# DEPOSITS, LOANS AND RECOVERY PERFORMANCE OF COMMERCIAL BANKS: A COMPARATIVE STUDY

**Dr. S. K. Baral[1]**

| ABSTRACT |
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| The performance analysis in terms of deposits, loans and recovery is essential and a pressing need all the time to commercial banks as they deal with public money. Through such performance indicators, mangers can understand well about the functioning and financial state of their banks.  In general, the performance of individual banks differs from one to another, and particularly distinguishable between public sector banks and private sector banks. The main objective of the paper is to analyze and compare the financial performance of select banks in terms of Deposits mobilization, Lending and Recovery Performance of SBI and HDFC Bank. The study is a case method of Research and comparative analysis in nature. The study used only secondary data that was collected from research articles, books related and thesis works already done on the topic and particularly from annual reports of SBI and HDFC Bank. The total period of the study is 5 years, i.e. 2008-2012. To prove the authenticity of the findings, t-Test and Test of difference between proportions are employed. |

| KEYWORDS |
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| **Performance, Deposits, Loans, Advances, Recovery Performance, Investment Ratios, Efficiency Ratios, Profitability, NPAs etc.** |

## INTRODUCTION

The meaning of the bank can be understood only by its function just as its fruits know a tree.  As any other subject, it has its own origin, growth and development. The word 'bank' is traced from the German word "Banck" which means, heap or mound or joint stock fund. Most of the people have the opinion that the word "bank" is derived from the French word "bancus" of "banque" that means a "bench".  Initially, the bankers, the Jews in Lombardy, transacted their business on benches in the market place and the bench resembled the banking counter.  If a banker failed, his 'banque' (bench) was broken up by the people; hence, the word "bankrupt" has come. Hence, a bank is known as an institution that deals with money and credit.  Different people understand the meaning of a bank in different ways.  For a common man, bank means a storehouse where money is stored; for a businessperson, it is a financial institution and for a day-to-day customer, it is an institution where he can deposit his savings.  In reality, banks are service organization selling financial services.

Banks play an important role in the economy of any country as they hold the savings of the public provide means of payment for goods and services and too provide necessary finance for the development of business and trade. Thus, bank is a link in the flow of funds from savers to the users. Thus, bank is an intermediary that handles other people's money both for the advantages and to its own profits. However, bank is not merely a trader in money but also an important manufacturer of money. Hence, it is evident from the foregone discussion that bank is an organization, usually a corporation, chartered by a state or federal government, which does mostly performing the activities mostly in terms of receives demand deposits and time deposits, honors instruments drawn on them, and pays interest on them; discounts notes, makes loans, and invests in securities; collects check drafts, and notes; certifies depositor's cheques; and issues drafts and cashier's cheques.

Indian banking sector, which withstood the turmoil of the global financial crisis during 2008-09, started showing some signs of stress during the subsequent period. Performance of Indian banks during the post-crisis period was conditioned largely by fragile recovery of the global financial markets as well as a challenging operational environment on the domestic front, with high inflation and muted growth performance. Performance of the Indian banking sector during 2011-12 was influenced by the slowdown in the domestic economy. Consequently, balance sheet expansion of banks was lower than the previous year. Major profitability indicators, i.e., return on assets (RoA) and return on equity (RoE) dipped marginally. However, cost to income ratio of banks improved during 2011-12, reflecting marginal gains in efficiency. Though Indian banks remained well-capitalized, concerns about the growing non-performing assets (NPAs) loomed large. Banks' exposure to the stressed power and airline sectors particularly added to deterioration in their asset quality. Though progress has been made in expanding banking coverage, more efforts are needed to achieve meaningful financial inclusion. Customer services of banks need to be strengthened to face the emerging challenges.

## REVIEW OF LITERATURE

**Xuezhi Qin, Dickson Pastory (July 2012),** Commercial Banks Profitability Position: The case of Tanzania, examine commercial banks profitability in Tanzania for the period of ten years (2000-2009).The study used National Microfinance Bank (NMB),

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[1]Director, Kushagra Institute of Information & Management Science (K.I.I.M.S.), Odisha, India, drskbinfo@gmail.com

National Bank of Commerce (NBC) and CRDB as the case study. The study employed the profitability measures of commercial banks, and the evidence of performance in terms of profitability was established based on return on average asset, net interest income to average bearing assets and non-interest expenses to average assets. The paper utilized panel secondary data from National bank of commerce, CRDB and National Microfinance bank in Tanzania for the period of ten years, and the hypothesis was tested to know whether there is a significant difference in terms of profitability by using ANOVA test. Finally, the regression model was run to see the effects of capital adequacy, liquidity and asset quality on the profitability of commercial banks. The findings revealed that there is no significant difference on profitability among the commercial banks, in the context of regression model it has been noted that liquidity and asset quality has positive impact in profitability with exception to the level of nonperforming loans, which has a negative influence on profitability. In addition, capital adequacy has shown negative impact on profitability. The study confirmed the profitability of commercial banks to stable and meeting the regulatory requirement of the Bank of Tanzania (BOT).

**Maitah, Mansoor, Zedan, khaled, Shibani, Bashir (May 2012),** Factors Affecting the Usage level of Financial Analysis by Credit Officers in the Credit Decision in Libyan Commercial Banks, aim to give an idea about the usage level of financial analysis in Libyan state-owned commercial banks, and the factors affecting the process in the credit decision, since these banks owns almost 90% of Libyan banking sector assets. To collect the data a questionnaire were distributed to credit officers and analysts in all state-owned commercial banks operate in Tripoli. The data was analyzed using SPSS program. The analysis results show that there is a weak usage level of financial analysis in the decision making process of evaluating the eligibility of the credit applicants for accredits facility. These results caused for two major reasons, first poor qualification and professional credit officers and analysts, second the low confidence level of the financial information presented by credit applicants. The major recommendation is increase more attention to reform the whole process in this field.

**Almazari, Ahmed Arif (Apr 2012),** Financial Performance of Jordanian Arab Bank by using the Du Pont system of Financial Analysis, attempts basically to measure the financial performance of the Jordanian Arab commercial bank for the period 2000-2009 by using the DuPont system of financial analysis which is based on analysis of return on equity model. The return on equity model disaggregates performance into three components: net profit margin, total asset turnover, and the equity multiplier. Arab bank is one of the largest financial institutions in the Middle East and is ranked amongst the largest international facial institutions. The bank witnessed a continuation of challenges brought on by the global financial crisis. It was found that the financial performance of Arab Bank is relatively steady and reflects minimal volatility in the return on equity. Net profit margin and total asset turnover exhibit relative stability for the period from 2001 to 2009. The equity multiplier also show almost stable indicators for the period from 2001-2005 and the ratios declined from 2006-2009 which indicates that the Arab bank had less facial leverage in the recent years, which means the bank is relying less on debt to finance its assets.

**Zenith (March 2012),** Relative Performance Of Commercial Banks In India Using Camel Approach states that it is due to the nature of banking and the important role of banks in the economy in capital formation, banks should be more closely watched than any other type of economic unit in the economy. The CAMEL supervisory system in banking sector is a substantial improvement over the earlier systems in terms of frequency, coverage and focus. In the present study, an attempt is made to evaluate relative performance of banks in India using CAMEL approach. It is found that public sector banks have significantly improved indicating positive impact of the reforms in liberalizing interest rates, rationalizing directed credit and Investments and increasing competition.

**Amitava Mandal, Santanu Kumar Ghosh (2012),** Intellectual Capital and Financial Performance of Indian Banks, made an attempt to investigate empirically the relationship between intellectual capital and financial performance of 65 Indian banks for a period of ten years from 1999 to 2008. The analysis indicates that the relationships between the performance of a bank's intellectual capital, and financial performance indicators, namely profitability and productivity, are varied. The study results suggest that banks' intellectual capital is vital for their competitive advantage.

**George, Sajeev Abraham, Chattopadhyay (2012),** an Investigative Study of Operational Performance and Service Quality of Indian Public Sector Banks, presents information on an investigative study of the service quality and operational performance of the public sector banks in India. It informs that the form the onset of the economic liberalization in 1990 the public sector banks in the country are facing a stiff competition from the private sector banks and the other foreign banks. It further informs that the in spite of the fact of this competition the majority of the shares in this sector belong to public sector banks.

**Uddin, S M Sohrab, Suzuki, Yasushi (July 2011**), Financial Reform, Ownership and Performance in Banking Industry: The case of Bangladesh, investigate the performance of commercial banks after the implementation of significant financial reform. Data Envelopment Analysis based frontier measures income and cost efficiency and traditional non-frontier measures non-performing loans and return on assets have been used for assessing bank performance. The findings indicate that income and cost efficiency of sample banks have increased by 37.84 percent and 15.28 percent respectively in 2008 compared to 2001. Similarly, non-performing loans and return on assets also report improvement in bank performance. The results generated by regression models indicate that foreign ownership has a statistically significant positive impact on bank performance. On the other hand, private ownership has favorable impact on income efficiency, return on assets, and non-performing loans, whereas negative impact on cost efficiency.

**Verma, Richa (Apr 2011**), Performance of Scheduled Commercial Banks in India, attempt to evaluate the productive efficiency of Scheduled Commercial Banks (SCBs) operating in India. To judge the efficiency of banks, interest expenses and non-interest expenses (operating expenses) are considered as input variables and deposits, advances, investments and spread as outputs. The paper analyzed the efficiency of 88 SCBs with the dataset ranging from the year 1998-99 to 2007-08. The results of the study indicate that the scheduled commercial banks need a lot of improvement in their efficiency level, as at the most only 42.9 percent public sector banks, 40 percent private sector banks and 42.9 percent foreign banks were found efficient in a year during the study period. The results indicate that the public sector and foreign banks need to take steps to reduce the expenses and improve the output at the given input level because they have failed to acquire full efficiency score in six and five years, respectively, out of the ten years under study.

**Bodha B. S. Bajaj, Richa Verma (Feb 2010),** an Analysis of Efficiency of Private Sector Banks in India, aim to examine the efficiency, benchmarks and targets for private sector banks operating in India. Keeping in view the limitations of ratio analysis techniques, production approach of Data Envelopment Analysis (DEA) was applied to judge the efficiency of private sector banks. In this model, banks are considered as service providers, and while interest expenses, non-interest expenses and the Non-Performing Asset (NPA) ratio, i.e., net NPAs to net advances, are considered as input variables, deposits, advances and investments are considered as the output variables. The paper analyzes the efficiency of 29 private sector banks with the dataset ranging from the period 1998-99 to 2005-06. The results of the study indicate that there is a lot of scope for the private sector banks to improve their efficiency level, as, at the most, only 31.25% private sector banks were found efficient during the entire study period. The results indicate that a majority of private sector banks in India need to take steps to decrease the NPA level and improve their output parameters, such as deposits, advances and investments, because they have failed to acquire full efficiency score in all the years under study.

**Mahesh, H. P Rajeev, (Mar 2009),** Producing Financial Services: An Efficiency Analysis of Indian Commercial Banks, attempt to examine the changes in the productive efficiency of Indian commercial banks after the financial sector reforms initiated in 1992. Using stochastic frontier technique, we estimate bank specific deposit, advance and investment efficiencies for the period 1985-2004. Our results show that deregulation has significant impacts on all three types of efficiency measures. While deposit and investment efficiencies have improved, advance efficiency has declined marginally. Public sector banks as a group ranks first in all the three efficiency measures showing that, as opposed to the general perception, these banks are doing better than their private counterparts. Private Banks however have shown marked improvement during the post-liberalization period in terms of all three types of efficiency measures.

**Pai V. S, (2009),** A Study of Profitability and Efficiency of Banks in India, compares profitability and efficiency of banks operating in India. Four categories of banks (based on RBI classification) were considered for the study. These were SBI and Associated Banks, Nationalized Banks, Scheduled Commercial Banks and Foreign Banks. The period of study was 2006-08. First, ANOVA was used to determine whether there existed variability among the bank groups with regard to Return on Assets (ROA) and Profit per Employee (PPE). The tests revealed significant variation in profitability and efficiency with regard to the bank groups being studied.

### NEED FOR STUDY AND STATEMENT OF PROBLEM

Financial statements are prepared primarily for decision-making. They play a dominant role-in setting the framework of management decisions. However, the information provided in financial statements is not an end itself as no meaningful conclusions can be drawn from these statements alone. The information provided in the financial statements is of immense use in making decisions through financial analysis. Financial analysis is "the process of identifying the financial strengths and weakness of a firm by properly establishing relationship between the items of the balance sheet and the profit and loss account". There are various methods or techniques used-in-financial analysis such as comparative balance sheets statements, trend analysis, common size statements, schedule of changes in working capital, funds flow and cash flow analysis, cost volume-profit analysis, and particularly in banking sector, the financial analysis is very much essential as they deal with public money, ratio analysis is one that methodically classifies the data of banks income statement and Balance sheet by establishing the relationship among various items of those statements, wherefrom many performance indicators can be received by the mangers and can understand well about the functioning and financial performance of a bank. It is very vivid that the financial performance of individual banks differ from one to another, however, the performance as discussed is also distinguishable between public sector banks and private sector banks. So in the present paper a modest attempt has been made to dwell on the deposits, loans and recovery performance of commercial banks as a comparative study of SBI and HDFC bank.

### OBJECTIVES AND HYPOTHESES OF STUDY

The main objective of the study is to analyze and compare the financial performance of SBI and HDFC banks in terms of Deposits mobilization, Lending and Recovery Performance for the period of 2008-2012. In order to ascertain the objectives of the paper the following hypotheses are frames and tested.

$H_{01}$: There is no significant difference in the volume of Demand Deposits, of SBI and HDFC Bank.
$H_{02}$: There is no significant difference in the volume of Savings Deposits of SBI and HDFC Bank
$H_{03}$: There is no significant difference in the volume of Term Deposits of SBI and HDFC Bank
$H_{04}$: There is no significant difference in the total volume of loans & advances.
$H_{05}$: There is no significant difference in the total volume of term loans of SBI and HDFC bank.
$H_{06}$: There is no significant difference in the total volume of short-term loans of SBI and HDFC bank.
$H_{07}$: There is no significant difference in Recovery Performance between SBI and HDFC Bank.

## DATA SOURCES AND METHODOLOGY USED

The study is an analytical and comparative analysis in nature. The study used only secondary data that was collected from research articles, books related and thesis works already done on the topic and particularly from annual reports of SBI and HDFC Bank. State Bank of India (SBI) and Housing Development Finance Corporation Limited (HDFC) are selected as sample banks for the study, as they are top banks in the domain of public and private sectors. The total time of the study is 5 years, i.e. 2008-2012. To prove the authenticity of the findings, t-Test and Test of difference between proportions are employed.

## ABOUT STATE BANK OF INDIA AND HDFC BANK

The State Bank of India, the country's oldest Bank and a premier in terms of balance sheet size, number of branches, market capitalization and profits is today going through a momentous phase of Change and Transformation – the two hundred year old Public sector behemoth is today stirring out of its Public Sector legacy and moving with an ability to give the Private and Foreign Banks a run for their money.

Net Profit of SBI increased by 41.66% from Rs.8, 265 crores in FY'11 to Rs.11, 707 crores in FY'12, one of the highest net profits earned by any corporate in the country. Operating Profit for the Bank crossed Rs.30, 000 crores mark, rising by 24.62% to Rs.31, 574 crores in FY'12 from Rs.25,336 crores in FY'11, indicating that core operations remain robust. The Bank has consolidated gains on the income side by recording a robust increase in Net Interest Income. In particular, Interest Income on Advances rose by 35.18% from Rs. 59,976 crores in FY'11 to Rs. 81,078 crores in FY'12. Interest income of the Bank increased by 30.87% in FY'12 against a growth of 14.65% in FY'11, while growth in interest expenses stood at 29.39% in FY'12. Fee income also recorded a rise of 4.56% in FY'12. Consequently, Net Interest Income increased by 33.10% to Rs. 43,291 crores in FY'12. However, reflecting market conditions, non-interest income showed a decline of 9.31% due to the loss of `920 crores because of sale of domestic equity and bonds.

The Housing Development Finance Corporation Limited (HDFC) was amongst the first to receive an 'in principle' approval from the Reserve Bank of India (RBI) to set up a bank in the private sector, as part of the RBI's liberalization of the Indian Banking Industry in 1994. The bank was incorporated in August 1994 in the name of 'HDFC Bank Limited', with its registered office in Mumbai, India. HDFC Bank commenced operations as a Scheduled Commercial Bank in January 1995.

HDFC Bank's mission is to be a World-Class Indian Bank. The objective is to build sound customer franchises across distinct businesses to be the preferred provider of banking services for target retail and wholesale customer segments, and to achieve healthy growth in profitability, consistent with the bank's risk appetite. The bank is committed to maintain the highest level of ethical standards, professional integrity, corporate governance and regulatory compliance. HDFC Bank's business philosophy is based on four core values - Operational Excellence, Customer Focus, Product Leadership and People.

The financial performance of HDFC Bank during the financial year ended March 31, 2012 remained healthy with total net revenues (net interest income plus other income) increasing by 17.9% to 17,540.5 crore from 14,878.3 crore in the previous financial year. Revenue growth was driven by an increase in both, net interest income and other income. Net interest income grew by 16.6% due to acceleration in loan growth to 22.2% coupled with a net interest margin (NIM) of 4.2% for the year ending March 31, 2012.

## ANALYSIS AND DISCUSSION

### Deposits

Acceptance of deposits and maintenance of deposit accounts is the core activity in any bank. Deposits are the major resource and mainstay of a bank and the main objective of a bank are to mobilize adequate deposits. While various deposit products offered by the Bank are assigned different names, the deposit products can be categorized broadly into: "Demand Deposits", means a deposit received by the Bank which is withdraw-able on demand; "Savings Deposits" means a form of Demand Deposit which is subject to restrictions as to the number of withdrawals as also the amounts of withdrawals permitted by the Bank during any specified period. On the other hand, "Term Deposit" means a deposit received by the Bank for a fixed period withdraw-able only after the expiry of the fixed period and includes deposits such as Recurring / Double Benefit Deposits / Short Deposits / Fixed Deposits /

Monthly Income Certificate /Quarterly Income Certificate etc. The volume of Deposits of SBI and HDFC from 2008 to 2012 is analyzed and presented through table-I.

### Table-1: Deposits of SBI and HDFC

| Particulars | State Bank of India | | | | | HDFC | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Demand Deposits | 12313.4(100) | 10761.84(87.4) | 8904.47(72.3) | 8700.346(70.7) | 6969.88(56.6) | 678.75(100) | 2915(429.5) | 112425(16563.5) | 1487.43(219.1) | 1828.36(269.4) |
| Savings Deposits | 154229.29(100) | 198224.27(128.5) | 257460.29(166.9) | 330326.06(214.2) | 369156.31(239.4) | 194.17(100) | 387.89(199.8) | 411.02(211.7) | 348.28(179.4) | 381.94(196.4) |
| Term Deposits | 7065.48(100) | 13657.16(193.3) | 14337.83(202.9) | 13539.67(191.6) | 17405.95(246.4) | 484.58(100) | 2527.11(521.5) | 400(82.5) | 300(61.9) | 350(72.2) |
| Total | 173608.17 | 222643.27 | 280702.59 | 55566.076 | 393532.14 | 1357.5 | 5830 | 113236.02 | 2135.71 | 2560.3 |

**Sources:** Annual Reports

It is very clear from the following table that Demand Deposits of SBI declined in most of the years of study period. It increased by 87.4% in 2009, 72.3% in 2010, 70.7% in 2011, and 56.6% in 2012. On the other hand, Demand Deposits of HDFC registered 429.5% in 2009, similarly, the volume of deposits increased by 16563.5% in 2010. In 2011 and 2012, the Demand Deposits of HDFC declined by 219% and 269% respectively. The Savings Deposits of SBI augmented by 239.4 % in 2012. Conversely, Savings Deposits of HDFC also increased by 199.8% in 2009. It further increased by 211.7% in 2010, decreased by 179.4% in 2011, and again reported an increase by 196% in 2012.

The Term Deposits of SBI moved from 100% in 2008 to 193% in 2009. It further increased to 202.9% in 2010. It decreased to 191.6% in 2011 and later increased to 246.4% in 2012. In contrast, Term Deposits of HDFC increased by 521.5% in 2009 and the term deposits decreased to 82.5% in 2010 and to 61.9% in 2011 and then increased to 72.2% in 2012. It indicates that the trend of deposits is marginally moved towards up and down, whereas, the trend is highly volatile for HDFC bank.

### Test of Hypothesis I, II and III

$H_{01}$: There is no significant difference in the volume of Demand Deposits, of SBI and HDFC Bank.
$H_{02}$: There is no significant difference in the volume of Savings Deposits of SBI and HDFC Bank
$H_{03}$: There is no significant difference in the volume of term Deposits of SBI and HDFC Bank

### Table-2

| Type of Deposits | Name of the Test | Degrees of Freedom | Level of Significance | Calculated Value | Critical Value | Decision |
|---|---|---|---|---|---|---|
| Demand Deposits | t-test | n1+n2-2 | 5% | -0.65 | 2.31 | Accepted |
| Savings Deposits | | 8 | | 6.55 | 2.31 | Rejected |
| Term Deposits | | | | 7.12 | 2.31 | Rejected |

**Sources:** Authors Compilation

With the help of t-Test, it is examined that there is no significant difference in the volume of Demand Deposits, Savings Deposits and Term Deposits of SBI and HDFC Bank. The calculated t value of Demand Deposits is lesser than the critical value and the calculated t value of Savings Deposits as well as Term Deposits are higher than the critical value. Hence, the hypothesis is accepted at Demand Deposits and rejected for Savings and Term Deposits. It states that SBI and HDFC Banks are differing in the volume of Savings Deposits and Term Deposits and reporting similar trend in Demand Deposits.

### *Loans*

Loan may be regarded as 'credit' granted where the money is disbursed and its recovery is made on a later date. It is a debt for the borrower. While granting loans, credit is given for a definite purpose and for a predetermined period. Interest is charged on the loan at agreed rate and intervals of payment. 'Advance' on the other hand, is a 'credit facility' granted by the bank. Banks grant advances largely for short-term purposes, such as purchase of goods traded in and meeting other short-term trading liabilities. There is a sense of debt in loan, whereas an advance is a facility being availed of by the borrower.

However, like loans, advances are also to be repaid. Thus, a credit facility- repayable in installments over a period is termed as loan while a credit facility repayable within one year may be known as advances. Commercial banks grant loans for different periods-long, short and medium term for different purposes. Table-3 shows total volume of loans and advances, term loans and short-term loans of SBI and HDFC Bank.

**Table-3: Loans of SBI and HDFC**

| Particulars | State Bank of India | | | | | | HDFC | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2008 | 2009 | 2010 | 2011 | 2012 |
| Loans & Advances | 416768.2(100) | 542503.21(130.2) | 631914.15(151.6) | 756719.44(181.6) | 867578.89(208.2) | 63426.89(100) | 98883(155.9) | 125830.59(198.4) | 159982.66(252.2) | 195420.03(308.1) |
| Term Loans | 228034.71(100) | 271639.31(119.1) | 313988.92(137.7) | 365178.33(160.1) | 416297.86(182.6) | 46351.83(100) | 72431(156.3) | 95483.86(206) | 96729.6(208.7) | 114580.4(247.2) |
| Short Term Loans | 188733.49(100) | 270863.9(143.5) | 317925.23(168.5) | 391541.11(207.5) | 451281.86(239.1) | 17075.06(100) | 26453(154.9) | 30346.73(177.7) | 63253.06(370.4) | 80839.63(473.4) |
| Total | 833536.4 | 1085006.42 | 1263828.3 | 1513438.88 | 1735158.61 | 126853.78 | 197767 | 251661.18 | 319965.32 | 390840.06 |

**Sources:** Primary Data

It is very clear from table-3 that Loans and Advances of SBI and HDFC reported an increase trend over the study period. It increased by 130.2% in 2009, 151.6% in 2010, 181.6% in 2011 and 208.2% in 2012. On the other hand, loans and advances of HDFC also moved from 100% in 2008 to 308.1% in 2012. It clearly indicates that Loans and Advances, Term Loans and Short Term Loans of SBI and HDFC Bank reported completely an increase trend over the study period.

**Test of Hypothesis IV, V and VI**

$H_{04}$: There is no significant difference in the total volume of loans & advances.
$H_{05}$: There is no significant difference in the total volume of term loans of SBI and HDFC bank.
$H_{06}$: There is no significant difference in the total volume of short-term loans of SBI and HDFC bank.

**Table-4**

| Type of Loans | Name of the Test | Degrees of Freedom | Level of Significance | Calculated Value | Critical Value | Decision |
|---|---|---|---|---|---|---|
| Loans and Advances | t-test | n1+n2-2 | 5% | 6.25 | 2.31 | Rejected |
| Term Loans | | 8 | | 6.63 | 2.31 | Rejected |
| Short term loans | | | | 5.92 | 2.31 | Rejected |

**Sources:** Authors Compilation

Through t-Test, it is examined that there is no significant difference in the total volume of Loans and Advances, Term Loans and Short Term Loans of SBI and HDFC Bank. It can be discernible from the table that calculated value of t is greater than critical value. Hence, the hypotheses are rejected. It does mean that there is a significant difference in the volume of loans & advances, Term loans and short-term loans of SBI and HDFC.

*Recovery Performance*

Credit disbursement and recovery are two sides of the same coin. Providing finance without recovery bears no fruits and recovery without financing has no seeds. Timely recovery and strict credit discipline is of utmost importance for all credit institutions. Equally important is the need for a mechanism to take due care of the non-willful default arising out of the natural calamities or the adverse factors beyond the control of the borrowers, which make timely repayment difficult. While banks are primarily responsible for the proper identification of borrowers, careful appraisal, close monitoring and building up relationship to enforce proper credit discipline among the borrowers, the Government has equal responsibility for creating a conducive climate for recovery. The recovery performance of SBI and HDFC Bank is analyzed and presented through table-5.

**Table-5: Recovery Performance of SBI and HDFC**

| State Bank of India | | | | Housing Development Financing Corporation | | | |
|---|---|---|---|---|---|---|---|
| Year | Total Loans | Total Recovery | % of Recovery | Year | Total Loans | Total Recovery | % of Recovery |
| 2008 | 51728 | 13496.56 | 26.09 | 2008 | 21472 | 9523 | 44.35 |
| 2009 | 53713 | 13787.28 | 25.66 | 2009 | 33576 | 10213 | 30.41 |
| 2010 | 103012 | 26571.59 | 25.79 | 2010 | 45357.36 | 12496.12 | 27.55 |
| 2011 | 119569 | 27289.27 | 22.82 | 2011 | 66419.98 | 16951.31 | 25.52 |
| 2012 | 127006 | 28268.14 | 22.25 | 2012 | 88144.23 | 20456.56 | 23.2 |
| Average | 91005.6 | 21882.57 | 24.05 | Average | 50993.91 | 13927.99 | 27.31 |

**Sources:** Primary Data

Table-5 shows the Recovery Performance of SBI and HDFC bank for the time of 2008-2012. It is evident from table that the Recovery Performance of SBI is almost averagely 22 percent over the study period, HDFC registered a highest recovery rate in 2008 and 2009, and from 2010 onwards, it reported a lower rate of recovery.

**Test of Hypothesis VII**

$H_{07}$: There is no significant difference in Recovery Performance between SBI and HDFC Bank.

With the help of t-test, it can be inferred that there is no significant difference in Recovery Performance between SBI and HDFC Bank as calculated t value is less than critical value. Hence, the hypothesis is accepted.

**Table-6**

|  | Name of the Test | Degrees of Freedom | Level of Significance | Calculated Value | Critical Value | Decision |
|---|---|---|---|---|---|---|
| Recovery Performance | Test of difference between proportions | n1+n2-2 = 8 | 5% | -1.49 | 2.31 | Accepted |

**Sources:** Authors Compilation

*SUMMARY OF FINDINGS AND CONCLUSIONS*

- It is found that the deposits of SBI are superior to HDFC Bank. This is because of the confidence of the people in SBI as it is the largest public sector bank in India. The volumes of Demand Deposits of SBI and HDFC Bank are almost similar, but the volume of savings and term Deposits are significantly differing.
- It is found that loans and advances, term loans, and short-term loans of SBI are greater than HDFC Bank as SBI is having a greater network and customer base.
- The recovery performance of SBI is almost averagely 22 percent over the study period, HDFC registered a highest recovery rate in 2008 and 2009, and from 2010 onwards, it reported a lower rate of recovery. It is inferred that there is no significant difference in Recovery Performance between SBI and HDFC Bank.

*SUGGESTIONS*

In order to improve their financial performance, the SBI and HDFC banks are advised the following based on the analysis:

- The minimum balance for Savings Account in HDFC Bank should be reduced from Rs. 10,000 to Rs. 1,000, so that people who are not financially strong enough can maintain their account properly.
- The banks should motivate and impart right knowledge about banking to their staff.
- The banks should bring new products / services based on the aspirations of customers.
- The banks have to fundamentally reorient its business models by moving from product centric silos to customer centric strategies.
- The banks must become more clients centric by leveraging sophisticated insights to improve risk management pricing, channel performance and client satisfaction.

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Pezzottaite Journals,
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editorinchief@pezzottaitejournals.net
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# IMPACT OF NON-PERFORMING ASSETS ON FINANCIAL PERFORMANCE
# OF BANKING SECTOR IN INDIA: A COMPARATIVE STUDY OF SBI AND ICICI

**Dr. Mohd. Yameen[2] Izhar Ahmad[3]**

**ABSTRACT**

The objective of the present research paper is to study the impact of NPAs on the Profitability and liquidity Position of the banking sector in India with special reference to SBI and ICICI. The present study is based on the secondary source of information, which is collected from the CMIE Prowess, Reserve Bank of India and different websites.

For the study, the researchers have tested various hypotheses. The researchers have used the Karl Pearson Correlation for the testing of hypotheses with the help of SPSS. The management of nonperforming assets is an alarming situation for every bank in the banking industry. The very significant reason for management of NPA is due to their multi-dimensional effect on the operating efficiency and financial performance of this sector in India. The result of the study highlights the level of non-performing assets of SBI and ICICI banks. At present, the non-performing asset is a major problem faced by banking industry in the country. The improper processing of loan proposals, lack of will, poor monitoring etc. are the major causes, which creates upcoming of NPAs. The creation of NPAs in banking sector affects their performance in various ways like profit, interest income, provisions against NPAs etc. However, it is suggested that remedial measures should be taken into account by the banking sector to cure this disease.

**KEYWORDS**

**NPAs, SBI, ICICI, Financial Performance etc.**

## INTRODUCTION

One of the biggest major concerns around the world and Indian Banking System is the arising of Non-Performing Assets. In India, various committees are made to handle the problems of non-performing assets. Like, Narasimham Committee Reports I and II, Verma Committee Report, Basel I, II and III have continuously been providing guidelines and directives regarding this burning issue. Despite the fact that these committees have issued several guidelines, but the issue has not been sorted out until date. Nowadays NPA Management has become synonymous to the functional efficiency of Banking System in India.

The Financial health of banking sector is also shown by the return on their assets and NPA creates no interest income forth is sector. NPA also enhances the administrative, legal and recovery costs and borrowed resources are locked in NPAs. Whereas, automatically banks bear the cost of outlay of these funds and the cost of poor quality of loan recovered transfer on the shoulders of bank customer in the terms of higher interest rate on advances. The banking sector requires provisions / by Laws for non-performing assets which have a negative impact on the profitability of this sector. The future loan losses arising from the bad assets (at a coverage of 70%)out of current profit and banking sector can no longer account interest on NPAs loans as income unless and until it is actually paid by the borrower. The great impact of NPAs would not be created income, it not only affects profitability but also liquidity of the banking sector, as this sector has fewer funds to lend out or recycle. Higher amount involved in NPAs degrades not only credit rating of a bank but also lowering its credibility as well as its ability to raise further new capital. In the current scenario, the incidence of high NPAs in the Indian Banking Industry leads to deterioration in credit market. According to the Banking laws, every bank must maintain a capital adequacy ratio (CAR), which is the ratio of total capital to Risk Weighted assets, of 9% or higher, 10% for new private banks. As the NPA increases the aggregated risk weighted assets also goes up, consequently forcing the banks to assign fresh capital in order to maintain the Capital Adequacy Ratio. At present, the Indian Banking Sector is struggling a lotto meet Capital Adequacy Ratio norms.

One of the biggest causes of NPAs in Indian banking sector is the Direct Credit System ( DCS) under which commercial banks are directed to provide at least 40% of their yearly advances quota to priority sector of agriculture, small scale industries, retail trade, road and water transport operators, professional and self-employed persons and housing and education loan. The various government-sponsored schemes for the enhancement of employment generations have also played a vital role for creating the non-performing assets in public sector banks. These schemes include Integrated Rural Development Programme (IRDP), Jawahar Rojgar Yojna (JRY), Mahatma Gandhi National Rural Employment Guarantee Act {MGNREGA), Swarnjayanti Swarojgar Yojna (SSY), Pradhanmantri Rojgar Yojna (PMRY) and Indira Awas Yojna (IAS) etc. These schemes couldn't achieve their objectives and huge amount of loan granted under these schemes couldn't recovered due to the political intervention and manipulation as also the benefits of these schemes could not reached to the ultimate beneficiaries in a proper manner.

[2]Associate Professor, Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India, yameenmohd52@gmail.com
[3]Research Scholar, Department of Commerce, Aligarh Muslim University, Uttar Pradesh, India, izharahmad2008@gmail.com

*Elucidate NPAs*

A debt obligation where the borrower has not paid any previously agreed upon interest and principal repayments to the designated lender for an extended period. The non-performing asset is therefore not yielding any income to the lender in the form of principal and interest payments. NPA is defined as an advance for which interest or repayment of principal or both remain outstanding for a period of more than two quarters.

For example, a mortgage in default would be considered non-performing. After a prolonged period of non-payment, the lender will force the borrower to liquidate any assets that were pledged as part of the debt agreement. If no assets were pledged, the lenders might write-off the asset as a bad debt and then sell it at a discount to a collections agency.

*As per RBI guidelines, NPA is defined as under*

Non-Performing Asset (NPA) is a loan or an advance where;

- Interest and / or installment of principal remain overdue for a period of more than 90 days in respect of a term loan,
- The account remains 'out of order' in respect of an Overdraft/Cash Credit (OD/CC),
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
- The installment of principal or interest there on remains overdue for two crop seasons for short duration crops,
- The installment of principal or interest there on remains overdue for one crop season for long duration crops,
- The amount of liquidity facility remains outstanding for more than 90 days, in respect of a securitization transaction undertaken in terms of guidelines on securitization dated February 1, 2006.
- In respect of derivative transactions, the overdue receivables representing positive mark-to-market value of a derivative contract, if these remain unpaid for a period of 90 days from the specified due date for payment.

Net NPA = Gross NPA – (Balance in Interest Suspense account + DICGC/ECGC claims received and held pending adjustment + Part payment received and kept in suspense account + Total provisions held).

*Diversities of NPAs*

Non-Performing Assets is defined as an advance for which interest or repayment of principal or both remain outstanding for a period of more than two quarters. Banks are required to classify the loan assets (advances) into four categories.

**Standard Assets:** The standard assets are also known as performing assets because it carries only normal risk from the date of lending up to 90 days.

**Sub-Standard Assets:** Sub-standard asset is an asset class drawn within the broader and much-known non-performance asset category of banks based on term for which the asset class has not performed and extent of dues realization from collateral security with banks. More specifically, according to RBI Sub-standard assets are those assets which have remained NPAs (that is, if any amount of interest or principal installments remains overdue for more than 90 days) for a period up to 12 months circular, with effect from March 31, 2005 would be known as sub-standard asset.

**Doubtful Assets:** Earlier a doubtful asset was one, which remained NPA for a period exceeding two years. With effect from 31 March 2001, an asset is to be classified as doubtful, if it had remained NPA for a period exceeding 18 months. With effect from March 31, 2005(RBI Report); the norms have been further tightened, and an asset would be classified as doubtful if it remained in the sub-standard category for 12 months. A loan classified as doubtful has all the weakness inherent in assets that were classified as sub-standard, with the added characteristic that the weaknesses make collection or liquidation in full, - based on currently known facts, conditions and values – highly questionable and improbable.

**Loss Assets:** A loss asset is one where loss has been identified by the bank or internal or external auditors or the RBI inspection but the amount has not been written off wholly. In other words, such an asset is considered uncollectible and of such little value that its continuance as a bankable asset is not warranted although there may be some salvage or recovery value. However, only those advances are classifies as loss assets where no security is available. In accounts where some security/ ECGC/ DICGC cover is available, these accounts are not reported under loss assets.

*Assets included in Gross NPAs and Net NPAs*

**Gross NPA:** It consist all the non-standard assets, doubtful and loss assets. Gross NPA is an advance that is considered irrecoverable, for bank has made provisions, and which is still held in banks' books of account. Gross NPAs are the sum total of all loan assets that are classified as NPAs as per RBI Guidelines as on Balance Sheet date. Gross NPA reflects the quality of the loans made by banks.

## REVIEW OF LITERATURE

An article authored by (Rajeshwari Parmar 2014) entitled, "Non-Performing Assets: A comparative Analysis of SBI and ICICI Bank". In her study, she has focus on the comparison between the Total Advance, Net Profit, Gross NPAs, Net NPAs, study the trend of NPAs in both banks and reveal the relationship between the Net Profit and Net NPAs. She has found that the NPAs in SBI is increasing continuously but on the other hand in ICICI disclose the decreasing trend. Her research study period only covered only three years and mentions the different causes of NPAs.

Another article authored by (Dhiraj Jain & Nasreen Sheikh, 2012) entitled, "A comparative study of loan performance, NPAs and Net Profit selected Indian Banks". This research studies is mainly focus on the private sector banks. In the same study, researchers have analyzed the growth of lending, causes or sources of that promoted or weakened the credit programmed of private banks. Meanwhile, tried to found out the correlation between the loans, NPAs & Net Profit and suggest the remedial measure on private banks for their improvements. In their methodology, they have covered the study of ten banks and the data interpreted based on trend analysis.

Research Paper authored by (Priyanka Mohani & Monal Deshmukh 2013) entitled, "A study of Non-Performing Assets on selected public and private sector banks" have expressed the views regarding the trend of NPAs in banking sector and highlighted the position of it in selected banks and make comparison between the public bank of SBI & PNB and ICICI & HDFC in private. They have found that in public PNB, NPA is less as compare to SBI. However, in private the HDFC is performed well in respect to ICICI in terms of NPA ratio. Various tools and technique is used for the study.

An article authored by (Sonia Narula & Monika Singla 2014) entitled, "Empirical Study on Non-Performing Assets of Bank". In their research studies they are trying to focus on to compare the total advances, net profit, gross NPA and net NPA of PNB, impact of NPA on banks access the performance of bank with to study of PNB increasing every year with the increase of net profit since 2007. Their research studies also reveal that due to mismanagement of bank, there is positive relation between total advances and net profits and NPA of bank due to wrong choice of clients by banks. It has adverse effect on the liquidity of bank and not in a position to give loans to the new customers.

An Article Authored by (Srinivas K T 2013) entitled, "A Study on Non-Performing Assets of Commercial Banks in India". In the same study researcher has discussed various causes for the creation of NPAs, steps for reducing it and reveals the impact of NPAs on the profitability of the banks in various terms. He has discussed that banks should avoid to sanctioning loans to the not creditworthy borrowers by adopting certain measures and RBI made some strong policy to bring back money from defaulters.

Research Paper Authored by (Rohit R. Manjule) entitled, "Non-Performing Assets: A Challenge for Indian Public Sector Banks. He has focused on to identify the reasons for assets to convert into NPA and make attempt to analyze how efficiently public sector banks have been managing their NPA. His study shows that how NPA become great challenge and they have enough capital to handle the same problem. In addition, he has found that the NPA is declining continuously.

## STATEMENT OF PROBLEM

As we, all know that the banks are nerve centre for the growth of the economy because it provides loan and advances to needy people and industry for their upliftment. As the borrowers are not repaying the principal amount and interest on due dates which affect the financial and liquidity Position of Banking Sector with reference to the SBI and ICICI.

## OBJECTIVES OF STUDY

- To study the relationship between Non-Performing Assets and Net Profit of State Bank of India.
- To study the relationship between Non-Performing Assets and Net Profit of Industrial Credit and Investment Corporation of India.
- To study the relationship between Non-Performing Assets liquidity Position of State Bank of India.
- To study the relationship between Non-Performing Assets liquidity Position of Industrial Credit and Investment Corporation of India.

## HYPOTHESES OF STUDY

$H_{01}$: There is no significant relationship between Non-Performing Assets and Net Profit of State bank of India.
$H_{02}$: There is no significant relationship between Non-Performing Assets and Net Profit of Industrial Credit and Investment Corporation of India.
$H_{03}$: There is no significant relationship between Net NPAs on the Current Ratio of State bank of India.
$H_{04}$: There is no significant relationship between Net NPAs on the Current Ratio of Industrial Credit and Investment Corporation of India.

*State Bank of India: Profile*

State Bank of India (SBI), with a 200-year history, is the largest commercial bank in India in terms of assets, deposits, profits, branches, customers and employees. The Government of India is the single largest shareholder of this Fortune 500 entity with 61.58% ownership. SBI is ranked 60th in the list of Top 1000 Banks in the world by "The Banker" in July 2012.The origins of State Bank of India date back to 1806 when the Bank of Calcutta (later called the Bank of Bengal) was established. In 1921, the Bank of Bengal and two other banks (Bank of Madras and Bank of Bombay) were amalgamated to form the Imperial Bank of India. In 1955, the Reserve Bank of India acquired the controlling interests of the Imperial Bank of India and SBI was created by an act of Parliament to succeed the Imperial Bank of India.

