	SD	Z
High	86	2.25	0.55	-8.73
Low	64	3.09	0.61	

To test the above hypothesis Respondents having score ranging between 0-5 were considered Low Tough Mindedness and ranging between 5-10 considered as High Tough Mindedness. To test the above hypothesis test for difference of mean was applied. The test results given above shows that there is highly significant difference in the stress level of persons with high and low tough-mindedness ($Z = -8.73$, $p < 0.001$). The data presented in the table above shows that persons with high level of tough mindedness were found to have low stress level, whereas on the other hand person with low level of Tough Mindedness were found to have high level of stress. Hence the null hypothesis that – "There is no significant difference in the level of stress of high Tough Mindedness and low Tough Mindedness respondents" is rejected and it can be concluded that there is highly significant difference in the level of stress of high Tough Mindedness and low Tough Mindedness respondents and there is inverse relationship between Tough Mindedness and level of stress.

H_{04}: There is no significant difference in the level of stress of high independence and low independence respondents.

H_{A4}: There is significant difference in the level of stress of high independence and low independence respondents.

Independence & Stress

Table 9 : Independence & Stress

Independence	N	Stress	SD	Z
High	80	2.25	0.54	-7.56
Low	70	3.01	0.67	

To test the above hypothesis Respondents having score ranging between 0-5 were considered Low Independent t and ranging between 5-10 considered as High Independent. To test the above hypothesis test for difference of mean was applied. The test results given above shows that there is highly significant difference in the stress level of persons

with high and low Independence (Z = -7.56, p < 0.001). The data presented in the table above shows that persons with high level of Independence were found to have low stress level, whereas on the other hand person with low level of Independence were found to have high level of stress. Hence the null hypothesis that – "There is no significant difference in the level of stress of high Independence and low Independence respondents" is rejected and it can be concluded that there is highly significant difference in the level of stress of high Independence and low Independence respondents and there is inverse relationship between Independence and level of stress.

H_{05}: There is no significant difference in the level of stress of high self control and low self control respondents.

H_{A5}: There is no significant difference in the level of stress of high self control and low self control respondents.

Self Control & Stress

Table 10 : Self Control & Stress

Self Control	N	Mean	SD	Z
High	72	2.24	0.56	-6.95
Low	78	2.94	0.67	

To test the above hypothesis Respondents having score ranging between 0-5 were considered Low Self Control and ranging between 5-10 considered as High Self Control. To test the above hypothesis test for difference of mean was applied. The test results given above shows that there is highly significant difference in the stress level of persons with high and low Self Control (Z = -6.95, p < 0.001). The data presented in the table above shows that persons with high level of Self Control were found to have low stress level, whereas on the other hand person with low level of Self Control were found to have high level of stress. Hence the null hypothesis that – "There is no significant difference in the level of stress of high Self Control and low Self Control respondents" is rejected and it can be concluded that there is highly significant difference in the level of stress of high Self Control and low Self Control respondents and there is inverse relationship between Self Control and level of stress.

CONCLUSIONS

Statistical Analysis above clearly envisage that significant relationship between overall personality variables of accounting professionals and their stress level exist.

Extraversion has negatively correlated with Stress Level , But among all five global personality variables , it has weakest correlation. (Z = -5.54, p < 0.001). Only Anxiety is a variable which is positively and significantly correlated with Stress level. All other variables Extraversion, Tough-mindedness, Independence and Self Control are negatively correlated with Perceived Stress.

The Strongest Correlation exist between Tough-Mindedness and Perceived Stress (Z = -8.73, p < 0.001). Which clearly Indicate that respondents with tough-mindedness personality variable has least effect of perceived Stress.

As Hypothesis 1, 2,3,4 and 5 has been rejected and alternative Hypothesis been accepted, It demonstrate that There is Significant Relationship between Personality Variables and Perceived Stress for accounting Professionals.

As per studies related to Stress and Personality traits discussed above in review of Literature chapter II , Amanda (2013) studied that Stress correlated positively with neuroticism, but did not correlate with any other personality traits. Also, neuroticism correlated negatively with extraversion. Other correlations between personality traits were not reproduced. Abush et. al (1984) studied a significant relationship between job tension and linear combination of type-A personality and job characteristics Bindu (2007) investigated the association between burnout, personality characteristics and job stressors in 447primary teacher results of this study indicated that both personality and work related stressors were associated with burnout dimensions. Neuroticism was a common predictor of all dimensions of burnout although personal accomplishment had a different direction. Lim (2013) in his study to examined there were positive relationships between perceived stress, General Health Questionnaire and coping strategy. Utami et al (2012) examined the moderating effect of type A personality on the influence of role stressors (role conflict, role overload, and role ambiguity) on burnout.

These Studies shows the relationship between few personality factors like Extraversion and Neuroticism with Perceived Stress or Personality Types A and B with perceived Stress.

Further extension to that current study was an attempt to find not only 16 Personality profiles of Accounting professionals but finding the define relationship of 5 Global factors and perceived Stress. As per Hypothesis testing result The null Hypothesis defining the relationship between Global Personality Factors and Perceived Stress has been rejected and alternative hypothesis has been accepted.

Accepting Alternative Hypothesis describes significant relationship between overall personality variables of accounting professionals and Perceived stress. Confirming the last studies It was found that Extraversion has negatively correlated with Stress Level , But among all five global personality variables , it has weakest correlation. ($Z = -5.54$, $p < 0.001$). Only Anxiety is a variable which is positively and significantly correlated with Stress level. All other variables Extraversion, Tough-mindedness, Independence and Self Control are negatively correlated with Perceived Stress.The Strongest Correlation exist between Tough-Mindedness and Perceived Stress ($Z = -8.73$, $p < 0.001$), Which clearly Indicate that respondents with tough-mindedness personality variable has least effect of perceived Stress.

From a practical perspective, the present findings could be useful for career planning and development programs for accounting profession, accounting job Enrichment efforts and career and personal counseling programs for accounting employees . Additionally, it might be useful to consider incorporating personality measures into pre-employment selection programs for accounting positions, especially since other research has shown that personality traits are valid predictors of perceived stress at work. Importantly this finding can be useful to design stress management program for accounting professionals.

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APPRAISAL OF NON PERFORMING ASSETS IN BANKING SECTOR: AN INDIAN PERSPECTIVE

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ABSTRACT

The reforms in the financial sector have resulted in numerous changes in the banking sector. In order to improve the financial health of the banks, various norms have been introduced at regular intervals. As the banking sector constitutes a major component of the financial service sector, the soundness of the banking sector is necessary for a dynamic and healthy economy. The establishment of a productive, efficient and stable economy is possible only when a country is having a sound and healthy banking sector. Through this paper an attempt has been made to compare the performances of nationalized, private and foreign banks operating in India. The study has been undertaken by taking the performances of the nationalized, private and foreign banks in terms of the Non- Performing assets as the base, since it is quite clear that generally the good health of a bank is reflected in good return on assets. The Non- Performing assets not only reduce the profitability of the banks by writing off the principal amount as well as the amount of interest on advances, it is also a threat to the stability of the bank. The study reveals that the foreign and nationalized banks are facing more problems of NPAs in comparison to the private sector banks.

Key Words: Non Performing Assets, Assets Quality, Management Efficiency, Banking Sector, Financial Sector.

INTRODUCTION

The main function of a bank is to accept deposits from the public, lending or investing the accepted deposits, facilitating withdrawal of the deposits through cheques, drafts, order or otherwise and lending or advancing of money either upon or without security. The amount of the returns a bank gets from its assets actually reflects the financial stability and health of a bank. The banks have become very cautious these days while lending loans to their customers because of increasing risk of non- performing assets, since NPAs does not generate interest income for the banks and strongly affect the performance of the banks. The increasing NPAs not only degrade the banks credit rating but they also affect the bank's ability to raise further capital. High NPAs reflect the possibilities of large number of credit defaults which ultimately affect the profitability and credit worthiness

of the bank. There are many factors which are responsible for increasing the NPAs in the banks, like recessionary conditions, shortages of resources, inefficient management affecting the health of the businesses and forcing them to default on their loan repayments. On the other hand, banks by delaying the loan disbursements can drag a project off the track causing a cascading effect on its feasibility and ability to repay and ends up in increasing the NPAs of the banks.

JUSTIFICATION OF THE STUDY

The profitability and financial efficiency of any bank is affected by the Non-performing assets it has. A high level of NPAs suggests a high probability of a large number of credit defaults that affect the profitability and net worth of banks and also diminishes the value of the asset. All these reasons make it essential to measure the asset quality of the banking sector by comparing the performances of the nationalized, private and foreign banks operating in India taking their performances in terms of Non-Performing Assets.

REVIEW OF LITERATURE

Siddiqi, Rao & Thankkar (1999) found that the redirection of store like development, enhancement, modernization or advancing sister concerns, and so on., was the most conspicuous purpose behind the development of NPAs. They additionally inspected the effect of need part progresses on NPAs and inferred that "the higher NPAs in need area advances have pushed up the general extent of NPAs of these banks by around 3% to 4%." Baiju and Thattil (2000) highlighted the issue of NPAs in the business saving money segment of Indian taking the present position of planned business banks. With the end goal of investigation the quantity of banks with gross NPA rate of 5 or underneath (International standard) has been sorted as "great". Bhattacharya (2001) rightly indicates the way that in an expanding rate administration, quality borrowers would change over to different roads, for example, capital markets, inward accumulations for their prerequisite of trusts. Under such circumstances, banks would have no alternative yet to weaken the nature of borrowers, in this manner expanding the likelihood of era of NPAs. The issue of NPAs is identified with a few inward and outer variables going up against the borrowers (Muniappan, 2002). The inward elements are redirection of stores for extension/ broadening/ modernization, taking up new activities, helping/advancing partner concerns, time/expense overwhelms amid the venture execution stage, business (item, promoting, and so on.) disappointment, wasteful administration, strained work relations, improper innovation/specialized issues, item out of date quality, and so on., while outside variables are retreat, non-installment in different nations, inputs/power deficiency, value heightening, mishaps and regular disasters. Mohan (2003) conceptualized 'languid keeping money' while basically considering banks' speculation portfolio and giving strategy. The Indian perspective insinuating the ideas of 'credit society' attributable to Reddy (2004) and 'languid saving money' inferable from Mohan

(2003) has a universal point of view following a few studies in the managing an account writing concur that banks' loaning arrangement is a noteworthy driver of non-performing advances (McGoven, 1993, Sergio, 1996, Bloem and Gorters, 2001). Banks with gross NPA rate of 16 (national normal) or less, yet over 5 were ordered as "great". Vallabh, Bhatia & Mishra (2007) in their study investigates an exact way to deal with the investigation of Non-Performing Assets (NPAs) of open, private, and remote part banks in India. The NPAs are considered as a critical parameter to judge the execution and budgetary strength of banks. The level of NPAs is one of the drivers of budgetary solidness and development of the keeping money division.

PERIOD OF THE STUDY

The present study covers a period of five years from 2007-08 to 2011-12. To judge the degree of financial strength based on the quality of its assets, a period of 5 years is considered to be long enough to study the sector-wise growth of Non-Performing Assets of the nationalized banks, private and foreign banks in India.

OBJECTIVE OF THE STUDY

This study has the following objectives:

- To study the concept of Non-Performing Assets.
- To examine the Assets Quality of nationalized banks, private and foreign banks in India.
- To analyze the growth of Non-Performing Assets of the nationalized banks, private and foreign banks in India.

HYPOTHESIS OF THE STUDY

Ho: There is no significant difference in the growth of Non-Performing Assets of the nationalized banks, private and foreign banks in India.

METHODOLOGY

For the study, statistical data has been collected from various annual reports published periodically by the Nationalized, Private, Foreign banks in India as well as from the RBI Published bulletin. The present study includes inter and intra comparison of ten nationalized, ten private and ten foreign banks based on their years of existence, popularity and business generation, particularly for the purpose for which loans were sanctioned. The statistical techniques like percentage, averages, coefficient of variation, one way ANOVA have also been applied. For proper analysis and evaluation of operational performance and financial strength, the individual items of profit and loss accounts and balance sheet have also been regrouped.

LIMITATIONS OF THE STUDY

Limitations are always a part of any kind of research work, as the report is mainly based on secondary data; proper care must be taken in knowing the limitations of the required study.

i. The performances of the banks are shown just for the last seven years, ending 2014. Hence, any uneven trend before or beyond the set period will be the limitations of the study.

ii. This analysis is based on only monetary information, analysis of the non monetary factors are ignored.

iii. As per the requirement of the study some data have been grouped and sub grouped.

APPRAISAL OF NON PERFORMING ASSETS

Non- Performing Assets is an important tool to judge the degree of financial strength of any bank because it directly affects the profitability and financial efficiency of the banks. Gross NPA represents the outstanding amount in the borrower's account of the bank and is other than the interest which has been recorded and not debited to the borrower's account. Net NPA is the balance which is left out after deducting the interest debited to a borrower's account and not recovered and not recognized as income and is kept in interest suspense account, amount of provisions held in respect of NPAs and the amount of claims received and not appropriated. It determines the component of non-performing assets as a percentage of Net advances. It is calculated as follows:

$$\text{Net NPA to Net Advances Ratio} = \frac{\text{Net NPA}}{\text{Net Advances}}$$

Where Net NPA as per Reserve Bank of India = Gross NPA- [Balance in the Interest suspense account + Deposit Insurance and Credit Guarantee Corporation (DICGC)/ Export Credit Guarantee Corporation (ECGC) claims received and held pending adjustment + part payment received and kept in suspense account + total provisions held]. On the other hand, principal amount outstanding from the borrowers represent Gross Advances and the principal amount together with outstanding interest represents Net Advances.

I. Appraisal of Non Performing Assets of Ten Nationalized Banks

In this part of the study, an attempt has been made to study the growth of NPAs amongst the ten nationalized banks, namely Allahabad Bank, Bank of Baroda, Bank of India, Canara Bank, Central Bank of India, Dena Bank, Indian Overseas Bank, State Bank of India, UCO Bank and Union Bank of India, in order to identify the amount of credit defaults these banks are suffering.

Table No. 1. Statement Showing Net Non Performing Assets Ratios of Ten Nationalized Banks

Banks	Years							Average	Standard Deviation	C.V. (%)	Growth	Average Annual Growth
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14					
Allahabad Bank	0.8	0.72	0.66	0.79	0.98	3.19	4.15	1.61	1.33	82.41	4.19	0.6
Bank of Baroda	0.47	0.31	0.34	0.35	0.54	1.28	1.52	0.69	0.46	67.15	2.23	0.32
Bank of India	0.52	0.44	1.31	0.91	1.47	2.06	2.85	1.37	0.8	58.57	4.48	0.64
Canara Bank	0.84	1.09	1.06	1.1	1.46	2.18	1.98	1.39	0.47	34.06	1.36	0.19
Central Bank of India	1.45	1.24	0.69	0.65	3.09	2.9	3.75	1.97	1.16	59.13	1.59	0.23
Dena Bank	0.94	1.09	1.21	1.22	1.01	1.39	2.35	1.32	0.44	33.76	1.5	0.21
Indian Overseas Bank	0.6	1.33	2.52	1.19	1.35	2.5	3.2	1.81	0.86	47.56	4.33	0.62
State Bank Of India	1.78	1.79	1.72	1.63	1.82	2.1	2.57	1.92	0.3	15.60	0.44	0.06
UCO Bank	1.98	1.18	1.17	1.84	1.96	3.17	2.38	1.95	0.64	32.86	0.2	0.03
Union Bank of India	0.17	0.34	0.81	1.19	1.7	1.61	2.3	1.16	0.71	61.56	12.5	1.79
Overall Average of Ten Nationalized Banks								1.52	0.72	49.27	3.29	0.47

Source: A Profile of Banks 2011-12- RBI and Annual Reports of respective banks

INTERPRETATION

Table no. 1, shows the net non-performing assets ratios of 10 Nationalized Banks in India. In the year 2007-08 the highest net non- performing assets ratio was of UCO Bank with 1.98. The next was of State Bank of India with 1.78. The nationalized bank with the third highest non-performing assets ratio was 1.45 of Central Bank of India. The bank with the least non- performing assets ratio was Union Bank of India with the ratio 0.17. In the year 2008-09 the highest net non- performing assets ratio was of State Bank of India with 1.79 followed by Indian Overseas Bank with 1.33. The third number was CBI with 1.24. The least net non-performing ratio in this year was 0.31 of Bank of Baroda. In the year 2009-10 the nationalized bank with the highest net non performing asset ratio was of Indian Overseas Bank with 2.52 which was followed by State Bank of India with 1.72. The least net non performing asset ratio in this year was 0.34 of Bank of Baroda. In the year 2010-11 the highest net non performing asset ratio was 1.84 of UCO Bank. The second highest was of State Bank of India, which was 1.63. The third highest was of Dena Bank, which was 1.22. The least net non performing asset ratio was of Bank of Baroda with 0.35. In the year 2011-12 the highest net non performing asset ratio was of Central Bank of India with 3.09 followed by UCO Bank with 1.96. The Bank with the third highest net non- performing asset was of State Bank of India with1.82 ratio. The least net non- performing asset ratio was of Bank of Baroda with 0.54. In the year 2012-13 the highest NNPAR was of Allahabad Bank with the

ratio of 3.19 followed by 3.17 of UCO Bank. The third highest was of Canara Bank with 2.18. The least NNPAR was of Bank of Baroda, which was 1.28. In the year 2013-14 the highest NNPAR was of Allahabad Bank, which was 4.15 followed by Central Bank of India which was 3.75. The third highest NNPAR was of Bank of India, which was 2.85. The least NNPAR in this year was of Bank of Baroda which was 1.52. The average of net non- performing asset ratio was highest of Central Bank of India with 1.97 followed by UCO Bank with 1.95 followed by State Bank of India with 1.92. The least average was of Bank of Baroda with 0.69. The standard deviation was highest of Allahabad Bank with 1.33 followed by Central Bank of India with 1.16. The bank with the third highest standard deviation was of Indian Overseas Bank of India with 0.86. The least standard deviation was of State Bank of India with 0.30. The coefficient of variation of net non performing asset ratio was the highest of Allahabad Bank with 82.41%, followed by Bank of Baroda with 67.15%. The least coefficient of variation of net non- performing asset ratio was 15.60% of the State Bank of India. While studying the growth of Net NPAs, it was observed that there was a tremendous increase in the volume of NPAs particularly of Union Bank of India, which then showed an average annual increase of 1.79, followed by Bank of India, which then showed an increase of 0.64.