The SBI group consists of SBI and five associate banks. The group has an extensive network, with over 20000 plus branches in India and another 186 offices in 34 countries across the world. As of 31st March 2013, the group had assets worth USD 392 billion, deposits of USD 299 billion and capital & reserves in excess of USD 23.03 billion. The group commands over 23% share of the domestic Indian banking market.

*Industrial Credit and Investment Corporation of India: Profile*

Industrial Credit and Investment Corporation of India (ICICI) Bank was originally promoted in 1994 by ICICI Limited, an Indian financial institution, and was its wholly owned subsidiary. ICICI's shareholding in ICICI Bank was reduced to 46% through a public offering of shares in India in fiscal 1998, an equity offering in the form of ADRs listed on the NYSE in fiscal 2000, ICICI Bank's acquisition of Bank of Madura Limited in an all-stock amalgamation in fiscal 2001, and secondary market sales by ICICI to institutional investors in fiscal 2001 and fiscal 2002.

ICICI was formed in 1955 at the initiative of the World Bank, the Government of India and representatives of Indian industry. The principal objective was to create a development financial institution for providing medium-term and long-term project financing to Indian businesses. In the 1990s, ICICI transformed its business from a development financial institution offering only project finance to a diversified financial services group offering a wide variety of products and services, both directly and through a number of subsidiaries and affiliates like ICICI Bank. In 1999, ICICI become the first Indian company and the first bank or financial institution from non-Japan Asia to be listed on the NYSE.

*Non-Performing Assets and Net Profit of State Bank of India*

The table-I, highlights the comparative study of NPAs and Profitability of State Bank of India from 2004 to 2014

**Table-I: Non-Performing Assets and Net Profit of State Bank of India**

(Rs. Million)

| Year | Gross NPA | Net NPA | Net Profit |
|---|---|---|---|
| 2004 | 126672.10 | 54417.30 | 36810 |
| 2005 | 116569.90 | 63033.40 | 43045.2 |
| 2006 | 96281.40 | 49114.10 | 44066.7 |
| 2007 | 99982.20 | 52577.20 | 45413.1 |
| 2008 | 128373.40 | 74243.30 | 67291.2 |
| 2009 | 157140.00 | 96774.20 | 91212.3 |
| 2010 | 195348.90 | 108701.70 | 91660.5 |
| 2011 | 253262.90 | 123469.00 | 82645.2 |
| 2012 | 396764.60 | 158188.50 | 117072.9 |
| 2013 | 511893.90 | 219564.80 | 141049.8 |
| 2014 | 511893.90 | 219564.80 | 108911.7 |

**Sources:** CMIE

**Testing of Hypothesis**

$H_{01}$: There is no significant relationship between Non-Performing Assets and Net Profit of State bank of India.

**Table-Ia: Descriptive Statistics**

| | Mean | Std. Deviation | N |
|---|---|---|---|
| sbi_npa | 110877.1182 | 63449.89471 | 11 |
| sbi_netprofit | 79016.2364 | 34749.67820 | 11 |

**Sources:** Authors Compilation

**Table-Ib: Correlations**

|  |  | sbi_npa | sbi_netprofit |
|---|---|---|---|
| **sbi_npa** | Pearson Correlation | 1 | .920[**] |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 11 | 11 |
| **sbi_netprofit** | Pearson Correlation | .920[**] | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 11 | 11 |
| **Note:** **Correlation is significant at the 0.01 level (2-tailed). | | | |

**Sources:** Authors Compilation

**Result / Analysis**

It is rightly to say that, as the null hypothesis is not accepted because the calculated value is greater than .50. It means Non-Performing Assets is severely affecting the net profit of the State Bank of India. However, in real sense, the poor management of bank loans creates the non-performing assets. So, they are required to improve their management for the reduction of non-performing assets through which State Bank of India can enhance their profitability. It will be healthy sign for the SBI.

*The Table-II highlights a comparative study of NPAs, and Profitability of Industrial Credit and Investment Corporation of India from 2004 to 2014:*

**Table-II: Non-Performing Assets and Net Profit of Industrial Credit and Investment Corporation of India**

**Rs. Million**

| Year | Gross NPA | Net NPA | Net Profit |
|---|---|---|---|
| **2004** | 30475.90 | 13724.00 | 16371.1 |
| **2005** | 27704.30 | 15052.70 | 20052 |
| **2006** | 22225.90 | 10526.80 | 25400.7 |
| **2007** | 41260.60 | 19920.40 | 31102.2 |
| **2008** | 75795.40 | 34905.50 | 41577.3 |
| **2009** | 96493.10 | 45539.40 | 37581.3 |
| **2010** | 94806.50 | 38411.10 | 40249.8 |
| **2011** | 100342.60 | 24073.60 | 51513.8 |
| **2012** | 94753.30 | 18608.40 | 64652.6 |
| **2013** | 96077.50 | 22305.60 | 83254.7 |
| **2014** | 96077.50 | 22305.60 | 98104.8 |

**Sources:** CMIE

**Testing of Hypothesis**

**$H_{02}$:** There is no significant relationship between Non-Performing Assets and Net Profit of Industrial Credit and Investment Corporation of India.

**Table-IIa: Descriptive Statistics**

|  | Mean | Std. Deviation | N |
|---|---|---|---|
| icicinpa | 24124.8273 | 10995.55112 | 11 |
| icicinetprofit | 46350.9364 | 26078.21931 | 11 |

**Sources:** Authors Compilation

**Table-IIb: Correlations**

|  |  | icicinpa | icicinetprofit |
|---|---|---|---|
| **icicinpa** | Pearson Correlation | 1 | .108 |
|  | Sig. (2-tailed) |  | .751 |
|  | N | 11 | 11 |
| **icicinetprofit** | Pearson Correlation | .108 | 1 |
|  | Sig. (2-tailed) | .751 |  |
|  | N | 11 | 11 |
| **Note:** **Correlation is significant at the 0.01 level (2-tailed). | | | |

**Sources:** Authors Compilation

**Result / Analysis**

It is right to say that, as the null hypothesis is not accepted because the calculated value is greater than .50. It means Non-Performing Assets is greatly affecting the net profit of the Industrial Credit and Investment Corporation of India. We have found that without statistical tool the non-performing assets are continuously decreasing in ICICI since 2009. However, in reality, the poor management of bank loans creates the non-performing assets. So, they are required to improve their management for the reduction of non-performing assets through which Industrial Credit and Investment Corporation of India can enhance their profitability.

*The Table-III highlights a comparative study of NPAs and Current Ratios of State bank of India from 2004 to 2014*

**Table-III: Non-Performing Assets and Current Ratios of State bank of India**

|  |  |  |  | (Rs. Million) |
|---|---|---|---|---|
| **Year** | **Current Assets** | **Current Liabilities** | **Current Ratios** | **Net NPA** |
| **2004** | 552681.5 | 461140.4 | 1.198 | 54417.30 |
| **2005** | 664703.7 | 507117.6 | 1.310 | 63033.40 |
| **2006** | 751085.7 | 433891 | 1.731 | 49114.10 |
| **2007** | 1093634.4 | 583477.6 | 1.874 | 52577.20 |
| **2008** | 1374673.8 | 747032.9 | 1.840 | 74243.30 |
| **2009** | 1143983 | 732580.6 | 1.561 | 96774.20 |
| **2010** | 1596367.1 | 865791.6 | 1.843 | 108701.70 |
| **2011** | 1418547.2 | 704271 | 2.014 | 123469.00 |
| **2012** | 1571785.3 | 896722.7 | 1.752 | 158188.50 |
| **2013** | 1642150.4 | 902878.4 | 1.818 | 219564.80 |
| **2014** | 1642150.4 | 902878.4 | 1.818 | 219564.80 |

**Sources: CMIE**

**Testing of Hypothesis**

**H03:** There is no significant relationship between Net NPAs on the Current Ratio of State bank of India.

**Table-IIIa: Correlations**

|  |  | npasbi | crsbi |
|---|---|---|---|
| **npasbi** | Pearson Correlation | 1 | .401 |
|  | Sig. (2-tailed) |  | .222 |
|  | N | 11 | 11 |
| **crsbi** | Pearson Correlation | .401 | 1 |
|  | Sig. (2-tailed) | .222 |  |
|  | N | 11 | 11 |

**Sources:** Authors Compilation

**Table-IIIb: Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| **npasbi** | 11 | 49114.10 | 2.20E5 | 1.1088E5 | 63449.89471 |
| **crsbi** | 11 | 1.20 | 2.01 | 1.7054 | .24971 |
| **Valid N (listwise)** | 11 |  |  |  |  |

**Sources:** Authors Compilation

**Result / Analysis**

It is right to say that as the null hypothesis is accepted because the calculated value is less than .50. It means Non-Performing Assets is affecting the short-term liquidity position of the State bank of India. There is strong relationship between the non-performing assets and current ratio.

*The table-IV highlights the comparative study of NPAs and Current Ratios of State bank of India from 2004 to 2014*

**Testing of Hypothesis**

$H_{04}$: There is no significant relationship between Net NPAs on the Current Ratio of Industrial Credit and Investment Corporation of India.

**Table-IV: Non-Performing Assets and Current Ratios of Industrial Credit and Investment Corporation of India**

**Rs. Million**

| Year | Current Assets | Current Liabilities | Current Ratios | Net NPA |
|------|----------------|---------------------|----------------|---------|
| **2004** | 174172.8 | 122484.1 | 1.422 | 13724.00 |
| **2005** | 238981.9 | 136572.6 | 1.749 | 15052.70 |
| **2006** | 458414.5 | 164766.1 | 2.782 | 10526.80 |
| **2007** | 498133.9 | 192650.1 | 2.585 | 19920.40 |
| **2008** | 451596.6 | 154528.1 | 2.922 | 34905.50 |
| **2009** | 492615 | 125632 | 3.921 | 45539.40 |
| **2010** | 429589.3 | 126918.9 | 3.384 | 38411.10 |
| **2011** | 640035.3 | 293967 | 2.177 | 24073.60 |
| **2012** | 632132.3 | 279107 | 2.264 | 18608.40 |
| **2013** | 683597.8 | 299362.5 | 2.283 | 22305.60 |
| **2014** | 683597.8 | 299362.5 | 2.283 | 22305.60 |

**Sources: CMIE**

**Table-IVa: Correlations**

| | | npaicicic | cricici |
|---|---|---|---|
| **npaicicic** | Pearson Correlation | 1 | .814[**] |
| | Sig. (2-tailed) | | .002 |
| | N | 11 | 11 |
| **cricici** | Pearson Correlation | .814[**] | 1 |
| | Sig. (2-tailed) | .002 | |
| | N | 11 | 11 |
| **Note:** **Correlation is significant at the 0.01 level (2-tailed) | | | |

**Sources:** Authors Compilation

**Table-IVb: Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---------|---------|------|----------------|
| **npaicicic** | 11 | 10526.80 | 45539.40 | 2.4125E4 | 10995.55112 |
| **cricici** | 11 | 1.42 | 3.92 | 2.5247 | .70987 |
| **Valid N (listwise)** | 11 | | | | |

**Sources:** Authors Compilation

**Result / Analysis**

It is rightly to say that as the null hypothesis is accepted because the calculated value is less than .50. It means Non-Performing Assets is affecting the short-term liquidity position of the Industrial Credit and Investment Corporation of India. There is strong relationship between the non-performing assets and current ratio. Moreover, the value of current ratio is not static which highlight the capacity intake of ICICI to improve further.

*The table-V shows a comparative study of NPAs and Short Term Liquidity (Current ratios) and Net Profit Ratio of State Bank of India and Industrial Credit and Investment Corporation of India from 2004 to 2014*

**Table-V: NPA and Current Ratios of SBI & ICICI Banks**

**Rs. Million**

| Year | SBI | | | | ICICI | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|
| | Gross NPA | Net NPA | Current Ratios | Net Profit | Gross NPA | Net NPA | Current Ratios | Net Profit |
| **2004** | 126672.10 | 54417.30 | 1.198 | 36810 | 30475.90 | 13724.00 | 1.422 | 16371.1 |
| **2005** | 116569.90 | 63033.40 | 1.310 | 43045.2 | 27704.30 | 15052.70 | 1.749 | 20052 |
| **2006** | 96281.40 | 49114.10 | 1.731 | 44066.7 | 22225.90 | 10526.80 | 2.782 | 25400.7 |
| **2007** | 99982.20 | 52577.20 | 1.874 | 45413.1 | 41260.60 | 19920.40 | 2.585 | 31102.2 |
| **2008** | 128373.40 | 74243.30 | 1.840 | 67291.2 | 75795.40 | 34905.50 | 2.922 | 41577.3 |
| **2009** | 157140.00 | 96774.20 | 1.561 | 91212.3 | 96493.10 | 45539.40 | 3.921 | 37581.3 |
| **2010** | 195348.90 | 108701.70 | 1.843 | 91660.5 | 94806.50 | 38411.10 | 3.384 | 40249.8 |
| **2011** | 253262.90 | 123469.00 | 2.014 | 82645.2 | 100342.60 | 24073.60 | 2.177 | 51513.8 |
| **2012** | 396764.60 | 158188.50 | 1.752 | 117072.9 | 94753.30 | 18608.40 | 2.264 | 64652.6 |
| **2013** | 511893.90 | 219564.80 | 1.818 | 141049.8 | 96077.50 | 22305.60 | 2.283 | 83254.7 |
| **2014** | 511893.90 | 219564.80 | 1.818 | 108911.7 | 96077.50 | 22305.60 | 2.283 | 98104.8 |

**Sources:** CMIE

**Analysis**

The table V reveals that gross NPA of State Bank of India has increased at a higher rate from 1,26,672.10 million in the year 2004 to Rs.5,11,893.90 million in the year 2014 i.e. 304.10 per cent during the period under review. On the other side, the gross NPA of ICICI has increased from Rs. 30,475.90 million to Rs. 96,077.50 million between 2004 and 2014, which shows an increase of 215.25 per cent. It shows that the position of NPA was quite high in State Bank of India as compared with Industrial Credit and Investment Corporation of India.

Current Ratio of State Bank of India has improved slowly from 1.198 in the year 2004 to 1.818 in the year 2014. Whereas in ICICI the current ratio has increased at a higher rate from 1.422 to 2.283 during the same period.

The net profit of SBI has increased from Rs. 36,810 million in the year 2004 to Rs. 1,08,911.7 million in the year 2014, which shows an increase of 195.87 per cent during the period under review. Whereas, the net profit of ICICI has enhanced from Rs. 16,371.1 million to Rs. 98,104.8 million during the same period and shows an increase of 499.25 per cent between 2004 and 2014.

The overall picture reveals that due to rise in NPA in SBI the net profit has decreased as compare with ICICI. This is a question of great concern, which must be taken into consideration by the State Bank of India.

*METHODOLOGY OF RESEARCH*

The present study is based on the secondary source of information, which is collected from the CMIE Prowess, Reserve Bank of India and different websites. For the study, the researchers have tested various hypotheses. The researchers have used the Karl Pearson Correlation for the testing of hypotheses with the help of SPSS. The Gross NPAs Ratio is the relationship between the Gross NPAs divided by Gross Advances. In addition, the Net NPA is the difference between Gross NPA and Provisions regarding the NPAs. In other words, we can say that it is the actual burden of the banks. It can be calculated with the help of following formula.

**Net NPA = Gross NPAs - Provision / Gross Advances – Provision**

*Roots of NPAs*

The following are the major causes for the birth of non-performing assets in the banks:

- Improper selection of the borrower's activities.
- Feeble credit appraisal system of the banks.
- The industrial problem of the borrowers.
- Inefficient in the management of the borrowers.
- Absence of follow up by the bank.
- Recession in the market.
- Collapse borrowers business due to natural disasters.

*Impacts of NPAs*

**Liquidity:** Money is getting blocked lead to lack of enough cash in hand which lead to borrowing money for short period of time from outside which lead to additional cost to the bank. Difficulty in operating the functions of bank is another cause of NPA. Due to lack of money, routine payments and dues are not paid on time.

**Credit Loss:** In case of bank is facing problem of NPA then it adversely affect the value of bank in terms of market credit. It will lose its goodwill and brand image because as we have discussed earlier that bank is not able to pay its dues on time and its negative impact is that people start withdrawing their money from bank, which then cause liquidity problem and decrease in credibility.

**Involvement of Management:** Time and efforts of management is another indirect cost which bank has to bear due to NPA otherwise time and efforts of management in handling and managing NPA would have been diverted to some fruitful activities, which would give good returns. Now a day's banks have special employees to deal and handle NPAs, which is additional cost to the bank.

**Profitability:** NPA means booking of money in terms of bad asset, which occurred due to wrong choice of client. Because of the money getting blocked the profitability of bank decreases not only by the amount of NPA but NPA lead to opportunity cost also as that much of profit can be invested in some return earning project/asset. Therefore, NPA not only affect current profits but also future stream of profits, which may lead to loss of some long-term beneficial opportunity. Another impact of reduction in profitability is low ROI (return on investment), which adversely affect current earning of bank.

## LIMITATIONS OF THE STUDY

- The present study is based on secondary source of information.
- It covers only the study of SBI and ICICI.
- The current study does not touch all the aspect of Financial Performance.
- The data has been arranged as per their own requirements.
- The same study covers the period of 10 years only.

## SIGNIFICANCE OF THE STUDY

- The research study is very important to evaluate the impact of NPAs on financial performance of SBI and ICICI bank.
- The present study is useful for to find the correlation between NPAs and growth of the business.
- The findings and conclusion is also useful for formulating the policies and strategies of the organization.
- The study also highlights, whether the banks are capable to manage to the non-performing asset.

## CONCLUSION

The faulty management of bank loans creates the non-performing assets. So that, the banking sector is required to improve its management for the reduction of non-performing assets. Therefore, the State Bank of India and Industrial Credit and Investment Corporation of India may enhance their profitability. The researchers have found that the non-performing assets have continuously decreased in ICICI since 2009. Which had a positive impact on profitability of ICICI? As per the testing of the hypotheses, the researchers found that there is strong relationship between the Non-Performing Assets and short-term liquidity position of the State bank of India and Industrial Credit and Investment Corporation of India.

The management of nonperforming assets is an alarming situation for every bank in the banking industry. The very significant reason for management of NPA is due to their multi-dimensional effect on the operating efficiency and financial performance of this sector in India. The result of the study highlights the level of non-performing assets of SBI and ICICI banks. At present, the non-performing asset is a major problem faced by banking industry in the country. The improper processing of loan proposals, lack of will, poor monitoring etc. are the major causes, which creates upcoming of NPAs. The creation of NPAs in banking sector affects their performance in various ways like profit, interest income, provisions against NPAs etc. However, it is suggested that remedial measures should be taken into account by the banking sector to cure this disease.

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# FRIGHTENING SHADOWS OF "SHADOW BANKING"

**Dr. Vibhor Paliwal[4] Mukesh Kumar Kumawat[5]**

**ABSTRACT**

Shadow Banks are the organizations that function like banks but outside the banking regulation. The term 'shadow banking system' was first used in 2007, and gained popularity during and after the global financial crisis, as it highlighted the bank-like functions performed by entities outside the regular banking system.

In India, shadow-banking entities essentially refer to the large number of unregulated companies that act as financial intermediaries providing credit and generating liquidity in the system. For instance, companies engaged in multi-level marketing, RBI does currently not regulate offering prize chits and money circulation schemes. The central bank feels there is a need for clarity in the regulatory framework for shadow banking entities in India. There is a need to assess the collective size and profile of activities of the large number of non-bank financial entities functioning in the organized as well as the unorganized sector (including unincorporated entities, which are outside the purview of the regulatory perimeter).

**KEYWORDS**

**Shadow Banking, Non-Banking Financial Companies (NBFCs), Chit Fund Companies etc.**

*INTRODUCTION*

The term 'shadow banking system' was first used in 2007 after the subprime crisis.

Shadow Banks are the organizations that function like banks but outside the banking regulation. The term 'shadow banking system' was first used in 2007, and gained popularity during and after the global financial crisis, as it highlighted the bank-like functions performed by entities outside the regular banking system. The more comprehensive definition, as adopted by the Financial Stability Board (FSB), i.e., 'credit intermediation involving entities and activities (fully or partially) outside the regular banking system' has been globally accepted. This definition has two important components: First, non-bank financial entities or entities outside the banking system that engage in the 'bank like' activities of maturity transformation, undertaking credit risk transfer and using direct or indirect financial leverage.

Second, activities such as securitization, securities lending and repo transactions that act as important sources of funding for non-bank entities. Thus, shadow banks comprise entities, which conduct financial intermediation directly, such as finance companies or NBFCs, and entities, which provide finance to such entities, such as mutual funds. Globally, shadow banking entities could be covered under the broad heads of (i) Money Market Funds, (ii) Credit investment Funds, Hedge Funds, etc., (iii) Finance Companies accepting deposits or deposit like funding, (iv) Securities brokers' dependent on wholesale funding, (v) Credit insurers, financial guarantee providers and (vi) Securitization vehicles.

Such nonbank intermediation, when appropriately conducted, provides a valuable alternative to bank funding and supports real economic activity. However, experience from the Global Financial crisis demonstrates the capacity of some non-bank entities and transactions to operate on a significantly large scale, in ways that create bank-like risks to financial stability (longer-term credit extension based on short-term funding and leverage). Such risk creation may take place at an entity level but it can also form part of a complex chain of transactions, in which leverage and maturity transformation occur in stages, creating multiple forms of feedback into the regulated banking system.

In U.S., the shadow banks helped in creating the asset bubble before the subprime crisis. However, home loan borrowers defaulted and the bubble collapsed which actually resulted in the financial crisis of 2007.

Shadow Banks are regarded as good because they provide quick source of loan/credit/finance/liquidity.

*Shadow Banks are regarded as bad because of the following reasons:*

- Shadow Banks lack transparency about their business model, modus operandi and profit margins.
- Some companies intentionally adopt shadow-banking model to evade banking regulations for making higher profits.

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[4]Associate Professor, Sangam University, Rajasthan, drvpaliwal@rediffmail.com

[5]Associate Professor, Vision School of Management, Rajasthan, India, mukesh07mba@gmail.com

- Since shadow banks do not have "Backup plans" like CRR, SLR, deposit insurance etc. they are more vulnerable to "runs" (E.g. all depositors/FIIs pull out their money due to some rumor and company collapses.)
- Shadow banks do not enjoy powers under SARFAESI Act, 2002, i.e. difficult for them to recover money in case of loan defaults.
- Shadow banks send/receive money from many sources (mutual funds, insurance cos. etc.) so if Shadow bank collapses, it will have negative ripples in other areas of economy as well (As it happened during Sub-prime crisis, 2007).

*SHADOW BANKING - EVIDENCES FROM 2008 FINANCIAL CRISIS*

Shadow banking institutions generally serve as intermediaries between investors and borrowers, providing credit and capital for investors, institutional investors, and corporations, and profiting from fees and/or from the arbitrage in interest rates.

Because shadow-banking institutions do not receive traditional deposits like a depository bank, they have escaped most regulatory limits and laws imposed on the traditional banking system. Members are able to operate without being subject to regulatory oversight for unregulated activities. An example of an unregulated activity is a credit default swap (CDS).

Before the market collapse in 2008, one of the classic strategies employed by shadow institutions was borrowing via short-term, liquid markets - typically commercial paper markets - and using these short-term funds to invest in longer-term, less liquid assets like securitized mortgages.

When the housing market melted in 2008, resulting in waves of foreclosures, these shadow-banking institutions could no longer borrow sufficient funds to operate. Short-term lending dried up almost overnight because lenders were afraid of who or what was a credit risk; at the same time, shadow institutions couldn't get funds from their collapsing investments in mortgage-backed securities because no one would buy the "toxic assets."

This "perfect storm" of financial woes precipitated the 2008 bankruptcy of the once powerful shadow banking institutions, Bear Stearns and Lehman Brothers -leading to the subsequent market panic, economic recession and global credit crunch.

*SOME RECENT EXAMPLES OF SHADOW BANKING IN INDIA*

India has Nidhis, chit funds, para-banks, plantation companies - the list is endless. These have to be regulated better because even if they do not pose a risk to the economy as a whole, their capacity for causing local distress is enormous like that of Saradha scam. The key risk is not so much that some of them take public deposits (this is minuscule) but because of their dependence on bank finance both directly and directly through bond and debenture issues. While new regulations have tried to bring some of their regulatory standards on a par with banks and ensure that they always have enough liquid assets, let us not forget the fact that there was a crisis in our shadow system pretty much at the same time as the blowout in the US. The big controversy these days are over who should regulate the NBFCs. The Financial Sector Legislative Reforms Commission has said they (the non-deposit taking ones) come under the umbrella of a super-regulator. The question that needs to be answered is - given their close links with the banks, isn't it better for the banking regulator, the Reserve Bank of India, to regulate both?

Also among all these NBFCs, Chit fund is the biggest headache. This is because Chit fund falls under concurrent list i.e. both union and state can make law. Hence, their respective state laws govern chit funds. RBI only provides overall guidelines. SEBI does not watch. That is how Saradha chit fund managed to evade regulatory oversight and duped crore of rupees.

The Saradha fraud is said to have duped 1.4 million investors of Rs 4,000 crore, but this could well be the tip of the iceberg. Driven by the lack of legitimate savings schemes for the rural poor, inadequate regulations and political patronage, hundreds of illegal Ponzi schemes masquerading as collective investment schemes or chit funds have sprung up across India.

A list of 87 such companies have been presented in Parliament, against whom complaints had been received for indulging in Ponzi schemes. Seventy-three of these were from West Bengal. Eight companies of the Saradha Group figure in the list, as do 16 companies owned by Rose Valley, a sponsor of the IPL team Kolkata Knight Riders. Also on the list are the MPS Group (four companies), Vibgyor Group (two companies), Prayag Group (four companies), and the Rahul Group, among others. The ministry has ordered the Serious Fraud Investigation Office to fast-track investigations into the working of these organizations.

Many of these companies are engaged in a dangerous "money chain" where one investor's principal and interest is paid off with money from new investors. Such schemes collapse when no new investors come in, or when suspicious investors demand their money back in one go. Like the Saradha Group, these companies take money from investors in the name of tour packages, investments in agriculture, or purchase of plots or homes in prime locations over a specified period, with a money-back option added at the end of the maturity period. Investors are encouraged to cancel their bookings and re-invest the money in new projects, since, in most cases, there are hardly any projects on the ground, or they fall way below the value of the investment garnered. The money thus raised goes into the pockets of the promoters of such schemes.

According to recent reports, more than Rs 10,000 crore had been raised by so-called money circulation schemes, or by people who run collective investment schemes but refuse to be under any sort of regulation. People who invest in such products are simple and mostly ordinary workers. They do not put in illegal money. They put their hard-earned money into this. Nevertheless, the process through which it is channelized is, unfortunately, taking that money out of the legal framework. The money raised by these firms could be higher than SEBI's estimate.

According to the Corporate Affairs Ministry, there were 4,156 chit funds registered in India as of 2008, governed by the Chit Funds Act, 1961 (Madras Act) and the amended 1982 (Central) Act. However, unregistered chit funds would be several times more than the number. According to a January 2007 study by the Institute for Financial Management and Research, "the unorganized chit fund market is huge and growing". For instance, it noted that 6,000 of Hyderabad's total of 7,300 chit funds were unregistered.

Chit funds help small traders and businessmen save excess cash on a daily or monthly basis, and have become a major savings option in India. Interest rates are around 12 per cent a year - which is low, considering moneylenders, on whom many rural Indians rely, charge as much as 72 per cent. Interest on bank fixed deposits is around seven to nine per cent.

However, the Saradha Group was not running a chit fund. It has denied SEBI's allegations that it was running an investment trust and offering returns of up to 24 per cent. It said in a representation to SEBI that it was purely in the real estate business and that it got money from individuals to buy immovable property. In fact, it was taking deposits from investors as advances for exotic holidays or land parcels, and offering them the option to cancel the booking and get their money back with 12 to 14 per cent interest. Lured by higher returns and coaxed by agents, most investors cancelled bookings.

Many companies that run such schemes have hardly a fraction of the assets they originally promise. For example, Maharashtra-based Maitreya Services, which runs a collective investment scheme, had raised Rs. 1,332 crore from the public as "advances". It has repaid only Rs. 538 crore so far, prompting SEBI to ban the company and its directors from the securities market until the illegal schemes are terminated.

India's most mysterious financial firms Sahara India Real Estate Corporation (SIREC) and Sahara Housing Investment Corporation Limited (SHICL) – sold bonds to 4 crore investors to raise Rs. 25,000 crore, which came under the scanner of SEBI in 2010.Sahara said this was a private placement of bonds to their own workers, employees and their families. However, SEBI said it was a public issue, which should be regulated.

*Shadow Banking in India*

*Not all the NBFCs are directly regulated by RBI, here are the examples:*

| NBFC | Function | Example | Regulated under |
|---|---|---|---|
| **Insurance Companies** | Take "premium" from its customers; invest it in shares / bonds. | LIC, Bajaj Allianz | IRDA |
| **Housing Finance Companies** | They arrange money from variety of sources, lend it to home-loan seekers | DHFL, Muthoot Housing finance etc. | National housing Bank (NHB) |
| **Merchant Banking Companies** | They lend money to company via buying its "shares" / underwriting. | Canara Bank, Andhra Bank (and many other banks- they take separate license to operate as a Merchant Bank) | SEBI |
| **Stock Broker Companies** | They help buying-selling securities (of their clients) and earn commission in between. | Indiabulls, Sherkhan, Reliance Money | SEBI |
| **Venture Capital Fund Companies** | They finance start-up companies via equity. (shares, partnership) | IFCI, DFJ India | SEBI |
| **Nidhi Companies (Mutual Benefit Funds)** | They borrow money from members, lend it among the members. | South Madras Benefit Fund Limited, Alagendran Benefit Fund Limited and many similar names | Department of Company affairs |
| **Chit Funds** | Members contribute money on monthly basis, and give it to one of their own member through bidding. Winner does not need to repay "loan" directly, but needs to contribute money on monthly basis, so others can also win next time. | Sriram Chit fund (TN) Saradha Chit fund (not really a "chit fund" but multi-level marketing scam MLM) | State government's registrar |

**Sources:** Authors Compilation

### REASONS FOR GROWTH OF NBFCS IN INDIA

#### Lack of Options for Rural People to Invest

Two major reasons for the growth of chit funds, legitimate or otherwise, and other dubious collective investment schemes are the lack of safe savings schemes in rural areas, and a poor regulatory framework to check fraudulent companies.

Small savings and post office collections in West Bengal for two quarters were only Rs 194 crore, against the target of Rs 8,370 crore. "The state's small savings rate has fallen due to the thriving chit fund industry.

For the country as a whole, total deposits under small savings in the Public Provident Fund (PPF), National Savings Certificates (NSCs) and post office schemes, have fallen from Rs 1.65 lakh crore in November 2010 to Rs 1.22 lakh crore in November 2011. This is because many small investors moved into investing in chit funds and banks that offer higher interest, and in gold and real estate.

#### Gaps in the Law

Another major reason for the proliferation of chit funds and fraudulent collective investment schemes is the absence of adequate regulations and, in some cases, the lack of clarity in laws. Chit funds are monitored by state governments, collective investment schemes by SEBI, and nonbanking finance companies (NBFCs) by the Reserve Bank of India (RBI).

SEBI has been fighting several court cases with the promoters of questionable schemes. For instance, the MPS Group had sought SEBI's nod for a collective investment scheme in March 2000. It was denied, after which MPS began a court battle with the regulator.

In the case of Rose Valley, SEBI asked the company to stop collecting money.

SEBI, which is also fighting a fierce battle with Subrata Roy's Sahara Group over allegedly illegal means used to collect Rs 24,000 crore of depositors' money, has a staff of only 500, of which just 16 employees are in its Kolkata office, making enforcement of regulations difficult.

Although every NBFC has to be registered with the RBI, some categories of NBFCs, such as chit funds and stock broking firms, which are regulated by authorities such as state governments or SEBI, are exempted, to avoid dual regulation.

The Chit Funds Act, 1982, says no scheme can begin without obtaining approval from the state government within whose jurisdiction it is to be conducted, and unless the fund is registered in that state. SEBI, on its part, has reportedly written to the union finance ministry to appoint a regulator to look into the operations of deposit-taking companies.

#### Political Support

The West Bengal government will have a lot to explain for the direct links of some of its functionaries with dubious chit fund companies. While it is Members of Parliament Kunal Ghosh, a former CEO of Saradha's media units, and Srinjoy Bose, are facing the heat after being named in Sen's letter to the CBI; investors say the party's patronage was clear from the start.

### REGULATING SHADOW BANKING SYSTEM IN INDIA

India is among the nations which have witnessed a marked increase in the exposure of its banks to 'shadow banking' entities, whose asset base globally grew to $71 trillion in 2012-end, according to an international body of financial regulators.

In India, shadow-banking entities essentially refer to the large number of unregulated companies that act as financial intermediaries providing credit and generating liquidity in the system. For instance, companies engaged in multi-level marketing, RBI does currently not regulate offering prize chits and money circulation schemes. At a time when some developed economies have initiated efforts to mitigate systemic risks posed by shadow banking activities, India has witnessed a significant increase in the exposure of its banks to shadow banking entities.

Nevertheless, with relatively lower levels of financial awareness and the misconception that all financial activities come under some regulatory framework, shadow-banking entities in the country may assume systemic importance.

The central bank feels there is a need for clarity in the regulatory framework for shadow banking entities in India. There is a need to assess the collective size and profile of activities of the large number of non-bank financial entities functioning in the organized as well as the unorganized sector (including unincorporated entities, which are outside the purview of the regulatory perimeter).

The banking regulator is in the process of reviewing the regulatory framework for non-banking financial companies (NBFCs), based on the recent developments in the sector and recommendations made by the NachiketMor committee.

The proposed review will cover the legislative framework of the NBFC sector, asset classification and provisioning norms for NBFCs vis-a-vis that of banks - (including the need for raising tier-I capital requirement for NBFCs), corporate governance guidelines including 'fit and proper' criteria for their directors, regulation of deposit acceptance activity, consumer protection measures, present classification scheme of NBFCs and activity of lending against shares by NBFCs.

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# NON-PERFORMING ASSETS OF SAPTAGIRIGRAMEENA BANK AFTER MERGER

**Dr. A. Padmavathi[6] Dr. B. Bhagavan Reddy[7]**

### ABSTRACT

It may be concluded that there is a growing trend in NPAs with fluctuations. The sub-standard assets have increased as against doubtful debts. There is a downward trend in the recovery of NPAs. Then it can be rightly said that the core component is hard to recover. There are variations in the provision created for NPAs in absolute and relative terms during the period. In addition, there is a progress in the high value NPAs accounts during the study period despite regulation and concerted efforts of the bank. Probably these borrowers may be willful defaulters. They do not repay the dues to the bank on time because of mal intention. Further, SGB has additionally upgraded NPAs out of outstanding advances and simultaneously had written off some of the amount from NPAs. This is so because the past due has elapsed and the SGB though that some of NPAs could not be recovered in future also. Hence, they are upgraded and written off.

### KEYWORDS

**Non-Performing Assets, Merger, Saptagirigrameena Bank etc.**

## INTRODUCTION

Saptagiri Grameena Bank (SGB) was formed with the merger of Sri Venkateswara and Kanakadurga Grameena Banks with effect from 01.07.2006. The operational area of SGB is spread over Chittoor and Krishna districts, Andhra Pradesh (AP). The bank is with 157 branches. Of which, 102 branches are in Chittoor district and the rest Krishna district and one satellite office. Out of them, 108 are rural, 37 semi-urban and the remaining urban. An attempt is made in this article to review the non-performing assets (NPA) of SGB. The focus is on, asset classification, provisioning, recovery, high – value NPAs, write offs and up-gradation. The study period is spread over 8 years from merger i.e. 2007-14.

## NON-PERFORMING ASSETS

NPA is an advance/loan where interest remains unpaid for 90 days. This is a barrier to the progress of financial system and economy. They affect recycling of funds and profitability since higher NPAs requires higher provisioning. In addition, NPAs are indeed a concern for policy makers as well as those who are involved in putting the economic growth on the fast track. Initially, due to social banking motto, the problem of NPAs was not accorded high priority. However, with the introduction of financial sector reforms and the adoption of international banking practices, the issue of NPAs has received due focus. The management of rural banks is really a robust challenge and cumbersome task. This is so because they are mainly rural based and rural people tend to be defaulters. These are a break in the progress of banks. The prudential norms include income recognition, asset classification, provisioning etc. The assets were classified into standard, sub-standard, doubtful and loss assets. The aggregate of the last three is known as NPAs.

The performing assets were Rs. 64,462.10 lakhs in 2007 and gradually raised to Rs. 3,20,325.18 lakhs in 2014 (see Table 1). On the other hand, NPAs were Rs. 1,138.12 lakhs in 2007 as against Rs. 6,013.10 lakhs in 2014.The proportion of NPAs in the total assets was the highest at 1.87 per cent in 2008. It was the lowest at 0.84 per cent in 2012. It may be concluded that there is a steady increase in performing assets while there is a growing trend with fluctuations in NPAs.

**Table-1: Performing and NPAs of SGB during 2007-14 (Rs. Lakhs)**

| Year (1) | Performing (2) | NPAs (3) | Total (4) | % of col (3) to col (4) (5) |
|---|---|---|---|---|
| 2007 | 64,462.10 | 1,138.12 | 65,600.22 | 1.73 |
| 2008 | 82,089.92 | 1,565.94 | 83,655.86 | 1.87 |
| 2009 | 110,095.61 | 1,297.88 | 111,389.93 | 1.17 |
| 2010 | 137,158.05 | 1,303.79 | 138,461.84 | 0.94 |
| 2011 | 173,700.31 | 1,774.52 | 175,474.83 | 1.01 |
| 2012 | 219,501.92 | 1,854.39 | 221,356.31 | 0.84 |
| 2013 | 267,973.98 | 2,663.28 | 270,637.26 | 0.98 |
| 2014 | 320,325.18 | 6,013.10 | 327,165.40 | 1.84 |

**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

[6]UGC Post-Doctoral Fellow, Department of Commerce, S.V. University, Andhra Pradesh, India, padmavathimahesh@gmail.com
[7]Dean, Faculty of Commerce and Management, S.V. University, Andhra Pradesh, India, bbrsvu@gmail.com

The target of banks is to shift more assets to standard category to make more profits and improve their financial position. The sub - standard assets were at Rs. 549.67 lakhs in 2007 as compared to Rs. 4,307.58 lakhs in 2014(see Table 2). In the meantime, there are to and fro changes. In percentage terms, these have formed 48.30 per cent in 2007 while 71.64 per cent in 2014. The doubtful assets were Rs. 226.51 lakhs in 2007vis - à - vis Rs. 1,695.96 lakhs in 2014. The ups and downs in it were remarkable. Its share in the total assets varied between 19.90 per cent and 48.63 per cent. It shows the variations for debts. The loss assets were Rs. 361.94 lakhs in 2007 whereas Rs. 9.56 lakhs in 2014. In relative terms, these have varied between 0.16 per cent and 31.80 per cent in the period. In the meantime, there are to and fro changes.

**Table-2: Classification of NPAs in SGB during 2007-14 (Rs. Lakhs)**

| Year | Sub-standard | Doubtful | Loss |
|------|-------------|----------|------|
| 2007 | 549.67 (48.30) | 226.51 (19.90) | 361.94 (31.80) |
| 2008 | 823.98 (52.62) | 709.92 (45.34) | 32.04 (2.04) |
| 2009 | 663.43 (51.12) | 631.15 (48.63) | 3.30 (0.25) |
| 2010 | 675.64 (51.82) | 607.62 (46.60) | 20.53 (1.58) |
| 2011 | 1,087.55 (61.29) | 676.63 (38.13) | 10.34 (0.58) |
| 2012 | 946.75 (51.05) | 894.06 (48.21) | 13.58 (0.74) |
| 2013 | 1,544.92 (58.01) | 1,100.39 (41.32) | 17.97 (0.67) |
| 2014 | 4,307.58 (71.64) | 1,695.96 (28.20) | 9.56 (0.16) |

**Note:** Figures in brackets indicate the percentage total.
**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

### *RECOVERY OF NPAs*

The amount recovered from NPAs was Rs. 1,138.12 lakhs in 2007 as against Rs. 6,013.10lakhs in 2014 (see Table 3). In the meantime, there are ups and downs. The year 2014 reported the highest at Rs. 6,013.10 lakhs while the lowest at Rs.1,138.12 lakhs in 2007. The proportion of recovery to NPAs was 40.79 per cent in 2007. It has undergone to and fro changes over the period and finally stood at the least 7.51 per cent at the end of 2014. The percentage of recovery was maximum at 71.77 during 2009.

**Table-3: Recovery of NPAs in SGB for the period 2007-14 (Rs. Lakhs)**

| Year (1) | NPAs (2) | Amount Recovered (3) | % of col (3) to col (2) (4) |
|----------|----------|---------------------|------------------------------|
| 2007 | 1,138.12 | 464.20 | 40.79 |
| 2008 | 1,565.94 | 396.58 | 25.33 |
| 2009 | 1,297.88 | 931.49 | 71.77 |
| 2010 | 1,303.79 | 669.74 | 51.37 |
| 2011 | 1,774.52 | 472.47 | 26.63 |
| 2012 | 1,854.39 | 736.27 | 39.70 |
| 2013 | 2,663.28 | 729.14 | 27.38 |
| 2014 | 6,013.10 | 451.76 | 7.51 |

**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

### *PROVISION TO NPAs*

The addition to NPAs was Rs. 1,138.12 lakhs in 2007 when compared to Rs. 6,013.10 lakhs in 2014 (see Table 4). In the meantime, the amount of provision has gradually increased year after year except in 2009.The provisions created varied due to the variation in the opening NPAs, collection during the year, write off and up gradation of NPAs. The share of provision to NPAs was in the range of 59.25 – 129.66 per cent. As per the norms stipulated, the SGB created provision for NPAs, which is dependent on several factors as already referred too. It may be said that there are variations in the provision created for NPAs in absolute and relative terms during the period. However, there is almost a declining trend in percentage terms.

**Table-4: Year-wise Accretion to NPAs in SGB during the period 2007-14 (Rs. Lakhs)**

| Year (1) | NPAs (2) | Provision (3) | % of col (3 ) to col (2) (4) |
|---|---|---|---|
| 2007 | 1138.12 | 770.12 | 69.42 |
| 2008 | 1565.94 | 927.84 | 59.25 |
| 2009 | 1,297.88 | 1,075.60 | 82.87 |
| 2010 | 1,303.79 | 1,690.47 | 129.66 |
| 2011 | 1,774.52 | 1,217.17 | 68.59 |
| 2012 | 1,854.39 | 1,367.39 | 73.74 |
| 2013 | 2,663.28 | 1,609.10 | 60.42 |
| 2014 | 6,013.10 | --- | 0 |

**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

*HIGH VALUE NPAs*

The high value here means the borrowers whose NPAs are past due is one lakh rupees or more. The number of NPAs accounts has risen from 54 in 2007 to 462 in 2014 (see Table 5). The amount outstanding was Rs. 111.22 lakhs and Rs. 972.54 lakhs informer and latter respectively. The per capita outstanding amount was Rs. 2.06 lakhs in 2007 vis-à-vis Rs. 2.11 lakhs in 2014. In the meantime, there are fluctuations.

**Table-5: Particulars of High Value NPAs of SGB during 2007-14**

| Year | Number of Accounts | Amount Outstanding (Rs. lakhs) | Per Capita (Rs. Lakhs) |
|---|---|---|---|
| 2007 | 54 | 111.22 | 2.06 |
| 2008 | 49 | 105.14 | 2.15 |
| 2009 | 123 | 221.05 | 1.80 |
| 2010 | 83 | 153.83 | 1.85 |
| 2011 | 80 | 142.05 | 1.78 |
| 2012 | 242 | 479.10 | 1.98 |
| 2013 | 254 | 517.70 | 2.04 |
| 2014 | 462 | 972.54 | 2.11 |

**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

*UPGRADATION OF NPAs:*

The amount of outstanding advances upgraded as NPAs has increased from Rs. 13.50lakhsin 2007 to Rs.63.40 lakhs in 2014(see Table 6). The year 2011 reported the highest at Rs. 130.27 lakhs. In the meantime, there are fluctuations. The amount written off from NPAs was Rs. 59.11 lakhs in 2007 as compared to Rs. 0.35 lakhs in 2014. Thus, the SGB has additionally upgraded NPAs out of outstanding advances and simultaneously had written off some of the amount from NPAs.

**Table-6: Details of Write Offs and Up-gradation of NPAs in SGB during 2007-14**

| | | (Rs. lakhs) |
|---|---|---|
| Year | Up-gradation | Written off |
| 2007 | 13.50 | 59.11 |
| 2008 | 30.65 | 6.65 |
| 2009 | 0.00 | 0.00 |
| 2010 | 0.00 | 0.00 |
| 2011 | 130.27 | 14.07 |
| 2012 | 42.80 | 17.77 |
| 2013 | 48.46 | 4.52 |
| 2014 | 63.40 | 0.35 |

**Sources:** Relevant issues of the SGB, Annual Reports, Chittoor

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# PRODUCTIVITY ANALYSIS OF SIDBI

**Dr. Shallu Sharma[8]**

## ABSTRACT

Productivity is the relationship between changes in output and per unit of input. The concept of productivity is much wider in scope as it comprises human resources whose skills can be utilized differently for achieving desired results in the process of production. The objective behind measuring productivity is to improve the economic performance. The objective behind measuring productivity is to improve the economic performance. As emphasized by PEP (Productivity, Efficiency and Profitability) Committee states, "Banks being business organisations profit should continue to remain an important consideration. At no time should their operations result in a loss and act as a drag on the Government revenue. The net result of the promotional activities which they are being called upon to undertake should not partake the nature of subsidy grants" (Singh, 1993: p 29). Thus, in the context of banking, productivity can be improved by improving profit.

In this paper, an attempt has been made to measure and compare the branch productivity and employee productivity of the bank. The data has been collected and compiled from annual reports of SIDBI. The branch productivity of the bank has been measured on the basis of six indicators namely, net profit per branch, total income per branch, total expenditure per branch, business per branch, spread per branch and burden per branch for the period from 1990-91 to 2012-13. Further, the employee productivity of the bank has been measured based on total income per employee, total expenditure per employee, net profit per employee, business per employee, spread per employee and burden per employee during the same period.

The productivity results have been analyzed by using mean, exponential growth rate and coefficient of variation. In addition, correlation analysis, linear regression analysis and step-wise regression analysis have also been used to draw meaningful conclusions from the data. The analysis revealed that the branch productivity results of SIDBI were found exceptionally good. Further, similar trend has been observed in the results of employee productivity. Because of correlation analysis, it has been found that all the independent variables of branch productivity and employee productivity have significant positive correlation with dependent variable except burden per branch and burden per employee respectively. The results of linear regression analysis of the branch productivity ratios revealed that only total expenditure per branch ratio of the bank has shown significant decline with the passage of time. Among employee productivity ratios, burden per employee has shown declining trend over the period.

## KEYWORDS

**SIDBI, PEP, Productivity etc.**

## *INTRODUCTION*

Productivity is the relationship between changes in output and per unit of input. It is generally defined in terms of the efficiency with which inputs are transformed into useful output within the production process (Singh, 1993: p. 21). This relationship can be expressed as follows:

**Productivity = Total Output/Total Input**

The concept of productivity is much wider in scope as it comprises human resources whose skills can be utilized differently for achieving desired results in the process of production. The objective behind measuring productivity is to improve the economic performance. Thus, in the context of banking, productivity can be improved by improving profit.

### *The main objectives of the study are:*

- To study the branch productivity of the bank.
- To study the employee productivity of the bank.

### *BRANCH PRODUCTIVITY RATIOS*

Branch productivity implies output of various branches. The branch productivity of SIDBI has been measured on the basis of six indicators namely net profit per branch, total income per branch, total expenditure per branch, business per branch, spread per branch and burden per branch for the period from 1990-91 to 2012-13. The total income per branch indicates the proportion of

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[8]Assistant Professor, Department of Commerce & Management, Goswami Ganesh Dutta Sanatan Dharma College, Chandigarh, India, shallu_21@rediffmail.com

income managed by each branch. The total income of the bank should be adequate to meet the expenses of the business. The total expenditure per branch indicates the expenses incurred by each branch of the bank in the form of interest, financial charges and operating expenses comprising rent, advertisement, printing, stationery, auditor's fees etc.

The net profit per branch ratio establishes the relationship between the contributions of each branch in generating net profit of the business. Net profit is the net result of all the operational activities after considering all indirect expenses. The increase in the net profit per branch ratio implies better efficiency of each management unit in earning profits. Business per branch is also considered as an important indicator in measuring the productivity of a bank. It implies the total volume of business in the form of its deposits and loans and advances to priority sectors for capital formation and strengthening the financial status of the borrower. An increase in the ratio indicates proper utilization of bank resources that in turn leads to increased management productivity. Spread is an item of income. It is the difference between interest received and interest paid. It is an important determinant of profitability.

An increase in the ratio depicts the more money left at disposal after meeting operational and administrative expenses. The burden is related to expenditure of the business. It is the difference between non-interest expenditure and non-interest income. The more the amount of non-interest income of the bank the more will be the level of profitability of the bank. The bank can easily meet its non-interest expenditure during the year. Further, linear regression analysis has been also applied to study the relationship between selected ratios based on time. It helps in evaluating whether any increase or decrease in the ratio is significant or not. In the present study, time has been taken as an independent variable and the particular ratio as dependent variable. The result highlights the impact of time on the performance of the bank. The branch productivity ratios and results of simple regression analysis of the bank have been presented in Table1.

**Table-1: Branch Productivity Ratios**

(Rs in Crore)

| Year | Total Income Per Branch | Total Expenditure Per Branch | N.P. Per Branch | Business Per Branch | Spread Per Branch | Burden Per Branch |
|---|---|---|---|---|---|---|
| 1990-91 | 20.24 | 18.55 | 1.70 | 200.42 | 1.17 | -0.53 |
| 1991-92 | 24.10 | 20.66 | 3.44 | 233.78 | 3.03 | -0.40 |
| 1992-93 | 29.33 | 24.63 | 4.71 | 257.62 | 4.76 | 0.05 |
| 1993-94 | 34.07 | 28.67 | 5.40 | 287.69 | 4.40 | -1.00 |
| 1994-95 | 37.04 | 29.95 | 7.09 | 276.97 | 5.99 | -1.10 |
| 1995-96 | 40.54 | 31.21 | 9.33 | 293.52 | 7.78 | -1.55 |
| 1996-97 | 39.11 | 29.54 | 9.57 | 280.59 | 8.75 | -0.82 |
| 1997-98 | 42.68 | 30.40 | 12.28 | 299.43 | 10.22 | -2.06 |
| 1998-99 | 47.83 | 34.19 | 13.65 | 347.96 | 11.59 | -2.06 |
| 1999-00 | 48.42 | 34.50 | 13.92 | 383.77 | 13.36 | -0.56 |
| 2000-01 | 49.07 | 34.61 | 14.47 | 382.41 | 13.51 | -0.96 |
| 2001-02 | 43.32 | 32.06 | 11.26 | 327.43 | 8.32 | -2.94 |
| 2002-03 | 34.28 | 26.60 | 7.68 | 301.95 | 2.95 | -4.73 |
| 2003-04 | 25.59 | 17.27 | 8.32 | 228.97 | 3.66 | -4.67 |
| 2004-05 | 19.74 | 13.17 | 6.58 | 225.49 | 2.11 | -4.46 |
| 2005-06 | 17.21 | 10.45 | 6.75 | 240.73 | 4.38 | -2.37 |
| 2006-07 | 18.55 | 11.53 | 7.02 | 262.95 | 6.72 | -0.31 |
| 2007-08 | 22.44 | 17.83 | 4.61 | 301.47 | 8.02 | 3.41 |
| 2008-09 | 20.82 | 12.53 | 8.29 | 367.72 | 6.87 | -1.42 |
| 2009-10 | 24.66 | 16.26 | 8.40 | 459.27 | 8.17 | -0.22 |
| 2010-11 | 37.54 | 24.23 | 8.22 | 587.71 | 13.02 | -0.28 |
| 2011-12 | 54.20 | 32.90 | 12.64 | 817.95 | 18.77 | -2.53 |
| 2012-13 | 65.87 | 40.99 | 14.59 | 904.45 | 19.34 | -5.54 |
| EGR | 5.51 | 3.67 | 10.28 | 7.09 | 13.61 | 11.27 |
| Mean | 34.64 | 24.90 | 8.69 | 359.58 | 8.13 | -1.61 |
| CV | 37.90 | 35.31 | 41.87 | 50.11 | 61.02 | -122.04 |
| β-value | 0.117 | -0.161 | 0.360 | 0.652 | 0.510 | -0.216 |
| t-value | 5.548 | 7.159 | 4.256 | 2.517 | 1.940 | -1.013 |
| p-value | 0.000* | 0.000* | 0.000* | 0.020* | 0.066 | 0.323 |

**Sources:** Compiled from Annual Reports of SIDBI

**Note:** EGR = Exponential Growth Rate, CV = Coefficient of Variation

*Significant at 1per cent level of significance

Table-1 shows that the income per branch of the bank has increased from Rs 20.24 crore in 1990-91 to Rs 65.87 crore in 2012-13 and recorded a growth rate of 5.51 per cent during the period. The income per branch increased up to 2000-01 and afterwards

declined to Rs 17.21 crore in 2005-06. During remaining years, the ratio showed improvements and increased to Rs 65.87 crore in 2012-13. The expenditure per branch of SIDBI has increased from Rs 18.55 crore in 1990-91 to Rs 40.99 crore in 2012-13. The growth rate was 3.67 per cent with an overall average of Rs 24.90 crore over the period of study. The table also shows that the net profit per branch of the bank has increased from Rs 1.70 crore in 1990-91 to Rs 14.59 crore in 2012-13 and registered a growth of 10.28 per cent during the period. The average ratio is Rs 8.69 crore over the period. However, the growth of expenditure per branch was more consistent (CV=35.31) as compared to net profit per branch (CV=41.87) and total income per branch (CV=37.90) during the reference period. The table further displays that business per branch of the bank has increased from Rs 200.42 crore in 1990-91 to Rs 904.45 crore in 2012-13 during the period. The growth rate was 7.09 per cent along with an average of Rs 359.58 crore over the period. The spread per branch ratio has increased from Rs 1.17 crore in 1990-91 to Rs 19.34 crore and registered growth of 13.61 per cent during the period.

The spread analysis revealed a highly fluctuating trend during the reference period and so coefficient of variation (CV=61.02) was the highest over the period. The burden per branch ratio of SIDBI shows that the non-interest income of the bank was more than non-interest expenditure for the period of study. The overall declining rate was 11.27 per cent and the coefficient of variation was (CV=-122.04) during the period of study. The results of linear regression analysis further revealed that total income, net profit and business per branch ratios of the bank registered a significant increase during the period of study. It is evident from the table that total expenditure ratio of SIDBI has shown a significant decline with the passage of time. It has been also observed that increase in the spread per branch and the decrease in burden per branch is not significant over the period of study.

**Correlation Analysis**

In the present study, the degree of covariance has been studied between the dependent variable, namely, business per branch (Y) and five independent variables, namely, total income per branch ($X_1$), total expenditure per branch ($X_2$), net profit per branch ($X_3$), spread per branch ($X_4$) and burden per branch ($X_5$). The results of correlation analysis used to study the branch productivity of the bank, have been shown in Table-2.

**Table-2: Correlation Analysis**

|  | **Y** | **$X_1$** | **$X_2$** | **$X_3$** | **$X_4$** | **$X_5$** |
|---|---|---|---|---|---|---|
| **Y** | 1 |  |  |  |  |  |
| **$X_1$** | 0.693(**) 0.000 | 1 |  |  |  |  |
| **$X_2$** | 0.490(*) 0.017 | 0.952(**) 0.000 | 1 |  |  |  |
| **$X_3$** | 0.571(**) 0.004 | 0.827(**) 0.000 | 0.689(**) 0.000 | 1 |  |  |
| **$X_4$** | 0.863(**) 0.000 | 0.834(**) 0.000 | 0.664(**) 0.001 | 0.817(**) 0.000 | 1 |  |
| **$X_5$** | -0.259 0.234 | -0.318 0.139 | -0.209 0.338 | -0.377 0.076 | -0.075 0.735 | 1 |
| **Note:** *Correlation is significant at the 0.05 level (2-tailed). |  |  |  |  |  |  |
| **Correlation is significant at the 0.01 level (2-tailed). |  |  |  |  |  |  |
| **Sources**: Authors Compilation |  |  |  |  |  |  |

The table shows that $X_1$ (0.693), $X_2$ (0.490), $X_3$ (0.571) and $X_4$ (0.863) have positive and statistically significant correlation with business per branch (Y) at 1 percent level of significance. It has been also observed that $X_5$ (-0.259) has negative correlation with (Y).

Further, the analysis revealed that some other variables are also correlated with each other. Total income per branch ($X_1$) has positive significant correlation with other two variables namely, $X_3$ and $X_4$ respectively. Similarly, total expenditure per branch ($X_2$) has positively correlated with $X_4$. Thus, over the period of study, both ($X_1$) and ($X_2$) have positive significant association with other variables except burden per branch ($X_5$).

**Step-Wise Regression Analysis**

The step-wise multiple regression analysis has been studied between the dependent variable, business per branch (Y) and five independent variables, namely, total income per branch ($X_1$), total expenditure per branch ($X_2$), net profit per branch ($X_3$), spread per branch ($X_4$) and burden per branch ($X_5$). The regression analysis matrix of SIDBI has been shown in Table-3.

**Table-3: Step-Wise Regression Analysis of SIDBI**

| Steps | Constant | $X_4$ | R Square | Adjusted R Square | F Value |
|---|---|---|---|---|---|
| **I** | 104.805 (2.764) | 31.354* (7.823) | 0.745 | 0.732 | 61.206* |

**Note:** *Significant at 1 percent level of significance
**Sources**: Authors Compilation

The table depicts that in the first step; only single variable i.e. spread per branch ($X_4$) explained 73.2 per cent variation in the business per branch (Y) with significant regression coefficient of 31.354. The F value is also significant at 1 per cent level of significance. Thus, one unit increase in spread per branch will lead to increase in 31.354 units of business per employee.

The multivariate analysis of SIDBI for the study period concludes:

$Y = 104.805 + 31.354 (X_4) + \varepsilon$
Where, $\varepsilon$ = Error Term

After the first step, no other variable has shown significant impact on the business per branch of SIDBI.

***EMPLOYEE PRODUCTIVITY RATIOS***

In the service industry, the input is the services provided by the employees and productivity implies the output generated by the employees. Thus, employee productivity analysis of SIDBI reveals the results obtained based on various resources distributed over the number of employees. The employee productivity of the bank has been measured on the basis of six parameters namely total income per employee, total expenditure per employee, net profit per employee, business per employee, spread per employee and burden per employee during the period 1990-91 to 2012-13. The total income per employee implies the contribution of each employee in generating income to the bank. The total expenditure per employee indicates the expenses incurred by the bank in giving training, skill and career development etc. to their employees. Net profit is the net margin left after considering all expenses and incomes. In other words, it is the excess of income over expenditure. The net profit per employee indicates the output obtained in the form of net profit from per unit of input i.e. employees of the bank. This ratio shows the contribution of employees in the total profits of the bank, so an increase in the ratio has been considered as an indicator of better productivity. Business per employee is another important indicator of measuring employee productivity. It implies the total volume of business in the form of total deposits and loans and advances utilized in the business in terms of each employee. An increasing ratio signifies better employee productivity. Spread per employee indicates the amount of spread available for each employee of the bank. Further, the linear regression analysis has also been applied to study the effect of time on the employee productivity of the bank. The employee productivity ratios and results of simple regression analysis of the bank are presented in Table-4.

**Table-4: Employee Productivity Ratios**

(Rs in Crore)

| Year | Total Income Per Employee | Total Expenditure Per Employee | N.P. Per Employee | Business Per Employee | Spread Per Employee | Burden Per Employee |
|---|---|---|---|---|---|---|
| **1990-91** | 0.84 | 0.77 | 0.07 | 8.33 | 0.05 | -0.02 |
| **1991-92** | 1.02 | 0.87 | 0.14 | 9.86 | 0.13 | -0.02 |
| **1992-93** | 1.21 | 1.02 | 0.19 | 10.66 | 0.20 | 0.00 |
| **1993-94** | 1.47 | 1.23 | 0.23 | 12.38 | 0.19 | -0.04 |
| **1994-95** | 1.56 | 1.26 | 0.30 | 11.68 | 0.25 | -0.05 |
| **1995-96** | 1.60 | 1.23 | 0.37 | 11.56 | 0.31 | -0.06 |
| **1996-97** | 1.58 | 1.19 | 0.39 | 11.33 | 0.35 | -0.03 |
| **1997-98** | 1.64 | 1.17 | 0.47 | 11.48 | 0.39 | -0.08 |
| **1998-99** | 1.75 | 1.25 | 0.50 | 12.76 | 0.42 | -0.08 |
| **1999-00** | 1.74 | 1.24 | 0.50 | 13.80 | 0.48 | -0.02 |
| **2000-01** | 1.81 | 1.28 | 0.53 | 14.13 | 0.50 | -0.04 |
| **2001-02** | 1.70 | 1.25 | 0.44 | 12.81 | 0.33 | -0.11 |
| **2002-03** | 1.51 | 1.17 | 0.34 | 13.27 | 0.13 | -0.21 |
| **2003-04** | 1.30 | 0.88 | 0.42 | 11.63 | 0.19 | -0.24 |
| **2004-05** | 1.10 | 0.73 | 0.37 | 12.56 | 0.12 | -0.25 |
| **2005-06** | 1.18 | 0.71 | 0.46 | 16.44 | 0.30 | -0.16 |
| **2006-07** | 1.45 | 0.90 | 0.55 | 20.52 | 0.52 | -0.02 |
| **2007-08** | 1.80 | 1.43 | 0.37 | 24.16 | 0.64 | 0.27 |
| **2008-09** | 1.99 | 1.19 | 0.79 | 35.05 | 0.66 | -0.14 |
| **2009-10** | 2.44 | 1.61 | 0.83 | 45.49 | 0.81 | -0.02 |

| 2010-11 | 3.75 | 2.42 | 0.82 | 58.66 | 1.30 | -0.03 |
|---|---|---|---|---|---|---|
| **2011-12** | 4.49 | 2.72 | 1.05 | 67.70 | 1.55 | -0.21 |
| **2012-13** | 5.13 | 3.20 | 1.14 | 70.50 | 1.51 | -0.43 |
| **EGR** | **8.57** | **6.67** | **13.47** | **10.19** | **16.90** | **14.50** |
| **Mean** | **1.91** | **1.34** | **0.49** | **22.47** | **-0.49** | **-0.09** |
| **CV** | 56.54 | 46.71 | 55.39 | 85.44 | 86.90 | -152.51 |
| **β-value** | 0.688 | 0.599 | 0.856 | 0.788 | 0.763 | -0.336 |
| **t-value** | 1.726 | 3.048 | 1.246 | -0.828 | -0.687 | -0.161 |
| **p-value** | 0.099 | 0.006* | 0.226 | 0.417 | 0.499 | 0.874 |

**Sources:** Compiled from Annual Reports of SIDBI

**Note:** EGR = Exponential Growth Rate, CV = Coefficient of Variation

*Significant at 1per cent level of significance

Table-4 highlights that income per employee of SIDBI has increased from Rs 0.84 crore in 1990-91 to Rs 5.13 crore in 2012-13 during the period. The overall growth rate was 8.57 per cent with an overall average of Rs 1.91 crore over the period. In the initial years, the ratio increased but from the year 1996-97 to 2005-06, the ratio reveals wider variations during the same period. From 2006-07, the ratio has shown improvements over the previous years. The expenditure per employee also increased from Rs 0.77 crore in 1990-91 to Rs 3.20 crore in 2012-13 and registered growth of 6.67 per cent during the period. The table further brings out that the profit per employee of the bank increased from Rs 0.07 crore in 1990-91 to Rs 1.14 crore in 2012-13. The analysis of net profit per employee ratio reveals fluctuations during the reference period. The annual growth rate was 13.47 per cent along with an average of Rs 0.49 crore over the period.

Further, the growth in expenditure per employee showed greater consistency (CV=46.71) as compared to net profit per employee (CV=55.39) and income per employee (CV=56.54) during the same period. The business per employee ratio of the bank has increased from Rs 8.33 crore in 1990-91 to Rs 70.50 crore in 2012-13 over the period. The annual growth rate was 10.19 per cent along with average of Rs 22.47 crore during the same period. It has been further observed that spread per employee ratio grew up from Rs 0.05 crore in 1990-91 to Rs 1.51 crore and registered growth of 16.90 per cent over the period. It is evident from the table that both spread and burden ratios showed wider fluctuations during the period. It has been observed that overall ratio decreased from Rs (-0.02) crore in 1990-91 to Rs (-0.43) crore in 2012-13 and the declining rate was 14.50 per cent during the reference period. Further, spread ratio showed a high degree of variation (CV=86.90) as compared to burden ratio (CV= - 152.51) of the bank during the period of study. The results of linear regression analysis depict that only total expenditure ratio of the bank shows a significant increase over the period of study. It has been also observed that total income, net profit, business per employee and spread per employee ratios of the bank, have been increasing during the period but the increase is not significant. Further, burden per employee ratio shows a declining trend over the period of study.

**Correlation Analysis**

The correlation analysis has also been applied for studying the degree of association between employee productivity ratios of the bank. For this purpose, business per employee (Y) is dependent variable and five other variables, namely, total income per employee ($X_1$), total expenditure per employee ($X_2$), net profit per employee ($X_3$), spread per employee ($X_4$) and burden per employee ($X_5$) are considered as independent variables. The results of correlation analysis used to study the employee productivity of the bank, have been shown in Table-5.

**Table-5: Correlation Analysis**

|  | **Y** | **$X_1$** | **$X_2$** | **$X_3$** | **$X_4$** | **$X_5$** |
|---|---|---|---|---|---|---|
| **Y** | 1 |  |  |  |  |  |
| **$X_1$** | 0.948(**) 0.000 | 1 |  |  |  |  |
| **$X_2$** | 0.910(**) 0.000 | 0.986(**) 0.000 | 1 |  |  |  |
| **$X_3$** | 0.908(**) 0.000 | 0.892 (**) 0.000 | 0.820(**) 0.000 | 1 |  |  |
| **$X_4$** | 0.964(**) 0.000 | 0.965(**) 0.000 | 0.934(**) 0.000 | 0.921(**) 0.000 | 1 |  |
| **$X_5$** | -0.349 0.103 | -0.415(*) 0.049 | -0.337 0.116 | -0.454(*) 0.030 | -0.255 0.240 | 1 |
| **Note:** *Correlation is significant at the 0.05 level (2-tailed). <br> **Correlation is significant at the 0.01 level (2-tailed). <br> **Sources**: Authors Compilation | | | | | | |

It is evident from the table that $X_1$ (0.948), $X_2$ (0.910), $X_3$ (0.908) and $X_4$ (0.964) have positive and statistically significant correlation with business per employee (Y) at 1 percent level of significance. The table also shows that $X_5$ (-0.349) has negative correlation with (Y). The analysis further revealed that over the period of study, all other variables except burden per employee ($X_5$) have significant positive correlations with other variables.

**Step-Wise Regression Analysis**

The step-wise regression analysis has been studied between the five independent variables, namely, total income per employee ($X_1$), total expenditure per employee ($X_2$), net profit per employee ($X_3$), spread per employee ($X_4$) and burden per employee ($X_5$) and dependent variable, business per employee (Y). The regression analysis matrix of SIDBI has been shown in Table-6.

**Table-6: Step-wise Regression Analysis of SIDBI**

| Steps | Constant | $X_4$ | R Square | Adjusted R Square | F Value |
|---|---|---|---|---|---|
| **I** | 1.121 (0.669) | 43.334* (16.701) | 0.930 | 0.927 | 278.915* |

**Note:** *Significant at 1 percent level of significance
**Sources**: Authors Compilation

It has been observed that only single variable i.e. spread per employee ($X_4$) explained 92.7 per cent variation in the business per branch (Y) with significant regression coefficient of 43.334. The F value is also significant at 1 per cent level of significance. Thus, one unit increase in spread per employee will lead to increase in 43.334 units of business per employee.

The multivariate analysis of SIDBI for the study period concludes:

$Y = 1.121 + 43.334 (X_4) + \varepsilon$
Where, $\varepsilon$ = Error Term

After the first step, no other variable has found significantly affecting the business per employee of SIDBI.

*FINDINGS*

Thus, it has been inferred that the income per branch of the bank increased from Rs 20.24 crore in 1990-91 to Rs 65.87 crore in 2012-13 and recorded a growth rate of 5.51 per cent during the period. The expenditure per branch of SIDBI increased from Rs 18.55 crore in 1990-91 to Rs 40.99 crore in 2012-13. The growth rate was 3.67 per cent with an overall average of Rs 24.90 crore over the period of study. The analysis further revealed that the net profit per branch of the bank increased from Rs 1.70 crore in 1990-91 to Rs 14.59 crore in 2012-13 and registered a growth of 10.28 per cent during the period. The average ratio is Rs 8.69 crore over the period. However, the growth of expenditure per branch was more consistent (CV=35.31) as compared to net profit per branch (CV=41.87) and total income per branch (CV=37.90) during the reference period.

It has been also observed that the business per branch of the bank increased from Rs 200.42 crore in 1990-91 to Rs 904.45 crore in 2012-13 during the period. The growth rate was 7.09 per cent along with an average of Rs 359.58 crore over the period. The spread per branch ratio increased from Rs 1.17 crore in 1990-91 to Rs 19.34 crore and registered growth of 13.61 per cent during the period. The spread analysis revealed a highly fluctuating trend during the reference period and the coefficient of variation (CV=61.02) was high over the period. The burden per branch ratio of SIDBI showed that the non-interest income of the bank was more than non-interest expenditure for the period of study. The overall declining rate was 11.27 per cent and the coefficient of variation was (CV=-122.04) during the period of study. The results of linear regression analysis of branch productivity of SIDBI depict that total income, net profit and business per branch ratios of the bank registered significant increase during the period of study. The total expenditure ratio of SIDBI has shown significant decline over the period of study.

The correlation analysis of branch productivity showed that income per branch (0.693), expenditure per branch (0.490), net profit per branch (0.571) and spread per branch (0.863) have positive and statistically significant correlation with business per branch ($Y_1$). Further, step-wise regression analysis showed that only one variable i.e. spread per branch ($X_4$) explained 73.2 per cent variation in the business per branch.

The analysis further revealed that the income per employee of SIDBI increased from Rs 0.84 crore in 1990-91 to Rs 5.13 crore in 2012-13 during the period. The overall growth rate was 8.57 per cent with an overall average of Rs 1.91 crore over the period. The total expenditure per employee also increased from Rs 0.77 crore in 1990-91 to Rs 3.20 crore in 2012-13 and registered a growth of 6.67 per cent during the period. The profit per employee of the bank increased from Rs 0.07 crore in 1990-91 to Rs 1.14 crore in 2012-13. The analysis of net profit per employee ratio revealed fluctuations during the reference period. The annual growth rate was 13.47 per cent along with an average of Rs 0.49 crore over the period.

Further, the growth in total expenditure per employee showed greater consistency (CV=46.71) as compared to net profit per employee (CV=55.39) and total income per employee (CV=56.54) during the same period.

The business per employee ratio of the bank increased from Rs 8.33 crore in 1990-91 to Rs 70.50 crore in 2012-13. The annual growth rate was 10.19 per cent along with average of Rs 22.47 crore during the same period. It has been further observed that spread per employee ratio grew up from Rs 0.05 crore in 1990-91 to Rs 1.51 crore and registered growth of 16.90 per cent over the period. The analysis further revealed that both ratios i.e. business per employee and spread ratio showed wider fluctuations during the period. It has been observed that burden ratio decreased from Rs (-0.02) crore in 1990-91 to Rs (-0.43) crore in 2012-13 and the declining rate was 14.50 per cent during the reference period. Further, spread ratio showed a high degree of variation (CV=86.90) as compared to business per employee (CV=85.44) and burden ratio (CV=-152.51) of the bank during the period of study. Further, the linear regression analysis results of employee productivity revealed that only total expenditure ratio of the bank showed significant increase over the period of study. The analysis further showed that total income, net profit, business per employee and spread per employee ratios of the bank, have been increasing during the period but the increase is not significant.

The correlation analysis of employee productivity showed that income per employee (0.948), expenditure per employee (0.910), net profit per employee (0.908) and spread per employee (0.964) have positive and statistically significant correlation with business per employee. Based on step-wise regression analysis, it has been also found that only single variable i.e. spread per employee explained 92.7 per cent variation in the business per branch.

*CONCLUSION*

Thus, the analysis of branch productivity results of SIDBI was found exceptionally good. The total income per branch, net profit per branch, business per branch and spread per branch has shown a remarkable increase during the study period while, burden ratio declines during the same period. However, an increase in the total expenditure per branch reflects that bank must take serious steps to exercise control over undesirable expenditure. Further, similar trend has been visible in the results of employee productivity. All other variables such as, total income per employee, net-profit per employee, business per employee and spread per employee have shown desirable results except total expenditure per employee. Based on correlation analysis, it has been found that all the independent variables of branch productivity have significant positive correlation with business per branch except burden per branch, which is negatively correlated.

Further, only spread per branch has shown maximum proportion of variation in the business per branch of the bank. Similarly, all the variables of employee productivity have shown positive correlation with business per employee except burden per employee. In addition, step-wise regression analysis revealed that significant level of variation has been explained by spread per employee in the employee productivity ratios of the bank. The results of linear regression analysis of the branch productivity ratios revealed that only total expenditure per branch ratio of the bank has shown significant decline with the passage of time. Among employee productivity ratios, burden per employee has shown declining trend over the period.

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# LIQUIDITY MANAGEMENT OF SUGAR MANUFACTURING COMPANIES IN INDIA: A COMPARATIVE STUDY

**Dr. Karri Srinivas[9] Dr. Pradeep D. Hadke[10]**

| ABSTRACT |
|---|
| Liquidity management is a concept that is gaining serious attention all over the world because of the current financial turmoil and the state of the world economy. Liquidity is perceived as the debt paying ability of a going concern. It is the ability of a company to meet the short-term obligations. Hence, it is of utmost important to keep a constant eye on liquidity position of the company. In this paper, a comparative study on the liquidity position of five leading Indian Sugar Manufacturing companies has been done to know the liquidity position of the companies. The study covers a period of 5 years viz, 2009-2010 to 2013-2014. It has been found that the liquidity position of majority companies under study shown below the standard norm. Moreover, less or unsafe WC in some cases indicates the aggressive WC management policy of the firms which implies minimal investment in current assets by them to derive a higher rate of return. It is also found that in all the companies stock occupies a major portion in the total current assets. In our case, Motaal's Ultimate Rank Test show that the liquidity position of Triveni Sugars Ltd., is healthier as compared to other companies under study. |

| KEYWORDS |
|---|
| **Liquidity, Working Capital, Motaal's Ultimate Rank Test, Profitability etc.** |

***INTRODUCTION***

Liquidity is the ability to meet expected and unexpected demands for cash through ongoing cash flow or the sale of an asset at fair market value. Liquidity risk is the risk, which at some time an entity will not have enough cash or liquid assets to meet its cash obligations. A firm in order to remain in existence and sustain its activities as a going concern must remain liquid and meet its obligations as and when they become due. Even though firms traditionally are focused on long-term capital budgeting and capital structure, the recent trend is that many companies across different industries focus on working capital management efficiency

When there is a poor management of working capital, funds may be unnecessarily tied up in idle assets. This will reduce liquidity of the company and the company will not be in a position to invest in productive assets like plant and machinery. It will also affect profitability of the company. The existence of an adequate liquidity and its careful management can make substantial difference between the success and failure of an enterprise. Current assets are liquid so holding more current assets refer to high liquidity but on the other hand, current assets include such items, which diminish firm's profitability. It must be remembered that different items of current assets have different degree of liquidity.

For the business holders, one of the most important tasks is to estimate and evaluate cash flows of the business, to well identify the long run and short run cash inflows and outflows to timely sort out the cash shortages and excess to formulate financing and investing strategies respectively. It also helps in planning the payments to creditors on time to avoid losing reputation and trust of the customers and to avoid potential bankruptcy. If all the current obligations are met without any delay as and when these become due, creditors and all others will have a feeling of confidence in the financial strength of the organization and this will sustain the credit standing of the organization. However, failure to meet such obligations on continuous basis would cause an adversely effect on the credit standing and market reputation resulting in more difficult to finance the level of current assets from the short-term sources. Keeping liquidity is usually costly, but helps avoiding negative effects of unexpected cash-flow shocks.

***NEED FOR STUDY***

The sugar industry in India finds itself intertwined in a complex web of problems leading to "declining profitability to the cane growers as well as sugar industries". The reasons for the same are to be traced and suitably addressed to give a boost to this sector in the country. Keeping the above aspects in view, it was felt necessary to conduct an industry specific short-term solvency study on selected leading sugar manufacturing units in India. Financial Statements just provide the financial ingredients of a firm. So the present study on **"**Liquidity Management of Sugar Manufacturing Companies in India: A Comparative Study" has been undertaken.

[9]Assistant Professor, Department of Management Studies, Madanapalle Institute of Technology & Science (UGC-Autonomous), Andhra Pradesh, India, talktoksv@gmail.com
[10]Associate Professor, Department of Commerce & Management Studies, Dhanwate National College, Maharashtra, India, hadkep@yahoo.com

## OBJECTIVES OF STUDY

Keeping in view the importance of Sugar sector in Indi's economic growth scenario, the current study aims at assessing the liquidity management of five leading sugar-manufacturing units over a period of Five years (2009-10 to 2013-14). More specifically the highlighting will be on the following issues:

- To evaluate the working capital management and its competence.
- To study and compare the liquidity position of the companies under study.
- To find out the areas of weakness in liquidity management and offer suggestions for improvement, if any.

## PERIOD OF STUDY

The following study is carried out on the 5 (Five) selected leading Sugar Manufacturing Units in India. The study basically covers a period of 5 years from 2009-10 to 2013-14. The duration of the period is good enough to cover the short-term fluctuations and is enough to provide insights into the liquidity management and give a brief comparison between the selected companies under study.

## METHODOLOGY OF RESEARCH

The samples selected for the study are the leading five sugar-manufacturing units of Indian sugar Industry namely, Dhampur Sugar Mills, Triveni Engineering &Industries Ltd, Dwarikesh Sugars, Sree Renuka Sugars Ltd and Balrampur Chinni Mills. This study is based on secondary data. The data required for this study have been collected from the published annual reports of the selected companies and the website, moneycontrol.com. The study covered a period of five years starting from 2009-10 to 2013-14. The techniques applied in the study are Percentage method, mean, standard deviation, coefficient of variation, Ratio Analysis, Motaal's Ultimate Rank Test.

### Sample Design

A sample size of five Indian leading sugar-manufacturing companies has been purposefully selected for the study. The data for the study period 2009-2010 to 2013-14 have been collected from secondary sources i.e. Annual reports of the company as well as from the website www.moneycontrol.com. Keeping in view the scope of the study, it was decided to select five large companies based on total assets and whose financial information is available for the entire study period to meet our requirements. Editing, classification and tabulation of the financial data collected from the above mentioned-sources have been done as per requirements of the study.

## REVIEW OF LITERATURE

A brief review of the different researches in the field attempted in the following paragraphs:

Sarbapriya Ray (2012) this paper attempts to measure the economic performance of Indian sugar industry in terms of capacity utilization measured econometrically at aggregate level over a period from 1979-80 to 2008-09. In this study, Optimal output is defined as the minimum point on the firm's short run average total cost curve and the rate of capacity utilization is merely ratio of its actual output to capacity output level.

Parithosh Benerjee and A. K. Srivastava (2012) attempted to suggest that sugar industry is the biggest agro-based industry providing direct employment to nearly 70,000 people, which constituted 12 percent of total workers engaged in the manufacturing industry in the State of Uttar Pradesh. They also discussed the share of Uttar Pradesh in relation to the national sugar production capacity. They also attempted a comparative assessment of sugar industry in Uttar Pradesh in relation to Maharashtra, Gujarat, Andhra Pradesh, and Karnataka.

Dr.P.Chellaswamy, S.V.Revathi (2013) The analysis reveals that the relationship between Raw Materials and other independent variables i.e. the Capital, Labour and Sales has contributed 99 percent on dependent variable of the companies which started after green revolution period. The growth of the northern region has positive growth in terms of output, capital employed and also there is better rainfall and irrigation in this region than that of the southern region. The trend line moves towards maximum in BHL companies. The average growth of sugar industry was slower in the southern region than that of northern region due to poor irrigation and rainfall.

Dr. Ashvinkumar H. Solanki (2014) Indian Sugar Industry market is one of the largest markets in the world; in volume terms. It remains a key growth drive for world sugar, growing above the Asian and world consumption growth average. Sugar is one of the most important cash crops in the world and hence there is always a wrestle to control its import/export.

Amit Kumar Dwivedi & Priyanko Ghosh (2014) Data Envelopment analysis (DEA) has been used to calculate the technical and scale efficiency measures of the public and private sugar-manufacturing firms of the Indian Sugar Industry (2006 to 2010). Within DEA framework, the input & Output oriented Variable Returns to Scale (VRS) & Constant Return to Scale (CRS) model is employed for the study of Decision Making Units (DMUs). A representative sample of 43 firms, which account for a major portion of the total market share, is studied. The selection criterion for the inclusion of a firm in the analysis was the total sales of INR 5,000 million or more in the year 2010.

## INDIAN SUGAR INDUSTRY

The Indian Sugar Industry, with an annual productive capacity of over 25 MMT, stands out to be the second largest in the world after Brazil, accounting for around 15% of the global sugar production. The country consumes approximately 22 MT of sugar annually, with Maharashtra contributing over 60% of it while the rest of the output come from states like Tamil Nadu, Karnataka, Uttar Pradesh and Madhya Pradesh. The sufficient and well-distributed monsoon rains, rapid population growth and substantial increases in sugar production capacity have made India the largest consumer and second largest producer of sugar in the world. Highly fragmented with organized and unorganized players, the sector supports over 50 million farmers and their families, making significant contribution towards socio-economic development in the rural areas of the India.

### Sweet Profile of Indian Sugar Industry:

- Largest sugar Consuming (No.1) country in the world.
- 2nd largest producer of sugar in the world.
- 5 million hectares &60 million cane farmers and dependents.
- Industry valued at Rs.800 billion.
- Large number of sugar mills – 527.
- Estimated cane price payment for 2012-13 is Rs.550 billion.
- Located in rural heartland, directly contributes to Rural Economic Development.
- 65% of sugar consumed by bulk consumers, viz Beverages, Confectionery etc.
- Per capita Consumption 22 Kgs (below global average 24 Kgs).
- Area under cultivation 42.09 lac hectors.