II. Appraisal of Non Performing Assets of Ten Private Banks

For judging the financial strength and financial efficiency of private banks, an effort has been made to study their non performing assets for last seven years. An attempt has also been made to identify the growth of non performing assets of all ten private sector banks, namely Axis Bank, Catholic Syrian Bank, Federal Bank, HDFC Bank, ICICI Bank, IndusInd Bank, ING Vysya Bank, Kotak Mahindra Bank, South Indian Bank and Yes Bank.

Table No. 2. Statement Showing Net Non Performing Assets Ratios of Ten Private Banks

Banks	Years							Average	Standard Deviation	C.V. (%)	Growth	Average Annual Growth
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14					
Axis Bank	0.42	0.4	0.4	0.29	0.27	0.36	0.4	0.36	0.06	15.22	-0.05	-0.01
Catholic Syrian Bank	1.61	2.39	1.58	1.74	1.1	1.12	2.22	1.68	0.46	27.22	0.38	0.05
Federal Bank	0.23	0.3	0.48	0.6	0.53	0.98	0.74	0.55	0.24	43.01	2.22	0.32
HDFC Bank	0.47	0.63	0.31	0.19	0.18	0.2	0.27	0.32	0.16	48.78	-0.43	-0.06
ICICI Bank	1.55	2.09	2.12	1.11	0.73	0.77	0.82	1.31	0.56	42.99	-0.47	-0.07
Indusind Bank	2.27	1.14	0.5	0.28	0.27	0.31	0.33	0.73	0.69	94.85	-0.85	-0.12
ING Vysya Bank	0.7	1.2	1.2	0.39	0.18	0.03	0.28	0.57	0.44	77.83	-0.6	-0.09
Kotak Mahindra Bank	1.78	2.39	1.73	0.72	0.61	0.64	0.9	1.25	0.65	52.22	-0.49	-0.07
South Indian Bank	0.33	1.13	0.39	0.29	0.28	0.78	0.78	0.57	0.31	53.77	1.36	0.19
Yes Bank	0.09	0.33	0.06	0.03	0.05	0.01	0.05	0.09	0.1	114.3	-0.44	-0.06
Overall Average of Ten Private Banks								0.74	0.37	57.02	0.06	0.01

Source: A Profile of Banks 2011-12- RBI and Annual Reports of respective banks

INTERPRETATION

Table no 2, shows the NNPAR of private banks. In the year 2007-08 the bank with the highest NNPAR was IndusInd Bank with the ratio of 2.27. The bank with second highest NNPAR was Kotak Mahindra Bank with the ratio of 1.78 followed by Catholic Syrian Bank with the ratio of 1.61. The least NNPAR was of Yes Bank with the ratio of 0.09. In the year 2008-09 the highest NNPAR was of Catholic Syrian Bank and Kotak Mahindra Bank with the ratio of 2.39 followed by ICICI Bank with the ratio of 2.09. The third highest NNPAR was of 1.14 of IndusInd Bank. The least NNPAR was of Federal Bank and Yes Bank with 0.3. In the year 2009-10 the highest NNPAR was of ICICI Bank with 2.12. The second highest NNPAR was of Kotak Mahindra Bank with 1.73 followed by Catholic Syrian Bank with 1.58. The least NNPAR was of Yes Bank with 0.06. In the year 2010-2011 the highest NNPAR was of Catholic Syrian Bank with 1.74 ratio followed by ICICI Bank with 1.11. The bank with the third highest NNPAR was of Kotak Mahindra Bank with 0.72. The least NNPAR in this year was of Yes Bank with 0.03 ratio. In the year 2011-12 the highest NNPAR was of Catholic Syrian Bank with 1.1 ratio. The second highest NNPAR was of ICICI Bank with 0.73 followed by Kotak Mahindra Bank with 0.61. The least NNPAR was again of Yes Bank with 0.05. In the year 2012-13, the highest net non- performing assets ratio was of Catholic Syrian Bank with 1.12. The next was of Federal Bank with 0.98. The private bank with the third highest non-performing assets ratio was of South Indian Bank with 0.78 ratio. The bank with the least non- performing assets ratio was Yes Bank with the ratio of 0.01. In the year 2013-14 the highest net non-performing assets ratio was again of Catholic Syrian Bank with 2.22 ratio, followed by ICICI Bank with 0.82. The third number was of South Indian Bank with 0.78 ratio. The least net non- performing ratio in this year was 0.05 of Yes Bank. The average of NNPAR was highest of Catholic Syrian Bank with 1.68. The second highest NNPAR was of ICICI Bank with 1.31 and the third highest average of NNPAR was of Kotak Mahindra Bank with 1.25. The least average of NNPAR was of Yes Bank with 0.09. The standard deviation of NNPAR was the highest of IndusInd Bank with 0.69 followed by Kotak Mahindra Bank with 0.65 and the third highest standard deviation was of ICICI Bank with 0.56. The least standard deviation of NNPAR was of 0.06 of Axis Bank. The coefficient of variation of NNPAR was highest of Yes Bank with 114.25%, followed by Indus Ind Bank with 94.85%. The third highest coefficient of variation of NNPAR was of ING Vysya Bank with 77.83%. The least coefficient of variation was of Axis Bank, which was 15.22%. The study reveals that the majority of the private banks has taken initiative to control the growth of NPAs and are having a proper lending policy. About seven out of ten private banks under the study period have shown negative growth in their NPA, which shows how well they are managing their lendings and the level of control they have on credit defaults.

III. Appraisal of Non Performing Assets of Ten Foreign Banks

All banks are governed by both internal factors as well as external factors, so is the case of foreign banks that is facing problems of diversion of funds for expansion and diversification,

cost overruns during the project implementation stage on one hand and recession, non-payment in other countries, price escalation, etc. on the other hand. Therefore, it is imperative to study the growth of NPAs of these Foreign Banks.

Table No. 3. Statement Showing Net Non Performing Assets Ratios of Ten Foreign Banks

Banks	Years							Average	Standard Deviation	C.V. (%)	Growth	Average Annual Growth
	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14					
Antwerp Diamond Bank	0.01	3.35	14.3	3.04	1.96	0	3.78	3.78	4.53	120	377.00	53.86
Bank of Bahrain and Kuwait	1.51	0.09	1.95	0.52	2.52	3.16	1.63	1.63	0.99	60.9	0.08	0.01
Barclays Bank	0.42	4.59	5.15	1.46	1.45	1.74	2.47	2.47	1.62	65.8	4.88	0.7
Citi Bank	1.23	2.63	2.14	1.21	0.9	1.47	1.59	1.6	0.55	34.7	0.29	0.04
DBS Bank	0.05	0.55	1	0.31	0.6	2.37	10.2	2.15	3.35	156	202.8	28.97
Deutsche Bank	0.22	0.88	0.79	0.23	0.09	0.13	0.09	0.35	0.31	90.6	-0.6	-0.09
Honkong and Shanghai Banking Corporation (HSBC)	0.58	1.42	2.31	0.91	0.62	-0.33	0.92	0.92	0.75	81.8	0.59	0.08
J P Morgan Chase Bank	2.12	1.27	2.88	0	0	0	0	0.9	1.12	125	-1	-0.14
Royal Bank of Scotland	0.85	2.2	1.95	1.65	0.74	0.29	-0.05	1.09	0.79	72.8	-1.06	-0.15
Standard Chartered Bank	1.04	1.37	1.4	0.27	0.7	1.63	0.45	0.98	0.48	49.1	-0.57	-0.08
Overall Average of Ten Foreign Banks								1.59	1.45	85.6	58.24	8.32

Source: A Profile of Banks 2011-12- RBI and Annual Reports of respective banks

INTERPRETATION

Table no. 3, shows the NNPAR of 10 foreign banks. In the year 2007-08 the highest NNPAR was of J.P. Morgan Chase Bank with the ratio of 2.12 followed by 1.51 of Bank of Baharain and Kuwait. The third highest was of Citi Bank with 1.23. The least NNPAR was of Antwerp Diamond Bank, which was 0.01. In the year 2008-09 the highest NNPAR was of Barclays Bank, which was 4.59 followed by Antwerp Diamond Bank which was 3.35. The third highest NNPAR was of Citi Bank, which was 2.63. The least NNPAR in this year was of Bank of Bahrain and Kuwait which was 0.09. In the year 2009-10 the highest NNPAR was on Antwerp Diamond Bank, which was 14.32 followed by Barclays bank which was 5.15. The third

highest NNPAR was of J.P.Morgan Chase Bank which was 2.88. The least NNPAR was of 0.79 of Deutsche Bank. In the year 2010-11 the highest NNPAR was of Antwerp Diamond Bank with the ratio of 3.04 followed by Royal Bank of Scotland, which was 1.65 and the third highest was of Barclays Bank with the ratio of 1.46. The least NNPAR was of JP Morgan Chase bank which was 0. In the year 2011-12 the highest NNPAR was of Bank of Bahrain and Kuwait by 2.52 followed by Antwerp Diamond Bank, which was 1.96 followed by Barclays Bank which was 1.45. The least NNPAR was of JP Morgan chase bank by 0. In the year 2012-13, the highest net non- performing assets ratio was of Bank of Bahrain and Kuwait with 3.16, the next was of DBS Bank with 2.37. The foreign private bank with the third highest non-performing assets ratio was of Barclays Bank with 1.74 ratio. The bank with the least non- performing assets ratio was HSBC Bank with the ratio of -0.33. In the year 2013-14 the highest net non- performing assets ratio was of DBS Bank with 10.19 ratio, followed by Antwerp Diamond Bank with 3.78. The third number was of Barclays Bank with 2.47 ratio. The least net non- performing ratio in this year was -0.05 of Royal Bank of Scotland. The average of NNPAR was highest of Antwerp Diamond Bank with the ratio of 3.78 followed by Barclays Bank, which was 2.47 followed by DBS Bank which was 2.15. The least average of NNPAR was of Deutsche bank, which was 0.35. The standard deviation of NNPAR was highest of Antwerp Diamond bank, which was 4.53 followed by DBS Bank with 3.35 and the third highest was of Barclays bank with 1.62. The least standard deviation was of Deutsche bank, which was 0.35. The coefficient of variation was highest of DBS bank, which was 155.82%, followed by JP Morgan Chase bank which was 125.07% and third highest was of Antwerp Diamond bank which was 119.84%. The least coefficient of variation of NNPAR was of 34.72% of Citi Bank. The study shows that four out of ten foreign banks under study are having proper control over their Non Performing assets, particularly Deutsche Bank, Standard Chartered Bank, J.P.Morgan Bank and Royal Bank of Scotland since their NPA growth under study period shows negative.

TESTING OF HYPOTHESIS

Null Hypothesis (Ho) : There is no significant difference in the growth of Non-Performing Assets of the nationalized banks, private and foreign banks in India.

Table No. 4: Analysis of Variance (ANOVA) Table: One Way Classification Model

Sources of Variation	Sum of Squares (SS)	Degree of Freedom (v)	Mean Square (MS)
Between Samples	27003.64	2	13501.8
Within Samples	149489.9	27	5536.66
Total	176493.54	29	

INTERPRETATION OF ANOVA

$F = 2.4386$ & $F_{0.05} = 3.3541$

$F < F_{0.05}$

The critical value of F for $v_1 = 2$ and $v_2 = 27$ at 5% level of significance is 3.3541 whereas the calculated value of F is 2.4386. Since the calculated value of F is less than the table value, we conclude that there is no significant difference in the growth of Non-Performing Assets of the nationalized banks, private and foreign banks in India during the study period. Hence, null hypothesis is accepted.

FINDINGS

The present study reveals that State Bank of India, UCO Bank and Central Bank of India are performing poorly in terms of their NPA management. The overall average of NPA of Central Bank of India during the Seven years of study was 1.97, that of UCO Bank was 1.95 and of State bank of India was 1.92 which are much higher than the overall average of ten nationalized banks under study, which then stood at 1.52. When analyzing the performances of private banks in terms of NPA management, it was noticed that Catholic Syrian Bank, ICICI Bank and Kotak Mahindra Bank performed badly. The overall average of ten private banks under study stood at 0.74. On comparing the NPAs of Foreign Banks, it was found that Antwerp Diamond Bank, Barclays Bank and DBS Bank were the worst performers in terms of NPA management. The overall average of ten Foreign banks under study stood at 1.59. The study also reveals that the Foreign and nationalized banks are facing more problem of NPA's than the private sector banks.

SUGGESTIONS

The following suggestions could be laid down in the light of the findings:

1. A purposeful strategy or policy needs to be initiated for income recognition. This means incomes need to be recognized only when they are actually received. Similarly needs to de-recognize transactions wherein actual payments have not been made.
2. A coherent reimbursement or settlement schedules need to be fixed by banks based on actual cash flow of the borrowers at the time when the loan was sanctioned to them.
3. There is an urgent need to establish internal system within the banks to recognize NPA predominantly in the case of defaults of high value.
4. A suitable credit appraisal and risk management device need to be established by the banks in order to ensure appropriate measurement of credit before sanctioning the loans.
5. There is a need to diversify revenue of banks, particularly on incomes based on fees.
6. It is essential for banks to scrutinize loans properly and closely monitor loan accounts so that necessary corrective actions can be taken to prevent them from turning aberrant.
7. In order to release locked up funds because of NPAs, it is essential for banks to maximize recovery from NPAs.

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IMPACT OF OIL PRICE ON ECONOMIC GROWTH: A STUDY OF BRIC NATIONS

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ABSTRACT

This paper employed an empirical analysis to examine the impacts of oil price on GDP of the four largest fast growing emerging economies Brazil, Russia, India and China known collectively as the BRIC countries using a sample of observations from 1987 to 2014. The first step in the empirical analysis involved testing the normality of time series. Then the Ordinary Least Square (OLS), Fixed Effect Model (FEM) And Random Effect Model (REM) were used to find out Impact of Oil Price on GDP. To choose between Fixed Effect Model and Random Effect Model the Hausman test was applied because it has an asymptotic chi-square distribution. The results of Hausman test indicated that, the Fixed Effect Model was the most appropriate model for the study therefore finally the dummy variables were used to estimate the Fixed Effect Model. The result shows that, overall the Oil Price has a positive relationship with GDP. The negative coefficient values of China (-3.284280) and India (-0.086646) shows that, Increase in Oil Price has a negative relationship with GDP and on the other side the Positive coefficient values of Russia and Brazil depict the positive impact of increased Oil Price on GDP.