## A BRIEF PROFILE OF COMPANIES UNDER STUDY

**Dhampur Sugar Mills**: Dhampur Sugar Mills incorporated in 1933 is engaged in manufacturing sugar, ethanol, chemicals and plantation white sugar. Chairman Mr. V. K. Goel manages the company. In 1933, the company started with a production capacity of 300 TCD. Today the Dhampur Group has a combined capacity of 44,500 TCD. Company also operates captive power plant of 204 MV capacities. Company's R&D facility has successfully introduced various technologies. Dhampur Sugar is the first and the largest manufacturer of refined Sulphur less sugar in the India. Company's captive power generation capacity is amongst the largest in India. It has also emerged as the highest ethanol manufacturing capacity relative to its cane crushing capacity, in the country. Company's manufacturing facilities are located at Dhampur, Mansurpur, Asmoli and Rajpura, all in Uttar Pradesh.

**Triveni Engineering & Industries Ltd**: Triveni Engineering & Industries Ltd. (Triveni) is engaged in producing sugar and manufacturing of turbines. It has six sugar manufacturing facilities in Uttar Pradesh. The company is also engaged in co-generation of electricity in Deoband and Khatauli plants using bagasse. It has a total power generation capacity of 68 MW. The surplus electricity is supplied to the power distribution companies. Triveni exports its excess electricity to Uttar Pradesh Power Corporation Limited (UPPCL). The company is also involved in wastewater treatment and distillery services as well as retailing through Triveni Khushali Bazaar.

**Dwarikesh Sugars**: Dwarikesh Sugar Industries Limited (DSIL) is an India-based company engaged in manufacture and sale of sugar, co-generation and industrial alcohol. The Company has three sugar-manufacturing units, in which two units are located in Bijnor District of Uttar Pradesh & one sugar unit in Bareilly District, Uttar Pradesh. The Company's sugar cane crushing capacity of the three plants is 21,500 tons of cane per day. It is also engaged in co-generation of power.

**Sree Renuka Sugars Limited**: The Company operates eleven mills globally with a total crushing capacity of 20.7 million tons per annum (MTPA) or 94,520 tons crushed per day (TCD). The Company operates seven sugar mills in India with a total crushing capacity of 7.1 MTPA or 35,000 TCD and two port based sugar refineries with capacity of 1.7 MTPA. The Company also has significant presence in South Brazil, through acquisitions of Renuka Vale do Ivai and Renuka do Brasil. Renuka Vale do Ivai was acquired on 19th March 2010 and is 100% owned by the Company. The Company currently holds 59.4% equity stake in Renuka do Brasil that was acquired on 7th July 2010. The combined crushing capacity of the Brazilian subsidiary companies is 13.6 MTPA. The Company is the only sugar producer globally with year round crushing due to complementary seasons in India and Brazil.

**Balrampur Chinni Mills**: Balrampur Chini Mills Limited (BCML) was incorporated in 1975 under the Companies Act as a wholly-owned subsidiary company of Balrampur Sugar Company Limited (Name changed to Balrampur Commercial Enterprises Limited) (BCEL). By an indenture of conveyance dated 21 Feb'1976, BCEL transferred to BCML the land, building and other assets and the entire staff of its Balrampur Sugar Factory with effect from 1 July 1975. It is one of the largest integrated sugar manufacturing companies in India. Its allied business consists of manufacturing and marketing of Ethyl Alcohol & Ethanol, generation and selling of power and manufacturing and marketing of organic manure. Company has 11 sugar factories located in U.P. having an aggregate crushing capacity of 79,000 tons per day.

*DATA ANALYSIS AND INTERPRETATION*

In order to analyses the liquidity position of selected companies, I have calculated the liquidity ratios, volume of amount invested in liquidity assets, working capital and other related ratios which is portrayed in the following tables.

**Table-1: Dhampur Sugar Mills**

(Rs. in Cr)

| YEAR | Current Assets | Current Liabilities | Working Capital CA-CL | Quick Assets | Current Ratio | Quick Ratio | WC to CA (%) | Stock to CA (%) | QA to CA (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 655.70 | 454.20 | 201.50 | 236.12 | 1.44 | 0.52 | 30.73 | 63.99 | 36.01 |
| 2011 | 973.44 | 608.23 | 365.21 | 306.15 | 1.60 | 0.50 | 37.52 | 68.55 | 31.45 |
| 2012 | 1015.04 | 678.23 | 336.81 | 304.81 | 1.50 | 0.45 | 33.18 | 69.97 | 30.03 |
| 2013 | 1552.88 | 872.95 | 679.93 | 241.62 | 1.78 | 0.28 | 43.79 | 84.44 | 15.56 |
| 2014 | 1425.82 | 1073.33 | 352.49 | 201.48 | 1.33 | 0.19 | 24.72 | 85.87 | 14.13 |
| Mean | 1124.58 | 737.39 | 387.19 | 258.04 | 1.53 | 0.39 | 33.99 | 74.56 | 25.44 |
| Growth Rate % | 117.45 | 136.31 | 74.93 | -14.67 | -7.98 | -63.89 | -19.55 | 34.19 | -60.76 |
| SD | 325.23 | 215.23 | 157.74 | 41.11 | 0.15 | 0.13 | 6.41 | 8.88 | 8.88 |
| CV % | 28.92 | 29.19 | 40.74 | 15.93 | 9.96 | 34.04 | 18.87 | 11.91 | 34.92 |

**Sources:** Authors Compilation

It is observed from the Table-1, that the current assets has shown a growth rate of 117.45 per cent and similarly current liabilities are also grown around 136.31 per cent during the study period. The Standard Deviation of the CA was Rs.325.31crores and Coefficient of Variation 28.92 per cent, which shows a steady and fast growth of CA during the period of study. It is also observed from the table that the CL and WC are also changed in the similar fashion as that of CA. However, in the case of QA it shows a negative growth rate of –14.67 per cent. The growth rate of CL was 136.31 per cent with a SD of Rs.215.23 crore and a CV of 29.19 per cent. The growth rate of WC was 74.93 per cent with a SD of Rs.157.74 crore and a CV of 40.74 per cent. A higher CV rate indicates a greater variation of WC during the study period.

It is also found that both CR and QR have registered a negative growth rate of –7.98 and –63.89 percent respectively. They indicate that the liquidity position of the company has been degraded over the years. The average CR of the company was 1.53 and QR was 0.39, they are far behind the ideal rule of the thumb. It indicates an unsatisfactory liquidity position, moreover, the CV of CR is 9.96 per cent and QR 34.04 per cent is also an indication of instability in liquidity position of the company.

It is further found that WC to CA ratio shown a negative growth of –19.55 per cent. This indicates that growth rate of CL was more as against to the growth of CA and hence the WC was in declining stage. This aggressive approach in the WC might be the policy of the firm to enhance the profitability. However, no doubt it endangers the liquidity position of the company.

The growth in stock to CA ratio can be treated as a negative sign in the liquidity management assuming that the company was increased it inventory level to the extent possible to tie up the money with the inventories. The QA to CA registered negative growth of – 60.76 per cent during the study period, which is an indication the volume of QA, are declined and steps are required to maintain liquidity.

**Table-2: Triveni Sugar Mills**

(Rs. in Cr)

| YEAR | Current Assets | Current Liabilities | Working Capital CA-CL | Quick Assets | Current Ratio | Quick Ratio | WC to CA (%) | Stock to CA (%) | QA to CA (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 1,188.51 | 743.64 | 444.87 | 730.39 | 1.60 | 0.98 | 37.43 | 38.54 | 61.45 |
| 2011 | 1,275.36 | 618.93 | 656.43 | 784.20 | 2.06 | 1.27 | 51.47 | 38.51 | 61.49 |
| 2012 | 1,136.46 | 379.37 | 757.09 | 742.89 | 3.00 | 1.96 | 66.62 | 34.63 | 65.37 |
| 2013 | 1,222.44 | 472.36 | 750.08 | 684.14 | 2.59 | 1.45 | 61.36 | 44.03 | 55.97 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 2014 | 1,998.29 | 1,166.80 | 831.49 | 596.23 | 1.71 | 0.51 | 41.61 | 70.16 | 29.84 |
| **Mean** | **1364.21** | **676.22** | **687.99** | **707.57** | **2.19** | **1.23** | **51.70** | **45.17** | **54.82** |
| **Growth Rate** | **68.13** | **56.90** | **86.91** | **-18.37** | **7.16** | **-47.97** | **11.17** | **82.04** | **-51.45** |
| **SD** | **320.25** | **275.02** | **133.66** | **64.17** | **0.53** | **0.48** | **11.15** | **12.85** | **12.85** |
| **CV %** | **23.47** | **40.67** | **19.43** | **9.07** | **24.17** | **39.01** | **21.56** | **28.44** | **23.43** |

**Sources:** Authors Compilation

It is observed from the table-2 that the CA has shown a growth rate of 68.13 per cent as against the CL shown a growth rate of 56.90 per cent during the study period. The SD of CA was Rs. 320.25 crore and CV 23.47 percent, which shows a steady and fast growth in CA. it is further observed from the table that the CL and WC are also changed in the similar fashion as that of CA. However, in case of QA shown a negative growth rate of 18.37 per cent. The growth rate WC was 86.91 per cent with SD of Rs.133.66 crores and CV of 19.43 per cent, which shows a greater stability of WC during the study period.

It is also found that CR has registered a growth rate of 7.16 percent on the other hand QR has shown a negative of 47.93 per cent. They indicate that company invests a huge amount of funds in inventories. The average CR of the company was 2.19 and QR was 1.23 times. They communicates that the company maintains a healthy liquidity position and moreover, the CV of CR is 24.17 per cent and QR is 39.01 per cent is also an indication of more stability in liquidity position of the company.

It is further found that WC to CA ratio shows a positive growth of 11.17 per cent and it keeps the organization into a secured and safe mode. The positive growth in stock to CA ratio shows a82.04 per cent can be treated as a slightly a negative sign on the short term solvency assuming that the company was increased its inventory level to the extent possible so as to tie up the money with inventories. The QA to CA registered a negative growth rate of 51.45 per cent which is an indication that the volume of QA are gradually decreased and it is necessary to take remedies for change the existing situation.

**Table-3: Dwarikesh Sugar Mills**

**(Rs. in Cr)**

| YEAR | Current Assets | Current Liabilities | Working Capital CA-CL | Quick Assets | Current Ratio | Quick Ratio | WC to CA (%) | Stock to CA (%) | QA to CA (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 218.30 | 166.40 | 51.90 | 126.92 | 1.31 | 0.76 | 23.77 | 41.86 | 58.14 |
| 2011 | 277.30 | 199.96 | 77.34 | 122.78 | 1.39 | 0.61 | 27.89 | 55.72 | 44.28 |
| 2012 | 252.30 | 152.58 | 99.72 | 116.15 | 1.65 | 0.76 | 39.52 | 53.96 | 46.04 |
| 2013 | 281.92 | 180.26 | 101.66 | 42.57 | 1.56 | 0.24 | 36.06 | 84.90 | 15.10 |
| 2014 | 219.77 | 230.77 | -11.00 | 27.82 | 0.95 | 0.12 | -5.01 | 87.34 | 12.66 |
| **Mean** | **249.92** | **185.99** | **63.92** | **87.25** | **1.37** | **0.50** | **24.45** | **64.76** | **35.24** |
| **Growth Rate** | **0.67** | **38.68** | **-121.19** | **-78.08** | **-27.41** | **-84.19** | **-121.05** | **108.65** | **-78.23** |
| **SD** | **27.16** | **27.32** | **41.58** | **42.89** | **0.24** | **0.27** | **15.76** | **18.10** | **18.10** |
| **CV %** | **10.87** | **14.69** | **65.04** | **49.16** | **17.71** | **54.07** | **64.46** | **27.95** | **51.36** |

**Sources:** Authors Compilation

The above table gives a detailed description of liquidity position of Dwarikesh Sugar Mills ltd. It is evident from the table that the movement of CA during the study period is almost same and no growth rate over the years of study and on the other hand CL shown a growth rate of 38.68 per cent. This kind of situation may create liquidity problems to the company in the near future. The SD of CA was Rs.27.16 crores and CV of 10.87 per cent, which shows a consistency in maintaining of CA. In the case of WC and QA shows a negative growth of 121.19 and 78.08 per cent with a SD of Rs. 41.58 and 42.89 crores under the study period.

It is also observed from the table that the CR and QR registered an average of 1.37 and 0.50 respectively and they are far behind the standard norm of the ratios. It indicated that the liquidity position of the company gradually degraded over the years and it is a dissatisfactory level and management has to take necessary steps to overcome this kind of problems.

It is further found that WC to CA ratio shows a negative growth of 121.05 per cent with SD and CV of 15.76 and 64.46 per cent respectively. This kind of negative approach in WC put the organization into financial troubles. The stock to CA shows a growth of 108.65 percent. It can be treated as a slightly a negative situation on the short-term solvency assuming that the company was increased its inventory level to the extent possible. So as to tie-up the money with the inventories. The QA to CA registered a negative growth rate of 78.23 per cent, which is a situation where QA of the company gradually degraded. It is the responsibility of the management to change the situation.

**Table-4: Shree Renuka Sugars**

(Rs. in Cr)

| YEAR | Current Assets | Current Liabilities | Working Capital CA-CL | Quick Assets | Current Ratio | Quick Ratio | WC to CA (%) | Stock to CA (%) | QA to CA (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 2,070.73 | 1,113.85 | **956.88** | 1,068.41 | 1.86 | 0.96 | 46.21 | 48.40 | 51.60 |
| 2011 | 2,230.59 | 2,366.02 | **-135.43** | 1,094.64 | 0.94 | 0.46 | -6.07 | 50.93 | 49.07 |
| 2012 | 2,725.00 | 1,775.65 | **949.35** | 1,005.84 | 1.53 | 0.57 | 34.84 | 63.09 | 36.91 |
| 2013 | 3,208.40 | 4,203.80 | **-995.4** | 1,149.56 | 0.76 | 0.27 | -31.02 | 64.17 | 35.83 |
| 2014 | 1,922.95 | 1,945.72 | **-22.77** | 919.56 | 0.99 | 0.47 | -1.18 | 52.18 | 47.82 |
| **Mean** | 2431.53 | 2281.01 | 150.53 | 1047.60 | **1.22** | **0.55** | **8.55** | **55.75** | **44.25** |
| **Growth Rate** | **-7.14** | **74.68** | **-102.38** | **-13.93** | **-46.84** | **-50.73** | **-102.56** | **7.81** | **-7.32** |
| **SD** | 473.05 | 1042.54 | 736.65 | 78.97 | **0.41** | **0.23** | 28.23 | 6.55 | 6.55 |
| **CV %** | 19.45 | 45.71 | 489.38 | 7.54 | 33.79 | 41.52 | 330.01 | 11.76 | 14.81 |

**Sources:** Authors Compilation

It is evident from the table that the CA has shown a negative growth rate of 7.14 as against the CL shows a growth rate of 74.68 per cent during the study period. The SD of CA at Rs. 473.05 crores and CV of 19.45 per cent. This is not a healthy liquidity position of the company. On the other hand, WC and QA shown a negative growth rate of 102.38 and 13.93 per cent with a SD of 736.65 and 78.98 per cent respectively. It communicates fluctuated WC management in the organization.

It further evident from the table that the CR and QR registered an average rate of 1.22 and 0.55 times respectively during the study period. The two ratios registered a fluctuated trend over the years of study. It communicates that the liquidity position of the company gradually degraded over the years of study and they are far behind the general rule of thumb norm and the management has to take necessary actions to streamline the things and proper utilization of CA in the company. Moreover, CV of CR is 33.79 and QR is 41.52 per cent is also is an indication of instability in liquidity position of the organization.

It is also evident from the table that WC to CA ratio shown a negative growth rate of 102.56 per cent this indicates that growth rate of CL are more than growth rate of CA and hence the WC was in declining stage. This much aggressive approach in the WC might be the policy of the company to enhance the profitability. The growth in stock to CA ratio can be treated as a consistence in the liquidity management. The QA to CA registered a negative growth of 7.32 per cent during the study period and which communicates the company has tried to increase the volume of QA for smooth running of the company.

**Table-5: Balrampur Chinni Mills**

(Rs. in Cr)

| YEAR | Current Assets | Current Liabilities | Working Capital CA-CL | Quick Assets | Current Ratio | Quick Ratio | WC to CA (%) | Stock to CA (%) | QA to CA (%) |
|---|---|---|---|---|---|---|---|---|---|
| 2010 | 859.71 | 617.24 | 242.47 | 516.28 | 1.39 | 0.60 | 28.20 | 39.95 | 60.05 |
| 2011 | 2,143.39 | 692.33 | 1,451.06 | 652.08 | 3.10 | 0.30 | 67.70 | 69.58 | 30.42 |
| 2012 | 2,551.37 | 1,274.55 | 1,276.82 | 553.58 | 2.00 | 0.22 | 50.04 | 78.3 | 21.70 |
| 2013 | 2,656.73 | 1,416.56 | 1,240.17 | 770.16 | 1.88 | 0.29 | 46.68 | 71.01 | 28.99 |
| 2014 | 2,593.65 | 1,590.68 | 1,002.97 | 501.36 | 1.63 | 0.19 | 38.67 | 80.67 | 19.33 |
| **Mean** | 2160.97 | 1118.27 | 1042.70 | **598.69** | **2.00** | **0.32** | **46.26** | **67.90** | **32.10** |
| **Growth Rate** | **201.69** | **157.71** | **313.65** | **-2.89** | **17.07** | **-67.81** | **37.11** | **101.93** | **-67.81** |
| **SD** | 675.13 | 392.18 | 424.86 | **100.55** | **0.59** | **0.15** | **13.10** | **14.59** | **14.60** |
| **CV %** | 31.24 | 35.07 | 40.75 | 16.80 | 29.35 | 45.47 | 28.31 | 21.49 | 45.47 |

**Sources:** Authors Compilation

It observed from the table that the CA shown a growth rate of 201.69 per cent and similarly CL are also shown a growth rate of 157.71 per cent during the study period. The SD of the CA was Rs. 675.13 crore and CV of 31.24 per cent which shows a steady and speed growth in the CA. It is further observed from the table that the CL and WC are also changed in the similar as that of CA. However, in the case of QA shown a negative growth of 2.89 per cent. The growth rate of WC shown a 313.65 per cent with SD of Rs. 424.86 crore and CV of 40.75 per cent during the study period.

It is also found that the CR has registered a growth rate of 17.07 per cent and QR at a negative rate of 67.81 per cent. It communicates that the company invests a huge amount of funds in inventories. The average CR of the company was 2.00 and QR was 0.32 times. They communicates that the company maintains a healthy liquidity and more stability position.

It is further found that WC to CA ratio shown a growth of 37.11 per cent. This positive approach in the WC keeps the organization into a secured and healthy situation. In the case of stock to CA also shows a growth rate of 101.93 per cent during the study period. As an inventory intensive sector, the company invests a huge volume of funds in the stock and assuming that company was increased its inventory level to the extent possible. The QA to CA registered a negative growth of 67.81 per cent, which is an indication of degradation of QA over the years. It advised that the company have to take measures to increase the components for change the present situation of QA to meet the day-to-day obligations.

After analyzing all the aspects of liquidity, it can just say that the present liquidity position of the companies under study is not that much satisfactory. Inventories occupy a huge portion in the composition of current assets of the companies for that they should take enough steps to increase the level of remaining components of liquidity. Current Liabilities has increased at a faster rate as compared to current assets this situation is not a good sign to them. Companies must ensure that it has enough liquid resources to meet the short-term obligations as they fall due. Otherwise, any moment the present situation may create serious financial troubles for the company, which may even, lead the company towards bankruptcy.

*MOTAAL'S COMPREHENSIVE TEST OF LIQUIDITY*

Motaal prescribes a comprehensive test for determining the soundness of a firm as regards liquidity position. According to him, a process of ranking is used to arrive at a more comprehensive measure of liquidity in which the following three ratios are combined in a point score:

- **Working Capital (WC) to Current Asset Ratio = Working Capital x100 /Current Assets**
- **Stock to Current Asset Ratio = Inventory or Stock x100 / Current Assets**
- **Liquid Assets (LA) to Current Asset Ratio = Quick Assets x100 / Current Assets**

The higher the value of both working capital to current asset ratio and liquid assets to current asset ratio, relatively the more favorable will be the liquidity position of a firm and vice-versa. On the other hand, lower the value of stock to current assets ratio, relatively the more favorable will be the liquidity position of the firm. The ranking of the above three ratios of a firm over a period is done in their order of preferences. Finally, the ultimate ranking is done based on the principle that the lower the points score, the more favorable will be the liquidity position and vice-versa.

**Table-6: Motaal's Comprehensive Test of Liquidity**

| S. No. | Name of Company | WC to CA (%) | Rank | STOCK to CA (%) | Rank | QA to CA (%) | Rank | Total Rank | Ultimate Rank |
|--------|-----------------|--------------|------|-----------------|------|--------------|------|------------|---------------|
| 1 | Dhampur Sugars | 33.99 | 3 | 74.56 | 5 | 25.44 | 5 | 13 | 4 |
| 2 | Triveni Sugars | 51.70 | 1 | 45.17 | 1 | 54.82 | 1 | 3 | 1 |
| 3 | Dwarikesh Sugars | 24.45 | 4 | 64.76 | 3 | 35.24 | 3 | 10 | 3 |
| 4 | Shree Renuka Sugars | 8.55 | 5 | 55.75 | 2 | 44.25 | 2 | 9 | 2 |
| 5 | Balrampur Sugars | 46.26 | 2 | 67.90 | 4 | 32.10 | 4 | 10 | 3 |

**Sources:** Authors Compilation

It is observed from the table-6 that, the ultimate ranking as suggested by Motaal it is concluded that liquidity position of Triveni Sugars was comparatively good with other companies followed by Shree Renuka Sugars, Dwarikesh Sugars and Balrampur Chinni Mills stood at same liquidity position. Dhamapur Sugars stood at last position. It indicates that liquidity position of the companies is more or less improving over the period under study. The level of working capital against current assets of Sree Renuka sugars are very less comparatively other units. The management of the Sree Renuka sugars has to take necessary decisions to improve their liquidity management.

**Graph-1: Motaal's Test**
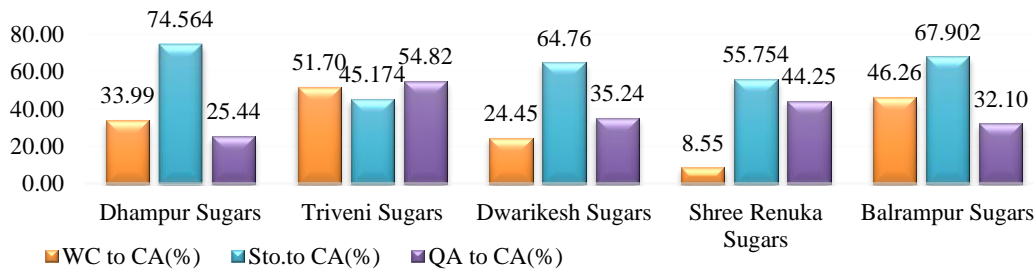


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# CAPITAL EXPENDITURE PRACTICES IN BPO INDUSTRY IN INDIA: A SURVEY

**Dr. Shruti Gupta[11]**

## ABSTRACT

This paper is intended to assess the capital expenditure practices in the BPO organisations in India. Data is gathered based on the responses obtained from the questionnaire received from 112 BPO organisations across India who are registered members of NASSCOM. The relationship between the executives' response regarding various aspects of capital expenditure and the selected organizational- and executive variables has also been examined.

## KEYWORDS

**Capital Expenditure, Capital Expenditure Practices, Business Process Outsourcing, Discounted Cash Flow, Organizational Characteristics, Executives' Characteristics etc.**

## INTRODUCTION

In a world of economic uncertainty, the investors want to maximize their wealth by selecting optimum investment and financing opportunities that will give them maximum expected returns at minimum risk. Strategic financial management is an attractive process to apply in order to generate value from corporate strategy. It aims to design a financial strategy that will complement the corporate strategy. Strategic financial management practices thus, are likely to have a marked bearing on the financial performance of any organisations. The strategic financial management can be grouped into three main areas of decisions−investment decision, financing decision and dividend decision, which impinge on all aspects of an entity's strategy. It has been observed that capital expenditure plays a very significant role in any organisations. It involves huge expenditure and has long – run impact on organisations. A sound capital expenditure strategy can bring spectacular returns and can be instrumental in changing the fortunes of an enterprise. Therefore, the capital expenditure of organisations should be planned and controlled very carefully to achieve its objectives. It is of vital significance to any kind of organisations be it a sole proprietor or a biggest multinational.

It is also evident that there is more competition because of the entry of multinationals and inflow of huge foreign capital in almost all the sectors. Moreover, due to liberalization and globalization especially in developing countries like India, investment opportunities have expanded and financing options have widened significantly. One of the most important developments in Indian business scenario has been the growth of Business Process Outsourcing (BPO) sector over the past two decades. It is believed that India is the most favored destination for BPO because of the fact that India offers many more advantages over other countries in the outsourcing market such as vast talent pool, English-speaking skills, low cost operations, time zone attractiveness and stable political environment. Moreover, an important contribution of BPO organisations in India's GDP and employment has been well documented. Given that capital expenditure strategy is one of the key aspects of the wellbeing and survival of any business, it is important that this topic be explored in depth with special reference to BPO sector which is an important sector in India. An attempt has therefore been made in this paper to explore the capital expenditure practices in the BPO industry in India. The first section of this paper describes the research methodology. The second section presents the results of the survey of senior financial executives with regard to the practices of capital expenditure. The final section gives the conclusion.

## METHODOLOGY OF RESEARCH

In order to explore the capital expenditure practices in the BPO industry, primary information has been collected through a structured questionnaire covering different aspects related to capital expenditure strategy. The questionnaire contained both open- and close-ended questions. For some of these questions, respondents have been asked to rank the alternative answers according to the degree of importance.

The questionnaire has been pre-tested on fifteen BPO service providers in and around Delhi to seek the opinion of senior financial executives about the comprehensiveness of the aspects covered in it. Adjustments have been made in the questionnaire in the light of suggestions of the executives in these organisations. On being found suitable, the final questionnaire has been sent by mail to the senior financial executives of the selected 390 BPO service providers in India. Those BPO organisations which are the registered members of NASSCOM (National Association of Software and Service Companies) have been selected for the purpose of this study. However, mail has been returned undelivered from 43 BPO units. Different websites have been explored to find out their latest mailing addresses or telephone numbers. In spite of best efforts, these organisations cannot be approached. Thus, the study is based on 347 BPO service providers. 149 BPO organisations returned the filled questionnaire. However, 37 have been rejected for being incomplete. Thus, the final study is based on information given by 112 BPO service providers in India giving a

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[11]Assistant Professor, Zakir Husain Delhi College, University of Delhi, Delhi, India, shrutizhc@gmail.com

response rate of 32.28 percent. It is expected that the senior financial executives who responded to the questionnaire are fully conversant with the capital expenditure practices of their organisations.

The secondary data search has been an ongoing process. An extensive literature review has been carried out from the textbooks, electronic journals, research publications, newspapers, magazines and web-based literature related to capital expenditure strategy and business process outsourcing industry.

An attempt has been made in the present study to analyses the capital expenditure practices in the BPO industry using percentages and weighted scores. Where respondents have been asked to rank n items in order of importance, a weighted score for each item is calculated. Some fictitious points say n for most important, n-1 for next most important and so on has been assigned to the qualitative variable in order to convert it into quantitative terms.

The senior financial executives have been requested to specify the strategies related to capital expenditure in their respective organisations. However, these strategies and the executives' response may vary across various organizational and executive characteristics. The relationship between the executives' response regarding various aspects of capital expenditure strategy and the selected organizational and executive's variables has been examined using Chi-Square test. If in any particular case, Chi-Square cannot be calculated as in some cells the expected frequency is less than 5, Fisher's Exact Test has been used to draw the inferences. The organizational variables that appear to have a significant influence upon the perception of executives include size of organization, type of organization and age of organization[ii]. Moreover, education, total work experience and age are the executive variables[iii] short-listed for this analysis. For classifying the organisations and the executives, number of categories is primarily guided by their use in the analysis to draw meaningful inference.

## FINDINGS AND INTERPRETATION

Capital expenditure decisions are of paramount importance in financial decision-making. It may be defined as the firm's decision to invest its current funds most efficiently in the long-term assets in anticipation of expected returns over a number of years. Such decisions affect the profitability of a firm. They also have a bearing on the competitive position of the enterprise because these decisions relate to fixed assets. Thus, capital expenditure decisions determine the future destiny of an enterprise. A good investment decision can yield spectacular returns. On the contrary, an incorrect decision can endanger the very survival of the firm. The present Section aims to find out the practices related to capital expenditure in the BPO industry in India.

### Planning and Revision

Given the strategic nature of capital expenditure decisions and their vital importance for an organization, it is believed that such decisions should be taken at the top management level and should be planned well in advance. An attempt has been made in this study to find out the practices of BPO organisations relating to capital expenditure planning and revision. It is gratifying to note that all the organisations covered in this study have been preparing formal capital expenditure plans in their respective organisations. The practices of BPO organisations in this regard have been reported in Table 1(a). About four-fifths (79.5 percent) of the organisations have been preparing capital expenditure plans for 'next three years'. The executives believe that three yearly plans help in a better way in providing for uncertainties and formalities. Many others believe that it is because of the policy of management to replace IT equipment's after every three years and the requirement of the parent companies.

It is apparent from the Table that the sample organisations have the system of more than one plan covering different periods for capital expenditure. However, in order to see whether the aforesaid differences in practices are statistically significant, Chi-square test has been resorted too. The executives' response regarding the planning of capital expenditure has been examined across the organizational characteristics (size, type and age) and executives' characteristics (education, experience and age). It has been observed from the above results that there has been a significant difference in the practices of small and large organisations as far as planning period is concerned except in case of 'one year planning' period. However, captive units and third party providers significantly differ in case of 'five year planning' horizon, the more experienced and larger organisations have been finding 'three year planning' a quite useful exercise. As far as experience, education and age of executive are concerned, these characteristics have not been significantly affected the planning period of capital expenditure.

As far as revision of capital expenditure plans are concerned, Table 1(b) depicts that in nearly two-thirds (65.2 percent) of the organisations, it has been done on 'yearly' basis. Furthermore, the executives' response has also been analyzed across size, type, age of organization, education, experience and age of executive using Chi-square test in Table 1(b). It has been found that there is no significant difference in the revision of capital expenditure plans across the above-mentioned characteristics.

### Evaluation Techniques

Every organization has a large number of capital expenditure proposals. These proposals are financially evaluated which involves the comparison of the incremental costs and benefits. It helps in choosing the projects, which are most advantageous to the organization. This evaluation can be done with the help of various techniques namely, traditional techniques and discounted cash

flow (DCF) techniques. The selection of a particular method for evaluating the capital expenditure proposals is affected by the preferences of management, size of investment and other internal factors of the organization. However, given the irreversible nature of the capital expenditure decision and its implications for growth and profitability, there is a need to adopt theoretically correct and sound financial evaluation methods. Thus, the present paper tries to explore the current practices in the BPO industry in this regard.

It has been observed from Table 1(b) that more than fifty percent (52.7 percent) of the organisations have been using IRR as the project evaluation method. This is followed by a fair proportion of respondents (45.5 percent) who are using NPV method. Similar results have been observed in a study of corporate enterprises in India, where it has been found that IRR method is preferred over the NPV method. [iv]

However, in the present paper it appears that a sizeable proportion of the executives have been using the DCF techniques in their organisations. Some of the financial executives have documented specific reasons for using IRR and NPV methods for evaluating the proposals [v]. Results of another study conducted on South African listed companies also shows that DCF methods have been popularly employed for evaluating the investment projects [vi]. This is also in tune with a popular study made on corporate finance in US, where it has been revealed that most companies follow academic theory and use DCF techniques to evaluate new projects [vii]. However, these results are in contrast to some earlier studies [viii] made, which indicate the prevalent use of PBP method for evaluating the capital investment projects.

It is evident from Table 2 that the BPO organisations have been using multiple methods in their project choice decisions. Moreover, it has been found that nearly four-fifths (79.5 percent) of the organisations are using a combination of DCF and traditional techniques. The executives believe that the use of multiple methods provide additional information and gives better idea about the worthiness of the project. Use of different techniques for different types of proposals (like large projects based on DCF and small proposals based on PBP) may be another reason for using the combination of different methods by the executives in sample organisations. The results are similar to a study conducted on central PSEs in India, where it has been observed that a vast majority of PSEs have been using a combination of traditional and DCF techniques [ix]. Table 2 also reveals that more of the large firms have been using the IRR and NPV methods (63.2 percent and 55.9 percent respectively) than the small firms. Moreover, in the present study IRR method is considered an important technique to evaluate capital expenditure proposals by the organisations, which are having more experience in the BPO industry (61.8 percent).

The executive responses regarding the capital expenditure evaluation techniques have been examined across size, type, age of organization, education, experience and age of executive. It has been discovered that there is a significant difference in the practices of small and large organisations with regard to all the evaluation methods except PBP and NTV. Moreover, captive and third-party organisations differ significantly as far as PBP is concerned. In addition, those organisations which have more experience in the BPO industry (established ones) significantly differ in applying IRR method than those organisations, which are new entrants. Another notable finding is that mature and more experienced executives use IRR method significantly more often than younger and less experienced ones. NPV method is however, frequently used by executives with CA qualification but the difference is only significant at the 0.10 level.

*Risk Incorporation*

The risk dimension in capital expenditure decisions is an important but a complex task. It is learnt that both risk and profitability affect the total valuation of the firm as well as its goal of wealth maximization. In order to improve capital expenditure decisions, risk analysis should be made because the organisations face a large number of uncertainties in estimates of future cash flows, economic life of project and cost of capital. The risk can be incorporated by applying various methods ranging from subjective, intuitive to scientific and analytical approaches such as shorter payback period, higher cut-off rate, sensitivity analysis, simulation analysis and decision-tree analysis.

Hence, the sample organisations have been asked to specify the methods used by them to incorporate risk into the investment decision-making process. The survey reveals that more than two-fifths of the organisations (91 out of 112) have been making provision for risk while making decisions relating to capital expenditure projects. As depicted in Table 3, 'sensitivity analysis' has been used by nearly two-thirds (63.7 percent) of the sample organisations for incorporating risk. The executives believe that decisions that are more useful can be made by quantifying risk potential of the project and leads to better evaluation. This is followed by 'shorter payback period' which has also been popular among more than two-fifths (43.9 percent) of the BPO organisations. It is also apparent from the Table that these organisations are using multiple approaches to analyze risk in their organisations.

Chi-square values indicates that small and large organisations differ significantly in applying 'shorter payback period' and 'higher cut-off rate' as risk incorporation methods. Moreover, executives with CA qualification has been applying 'shorter payback period' significantly more often than the non – CA executives. As far as 'sensitivity analysis' is concerned, there has been no significant difference across all the organizational as well as executive characteristics except in case of age of executive. It shows that mature executives have applied 'sensitivity analysis' more but the difference is significant only at 0.10 level.

### *Capital Rationing*

It may have been sometimes that organisations have to reject the investment proposals because they do not have enough capital to entertain all the investment opportunities that are available to them. However, some organisations may not face this problem of capital rationing since these have sufficient internal and external funds. Thus, an attempt has been made in this paper to highlight whether the sample organisations ever forego any profitable investment opportunity due to paucity of financial resources. It is interesting to note that capital rationing do not seem to be a problem for BPO organisations.

Table 4 indicates that a high proportion of sample organisations (81.2 percent) deny that they forego profitable investment opportunities due to paucity of funds. The reasons for not facing such a problem as mentioned by the financial executives includes: cash rich organisations, belonging to large industrial houses where funds are available from other sister companies, the practices of first determining the available funds and then try to find out the proposals to utilize these. Moreover, there has been no significant difference in the practices of BPO organisations in this regard across the organizational and executive variables.

### *Strategic/Non-financial Factors in Investment Evaluation Process*

In real world, capital expenditure evaluation process not only focuses on profitability as given by finance theory but also on other non-financial or strategic factors. These strategic considerations play a significant role in guiding the investment decisions. Thus, in this complex and dynamic business environment, capital expenditure decisions should be taken in the context of the overall corporate strategy. An attempt has been made in the study to seek the opinion of senior financial executives in the BPO sector in this regard. It is satisfying to note that all the sample BPO organisations consider strategy as an important factor while evaluating the capital expenditure decisions. Executives have been asked to rank the key strategic factors considered by them in the order of importance.

Table 5 shows that 'consistency with corporate strategy' has been the stand-out issue of importance as indicated by its weighted score (543) and first rank (86.6 percent). It is followed by 'ability to expand in future', which has been given second rank by relatively high proportion (86.6 percent) of the executives. It has also been depicted by its weighted score (463). The results are in tune with the findings of the study conducted on large UK manufacturing companies, where it has been observed that 'consistency with corporate strategy' is the most important strategic criterion considered while evaluating the investment projects [x].

### *Control*

The capital expenditure projects take long time to complete. The actual expenditure on them is affected by many controllable and uncontrollable factors. If the actual expenditure is more than the expected beyond certain limits problem of funds arises. Hence, a comparison should be made between the budgeted and the actuals and corrective action should be taken wherever needed. Thus, control of capital expenditure helps the management to take prompt action so that the funds do not remain idle and the expenditure in excess of appropriations is reduced to a minimum. The control reports are prepared quite frequently so that the corrective action may be taken as early as possible. These reports may be prepared at monthly, quarterly, half – yearly or yearly basis. An attempt has therefore been made to study the practices of BPO organisations relating to control of capital expenditure.

The survey reveals that all the sample organisations (100.0 percent) have been making the comparison between the budgeted and the actual expenditures on projects during the process of their completion. Table 6 depicts the frequency of preparing the control reports in the sample organisations. It has been observed that nearly two-thirds (62.5 percent) of the organisations are preparing 'monthly' control reports in their organisations. It has also been reported that a good proportion of large organisations (70.6 percent) are preparing these control reports on 'monthly' basis as compared to small organisations. The paper also examines statistically the relationship of executive response with various organizational and executive characteristics. It has been found that there has been a significant difference in the practices of small and large organisations with regard to the frequency of preparation of control reports.

### *CONCLUSION*

The important conclusions drawn because of the study about the capital expenditure practices in the BPO industry may now be underlined. Capital expenditure practices of BPO service providers reveal the use of more sophisticated DCF techniques for evaluating the investment proposals. This practice is in tune with the sound principles of finance theory. However, DCF methods are used most commonly in large organisations than the smaller ones. It is also gratifying to note that BPO service providers have been using a combination of DCF and traditional methods for evaluation of capital expenditure projects. Consistent with the finance theory, the survey also reveals that a high proportion of sample BPO organisations are risk averse. For incorporating risk into the capital investment decision, sensitivity analysis has been popularly used irrespective of organizational characteristics. It is satisfying to note that paucity of funds has not been a major hurdle in undertaking capital projects by the BPO units in India. 'Consistency with corporate strategy' emerges to be the most popular non-financial factor considered by BPO organisations in India while evaluating the investment projects. Moreover, actual and budgeted capital expenditure have been compared on monthly basis to monitor and control their progress.

### NOTES

(i) Those organisations, which are having less than equal to five hundred employees, are categorized as small and those having more than five hundred employees are named as large organisations.

(ii) The organisations, which have started outsourcing business up to 2004, are considered established or more experienced and those, which have started in 2005 onwards, are considered new entrants or less experienced.

(iii) Age has been taken as an indicator of maturity of ideas. A more qualified and experienced person is likely to have better knowledge of the system of SFM and hence would implement these in his organization. (Though not perfect, in the absence of any information, these may give some idea about the knowledge of an individual). Moreover, education of executives has been categorized into two: executives with CA qualification and executives with non-CA qualification.

(iv) Jain, P.K., Singh, Shveta and Yadav, S.S. (2013), Financial Management Practices: An Empirical Study of Indian Corporates, New Delhi: Springer India.

(v) Some of these reasons include consider time value of money, better decisions, desired for choosing among mutually exclusive projects and use cash flows in calculations.

(vi) Correia, C. and Cramer, P. (2008), "An analysis of cost of capital, capital structure and capital budgeting practices: a survey of South African listed companies", Meditarrian Accounting Research, Vol. 16, No. 2, pp. 31-52.

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*APPENDIX*

**Table-1(a): Planning period for Capital Expenditure in Sample Organisations**

| Period of Advance Planning | Total (N=112) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=44) | Large (N=68) | Chi-square | Captive (N=36) | Third Party (N=76) | Chi-square | Upto 2004 (N=76) | 2005 Onwards (N=36) | Chi-square |
| Next one year | 17 (15.2) | 5 (11.4) | 12 (17.6) | 0.82 | 5 (13.9) | 12 (15.8) | 0.07 | 11 (14.5) | 6 (16.7) | 0.09 |
| Next three years | 89 (79.5) | 31 (70.5) | 58 (85.3) | 3.61* | 28 (77.8) | 61 (80.3) | 0.09 | 64 (84.2) | 25 (69.4) | 3.26* |
| Next five years | 56 (50.0) | 38 (86.4) | 18 (26.5) | 38.33*** | 23 (63.9) | 33 (43.4) | 4.09** | 35 (46.1) | 21 (58.3) | 1.47 |

| Period of Advance Planning | Total (N=112) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=66) | Non-CA (N=46) | Chi-square | < 14 years (N=48) | ≥ 14 years (N=64) | Chi-square | < 40 years (N=67) | ≥ 40 years (N=45) | Chi-square |
| Next one year | 17 (15.2) | 11 (16.7) | 6 (13.0) | 0.28 | 6 (12.5) | 11 (17.2) | 0.47 | 10 (14.9) | 7 (15.6) | 0.01 |
| Next three years | 89 (79.5) | 52 (78.8) | 37 (80.4) | 0.05 | 38 (79.2) | 51 (79.7) | 0.01 | 54 (80.6) | 35 (77.8) | 0.13 |
| Next five years | 56 (50.0) | 35 (53.0) | 21 (45.7) | 0.59 | 28 (58.3) | 28 (43.8) | 2.33 | 37 (55.2) | 19 (42.2) | 1.82 |

**Notes**: 1. Figures in parenthesis are the percentages.
    2. *** denotes significant difference at 0.01 level.
    3. * denotes significant difference at 0.10 level.

**Sources:** Authors Compilation

**Table-1(b): Frequency for Revising Capital Expenditure Plans**

| Frequency | Total (N=112) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=44) | Large (N=68) | Chi-square | Captive (N=36) | Third-Party (N=76) | Chi-square | Upto 2004 (N=76) | 2005 onwards (N=36) | Chi-square |
| Yearly | 73 (65.2) | 31 (70.5) | 42 (61.8) | 0.89 | 24 (66.7) | 49 (64.5) | 0.89 | 53 (69.7) | 20 (55.6) | 2.17 |
| Any Other# | 39 (34.8) | 13 (29.5) | 26 (38.2) | | 12 (33.3) | 27 (35.5) | | 23 (30.3) | 16 (44.4) | |

| Frequency | Total (N=112) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=66) | Non-CA (N=46) | Chi-square | < 14 years (N = 48) | ≥ 14 years (N = 64) | Chi-square | < 40 y years (N=67) | ≥ 40 years (N=45) | Chi-square |
| Yearly | 73 (65.2) | 43 (65.2) | 30 (65.2) | 0.00 | 30 (62.5) | 43 (67.2) | 0.27 | 44 (65.7) | 29 (64.4) | 0.02 |
| Any Other | 39 (34.8) | 23 (34.8) | 16 (34.8) | | 18 (37.5) | 21 (32.8) | | 23 (34.3) | 16 (35.6) | |

**Note**: 1. Figures in parenthesis are the percentages.

2. # 'Any other' includes 'monthly', 'quarterly' and 'half yearly'. 24 of these organisations revise their plans on 'quarterly' basis.

**Sources:** Authors Compilation

**Table-2: Capital Expenditure Financial Evaluation Techniques Used by Sample Organisations**

| Techniques | Total (N=112) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=44) | Large (N=68) | Chi-square | Captive (N=36) | Third-Party (N=76) | Chi-square | Upto 2004 (N=76) | 2005 Onwards (N=36) | Chi-square |
| Average Rate of Return (ARR) | 14 (12.5) | 10 (22.7) | 4 (5.9) | 6.93*** | 2 (5.6) | 12 (15.8) | 0.22$ | 6 (7.9) | 8 (22.2) | 0.06$* |
| Pay Back Period (PBP) | 43 (38.4) | 19 (43.2) | 24 (35.3) | 0.70 | 7 (19.4) | 36 (47.4) | 8.05*** | 33 (43.4) | 10 (27.8) | 2.53 |
| Net Present Value (NPV) | 51 (45.5) | 13 (29.5) | 38 (55.9) | 7.47*** | 17 (47.2) | 34 (44.7) | 0.06 | 38 (50.0) | 13 (36.1) | 1.90 |
| Internal Rate of Return (IRR) | 59 (52.7) | 16 (36.4) | 43 (63.2) | 7.74*** | 20 (55.6) | 39 (51.3) | 0.18 | 47 (61.8) | 12 (33.3) | 7.97*** |
| Net Terminal Value (NTV) | 3 (2.7) | 1 (2.3) | 2 (2.9) | 1.00$ | 2 (5.6) | 1 (1.3) | 0.24$ | 1 (1.3) | 2 (5.6) | 0.24$ |

| Techniques | Total (N=112) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=66) | Non-CA (N=46) | Chi-square | < 14 years (N=48) | ≥ 14 years (N=64) | Chi-square | < 40 Years (N=67) | ≥ 40 years (N=45) | Chi-square |
| Average Rate of Return (ARR) | 14 (12.5) | 5 (7.6) | 9 (19.6) | 3.56* | 5 (10.4) | 9 (14.1) | 0.33 | 8 (11.9) | 6 (13.3) | 0.05 |
| Pay Back Period (PBP) | 43 (38.4) | 25 (37.9) | 18 (39.1) | 0.02 | 20 (41.7) | 23 (35.9) | 0.38 | 26 (38.8) | 17 (37.8) | 0.01 |
| Net Present Value (NPV) | 51 (45.5) | 35 (53.0) | 16 (34.8) | 3.64* | 25 (52.1) | 26 (40.6) | 1.45 | 33 (49.3) | 18 (40.0) | 0.93 |
| Internal Rate of Return (IRR) | 59 (52.7) | 38 (57.6) | 21 (45.7) | 1.55 | 20 (41.7) | 39 (60.9) | 4.09** | 30 (44.8) | 29 (64.4) | 4.18** |
| Net Terminal Value (NTV) | 3 (2.7) | 3 (4.5) | 0 (0.0) | 0.27$ | 1 (2.1) | 2 (3.1) | 1.00$ | 2 (3.0) | 1 (2.2) | 1.00$ |

**Note**: 1. Figures in parenthesis are the percentages;

2. *** denotes significant difference at 0.01 level;

3. ** denotes significant difference at 0.05 level;

4. * denotes significant difference at 0.10 level;

5. $ denotes Fisher's exact test p value.

**Sources:** Authors Compilation

**Table-3: Methods of Incorporating Risk in Capital Expenditure Decision by Sample Organisations**

| Method | Total (N=91) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=41) | Large (N=50) | Chi-square | Captive (N=26) | Third-Party (N=65) | Chi-square | Upto 2004 (N=61) | 2005 onwards (N=30) | Chi-square |
| Shorter Payback Period | 40 (43.9) | 23 (56.1) | 17 (34.0) | 4.47** | 13 (50.0) | 27 (41.5) | 0.54 | 27 (44.3) | 13 (43.3) | 0.01 |
| Higher Cut-off Rate | 22 (24.2) | 15 (36.6) | 7 (14.0) | 6.27** | 6 (23.1) | 16 (24.6) | 0.02 | 14 (22.9) | 8 (26.7) | 0.15 |
| Sensitivity Analysis | 58 (63.7) | 23 (56.1) | 35 (70.0) | 1.88 | 15 (57.7) | 43 (66.2) | 0.58 | 40 (65.6) | 18 (60.0) | 0.27 |

| Method | Total (N=91) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=5) | Non-CA (N=36) | Chi-square | < 14 years (N=40) | ≥ 14 years (N=51) | Chi-square | < 40 years (N=57) | ≥ 40 years (N = 34) | Chi-square |
| Shorter Payback Period | 40 (43.9) | 29 (52.7) | 11 (30.6) | 4.34** | 18 (45.0) | 22 (43.1) | 0.03 | 27 (47.4) | 13 (38.2) | 0.72 |
| Higher Cut-off Rate | 22 (24.2) | 15 (27.3) | 7 (19.4) | 0.73 | 12 (30.0) | 10 (19.6) | 1.32 | 16 (28.1) | 6 (17.6) | 1.26 |
| Sensitivity Analysis | 58 (63.7) | 32 (58.2) | 26 (72.2) | 1.86 | 24 (60.0) | 34 (66.7) | 0.43 | 32 (56.1) | 26 (76.5) | 3.81* |

**Note:** 1. Figures in parenthesis are the percentages;

2. ** denotes significant difference at 0.05 level;

3. *denotes significant difference at 0.10 level.

**Sources:** Authors Compilation

**Table-4: Capital Rationing**

| Response | Total (N=112) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=44) | Large (N=68) | Chi-square | Captive (N=36) | Third-Party (N=76) | Chi-square | Upto 2004 (N=76) | 2005 onwards (N=36) | Chi-square |
| Yes | 21 (18.8) | 7 (15.9) | 14 (20.6) | 0.38 | 7 (19.4) | 14 (18.4) | 0.02 | 15 (19.7) | 6 (16.7) | 0.15 |
| No | 91 (81.2) | 37 (84.1) | 54 (79.4) | | 29 (80.6) | 62 (81.6) | | 61 (80.3) | 30 (83.3) | |

| Response | Total (N=112) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=66) | Non-CA (N=46) | Chi-square | < 14 years (N=48) | ≥ 14 years (N=64) | Chi-square | < 40 years (N=67) | ≥ 40 years (N=45) | Chi-square |
| Yes | 21 (18.8) | 15 (22.7) | 6 (13.0) | 1.67 | 7 (14.6) | 14 (21.9) | 0.96 | 12 (17.9) | 9 (20.0) | 0.07 |
| No | 91 (81.2) | 51 (77.3) | 40 (87.0) | | 41 (85.4) | 50 (78.1) | | 55 (82.1) | 36 (80.0) | |

**Note:** Figures in parenthesis are the percentages.

**Sources:** Authors Compilation

**Table-5: Strategic / Non-Financial Factors in Investment Evaluation Process**

| Strategic Factors | Rank | | | | | Weighted Score |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | |
| Consistency with corporate strategy | 97 (86.6) | 13 (11.6) | 2 (1.8) | – | – | 543 |
| Ability to expand in future | 15 (13.4) | 97 (86.6) | – | – | – | 463 |
| Strengthening competitive advantage | – | 2 (1.8) | 93 (83.0) | 12 (10.7) | 5 (4.5) | 316 |
| Quality and reliability of output | – | – | 11 (9.8) | 94 (83.9) | 7 (6.3) | 228 |
| Requirement of customers | – | – | 6 (5.4) | 6 (5.4) | 100 (89.3) | 130 |

**Note**: 1. Figures in parenthesis are percentages;

2. Rank 1 represents most important, rank 2 next most important and so on.

**Sources:** Authors Compilation

**Table-6: Frequency of Comparison between Budgeted and Actual Expenditures on Projects**

| Frequency | Total (N=112) | Size of Organization | | | Type of Organization | | | Age of Organization | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Small (N=44) | Large (N=68) | Chi-square | Captive (N=36) | Third-Party (N=76) | Chi-square | Upto 2004 (N=76) | 2005 onwards (N=36) | Chi-square |
| Monthly | 70 (62.5) | 22 (50.0) | 48 (70.6) | 4.83** | 26 (72.2) | 44 (57.9) | 2.14 | 49 (64.5) | 21 (58.3) | 0.40 |
| Any other# | 42 (37.5) | 22 (50.0) | 20 (29.4) | | 10 (27.8) | 32 (42.1) | | 27 (35.5) | 15 (41.7) | |

| Frequency | Total (N=112) | Education of Executive | | | Experience of Executive | | | Age of Executive | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | CA (N=66) | Non-CA (N=46) | Chi-square | < 14 years (N=48) | ≥ 14 years (N=64) | Chi-square | < 40 years (N=67) | ≥ 40 years (N=45) | Chi-square |
| Monthly | 70 (62.5) | 43 (65.2) | 27 (58.7) | 0.48 | 27 (56.3) | 43 (67.2) | 1.40 | 40 (59.7) | 30 (66.7) | 0.56 |
| Any other | 42 (37.5) | 23 (34.8) | 19 (41.3) | | 21 (43.8) | 21 (32.8) | | 27 (40.3) | 15 (33.3) | |

**Note:** 1. Figures in parenthesis are the percentages; 2. ** denotes significant difference at 0.05 level; 3. #'Any other' includes 'quarterly', 'half-yearly' and 'yearly'; 28 of these organisations are making 'quarterly' comparisons

**Sources:** Authors Compilation

**\*\*\*\*\***

# UNDERSTANDING INVESTMENT CULTURE OF INVESTORS

**Dr. Hatim F. Kayumi[12]**

| ABSTRACT |
| --- |
| Today, Investments has become a household word. Investment of money resources in different financial assets has become highly risky and dynamic. Before investing funds, investors need to thoroughly understand complications involved in securities market. Investment Culture refers to attitudes, perceptions and willingness of individuals and institutions at the time of investing their savings in various different financial securities. There is a need to study these perception, attitude and behaviour of investors investing money in different financial securities located in semi-urban city like Ahmednagar. The present study is an exploratory research based on primary data.<br><br>The main objective of study is to investigate investment patterns and behaviour on individual investors investing in different financial securities of Indian financial market. The research aims to highlight investment objectives of small investors while investing money in financial instruments. The study focuses on investment preferences and perception regarding degree of safety of various financial securities among individual investors. Finally, research attempts to bring out various problems and difficulties experienced by investors while investing in financial instruments and securities. 100 individual investors investing in financial securities situated at Ahmednagar city are selected for present study on random basis. Research instrument used for collecting data is Questionnaire (Schedule). |

| KEYWORDS |
| --- |
| Investments, Financial Instruments, Financial Securities, Individual Investors etc. |

## *INTRODUCTION*

### *Concept and Meaning of Investment*

Generally, the term '*Investment*' means employment of funds with an objective of achieving either additional income or growth in its value or both. Investment is commitment of funds in either real assets or financial assets. Investment involves sacrificing certain present value for some uncertain rewards in future. It involves commitment of funds, which have been saved by postponing current consumptions. People postponed their present consumption in expectation that some benefits or rewards will take place in coming future. In broader sense, investment decision is a trade–off between both risk and return. It involves arriving at number of decisions including proper amount of funds, right timing, right class or grade of investment, etc. It is very important that investment decisions must not only be continuous, but also it must be rational.

Broadly speaking, there are three concepts of investments. First concept is the Economic Investment, which normally means net additions to capital stock of the society. Capital stock of society means capital goods, i.e. those goods and commodities that are used in production of other goods and services. It also includes stocks of inventories and human capital that are used by manufacturers or producers in the process of production activities. Second concept indicates Investment in a more general or wider sense. In everyday use, the term investment means a number of things. But for a common individual, it refers to commitment of money of some kind. It means investments of funds in the form of residence, vehicles, gold, silver, jewelries, white goods, etc. These types of investments are very general in nature. Hence, investors cannot expect either financial returns or capital growth from them.

The third concept is termed as Financial Investments. It involves allocation of monetary resources in different stocks, securities and other such kind of financial instruments. These investments are made with an objective of generating some positive gains or returns from them over a given period. This return however depends upon volume of risk element involved in it. Investment Culture refers to the attitudes, perceptions and willingness of individuals and institutions at the time of investing their savings in various different financial securities.

### *Present Scenario*

As an emerging economy, one important challenge that India faces is scarcity of capital. However, capital formation, on other hand takes place from productive investments of available savings. Today, Investments has become a household word. It is very much popular among people from all parts of the society. This has been possible mainly because of rise in investible funds from different sections of the country.

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[12]Assistant Professor, Institute of Management Studies Career Development and Research (IMSCD&R), Maharashtra, India, hatimkayumi@gmail.com

A well-developed financial system consists of adequate financial institutions, sufficient financial instruments and properly regulated financial markets. All these factors together provides necessary framework for mobilization and allocation of valuable savings. Domestic savings is one of the most important factors that influence development of capital markets in any economy. Thus, these savings are an important aspect in the overall economic growth and development. Financial sector plays a significant role in assembling these wide spread domestic savings across the country.

In India, over a period of past two decades, development of financial sector has resulted into significant increase in the domestic savings rate, particularly savings from household sector. This steady and remarkable growth in domestic savings has been possible only because of financial deepening. India is one of few countries in the world to have achieved a consistently high rate of growth in its domestic savings. Gross Domestic Savings have increased substantially higher during past two decades. Thus, this indicates growth in potential funds for capital formation in the country.

### SIGNIFICANCE OF STUDY

In India, rate of domestic savings is nearly one quarter (25%), which is one of the highest rates in the world. In addition, this rate is increasing at a faster pace. In order to accelerate economic growth and development in the country, it is not only necessary to increase this rate of savings, but also to improve the holding pattern of such savings. Savings held in the form of hard currency or physical assets remains idle or unproductive. SEBI and RBI in association with Government of India had taken various steps at regular intervals to channelize these financial savings into financial market.

The major objective behind these steps was to accelerate overall economic growth and development in India. In India, number of financial reforms in financial markets was introduced during 1990s. Today, those reforms have ensured that Indian financial market is now comparable and competitive to various financial markets in most of developed countries and other emerging economies in the world. Both, size and volume of domestic financial market has enhanced, but still there is a long way ahead. Although the Indian financial market has grown in size and depth in post reform period, the magnitude of activities is still negligible as compared to those prevailing in the global market.

The participation of individual investors from Tier 2 and Tier 3 towns in Indian financial market has been rising significantly over past few years. Still, there is a substantial need for tapping the uncovered investors in order to channelize their hard-earned savings in Indian financial market. Investment of money resources in different financial assets has become highly risky and dynamic.

Some of the global and national events have brought substantial changes in securities market in India. In order to fasten the process of capital formation in the country, financial market must grow and develop in a healthy manner. Before investing funds in any financial security, investors need to thoroughly understand complications involved in securities market. This will also help investors to keep the track of market movements and thereby make logical and systematic investment decisions. The two key aspects of investments are preferences and pattern. There is a need to find out perception, attitude and behaviour of investors investing money in different financial securities in Indian financial market. There is a need to study investment objectives as well as problems / difficulties faced by individual investors while investing in various financial instruments.

### REVIEW OF LITERATURE

**Reddy & Krishnudu (2009)** in their study mentioned that investment culture among the investors of any economy plays an important role in the capital formation as well as overall economic growth and development. The study states importance of formulation of policies for development and proper control of security market as well as protection of small and retail individual investors in the country.

**Chaturvedi M. & Khare S. (2012)** tried to study pattern of savings and investment preferences of small household investors. The research concluded that significant number of investors gave priority to investing money in bank deposits and second preference to investing funds in small saving schemes.

**Das K. S. (2012)** in his research paper attempted to study the investment behaviour of middleclass household investors. It was found that investment trends of these middleclass household investors were not same and changed from one financial asset to another. Also investing money in bank deposits was the most popular investment alternative opted by investors, flowed by investing money in life insurance policies.

**Bhat A. M. & Ahmad D. F. (2013)** in their paper tried to study different factors that affects and influences decisions taken by individual investors. These factors included personal profile and characteristics, which are directly related with emotions and feelings of individual investors. These psychological factors are related to day-to-day routine of the investors.

**Kumara S. (2013)** in his study concluded that individual investors who are situated in rural areas considers factors like risk involved and returns generated on their investments. As these investors lack adequate knowledge of financial markets, they mainly depend on advices and suggestions given by financial brokers and advisors. In addition, limitations among investors were also observed like casual approach towards investments, illiteracy, unawareness, lack of adequate time, etc.

**Ramprasath & Karthikeyan (2013)** in their study concluded that majority of investors gave huge significance to safety of funds invested. Hence, the individual investors preferred to invest in options like fixed deposits with banks, post office savings, insurance policies, etc. In addition, investors were quite prompt and punctual in checking regular updates and returns generated at regular intervals.

### OBJECTIVES OF STUDY

- To study investment pattern and preferences of individual investors investing in different financial securities.
- To study investment objectives of individual investors while investing in different financial securities.
- To study investment preferences and perception about degree of safety of different financial instruments.
- To study various problems faced by individual investors while investing money in different financial securities.

### SCOPE OF RESEARCH

The present study is an exploratory research, which is based on primary data. The research aims to investigate investment patterns and preferences on individual investors investing in different financial securities of the Indian financial market.

The research tries to highlight different investment objectives considered by investors while investing in different financial instruments. Further, the study focuses on investment preferences as well as perception regarding degree of safety of different financial securities among individual investors. Finally, the research attempts to bring out various problems faced by investors while investing money in different financial instruments. Individual Investors investing in different financial securities of Indian financial market situated at Ahmednagar city are covered under the present study.

### METHODOLOGY OF RESEARCH

#### Data Collection

Primary data has been collected and used for the present research. This data was collected by using a Questionnaire (Schedule) through field survey method. A pilot study of 20 respondents was conducted to test the Schedule. Errors identified during pilot study were removed and final draft of Questionnaire was prepared. Questionnaire included both open-ended and close-ended questions. These individual investors were contacted in the months of January 2015.

#### Sampling Plan

- **Population:** Individual Investors investing in different financial securities / instruments of Indian financial market situated at Ahmednagar city.
- **Sample Size:** 100 (Hundred) Individual Investors.
- **Sampling Method:** Random Sampling Method.
- **Sample Size selection:** As the population (universe) was very vast, sample size was determined using following statistical formula on the basis of proportion of success of pilot study at 95% level of confidence:

$$ n \quad = \quad \frac{p * q * z^2}{e^2} $$

Where, n = size of sample,
p = proportion of success (determined on basis of Pilot Study),
q = proportion of failure (1 − p),
z = Table value at 95% level of Confidence (1.96),
e = Acceptable Error (within 5% of True Value)

#### Tools for Data Analysis

Data collected from individual investors has been properly edited, summarized, classified and tabulated. Various statistical tools like proportion, percentage, etc., have been used for analyzing the data.

*DATA ANALYSIS AND INTERPRETATION*

*Perception of Individual Investors (Analysis of Data)*

**Table-1: Table showing Personal Profile of Individual Investors**

| Personal Profile of Individual Investors | Number of Respondents | Percentage |
|---|---|---|
| **Age** | | |
| Less than 25 years | 16 | 16.00 |
| 25 years to 40 years | 51 | 51.00 |
| 40 years to 60 years | 29 | 29.00 |
| Above 60 years | 4 | 4.00 |
| **Total** | **100** | **100** |
| **Gender** | | |
| Male | 73 | 73.00 |
| Female | 27 | 27.00 |
| **Total** | **100** | **100** |
| **Marital Status** | | |
| Married | 66 | 66.00 |
| Unmarried | 34 | 34.00 |
| **Total** | **100** | **100** |
| **Occupation** | | |
| Businessman | 25 | 25.00 |
| Professional | 22 | 22.00 |
| Private Service | 24 | 24.00 |
| Government Service | 14 | 14.00 |
| Student | 11 | 11.00 |
| Retired | 4 | 4.00 |
| **Total** | **100** | **100** |
| **Education** | | |
| Under-Graduate | 17 | 17.00 |
| Graduate | 37 | 37.00 |
| Post-Graduate | 46 | 46.00 |
| **Total** | **100** | **100** |
| **Monthly Income** | | |
| Less than Rs. 20,000 | 10 | 10.00 |
| Rs. 20,000 to Rs. 40,000 | 57 | 57.00 |
| Rs. 40,000 to Rs. 60,000 | 26 | 26.00 |
| Above Rs. 60,000 | 7 | 7.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

**Table-2: Table showing Investment Objectives of Individual Investors**

| Investment Objectives | Number of Respondents | Percentage |
|---|---|---|
| Protection of Principal with Regular Income | 9 | 9.00 |
| First preference to Income, Second to Growth | 14 | 14.00 |
| First preference to Growth, Second to Income | 18 | 18.00 |
| Balanced preference to Income and Growth | 35 | 35.00 |
| Maximize Growth, Income not important | 4 | 4.00 |
| Income Tax Benefits / Exemptions | 20 | 20.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

The individual investors have different investment objectives while investing money in various financial instruments. Based on these objectives of investment, investors have changing priorities and preferences for capital appreciation / growth in value or regular income. The above table exhibits that more than 1/3rd (35%) of respondents gave balance preference for both income and growth. About 1/5th of investors admitted that they invest funds in different financial avenues to avail tax benefits and exemptions in order to minimize their income tax liabilities. Followed by this, less than 1/5th of respondents (18%) gave first preference for growth and second for income. Very negligible proportion of investors (less than 5%) admitted that income is not important for them.

**Table-3: Table showing Investors' Willingness to Take Risk**

| Willingness to take Risk | Number of Respondents | Percentage |
|---|---|---|
| Maximum Risk | 27 | 27.00 |
| Moderate Risk | 41 | 41.00 |
| Less Risk | 22 | 22.00 |
| No Risk | 10 | 10.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

Depending upon expectations of returns to be generated from investments, level of risk varies from person to person. This willingness and volume / magnitude of taking risk further influences choice of investment avenues among available alternatives. Higher risk generally indicates higher returns to be generated and vice versa i.e. lower risk indicates lower returns. From the above table, it can be observed that more than 2/5th of investors (41%) agreed that they are willing to take moderate amount of risk and over 1/4th of investors agreed of taking maximum risk while investing funds among different securities. This indicated that huge proportion of investors are expecting reasonable rate of returns from their investments. Followed by this, under 1/4th of respondents (22%) expressed their willingness to take less risk on their investments. Finally, the proportions of respondents who are not interested to take any risk are quite low (10%).

**Table-4: Table showing Investors' Experience in the field of Investment**

| Investment Experience | Number of Respondents | Percentage |
|---|---|---|
| Less than 3 year | 21 | 21.00 |
| 3 to 6 years | 54 | 54.00 |
| 6 to 10 years | 18 | 18.00 |
| More than 10 years | 7 | 7.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

There is significant relationship between investors' experience in the field of investments and their attitude, selection and preferences towards investments. As this experience increases, it also influences investors' approach and behaviour towards investments in different financial avenues. The above table highlights that more than half of respondents (54%) had investment experience between 3 to 6 years. On the other hand, about 21% of investors agreed that they have investment experience of less than three years. It can be observed that less than 1/5th of investors have investment experience of 6 to 10 years. However, low proportion of respondents (less than 10%) had experience more than 10 years.

**Table-5: Table showing Investors' Expected Time Horizon of Investment**

| Expected Time Horizon of Investment | Number of Respondents | Percentage |
|---|---|---|
| Less than 5 year | 54 | 54.00 |
| 6 to 10 years | 37 | 37.00 |
| 11 to 15 years | 8 | 8.00 |
| More than 15 years | 1 | 1.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

One important factor that influences the choice of investment avenues is the expected Investment Time Horizon. Investment Time Horizon also known as Holding Period is time for which investors holds their investments, i.e. time gap between date of purchase and date of sale of investment. From above table, it can be inferred that more than 50% of respondents invest their funds for an expected time of less than five years. About 1/3rd of investors invested money for an expected holding period between 6 to 10 years. This further indicated that in aggregate, over 90% of respondents invest for estimated tenure of less than 10 years. However, negligible percentage of investors (less than 10%) had probable investment time horizon of more than 10 years.

**Table-6: Table showing Proportion of Annual Income invested by Investors**

| Proportion of Annual Income Invested | Number of Respondents | Percentage |
|---|---|---|
| Less than 5% | 6 | 6.00 |
| 6 to 10% | 19 | 19.00 |
| 11 to 15% | 40 | 40.00 |
| More than 15% | 35 | 35.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

Above table shows proportion of annual income of investors that is invested in various financial instruments. 2/5th of individual investors confessed that they invest between 11 to 15% of their annual income in different financial assets every year. Further, over 1/3rd of respondents agreed that they invest more than 15% p.a. of their yearly income in various financial avenues. Less than 1/5th of investors accepted of investing between 6 to 10% of income p.a. in various financial assets. Finally, very marginal proportion of investors (6%) agreed of investing lesser than 5% of their annual income in financial securities.

**Table-7: Table showing Regularity of Investors in checking Performances and Updates**

| Time Interval | Number of Respondents | Percentage |
|---|---|---|
| Weekly | 45 | 45.00 |
| Monthly | 41 | 41.00 |
| Quarterly | 9 | 9.00 |
| Half Yearly | 3 | 3.00 |
| Once in a while | 2 | 2.00 |
| **Total** | **100** | **100.00** |

**Sources:** Authors Compilation

For an individual investor, it is necessary that he / she should be conscious about the performance, returns generated, valuation of portfolio and latest updates of their financial investments. All these are also important reasons for further investments of funds or withdrawal of invested funds. The above table highlights regularity and promptness of investors in checking returns, valuations, updates, etc., on their investments. It can be inferred that under half of investors (45%) agreed that they check performances and updates of their financial investments on a weekly basis. On the other hand, 2/5th of investors review their investments on monthly basis. This shows that investors are much conscious and alert while investing their hard-earned income. Less than 10% of respondents accepted to review and check their investments on quarterly basis. Very low percentage of investors confirmed about checking performances and updates either half-yearly basis or occasionally (3% and 2% respectively).

**Table-8: Table showing various Sources of Information to Investors**

| Sources of Information | Number of Respondents | Percentage | Sources of Information | Number of Respondents | Percentage |
|---|---|---|---|---|---|
| Brokers / Agents | 78 | 78.00 | Newspapers | 31 | 31.00 |
| Prospectus | 19 | 19.00 | Magazines | 9 | 9.00 |
| Advertisements | 11 | 11.00 | Friends & Relatives | 49 | 49.00 |
| Annual Reports | 36 | 36.00 | TV / Internet | 13 | 13.00 |

**Sources:** Authors Compilation

For investment of funds in any financial assets, it is important that there should be adequate number of sources of information available to the investors. This availability of sources of information plays a significant role in investing and checking overall performances and latest updates on their investments. Above table shows that financial brokers and advisors are the most frequent sources of information for individual investors with 78%. Investors highly rely on the statistics, data and other information given by financial advisors and agents for making investments in different financial securities. Followed by brokers, almost half of the investors accumulate required information from their friends, associates and relatives. These friends, associates and relatives usually recommends on the basis on their experiences and understanding of financial investments. Annual reports of different companies and newspapers also play important role in providing required information to investors with 36% and 31% respectively. Finally, low proportion of respondents collects information from TV and internet (13%), advertisement (11%) and magazines (9%).

**Table-9: Table showing Order of Preference for Investments in various Financial Securities**

| Financial Securities | Order of Preference for Investments in Financial Securities (Preference) | | | | | | | Total Score | Average Score | Rank |
|---|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI | VII | | | |
| Bank Deposits | 46 | 16 | 12 | 10 | 8 | 3 | 5 | 553 | 5.53 | I |
| PO Saving Schemes | 8 | 24 | 30 | 12 | 13 | 9 | 4 | 459 | 4.59 | III |
| Bonds & Debentures | 8 | 9 | 9 | 11 | 19 | 29 | 15 | 329 | 3.29 | VII |
| Shares and Stocks | 5 | 6 | 32 | 14 | 15 | 12 | 16 | 372 | 3.72 | V |
| Mutual Funds | 8 | 14 | 19 | 16 | 26 | 15 | 2 | 409 | 4.09 | IV |
| Life Insurance | 24 | 20 | 31 | 11 | 10 | 3 | 1 | 524 | 5.24 | II |
| Provident Fund & Pensions | 16 | 8 | 3 | 10 | 23 | 19 | 21 | 343 | 3.43 | VI |

**Sources:** Authors Compilation

Based on objectives of investment, willingness to take risk, experience in investment and time horizon of investments, individual investors do not put all their funds in a single type of investment avenues. Investors prefer to diversify their savings among different financial assets in order to earn expected returns as well as to fulfill various financial needs and requirements. But, proportion of funds to be employed and order of preferences for each such financial asset varies from investor to investor, from place to place and from time to time.

Above table reveals the weighted average score of order of preferences of investors assigned to each of financial assets along with aggregate score and ranking based on average. From the table, it can be seen that in first case, investors prefers investments in Bank Deposits with the highest weighted average score of 5.53. Following bank deposits, investors preferred to invest in Life Insurance policies with an average score of 5.24. Subsequently, third preference was taken over by investments in Post Office Savings schemes with an average score of 4.59. Following this, the fourth preference was held by investments in Mutual Fund Units with an average score of 4.09. Fifth preference was taken over investments of funds in shares and stocks of various companies with weighted average score of 3.72. However, Provident Fund & Pension Fund and Bonds & Debentures got the least average score of 3.43 and 3.29 respectively.

**Table-10: Table showing Investors' Perception about Degree of Safety of various Financial Securities**

| Financial Securities | Degree of Safety | | | | | Total Score | Average Score | Rank |
|---|---|---|---|---|---|---|---|---|
| | Absolutely Safe | Reasonably Safe | Somewhat Safe | Not Safe | Don't Know | | | |
| Bank Deposits | 62 | 34 | 2 | 1 | 1 | 455 | 4.55 | I |
| PO Saving Schemes | 38 | 53 | 4 | 3 | 2 | 422 | 4.22 | III |
| Bonds & Debentures | 3 | 29 | 59 | 3 | 6 | 320 | 3.20 | VI |
| Shares and Stocks | 5 | 11 | 63 | 17 | 4 | 296 | 2.96 | VII |
| Mutual Funds | 7 | 49 | 38 | 4 | 2 | 355 | 3.55 | V |
| Life Insurance | 19 | 42 | 33 | 3 | 3 | 371 | 3.71 | IV |
| Provident Fund & Pensions | 51 | 44 | 3 | 1 | 1 | 443 | 4.43 | II |

**Sources:** Authors Compilation

The table above exhibits weighted average score of investors' perception towards degree of safety of each financial asset along with aggregate score and ranking based on average. From the table, it can be inferred that according to investors under study, Bank Deposits have highest degree of safety with weighted average score of 4.55, followed by Provident Fund and Pension investment with average score of 4.43. Later, investments in Post Office Saving Schemes occupied third position from the point of view of safety of investments with average score of 4.22. Fourth position regarding degree of safety was held by investments in Life Insurance policies with score of 3.71. Investments in Mutual Fund schemes occupied fifth spot in order of degree of safety with a score of 3.55. However, less preference regarding degree of safety was taken over by investments in Bonds & Debentures as well as in Shares and Stocks with scores of 3.20 and 2.96 respectively. This also indicated that investing funds in equity shares and stocks is considered risky by the individual investors.

*RESEARCH FINDINGS*

- Based on investment objectives, significant investors gave balance preference for both regular income and capital appreciation (growth). Also reasonable investors invested funds to avail income tax benefits and exemptions for minimizing tax liabilities.

- Significant number of investors agreed that they are willing to take either moderate risk or taking maximum risk while investing money in different securities. This further indicated that these investors are expecting reasonable rate of returns from their investments.

- Large number of investors had investment experience between 3 to 6 years, while, 1/5th of investors had investment experience of less than three years. Further, considerable investors were investing funds either for a period of less than five years or for a period between 6 to 10 years.

- Majority of investors are investing between 11 to 15% of their annual income in different financial securities, while sizable investors are investing above 15% p.a. of their yearly income in various financial avenues. These investments in various financial securities further results into capital formation of the country.

- Huge number of investors regularly checks the performances and updates of their financial investments. This indicates that investors are very much conscious and alert while investing their hard-earned income in different financial instruments.

- Of various sources of financial information, brokers and advisors are the most common and frequent sources of information for large number of individual investors. Investors heavily rely upon statistics, information and suggestions given by financial advisors and agents for making investment decisions. In addition, substantial number of investors collects required information from their friends, associates and relatives.

- Of the various investment alternatives, individual investors gave highest preference for investing money in bank deposits because according to them, bank deposits are most safe alternative for investing money.

- Investors also preferred to invest money in life insurance policies and post office savings as they want to secure their financial liabilities and avail retirement benefits. Investing money in provident fund, pension fund, bonds and debentures got the least preferences from individual investors.

## RECOMMENDATIONS TO INDIVIDUAL INVESTORS

- While investing money in any financial instruments, investors should try to calculate the volume of risk involved along with required expected return. Taking undue and unwanted risk may also convert a profitable investment into a loss incurring option.

- The real fruits of investments shall be enjoyed only when investments are made for a reasonable or longer period. Investors should aim at investing money for a longer tenure of more than 10 years, in order to enjoy the real benefits of investments.

- In addition to accepting advices from friends, relatives and brokers; it is necessary that investors shall themselves make self-analysis and self-evaluation regarding their financial needs, risk taking ability, expected time horizon, etc. All these factors will help them to maximize their returns and help to fulfill their investment objectives.

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# BANKING INNOVATIONS AND E-BANKING:
## AN EMPIRICAL ANALYSIS OF DETERMINANTS

**Dr. Nilam Panchal[13]**

### ABSTRACT

Banking is a highly information-intensive industry. Customers demand accurate information regarding their accounts and this information need to be easily accessible. As a result, information technology is extensively used in the collection, processing and output of information to users and customers. Internet banking (E-banking) involves consumers using the Internet to access their bank account and to undertake banking transactions. E- Banking is one of the major technologies currently being used by banking industry. It is important to know the determinants upon which customers' emphasis while adopting E-Banking. This paper analyses the factors affecting adoption of internet banking in Gujarat.

The study assesses the relationship between Demographic characteristics and use of E-Banking and it assesses the attitude of customers' towards E-Banking. Primary data has been collected through well-designed questionnaire and secondary data has been collected from internet, magazines. The data has been analyzed using statistical tools and tests including Chi-square test and Co-relation-Regression. The paper concluded with the most preferred use of internet banking is for Bill Payment, Ticket booking and Account summary followed by the online shopping and fund transfer. The least use of internet banking in area of Insurance &Tax payment. It also gives insight into major determinants' of E-Banking.

### KEYWORDS

**Bank, E-Banking, Banking Transactions, Determinants etc.**

## INTRODUCTION

"E-Banking is an umbrella term for the process by which a customer may perform banking transaction electronically without visiting a brick-and-mortar institution" (Huang, 2003). Internet banking works as a medium of delivery of banking services and as a strategic tool for business development and it has gained wide acceptance internationally catching up in India with more and more banks entering the fray. However, keeping customers happy is not an overnight miracle. It requires lot of effort from bank. Banks today focus upon new electronic relationship. It has become very important that banks provide customers with high quality services to survive in the highly competitive internet banking industry (Liang *et al*, 2009). For this, bankers first need to understand the customers and their perception about determinants playing very important role in using E-banking.

### Internet users in India (1995-2013)

**Table-1**

| Year | Users (Million) | Annual Growth | Penetration | Year | Users (Million) | Annual Growth | Penetration |
|------|------|------|------|------|------|------|------|
| 1995 | 0.01 | - | - | 2005 | 27.1 | 23% | 2.4 |
| 1996 | 0.03 | - | - | 2006 | 32.4 | 20% | 2.8 |
| 1997 | 0.05 | - | - | 2007 | 46.4 | 43% | 4 |
| 1998 | 0.07 | - | - | 2008 | 52.2 | 13% | 4.4 |
| 1999 | 1.4 | - | - | 2009 | 61.8 | 18% | 5.1 |
| 2000 | 5.5 | - | - | 2010 | 91.9 | 49% | 7.5 |
| 2001 | 7.8 | - | - | 2011 | 125.3 | 36% | 10.1 |
| 2002 | 15.0 | - | - | 2012 | 158.5 | 26% | 12.6 |
| 2003 | 18.5 | - | - | 2013 | 200.0 | 26% | 15.5 |
| 2004 | 22.0 | - | - | | | | |

**Sources**: ERPT Research

According to ERPT research report, there were nearly 158.5 million internet subscribers in India by March 2012 as the subscriber base grew around annual rate of 26 percent. India's internet sector has been growing strongly although the numbers remained small for a country with around 1.2 billion people. Banks spend a great deal of money on Internet Banking because it reduces costs relative to other forms of banking, and provides more timely and complete customer information (Gerrard and Cunningham, 2003).

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[13]Assistant Professor, Institute of Management, Nirma University, Gujarat, India, nilamcpanchal@gmail.com

The results of intention to use online banking is adversely affected mainly by security risk as well as financial risk and is positively affected mainly by perceived benefits, attitudes and perceived usefulness (Ming-Chi lee, 2008).

## REVIEW OF LITERATURE

Milind Sathye (1999) quantified the factors affecting the adoption of Internet banking by Australian consumers. The data were collected from two broad categories of respondents, i.e. personal and business respondents. The results showed that security concerns and lack of awareness about Internet banking and its benefits stand out as being the obstacles to the adoption of Internet banking in Australia. He suggested that delivery of financial services over the internet should be a part of customer service and distribution strategy, which will help in rapid migration of customers to Internet banking, resulting in considerable savings in operating expenses.

Rajesh Kumar Srivastava (2007) revealed that inhibitory factors like trust, gender, education, culture, religion, security, and price could have minimal effect on consumer mindset towards internet banking. This study reveals that the perception of the consumers can be changed by awareness program, upgraded skills friendly usage, less charges, proper security, and the best response to the services offered.

Waleed Al-Ghaith, Louis Sanzogni and Kuldeep Sandhu (2010) found that the Perceived Complexity was found to be the most significantly related factor affecting e-service adoption in Saudi Arabia, followed in turn by Privacy and Compatibility. Quality of the Internet and its relative advantage also had a notable effect on e-service usage and adoption in Saudi Arabia. Gender also played a significant role among participants regarding the adoption of e-service and it is found that Saudi women are more likely to adopt the e-service rather than Saudi men in their research.

Wadie Nasri (2010) show that the perceived convenience, perceived risk, perceived security and prior internet knowledge all have significant effects on behavioral intention to use online banking. The results of the model tested clearly that use of internet banking in Tunisia is influenced most strongly by convenience, risk, security and prior internet knowledge. Only information on online banking did not affect intention to use internet-banking service in Tunisia. The results also proposed that demographic factors affect significantly internet-banking behavior, specifically, occupation and instruction. Finally, this paper suggests that an understanding of the factors allow bank managers to direct efforts and resources in the most effective and efficient way to increase bank business in the long run and encourage their bank customers' to adopt Internet banking and develop appropriate strategies to attract new customers to use Internet banking services.

Alain Yee-Loong Chong, Keng-Boon Ooi, Binshan Lin, Boon-In Tan (2010) examined the factors that affect the adoption of online banking in Vietnam. Perceived usefulness, perceived ease of use, trust and government support were examined for assessing influence level on online banking adoption. Primary data has been collected from156 respondents in Vietnam with 103 usable samples giving a response rate of 66 percent. Data were analyzed by employing correlation and multiple regression analysis. The results showed that perceived usefulness, trust and government support all positively associated with the intention to use online banking in Vietnam. Contrary to the technology acceptance model, perceived ease of use was found to be not significant in this study. The study concluded that banks should improve the security and privacy of websites so that it can earn trust of users and this information must be provided to users.

Rudi Hoppe, Paul Newman and Pauline Mugera (2011) analyzed that perceptions of relative advantage, compatibility and risk regarding internet use were found to influence the intention to adopt these services. There were 3 notable relationships in the results. Firstly, complexity was not found to be a significant factor in Singapore, whereas it was in this study. In addition to this, Government support and banking needs were found to be factors in Singapore, but neither was found to be significant from the SA results.