Key Words: Oil Price, GDP, BRIC, Ordinary Least Square (OLS) Model, Fixed Effect Model (FEM), Random Effect Model (REM)

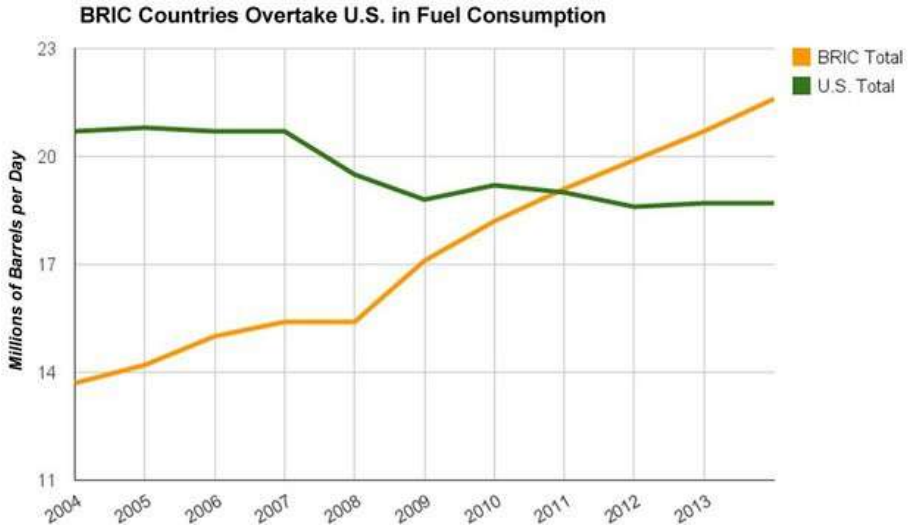
INTRODUCTION

Oil price affects the countries around the world differently. In general, low prices are considered good for importers of oil because it not only improves consumer spending but also improves the trade balance of a country. Therefore an increase in oil prices has a significant negative impact on the GDP growth in all oil importing countries. On the other side decrease in Oil Price is bad for oil exporters as it could put a depression in revenues of oil exporting countries where oil exports play an enormously important role in supporting economic growth and government finances. Moshiri &Banihashem (2012) concluded that, Many oil-exporting countries are heavily dependent on exports from oil revenues, so when oil prices are low, their economies suffer, and when oil prices are high, their economic activities boom. Some have suggested that oil price volatility, causes subdued economic performance in oil-exporting countries (Poelhekke and Ploeg, 2007).

From the middle of twentieth century onwards, crude oil has become one of the key indicators of economic activity worldwide, due to its outstanding importance in the supply of the world's energy demands (Ghalayini, 2011). For most developing countries oil accounts for a large proportion of gross domestic product expenditures in energy production (González & Nabiyev, 2009).Hence increases in energy prices lead to a considerable rise in production and transportation cost for many industries and hence drives wages and inflation upwards, which at the same time can dampen economic growth (O'Neill, Penm& Terrell,2008). A notable relation between energy prices and Gross Domestic Product (GDP) has been showed in different studies. Research conducted by Burbidge and Harrison (1984), Gisser and Goodwin (1986), and Bjørnland (2000) recommends that there is a significant effect of increasing oil price on economic activity. Therefore this paper breaks ground in the area by explicitly examining the impact of oil price on GDP of the four largest fast growing emerging economies Brazil, Russia, India and China known collectively as the BRIC countries which surpassed the U.S. in liquid-fuel consumption in 2011 and haven't looked back, according to data compiled by the Bloomberg Best (and Worst) Rankings (Figure-1).

As per the Los Angeles Research Group report (Figure-2), BRIC countries growth has been driven by each country's ability to change its political system and embrace capitalism. In addition, each nation contains vast natural resources and large populations. In total, the four BRIC countries encompass over 25% of the world's land coverage, contain about 40% of the world's population and account for about 17% of the world economy. Despite rapid growth, each BRIC country already accounts for a large portion of world GDP; China is the second largest economy in the world, while Brazil is the 7th, India is the 10th and Russia is the 11th.

Figure-1: Fuel Consumption of BRIC Countries



Source: World industrial reporter-BRIC Countries Overtake U.S. in Fuel Consumption, Released September 18, 2013

Figure-2: GDP Growth of BRIC Countries

Source: Los Angeles Research Group, 2015 (http://www.laresearchgroup.com/brazil-russia-india-china-bric-nations-gdp.html)

As per the U.S. Energy Information Administration (EIA) 2013, Brazil is the 8th largest total energy consumer and 10th largest producer in the world. India is the fourth-largest energy consumer in the world after China and it depends heavily on imported crude oil, mostly from the Middle East. Russia is the second-largest producer of dry natural gas and third-largest liquid fuels producer in the world. Despite its significant reserves of coal, it produces only modest amount of coal. Russia's economy is highly dependent on its hydrocarbons, and oil and gas revenues account for more than 50% of the federal budget revenues. Very limited studies have looked upon the oil price and the GDP. The objective of this study is to examine the impact of Oil Price on GDP of BRIC countries Brazil, Russia India and China during 1987 to 2014.

REVIEW OF LITERATURE

An emergent body of literature has provided evidence of empirical relationship between oil price and GDP. This feature has been emerged by a change in the pattern of oil price movements since the mid- 1980s. Hamilton (2009) and Ramey and Vine (2011), studied the importance of oil price increases for this economic slowdown. Kilian (2009) concluded that, oil price increases have very different effects on real economic activity depending on the underlying cause of the price increase. Jiménez-Rodríguez & Sanchez, (2004) empirically examined the effects of oil price shocks on the real economic activity of the main industrialized countries. They concluded that, oil price increases have an impact on GDP growth of a larger magnitude than that of oil price declines, with the latter being statistically insignificant in most cases. Further among oil importing countries, oil price increases were found to have a negative impact on economic activity in all cases.

Some of the literature suggested that external shocks affect growth and poverty in developing countries. A study conducted by Essama et al (2007) describes a macro-micro framework for examining the structural and distributional consequences of a significant external shock-an increase in the world price of oil-on the South African economy. The model provides changes in employment, wages, and prices that are used in the micro-simulation. The analysis finds that a 125 percent increase in the price of crude oil and refined petroleum reduces employment and GDP by approximately 2 percent, and reduces household consumption by approximately 7 percent. The oil price shock tends to increase the disparity between rich and poor. Christiano, Eichenbaum and Trabandt (2014) argue that the vast bulk of movements in aggregate real economic activity during the Great Recession were due to financial frictions interacting with the zero lower bound. Devarajan and Go (2003) simplified the CGE framework into aggregative distinction of tradable and non-tradable goods. They found that, Growth impact derived from either short-term vector auto regressive analysis (VAR) or long-term growth regression of various determinants. Heckman and Lochner (1998) constructed overlapping generation's general equilibrium model of labor earnings with heterogeneous agents in order to present both integration and dynamics the macro part.Ayadi, Chatterjee and Obi (2000) studied the effects of oil production shocks in Nigeria. A standard Vector Auto-Regression (VAR) process including oil production, oil exports, real exchange rate, money supply, net foreign assets, interest rate, inflation, and output is estimated over the 1975-1992 period. They found a positive effect after a positive oil production shock. Moreover, the impact response of output was less than one fifth of that of oil production, but the response of output after a year is slightly larger than that of oil production.

Esfahani, Mohaddes & Pesaran (2009) developed a long run growth model for a major oil exporting economy and derives conditions under which oil revenues were likely to have a lasting impact. The long run theory was tested using a new quarterly data set on the Iranian economy over the period 1979Q1-2006Q4. They found real output in the long run is shaped by oil exports through their impact on capital accumulation, and the foreign output as the main channel of technological transfer. The results also showed a significant negative long run association between inflation and real GDP, which was suggestive of economic inefficiencies. Sachs & Warner (1995) showed the existence of a negative relationship between real GDP growth per capita and divergent measures of resource abundance, such as the ratio of resource exports to GDP. Another study conducted by Muhammad (2012) intended to explore the correlation between the oil price variability and export earnings. The study highlighted that there is a significant correlation among the export earnings and macroeconomics variables such as GDP growth, standard of living, balance of trade, oil price variability and Broad money M2. The finding of the VECM exhibited disequilibrium which may be adjusted within half a year.

For oil exporting countries, a price increase directly increases real national income through higher export earnings and Oilprice collapsed leads to significant shortfalls in government revenues, rising unemployment, falling income and expenditure, potential economic

recession as well as increased risk of social instability for exporting countries. The researches of Mork (1989) showed that increase in oil price had a considerably negative effect on the growth of gross national product of the USA; while, the decrease in oil price was led to no increase in economic growth. Boroujerdian (2007) studied the asymmetric effects of oil price shocks on the economic growth of Iran for the period from 1959 to 2005 using the theories of economic growth and Mork oil price analysis. The results of this study show that oil income shocks have significant effects on the economic growth (excluding oil sector), while the effects of negative shocks are considerably more significant than that of positive shocks. In other words, production growth reacts strongly to the shocks reducing oil incomes. Semboja (1994) studies the effects of oil price changes for Kenya, which is a net importer of oil. For this purpose, he calibrated a static computable general equilibrium model to obtain the impact responses, rather than estimating a VAR process to generate the dynamic responses. The impact responses suggested that an increase in oil prices lead to an increase of the trade balance, a decrease of output and of the price index, and a deterioration of the terms of trade.

Nordhaus (1980) outlined some of the key avenues through which oil prices can constrain the economy – principally, by raising energy expenditure (when price elasticity of demand are low) which raises the price of goods produced and reduces goods consumed, thus, harming GDP, as well as harming the balance of payments (when oil is imported) and generating inflationary pressures. Kilian (2008) mentions four different transmission mechanisms through which an increase in energy prices might affect GDP. Finn (2000) found that an energy price shock can be considered as an adverse technology shock (in the Solow model), since it causes technological capital to produce below capacity levels. According his model, an increase in energy prices would cause GDP to decrease more than twice the amount as would be expected on behalf of the energy share in GDP.Cologni and Manera (2006) investigate the asymmetric effect of an oil shock on different phases of the business cycle for each of the G-7 countries; and find regime dependent models to better capture the output growth process

DATA AND METHODOLOGY

The dependent variable in this study (BRIC countries) is Log of GDP and the independent variable that is expected to impact on GDP is log of Oil Price. The oil prices were taken from the Energy Information Administration - EIA (Agency for Statistics and analytical analysis of the U.S. Department of Energy). The real GDP data were compiled from official website of UNCTAD (United Nations Conference on Trade and Development). All prices were denominated in American dollar. The data were from 1987 to 2014 with yearly frequency of 28 observations. The daily data were not used in order to avoid time difference problems with international markets. So there are four cross-sectional units and 28 time periods. In all there are 112 observations. Different types of panel data models are applied to above mentioned data. They include the Ordinary Least Square (OLS), the Fixed Effects Model, i.e. least squares dummy variable (LSDV) model and the Random Effects Model.

Based on the objective of the study the Simple Mathematical Equation of dependent and independent variable using log-linear model is as follows:

$$LGDP_{it} = \alpha + \beta LOilprice_{it} + €_{it}$$

Where, $LGDP_{it}$ is the log of Real Gross Domestic Product in US$ for country i at time t

$LOilprice_{it}$ is the log of Oil Price in US$ for country i at time t

DATA ANALYSIS TOOL

Ordinary Least Square (OLS),

The Ordinary Least Square (OLS), Fixed Effect Model (FEM) And Random Effect Model (REM) are used to find out Impact of Oil Price on GDP. In constant coefficient model all intercepts and coefficients are assumed to be same (i.e. there is neither significant country nor significant temporal effects), in this way space and time dimensions of the pooled data are ignored, data is pooled and an ordinary least squares (OLS) regression model is run (Akbar, Imdadullah, Aman & Aslam, (2011). In other words, by combining four countries through pooling, the heterogeneity or individuality that may exist among four countries is denied and it is also assumed that the coefficients (including the intercepts) are the same for all the individual countries.

$$LGDP\ it = \beta_1 + \beta_2 LOilprice_{it} + \ldots.. + €_{it}$$

Where i stands for the i^{th} cross-sectional unit and t for the t^{th} time period.

Fixed Effects Models

To take into account the individuality of each country/ cross-sectional unit, intercept is varied by using dummy variable for fixed effects. The Fixed Effect or LSDV Model allows for heterogeneity or individuality among four countries by allowing to have its own intercept invariant. The term fixed effect is due to the fact that although the intercept may differ across countries, but intercept does not vary over time, that is it is time invariant.

$$LGDP\ it = \alpha_1 + \alpha_2 D2_i + \alpha_2 D_{3i} + \alpha_3 D4_i + \beta 1\ LOilprice_{it} + €_{it}$$

Where D_{2i} =1 if the observation belongs to cross-section 1 (Brazil), 0 otherwise; $D3_i$ =1 if the observation belongs to cross-section 2 (Russia),0 otherwise; D_{4i} =1 if the observation belongs to cross-section 3 (India),0 otherwise. The dummy variable is not used for china however the á1 represents the intercept of China.

Random Effects Model

In the random effects model the intercept is assumed to be a random out come variable, whereas the random outcome is a function of a mean value plus a random error. This model is adequate if we want to draw inferences about the whole population, not only the examined sample. Two ways random effects model is used for estimation purpose.

$$LGDP_{it} = \beta_{1i} + \beta_2 LOilprice_{it} + €_{it}$$

Instead of treating β_{1i} as fixed, it is assumed to be a random variable with a mean value of $\beta 1$ and the intercept for an individual company can be expressed as;

$$\beta_{1i} = \beta_1 + €_i \; I=1,2\ldots\ldots,N$$

Where $€_i$ is a random error with a mean value of zero and variance of $\sigma^2_€$. Therefore

$$LGDP_{it} = \beta_1 + \beta_2 LOilprice_{it} + €_{it} + \mu_{it}$$

Where $€_{it}$ is Within-country error and μ_{it} is Between-country error

Model Specification Test

To decide between fixed or random effects we can run Hausman test, Breusch-Pagan test, Bhargarva and Sargan Test where the null hypothesis is that the preferred model is random effects vs. the alternative the fixed effects. It basically tests whether the unique errors (ui) are correlated with the regressor, the null hypothesis is they are not. In the current study Hausman test is used.

RESULT AND DISCUSSION

Descriptive Statistics

Table-1 reports results of descriptive statistics for GDP and Oil Price variables. The Jarque-Beratest is applied to check the normality of data series GDP and Oil Price. The test statistic shows the value 4.523575 (Oil Price) and 5.557324 (GDP) which does not exceeds the critical value at significance level of 5% (5.99) thus it can be concluded that, the GDP and Oil Price follow a normal distribution.

Table 1: Descriptive Statistics

	OILPRICE	GDP
Mean	44.29357	1016203.
Median	24.72500	716342.1
Maximum	111.6300	2876570.
Minimum	12.76000	247125.0
Std. Dev.	34.42463	756682.8
Skewness	0.915097	1.090373
Kurtosis	2.273544	2.911870
Jarque-Bera	4.523575	5.557324
Probability	0.104164	0.062122
Sum	1240.220	28453679
Sum Sq. Dev.	31996.48	1.55E+13

Pooled-OLS Regression

From Table 2 it is clear that the coefficient of Oil price is statistically significant and also there is a positive relationship of Oil Price and GDP.The R^2 value indicates a good coefficient of determination (67%) which means the variable in the equation is useful for explaining

the impact of Oil price on GDP. The F statistic value is 225.9018 and is significant at the 5 percent level. The overall fit of the regression model measured by the F -statistic, is statistically significant at this level.

Table 2 : Pooled OLS regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.440481	0.264579	-9.224016	0
OILPRICE	0.670514	0.044612	15.03003	0
R-squared	0.672523	Mean dependent var		1.527817
Adjusted R-squared	0.669546	S.D. dependent var		0.315143
S.E. of regression	0.18116	Akaike info criterion		-0.561172
Sum squared resid	3.610099	Schwarz criterion		-0.512628
Log likelihood	33.42565	Hannan-Quinn criter.		-0.541476
F-statistic	225.9018	Durbin-Watson stat		0.272686
Prob(F-statistic)	0			

* Significant at 5% level of significance.

On the other side to take into account the individuality of each country/ cross-sectional unit, intercept is varied by using dummy variable for fixed effects. The p-value (0.0000) stands against the null hypothesis (it is that, the pooled *OLS* model is adequate) which is in favor of the fixed effects as an alternative.

Fixed Effect Model

Individuality of each country / cross-sectional unit is accounted by letting the intercept vary for each country. It is also assumed that the slope coefficients are still constant across cross-section. From Table 3 it is evident that the estimated coefficient of factor Oil price is highly significant (p-value= 0.0000) The result shows that, Oil Price has a positive relationship with GDP.

Table 3 : Fixed Effects Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.299048	0.220465	-14.96401	0
OILPRICE	0.815584	0.037187	21.93177	0

* Significant at 5% level of significance

Random Effect Model

To measure the random deviation (error component) of individual intercept from mean value of all cross-sectional intercept which is $\beta 1$ ονε way Random Effects model is applied on the data. From Table 4, it is clear that the coefficient has significant effect (p-value = 0.0001) on *GDP* . The mean value of the random error component €$_i$ is the common intercept value of 2.440481.

Table 4 : Random Effects Model Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3.299048	0.220465	-14.96401	0
OILPRICE	0.815584	0.037187	21.93177	0
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.440481	0.199973	-12.20404	0
OILPRICE	0.670514	0.033718	19.88581	0
	Effects Specification			
			S.D.	Rho
Cross-section random			0	0
Idiosyncratic random			0.136924	1

* Significant at 5% level of significance

Hausman test

Statistically, fixed effects are always a reasonable thing to do with panel data (they always give consistent results) but they may not be the most efficient model to run. Sometime Random effects can give better P-values as they are a more efficient estimator, so we should run random effects if it is statistically justifiable to do so. To choose between Fixed Effect Model and Random Effect Model the Hausman test is used because it has an asymptotic chi-square distribution.

H_0: Random Effect Model is appropriate

H_1: Fixed Effect Model is appropriate

The results (Table:5) indicates that the probability value (0.0000) is significant and less than 5% meaning that the null hypothesis is rejected. Which imply that, the Fixed Effect Model is most appropriate model to find out the impact of Oil Price on GDP of BRIC Nations.

Table 5 : Hausman Test Result

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	85.557183	1	0

* Significant at 5% level of significance.

Fixed Effect Model with Dummy Variable

The results of Hausman test suggested the application of fixed effect Model. So finally the dummy variables are used to estimate the Fixed Effect Model. We have got the same outcome of Fixed Effect Model as before. Meaning that, the coefficient of oil price is the same as before. That means the coefficient of independent variable should be same for all ways of estimating Fixed Effect Model. In this model the intercept of China is taken as comparison country. From Table 6 it is evident that the estimated coefficient of factor Oil price is highly significant (p-value= 0.0000) and R2 (0. 0.818028) is also very high. The result shows that, overall the Oil Price has a positive relationship with GDP. The coefficients of dummy for countries Brazil, Russia, India and china are also significant. The negative

coefficient values of China (-3.284280) and India (-0.086646) shows that, Increase in Oil Price has a negative relationship with GDP and on the other side the Positive coefficient values of Russia and Brazil depict the positive impact of increased Oil Price on GDP.

Table 6 : Fixed Effects Model Result

Variable	Coefficient	Std. Error	t-Statistic	P-value
Constant	-3.28428	0.220933	-14.86552	0
Oil Price	0.815584	0.037187	21.93177	0
Brazil	0.234769	0.038128	6.157394	0
Russia	0.08905	0.036819	2.418594	0.0173
India	-0.086646	0.036807	-2.354067	0.0204
R-squared	0.818028	Mean dependent var		1.527817
Adjusted R-squared	0.811225	S.D. dependent var		0.315143
S.E. of regression	0.136924	Akaike info criterion		-1.095165
Sum squared resid	2.006057	Schwarz criterion		-0.973804
Log likelihood	66.32925	Hannan-Quinn criter.		-1.045925
F-statistic	120.2507	Durbin-Watson stat		0.503567
Prob(F-statistic)	0			

* Significant at 5% level of significance.

The reason of negative impact of increased oil price on GDP of India and China is that, India is the fourth-largest energy consumer in the world after China and it depends heavily on imported crude oil. As it is already being discussed that, low prices are considered good for importers of oil, because it not only improves consumer spending but also improves the trade balance of a country. The similar results of Mork (1989) showed that increase in oil price had a considerably negative effect on the growth of gross national product of the USA; while, the decrease in oil price was led to no increase in economic growth. Mory (1993) also established the same findings and showed that the increase in oil price had negative effect on the economy of the US. Jin (2008) discovered that the oil price increases exerts a negative impact on economic growth in Japan and China and a positive impact on economic growth of Russia. The result of Fixed Effect Model of the study shows that, increase in Oil Price has a positive impact on the GDP of Russia and Brazil. Brazil is the 10th largest producer of Crude oil and Russia is the second-largest producer of dry natural gas and third-largest liquid fuels producer in the world. Therefore it is considered good for oil exporters as it could increase revenues of oil exporting countries.

CONCLUSION

This paper employs an empirical analysis to examine the impacts of oil price on GDP of the four largest fast growing emerging economies Brazil, Russia, India and China known collectively as the BRIC countries using a sample of observations from 1987 to 2014. The first step in the empirical analysis involves testing the normality of time series. The test statistic shows the value 4.523575(Oil Price) and 5.557324 (GDP) which does not exceeds the critical value at significance level of 5% (5.99) thus it can be concluded that, the GDP and Oil Price follow a normal distribution.

Next the Pooled-OLS Regression was applied and the result shows that the coefficient of Oil price is statistically significant and also there is a positive relationship of Oil Price and GDP. The R^2 value indicates a good coefficient of determination (67%) which means the variable in the equation is useful for explaining the impact of Oil price on GDP. Then to take into account the individuality of each country/ cross-sectional unit, intercept is varied by using dummy variable for fixed effects. The result evident that the estimated coefficient of factor Oil price is highly significant (p-value= 0.0000) The result shows that, Oil Price has a positive relationship with GDP. Statistically, fixed effects are always a reasonable thing to do with panel data (they always give consistent results) but they may not be the most efficient model to run. Sometime Random effects can give better P-values as they are a more efficient estimator, so we should run random effects if it is statistically justifiable to do so. To choose between Fixed Effect Model and Random Effect Model the Hausman test was applied because it has an asymptotic chi-square distribution. The results of Hausman test indicated that the probability value (0.0000) is significant and less than 5% meaning that the null hypothesis is rejected. Which imply that, the Fixed Effect Model is most appropriate model to find out the impact of Oil Price on GDP of BRIC Nations.

So finally the dummy variables are used to estimate the Fixed Effect Model. In this model the intercept of China is taken as comparison country. From Table 6 it is evident that the estimated coefficient of factor Oil price is highly significant (p-value = 0.0000) and R2 (0. 0.818028) is also very high. The result shows that, overall the Oil Price has a positive relationship with GDP. The coefficients of dummy for countries Brazil, Russia, India and china are also significant. The negative coefficient values of China (-3.284280) and India (-0.086646) shows that, Increase in Oil Price has a negative relationship with GDP and on the other side the Positive coefficient values of Russia and Brazil depict the positive impact of increased Oil Price on GDP. The reason of negative impact of increased oil price on GDP of India and China is that, India is the fourth-largest energy consumer in the world after China and it depends heavily on imported crude oil. The result of Fixed Effect Model of the study also shows that, increase in Oil Price has a positive impact on the GDP of Russia and Brazil. Because Increase in Oil Price is considered good for oil exporters as it could increase revenues of oil exporting countries.

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FACTORS AFFECTING SELECTION OF A COMMERCIAL BANK: A STUDY OF RETAIL BANKING CUSTOMERS IN GURGAON

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ABSTRACT

Banks are the lifeblood of any economy. The rate of growth of an economy has a direct relationship with the structure and strength of banking industry in the country. Commercial banks offer numerous services and facilities to people e.g. savings account, various types of deposits and loans, debit and credit cards, ATMs, universal banking, internet banking, mobile banking, cheque and draft facility, locker facility etc. It is very difficult to imagine the life of individuals and industry without commercial banks. Although banking operations are quite standardised in nature and because of strict banking regulations safety standards are quite high, still people choose a bank after duly considering a large number of factors. And these factors vary from person to person. This study is an attempt to find out the important factors that people consider while selecting a bank. Researchers have not only tried to find out such factors but have also arranged them in the order of their importance. In addition to this, researchers have also endeavoured to find out whether factors affecting selection of a commercial bank differ gender-wise and income-wise. For this purpose, researchers have surveyed banking customers of Gurgaon with the help of a standard questionnaire and have used the technique of factor analysis for analysing their responses and finding out dominant factors, and independent sample t-test and one way ANOVA to judge the impact of gender and income level of people on these factors. The study outlines fourteen factors that by and large determine the selection of a bank and divides all these factors in five different groups on the basis of their importance.

Key Words: Commercial bank, Bank selection, Factors, Services, Factor analysis, T-test, One Way ANOVA.

INTRODUCTION

Banks are the lifeblood of an economy. The rate of growth of an economy has a direct relationship with the structure and strength of banking industry in the country. Commercial banks are a very important medium of promotion of savings and capital formation (Bhattacharya et al, 2006). They create credit, promote savings, issue cheques and drafts,

fulfill the working capital requirement of industry, help in the implementation of the credit policy of Reserve Bank of India, help in the development of society by offering various types of loans to various strata of society and offer various types of services related with stock trading activities. Apart from this, they offer numerous other services to individuals and industry e.g. Credit and Debit Cards, Universal Banking, Internet Banking, Phone Banking and Selling of Insurance Policies and Mutual funds etc. It is really difficult to imagine the life of individuals and industry without commercial banks. Without an efficient and well developed banking system the sustainable economic and social development will be a distant dream for India or for any other country that matter.

Most of the people in cities have a bank account. In fact, most of us have more than one bank account and we use many other services being offered by commercial banks. From the perspective of common banking customers, all commercial banks can be broadly divided in three groups:

i. Public Sector Banks
ii. Private Sector Banks
iii. Foreign Banks

Although the basic banking operations are same in all the banks, these banks vary a lot in terms of large number of parameters such as promptness of service, use of technology, brand name, advertising, facilities, range of products and services, behavior of employees, and cost of banking operations etc. Different people use different parameters for selecting a bank for using various banking services (Jha, 2000). Sometimes, factors like location of the branch and less minimum balance requirement also play a major role in selection of a bank by an individual for opening an account (Desai, 2006). This study is an attempt to find out all such important factors which affect the selection of a bank by an individual for opening an account.

LITERATURE REVIEW

Various research scholars, industry experts and academicians on a variety of topics in the field of banking from time to time have conducted a large number of studies. During the course of the study, the researchers visited many libraries, studied various issues of a large number of Journals, Magazines and Newspapers, interacted with many academicians, researchers, and bank executives and surfed numerous relevant websites to get an idea about the notable work done in the field of banking in general and factors related to bank selection in particular.

Here is a brief description of the prominent studies related to the theme of the study:

Chavan and Ahmad (2013) conducted research on factors affecting on customer satisfaction in retail banking. The study focused on exploring the major factors that lead to customer satisfaction in retail banking in Western Maharashtra in India. The study revealed that customer satisfaction depends on nine different factors. Mandal, Pratap Chandra and

Bhattacharya, Sujoy (2013) conducted a study to understand the construct of customer satisfaction in Indian retail banking and to explore the factors which might affect customer satisfaction.

Dabone et al (2013) conducted a study on factors affecting customers' choice of retail banking in Ghana. The main rationale of this study was to identify factors affecting customers' choice of retail banking on Ghana. The study observed that occupation and safety of deposit were important factors customers in the municipality look for when making retail banking decision. The study made recommendations in areas that the banks fall short in providing services to their clients. Dawar (2013); Bharathi et al (2008) conducted a study on factors affecting customer satisfaction in present highly competitive banking industry. She tried to identify the main factors that influence the customer satisfaction in banking industry. The study outlined five factors related to Customer Satisfaction in Banking Industry. They are Reliability, Technology, Commitment, Empathy and Privacy.

Shah (2012) identified various important factors that affect customer satisfaction in retail banking. Bootwala and Gokhru (2012) conducted a study on customers' perception on services provided by Banks in the City of Ahmedabad. They made a systematic attempt to investigate the service quality issues from the perspective of the customers in the banking industry of India. For the purpose, the three groups of banks operating in city of Ahmedabad i.e. public sector, private sector and foreign banks have been compared with respect to different eight factors of service quality namely Reliability, Responsiveness, Assurance, Empathy, Tangibles, Core services, Systematization of service delivery and Social responsibility.

Maiyaki (2011) conducted a research on factors determining bank's selection and preference in Nigerian retail banking. He tried to find out the relative importance of various factors determining the selection and preference of banks by retail customers. It was found that some factors have higher influence on the customers' choice of banks while others have relatively less impact. Vasanthakumari and Rani (2011) conducted a study to investigate banking behavior of retail banking customers in Chennai. The study suggests that most of the customers fall in the age group of 18-30 years, they are highly educated and have durable relations hip with the banks. Study also reveals that age and income of people have a significant role in the preference for selecting a bank. Tiwari (2011) studied the levels of customer satisfaction in the public and private sector banks. He tried to ascertain the level of customer satisfaction with regard to products and services offered by public and private sector banks.

Rao (2008) conducted a study on determinants of bank selection in Delhi. This study examines the factors influencing the choice criteria in respect of selecting a bank. Study shows that customization is a significant choice criterion which includes speed in services, convenient display of counters, and continuous flow of information and rate of interest. Other factors which have also increased in importance are the reliability, brand name,

and economic factors, such as interest rate paid and fees and charges levied. Locational factors, such as choosing a bank close to home or workplace, other services provided, and convenience are also significant in importance in motivating the choice of a bank.

Safakli (2007) conducted a research on the basic motivational factors in consumer bank selection: evidence from Northern Cyprus. The study focused on understanding bank selection criteria used by customers. The study reveals that the main factors determining customers' bank selection are service quality and efficiency, bank image, convenient location, parking facilities, financial Factors and affected opinion. The study also reveals that it may be necessary to deal with different demographic characteristics of respondents as distinctive segments with different priorities in their bank selection process.

Holani, Agrawal et al (2007) examined and tracked the organisation of customer relationship and customer perseverance in the banks. The study focuses on importance of building and sustaining long lasting customer relationship for market leadership. On the basis of customer opinion survey, the researchers have collected and analysed their opinions on various issues to find out what actually they want from the banks and have suggested the ways and means for the banks to build and improve the relationship with their customers.

Rathnakar and Veeraiah (2006) examined the changing scenario of banking sector in India and suggested various measures for making the banking services and strategies more effective in this fast changing environment. This study discusses various domestic and international factors and forces that have lead to this change, how the changing environment is posing numerous challenges and opportunities in front of the commercial banks operating in India and what these banks must do to face this situation and win the market. Rao (2006) analysed various customer services provided by commercial banks. The study is based on the survey of banking consumers. The study analyses in detail the various services offered by commercial banks and their utility from the customers' perspective. It examines how effective these services are in terms of satisfying the needs of customers and suggests various ways and means to enhance their attractiveness and effectiveness.

The study of Ahmed (2011) helped in knowing the factors which determine selection of banks by the public in Nigerian market. Also, it was seen that techonology plays an important role in improving the image of the banks and hence enhance the selection of banks by the public (Akash, 2007); Bajaj (2000).

OBJECTIVES

Following are the objectives of the study:

1. To find out important factors/determinants that affect the selection of a commercial bank.
2. To compare the impact of gender and income level of people on the factors affecting the selection of a commercial bank.

RESEARCH METHODOLOGY

This paper is based on the analysis of primary data. This data has been collected through a survey of retail banking customers with the help of a structured questionnaire in Gurgaon during May-June 2014. Total 300 respondents were selected based on convenience sampling method. Total 14 variables/factors were listed which affect the selection of a bank and respondents were asked to marks their choice on 5 points Likert scale where 1 denotes least important and 5 denotes most important. The list of factors with their descriptions are given below in table 1.

In order to find out the impact of gender and income of people on the factors affecting selection of a commercial bank, Independent Sample T-test and One Way ANOVA have been applied respectively. In both of these techniques, average of each respondent's responses for all 14 factors has been taken as the dependent variable while gender and income are group variables. There are total 180 male respondents and 120 female respondents and income has been categorized into four groups viz. less than Rs. 3 lakh (40 respondents), between Rs. 3 to 6 lakh (100 respondents), between Rs. 6 to 10 lakh (110 respondents) and Rs. 10 lakh and above (50 respondents) per annum.

Table 1 : Variables/Factors Affecting Selection of a Bank

VAR 01:	Brand Name
VAR 02:	Reliability / Safety of Money
VAR 03:	Wide Range of Products/Services
VAR 04:	Approached by the Bank Executive
VAR 05:	Recommendation of Friends / Relatives
VAR 06:	Advertisement & Marketing Offers
VAR 07:	Convenient Location
VAR 08:	Convenient Timing
VAR 09:	Excellent ATM Network
VAR 10:	Less Minimum Balance Requirement
VAR 11:	Promptness of Service
VAR 12:	Behaviour of Employees
VAR 13:	Use of Latest Technology
VAR 14:	Overall Atmosphere in the ban

In order to determine various factors affecting selection of a commercial bank by an individual, factor analysis has been used.

ANALYSIS AND INTERPRETATION

In order to know the importance of different factors in selection of a commercial bank, mean and standard deviation have been calculated for all the 14 factors shown in table 2.

The table reveals that VAR 02 (Reliability / Safety of Money) affects the selection of a bank the most while the lowest emphasis has been given to VAR 06 (Advertisement & Marketing Offers). The weighted arithmetic mean of all 14 factors is 3.955 which means that all respondents have given 79.1 percent (3.955/5*100) weightage to these 14 factors which affect their selection of a commercial bank.

Table 2 : Descriptive Statistics of the Variables Taken

Variables	Mean	Std. Deviation
VAR 01	3.64	1.11
VAR 02	4.62	0.65
VAR 03	3.9	1
VAR 04	3.45	1.02
VAR 05	3.06	1.06
VAR 06	2.94	1.21
VAR 07	3.84	0.97
VAR 08	4.16	1.03
VAR 09	4.58	0.64
VAR 10	3.94	1
VAR 11	4.24	0.85
VAR 12	4.36	0.73
VAR 13	4.48	0.65
VAR 14	4.16	0.76

Factor Analysis Results

In order to find out the various determinants of selection of a commercial bank in Gurgaon, factor analysis has been applied. Results of KMO Statistics and Bartlett's Test are shown in table 3. These results indicate that factor analysis can be applied to this selected data as KMO statistics is 0.599 and Bartlett's test of Sphericity is significant.