Rahmath Safeena, Hema Date and Abdullah Kammani (2011) conducted a research to analyze Indian Consumer's perspective. The study stated that perceived usefulness and perceived ease of use have positive effect on the use of Internet Banking and perceived risk has negative effect on the use of internet banking. The results of the regression analysis conducted on the factors indicate that perceived risk, perceived usefulness and perceived ease of use on online banking were found to be the most influential factors. The result shows that perceived risk is negatively related.

Sujana Adapa (2013) examined the factors that influence consumer's continued use of internet banking in Australia. The study is carried out in response to a gap in existing literature with reference to the application of theory that is more integrated testing and the identification of factors that influence the continued use of internet banking in order of importance to consumers. The study sets out to develop a conceptual framework based on theoretical models related to the acceptance of technology and diffusion of innovations theory. The model encompasses technology, channel, social and value for money factors as predictors in the identification of influential factors for consumers and their continued use of internet banking. Primary data has been collected using a cross-sectional mall intercept survey in the Western Sydney region. The sample size comprised of a sample of 372 internet-banking users. Exploratory factor analysis was performed for factor clarification on five key scales related to the use of internet banking service delivery based on technology, channel, social, value for money and continued use factors.

Francisco Lieˊbana-Cabanillas, Francisco Mun˜oz-Leiva and Francisco Rejoˊn-Guardia (2013) examined the determinants of satisfaction with e-banking. The paper analyses the main determinants of user experience with a specific institution's products. Primary data has been collected from self-administered web survey and analysis was carried out to assess the relationship between variables (accessibility, trust, ease of use and usefulness) and satisfaction with electronic banking. The research shown satisfaction to the customers for bank website and it concluded that there is positive effect on both customer loyalty and bank services.

## RESEARCH GAP AND BENEFIT OF STUDY

The research on E-Banking and perception of bank consumers specifically in Gujarat is very limited. Ahmedabad in Gujarat is the second highest in case of numbers of internet users in India. But No. of internet banking users comparatively is limited. This study will be helpful to the bankers to understand the perception of customers and factors that influencing them to adopt or not adopt internet banking. Thus, the study will give an insight to policy makers of different banks in Gujarat, which will be helpful for them to strategize in attracting people for using internet banking.

## STATEMENT OF PROBLEM

The use of E-Banking forms a backbone for better results in banking and offers unprecedented satisfaction to customers, still this is a mirage to bank customers in Gujarat. Augusto (2002) concurs and concludes in his study that banks need to roll out new products and services quickly and effectively that has the development of E-Banking, which is one the latest cutting edge technology. For that, it is needed to know which are the factors that influence people to adopt internet banking. It can help banks to focus upon those factors and give more attention on those factors. Thus, the research identifies the factors influencing the adoption of internet banking in Gujarat.

## OBJECTIVES OF STUDY

- To analyze the perception of bank consumers whether perceived risk and benefit significantly affect customers' behavior intention.
- To study the relationship between demographic factors and Internet banking adoption.
- To analyze the impact of factors that affects decision of Internet Banking adoption.

## METHODOLOGY OF RESEARCH

Primary data has been collected through survey with the help of well-designed questionnaire. In addition, secondary data has been collected through internet, magazines etc. Research Design is descriptive in nature. The sampling method is non-probability; convenient sampling.300 respondents were approached and interviewed. Chi-Square test is used for analyzing the relationship between demographic variables and factors affecting internet banking.

The purpose of using Internet Banking as a dependent variable and Age group, Qualification & Occupation as independent variable. Correlation and Multiple Regression is used for testing the relationship between different variables.

## DATA ANALYSIS

### Purpose of using Internet Banking

Table-2 represents the purpose of using internet banking among the customers. Majority of customers use E-Banking facility for Ticket Booking, which is followed by Bill payment, and account summary assessment. People use internet less for fund transfer, insurance payment and tax payment.

**Table-2**

| Purpose of Using Internet Banking | Number of Respondents | Percentage |
|---|---|---|
| Account Summary | 204 | 68% |
| Ticket Booking | 216 | 72% |
| Online Shopping | 180 | 60% |
| Fund Transfer | 126 | 42% |
| Bill Payment | 204 | 68% |
| Tax Payment | 69 | 23% |
| Insurance Payment | 93 | 31% |

**Sources:** Authors Compilation

### *Benefits of using E-Banking as Perceived by Customers*

89% of internet banking users says that Internet banking saves their time and that is major benefit. 40% says that internet banking is easy to use which is followed by convenience by 28%, 27% says that Internet banking help them to check their account related detail regularly.

**Table-3**

| Benefits of using Internet Banking | Respondents | Percentage |
|---|---|---|
| Time Saving | 267 | 89% |
| Check Details Regularly | 81 | 27% |
| Easy To Use | 120 | 40% |
| Convenience | 84 | 28% |
| Other | 0 | 0 |

**Sources:** Authors Compilation

### *Place of using Internet Banking*

Majority of customers use internet banking at home and other places. 17% and 13% of customers use E-Banking at workplace and schools respectively and no one from the respondents use Internet Banking while travelling.

**Table-4**

| Place of using Internet Banking | Respondents | Percentage |
|---|---|---|
| Home | 116 | 39% |
| Workplace | 51 | 17% |
| School | 4 | 13% |
| Friend's place | 12 | 4% |
| While Travelling | 0 | 0% |
| Other | 117 | 39% |

**Sources:** Authors Compilation

### *Assessment of Relationship between Demographic Characteristics and Use of Internet Banking - Hypothesis Testing*

**Relationship between Age group and Place of Using Internet banking**

**Table-5: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 198.433 | 3.033 |
| D.f. | 4 | 4 |
| Asymp. Sig. | 0.55 | 0.552 |

**Sources:** Authors Compilation

The p-value is .552 is higher than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis fails to reject. In other words, there is no relationship between the Age group & Place of using Internet banking. Cross tabulation also show that younger age group ((19-23, 24-26 & 27-30) preferred to access internet banking at home. Older age people (31-44 & 45-53) mostly access Internet banking from multiple places than the younger age.

**Relationship between Qualification and Place of Using of Internet Banking**

**Table-6: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 155.5 | 198.433 |
| D.f. | 4 | 4 |
| Asymp. Sig. | 0.801 | 0.801 |

**Sources:** Authors Compilation

The p-value is .801 is much higher than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis is fails to reject. In other words, there is no relationship between the qualification & Place of using Internet banking.

**Relationship between Occupation and Place of Using of Internet Banking**

**Table-7: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 300.347 | 198.433 |
| D.f. | 3 | 4 |
| Asymp. Sig. | 0 | 0 |

**Sources:** Authors Compilation

The p-value is .000 is much lower than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis is rejected. In other words, there is relationship between the Occupation & Place of using Internet banking. As we can see in Cross tabulation that the figure shows that (41%) salaried person preferred to access their accounts at home and (47%) preferred from multiple places. Whereas the businessmen preferred to use internet banking at the job place.

**Relationship between Age group and Internet Banking Adoption**

**Table-8: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 3.033 | 64.32 |
| D.f. | 4 | 7 |
| Asymp. Sig. | 0.552 | 0 |

**Sources:** Authors Compilation

The p-value is .552 is higher than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis is fails to reject. In other words, there no is relationship between the Age group & Internet banking adoption. As we can see in cross tabulation that, younger age group and older age group's accessibility is more on daily, weekly and monthly bases. This shows that both age groups have more frequency of accessing internet banking.

**Relationship between Qualification and Internet Banking Adoption**

**Table-9: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 155.5 | 64.32 |
| D.f. | 4 | 7 |
| Asymp. Sig. | 0.00 | 0.00 |

**Sources:** Authors Compilation

The p-value is .000 is much lower than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis is rejected. In other words, there is relationship between the Qualification & Internet banking adoption.

**Relationship between Occupation and Internet Banking Adoption**

**Table-10: Test Statistics**

| Particular | Place | Age Group |
|---|---|---|
| Chi-Square | 300.34 | 64.32 |
| D.f. | 3 | 7 |
| Asymp. Sig. | 0.02 | 0.02 |

**Sources:** Authors Compilation

The p-value is .002 is lower than generally accepted level of .05 i.e. 5% significant level. Hence, the null hypothesis is rejected. In other words, there is relationship between the Occupation & Internet banking adoption. As we can see in cross tabulation that, salaried person groups' accessibility of Internet Banking is more on weekly i.e. 51% and 23% on daily & monthly bases. Whereas other groups like businessman, self-employed & industrialist access Internet Banking on the monthly & yearly bases.

**Relationship between Age Group and Intensity to Internet Banking**

**Table-11: Correlations**

|  |  | Age Group | No Access |
|---|---|---|---|
| **Age Group** | Pearson Correlation | 1 | 0.239 |
|  | Sig. (2-tailed) | . | 0.17 |
|  | N | 300 | 300 |
| **No Access** | Pearson Correlation | 0.239 | 1 |
|  | Sig. (2-tailed) | 0.17 | . |
|  | N | 300 | 300 |

**Sources:** Authors Compilation

Since the p-value here is, .017 is less than the .05 level of significance the null hypothesis is rejected. Thus, there is a significant correlation between Age group and Attitude towards Internet Banking Adoption. In addition, it can be seen from the Pearson Correlation figure i.e. 0.239 that there is low correlation between the two variables.

From data we can interpret that the younger group i.e. 74% respondent has a low attitude towards Internet Banking Adoption as the older age group i.e. out of respondents 32% positive toward Internet Banking.

**Relationship between qualification and Intensity of Internet Banking**

**Table-12: Correlations**

|  |  | Qualification | No Access |
|---|---|---|---|
| **Qualification** | Pearson Correlation | 1 | .187 |
|  | Sig. (2-tailed) | . | 0.62 |
|  | N | 300 | 300 |
| **No Access** | Pearson Correlation | .187 | 1 |
|  | Sig. (2-tailed) | 0.62 | . |
|  | N | 300 | 300 |

**Sources:** Authors Compilation

Since the p-value here is 0.062 is higher than the .05 level of significance the null hypothesis is accepted. Thus, there is a no significant correlation between Qualification and Attitude towards Internet Banking Adoption

**Relationship between Occupation and Intensity of Internet Banking**

**Table-13: Correlations**

|  |  | Occupation | No Access |
|---|---|---|---|
| **Occupation** | Pearson Correlation | 1 | -.298 |
|  | Sig. (2-tailed) | . | 0.03 |
|  | N | 300 | 300 |
| **No Access** | Pearson Correlation | -.298 | 1 |
|  | Sig. (2-tailed) | 0.03 | . |
|  | N | 300 | 300 |

**Sources:** Authors Compilation

Since the p-value here is 0.003 is much less than the .05 level of significance the null hypothesis is rejected. Thus, there is a significant correlation between Occupation and Attitude towards Internet Banking Adoption. In addition, it can be seen from the Pearson Correlation figure i.e. -0.298 that there is negative correlation between the two variables.

From the data, we can interpret that there is no difference in the score at a low educational level (10th Pass) but changes can see at the graduation level i.e. 42% on the moderate side and 39% on the negative side of Internet Banking Adoption.

**Relationship between Internet Banking adoption and attitude of Internet Banking Users**

**Table-14**

| Model | Regression Analysis | | | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | | |
| | B | Std. Error | Beta | | | Tolerance | VIF |
| (Constant) | 2.921 | .903 | | 3.237 | .002 | | |
| PEU | -.049 | .062 | -.101 | -.794 | .429 | .547 | 1.827 |
| PU | -.036 | .044 | -.104 | -.821 | .414 | .560 | 1.786 |
| RA | -.071 | .050 | -.150 | -1.421 | .159 | .800 | 1.251 |
| SE | .065 | .029 | .233 | 2.245 | .027 | .831 | 1.203 |
| TR | -.135 | .052 | -.264 | -2.568 | .012 | .846 | 1.182 |
| PC | -.002 | .035 | -.006 | -.046 | .964 | .576 | 1.735 |
| C | .047 | .032 | .153 | 1.483 | .142 | .839 | 1.191 |

**Sources:** Authors Compilation

Although the sum of the squares (49.02) is lesser than the residual sum of the squares (193.30), the value of the F was found significance at 0.01 levels. The result of linear regression analysis indicates that Perceived credibility has a maximum impact on internet banking adoption, followed by Perceived Ease of Use; Perceived Usefulness was found to be second most significantly related factor affecting the Internet Banking adoption. Complexity, Self-efficacy, & Trial ability found to be not much notable impact on the Internet Banking Adoption as figure shows in table i.e. .142, .027 & .012 respectively.

*CONCLUSION*

The analysis reveals that the most preferred use of internet banking found in area of Bill payment, Ticket booking and Account summary followed by the online shopping and fund transfer. The least use of internet banking in area of Insurance & Tax payment. Internet Banking found to be more beneficial in terms of Time saving and followed by the Easy accessibility of Internet Banking. There is no significance relation between the Age group and Place of using Internet banking as a younger group and the older age group access from the multiple places.

The result of Chi square is that, there is a no relationship between the Qualification and place of using Internet banking. There is change in place of using internet banking with the change in occupation i.e. salaried person preferred to access their accounts at home &multiple places. Whereas the businessmen preferred to use internet banking at the job place. There is change in place of using internet banking with the change in occupation i.e. salaried person preferred to access their accounts at home & multiple places. Whereas the businessmen preferred to use internet banking at the job place. Thus, bankers are advised to create awareness to customers for internet banking for further development.

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# DOES SWIMMING AGAINST TIDE REWARDS INVESTORS? EVIDENCE FROM SELECT CONTRA FUNDS IN INDIA

**Dr. Sachin Balbhimrao[14] Sheshrao Maruti[15]**

### ABSTRACT

Mutual funds have emerged as a strong financial intermediary and are the fastest growing segment of the financial services sector in India. To be specific Contra mutual funds play a very significant role in channelizing the savings of millions of individuals. In this context, an attempt has been made by the researcher to examine the growth, risk-return pattern of the contra mutual fund. To do so, researcher has examined five contra mutual funds over a period of 03 years from 2010 to 2012. Accordingly, funds have been ranked by taking into consideration their performance measures using Beta, Standard deviation, Sharpe and Treynor's ratio. Thus, a fund that scored the highest of the average of the said parameters has been ranked as the best and same method has been adopted in ranking the rest of the funds.

### KEYWORDS

**Mean Return, Beta, Standard Deviation, Sharpe, Treynor's etc.**

## INTRODUCTION

Household savings play an important role in domestic capital formation. Only a small part of the household savings in India is channelized to the capital market. Attracting more household savings to the capital market requires efficient intermediation. Mutual funds have emerged as one of the important class of financial intermediaries, which cater to the needs of retail investors. Mutual funds have become an important vehicle for mobilization of savings particularly from the household sector. Mutual funds are one of the most favored investment routes for the small and medium investors across the world. Ideally, Mutual funds provide opportunities for small investors to participate in the capital market without assuming a very high degree of risk. An important principle of investment in capital market is that do not put all the eggs in one basket i.e. diversification. A small investor is not able to have a diversified portfolio mainly due to paucity of resources. However, a mutual fund pools together the savings of such small investors, invests the same in the capital market, and passes the benefits to the investors. Thus, investors can indirectly participate in the capital market by subscribing to the units of mutual funds.

The mutual fund collects money directly or through brokers from investors. It serves as the connecting bridge or a financial intermediary that allows a group of investors to pool their money together with a predetermined investment objective. The income generated by selling securities or capital appreciation of these securities is passed on to the investors in proportion to their investment in the scheme. When you invest in a mutual fund, you are buying units or portions of the mutual fund and thus on investing, become unit holder of the fund.

## ABOUT CONTRA FUNDS

In Mutual fund, industry offers plenty of schemes to its investors in order to tailor their needs. Such as diversified equity, debt and liquid funds which are quite common, Contra fund is considered as one of the best Mutual fund avenue as it rewards handsomely even in hard times, fund like SBI Magnum Contra fund beats benchmark. Contra funds follow a different approach of investing where fund corpus is invested in stocks and sectors, which have underperformed and are available at attractive valuations. It expects those stocks to perform well in a long run as compared to the blue-chip stocks. Contra investing is a sub set of value investing. Value investing is an investment style where a fund manager picks the stocks, which are trading at a price, which is lower than its intrinsic value, but a contra fund manager select fundamentally sound and out of favour companies. Hence, the present paper attempts to give a panoramic view on, the best contra fund, which beats the benchmark index during the study period.

## REVIEW OF LITERATURE

Mutual Fund performance always created a huge amount of interest among investors, practitioners and academicians. At the same time, huge literature is available in the field of performance evaluation all over the world. A few of them, is reviewed in this section.

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[14] Faculty (Full Time), Department of Commerce, Central University of Karnataka, Karnataka, India, sachinbalbhimrao@gmail.com

[15]Research Scholar, Department of Commerce, Gulbarga University, Karnataka, India, shashi.galaxy@yahoo.com

**Ang and Chua (1979)[1]** examined the mean-variance measures and found them unsatisfactory in evaluating investment performance in view of the systematic bias. The study attributed it to the asymmetry of return distribution at small intervals and failure to appropriate holding period influencing systematic bias. It showed the superiority of performance measures that considered asymmetry of distributions along with mean and variance.

**Arditti (1971)[2]** found that Sharpe's conclusion got altered when annual rate of return was introduced as a third dimension. He found that, contrary to Sharpe's findings the average fund performance could no longer be judged inferior to the performance of Dow Jones Industrial Average (DJIA). Fund managers opted higher risk for better annual returns.

**Meyer's (1977)[3]** findings based on stochastic dominance model revalidated Sharpe's findings with the caution that these were relevant to the mutual fund performance in designated past period rather than implications for the future.

**Ankrim (1992)[4]** calculated beta values for 25 small cap funds with minimum of four years standing in order to demonstrate attribution of investment manager's excess performance among allocation, selection, and interaction effects. The study produced evidence to suggest that the risk of the portfolios of at least some managers differed from that the benchmark. For many managers, the proposed risk adjustments were found near to zero. These were the managers whose average portfolio beta was very close to the benchmark betas.

**Statman, Meir (2000)[5]** emphasizes that, socially responsible investing has to be taken as a tool by the corporations. He further identified that, socially responsible stocks out-performed while socially responsible mutual funds under-performed the S&P 500 Index during 1990-98.

**Gupta L.C. (1992)[6]** attempted a household survey of investors with the objective of identifying investors' preferences for mutual funds so as to help policy makers and mutual funds in designing mutual fund products and in shaping the mutual fund industry.

**Ansari (1993)[7]** stressed the need for mutual funds to bring in innovative schemes suitable to the varied needs of the small savers in order to become predominant financial service institution in the country.

**Shome (1994)[8]** based on growth schemes examined the performance of the mutual fund industry between April-1993 to March 1994 with BSE Sensex as market surrogate. The study revealed that, in the case of 10 schemes, the average rate of return on mutual funds were marginally lower than the market return while the standard deviation was higher than the market. The analysis also provided that performance of a fund was not closely associated with its size.

**Kale and Uma (1995)[9]** conducted a study on the performance of 77 sachems managed by 8 mutual funds. The study revealed that, growth schemes yielded 47 percent Compounded Annual Growth Rate (CAGR), tax-planning schemes 30 percent CAGR followed by balanced schemes with 28 percent CAGR and income schemes with 18 percent CAGR.

**Krishnamurthi S. (1997)[10]** identified mutual funds as an ideal investment vehicle for small and medium investors with limited resources, to reap the benefits of investing in bluechip shares through firm allotment in primary market, avoid dud shares, access to price sensitive information and spread risk along with the benefits of professional fund management.

**Kumar, V.K. (1999)[11]** analyzed the roles, products and the problems faced by the IMFI. He suggested the turnaround strategies of awareness programmes, transparency of information, district marketing and distribution systems to rebuild confidence.

**Mishra, et al., (2000)[12]** measured mutual fund performance using lower partial moment. In this paper, measures of evaluating portfolio performance based on lower partial moment are developed. Risk from the lower partial moment is measured by taking into account only those states in which return is below a pre-specified 'target rate' like risk-free rate.

**Debasish (2009)[13]** studied the performance of selected schemes of mutual funds based on risk and return models and measures. The study covered the period from April 1996 to March 2005 (nine years). The study revealed that Franklin Templeton and UTI were the best performers and Birla Sun Life, HDFC and LIC mutual funds showed poor performance.

**Sahit Chowdary G. (2012)[14]** had studied the objective in this exercise is to provide a benchmark or guide to investors to select the creamy layer of equity mutual funds. So, in this pursuit, he had categorized mutual funds into Large Cap, Mid Cap and Sectoral based on their AUM and sector specificity and ranked them based on their risk adjusted return values using a new index based approach.

From the above studies we can infer that, several studies have been undertaken on performance measure in India as well other parts of the world. However, no one considered contra funds in measuring the performance of mutual funds. Hence, this has prompted us to undertake the study on performance evaluation of selected equity mutual funds in India.

### OBJECTIVES OF STUDY

Following are the major objectives of the study:

- To analyze the performance of Contra mutual funds with that of Benchmark index.
- To measure the performance of Contra mutual funds, using risk adjusted measures suggested by Sharpe and Treynor's.
- To offer feasible suggestions in the light of findings.

### METHODOLOGY USED

In order to measure the performance of contra mutual funds, following methodology has been adopted. In the first instance, five contra funds (i.e., SBI Magnum Contra, UTI Contra, HDFC Top 200 Contra, ICICI Contra Growth and UTI Contra Fund) in existence for at least three years have been selected for the purpose of evaluation and then Net Asset Value of selected mutual funds from 2010 to 2012 have been extracted from different web sites of mutual fund Asset Management Companies (AMC's).

In order to benchmark the performance of mutual funds, selected mutual fund schemes are compared with BSE Sensex return, as it is a widely used measure in the area of research. Then, Mean return, Beta, $R^2$ and Standard deviation were calculated for each scheme to know their actual earnings, risk and extent of diversification. In the next step, funds have been ranked by taking into account their performance measures using Sharpe and Treynor's ratio. Thus, a fund that scored the highest of the average of the said parameters has been ranked as the best and same method has been adopted in ranking the rest of the funds. Based on the analysis, inferences have been drawn and suggestions have been made for the benefit of the investors.

#### Sources of Information

The present study is purely based on secondary data provided by magazines, journals, websites and AMC's fund factsheets of select contra funds.

### SIGNIFICANCE OF STUDY

Analyzing the performance of mutual funds is important for both investors as well as portfolio managers. It enables an investor to access as to how much return the portfolio manager has generated and what risk level has been assumed in generating such returns. Further, the evaluation also provides a mechanism for identifying strengths and weaknesses of fund managers in the investment process, which helps them to take corrective actions. Taking the cue from the above buzz, we have short listed following funds for the investors to invest for longer period.

### RESULTS AND ANALYSIS

**Table-1: Results of Selected Funds**

| Fund name | Fund Mean Return | β | $R^2$ | σ | Sharpe | Treynor's | Rank |
|---|---|---|---|---|---|---|---|
| SBI Magnum Sector Umbrella Contra | 1.19 | 0.93 | 91.30 | 22.48 | 0.47 | 11.27 | 2 |
| UTI Contra Growth Fund | 0.72 | 1.00 | 93.33 | 21.81 | -0.14 | 0.89 | 5 |
| HDFC Top 200 Growth Contra Fund | 1.29 | 0.98 | 96.15 | 22.77 | 0.38 | 9.81 | 3 |
| ICICI Pru Top 200 Contra Growth Fund | 1.36 | 0.97 | 95.67 | 21.29 | 0.50 | 1.86 | 1 |
| UTI Govt. Securities Contra Fund | 0.48 | -0.07 | 2.14 | 1.50 | -0.26 | 2.80 | 4 |
| **BSE Sensex** | **24.60** | | | | | | |

**Sources:** Computed and Tabulated from the fact sheets of respective AMCs (Annx-A).

SBI Magnum has yielded 1.19 percent **mean return** when compare to its peer ICICI growth which has yielded 1.36 percent mean returns. HDFC Top 200 has yielded 1.29 percent mean return to its investors. While UTI Contra offers, 0.72 percent while UTI Government Securities offers 0.48 percent mean returns respectively. Hence, we can say that, HDFC equity growth is top fund in respect of return when compare to its benchmark returns.

**Beta** is taken as a proxy for measuring the level of systematic risk of funds, a beta value less than one relatively measures lower amount of risk when compared to Beta value of more than one. It was observed from the above table that, out of five contra funds, UTI Govt. Securities is less volatile with a β-value of 0.07 followed by SBI Magnum with a β-value of 0.93, ICICI Prudential with a β-value of 0.97. On the contrary, HDFC TOP 200 is more volatile with β-value of 0.98 when compared to its counterpart UTI Contra Growth which has less volatile with β-value 1.00.

$R^2$ (Coefficient of determination) measures the extent of variation in the mutual fund scheme returns that can be explained with the benchmark index. Low $R^2$ indicates lesser proportion of variation in the scheme return being explained by the market and hence, indicates poor diversification of the scheme and vice-versa. Looking at the R²-value from the table, we can infer that, HDFC Top 200 Contra has high R²-value of 96.15 when compared to SBI Magnum Contra, which has low R²-value of 91.30.

**Standard deviation (σ)** is used to measure the variation in the selected mutual funds from the benchmark return. Simply put, the standard deviation is a measure of how much the return of a scheme deviates from its average return. From the above table it reveals that, ICICI Prudential Top 200 fund has less volatile with a σ-21.29 with that of SBI Magnum Contra, which has more volatile with a σ 22.48.

The **Sharpe ratio** basically examines whether the returns generated from an investment are due to excessive risk taken by fund manager or due to the right choice of funds. Higher the ratio, better would the fund performance and vice versa. The above table depicts that, out of five contra funds HDFC, ICICI and UTI Contra funds have better performance when compared to other schemes.

**Treynor's ratio** measures excess return over risk free return per unit of systematic risk. Out of the above funds, SBI Magnum and HDFC TOP 200 have performed well when compared to rest of the schemes.

Finally, we can observe from the above table that, ICICI Prudential fund ranked number one position considering weighted average of said parameters. While UTI Contra Growth is ranked fifth position, but another way of interpretation is that every investor should look certain other parameters, such as; total expense ratio, exit load and fund size before selecting any funds for investment.

### FINDINGS OF STUDY

- Out of the five contra funds, ICICI Prudential is top fund, which has yielded 1.36 returns when compared to its peers.

- In terms of risk measurement, SBI Magnum is less volatile (0.93) with that of HDFC TOP 200 (0.98).

- In terms of variations in the mutual funds schemes, HDFC TOP 200 Contra has high R²-value of 96.15 when compared to SBI Magnum, which has value of 91.30.

- In terms of low Standard deviation, UTI Govt. Contra fund has less volatile with a σ-1.50 with that of HDFC Top 200 Contra fund, which has more volatile with a σ-22.77.

### LIMITATIONS

- For the purpose of performance evaluation, the schemes, which are in existence during the study period (2010 to 2012), have been selected to undertake the study.

- The present study consist of only five contra mutual funds, hence the results are subjective in nature.

### SUGGESTIONS

- Appropriate measures should be taken for fund houses to make fair and truthful disclosures of information to the investors, so that investors must know what amount of risk they are taking by investing in contra funds.

- Indian mutual fund industry needs to widen its range of products with affordable and competitive contra schemes to tap the semi-urban and rural markets in order to attract more investors.

- The investor should carefully decide on which contra mutual fund to opt for and to ascertain whether the fund house has a process-driven approach to identify the right investment opportunity.

- The fund manager, also known, as the "Portfolio Manager" decides where, and in what allocation, money is to be invested. The investors should remember not to trust anyone - fund manager. Therefore, it is pertinent for the investor to evaluate the fund manager carefully before taking any investment decisions in Contra funds.

- While investing in such fund, kindly pay heed to the fund that suits to your objectives.

## CONCLUSION

It is evident from the study that with the growing risk appetite, rising income, and increasing awareness, mutual funds in India are becoming a preferred investment option compared to other investment vehicles. It can also be said that contra mutual funds have opened up a different dimension of investment opportunities that lead to wealth creation for investors. A major challenge posed before the mutual fund industry would be that of dealing with the diminishing talent pool of the fund managers, innovation and product differentiation and meeting the issues of governance as an increasing responsibility is being placed on the trustees to ensure that the operations of the funds are managed to the full benefit of the unit holders. From above discussion, we can say that, contra investor should give due consideration for standard deviation as a measure to evaluate the risk, however they also use Sharpe and Treynor's as the first line to measure overall risk adjusted return.

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*APPENDIX*

**Table-2**

| Parameters | Particulars | Fund Name | | | | |
|---|---|---|---|---|---|---|
| | | SBI Magnum Sector Umbrella Contra | UTI Contra Growth Fund | HDFC Top 200 Growth Contra Fund | ICICI Pru Top 200 Contra Growth Fund | UTI Government Securities Contra Fund |
| Fund mean return | 2010 | 0.21 | 0.02 | 0.39 | 0.62 | 0.58 |
| | 2011 | 1.34 | 1.08 | 1.78 | 1.72 | 0.41 |
| | 2012 | 2.01 | 1.06 | 1.70 | 1.75 | 0.44 |
| | Total | 3.56 | 2.16 | 3.87 | 4.09 | 1.43 |
| | **Average** | **1.19** | **0.72** | **1.29** | **1.36** | **0.48** |
| Beta value | 2010 | 0.89 | 1.11 | 1.07 | 1.04 | -0.38 |
| | 2011 | 0.95 | 0.91 | 0.96 | 0.90 | -0.04 |
| | 2012 | 0.96 | 0.98 | 0.92 | 0.96 | 0.22 |
| | Total | 2.80 | 3.00 | 2.95 | 2.90 | -0.20 |
| | **Average** | **0.93** | **1.00** | **0.98** | **0.97** | **-0.07** |
| R2 | 2010 | 91.60 | 92.30 | 95.92 | 97.79 | 3.16 |
| | 2011 | 95.80 | 91.36 | 96.19 | 96.37 | 0.08 |
| | 2012 | 86.50 | 96.32 | 96.35 | 92.85 | 3.18 |
| | Total | 273.90 | 279.98 | 288.46 | 287.01 | 6.42 |
| | **Average** | **91.30** | **93.33** | **96.15** | **95.67** | **2.14** |
| Standard deviation | 2010 | 16.89 | 20.90 | 19.89 | 18.97 | 1.34 |
| | 2011 | 23.21 | 22.75 | 23.50 | 21.96 | 1.47 |
| | 2012 | 27.34 | 21.77 | 24.92 | 22.95 | 1.68 |
| | Total | 67.44 | 65.42 | 68.31 | 63.88 | 4.49 |
| | **Average** | **22.48** | **21.81** | **22.77** | **21.29** | **1.50** |
| Sharpe ratio | 2010 | 0.28 | -0.33 | -0.12 | 0.02 | -0.10 |
| | 2011 | 0.46 | -0.33 | 0.67 | 0.69 | -0.45 |
| | 2012 | 0.68 | 0.25 | 0.60 | 0.78 | -0.23 |
| | Total | 1.42 | -0.41 | 1.15 | 1.49 | -0.78 |
| | **Average** | **0.47** | **-0.14** | **0.38** | **0.50** | **-0.26** |
| Treynor's ratio | 2010 | 7.03 | -8.28 | -0.12 | -1.46 | 0.53 |
| | 2011 | 9.27 | 5.84 | 15.33 | 5.80 | 9.52 |
| | 2012 | 17.50 | 5.11 | 14.23 | 1.23 | -1.65 |
| | Total | 33.80 | 2.67 | 29.44 | 5.57 | 8.40 |
| | **Average** | **11.27** | **0.89** | **9.81** | **1.86** | **2.80** |

**Sources:** Authors Compilation

**Table-3: Calculation of BSE Sensex as Benchmark**

| Year | Open | High | Low | Close | Total | Avg. |
|---|---|---|---|---|---|---|
| 2009 | 9,720.55 | 17,530.94 | 8,047.17 | 17,464.81 | | |
| 2010 | 17,473.45 | 21,108.64 | 15,651.99 | 20,509.09 | 3,044.28 | |
| 2011 | 20,621.61 | 20,664.80 | 15,135.86 | 15,454.92 | -5,054.17 | |
| 2012 | 15,534.67 | 19,612.18 | 15,358.02 | 19,426.71 | 3,971.79 | 24.607 |

**Sources:** Authors Compilation

**\*\*\*\*\***

## ANALYSIS OF INVESTORS BEHAVIOUR REGARDING UNIVERSAL BANKING IN INDIA

**Lalita Dhingra[16]**

### ABSTRACT

Universal banks are institutions that provide a large range of financial services as well as services of commercial banking like: Mutual Funds, Banking and Insurance etc. The objective of our study is to analysis the influence of universal banking on customer's product, to understand the advantages of universal banking. Universal banking help to increase efficiency by reducing cost, providing better quality product, by reducing marketing cost and by reducing transaction cost. In this paper, an attempt has been made to explore potential of multipurpose financial institutions / universal banking in respect to Indian market and their future in long run in deregulated an intensified competition among banks and form of non-banking financial intermediaries. India should examine how these institutions might affect financial stability, economic development, economic power and other financial institutions. The concept of all products under one roof can enhance the awareness of customer regarding product its attributes and various other product offered by the service providers. In addition, we have analyzed the strength, weakness, opportunity and threat of Universal Banking (UB) in Indian context.

### KEYWORDS

**Universal Banks, Conflict of Interest, Banking Regulation, Financial Institutions etc.**

### INTRODUCTION OF UNIVERSAL BANKING

Universal Banking is a multi-purpose and multi-functional financial supermarket (a bank providing a large range of financial services e.g. stock, insurance and real estate brokerage through a single window).

As per the World Bank, *"In Universal Banking, large banks operate extensive network of branches, provide many different services, hold several claims on firms(including equity and debt) and participate directly in the Corporate Governance of firms that rely on the banks for funding or as insurance underwriters".*

Briefly, *a Universal Banking is a shop for financial products under one roof*. Business can get advance and avail of other services, while can deposit and borrow. It includes not only services related to savings and advances but also investments.

However in practice the term 'universal banking' refers to those banks that provide a large range of financial services, beyond the commercial banking functions like Mutual Funds, Merchant Banking, Factoring, Credit Cards, Retail loans, Housing Finance, Investment banking, Insurance etc. This is most common in European countries. For example, in Germany commercial banks accept time deposits, lend money, underwrite corporate stocks, and act as investment advisors to large corporations. In Germany, there has never been any separation between commercial banks and investment banks, as there is in the United States.

### OVERVIEW OF UNIVERSAL BANKING

Universal banking is the opposite of narrow banking. Narrow banking legislation would require banks to back their liabilities with safe assets, such as government securities. All other bank lending functions would be transferred to mutual-fund-like institutions that were not insured by the government. This arrangement would allow the government to base its costly deposit insurance programs without jeopardizing the safety of the banks. Narrow banking is the modern and more elaborated version of the "100 percent reserve banking" principle, invoked by early economists to correct the inadequacy of money reserve against the stock of banknotes in circulation.

*The benefits of narrow banking are:*

First, by narrow banking regulation would minimize bank liquidity and credit risk.

Second, since narrow banks would be prohibited from supplying risky loans and would collateralize deposits with high-quality assets, confidence in the value of their liabilities is tend to be increased.

Third, with payment system contact controlled narrow banks, payment would be fully secure, because payment-system participants would be protected against liquidity, credit, and settlement risks, and because any shock to non-banks would be isolated, with no systemic fallout.

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[16]Assistant Professor, DAV Centenary College, Haryana, India, lalitadhingra16@gmail.com

In the early nineties, the forces of globalization were unleashed on the hitherto protected Indian environment. The public sector banks, which had monopoly earlier, then started facing problems with deteriorating performance. Therefore, the sector was opened up for the private sector in line with Narsimham Committee's recommendations. The protected environment has given rise to several lacunae in the banking system. Most of the public sector banks were inefficient in areas of liquidity management. In an administered interest regime, discretion of management was limited. Staff orientation especially at the branch level is a key ingredient for success and neither the older private banks nor the nationalized banks were successful in that respect. It would be pertinent to recapitulate that the nationalized sector had outlived its utility; in fact, they became burdened with unwelcome legacies; customer service had become a casualty. Private banking in this context was viewed as an approach to overcome the structural and operational shortcomings of the public sector.

The ICICI's decision to turn itself into a universal bank ushered a new era in the banking scenario. The second Narasimham Committee noted that the global trends in banking industry towards consolidation and convergence led to the dismantling of boundaries among suppliers of various financial products. The Khan Working Group also recommended a progressive move towards universal banking and development of enabling regulatory framework. It is contended that universal banking will result in greater economic efficiency in the form of lower cost, higher output, and better products and therefore is believed to be the panacea for beleaguered development financial institutions.

In line with the growing popularity in merging investment banking, insurance and commercial banking operations, the number of universal banks have gradually increased. Universal banks can be broadly categorized in forms of full universal banks, universal-subsidiary, and holding company.



**Chart 1: Universal Banks in Different Forms**
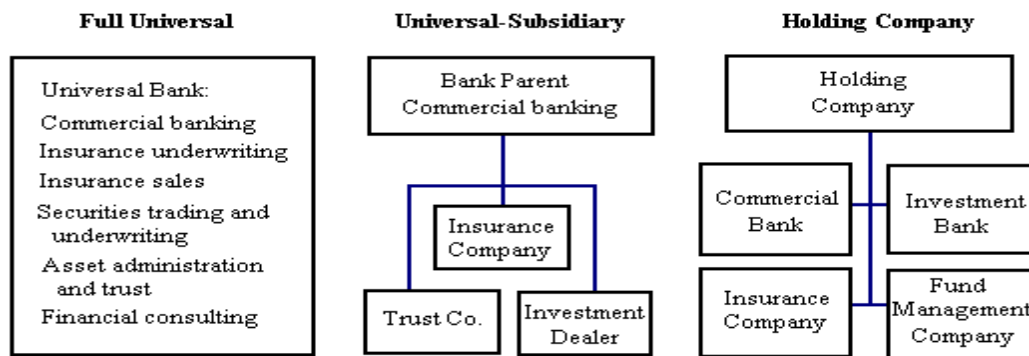
**Sources:** Authors Compilation

### OBJECTIVES OF STUDY

- To study influence of universal banking on customer's product.
- To study the advantages of universal banking.

### METHODOLOGYOF RESEARCH

*Sampling*

Cluster sampling was done. The respondents were selected from NCR region, No. of respondents are hundred.

*Data Collection Methods*

Database for the purpose of research work is prepared from both primary and secondary data. Secondary data has collected from Magazine, Newspapers, Company Literature and Websites.

*Research Instruments*

Research instruments for the purpose of Primary data collection were questionnaire. These questionnaire were meant for the customers who have invested in banks.

## DATA ANALYSIS AND INTERPRETATION

Data were collected using questionnaires through personal interviews. Indian citizens constituted the population. Convenience sampling method was used to select the respondents. 100 respondents from various regions in Delhi, Faridabad & Noida having sound banking knowledge were interviewed. The questionnaire includes various dimensions related to attractiveness of universal banking, its influence on customer's product choice behaviour, advantages of universal banking.

*Does universal banking have influence on consumer's product choice behavior?*

**Table-1**

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **20** | **50** | **15** | **15** | **0** |

**Sources**: Authors Compilation

Thus, the above table shows majority of respondents agree to the point that they are attracted towards the concept of Universal Banking. In addition, none of the respondents disagree with the point that universal banking tends to be an attractive concept for them

*Does universal banking help to remember the product with their details?*

**Table-2**

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **20** | **46** | **26** | **6** | **2** |

**Sources**: Authors Compilation

Majority of the respondents feel that availability of all products under one roof can help them remember much about the product and its details and thus can prove to be beneficial in planning their financing activities. Very few are uncertain about the benefits they can avail through the above concept.

*Does universal banking increase acceptance of endorsed product?*

**Table-3**

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **22** | **47** | **23** | **8** | **0** |

**Sources**: Authors Compilation

Thus, the above result shows that the large number of respondents believe that the availability of greater degree of information with much ease can increase their acceptance of products being endorsed.

*Does universal banking enhances awareness of available products.*

**Table-4**

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **29** | **46** | **23** | **2** | **0** |

**Sources**: Authors Compilation

*Does universal banking economies of scale to bank?*

**Table-5**

|  | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **26** | **58** | **16** | **0** | **0** |

**Sources**: Authors Compilation

Majority of respondents agree that Universal Banking results in greater economic efficiency in the form of lower cost, higher output and better products.

*Does universal banking profitable diversions?*

**Table-6**

| | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **20** | **54** | **24** | **2** | **0** |

**Sources**: Authors Compilation

The above result shows that respondents agree or strongly agree to the point that by diversifying its activities bank can utilise its existing expertise in one type of financial products for providing financial services in other type.

*Does universal banking help bank in effective utilization of resources?*

**Table-7**

| | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **40** | **42** | **18** | **0** | **0** |

**Sources**: Authors Compilation

Approximately, all of the respondents being approached agree that Universal Banking can help the bank in effective utilisation of their resource. A bank, possessing the information on the risk characteristics of the clients, can utilize it to pursue other activities with the same clients.

*Does universal banking help bank in easy marketing?*

**Table-8**

| | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **33** | **52** | **15** | **0** | **0** |

**Sources**: Authors Compilation

A large number of respondents agree or strongly agree that Universal Banking concept can help bank in easy marketing of their products as bank's existing branch can act as a shop for selling financial products, acting as a parent company or source, without requiring spending much effort on marketing. None of the respondents being approached disagree with the above mentioned advantage.