Table 3 : KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.599
Bartlett's Test of Sphericity	Approx. Chi-Square	1267.145
	df	91
	Sig.	0

The results of factor analysis has divided all the 14 factors into 5 components as their Eigenvalue is more than one as shown in Scree Plot. The factor analysis has composed total 5 components explaining total 67.764 percent variation as shown in table 4. Following names have been given to these 5 components depending on the factors included in these components:

Component 1: Branding and Location is the first component affecting selection of a bank. This component includes brand name, recommendations of friends and relatives, advertisement and marketing offers, and convenient location. This component accounts for the 15.67% factors/variables affecting the selection of a bank.

Component 2: Time Involved in Banking Operations is the second component affecting selection of a bank. This component contains the factors which are involved in time spent/ saved in completion of banking operations. This component includes convenient timing, promptness of service, and use of latest technology. This component accounts for the 14.37% factors/variables affecting the selection of a bank.

Component 3: Reliability and Services is the third component affecting selection of a bank. This component contains the factors related to reliability of banks in the eyes customers, safety of money deposited and various services/facilities provided by the bank. This component includes reliability/safety of money, wide range of products/services, and excellent ATM network. This component accounts for the 14.26% factors/variables affecting the selection of a bank.

Component 4: Minimum Balance Requirement and Atmosphere of Bank is the fourth component affecting selection of a bank. This component includes less minimum balance requirement and overall atmosphere in the bank. This component accounts for the 12.89% factors/variables affecting the selection of a bank.

Component 5: Human Factor is the fifth component affecting selection of a bank. This component contains the factors related to the behavior of bank employees and their approach the customers. This component includes approach by the bank executives and behavior of employees. This component accounts for the 10.58% factors/variables affecting the selection of a bank. See Table 2 and 3 : Factor Analysis of Variables -Total Variance Explained and Rotated Component Matrix in annexure.

T-Test Result

Impact of gender on factors affecting selection of a commercial bank has been checked using independent Sample T-test. The results are as follows:

Table 4 : T-Test Statistics

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Factors affecting Bank Selection	Equal variances assumed	0.058	0.81	-0.177	298	0.86
	Equal variances not assumed			-0.176	252.215	0.86

One Way ANOVA Results

Impact of income on factors affecting selection of a commercial bank has been checked using One Way ANOVA. The results are as follows:

Table 5 : ANOVA Statistics

Factors affecting Bank Selection

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.093	3	0.031	0.197	0.899
Within Groups	46.56	296	0.157		
Total	46.653	299			

Both the tests i.e. Independent Sample T-test and One Way ANOVA show that neither gender nor income has any significant impact on factors affecting selection of a bank. This means male and female perceive all factors taken into this study in more or less same manner. Similarly, persons belonging to different income groups perceive these factors in more or less same way.

CONCLUSION

Banks are one of the most important institutions in any modern economy of the world as money and its timely availability is very much necessary for the smooth functioning of any financial system. Therefore, several new private and foreign commercial banks have entered into liberalized India and all the government commercial banks have opened their branches in various parts of the country. This has created a high degree of competition among various commercial banks in India. In order to catch more customers, banks are giving various facilities to their customers and it has become more difficult for a retail banking consumer to select a bank. This study is based in Gurgaon and has attempted to identify various factors which a customer keep in mind and affect his selection of bank.

Total 14 factors viz. brand name, reliability / safety of money, wide range of products/services, approached by the bank executive, recommendation of friends / relatives, advertisement & marketing offers, convenient location, convenient timing, excellent ATM network, less minimum balance requirement, promptness of service, behaviour of employees, use of latest technology, overall atmosphere in the bank have been analyzed. Using descriptive statistics, it has been found that all the respondents have given 79.1 percent weightage to these 14 factors which affect their selection of a bank and reliability / safety of money affects the selection of a bank the most while the lowest emphasis has been given to advertisement & marketing offers. Factor analysis results show that all 14 factors explain 67.764 percent variation in bank selection by a consumer and these 14 factors have been grouped into 5 broad components viz. Branding and Location explaining 15.67% variation, Time Involved in Banking Operations explaining 14.37% variation, Reliability and Services explaining 14.26% variation, Minimum Balance Requirement and Atmosphere of Bank explaining 12.89% variation and Human Factor explaining 10.58% variation.

As far as the impact of gender and income of people on factors affecting selection of a bank is concerned, the study reveals that neither gender nor income has any significant impact on factors affecting selection of a bank. This means male as well as female perceive all factors taken into this study in more or less same manner. Similarly, persons belonging to different income groups view these factors in more or less same way.

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- Retrived from http://www.pbr.co.in/Vol-5%20Iss-5/12.pdf in December, 2014
- Retrived from http://isrj.org/UploadedData/310.pdf in December, 2014

- Retrived from http://www.nova.edu/ssss/QR/QR18/mandal56.pd in December, 2014
- Retrived from http://www.rbi.org.in/scripts/publications.aspx?publication=Lecture in December, 2014
- Retrived from http://www.rbi.org.in/scripts/statistics.aspx in December, 2014

ANNEXURE

Table 1

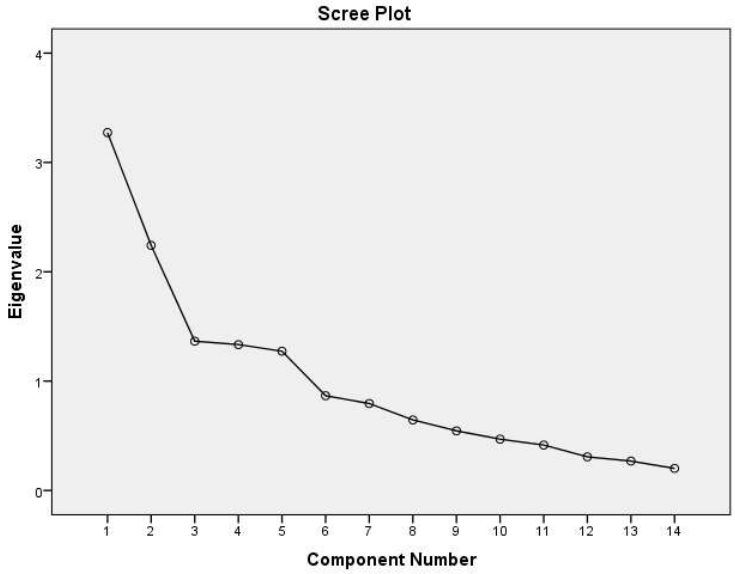

Table 2

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.273	23.38	23.38	3.273	23.38	23.38	2.193	15.666	15.666
2	2.241	16.009	39.389	2.241	16.009	39.389	2.012	14.37	30.035
3	1.365	9.75	49.139	1.365	9.75	49.139	1.996	14.259	44.295
4	1.334	9.53	58.669	1.334	9.53	58.669	1.804	12.885	57.179
5	1.273	9.095	67.764	1.273	9.095	67.764	1.482	10.584	67.764
6	0.866	6.189	73.953						
7	0.795	5.681	79.633						
8	0.645	4.605	84.238						
9	0.545	3.893	88.131						
10	0.469	3.35	91.481						
11	0.415	2.967	94.448						
12	0.307	2.195	96.644						
13	0.269	1.918	98.562						
14	0.201	1.438	100						

Extraction Method: Principal Component Analysis.

Table 3 : Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
VAR01	0.666	-0.133	0.225	-0.006	-0.007
VAR02	-0.019	-0.005	0.722	0.113	-0.414
VAR03	0.397	0.043	0.72	0.051	0.246
VAR04	0.113	-0.062	0.108	0.172	0.858
VAR05	0.586	-0.035	-0.11	-0.403	0.331
VAR06	0.584	0.122	-0.234	-0.44	0.141
VAR07	0.755	0.135	0.078	0.206	-0.162
VAR08	0.37	0.455	0.414	0.303	-0.125
VAR09	-0.119	0.494	0.686	-0.126	0.146
VAR10	-0.009	0.127	0.256	0.71	0.029
VAR11	0.203	0.802	0.061	0.196	-0.12
VAR12	0.318	0.237	0.218	0.296	-0.547
VAR13	-0.174	0.88	0.065	0.036	-0.061
VAR14	0.011	0.117	-0.24	0.788	0.051

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 19 iterations.

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STUDY OF EFFICIENCY OF WORKING CAPITAL MANAGEMENT PRACTICES AND THE EFFECT ON THE PROFITABILITY OF THE FIRM: A STUDY OF REAL ESTATE SECTOR OF INDIA

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ABSTRACT

Working capital is used to finance short term financial obligations of a firm. It becomes all the more important to study working capital in a real estate firm, as major part of their balance sheet constitutes the current assets and liabilities. It is important for these firms to have efficient working capital practices as a portion of funds is parked in inventories and accounts receivables which take a long time to convert into cash. This may lead to a shortage of cash and liquidity in times of need. Data for five big real estate firms' operational pan India was collected for five years from secondary sources and analyzed. Ratio analysis was done to study the working capital practices of these firms and it was found out that there was scope of improvement in the inventory and receivable turnover for all the companies. Pearson correlation coefficient was calculated and analyzed to find if there was a relationship between working capital ratios and profitability ratios. It was found out that for this sector profitability of the company was positively and significantly related to the current ratio and liquid ratios. Also linear regression analysis was done and it confirmed that the profitability of the firms increased with increase in liquid assets.

Key Words: working capital, real estate firms, profitability.

INTRODUCTION

Business requires capital i.e money invested in plant, machinery, land, inventories, accounts receivables etc. to run a firm efficiently. All these assets are not obtained at once but gradually accumulated over time. The cost of these assets constitutes the total capital requirement for the company which includes long term and short term financing. Short term financial planning is required because the company needs to meet its temporary demand for cash. This is the reason for studying working capital needs of the firm.

Researchers have been conducting studies on the topic of working capital management since a long time. The reason behind this is that management of working capital in a business

plays a pivotal role in the success of that business. For maintaining profitability, liquidity and solvency of the firm, working capital management becomes the top priority. Efficient working capital management practices can make a difference between the survival and bankruptcy of the firm.

Working capital alludes to the transient capital that the firm requires for its day by day operations. It comprises of organizations' present resources and current liabilities. The objective of working capital administration is to guarantee that a firm has the capacity proceed with its operations and that it has adequate capacity to fulfill both developing transient obligation and forthcoming operational costs. Working capital administration is the capacity to control viably and productively the present resources and current liabilities in a way that gives the firm greatest profit for its advantages and minimizes installments for its liabilities. The administration of working capital includes overseeing inventories, money due and payable, and money. The more noteworthy the extent of organizations' fluid resources like money, attractive securities, accounts receivables and stock, the lesser the danger of confronting a liquidity crunch.

Current resources are the advantages that arrival to trade shape in for spendable dough a typical course of business inside of a brief time of time, typically a year. The segments of working capital always show signs of change; like crude materials are changed over into completed products which are then sold and offer ascent to records receivables which on acknowledgment gets changed over into money. The parts of working capital change with the cycle for operations however the working capital stays same. This is the reason working capital gives a helpful outline of current resources and liabilities. Stock structures an essential piece of working capital as huge stock diminishes the danger of a stock out. A liberal exchange credit strategy is likewise useful for deals yet both these parts take up vital bit of money consequently influencing the liquidity of the firm.

Working capital administration effectiveness is particularly imperative for a land firm as a noteworthy bit of their stores is used in their progressing tasks, which may take quite a while to change over to money, because of which they may confront a lack of prompt money. It is very important for them to maintain an efficient working capital policy so that they can pay their current liabilities, which are a regular part of their business model, on time. Loads of funds are also parked in their accounts receivables due to which liquidity may be compromised.

LITERATURE REVIEW

Researchers have been studying working capital since a long time from different environments and different views. Following researches have been found to be extremely helpful in our research:

The study carried out by Deloof (2003) proved that when working capital is controlled in a specific manner, impacts the profitability of Belgian firms. This specifies that maintaining

of the certain amount of working capital enhances the profitability. This finding was supported by the results of the study of Lazaridis and Tryfonidis (2006), who found the relationship in firms listed in Athens Stock Exchange. They took indicators of working capital, which were cash conversion cycle, accounts receivables and accounts payables days and inventory days and then were regressed with gross operating profit.

Another purview was brought by the study of Jeng-Ren et al (2006), where the relationship between the debt ratio and working capital of the firm. Further it was found that efficient working capital policy influence the firm's value positively (Padachi, 2006). Using the regression analysis, they found that when inventories were increased, profitability is lessened. They also used the inventories days, accounts receivables days, accounts payable days and cash conversion cycle. Infact, it was revealed that working capital financing is increasing. The study of Teruel and Solano (2007) examined the relationship between inventory period and cash conversion cycle and found the same to be significant. Rahemn (2007) investigated the relationship between working capital management and liquidity and profitability, in firms listed at KSE. The interesting point in the study is that they took Debt ratio, size of the firm (measured in terms of natural logarithm of sales) and financial assets to total assets ratio as control variables. When the average collection period, Inventory turnover in days, Average payment period, Cash conversion cycle and Current ratio on the Net operating profitability of Pakistani firms were regressed using GLS, the results revealed the existence of the strong negative relationship between variables of the working capital management and profitability of the firm. It was also found that a negative relationship existed between obligations used and profitability of the firm. Siddiquee and Khan (2009), has watched that, organizations which are better at overseeing working capital are discovered to have the capacity to make counter cyclical moves to assemble upper hand. What's more, they are likewise better at producing store inside furthermore confronting lesser inconvenience while looking for outside wellsprings of financing.

The study carried out by Hayajneh and Yassine (2011); Quayyum (2011) revealed that when inventories, receivable and payables and cash are not managed at certain optimum level, then the profitability of the firm is hampered.

A strong positive relationship was observed when a firm uses 'conservative investment policy', whereas it was found to be negative when 'aggressive financing policy', between the value and profitability of the firm (Al-Mwalla, 2012). He used Tobin'Q as the measure of value of the firm and compared it with the economic growth, firm's size and sales growth.

Arshad (2013); Makori, Jagongo (2013); Nnzioki et al (2013); Almazari (2013) established a positive relationship between current ratio and net current assets to total assets with profitability. An increase in quick ratio affects it negatively while profitability increases with lengthening of account receivable and inventory period. Furthermore, the study of

Naser, Nuseibeh, Hadeya (2013) utilized the Non monetary organizations recorded on the exchange were masterminded into six business dares to be particular administration, land, imperativeness, trades, purchaser staples and collecting. They investigated six variables which were beforehand utilized as a part of different explores to dissect working capital. These components were industry type, sales growth, operating cash flows, return on equity, leverage and size. They utilized regression model way to deal with investigate the different variables. They likewise utilized Pearson's correlation coefficient to study the level of correlation between the variables. Cash conversion cycle was considered as the intermediary for working capital management and the relation of these six variables was examined with this only. They concluded that the size, leverage and sales growth affected the working capital management of an organization. The sales growth and aggregate resources demonstrated a huge and negative association with cash conversion cycle. They concluded that expansive organizations have better negotiation control over their clients and suppliers and they can accomplish sales growth superior to anything little organizations. The work of Toby (2014) used the Loveday Likelihood Test to find the correlation between net current assets ratio (NCAR), return on assets (ROA) and net profit margin (NPM) in the Nigerian context. On the normal all the segments embraced a forceful working capital management technique by depending vigorously on current liabilities for financing their working capital needs. It was additionally found that the adoption of this procedure delivered negative productivity in the greater part of the areas. The outcomes likewise demonstrate strong positive correlation in the middle of NCAR and chose measures of benefit. It is suggested that organizations would boost benefit and include esteem by embracing the conservative working capital management procedure (i.e putting all the more in current resources) if the operating environment and money markets are powerful.

OBJECTIVES

1) To study the working capital management practices of the selected firms in the sample.
2) To establish whether profitability of a firm is dependent on its working capital management.

DATA COLLECTION

Secondary data has been collected for the purpose of this study. Out of all the real estate firms operational in the country, six listed real estate firms, constituting the major portion of the market, have been selected. These firms are DLF, Unitech Ltd, Godrej properties, Omaxe Ltd, Purvankara ltd and SPML ltd. The data was mainly collected from the annual reports of the companies and financial websites like moneycontrol.com for five years 2009-2013.

METHODOLOGY

For the first objective ratio analysis was studied for each company over the time period of five years. All the important working capital ratios were found out and studied individually.

For the second objective correlation analysis was done and Pearson's correlation coefficient was determined and its significance was studied. This helped in understanding whether there was any correlation between the dependant profitability ratios and independent working capital ratios. After this regression analysis was done in order to find out the degree of variation of dependant variable due to independent variable. For this purpose regression equations were formed taking return on assets and net profit margin as the dependant variables separately.

ANALYSIS AND FINDINGS

Ratio analysis

To study the working capital practices of the companies, detailed analysis of working capital ratios and other ratios which are related to the working capital, was done with the data for five years from 2009 to 2013. The main ratios calculated were as under:

i. **Current Ratio:** This ratio establishes a relationship between current assets and current liabilities. It is an indicator of the firm's ability to promptly meet its short term liabilities. Normally a higher current ratio is considered as a sign of financial strength, but an abnormally high ratio means that the current assets of the firm are being financed by long term sources of funds. We find out that current ratio for Purvankara Ltd and Godrej Ltd is much higher than the mean value. The mean current ratio for all the firms is also high as compared to the normal industry standard. This is probably because of high level of inventories that constitute a major portion of the current assets. Current assets constitute almost 80% of the total assets for most of the companies whereas current liabilities contribute to only about 26% to total assets.(Table No:1)

Table 1 : Current Ratio Statistics

Current Ratio	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	8	5	7	4	5	6
Omaxe Ltd	2	2	3	4	5	3
Spml Ltd	2	2	2	2	2	2
Godrej prop	4	7	7	7	9	7
Dlf Ltd	2	3	4	5	6	4
Unitech Ltd	3	3	1	1	1	2
MEAN	4	4	4	4	5	4

Source: Moneycontrol.com

ii. **Liquid Ratio:** This ratio is a better indicator of a firm's liquidity position as it takes into consideration only the liquid assets like cash and debtors leaving aside the inventories. Liquid ratio for Godrej Ltd is abnormally high which is due to high investment in current assets. Overall in this sector it has been seen after the ratio analysis that investment in current assets is very high and they constitute a major portion of the total assets whereas the corresponding current liabilities are not proportionate. The reason might be a greater amount of funding from long term sources which is not healthy.(Table No:2)

Table 2 : Liquid Ratio Statistics

Liquid ratio	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	4	2	2	2	1	2
Omaxe Ltd	1	1	1	1	2	1
Spml Ltd	2	2	2	2	2	2
Godrej prop	3	6	6	6	8	6
Dlf Ltd	1	2	2	4	4	3
Unitech Ltd	3	3	1	1	1	2
MEAN	2	3	2	3	3	3

Source: Moneycontrol.com

iii. **Current assets to Total assets Ratio:** This ratio helps in ascertaining the extent of total funds utilized for meeting working capital requirements. The investment in current assets is very high in most of the companies reaching to 90% for Godrej Properties and Omaxe ltd. For Unitech Ltd this ratio almost doubled from 2011 to 2012. The reason for the same is the increase in inventory level from 2011 to 2012 and 2013. The capital work in progress of the company has decreased from 2011 to 2012 and had resulted in an increase in inventories. This means that many projects of the company had been completed during this time period and were ready for sales. (Table No:3)

Table 3 : Current assets to Total assets Ratio Statistics

CA to TA %	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	96	96	60	51	96	80
Omaxe Ltd	91	93	92	92	92	92
Spml Ltd	81	82	86	84	88	84
Godrej prop	92	89	95	82	92	90
Dlf Ltd	69	69	69	65	74	69
Unitech Ltd	82	85	43	43	37	58
MEAN	85	86	74	70	80	79

Source: Moneycontrol.com

iv. **Current Liabilities to Total assets Ratio:** For Unitech Ltd, this ratio has remained almost stable but the amount of current assets have increased considerably due to increase in inventory level.. For OMaxe Ltd, this ratio has increased substantially from 2011 to 2012. For DLF and Godrej this value is very less although it has increased significantly over the last 2 years. (Table No:4)

Table 4 : CL to TA% Statistics

CL to TA%	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	12	19	9	13	18	14
Omaxe Ltd	47	47	27	22	19	32
Spml Ltd	43	42	44	41	47	43
Godrej prop	23	13	14	11	11	14
Dlf Ltd	30	27	18	12	13	20
Unitech Ltd	27	28	35	35	39	33
MEAN	30	29	25	22	24	26

Source: Moneycontrol.com

v. **Debtors Turnover Ratio:** Debtors turnover is found by dividing credit sales by average debtors. When a company makes its sale on credit, debtors or accounts receivables are formed. Debtors Turnover indicates the number of times debtors turnover each year. Generally, the higher the value of debtors turnover, the more efficient the management of the company. For SPML and Unitech Ltd this ratio is very low and as a result their collection period is much higher. This means that they have a higher portion of credit sales which should be reduced. For other companies also this ratio is much lower than is acceptable. The companies need to improve their lending policies in order to increase the cash inflow in the business. (Table No:5)

Table 5 : Debtors Turnover Statistics

Debtors turnover	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	5	5	5	5	5	5
Omaxe Ltd	3	3	4	7	14	6
Spml Ltd	2	2	2	3	2	2
Godrej prop	5	2	2	1	1	2
Dlf Ltd	5	9	7	6	5	6
Unitech Ltd	1	1	1	2	2	1
MEAN	3	4	3	4	5	4

Source: Moneycontrol.com

vi. **Collection Period:** This is found out by dividing 365 by the debtors turnover ratio and it gives information about the time taken to realize cash from the debtors. The collection period for all the companies is very high because they have a low debtor turnover which is a fact to be concerned about. (Table No:6)

Table 6 : Collection Period Statistics

Collection period	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	79	73	77	78	81	78
Omaxe Ltd	136	123	81	52	26	84
Spml Ltd	165	232	160	131	150	167
Godrej prop	73	152	209	323	653	282
Dlf Ltd	78	41	55	65	74	63
Unitech Ltd	500	472	366	178	158	335
MEAN	172	182	158	138	190	168

Source: Moneycontrol.com

vii. **Debtors to Current Assets Ratio:** This ratio indicates the amount of debtors that constitute the current assets of the firm. This ratio is almost 40% for SPML ltd which means that most of their sales are on credit, although this trend is decreasing over the years. For companies like DLF ltd, this value is very low at almost 2% which means that they are doing most of their sales on cash basis and thereby resulting in low debtors. This policy might hurt the sales of an average size company as the buyers are more keen to buy on credit. This is seen from the sales value of DLF ltd which is fluctuating along the same values over the years. The sales might increase with a lenient credit policy. (Table No:7)

Table 7 : Debtors to CA% Statistics

Debtor to CA%	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	6	5	4	8	5	6
Omaxe Ltd	11	14	10	5	2	9
Spml Ltd	36	43	47	40	43	42
Godrej prop	2	4	11	12	15	9
Dlf Ltd	2	2	1	3	1	2
Unitech Ltd	9	12	17	12	12	12
MEAN	11	13	15	13	13	13

Source: Moneycontrol.com

viii. **Inventory Turnover Ratio:** Inventory turnover is calculated by dividing the cost of goods sold by the average inventory. This ratio indicates the efficiency of the firm in producing and selling its product, by indicating the number of times the inventory has been converted into sales during the period. For SPML ltd this ratio is much better than other companies and as a result they have an optimum inventory turnover period of an average of 35 days. For Unitech ltd the inventory turnover was much higher from 2009-2011, but has decreased abnormally in 2012 & 2013. The reason is completion of various projects during this time and hence capital work in progress

was converted into inventories which were ready for sales. For all the other companies this ratio is very less, due to which the inventory holding period is very high. This means the companies have not been able to convert their inventories into sales effectively. (Table No:8)

Table 8 : Inventory Turnover Ratio Statistics

Inventory turnover ratio	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	0	0	0	0	0	0
Omaxe Ltd	1	1	0	0	0	0
Spml Ltd	18	10	12	10	6	11
Godrej prop	1	1	1	1	2	1
Dlf Ltd	0	0	0	0	0	0
Unitech Ltd	1	2	143	141	63	70
MEAN	3	2	26	26	12	14

Source: Moneycontrol.com

ix. **Inventory to Current assets Ratio:** This ratio indicates the portion of inventory in the current assets. Inventories form almost 50% of the current assets for Purvankara ltd and Omaxe ltd. This value was very low for Unitech and SPML. This is probably because of a good inventory turnover ratio for them which means they are holding only that much inventory which they can sell. (Table No:9)

Table 9 : Inventory to CA% Ratio Statistics

Inventory to CA%	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	53	54	69	55	78	62
Omaxe Ltd	47	48	61	66	62	56
Spml Ltd	3	6	7	9	11	7
Godrej prop	26	10	10	12	7	13
Dlf Ltd	35	33	35	34	35	34
Unitech Ltd	8	8	0	0	0	3
MEAN	29	26	30	30	32	29

Source: Moneycontrol.com

x. **Working Capital Turnover Ratio:** Both excessive and inadequate working capital for the firm is harmful. Excessive working capital means the company is holding excess idle funds which earn add no value to the firm. Inadequate working capital means not lower funds available to meet operational needs of the firm. This ratio is very low for all the companies which mean that there is considerable scope for improvement in the working capital practices of the companies and efficiency of their working capital is questionable. (Table No:10)

Table 10 : WC Turnover Ratio Statistic

WC turnover	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	0	0	0	0	0	0
Omaxe Ltd	1	1	0	0	0	0
Spml Ltd	2	1	2	2	2	2
Godrej prop	0	0	0	0	0	0
Dlf Ltd	0	0	0	0	0	0
Unitech Ltd	0	0	1	2	1	1
MEAN	0	0	1	1	1	1

Source: Moneycontrol.com

xi. **Cash to sales ratio:** This ratio is found out to get an idea if the company is enjoying any benefit out of holding any cash. (Table No:11)

Table 11 : Cash to Sales Ratio Statistics

Cash to sales%	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	25	11	10	6	3	11
Omaxe Ltd	15	10	4	8	2	8
Spml Ltd	6	5	1	1	2	3
Godrej prop	11	1	4	13	8	7
Dlf Ltd	18	10	5	2	2	7
Unitech Ltd	15	12	13	7	4	10
MEAN	15	8	6	6	3	8

Source: Moneycontrol.com

xii. **Return on Total assets:** This ratio is found out by dividing net profit by total assets of the company. The period of 2010-2013 has seen a considerable decrease in ROA for all the companies as the net profit for the companies has been decreasing in this period . Though there has been seen a bit of revival in terms of ROA in 2013, companies like DLF and UNitech has seen a dip in ROA. This is mainly due to decrease in net profit for the company which is because of decrease in sales for the companies. (Table No:12)

Table 12 : Return on Total assets Ratio Statistics

Return on assets%	2013	2012	2011	2010	2009	MEAN
Purvankara Ltd	3	2	3	5	5	4
Omaxe Ltd	2	2	2	2	2	2
Spml Ltd	1	0	2	4	4	2
Godrej prop	4	3	5	8	9	6
Dlf Ltd	1	3	4	3	6	3
Unitech Ltd	1	2	2	3	4	2
MEAN	2	2	3	4	5	3

Source: Moneycontrol.com

Pearson's Correlation coefficient

To fulfill the second objective of the study this method was used. This statistical tool helps in finding out whether there is any correlation between two variables. Our purpose was to find out if profitability of a firm is dependent on the working capital policy of the firm. For the purpose of this study profitability ratios namely Return on Assets(ROA) and Net profit margin (NPM)were taken as the dependant variables and current ratio(CR), liquid ratio(LR), current assets to total assets(CATA), current liabilities to total assets(CLTA), debtor turnover ratio(DTR), inventory turnover ratio(ITR), working capital turnover ratio(WCTR) and cash to sales ratio(CTS) were taken as the independent variables.

The calculations indicate that ROA is positively and highly correlated to Current asset ratio with a r-value of 0.89 which is significant at 5 % level of significance and Liquid ratio with a r-value of 0.96 with a significant p value of 0.02 whereas it is negatively correlated to Current liabilities to total assets ratio with a r-value of -0.80 but this relationship is not significant. This proves that the ROA will increase with increase in current and liquid assets but decrease with the increase in current liabilities. Net profit margin is positively correlated to liquid ratio and negatively correlated to current liabilities to total asset ratio. This implies that the profit situation of the company is dependent on the investment in liquid assets and net profit margin decreases with the increase in current liabilities of the companies. Net profit margin is also positively correlated to current ratio. All the other results have been found out to be insignificant. (Table No:13)

Table 13 : Pearson Correlation Coefficient

ROA	NPM	CR	LR	CATA	CLTA	DTR	ITR	WCTR
1								
0.778	1							
0.889 (0.018)*	0.571	1						
0.959 (0.002)*	0.747	0.758	1					
0.249	-0.315	0.428	0.298	1				
-0.803	-0.73	-0.912 (0.011)*	-0.621	-0.061	1			
-0.201	-0.156	0.168	-0.315	0.249	-0.257	1		
-0.317	0.097	-0.579	-0.264	-0.761	0.382	-0.63	1	
-0.542	-0.666	-0.704	-0.379	0.019	0.876 (0.020)*	-0.501	0.271	1
0.181	0.405	0.319	-0.027	-0.419	-0.575	0.111	0.327	-0.698

p values that are significant at 0.05% are shown in parentheses below correlation coefficient values.

Regression Analysis

Linear Regression analysis was also performed and the dependency of ROA and NPM was studied separately with each working capital ratio. Linear regression was performed because almost negligible multicollinearty was found out among the variables. The following

regression equations were formed and respective variables were found out. First ROA was considered as the dependant variable with working capital ratios as the independent variables. The study has followed the methodology of Garcia-Teruel et al (2007).

Total 14 : Regression Statistics

For Y as ROA	CR	LR	CATA	CLTA	DTR	ITR	WCTR	CTS
Y intercept a	0.006	0.01	0.009	0.06	0.038	0.035	0.039	0.025
Regression coefficient β	0.007	0.009	0.029	-0.104	-0.001	0	-0.013	0.095
Multiple R	0.889	0.959	0.249	0.803	0.201	0.317	0.542	0.181
R Square	0.791	0.919	0.062	0.645	0.04	0.101	0.294	0.033
Adjusted R Square	0.739	0.899	-0.172	0.557	-0.2	-0.124	0.117	-0.209
Standard Error	0.008	0.005	0.016	0.01	0.017	0.016	0.014	0.017
t stat	3.891	6.741	0.514	-2.699	-0.41	-0.67	-1.289	0.369
p value	0.018*	0.003*	0.634	0.054	0.703	0.54	0.267	0.731

*p values that are significant at 5% level of significance.

In the table (Table No:14) we have found out the values of regression coefficients for all the equations. The following regression equations were derived.

(I) ROA= 0.006+0.007 CR (Current Ratio)

(II) ROA= 0.010+0.009 LR (Liquid Ratio)

(III) ROA= 0.009+0.029 CATA (Current Assets to total assets)

(IV) ROA= 0.060-0.104 CLTA (Current Liabilities to total assets)

(V) ROA= 0.038-0.001 DTR (Debtor turnover ratio)

(VI) ROA= 0.035+0.000 ITR (Inventory turnover ratio)

(VII) ROA= 0.039-0.013 WCTR (Working capital turnover ratio)

(VIII) ROA= 0.025+0.095CTS (Cash to sales ratio)

It can be seen that current ratio and liquid ratio clearly and strongly affect ROA positively and from the table also it can be seen that the result is statistically significant at 5% level of significance. The coefficient of determination also says that 79% variability in ROA can be explained by change in CR. Similarly 92% variation can be explained by LR. Although R square is 64% for CLTA, the result is not significant.

For the second part of analysis NPM (net profit margin) is taken as the dependant variable and it's regressed against the working capital ratios. The following regression equations were derived:

(I) NPM = 0.048+0.048 CR

(II) NPM=0.044+0.073 LR

(III) NPM=0.554-0.402 CATA

(IV) NPM= 0.506-1.028 CLTA

(V) NPM= 0.282-0.012 DTR

(VI) NPM= 0.228+0.001 ITR

(VII) NPM=0.328-0.168 WCTR

(VIII) NPM=0.056+2.313 CTS

Table 15 : Regression Statistics

For Y as NPM	CR	LR	CATA	CLTA	DTR	ITR	WCTR	CTS
Y intercept	0.048	0.044	0.554	0.506	0.282	0.228	0.328	0.056
Regression coefficient	0.048	0.073	-0.402	-1.028	-0.012	0.001	-0.168	2.313
Multiple R	0.571	0.747	0.315	0.73	0.156	0.097	0.666	0.405
R Square	0.326	0.558	0.099	0.534	0.024	0.009	0.444	0.164
Adjusted R Square	0.158	0.447	-0.126	0.417	-0.219	-0.238	0.305	-0.045
Standard Error	0.152	0.123	0.176	0.127	0.183	0.185	0.139	0.17
t stat	1.391	2.247	-0.664	-2.139	-0.317	0.195	-1.786	0.885
p value	0.236	0.088*	0.543	0.099*	0.767	0.855	0.149	0.426

*p values that are significant at 5% level of significance.

From the table (Table No:15) and equations it can be seen that only LR and CLTA have an important influence on NPM. 55% of variation in NPM can be explained by LR which is positively related and 53% by CLTA which is negatively related and both these values are significant at 5% level of significant. This is consistent with the previous results saying that with more liquidity the profitability of firms in real estate sector increases. These companies have a major portion of their funds in assets like inventories and as soon as we deduct these inventories from current assets the ratio of liquid assets become significant to the NPM .CR explains 32% of the variability and WCTR explains 44% of variability but both these results are not significant. Also as the ratio of current liabilities to total assets decrease profitability increases which makes economic sense also.

CONCLUSIONS

Real estate sector is a very unorganized and unpredictable sector. The values of various variables fluctuate considerably over the years. Also this industry has a very high percentage of current assets and major portion of these assets are parked in the inventories.