*Does universal banking act as one stop shopping?*

**Table-9**

| | Strongly Agree | Agree | Uncertain | Disagree | Strongly Disagree |
|---|---|---|---|---|---|
| **Number of Respondents** | **51** | **33** | **16** | **0** | **0** |

**Sources**: Authors Compilation

Respondents agree to the point that the concept of 'one-stop shopping' can act as an advantage both to the banks as well as customers as it can save lot of transaction cost and speed up the economic activities.

*RESULTS AND DISCUSSION*

As the countries of Western Europe and other areas of the world move increasingly toward universal banking, it is a useful time for India to examine how these institutions might affect financial stability, economic development, and other financial institutions, concentration of political and economic power, consumer choice, and conflicts of interest. Thus, through the following research, I try to examine some of these parameters.

*ADVANTAGES OF UNIVERSAL BANKING*

- **Increase in economic efficiency:** Universal banking help to increase in efficiency by reducing cost and provide better quality product
- **Optimum utilization of resources:** Universal bank can use their fixed asset for providing other financial Services.
- **Reduce transaction cost:** By universal banking, all financial services provide at one stop so that it reduce transaction cost.

- **Reduce marketing cost:** No more efforts have done on marketing because one stops shopping automatically done marketing of one product with other.
- **Benefits to different stakeholders:** Universal banking useful for private household clients, business client, government and taxpayers. The benefits of universal banking system offers to all its stakeholders:

  - Private household clients,
  - Business and institutional clients,
  - The banks' owners,
  - The financial system as a whole,
  - Governments and taxpayer.

### *LIMITATIONS OF UNIVERSAL BANKING*

It has found out that, 'Though having a large number of branch network in rural areas and urban areas, the lowest groups of the society is still out of the purview of banking services. Because the small businesses in the city, 34% of that goes to moneylenders for funds. Another 6.5% goes to pawnbrokers, etc.

The respondents were businesses engaged in activities such as fruits and vegetables vendors, laundry services, provision stores, petty shops and tea stalls. 97% of them do not depend the banking system for funds.

Thus the above stats shows, that the concept of all products under one roof can enhance the awareness of the customers regarding products, its attributes and various other products being offered by the service product.

### *CONCLUSION*

Finance and society are two side of a survival coin. Under the growing commercialization, universalization and globalization numerous financial products and services have emerged and developed perpetual relation in all sphere of life. With fast moving economies and growing economic appetite, it became paramount for banks to adopt matching pace in order to fulfill the global social and economical needs. It has been found that in many developed economies universal banking have proved their importance and responded efficiently to the customer demand and played vital role in economic development and served as an importance source of external fiancé for enterprises.

Indian financial sector is orthodox and very much influenced by the British rules and is relatively banking oriented and are been the primary supplier of financial services. Now banking scenario in India has changed due to globalization and strategy of universal banking became dominant practice. To meet the economical obligation in changing and diversifying universal financial galaxy, the Indian banking industry adopted the philosophy of 'big size fits well' and thus financial conglomerates through mergers and strategic acquisitions among bank and non-banks have emerged and implicitly conveys the futuristic fact.

In this paper, an attempt has been made to explore potential of multipurpose financial institutions / universal banking in respect to Indian market and their future in long run in deregulated an intensified competition among banks and form of non-banking financial intermediaries and in addition, have analyzed the strength, weakness, opportunity and threat of Universal Banking (UB) in Indian context.

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64/2, Trikuta Nagar, K. K. Gupta Lane, Jammu Tawi, Jammu & Kashmir - 180012, India.
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editorinchief@pezzottaitejournals.net,contactus@pezzottaitejournals.net

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# BUSTING THE BANKING SYSTEM

**Rajiv Ghai[17] Vikram Jeet Singh Parmar[18]**

## ABSTRACT

A new financial model based on peer-to-peer networking is replacing the disgraced traditional banking system. Let us follow the money.

The banking system is snapped - and a few of banks are even broke. Some of the biggest names in banking are supported up by nothing more considerable than the patience and the goodwill of the tax-paying citizens. Are they thankful? No.

Banks periodically offer meager rewards of less than 1% in exchange for the right to bare your savings to risk. They lend it out to mortgagees who might default on their loans, or invest it in shady deals that might never pay off. Research says that seven in ten new businesses fail in the early years, which in turn exposes the banks - and your savings- to risk.

You might think you will be safer keeping your money under your bed. However, that is a catch 22 situation, you have your money but it will not grow and any resource that does not grow would eventually dry up.

Aside from a bank or a post office account, there is a whole host of alternative investment options into which you can deposit anything from a few spare rupees to lakhs and in doing so you can earn a far larger return. It is called peer-to-peer lending.

## KEYWORDS

**Banking System, Businesses**, **Peer-To-Peer Lending, Investments, Money Advice Service etc.**

## INTRODUCTION

The term peer-to-peer often refers to software and services, for example, SKYPE is (largely) a peer-to-peer telephony service, which does not connect you directly to the person with whom you are speaking, but instead splits the stream of your call into countless tiny fragments. It routes them through a network of other user's computers (your peers) to find the most efficient path to the opposite end of the line. Once they arrive, they are sorted into the correct order to rebuild the original sound wave. UTorrent works in a widely similar fashion, and accounts for up to 70% of internet's traffic in various parts of the world.

However, you will rarely download a whole file through a uTorrent client from any one single server. Instead, it grabs small portions from other uTorrent user's computers all around the world until it has the full set of bits and bytes, and can stitch them back together. At the same time, other uTorrent users will be grabbing their own copies of the file - or at least the parts you have acquired so far - from a folder on your own machine.

So Peer-to-Peer computing is best thought of as a system of breaking down something large - a sound wave or a file, which can be a video file or an executable - into smaller parts and scattering them over a broad area before they are rebuilt. Peer-to-Peer lending works in much the same way.

Websites such as Assetz Capital , Zopa, RateSetter and Funding Circle let regular users apply for a loan, just like a bank, and then advertise the loans through the same site, inviting investors to stump up the cash to meet them. It is fast, easy and a much safer bet than you think it is, as we'll explain over the next paragraphs.

## A PEER-TO-PEER INVESTOR

Let us take the example of an investor in UK. Investor Bruce Wayne turned his back on the banks when he saw how much more he could earn through peer-to-peer investing. He was building a fund for his niece, currently aged 3, which the youngster can dip into when she turns 18. Wayne could have deposited money in a bank, as most savers do, but he knew that his funds would grow too slowly that way. Therefore, after researching his various options he turned to Zopa. It slices each investor's loan into chunks of 10 pounds in the same way that uTorrent slices and dices a file and SKYPE does a call. It cuts up its borrower's loan requests in the same way, and then pairs up the loaded tenner with the borrower's requirements. The piece-by-piece method by which each loan is satisfied - and repaid - means that no lender will ever find themselves more than 10 pounds in any one borrower, however much they pour into the service.

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[17]Assistant Professor, Surajmal Agrawal Private Kanya Mahavidyalaya Kichha, Uttarakhand, India, rajivghai7@gmail.com

[18]CEO, Company name-Recreating Reality (Candid Photography), India, recreating.reality.vp@gmail.com

That way, if the borrower defaults, the rest of the investment carries on regardless. Investors such as Bruce come from all walks of life, and can decide for themselves how much they want to invest, as well as how much of a risk they're willing to take, with crowd-funding sites offering investors a range of potential borrowers on a sliding scale. The braver the investor is, and the more risk they are happy to bear, the greater the potential return, with 6% far from unusual. If you're happy for your money to go to borrowers with a slightly poorer credit rating, even rates as high as 12 per cent aren't beyond the realms of possibility. That is more than 10 times many current accounts.

Its little wonder that what started out as a small revolution in crowd funding is growing at an exponential rate, with think tank Nesta projecting the market to be worth around £1bn two years from now.

### DON'T BANK ON IT

Most people think, the banks have comprehensively tarred each other through their mutual misdeeds, and many investors see loans of this kind as a more ethical means of turning a profit.

Re-investment is key to successful crowd lending, with companies such as Bruce choice - Zopa, giving you the option of banking the repayments and interest as they come in, or automatically putting them up for relending, allowing you to earn interest on your interest without any manual input. Opt to manage your pot this way and you could invest a few thousand pounds this year and forget all about it for the next 20 years. All the while, it will be reinvested repeatedly, accelerating the rate at which it grows.

Bruce currently earns a rate of 6 %. Such figures are a little abstract, but projecting this into the future is highly enlightening. Zopa currently advertises modest rates of 5.1 per cent.

### METHODOLOGY

#### How It Works

As we defined at the start, all peer-to-peer activities – from phone calls and download to financial services -Centre themselves on breaking down a large asset into multiple smaller pans. In this case. That asset is your original investment through the peer-to-peer lender.

The lender will already have a list of prospective borrowers lined up, each of which it will have vetted and credit-checked in exactly the same way that a bank would vet anyone who wanted a mortgage, loan or overdraft. To qualify for a Zopa loan, for example, potential borrowers must be aged over 20, have been UK residents for at least the last three years, and be earning a minimum of £12,000' The typical borrower actually has an income far higher than this, usually in the range of £30,000 to £40,000 a year. It is understood that they should have a rock-solid credit rating, too.

No lender would hand out your money to anyone they believe would be likely to default on their payments, but at the same time they will classify every applicant according to risk. Those who are a lower risk enjoy the lowest interest rates; those for whom the chance of non-payment is slightly higher will pay a little more. Its then up to you, as the lender, to decide which groups you are happy to lend your money to. You can't do that with a bank, where you trust its own managers to make that decision on your behalf.

Of course, you will not have time to vet every applicant individually so in reality most crowd-funding services ask you to choose instead what you want to earn.

If you want to earn 12 % or more, you can, but your money will be loaned out to slightly riskier borrowers. If you are happy to settle for three per cent, it will go only to the safest bets. The rate, and the risk, is entirely up to you, although the fragmented nature of each loan incorporates an inherent safety valve, and you would only start to see significant losses if the borrowers defaulted in high numbers. That is because a borrower who needs a loan of £1,000 will receive only £10 from you - at the most - with 99 other micro loans of the same amount making up the balance. So far this year, none of Zopa's borrowers has defaulted, and at the time of writing, none of them is in arrears (which in Zopa terminology means being 45 days behind on their latest installment). Last year, total arrears amounted to just 001 per cent of all loans, and defaults to 0.19 %. Not bad for a company that to date has loaned over half a billion pounds.

### FUNDING SAFEGUARDS

Lenders are getting perceptive to their investors' concerns, and employ dedicated collection teams to chase late payers, just as the banks do. Furthermore, although you will loan your money through a specific P2P site, its Claim on your cash is tenuous. Each site is in effect, a marketplace; your contract is usually with the borrowers themselves, so even if the loan site goes bankrupt, an administrator will not be able to seize your money. In addition, by law, the loans companies maintain dedicated investment funds that will step in and cover investors' potential losses, including lost interest.

New regulation means that lending platforms must make sure they have a third party in place that is ready to take over the administration of the loans should the worst happen and the platform goes bust. This should not affect the borrower or lender in anyway, and the loans will continue until the end of the term originally agreed. Where any money is held in the crowd-funding company's own bank account, either because you've not yet withdrawn your repayments or because it's waiting to be recycled back into the system.

Such safeguards, which amount to multiple layers of protection, along with the early redemption options offered by some providers, allowing you to reclaim your investment quickly in the event of an emergency, make the prospect of tying up a considerable sum far less daunting. This last point can actually make peer-to-peer investments, which usually run for two, three or five years, more flexible than fixed term loans. Withdrawing before the end of the term means that you will be tasking the lender with selling on your loan book to other investors. They will charge a small fee for doing so, but it does mean that should you need to put down a deposit on a new flat, or buy a new car.

### LENDING TO BUSINESS

The team behind Assetz Capital, which specializes in peer-to-peer lending to developers and small businesses, has over 20 years of experience in dealing with what it terms 'distressed loans and businesses; its operations manager is an insolvency practitioner, licensed to deal with insolvencies of both companies and individuals. Every loan it makes has built-in checkpoints that would flag up problems a long time before borrowers start to default on their payments, allowing the company to step in and take action to protect your investment. Assetz require some tangible security to back up the loan. Perhaps that is why it is attracting online investment even from those who consider themselves less adventurous when it comes to locking away their cash. Assetz capital finances third-party businesses such as Cheshire—based Creative Capital.

### PEER-TO-PEER BORROWING

Creative Capital turned to Assetz Capital after coming away from traditional lenders empty handed. Its business model sees it buying unpaid invoices from various businesses at 80 per cent of their face value, allowing those businesses to immediately free some of the unpaid cash tied up in each one. The businesses' original customers then settle the bills directly - at face value - with Creative Capital, rather than the company that issued the invoice. This allows Creative to reap a 25% return (the 20% premium to bring the invoice up to face value is a quarter of the 80% value Creative paid for each invoice). The banks did not like the business model, but Assetz Capital has so far loaned Creative Capital £300,000 over the past five years.

To date. Assetz Capital has funded just over £30m in loans to businesses and developers like Creative Capital, but from an investors' point of view it works in a broadly similar fashion to more familiar names like Zopa. Before you invest, you can see who wants to borrow, what they'll use the money for and how close they are to achieving their funding goal, without even having to sign up for an account. Its biggest single loan to date runs to £15m.

Assetz Capital's outlook is rather more flexible than many banks.

Assetz Capital provides 25 per cent of Creative capital's needs, in effect putting up a quarter of the purchase price of each unpaid invoice, in the process earning interest for its own investors - investors who would never have had the time, expertise or financial resources to buy those invoices in the first place, or to invest in Creative capital directly. Nobody funds 100 per cent of any single loan so investors' money enjoys a degree of protection. Furthermore, Assetz Capital holds a debenture on the invoices themselves, so if Creative Capital were to run into problems, Assetz could call them in and, subject to an administrator signing it off, refund the investors by chasing up the outstanding debts in the loan book.

It is a complex relationship, but not one of which the banks entirely disapprove. Although the actual banking institutions have proved unwilling to invest in Creative Capital's business model, the bankers who work for them are not averse to sending their customers in Creative's direction when they cannot help them through the regular channels. A high number of referrals come from banks, well, not really coming from the banks but individual bank managers and people within the bank their customer goes to them - they realize that the bank can't help them and they forward the customers.

The Money Advice Service sees a distinction between investing in companies through a crowd-funding platform and lending to individuals. In the past, you had to have a large sum of money in order to invest in start-up companies and lending was traditionally carried out by banks and building societies. Crowd-funding platforms have changed this and allow smaller sums to be invested, often from as little as £10, meaning more people can get involved and safely lend money to one another... [which] presents a new opportunity for investors seeking potentially better returns than they would get from traditional savings rates, but at a much higher risk.

As financial authorities take greater interest in the industry, the risks should continue to decline, and online resources let you research a scheme before you sink your money into it.

*CONCLUSION*

*A crowded Market*

We can see crowd funding activities as competition to the banks. Although there will always be a place for traditional banks at the top end of the lending market, which one can think as servicing borrowing of hundreds of thousands of dollars / rupees / pounds, the lower end is undergoing a rapid change. There might be  a scenario soon where they are able to replace the bank as far as lending into businesses is concerned. We think the role of the peer-to-peer lender will just get bigger and bigger... the evidence from America/UK is that it is growing at a phenomenal rate.

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# PREDICTING BANKRUPTCY: AN EMPIRICAL STUDY
# USING MULTIPLE DISCRIMINANT ANALYSIS MODELS

**Chette Srinivas Yadav[19] Pallapothu Vijay[20]**

**ABSTRACT**

Predicting bankruptcy is done through MDA models using financial data for listed Indian manufacturing companies. The two MDA models are Altman Z score and Springate models. Both the models are known for their high levels of accuracy (above ninety percent) in predicting bankruptcy. The study is undertaken for the period 2009 to 2013. The sample for the study included forty-four companies, which also includes healthy companies. The financial position of the healthy and non-healthy companies is verified using t-test.

**KEYWORDS**

**Altman Z Score, Springate Models, Bankruptcy etc.**

*INTRODUCTION*

Bankruptcy is a position where a company is not capable of repaying its liabilities. This may happen due to various reasons like liabilities exceeding assets, insufficient cash, and inefficient management or declining sales. Predicting bankruptcy turns out to be very crucial in taking preventive measures regarding liquidity, solvency and profitability position of the company. bankruptcy will be to collect relevant financial information of the firm, place it in a sound model to verify and predict the future bankruptcy to take required precautions well in advance.

*STATEMENT OF PROBLEM*

A number of bankruptcy prediction models have come up after Edward I. Altman's Z score in the year 1968.A researcher strives to build a better model than the previous. They were trying to modify the existing models to make a model that best suits based on the conditions in which the model is being used. The question that may arise now is which of the existing models can be applied in most of the given circumstances. This study tries to identify the best among MDA models that can accurately predict the bankruptcy.

*NEED AND SIGNIFICANCE OF STUDY*

Predicting bankruptcy is helpful to various parties. The results of this study may help the company, management, banks that lend to the companies and suppliers. With expanding research in bankruptcy prediction, the researchers are coming up with many new models, which may confuse the users to select the best model that is suitable for their need. A need was felt to identify the best model that can accurately predict bankruptcy well in advance. Therefore, this study attempts to compare the predictive abilities two existing MDA models and help the users to make right choice from the available models. The models used in this study are Altman Z score and Springate models.

*SCOPE OF STUDY*

The study is restricted to listed, Indian manufacturing companies. The current study uses secondary data, which is publicly available in the financial statements of the companies. The data was obtained from Capitaline Databases. Only multiple discriminant analysis models are employed to study the financial health of the companies. The study is over a period of five financial years - March 2009 and March 2013.

*REVIEW OF LITERATURE*

Vasantha, Dhanraj & Thiayalnayaki (2013) studied selected Indian airline companies. The sample consisted of king fisher airlines, jet airways and spice jet airways. Authors also studied financial and operational performance of these companies. The financial soundness of these airline companies was evaluated using Altman's original Z score, Revised Z score model and revised four models. The study was also aimed at comparing the above-mentioned models of bankruptcy to suggest strategies for making the right moves. The data for the study was collected from secondary sources such as company websites, moneycontrol.com and research papers. The study was undertaken for five-year period between 2008 and 2012. The study was concluded advising the

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[19] Assistant Professor, Department of Commerce, Sri Sathya Sai Institute of Higher Learning, Karnataka, India, chettesrinivas@gmail.com

[20]Student, Department of Commerce, Sri Sathya Sai Institute of Higher Learning, Karnataka, India, cvijaywinning@gmail.com

companies to be efficient in management of funds and employ good business strategies to be in the safer zone of Altman's classification of financial health.

Kannadashan (2007) evaluated the financial health of Wendt (India) Limited for the time between the financial years 2001-02 and 2004-05. The operational efficiency was also analyzed to understand the financial standing of the company. The data for the study was acquired from the annual reports of the company. In addition to the Z-score other statistical tools like mean, standard deviation, correlation and t-test were used.. The correlation coefficient of the financial ratios was positive.

Muthukumar & Sekar (2014) used Altman Z score and Springate models to study the financial health of automobile sector in India. The study was conducted for the period between 2003 and 2012, to check how the global financial crisis affected the automobile sector, which indicates the economic growth of the country. The authors took scores of all companies to calculate an average to create a benchmark for comparison. It has been concluded that none of the companies are in a distressed state.

Rao, Atmanathan, & et. al (2013) took up a different and beautiful way to analyze the bankruptcy models. The authors used Altman Z score and KMV Merton Distance to Default methods. A sample consisted of nine Indian companies. Then Z scores for these companies were calculated using Altman Z score model. This is done to find whether the model can really predict bankruptcy two years in advance. In fact, most of the companies had obtained a score less than 1.8. The study period was based on company to company based on the year of application for bankruptcy. The authors were not happy with applying the KMV Merton Distance to Default model to Indian manufacturing companies.

Chandra and Selvaraj (2013) evaluated the financial health of steel industry and proved that there is no significant difference between the size of the companies and their financial health. 38 out of 118 steel companies listed on BSE were chosen as sample. Period of the study was between 2000-01 and 2009-10. Data is completely second hand in nature. These companies have been divided into groups of small, medium, large and pooled companies. The statistical tools used are Altman Z score and ANOVA at 1% significance level and 't' test were used to analyze financial health. the results it is observed that all the four groups were in gray area or danger zone throughout the period of study. None of the groups crossed the safe mark of 3.0.

Sheela & Karthikeyan (2012) evaluated the efficiency of selected companies from pharmaceutical industry and predicted the financial health of pharmaceutical industry by throwing light on companies like Cipla, Dr. Reddy's Laboratories and Ranbaxy Laboratories Ltd. The period of study was from 2001-02 to 2010-11 for 10 years. The data was acquired from websites of respective companies, which was secondary data. Using Altman's Z Score model, it has been found that, of the three companies studied Ranbaxy lies in gray area with a score of 2.34,while Cipla and Dr. Reddy's are in safe zone with scores higher than 3. Cipla got a Z-score of 3.07 while Dr. Reddy's obtained 3.37.

Venkataramana, Azash, & Ramakrishnaiah (2012) analyzed select cement companies in India. The researchers took the help of three bankruptcy prediction models and conducted a ratio analysis for these companies. The models used were Altman Z score, Springate and Fulmer models. The reason for choosing these models being their high bankruptcy prediction rates of more ninety percent. The objectives of the study included finding the liquidity and solvency positions of the select Indian cement companies. The period of study was for ten years from 2001 to 2010.

Tyagi (2014) studied the financial health of logistic industry in India with special reference to Container Corporation, Gati Ltd., All Cargo and Aegis. The period of study was between 2005-06 to2011-2012 for seven years. The research was undertaken to find whether there was any improvement in profitability in Indian logistic industry and to find whether there was any efficiency in return in Indian logistic industry during the period of study.

### NATURE OF STUDY

The study is an empirical analysis and explorative study to predict bankruptcy using two Multiple Discriminant Analysis (MDA) models viz. Altman Z score and Springate models. The study is undertaken by means of secondary data.

### OBJECTIVES OF STUDY

- To analyze financial ratios given by Altman Z score and Springate models to study the financial soundness of companies and understand the causes for companies going bankrupt. Each model scrutinizes different dimensions of a company. Analyzing these dimensions helps one to know the areas of improvement.

- To find out whether the healthy companies are performing significantly better in the areas of liquidity position, profitability and operating performance compared to non-healthy companies using statistical tools.

## HYPOTHESES

### Altman Z score

Hypothesis 1: There is no significant difference in liquidity position between healthy and non-healthy companies.
Hypothesis 2: There is no significant difference in cumulative profitability overtime between healthy and non-healthy companies.
Hypothesis 3: There is no significant difference in long-term solvency position between healthy and non-healthy companies.
Hypothesis 4: There is no significant difference in operating performance and productivity of assets between healthy and non-healthy companies.
Hypothesis 5: There is no significant difference in sales generating capacity of the assets between healthy and non-healthy companies.

### Springate Score

Hypothesis 6: There is no significant difference in liquidity position between healthy and non-healthy companies.
Hypothesis 7: There is no significant difference in operating performance and productivity of assets between healthy and non-healthy companies.
Hypothesis 8: There is no significant difference in short-term solvency position between healthy and non-healthy companies.
Hypothesis 9: There is no significant difference in sales generating capacity of the assets between healthy and non-healthy companies.

## METHODOLOGY OF RESEARCH

### Sampling

The sample for this study is selected from listed, Indian manufacturing companies. The study is based on a sample of 45 companies. Initially, 200 companies were considered, of which 22 companies are selected based on their Z and S scores. Based on the scores, companies were classified into financially healthy and non-healthy companies. The remaining 23 companies, which constitute the healthy sample, are chosen from the same industry from which failed company was chosen, based on their sales value.

### Source of Data

The study is undertaken with the help of secondary data. Data required for the study is obtained from financial statements of the companies, which are part of the sample. This financial information is acquired from *capitaline* databases.
Official Website: www.capitaline.com

### Statistical Techniques

### T-Test

t-test is used for checking whether there is a significant relationship between two variables. This is verified at 95% confidence level. This t-test is taken up to validate the significant population mean difference between the samples. The assumption in t-test is that, the population is normally distributed. The t-test conducted in this study has used a confidence level of 95% throughout, with the hypothesized mean being 0. The results of the t-test can be studied using the t-stat or the p-value. At 95% confidence level, if the p-value is greater than 0.05 and the t-stat is between -1.96 and +1.96, the null hypothesis is accepted. The specific t-test used for the study ist-test: Two-Sample Assuming Unequal Variances.

### Altman Z Score Model

This model speaks about predicting bankruptcy of a company using five ratios for verifying the financial health of a company for public manufacturing businesses, for private industrial businesses and for private non-manufacturing companies. The current study uses only the first model of listed manufacturing companies. The model given by Altman is as follows:

$$Z = 1.2 * X1 + 1.4 * X2 + 0.33 * X3 + 0.6 * X4 + 0.999 * X5$$

Where –  X1 is $\dfrac{\text{Working Capital}}{\text{Total Assets}}$

 X2 is $\dfrac{\text{Retained Earnings}}{\text{Total Assets}}$

X3 is $\dfrac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}}$

X4 is $\dfrac{\text{Market Value of Equity}}{\text{Book Value of Debt}}$

X5 is $\dfrac{\text{Sales}}{\text{Total Assets}}$

Altman gave three zones of financial soundness. This financial soundness is based on the Z score obtained by a company after running it through the model. The three zones are as follows:

| ZONE | Z score | Comment |
|---|---|---|
| Safe Zone | Z > 3.0 | Financially Healthy |
| Gray Zone | 1.8 < Z >3.0 | To be Carefully Watched |
| Bankruptcy Zone | Z < 1.8 | High Probability of Failure |

**Springate Model**

This model is an MDA model that scrutinizes the financial strength of a company and predicts the possible bankruptcy circumstances that may arise. This model also gives weights to certain financial ratios to arrive at a score that helps us to analyze the financial position of a company. The Springate model is as follows:

$$S = 1.3 * X1 + 3.07 * X2 + 0.66 * X3 + 0.4 * X4$$

Where –  X1 is $\dfrac{\text{Working Capital}}{\text{Total Assets}}$

X2 is $\dfrac{\text{Earnings Before Interest and Taxes}}{\text{Total Assets}}$

X3 is $\dfrac{\text{Earnings Before Taxes}}{\text{Current Liabilities}}$

X4 is $\dfrac{\text{Total Sales}}{\text{Total Assets}}$

A company with an **S score of less than 0.862 is considered a failed company**. A company, which obtains an S score of higher than 0.862, is considered financially healthy.

*PERIOD OF STUDY*

The study is conducted for the period between, financial years 2009 and 2013.

*LIMITATIONS OF STUDY*

- Acquiring financial data for the failing or bankrupt companies in India is quite difficult. Therefore, the study is undertaken using those companies whose financial data is available in the public domain.
- The study is carried out using listed manufacturing companies alone, as different models give different weights for each sector of study say private and non-manufacturing.
- Only two MDA models are selected for the study, though there many more MDA models like Fulmer, Ohlson etc.
- A model may predict a company to be in stressful position. However, it is not certain that the company may file for bankruptcy in the next one or two years.
- The period of the study is limited to the financial years between March 2009 and March 2013.

*DATA ANALYSIS AND INTERPRETATION*

*Comparison of Healthy and Non-healthy companies under Altman Z score model using 't-test'*

Healthy and non-healthy companies are compared based on five ratios given by Altman, to verify their financial health. Results for each of the ratios are interpreted under the table.

**Table-1: Results of Two Sample T-Tests Assuming Unequal Variances under Altman Z-Score Model**

| Variables | Mean | Standard Deviation | P - value | T - Statistic | Observations |
|---|---|---|---|---|---|
| **Working Capital / Total Assets** | | | 0.0113** | -2.3423 | |
| Healthy | 0.3150 | 0.2146 | | | 33 |
| Distressed | -0.5663 | 2.9115 | | | 12 |
| **Retained Earnings / Total Assets** | | | 0.0006** | -3.3733 | |
| Healthy | 0.5203 | 0.8546 | | | 33 |
| Distressed | -1.0199 | 3.4988 | | | 12 |
| **Market Value of Equity / Total debt** | | | 0.0000** | -6.8931 | |
| Healthy | 1.3750 | 2.0797 | | | 33 |
| Distressed | 0.2169 | 0.3473 | | | 12 |
| **EBIT / Total Assets** | | | 0.1035** | -1.2755 | |
| Healthy | 0.0928 | 0.1234 | | | 33 |
| Distressed | -0.0844 | 1.0736 | | | 12 |
| **Net Sales / Total Assets** | | | 0.4768** | 0.0583 | |
| Healthy | 0.9284 | 0.6537 | | | 33 |
| Distressed | 0.9600 | 4.1807 | | | 12 |

**Note:** ** Significant at 95% confidence level
**Sources**: Authors Compilation

The working capital to total assets ratio of healthy companies (mean-0.3150) is significantly better (p-value-0.0113) than non-healthy companies (-0.5663). This shows that the healthy companies are enjoying a better liquidity position compared to the non-healthy companies.

The retained earnings to total assets ratio of healthy companies (0.5203) is significantly better (0.0006) than non-healthy companies (-1.0199).This tells that the cumulative profitability of healthy companies are clearly stronger compared to the non-healthy ones.

The market value of equity to total debt ratio of healthy companies (1.3750) is significantly better (0.0000) than non-healthy companies (0.2169). This confirms that the healthy companies are having a stronger long-term solvency position compared to the non-healthy companies.

The earnings before interest and tax to total assets ratio of healthy companies (0.0928) is not significantly better (0.1035) than non-healthy companies (-0.0844). This proves that the healthy companies are operationally performing better compared to the non-healthy companies.

The net sales to total assets ratio of healthy companies (0.9284) is not significantly better (0.4768) than non-healthy companies (0.9600). This substantiates that the healthy companies are generating better sales out of their assets compared to the non-healthy companies.

**Table-2: Results of Two Sample T-Tests Assuming Unequal Variances Under Springate Model**

| Variables | Mean | Standard Deviation | P - value | T - Statistic | Observations |
|---|---|---|---|---|---|
| **Working Capital / Total Assets** | | | 0.0039** | -2.7094 | |
| Healthy | 0.3568 | 0.1852 | | | 22 |
| Distressed | -0.2094 | 2.1840 | | | 23 |
| **EBIT/ Total Assets** | | | 0.0164** | -2.1604 | |
| Healthy | 0.1263 | 0.1290 | | | 22 |
| Distressed | -0.0389 | 0.7924 | | | 23 |
| **EBT/ Current Liabilities** | | | 0.0735** | -1.4499 | |
| Healthy | 0.6207 | 5.4227 | | | 22 |
| Distressed | -0.1279 | 0.8941 | | | 23 |
| **Net Sales / Total Assets** | | | 0.1392** | -1.0887 | |
| Healthy | 1.0973 | 0.6832 | | | 22 |
| Distressed | 0.7689 | 3.0920 | | | 23 |

**Note:** ** Significant at 95% confidence level
**Sources**: Authors Compilation

The working capital to total assets ratio of healthy companies (0.3568) is significantly better (0.0039) than non-healthy companies (-0.2094). This confirms that the healthy companies are enjoying a better liquidity position compared to the non-healthy companies.

The earnings before interest and tax to total assets ratio of healthy companies (0.1263) is significantly better (0.0164) than non-healthy companies (-0.0389). This proves that the healthy companies are operationally performing better compared to the non-healthy companies.

The earnings before tax to current liabilities ratio of healthy companies(0.6207) is not significantly better (0.0735) than non-healthy companies (-0.1279). This proves that the healthy companies are having a better short-term solvency position compared to the non-healthy companies.

The net sales to total assets ratio of healthy companies (1.0973) is not significantly better (0.1392) than non-healthy companies (0.7689). This substantiates that the healthy companies are generating better sales out of their assets compared to the non-healthy companies.

*SUMMARY AND CONCLUSION*

The study classified each of the forty-four companies into financially healthy and financially distressed companies. The classification is based on the scores given by each of the models. Altman has classified into three categories of financial soundness based on the Z score received by a company. The categories are healthy (Z > 3.0), grey area (1.8< Z >3.0) and distress (Z<1.8). In the five-year study undertaken, a company is classified as distressed if it has received a Z score of less than 1.8 in three out of five years. According to this classification, twelve companies have obtained a Z score of less than 1.8 in the five-year period. Of these twelve, five companies have scored less than 1.8 in three years, four companies in four years and three companies in five out of five years. Of the remaining thirty-three companies, twenty-two companies have never come in the red light, while nine companies have scored less than 1.8 in one year. This leaves just two companies, which failed in two out of five years.

The next model studied is Springate's S score model. This model classifies a company as failing if the S score obtained is less than 0.862. In this study, there are twenty-two companies that received an S score less than the cut-off. Of these, eight companies have scored less than 0.862 in three out of five years, seven have become distressed in four years and seven other companies failed in five out of five years. This leaves twenty-three companies as healthy companies. Thirteen out of twenty three have scored more than 0.862 in all the five years of study have never come under the radar. Six companies were classified as distressed in one year while four companies have obtained an S score of less the cut-off.

Springate's model has classified all the twelve companies that Altman Z score has classified as financially distressed. The Springate's model identified ten more companies, which Altman's model has categorized as good. Of these, the notable ones are three companies viz. Tata Motors, Arrow Coated and Parenteral Drugs that are classified as failed in five out of five years by the Springate model, while Altman Z score model did not classify these three companies as failing in not even one year. To conclude, it can be said that Altman Z score model is more conservative in nature. There are few companies, which have improved from the fourth to fifth year of analysis and need a mention. These companies are SPIC and Adani Power, which have improved their Z scores considerably. Though Adani Power still lies in the distress zone, it is likely to move into the gray area due to its rapidly increasing sales. The companies that improved according to the Springate's model are Sancia Global, SPIC, Arrow Coated, Adani Power, Oudh Sugar Mills and Upper Ganges Sugars.

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# MICROFINANCE FOR INCLUSIVE GROWTH: AN ANALYSIS OF THE EXPOSURE OF RURAL BANKS AND CO-OPERATIVE BANKS IN INDIA

**Lakshmi[21] Dr. Manoj P. K.[22]**

## ABSTRACT

Microfinance has proven to be an effective conduit for channeling scarce resources for the benefit of the poor and hence a vital tool for faster and inclusive growth. Within the concept of microfinance, one model viz. Self Help Group - Bank Linkage Programme (SHG-BLP) has grown into world's largest microfinance initiative within a short period of two decades. From linking a meager 500 SHGs representing "unbankable" rural poor to the formal sector institutions viz. commercial banks as a pilot project, SHG-BLP has now grown into 7.4 million SHGs representing 97 million rural households - the largest movement of its kind in the whole world, as of 2014.

In India, South Indian states alone account for about 80 percent of the total microfinance exposure. In this context, this paper makes a detailed analysis of the trend and pattern of microfinance exposure by formal sector institutions in India with a focus on two groups that are specially mandated to serve the poor viz. (i) Regional Rural Banks (RRBs), and (ii) Co-operative Sector Institutions (Co-ops). The paper offers strategies for more effective reach of microfinance for inclusive growth.

## KEYWORDS

**Micro-Finance, Inclusive Growth, Regional Rural Banks, Co-operative Sector etc.**

## INTRODUCTION

Indian economy has been growing at a fast rate in the ongoing reforms era as evidenced by its GDP registering an average growth rate of about 8 percent since the beginning of this century. There has been an almost steady growth over the years in spite of sub-5 percent growth rate noted in a few years including the last two years viz. 2012-13 and 2013-14. However, Indian economy is expected to overcome this situation in this fiscal (2014-15), and attain the average growth rate of about 8 percent as registered consistently by the country since the 2000s. Accordingly, Indian economy could look forward for better growth prospects from 2014-15 and beyond (Government of India, *Economic Survey 2013-14,* July, 2014) [1]. However, in spite of the above positive developments, there are growing apprehensions regarding the inclusiveness of India's economic growth process and imbalance that is observed in the relative growth rates of the three major sectors. Services sector in India has been growing fast right from the 1950s and based on the latest statistics (as of 2013-14), services sector accounts for 59.90 per cent of the total GDP of the country. In spite of the good prospects for the economy as a whole and service sector in particular, the issue of 'Inclusive Growth' or 'Distributive justice' is a question mark in India. So also is the issue of the fast declining share of the primary sector towards the country's GDP as against fast growing trend in services sector. Because of the general stagnation in the industries sector over the years, persons rendered unemployed because of the constant decline in the share of agriculture sector needs alternate avenues for livelihood as they are fit for the service sector.

It is in the above situation that promotion of agriculture assumes vital significance in India for ensuring the country's growth equitable as well as sustainable in the long run. Promotion of gainful employment for the rural poor through micro level businesses, financing for and development of various rural development initiatives etc. are equally important. It is in the above context that microfinance emerges as a handy tool for poverty alleviation, rural development, women empowerment and such other modes of equitable and inclusive growth. Two formal sector intermediaries that are specifically mandated to serve the rural poor viz. Regional Rural Banks (RRs) and Co-operative banks (Co-ops) have a catalytic role to play as they can accelerate the 'Financial Inclusion' process. The role RRBs and Co-ops in widening the reach of microfinance initiatives need not be over-emphasized. In this context, the microfinance exposure by the above two formal sector intermediary group's viz. RRBs and Co-ops, the trend and pattern of such exposures over the last few years, the issues and problems faced by them etc. deserve focused study so that suitable remedial strategies could be framed to overcome such problems.

## RELEVANCE AND SIGNIFICANCE OF STUDY

Banking and financial services sector form the backbone of the Indian economy. This sector has been fast growing ever since the initiation of the financial sector reforms by the Government of India since 1991. As part of the reform measures, there has been high growth rate in the banking sector with massive expansion of the foreign and new generation banks. Though the share of

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[21]Assistant Professor, Chinmaya Institute of Technology, Kerala; Research Scholar (Management), Karpagam University, Tamil Nadu, India, lakshmisaju80@gmail.com

[22] Assistant Professor (Finance & Econometrics), Department of Applied Economics, Cochin University of Science and Technology, Kerala, India, manoj_p_k2004@yahoo.co.in

agriculture have declined consistently as part of the total GDP over the years, it is true that every fourth farmer of the world is an Indian, and about 70 percent of the population still lives in villages and depends on agriculture for livelihood. Promotion of this sector is essential for balanced and equitable growth of the country as agriculture still plays a dominant role in Indian economy. As high as 70 percent of the population in India live in villages. To meet the credit needs of the people living in rural areas, and to facilitate faster development of rural areas the RRBs and Co-ops can play a vital role as they are mandated to focus on these aspects.

The performance of the Co-ops and RRBs, though impressive in absolute terms were inadequate to meet the credit needs of the Indian rural poor. Government of India (2014) in its *Economic Survey 2013-14* has pointed out that majority of agricultural credit was disbursed by Commercial banks (CBs). CBs have increased their share from 71.21 percent (FY 2013) to 72.48 (FY 2014) Though RRBs have increased their share from 10.48 percent to 11.31 percent during this period, the share of Co-ops has come down from 18.31 percent to 16.21 percent. In this context, a detailed study of the rural credit performance of RRBs and Co-ops assumes high analytical significance.

*REVIEW OF LITERATURE*

A review of the literature relevant to the topic of research (i.e. the role, performance and activities of RRBs and Co-ops, as well as their implications on the society) has been done hereunder:

Hosamani S.B (2002)[2] has made an elaborate study of the RRBs in India with a focus on the reforms era. The factors influencing their performance of RRBs, their weaknesses including various issues and challenges faced by them are covered in the book. The author has made some suggestions for the enhanced performance of RRBs, based on the study findings.

Reserve Bank of India (RBI) (2006) [3] (Misra, Biswa S) has evaluated the performance of RRBs in India focusing on the 10 year period, FY 1994 to FY 2003. The study was done on 196 RRBs, of which 150 profit making and the rest 46 were loss making. The paper has studied in detail the problem of the loss making RRBs, and as to whether this problem is confined to some specific sponsor banks or States. The factors influencing the performance of RRBs and the role-played by sponsor banks were studied. It is noted that the problem of loss making RRBs were neither confined to their sponsor banks nor the states to which they belong. Investments had contributed positively to the profits of profit-making RRBs. Sponsor banks had a positive influence on the financial health of the profit making RRBs. For loss making RRBs, it is noted that they need focussed attention by all stakeholders, and their respective sponsor banks in particular. Hence, some critical thinking was suggested in their restructuring initiatives.

Ibrahim (2010) [4], has investigated as to whether the consolidations among the RRBs in India undertaken in 2005-06 has helped improve their performance, has studied on the topic "Performance Evaluation of Regional Rural Banks in India". The researcher has used secondary data from various sources from data bases of Reserve Bank of India (RBI), National Bank for Agricultural and Rural Development (NABARD), Journals like Banker and the Journal of Indian Institute of Bankers . The study was confined to specific areas like number of branches, district coverage, deposits mobilized, credits and investments made by the Indian Regional Rural Banks (RRBs) for the eight year period starting from 2001-02 to the year 2008-09. The study revealed that even though number of RRB's has decreased the branch network has been increased. The overall performance of RRB's has improved after the post–merger period**.**

Mohindra and Kaur (2011) [5] have conducted research on the topic "Efficiency of Regional Rural Banks in India: An Application of Data Envelopment Analysis". In this study they have examined the relative efficiency of regional rural banks during the post reform period from 1991- 92 to 2006-07 by using Data Envelopment Analysis, taking a sample of 50 RRB's. They have divided the overall technical efficiency into two components namely pure managerial in capabilities in utilizing critical inputs due to improper choice of sub optimal scale of operation. A positive relationship between scale economies and bank size has been revealed.