We were able to conclude that the working capital practices of the firms in the real estate sector are not very efficient as there is a very heavy dependency on only one component of current assets. Also this is a sentiment driven sector. When the economy is having a positive outlook, investment in the real estate sector increases and hence the sales and profitability in the sector increases. The time period under study has seen a period of recession and revival also due to which the data is fluctuating over the five years in the companies.

As mean values have been taken for all the companies, there is a distortion in the data due to which certain results are absurd.

The profitability of the company is related to the working capital of the company. In our study we find that profitability is significantly related to the current and liquid ratios. This is proved from the significant values of correlation coefficient. 79% variability in ROA can be explained by change in Current ratio and 92% variation can be explained by liquid ratio. The net profit margin is also negatively dependant on current liabilities to total assets ratios and 53% of the variation can be explained by this ration only. This means that as the percentage of current liabilities decreases, the net profit margin increases. It proves that the companies, which are better at handling their liquidity against their current dues, are better able to optimize the use of their assets and generate more profit. This makes sense as the firms which make an efficient use of their liquid assets are more likely to be profitable.

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WOMEN EMPOWERMENT: WOMEN DIRECTORS ON CORPORATE BOARDS
(A step towards effective corporate governance)

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ABSTRACT

The new Companies Act 2013 is a landmark in the history of corporate India. Although the constitution of India has granted men and women equal rights. We still find that employment of woman is not preferred. Thus opportunities for women are limited. For eg: Women are not preferred in Army/Air Force in certain areas like Combat field, in flying zones. But today the scenario has changed. You find women employed as pilots, flying aircrafts, occupying top posts in many companies be it a manufacturing sector or banking/ financial sector. Woman has also entered the board of rooms of many companies but in a limited way. In this scenario, Companies Act 2013 has made a provision for employing women directors on the boards of listed companies and this is a welcome move. This is a step towards gender equity. This article focuses on the issue of representation of woman directors on the board and its effect. It is a change in right direction.

Key Words: Women Directors, Amendment Companies Act 2013, Corporate Boards, SEBI, Corporate Governance, Gender-equity.

INTRODUCTION

Composition of Board – Companies Act 2013

In this paper we will analyse the important changes introduced by the Companies Act 2013 with respect of management and administration of companies. The changes in law are aimed at ensuring higher standards of transparency and accountability and seek to align the corporate governance practices in India with global best practices.

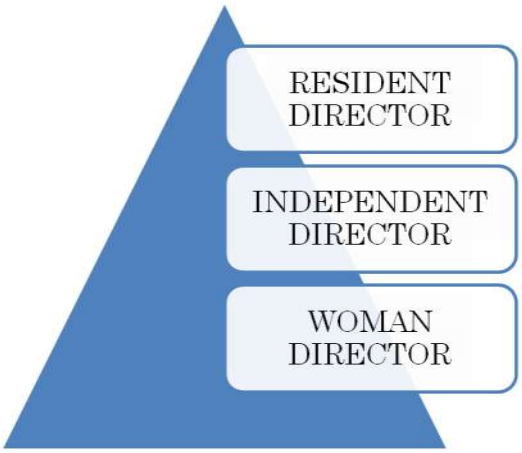
Board Composition

Companies Act 2013 has introduced significant changes in the composition of the board of directors of a company. According to companies act 1956 the minimum number of directors in public company were 3 and in private company were 2. In companies act 2013 the regarding minimum number of directors the conditions are same. But it has made following changes with regard to number of directors in the board.

Number of Directors:

- A one person company shall have a minimum of 1 director.
- Companies Act 1956 permitted a company to determine the maximum number of directors on its board by way of Articles of Association. Companies Act 2013, however, specifically provides that a company may have a maximum of 15 directors.
- Companies Act 1956 required public companies to pass special resolution to increase the number of Directors.
- Companies Act 1956 requires companies to have the following classes of directors- Promoter Directors, Executive Directors and Independent Directors.
- Companies Act 2013 requires companies to have the following classes of directors

CLASSES OF DIRECTORS UNDER CA 2013



Resident Directors – CA 2013 presents the prerequisite of designating an occupant chief i.e. a man who has stayed in India for an aggregate time of under 182 days in an earlier year. The Board of Directors can't keep non-inhabitant executives. They will need to rebuild promptly the Board.

Independent Directors- An Independent Director (likewise now and again known as an outside executive or non official chief) is an executive of a directorate who does not have a material or financial association with organization or related persons, aside from sitting charges.

Woman Directors- Segment 149 (1) of Companies Act 2013 (1) makes it vital for the recorded organizations and certain other open organizations to name no less than 1 lady chief on its board. Organizations fused under organizations Act 2013 should be obliged to agree to this procurement inside of 6 months from date of its consolidation. If there should be an occurrence of Companies consolidated under organizations act 1956 might be obliged to follow this procurement inside of a time of one year.

Applicability

No.	Companies Act 2013	SEBI
1	Listed companies	All listed companies except companies with an equity share capital upto Rs. 10 crore and net worth not exceeding Rs. 25 crores, as also listd on SME and SME-IT platforms of the stock exchanges.
2	Public Companies with a paid up share capital of Rs. 1 crore or more	
3	Public Companies with a turnover of Rs. 3 crore or more	

India is the first developing country to make this law of appointing female directors on the Board of Companies. Same rule is also prevailing in France, Italy and Norway. But there is not such law prevailing in three big economies of the world - America, China and Japan. We are here giving the country wise percentage of female directors in different countries.

Table No. 1 : Country wise percentage of Female Directors

Country	Percentage
India	9.5
Norway	35.5
England	22.8
Canada	20.8
Australia	19.2
Japan	3.1

Source: Indias' figure BSE-200. Catalyst figures in percentages.

According to Table No. 1 Norway stands first in employing female directors and Japan has only 3.1% of female directors in company's board. India's figure is also less than 10%. By introducing this clause of women directors in companies board, the percentage is going to increase.

SIGNIFICANCE OF WOMEN ON THE BOARD

Gender Bias has been the problem not only in India, but even in developed countries like USA, UK etc. So, yes there's much scope for us to change. It's time we give our female's counterpart's equal opportunities for betterment of humanity. To reduce this gender bias a provision in law can prove enough.

Research Studies have proved that women on Board of Directors has the following effects. The presence of women on Board of Directors appears to have a positive influence on shareholders value at the global level. According to the report of research organization 'Catalyst' (3) – Fortune 500 organizations with most astounding representation of ladies board executives accomplished fundamentally higher budgetary execution on a normal, than those with least representation of ladies board executive. This demonstrates that incorporation of ladies on directorate does increase the value of organization's money related execution.

The Act is truly expected to enhance the position of ladies or exalt them yet, following one year of the beginning of the demonstration we are wary about it. No nation can grow by overlooking its 50% sex populace. Ladies Directors will help in compelling choice making. She will be useful being developed of the venture.

WOMEN DIRECTORS POSITIONS ON BOARDS IN INDIA

The following tables numbers 2, 3 and 4 shows that women directors are there as Chairperson , Managing Directors and on other positions of the Board in India but still the percentage is very less.

Table No. 2 : Gender wise Categorization of Board Positions

Gender	Number of Directors	Percentage
Male	2991	95.16
Female	152	4.84
Total	3143	100

(**Source:** Primedatabase.com pvt.ltd)

According to table no. 2 out of total 3143 directors there are only 152 female directors in the board positions. The percentage of female directors is just 4.84.

Table No. 3 : Designation of women directors as Chairperson/MD

Designation	Number of Women	Percentage
Chairperson	7	4.61
Managing Director (MD)	5	3.29
Chairperson & MD	1	0.65
Other positions	139	91.45
Total	152	100

(**Source:** Primedatabase.com pvt.ltd)

From Table no. 3, we can see the percentage of women directors as chairperson as 4.61% as Managing Directors as 3.29% and chairperson and managing director was meager 0.65% and other positions as 91.45%.

Table No. 4 : Gender wise status of Board Members

Status	Male	Percentage	Female	Percentage	Total
Executive	1062	33.92	68	2.17	36.09
Non Executive	403	12.87	51	1.63	14.5
Non Executive Independent	1516	48.42	31	0.99	49.41
Total	2981	95.21	150	4.79	100

(**Source:** Primedatabase.com pvt.ltd)

Table no. 4 shows that representative of men on various board positions as executives, non executives and independent was 95.21 where as that of woman was merely 4.79%.

These results show that there is yet a lot of work is to be done in the directions of empowering women on the board of directors of corporate in India.

PRIOR RESEARCH WORK DONE ON WOMEN DIRECTORS ON THE BOARD

There are a number of research studies that show a link between more balanced gender distribution in a company's management and its profitability.

- According to Mckinsey, organizations over all divisions with the most ladies on their sheets of chiefs fundamentally and reliably beat those with no female representation by 41% as far as return of value and by 56% as far as working result

  In an investigation of the Fortune 500, Catalyst uncovers that organizations in the most noteworthy percentile of ladies on their sheets outflanked those in the least percentile by 53% higher profit for value, 42% higher profit for deals, 66% higher profit for contributed capital.
- A Danish study found that organizations with great number of ladies on the board beat with no ladies by 17% higher profit for deals and 54% higher profit for contributed capital.
- Thomas Reuters inspected the execution of organizations with 30% ladies on their board organizations with those with under 10% ladies on their board, and found that organizations with more prominent quantities of ladies pioneers fared better in time of more prominent financial instability.
- Leeds University Business School reports that having no less than one female chief on the board seems to reduce an organization's possibilities of going best by around 20%. Having a few female chiefs brings down the danger significantly more.
- The meeting leading body of Canada found that 91% of sheets with three or more ladies executives expectedly assume liability for confirming review data contrasted and 74% of organizations with every male executive.
- According to Primedatabase.com pvt. Ltd over every recorded companie on the NSE, there are only 533 ladies instantly involving 654 directorship positions. Of those, while 357 ladies are holding 391 non-free directorship positions, just 197 ladies are aggregately possessing 263 autonomous directorship positions. (21 ladies hold both autonomous and additionally non-fre

COMPLIANCE OF COMPANIES ACT 2013 SECTION 149 (1)

Under the new principles as commanded under the organizations law and SEBI standards, each recorded organization ought to have no less than one ladies executive on its board. This has come into power from October 2014.

- India's traded on an open market organizations are scrambling to conform to the business sector reglator' request that orders no less than one lady chief on their sheets.
- It has been watched that no less than 100 organizations have met this necessity. Some enormous organizations have designated their relatives as ladies executives.

Raymond, the biggest maker of suiting fabric, for example, has selected Nawaz Singhania as a non-official chief. Singhania is the wife of Raymond's director and overseeing chief Gautam Singhania.

- India's top privately owned businesses by net benefit, Reliance Industries, has designated Nita Ambani, wife of director Mukesh Ambani on its board.
- Ritu Mallya, mother of Mangalore Chemicals & Fertilizers'promoter Vijay Mallya, as well, has joined the organization's Board.
- Videocon, Titagarh Wagons, JK Tire, JK Cement are among alternate organizations that have delegated either wives of promoters or key officials or their nearby relatives.

Table No. 5 : Some Companies with Women Relatives on their Boards

Directors Name	Company's Name
Anita Mani	Just Dial Ltd.
Archana Jatia	Asian Hotels (North) Ltd.
Arti Kothari	Kothari Products Ltd.
Bina Modi	Godfrey Philips India Ltd.
CIBI MAMMEN	MRF Ltd.
Gauri Atul Kirloskar	Kirlosker Oil Engines Ltd
Lakshmi Venu	TVS Motors Co. Ltd.
Navaz Gautam Singhania	Raymonds Ltd.
Mina Bhadrashyam Kothari	Kothari Petroleum Ltd.
Neeta Mukesh Ambani	Reliance Industries Ltd.
Ramabai V. Dhoot	Videocone Industries Ltd.
Ritu Mallya	Manglore Chemicals and Fertilizers Ltd.
Sunanda Sindhania	JK Tyres & Industries Ltd.
Sushila Devi Singhania	JK Cement Ltd.
Vasavdatta Bajaj	Bajaj Corp Ltd.

CURRENT POSITION OF WOMEN DIRECTORS ON THE CORPORATE BOARD

- As on February 2015, 474 ladies have been named to 546 directorship positions in 522 organizations. With 35 of these 522 organizations officially having one lady executive on board preceding the requirement of segment 149 on the SEBI roundabout. 487 organizations have conformed to the new prerequisites of the law. As on 3 February 2015, 526 ladies chief positions out of the 1471 positions in recorded organizations were still empty. With the due dates coming to closer every day, 74 ladies were designated to 80 directorship positions with 78 organizations presenting ladies on their loads up for the first run through by June 30 2014. Then again, one fourth (19 out of 80) of the ladies designated as chiefs are firmly identified with promoters.

- There are certain companies who have not complied with the Act. Following is the list of some non-compliant PSUs:

COMPANY'S NAME:

- Bharat Electronics Ltd.
- Bharat Petroleum Corp Ltd.
- Container Corp. of India Ltd.
- GAIL (India) Ltd.
- NTPC Ltd.
- Oil & Natural Gas Corp Ltd.
- Punjab National Bank
- Rural Electrification Corp Ltd.
- Steel Authority of India Ltd.

FEW EXAMPLES OF WOMAN DIRECTORS ON CORPORATE BOARD IN COMPLIANCE OF THE ACT

Richa Bhattacharyya has interviewed five women who are first timers on Corporate Boards. All these women are professionals so if they are on board, they will definitely serve its purpose and will help in good governance and transparency.

1. **BRINDA JAGIRDAR** –Independent Economist.

   Jagirdar has been serving as independent director on the boards of Capital First since September 2014 and Rane Engine Valve since October. After a career with State Bank of India, Jagirdar retired as general manager and chief economist. While she was consulting independently Jagirdar encountered Arun Duggal, Chairman of ICRA and the Ficci centre of corporate governance, who invited her to join the programme, "women on corporate Boards". She said she was respected for the domain knowledge and also there was lot of learning.

2. **HIROO MIRCHANDANI**- Former business unit Director, Pfizer.

   Mirchandani joined as an independent director on the boards of Tata Teleservices (Maharashtra), Tata Communications Payment Solutions, Religare Health Insurance, DFM Foods and Premium Transmission. For board meetings, she familiarized herself with the company, its business, industry, financials, management and board. She made few customer visits too.

3. **SUDHA RAVI**- Executive Director, Piramal Fund Management & Chairperson National Council on NBFCs of the Associated Chambers of Commerce and Industry of India.

   Ravi has been serving on the board of Goodyear India as additional director for independent directorship since June 2014. She is also nominee director on four other

companies. She said she was respected for the insights she provided and for sharing her views on the company's performance. She had not felt any bias as a woman and have actually found the other members appreciating her contributions and suggestions.

4. SMITA AGGARWAL- Chartered Accountant with banking and financial services experience of over 25 years.

   Aggarwal has been serving as independent director at Gokuldas Exports since November and member of the National Managing Committee of Indian cancer society since 2012. Aggarwals motivation to become an independent director was to get exposed to different industry segments, new set of people to engage and a variety of challenges.

   Before her first board meeting, she spent a full day in a company induction. The CEO and CFO provided her with an in-depth introduction to the company, its business model, financials and key challenges. She visited the manufacturing facilities, went through annual reports and spoke to the chairman and other board members. She found that her skills and experience were valuable on the board.

5. NEERA SAGGI – Former chief executive, L&T seawoods.

   In September 2014, Saggi joined the boards of Swaraj Engines, RPG Life Sciences, TRF, Tata Projects, TATA Reality, Maithon Power, Tata Consulting Engines, ILFS Financial Services, CARE India (non profit), and Mahindra Heavy Engines.

   But these women directors should keep in mind the following points before going to the Board Meetings.

- They should prepare themselves, study thoroughly, make crisp observations in Board Meetings.
- While preparing for the meeting if they need any information, they should not hesitate in asking for such information which is necessary for fruitful deliberation in the board meeting.
- To be more effective in the board room meeting she must do a peer study of the company.
- Women director should study the regulatory requirement of that company.
- She must thoroughly study the annual reports of the company particularly the Balance Sheet, Profit & Loss Account, Corporate Governance reports, Fund Flow Statements and other Schedules of the Balance Sheet. This will help her to check financial irregularity in the statement and she can raise that point in Boards' meeting.. All this will check the financial scams.
- She should inform herself about other directors before attending the Board Meetings.

- Women Directors of one company should have the meeting with the Women Directors of other companies also. So that they can share knowledge on different aspects of companies.
- If women directors are from arts, science and engineering background they must develop financial literacy, so that they can understand the financial intricacies of the financial statements. In this way women directors will be in a position to comment upon financial irregularities. Due to this if some manipulation and fraud is taking place it can be checked and stopped.
- If women directors are well prepared before board meetings, they will be confident about sharing their independent views in board meetings. They will have to develop skills for board effectiveness. The whole thrust of women directors should be on Network, network and network.
- Women Director can be effective in the Board only when she explore the whole company, its directors, goodwill, ethics and values of the company.
- Women directors should also study the company's performance over the past few years. She should be well preprared for the board meetings, understand the company's key ideas, its strategic and executive plans. Due to this they can express their views and ask questions effectively in board meetings.
- The women director should try to excel in her area of expertise, diversify to obtain holistic view point. Her presence in the the meeting must be felt by the board members.
- Women director should treat it as a serious responsibility. She should use her intuitive skills to navigate her way through. She should be confident. It is not rocket science, so there is no reason to feel out of place.

  In the last, we can say that it is a beginning of the change. If women directors keep in mind the above mentioned tips before going to Board, they will be effectively change their directors responsibility and it will improve the efficiency, profitability of the company. Many frauds & manipulations of accounts can be revealed and high level transparency can be maintained. Promoters will have to change their mindset. Similarly in order to make this provision effective women directors will have to change their mind set.

SUGGESTIONS

The section 149(1) of Companies Act 2013 is a good step towards women empowerment and corporate governance, but still some more amendments are to be made. For better performance of women directors and governance following suggestions are given:-

- The law needs to be amended to ensure on boarding of independent woman directors. This will give the company the benefit of the knowledge and expertise of professional woman.

- Company's must invest in grooming women for board positions. There should be workshops and training programmes for developing women. Experience shows that groups with diverse perspectives can achieve more balanced decision making with innovative and de-risked outcomes. Men and women on boards can leverage their differences to achieve higher standards of corporate governance.
- One woman on the board is definitely not enough. The number should be increased. In Norway, there is 40% of board representation of women.
- Companies should move beyond the mandate being a more compliance requirement, to effectively using a diversified and well qualified board to add value. Gender diversification is a useful step for company boards to follow , its equally important that it is accompanied with a genuine intent to professionalize the board and improve the overall standards of governance.
- Companies should appoint women directors who are professionals and if companies are not appointing such professional directors , the law needs to be amended to ensure on boarding of independent women directors. This will give the company the benefit of knowledge and expertise of professional women.
- Women directors should be given place in nomination committees that value gender diversity. It can help build a diverse leadership pipeline and a company culture. This is true for a woman who occupy the corner suite or are in key positions.
- Government should nominate women from Trade Unions also so that they will be interacting at grass root level.

CONCLUSION

Though it is too early to find the results of the applicability of the section 149(1) of company's act 2013. However, we have tried to give in this paper whether companies have appointed women directors in their corporate boards or not. We have also noticed that some big companies have appointed women relatives on the corporate boards. Companies Act 2013 has made statutory provision to appoint one women director in the boards of listed companies in India. But companies while applying this provision must invest in grooming women for board position. Research has shown that companies with more women directors provide stronger business performance. "Experience shows that groups with diverse perspectives can achieve more balanced decisions make with innovative de-risked outcomes". Men and women on board can leverage their differences to deliver higher standards of corporate governance.

Woman can and do have a positive impact on boards. There is a need to get diversity of views in board room discussions and the same is impossible without the women. Women are known to be careful, meticulous, intuitive, more focused on ethics and conduct, detect driven and prudent in reviews. With unmatched multitasking capabilities they also have an unrivalled eye for detail. Women directors are seen to be skilled at gathering information

are not afraid to ask questions and have better communication skill, all of which makes for improved interaction among board members. All things considered, women help to balance the board room discussion and bring different perspectives to deliberations. They are the key to striking the right balance between short term rewards and long term sustainability.

After some time research studies can be conducted that whether by applying section 149(1) of the company's act 2013 has brought any results regarding profitability, sales, transparency & effectiveness in companies. Another type of research study can also be conducted that whether women directors have helped in improving the overall image of the company in which they are appointed as women directors.

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IAA Announcements Nominations for Election of Executive Members of IAA

As per Article 11 of the Constitution of Indian Accounting Association, nominations are invited for the elections of Ten Executive Members of IAA (Two from each zone) to be held during 37th All India Accounting Conference and International Seminar (Dec. 5-6, 2015) at Panjab University, Chandigarh. Election shall be conducted under supervision of Election Committee comprising of President, Senior Vice President, Junior Vice President and General Secretary as per the constitution. Nominations may be submitted on plain paper containing Name, Membership No., Address, Branch, Zone and Signatures of Nominee, Proposer and Seconder. The scanned copy of the nomination paper should be sent to Prof. G. Soral, General Secretary, IAA at generalsecretaryiaa@gmail.com latest by Nov. 27, 2015. Please note that presence of nominee, proposer and seconder during the conference is essentially required for the nomination to be valid.

General Secretary, IAA

Notice for Executive Committee Meeting

Executive Committee Meeting of Indian Accounting Association shall be held at the Venue of 38th All India Accounting Conference, Chandigarh with Prof. Pratap Sinh Chouhan in chair on 5th Dec., 2015 at 08:30 P.M. with the following agenda:

1. Consideration of minutes of Executive Committee meeting held on November 8, 2014 in Lucknow.
2. Consideration of the Accounts of the Association.
3. Nomination of 3 EC members for panel to nominate Jr. Vice President.
4. Venue of the 39th Conference.
5. Co-option of members to EC and
6. Any other item with the permission of the chair.

All the Executive Members are requested to kindly attend the meeting.

General Secretary, IAA

Notice for Annual General Meeting

Annual General Meeting of Indian Accounting Association shall be held at the Venue of 38th All India Accounting Conference, Chandigarh with Prof. Pratap Singh Chouhan in chair on 6th Dec., 2015 at 12 noon with the following agenda:

1. Consideration of minutes of AGM held on November 9, 2014 in Lucknow.
2. Consideration of the annual accounts of the Association.
3. Topics of 39th All India Accounting Conference.
4. Venue of the 39th Conference.
5. Nomination of Two Senior members for panel to nominate Junior Vice President.
6. Declaration of results of election of Executive Members and
7. Any other item with the permission of the chair.

All the members are requested to kindly attend the meeting.

General Secretary, IAA

IAA YOUNG RESEARCHER AWARD 2015

Proposals are invited for the IAA Young Researcher Award 2015 from life members of the association. The research work should be in accounting and related areas, which have been completed during last five years. The age of applicant should not be more than 35 years as on 31st December, 2015.

Application for the award should contain two parts:

Part A: (i) Request letter for consideration for the award
(ii) Brief profile of applicant
(iii) Recent passport size photograph of applicant
(iv) Declaration about originality of research work

Part B: Report of Research Work (without any mention of applicant's name or affiliations)
The application should be addressed and reach latest by 30th Sept., 2015 to:

Prof. G. Soral
General Secretary, IAA
Professor and Director, MBA (FM) Programme
Department of Accountancy and Statistics
Vanijya Bhawan, Mohanlal Sukhadia University,
Udaipur - 313001 (Rajasthan)

NATIONAL ACCOUNTING TALENT SEARCH 2015-16
(Sunday, Feb. 28, 2016)

An accounting knowledge competition for Under-graduate and Post-graduate & professional students shall be held all over the country organised by IAA. Registrations are open from July 1, 2015 to Dec. 31, 2015. For registration and details, visit www.accountingtalent.org

ACTIVITY REPORTS OF IAA BRANCHES

Two-day National Seminar on "Insurance, Bank and other allied Financial Service Sectors in India" by I.A.A., Midnapore Branch

A two-day National Seminar on "Insurance, Bank and Other Allied Service Sectors in India" was held on 13th and 14th December, 2014 at Tamralipta Mahavidyalaya,Tamluk, Purba Medinipur organized by IAA, Midnapore Branch jointly with the Department of Commerce, Tamralipta Mahavidyalaya. The seminar was inaugurated by Prof. Bhagawan Das, Professor and Head, Dept. of Business Management, Fakir Mohan University, Balasore in the presence of Prof. Jaydeb Sarkhel, President, IAA, Midnapore Branch, Prof. Arup Kumar Chattopadhyay, Professor and Head, Department of Economics, University of Burdwan, Ms. Sonam Mohanty, Manager, SBI, Contai Branch, Mr. Debasish Banerjee, General Secretary, Kharagpur Division LIC Employees Association and Mr. R. C. Guria, Regional Manager, New India Assurance Company Ltd.. Thus, an evidence of mutual cooperation between industry and academia was established in the seminar. As many as 30 papers were presented covering a wide range on the theme of the seminar. More than 200 delegates including

student delegates were participated. Dr. Siddhartha Sankar Saha of St. Xavier's College (Autonomous) presented a key-note in the third technical session, which was chaired by Prof. Arindam Gupta, Dept. of Commerce, Vidyasagar University. Dr. Kajal Baran Jana, Organizing Secretary, offered vote of thanks to all for the success of the seminar.

Hrishikesh Paria
Secretary, I.A.A., Midnapore Branch

Report of the 7th AGM of IAA, Midnapore Branch

The 7th Annual General Meeting of IAA, Midnapore Branch was held on14th December, 2014 at Tamralipta Mahavidyalaya,Tamluk, Purba Medinipur,W.B. The AGM was preceded by a two-day National Seminar on "Insurance, Bank and Other Allied Financial Service Sector Reforms in India". Prof. Jaydeb Sarkhel, President of the Branch chaired the meeting. In the Secretary's Report, it was mentioned that the e-Journal of the Branch was being published regularly twice in a year and had earned a good name in its relevant field. In its report the Secretary requested the members to inform the students about the NATS Examination to be held on 22nd February, 2015. It was also reported that as many as 10 members of our Branch had participated in the National Conference held at Lucknow University on 8th and 9th November, 2014. The audited account was placed by the Treasurer of the Branch and was approved. The new Executive Committee of the Branch was formed unanimously with 17 members headed by Prof. Jaydeb Sarkhel as President, Prof. Arindam Gupta as Vice President, Prof. Hrishikesh Paria as Secretary, Prof. Anupam Parua as Joint Secretary and Mr. Amit Baran Mahapatra as Treasurer. The other members are Prof. Bijoy Krishna Bhattacharya, Ms. Arundhuti Basu, Prof. Pradipta Banerjee, Prof. Baneswar Kapasi, Prof. Rabindranath Changdar, Prof. Nirmal Chakraborty, Dr. Kajal Baran Jana, Dr. Anup Maji, Dr. Jaydeb Bera, Mr. Rabindranath Pal, Prof. Bhagawan Das and Mr. Saswata Choudhury. The meeting ended with a vote of thanks to the chair.

Hrishikesh Paria
Secretary, I.A.A., Midnapore Branch

ACTIVITY REPORT OF IAA UDAIPUR BRANCH for 2013-14

Workshop on SPSS for Business Data Analysis (June 24-25, 2014)

Prof. G. Soral, General Secretary, IAA and Chairman , Udaipur Branch inaugurated the workshop. Prof. Shurveer S. Bhanawat, Secretary, IAA Udaipur Branch, highlighted the purpose of organizing such workshop. He said that the SPSS is most widely used programs for statistical analysis in social science research and it helps the researcher to make the research work more scientific and reliable as a number of different statistical tools like ANOVA, paired t- test, chi squire test, exploratory factor analysis (EFA), and so on, can be applied with the help of SPSS software. Dr. Shilpa Vardia, Organizing Secretary of the workshop introduced the resource person and on behalf of participants she expressed their expectation from this workshop. The resource person of the workshop was Dr. Manvinder Singh Pahwa, Ex Professor, J.K. Business School, Gurgaon (Haryana). The workshop was very effective and participated were highly satisfied.

National Seminar on Contemporary Issues in Accounting (September 6-7, 2014)

The national seminar was conducted under joint auspices of Dept. of Accountancy and Statistics, MLSU and inaugurated by Prof. I.V. Trivedi Vice- chancellor of the university. He congratulated the organisers and appreciated the department of accountancy and statistics for introducing a paper on Computerised Accounting. Patron of the seminar and Dean, UCCMS Prof. Vijay Shrimali was chief guest of the inaugural ceremony. He highlighted the gap between university accounting syllabus and requirement of real world of accounting. and appreciated the steps taken by the department to eliminate such gap. Prof. G. Soral seminar director delivered welcome speech. Seminar Secretary and Head of department Prof. Shurveer S. Bhanawat explained elaborated the theme of the seminar. Emphasis was given on urgency of the reforms in development of new techniques to detect and predict financial statement frauds. He also highlighted the various emerging dimensions and issues in accounting like Neural Network, carbon taxation etc.

The key note speaker of the function was C.A. Dr. Nilesh Suchak who is the executive member of Gujarat Chamber of commerce and industry. He critically examined the role of creative accounting in financial and accounting frauds. He quoted examples of Bhushan Steel, Enron, and WorldCom to explain the role of creative accounting. He also explained various techniques of creative accounting and emphasis was given on ethics. He said accountant should be ethical through *Man, Vachan and Karma*. There should not be gap in letters and spirits.

Prof. C.M Jain delivered vote of thanks. In two days four technical sessions viz., Accounting Education & Research, Creative Accounting, Commodity Market and Risk Management and Accounting for Financial Instruments were organised and good number of quality papers were presented. CA Dr. Nilesh Suchak, Prof. N.K.Pandya, Prof. Anil Kothari and Prof. Pramod Kumar were chairpersons of respective technical sessions.

Round Table Conference on Revisiting Post Graduate Course Curriculum (March 28, 2015)

Key speaker was veteran Chartered Accountant Shri Arun Pitliya. He pointed out the difference between the theoretical aspects and Industrial Practices of accounting. A good number of lecturers and research scholars from Government and private colleges participated and contributed to the deliberations and suggestions.

Holi Milan (March 21, 2015)

A get together dinner party of IAA members was organised in which spouses and children of the members also participated in good number.

During the year **eleven life members** joined IAA Udaipur Branch.

Prof. Shurveer S. Bhanawat

Secretary, IAA Udaipur Branch

38th All India Accounting Conference and International Seminar (December 5-6, 2015)

CALL FOR PAPERS AND REGISTRATION

University Business School, Panjab University and Indian Accounting Association, Chandigarh Branch considers it a privilege and a matter of great pride to host the 38th All India Accounting Conference and the International Seminar of Indian Accounting Association on December 5-6, 2015.

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, academician and experts in the field of Accounting education & research in India and abroad.

Details of Seminar and Technical Sessions are as follows:

International Seminar on Accounting Education and Research:

With Prof. Harish S. Oza as Chairman

Technical Session-I: Role of Accounting in building a nation

With Prof. H.K. Singh as Chairman

Technical Session - II: Behavioral Accounting

With Prof. Lalit Gupta as Chairman

Technical Session - III: Integrated Reporting

With Prof. B.C. Sanjeevaiah as Chairperson

Last date for paper submission is **September 30, 2015** Communication regarding acceptance or otherwise based on blind review by the committee shall be sent by **November 15, 2015.**

Registration fee details are as follows:

	Fee up to September 30, 2015 (Amt in Rs)	Fee from October 01 to November 06, 2015 (Amt in Rs)
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, 38th All India Accounting Conference"** payable at **Chandigarh** along with the enclosed registration form duly filled in. Papers without registration fee shall not be considered.

*** Please note that there will be no spot registration.**

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
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. Karamjeet Singh
Conference Secretary
University Business School,
Panjab University,
Chandigarh – 160014
e-mail : krjsingh2015@gmail.com

CALL FOR PAPERS

Indian Journal of Accounting is an official publication of Indian Accounting Association. It is a blind reviewed refereed indexed journal published twice a year, in June and December respectively with an ISSN-0972-1479. The scope of journal encompasses all areas of Accounting including Corporate Accounting, Auditing, Taxation, Management Accounting, Cost Accounting, finance and Information Systems. Manuscripts should be addressed to **Prof. Umesh Holani, Chief Editor, Indian Journal of Accounting, Jiwaji University, Gwalior (MP)** at Email: chiefeditorija@gmail.com (Mob.no.+91-94257-35596) before November 15, 2015 for the forthcoming issue.

Guidelines for Submission of Research Manuscripts for Publication in Indian Journal of accounting

1. All submitted manuscripts must be original. Paper submission must accompany a certificate/ declaration by the author(s) that the paper is his/ their original work and has neither been published nor submitted for publication elsewhere.
2. Manuscript must be in MS Word processor in Calibri font 12 pt font size on A-4 size paper with 1" margin from all sides with 1.5 line spacing, and justified.
3. References should appear at the end of the paper printed in single space with 10 pt. font size. References should be listed as per the APA Citation Format latest Edition.
4. The length of the paper should be limited to approximately 12 pages including references (as per the specified layout) excluding tables and figures.

5. Tables, figures, etc. should be serially numbered and duly acknowledged. Sources of the data need to be given below each table or figure.
6. All but very short mathematical expressions should be displayed on a separate line and centered. Equations must be numbered consecutively on the right margin, using Arabic numerals in parentheses.
7. Papers should have an abstract of about 150-250 words.
8. The cover page of the paper should contain-Title of the paper, Name of author(s), Professional affiliation of author(s), Address for correspondence with email and telephone numbers.
9. The name of the author(s) should not appear on the manuscript to facilitate blind review.
10. Editorial decision regarding publication will be communicated within a month from receipt of the manuscript.

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