Alagawadi and Savadatti (2011) [6] have studied the performance of a Karnataka-based RRB viz. MalabraphaGrameen Bank (MGB), compared its performance between pre-WTO and post-WTO periods, using principal component analysis (PCA) with twenty nine variables. The study has found that in case of physical indicators based on the factor loading three dimensions during pre-WTO period and two dimensions during post-WTO period, could explain 74 percent and 91 percent of the variations respectively. With respect to financial indicators three dimensions during pre-WTO period and three dimensions during post-WTO period explained nearly 90 percent and 93 percent of the variations in the bank's performance respectively. The PCA analysis indicated the dominance of Business Component in influencing the performance of the bank during post-WTO period. Hence, purpose wise and beneficiary wise rationalization of credit structure and scale is a pre-requisite for enhancing the effectiveness of the credit system and in turn business of the bank. Secondly, the bank has to strike a balance between advances for agricultural and non-agricultural purposes, since, safeguarding the interest of the target groups is important on one hand and sustainability of the bank is important on the other.

Government of Kerala (2012) [4] in its report 'Kerala Co-operative Movement' has given an elaborate account of the operations and performance of co-operative sector institutions in Kerala, the implications and reach of such activities, the major issues and problems faced by the co-operative sector institutions.

Paramanandam&Packirisamy (2012) [7] have made a comparative study of NABARD in India and its counterpart viz. Grameen Banks in Bangladesh. The paper highlights the achievements of Grameen Banks in Bangladesh and the commendable schemes like the SHG-Bank linkage model of the NABRAD. The need for further strengthening their initiatives with the active support of the Government, NGOs and Banks for the purpose of total eradication of poverty has been pointed out by the authors.

Firose (2012) [1] has studied the relative performance of all the 14 District Co-operative Banks (DCBs) in Kerala using Data Envelopment Analysis (DEA). The technical efficiency (TE) of all the 14 DCBs based in Kerala has been decomposed into pure technical efficiency (PTE) and scale efficiency (SE). Suggestions for improvement in respect of inefficient DCBs are made.

Rao and Rao (2014) [8] have made a recent study on the performance of RRBs in India in general and Andhra Pradesh GrameenaVikas Bank (APGVB) in particular. The vital role that RRBs provide for the development of rural and agricultural sectors have been highlighted in the paper, and is followed by detailed analysis of the performance of APGVB. The commendable performance of APGVB is pointed out. The need for expansion of the activities of APGVB and other RRBs for the faster, inclusive and sustainable development of India has been pointed out.

Government of India (2014) [2] in its annual publication 'Economic Survey 2013-14' has pointed out that the agriculture sector was disbursed Rs. 6,07,375.62 crore in 2012-13. According to this report, Commercial banks, Regional rural banks (RRBs), and Co-operative banks extended credit to 152.77 lakh new farmers, increasing the total number of agriculture loan accounts financed as of March 2013 to Rs. 7.04 crore. As per the provisional figures available, as against the farm credit target of Rs.7,00,000 crore for the year 2013-14, an amount of Rs. 7,30,766 crore was disbursed during the year.

Government of Kerala (2014) [3] in its annual report 'Economic Review' gives a detailed account of the rural credit and agricultural finance in Kerala, various agencies in this field, etc. The working of co-operative societies, their deposit mobilization modes etc. are discussed. It is noted that Kerala has one of the most vibrant co-operative movements in the whole of India.

In spite of the studies already done in the study area as noted above, studies focusing on microfinance initiatives of formal sector intermediaries like RRBs and Co-ops are virtually nil. Thus, this study focuses on the performance of RRBs and Co-ops in microfinance in India.

### OBJECTIVES OF STUDY AND METHODOLOGY USED

The major objectives of this study are (i) to make an overall study of the various institutional agencies in rural credit in India, (ii) to make a detailed study of the microfinance exposure by formal sector financial intermediaries in India with special reference to RRBs and Co-operative institutions (Co-ops), and (iii) To suggest strategies for enhanced performance in RRBs and Co-ops in the microfinance arena based on the findings of the study.

The study adopts a descriptive-analytical approach. It primarily uses the secondary data. No hypothesis has been framed as the study is of an exploratory nature. Sampling is not relevant in this case, as the study is based on a census approach. It considers all the Co-ops as well as RRBs functioning in India.

The data sources are primarily the published and authentic financial and operational statements relating to co-operative banks in India, particularly their audited financial statements. Other sources of secondary data include publications of Government and regulatory bodies like RBI, NABARD etc. Common tools are used for data analysis and interpretation.

### SPECIALIZED AGENCIES IN RURAL CREDIT – RELATIVE PERFORMANCE

The co-operatives in India could not play any major role in mitigating the miseries of the villagers till the early decades of the twentieth century. Accordingly, the All India Rural Credit Committee (1945) felt the need for the commercial banks to purvey credit for agriculture in specialized areas and recommended the conversion of the Imperial Bank of India into State Bank of India.

The study group (1968) under the Chairmanship of Prof. D.K. Gadgil emphasized the need to involve the commercial banking system in providing rural credit. However, nationalization of commercial banks (CBs) resulted in limiting their role as provider of rural credit. The Government of India took cognizance of this fact and appointed a working group under the chairmanship of ShriNarasimhan in July 1975 for setting up a new institution.

Accepting the recommendations of the Narasimhan committee the Government passed the Regional Rural Banks Act in 1976 (RRB Act, 1976). The RRBs started providing agricultural credit and other rural banking services along with Co-operatives. Apart from these two agencies, CBs too provide rural credit services, of course along with many other banking services.

**Table-I: Relative Share of the Different Agencies in Rural (Agricultural) Credit in India**

(Amount in Rs. Crore)

| Agency | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | Share (%) (FY 2004) |
|---|---|---|---|---|---|---|
| Co-operatives | 63497 | 78007 | 87963 | 111203 | 118422 | 16.37 |
| RRBs | 35217 | 44293 | 54450 | 63681 | 83307 | 11.52 |
| CBs | 285800 | 345877 | 368616 | 432491 | 521496 | 72.11 |
| Total | 384514 | 468291 | 511029 | 607375 | 723225 | 100.00 |

**Sources**: Compiled from NABARD Annual Report 2013-14, p.87.

The share of Co-operatives (Co-ops) and RRBs in the total credit off-take in the country is quite poor, though there has been steady and constant growth over the years. Share of Co-operatives and RRBs in agricultural credit as of FY 2014, for instance, has been at the level of just 16.37 percent and 11.52 percent respectively, thus the total being only 27.89 percent. The share of commercial banks has been as high as 72.11 percent. (Table I).

From the growth pattern of the three groups of intermediaries over the years, it may be noted that the growth rate of agricultural credit of commercial banks is very fast, those of Co-ops and RRBs are very low (Figure I). Being the intermediaries focusing on agriculture and other forms of rural credit, steps are required for enhanced performance of Co-ops and RRBs for inclusive and balanced growth. 'Financial Inclusion' being already a national priority in India in the ongoing reforms era, within the broader framework of 'Inclusive Growth', the role of Co-ops and RRBs in bringing about financial inclusion effectively need not be over emphasized. However, their poor performance vis-à-vis the CBs, as already noted above, calls for suitable remedial measures (Figure I).

**Figure-I: Trend in Relative Share of the Different Agencies in Agricultural Credit in India**



Comm. Banks: $y = 55801x + 223454$

Co-ops: $y = 14305x + 48905$

RRBs: $y = 11557x + 21519$
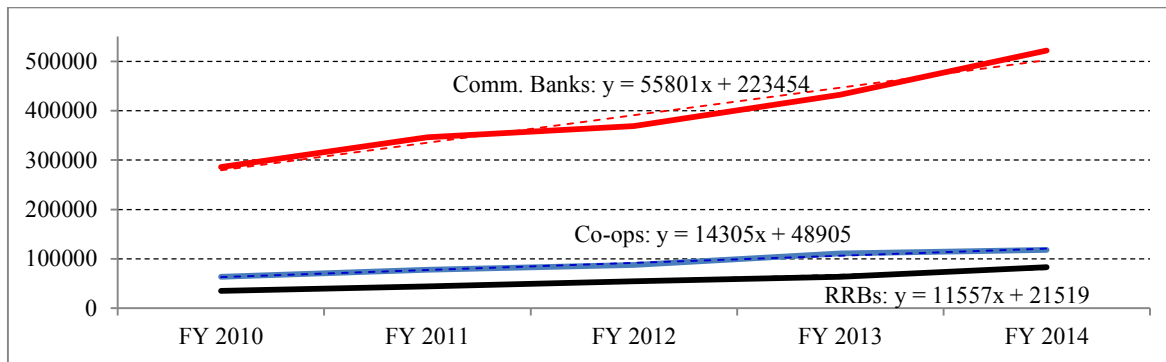
**Sources**: Compiled from NABARD Annual Report 2013-14, p.87

### MICROFINANCE EXPOSURE BY CO-OPS, RRBS AND OTHER INTERMEDIARIES IN INDIA

Microfinance has proven to be an effective conduit for channelling scarce resources for the benefit of the poor and hence a vital tool for faster and inclusive growth. Within the concept of microfinance, one model viz. Self Help Group-Bank Linkage Programme (SHG-BLP) has grown into world's largest microfinance initiative within a short period of two decades. From linking a meagre 500 SHGs representing "unbankable" rural poor to the formal sector institutions viz. commercial banks as a pilot project, SHG-BLP has now grown into 7.4 million SHGs representing 97million rural households - the largest movement of its kind in the whole world, as of 2014. In India, South Indian states alone account for about 80 percent of the total microfinance exposure in the country.

**Table-II: Progress of SHG-BLP in India**

(Amount Rs. Crores and Numbers in Lakhs)

| Particulars | FY 2011-12 | | FY 2012-13 | | FY 2013-14 | |
|---|---|---|---|---|---|---|
| | Number of SHGs | Amount | Number of SHGs | Amount | Number of SHGs | Amount |
| *SHG's savings with Banks as on 31st March of the respective Financial Year* | | | | | | |
| Total SHGs | 79.60 | 6551.41 | 73.18 | 8217.25 | 74.30 | 9897.42 |
| | (6.7 %) | (-6.7 %) | (-8.1 %) | (25.4 %) | (1.53 %) | (20.45 %) |
| All women SHGs | 62.99 | 5104.33 | 59.38 | 6514.86 | 62.52 | 8012.89 |
| | (3.3 %) | (-3.7 %) | (-5.7 %) | (27.6 %) | (5.27 %) | (22.99 %) |
| Women Groups (%) | 79.10 % | 77.90 % | 81.1 % | 79.3 % | 84.15 % | 80.96 % |

| *Loans disbursed to SHG's during the respective Financial Year* | | | | | | |
|---|---|---|---|---|---|---|
| Total SHGs | 11.48 (-4 %) | 16534.77 (13.7 %) | 12.20 (6.3 %) | 20585.36 (24.5 %) | 13.66 (12.02 %) | 24017.36 (16.67 %) |
| All women SHGs | 9.23 (-9.2 %) | 14132.02 (12.0 %) | 10.37 (12.4 %) | 17854.31 (26.3 %) | 11.52 (11.02 %) | 21037.97 (17.83 %) |
| Women Groups (%) | 80.4 % | 85.5 % | 85.1 % | 86.7 % | 84.3 % | 87.6 % |
| *Loans outstanding against SHG's as on 31st March of the respective Financial Year* | | | | | | |
| Total SHGs | 43.54 (-9.0 %) | 36340 (16.4 %) | 44.51 (2.2 %) | 39375.30 (8.40 %) | 41.97 (-5.71 %) | 42927.52 (9.02 %) |
| All women SHGs | 36.49 (-8.4 %) | 30465.28 (16.6 %) | 37.57 (2.9 %) | 32840.04 (7.8 %) | 34.06 (-9.34 %) | 36151.58 (10.08 %) |
| Women Groups (%) | 83.8 % | 83.8 % | 84.4 % | 83.3 % | 81.2 % | 84.2 % |

**Sources**: Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.8

In India, the constant decline in the number of SHGs linked to banks in resource poor regions in India over the years (i.e. other than the southern part of India) where SHG-BLP has been implemented is a matter of concern. Though the number of SHGs being offered fresh loans has increased, the continued decline in the number of SHGs getting fresh loans in the North and North East parts of India is also a matter of concern. Besides, there has been a decline of 6 percent in the number of SHGs having loan outstanding with banks, though the quantum of loans outstanding grew by over 9 percent. (Table IV). In spite of the above disturbing trends, the active participation of women in the SHG movement in India has earned many laurels for the country, and SHG model is often cited as a distinguishing feature of microfinance initiatives in India.

**Figure-II: SHG-BLP in India – Operational Highlights**
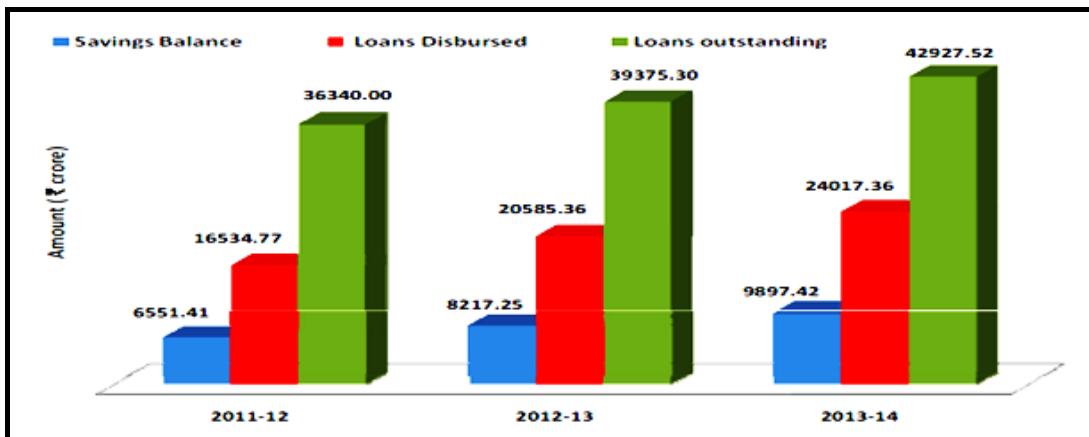


**Sources:** Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.10

There has been a constantly increasing trend in respect of savings balance, loans disbursed and loans outstanding in respect of SHG-BLP in India and this is an encouraging trend (Table II) (Figure II). Over 84 percent of all SHGs linked to Banks are 'All Women' SHGs and this continues to show steady increase every year. In short, SHG-BLP is an effective tool for women empowerment.

**Table-III: Relative Share of Different Agencies in SHG-BLP in India (FY 2014)**

|  |  |  | **(In Percentages)** |  |
|---|---|---|---|---|
| **Particulars** | **Co-ops** | **RRBs** | **Commercial Banks** | **Total** |
| Savings-linked SHGs | 18 | 28 | 54 | 100 |
| Loan Outstanding (SHGs) | 06 | 26 | 68 | 100 |

**Sources**: Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.11 & p.14

It is noted that the relative exposures of RRBs and Co-ops to SHGs in India are at the most about half that of the commercial banks (CBs) or lesser. Together RRBs and Co-ops represent only 32 percent of the loans outstanding (SHG-BLP) while the number of such loans is as high as 54 percent. Thus, SHG loans of RRBs and Co-ops are relatively of smaller sizes. (Table III).

**Table-IV: Relative Asset Quality of Loans to SHGs (FY 2014)**

**(In Percentages)**

| Particulars | FY 2012 | FY 2013 | FY 2014 |
|---|---|---|---|
| Commercial Banks (Public Sector) | 6.48 | 8.39 | 7.02 |
| Commercial Banks (Private Sector) | 5.30 | 3.69 | 4.22 |
| RRBs | 4.95 | 4.10 | 6.26 |
| Co-ops | 6.84 | 8.13 | 8.67 |
| Total (Average for all the groups) | 6.09 | 7.08 | 6.83 |

**Sources**: Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.15

The asset quality in terms of the level of NPAs in respect of Co-ops is substantially lower than the national average throughout the period; the situation is very much comparable to that of Public Sector Banks (PSBs) (Table IV). The situation in respect of RRBs is significantly better than Co-ops, though of late in FY 2014 it has drastically come down though still better than the national average. The position of Private Sector Banks is glaringly better than the national average, and better than any other group of intermediaries as above. (Table IV).

***DISTRIBUTION OF THE REACH AND DEPTH OF THE MICROFINANCE ACTIVITIES***

It is noted that there is wide inter-region disparity in respect of balance per SHG account across the country. The highest balance per SHG is in the Southern region of India (Rs.16878 for 2014) whereas the lowest is in the Northeastern region (Rs.4173 for FY 2014). The distribution is given in Table V and Figure III.

**Table-V: Savings Balance per SHG: Region-wise Data for FY 2013 and FY 2014**

**(Amount in Rs)**

| Particulars | North-Eastern | Northern | Western | Eastern | Central | Southern | Average |
|---|---|---|---|---|---|---|---|
| FY 2013 | 4017 | 7810 | 7680 | 9471 | 8889 | 14352 | 11230 (for 2013) |
| FY 2014 | 4173 | 7748 | 10367 | 10393 | 11525 | 16878 | 13322 (for 2014) |

**Sources:** Compiled from NABARD, *Status of Microfinance in India* 2013-14, p.11

**Figure-III: Savings Balance per SHG: Region-wise Data for FY 2013 and FY 2014**

**(Amount in Rs)**
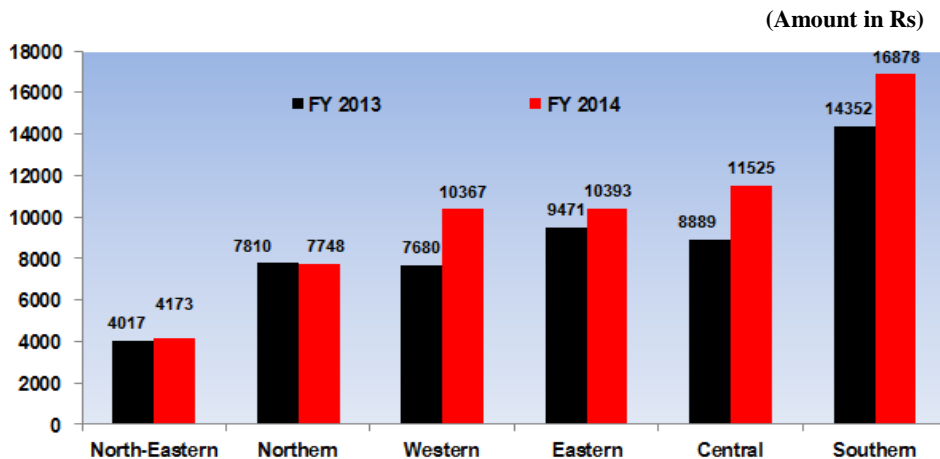


**Sources**: Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.11

The above situation of wide disparities in the depth of SHG loans points to the need for a focused approach towards the under-penetrated areas, most glaringly the North-Eastern region, followed by the Northern, Western, Eastern and Central regions, and lastly the Southern region which is the region with the highest depth for SHG advances among the six regions. (Figure III).

Regarding the amount of loans disbursed to SHGs too there are huge disparities among the different regions. Here too, the highest is for the Southern region (Rs. 2,35,718) and the lowest is for the Eastern region (Rs.50,783). (Table VI). The national average is Rs. 1,75,768 and only the Southern region has got disbursement higher than this national average. (Figure IV).

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**Table-VI: Region-wise Data on Disbursement of Bank Loans per SHG (FY 2014)**

**(Amount in Rs)**

| Eastern | North-Eastern | Central | Western | Northern | Southern | Average (All India) |
|---------|---------------|---------|---------|----------|----------|---------------------|
| 50783 | 79125 | 93092 | 98404 | 117269 | 235718 | 175768 |

**Source**s: Compiled from NABARD, *Status of Microfinance in India* 2013-14, p.12

**Figure-IV: Region-wise Data on Disbursement of Bank Loans per SHG**
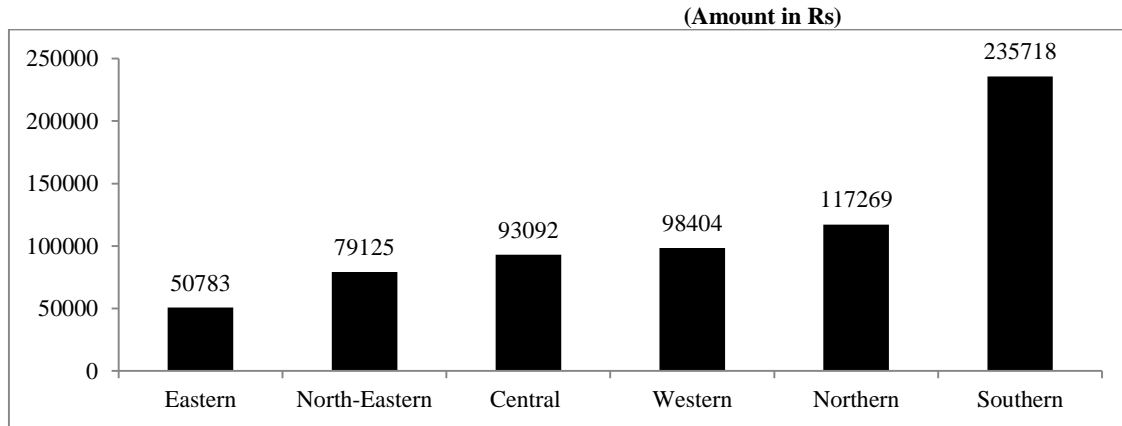


**Sources**: Adapted from NABARD, *Status of Microfinance in India* 2013-14, p.12

In order to ensure a more meaningful reach of the microfinance loans through SHGs, the most under-penetrated areas deserve focused attention. Thus, Eastern region followed by the other five regions in the respective order (viz. North-Eastern, Central, Western, Northern and lastly Southern region) need to be paid attention by the policy makers to ensure a balanced and equitable growth through SHG-based microfinance initiatives (Figure IV, Table VI).

***SUMMARY OF MAJOR FINDINGS OF STUDY***

- Faster and sustained growth of specialized institutions like RRBs and Co-ops are essential for effective financial inclusion in the country, and hence equitable and balanced economic growth. Institutions like RRBs and Co-ops can accelerate the pace of financial inclusion. SHG-BLP is an effective tool for focused rural credit, and this is particularly suitable as a tool for empowering the rural women.

- The relative growth of RRBs and Co-ops have been quite slower when compared with pace than commercial banks over the years. This situation warrants urgent policy measures to scale up the operations of both RRBs and Co-ops – specialized agencies in rural credit.

- There is wide disparity in the coverage of microfinance activities and SHG lending in India, and accordingly in almost all respects Southern part of India represents as high as 70 to 80 percent of the total exposure towards microfinance and SHGs. North-Eastern and Eastern parts are thoroughly under-penetrated regions and are followed by other highly under-penetrated regions like Northern, Western and Central. Southern region, largely, is the region that is fairly well covered among the six regions.

- In respect of microfinance credit in particular, there is a disturbing trend of dwindling number of SHG loans, in spite of the steady growth in the outstanding loan amounts. For sustained growth of microfinance advances scaling up the number of loans (e.g. SHG-BLP) is quite essential. Though this is true in respect of all regions other than Southern India, special thrust is required for the thoroughly under-penetrated  North-Eastern regions, Northern-most regions etc.

- Focused attention is required for enhancing the asset quality of Co-ops because the percentage of NPAs has been quite higher than the national average throughout the period. In respect of RRBs too, there is need for tighter control of NPAs as it has increased in FY 2014, though it was somewhat confortable in the earlier two years.

***SUGGESTIONS FOR SUSTAINABLE FINANCIAL INCLUSION THROUGH MICROFINANCE***

- Stricter monitoring of asset quality (management of NPAs) is necessary for Co-ops. For RRBs too, added thrust is desired, as there has been a disturbing trend after FY 2013.

- Utmost thrust is required on enhancing the number of microfinance / SHG-BLP loans as there is a steady decline in the number of loans throughout the period. Special thrust is required on the most under-penetrated areas like North-Eastern region, followed by Northern-most region, Western region, Eastern region, Central region and finally by Southern region in that order. This is because of the fact that there have been vast differences in the penetration levels across different regions, and accordingly only through a focused approach as above can we attain balanced and equitable growth, and hence sustainability in the growth process.

- Constant training and development are required for the staff in delivering specialized banking services like microfinance. They need to be trained in providing technology-based products and services to render the state-of-the art services to their customers.

- Customers of microfinance products being primarily the rural poor, they also deserve training on modern banking services in order to avail high-end banking products and services conveniently. They should be trained adequately as to how to use of ATMs, use mobile-based services etc. Mass awareness camps to educate customers about modern banking practices are organized periodically at suitable locations for the above purpose.

- Specialized financial intermediaries like Co-ops and RRBs should preferably have maximum of employees with rural background so that they can understand their customers well than others. Only they can sense the pulse of the rural market for microfinance. Besides, better working environment and interpersonal relationships need to be fostered to improve the performance and productivity of the employees on a regular basis.

- Co-ops and RRBs should ensure complete adherence to the directives of the regulatory bodies like the RBI and NABARD on an ongoing basis.

- Enhanced customer service and adoption of modern technology are very much required even for attracting rural customers of these days.

## CONCLUDING REMARKS

Enhancing inclusiveness of Indian banking is an imperative rather than a choice for ensuring that the country's growth process is equitable, balanced and hence sustainable in the long-run. The significance of 'Financial Inclusion' as a national motto is undisputed in this regard and so is the relevance of time-tested models like SHG-BLP. The paper has noted immense potential for the growth of microfinance sector in India. However, except for a few South Indian states like Kerala, it is yet to pick up momentum in India. This fact points to the urgent need for meticulously planned and clearly articulated strategies that focus on individual regions of the country based on their typical socio-economic conditions, for the purpose of promotion of microfinance initiatives. Such policy initiatives, if undertaken, would not definitely be futile. Rather, they will lead to equitable development of the country devoid of divides of all kinds.

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# FINANCIAL EXCLUSION: CONCEPT, CAUSES & CONSEQUENCES
## A TRI-DIMENSIONAL LITERATURE ANALYSIS

**Niranjan Shetty[23] Dr. Prakash Pinto[24]**

### ABSTRACT

This research paper has an objective to analyze the available literature on financial exclusion, alternatively referred to as financial inclusion as well. It is to understand and conceptualize the meaning, nature, causes and consequences of financial exclusion worldwide through a mixture of past empirical studies. Decision makers can use the literature discussed in this paper to draw appropriate implications for policy formulation. Bankers can take insights from the literature and redesign their strategies to have greater financial inclusion or to lower financial exclusion. In addition, paper also serves the purpose of researchers as it provides adequate studies at a single-point on financial exclusion. It covers the literature over a period of two and half decades and it includes manifold studies conducted in the major countries of the world. It also covers the pioneer studies undertaken by leading researchers like Kempson, Leyshon, Thrift and Whyley and several other recent studies. Paper unleashes the diversity in conceiving the concept of financial exclusion, its causes and consequences across the nations. Each study unfolds different experience and adds fresh and varied dimension to financial exclusion. The vulnerable sections of the society, financial service providers and the governments have to borrow heavily from this paper for better understanding of problems involved in financial exclusion for finding suitable solutions through collective efforts of all, so that the probability of people being excluded from financial services is eliminated. However, study does not go ahead to compare results based on empirical evidences of past studies among various countries.

### KEYWORDS

**Financial Exclusion/Inclusion, Financial Services/Products, Financial System, Service Providers etc.**

### INTRODUCTION

Several factors contribute for sluggish economic growth and overall development of the citizens in a country. Such factors include poverty, unemployment, illiteracy, etc. One of the most important 'talked about' topics in the present scenario world over is financial exclusion or financial inclusion. To achieve inclusive growth, financial inclusion is a pre-requisite. Around the world, fiscal and monetary authorities realized that the financial exclusion is one of the most hindering factors to achieve overall economic growth. Hence, policy formulators have to concentrate either to completely remove financial exclusion or to achieve 100 percent financial inclusion. The key step in this regard is to understand the concept, nature, causes and consequences of financial exclusion so that appropriate policy decisions can be taken to minimize the extent of financial exclusion or to increase financial inclusion. This research paper is an attempt to analyze financial exclusion based on the available literature world over and provide a one-short, ready-made and comprehensive research information on financial exclusion. Research analyses in detail the concept, nature, causes and consequences of financial exclusion based on the literature across the nations of the world. Studies discussed in this paper certify that financial exclusion is well permeated and deep-rooted problem in every country irrespective of whether they are developing or developed.

### FINANCIAL EXCLUSION/INCLUSION - AROUND THE CONCEPT

European policy discussions have popularly coined the word social exclusion in the earlier periods than the term financial exclusion. However, even in United Kingdom, the term social exclusion gained importance in recent years. Gradually the term social exclusion permeated to other countries in the world. Social exclusion is broad concept that is used to represent the collective problems of people who are suffering from a several combination of related problems such as poor skills, low incomes, unemployment, poor housing, high crime environments, family breakdown, health, and poverty *(http://www.cabinet-office.gov.uk/seu/index/faqs.html, 2000)*. Therefore, social exclusion is broader term than the terms used in the earlier debates such as poverty, disadvantage and deprivation and the term financial inclusion used in the recent debates. The dimensions of social exclusion cited above are interconnected to each other, the intensity of one problem increase the possibility of the other problems *(Rogaly et al., 1999)*. Although the analyses between authors vary to some extent, three core elements of social exclusion are generally recognized:

- The employment status of the people is such that it is of low income such as insufficient opportunities for jobs and very low levels of facilities among those people who does not have work yet.

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[23] Lecturer, Department of Professional Studies, College of Banking and Financial Studies, Sultanate of Oman, niranjankaidel@gmail.com

[24] Professor and Dean, Department of Business Administration, St. Joseph Engineering College, Karnataka, India, shirthady74@rediffmail.com

- Access to basic requirements such as vocational training, health care, education and financial services is absolutely absent or miserable.
- Unsatisfactory environmental conditions such as deprived neighborhoods, poor housing, hard family life and circumstances are at the core of social exclusion.

The factors mentioned above individually or collectively lead to social exclusion. The government of United Kingdom describes the interconnectedness of social exclusion elements as 'cycle of disadvantage'. The consequences of these factors remain throughout the life of the people and are passed from one generation to another *(Department of Social Services, 1999)*. Social exclusion analysis and developments that took place prior to the early deliberations in the area of financial exclusion laid attention mainly on issues of access to services and banking outlets in specific based on geographical locations *(Leyshon and Thrift 1993, 1994, 1995)*. During 1990s, several research works were undertaken relating to the difficulties involved in accessing financial services. The important problems identified in those research works include non-access to modern payment instruments and several other banking services such as insurance, consumer credit etc.

There were also concerns that people lacked savings of any nature. The geographers who were concerned about restricted physical access to banking services due to bank branch closures, for the first time coined the term financial exclusion in 1993 *(Leyshon and Thrift, 1993)*. Measuring of financial inclusion is difficult to perceive and it is commonly defined in terms of financial exclusion from the gamut of financial system of a country or geographical territory. Financial exclusion is broadly interpreted as the inability to provide required financial services in an appropriate way to the needy borrowers or users. The problems involved with the provision of financial services to the needy borrowers or users include factors such as their conditions, difficulty in accessing the service, prices of the financial products and services, self-exclusion due to discouraging experiences or perceptions of individuals or entities and marketing inefficiencies *(Leyshon and Thrift, 1993)*. In a broader sense, the word financial exclusion was first referred in the year 1999. At this point of time, the concept of financial exclusion used to mean that category of people who have been restricted or constrained to have access to core financial services or products *(Kempson and Whyley, 1999)*. Kempson et al. in 2000 had undertaken very comprehensive analysis of the term financial exclusion in the United Kingdom on his work for the apex monetary institution of the nation, Financial Services Authority (FSA). The argument raised by him was that financial exclusion initially viewed as a geographic subject matter (Pratt, Leyshon, and Thrift 1996 a, b) pertaining to branch closures, especially in specific low-income societies without any financial services or with minimum services being made available to them. The definition of financial exclusion was further broadened by the work of Kempson et al. (2000) to include the following aspects within the gamut of exclusion;

- Exclusion arising out of assessing the risk and designing appropriate products to the poor people/customers.
- Exclusion that occurs because of mismatch in the cost of providing service to the customers in relation to the income derived on the same product or service.
- Exclusion of people by the financial institutions from offering financial services by ignoring them. Here people are beyond the reach of target market.
- Self-exclusion: Here people voluntarily believe that they will be denied the access of financial products or services, or customers may take back seat instead of getting themselves involved with banking services offered by the financial institutions.

'Breadth', 'Focus' and 'Degree' of financial exclusion are the other dimensions of analyzing the concept of financial exclusion. The broadest form of representing financial exclusion is the 'breadth' among the three. 'Breadth' links the exclusion from finance to social aspects. 'Breadth' dimension of the financial exclusion concept signifies that poor and disadvantaged group or class of people in the society is prevented from acquiring financial services from the financial system *(Leyshon and Thrift, 1995)*. The 'focus' approach of analyzing the financial exclusion concept is in moderate range that links financial exclusion to other angles of exclusion. As per focus dimension, financial exclusion refers to the potential difficulties faced by few segments of the population or the society in accessing core financial services. Such financial services include bank accounts, home insurance etc. The 'focus' dimension also vary significantly to include various other segments of population or the society like individuals, communities, households, and businesses *(Meadows et al., 2004)*.

The narrowest dimension or approach of measuring exclusion is the 'degree'. It recognizes financial exclusion as exclusion from specific set of banking services or products such as insurance, bill-payment services, and appropriate deposit accounts among others. Here the banking services offered to the people are confined to only few designated services rather than whole lot of services of a typical financial institution *(Rogaly, 1999)*. Concept of relativity is another form of identifying the exclusion. According to the concept of relativity, a vast majority of the people is catered with financial products or services as a standard and is financially included. Due to the increased inclusion as a standard for a specific set of majority group of people, minority are left behind the service of the financial institutions. The minorities may be the households or the individuals *(Kempson et al., 2000)*. If the account that is opened in the bank remain unused, or if the user does not know how to use it, then the financial inclusion cannot take place though the service is offered to the individuals. Hence, financial exclusion is described using alternative terms such as depth and breadth. The frequency at which the people are using financial services is referred to as depth and the wide variety of choice in financial services available to the people is termed as breadth *(Regan & Paxton, 2003)*. According the Deputy

Governor of Reserve Bank of India (RBI), financial exclusion is the hindrance in reaching definite segments of the society to provide people an appropriate, low-cost, fair, and safe financial services or products by the designated financial service providers in the country *(Rakesh Mohan, 2006)*. While certain social groups and individuals are prevented from gaining access to financial services by the mainstream financial system, there said to be financial exclusion *(Leyshon and Thrift, 1995)*. Financial services needs to be provided in an appropriate manner to the needy borrowers, who have either low income or geographically distant from financial institutions. Exclusion may take place due to the gaps prevailing because of low income and distant geographical location. This results in lack of access, condition, price and self-exclusion in response to negative experiences and contributes consequently to financial exclusion *(Sinclair, 2001)*.

The financial exclusion is a broad inability to offer financial services to selected societal groups occasionally and hence they are deprived of financial services *(Carbo et al., 2005)*. People always require a minimum level of financial assistance to enable them to lead a normal social life. Hence, there supposed to be some financial institutions to provide basic services to the people so that they fulfill their societal needs. However, when people face problems to avail financial services in the open market, there happens to be financial exclusion *(European Commission, 2008)*. Financial inclusion is a matter of utmost concern as it excludes the people of lower income and those who in need of financial help and face financial hardships. Financial exclusion and poverty goes hand in hand and it results in reduced social interaction and participation in the society *(RBI, 2008)*. Mere bank account is not luxury, instead it is a necessity and it should be considered as a fundamental right of citizens of a country. Possessing a basic no-frills bank account is only a necessity, but certainly not a sufficient condition to consider it as financial inclusion. If delivery of financial services such as money remittance, life or health insurance, pension, mutual funds, etc. are not made available at an affordable market driven cost to the poor people, financial inclusion is said to be in existence.

After accumulating minimum requirement of savings, poor people are inclined to grow their funds beyond the inflation rate prevailing in the region. For this to happen, competitive market and attractive rate of interest is essential *(S. Ramesh & Preeti Sahai, 2007)*. Poor people's options for operating a household budget, or a micro or small enterprises would be very expensive unless the financial services or assistance is made available by the conventional providers. This may gradually build up to an extent of social exclusion particularly in rural areas *(Mohan, 2006)*. The literature also brings the degree of financial exclusion. This ranges from 'hyper-included' to 'unbanked'. Hyper included are those who have full access to the banking facilities and unbanked does not have any access to banking facility. Between these two extreme limits, there is a category called 'under banked' or 'marginally banked'. These are the ones who have banking facilities but not sufficiently utilizing *(Kempson et al., 2000)*. An Australian report on financial exclusion highlighted yet another group who are "included within the gamut of financial services, but they are using inappropriate or wrong products". They can also be referred as financially excluded category. They are sometimes the "victims" of inappropriate financial products offered *(AZN Banking Group, 2004)*. There is also research as to whether financial inclusion is a short-term or long-term phenomenon. The usage of financial services by an individual or a household may range from a short span of time to a long-term period. However, exclusion of individuals or households from financial services does not reveal whether the exclusion is for a short or long period. In addition, the exclusion will not indicate whether the degree of exclusion is increasing or decreasing *(Chant Link and Associates, 2004)*. In another angle, financial exclusion is vulnerability to exclusion and has continuous state of being rather than merely having access to few financial services. While financial exclusion is a short-term experience for few people; it will be long-term phenomenon for few other consumers and it may be even a life-long process for many other consumers *(Connolly and Hajaj, 2001)*.

The close look at the financial exclusion reveals an interesting observation of exclusion being included in inclusion. Individuals who are above the poor people, micro and medium entrepreneurs in many countries have enormous difficulties in accessing financial service from the providers. This category of people though financially included, they are weakly included within the financial gamut. Low-income segments of the society do not even have the privilege to have an access to very basic financial services. Most of the people are underserved in terms of quality and quantity of products and services being offered, but all of them have access to the financial services. A significant proportion of low-income households in many countries are dependent on untenable, subsidy-based and inadequately performing institutions. This is in turn results in greater financial exclusion *(Asian Development Bank, 2007)*. Small farmers with uneconomic holdings, oral lessees, landless labourers, self-employed, entrepreneurs of unorganized sector, dwellers of urban slum, minority people of ethnic groups, migrants, socially downtrodden groups, senior citizens and women are predominantly excluded from providing financial services in India *(Mohan, 2006)*.

### CAUSES OF FINANCIAL EXCLUSION

Root cause of financial exclusion can be attributed to three closely related factors. Firstly, the exceptional decline in financial retail outlets in poorer communities. This aggravated the drastic changes in housing policies. Consequently, localized concentrations of poor people on housing estates in the outskirts of big cities have been created. The whole process took roughly a time span of few decades. Secondly, at the same time, closure of significant number of bank and building society branches has fuelled the situation. The residual branches, as a result centered in the town and city centers. Thirdly, consequent to the physical problems of access among people living in poorer communities, especially by the low levels of car ownership aggravated the situation. The available public transportation system that is expensive and frequently undependable worsened the problem. Interruption caused in the provision of financial services due to physical access because of changing geography, is not just viewed as financial exclusion. Instead, the debate on financial exclusion has been widened to view the profile of the people who make no

or little use of financial services from a close lens and the way in which people are being (process) excluded from financial services *(Ford and Rowlingson, 1996; Kempson and Whyley, 1998, 1999a, 1999b; Office of Fair Trading, 1999 a)*. The concept of financial exclusion can also be further looked in two other ways *(S. Ramesh & Preeti Sahai, 2007)*:

- Insufficient access to financial services due to several reasons such as:
  - Inefficient and inadequate sources of financial services in rural areas. There is no safe deposit, savings or insurance services. These financial services are generally offered by unprofessional money lenders who are permeated in the nook and corner of the villages.
  - Low awareness and high level of barriers to avail information, especially for women in rural places.
  - High cost of operating the business or servicing the poor people, huge client size but less volume added to the causes of exclusion by financial institutions, primarily because of low outreach.
  - Some beleaguered financial institutions have poor functioning and financial history like financial cooperatives. The ineffectiveness of such financial cooperatives has limited their outreach figures largely.
  - The memberships in Primary Agricultural Cooperative Societies (PACSs) are limited to land owners and influential people in the locality, PACS are also often considered exclusionary in nature.

- Most of the cities and towns are outside the reach of formal financial services and these cities and town fall in urban areas. Therefore, absence of formal financial services found not only in rural areas, but also in urban areas as well and the magnitude of exclusion is relatively high in towns and cities. The exclusion that occurs due to informal financial service has some common features. They are:
  - There found to be a very high level of risk for saving of the poor by the in formal financial service providers. The loss of savings accumulated by the urban dwellers is an easily perceptible trend in low-income neighborhoods.
  - The cost of credit availed by the poor is very high and the conditions on which money is being lent is exploitative. Credit lent against the pledge of gold is very expensive than the effective interest rates, similarly, interest rate paid by hawkers and vendors are very high and generally the interest is charged on daily basis on these lending.
  - Cost of money transfer is found to be costly. In addition, leakage in money transfer is a common phenomenon. Since the money transfer takes place through informal means, delay is expected to happen often.
  - Absence of insurance products and pension plans are felt largely. The needs of life, assets, and health are substantially low or nil.

One of the basic problems of India is the lack of adequate literacy and there is a connection between literacy rate and financial exclusion. Sufficient 'financial education and advice' is essential to include more number of people within the reach of financial inclusion or to minimize the degree of financial exclusion. With this level of literacy background, providing financial capability to the people is not just difficult, rather it is highly challenging task. The financial inclusion process has become more complex because of social exclusion issues. This has slowed down the extension of financial services to people and making them financially literate in a big way *(S. Ramesh & Preeti Sahai, 2007)*. Financial exclusion can emerge because of multiple factors, in addition to those discussed in the preceding paragraphs *(Financial Services Authority, 2000, p. 9 - Santiago Carbo, Edward P. M. Gardener and Philip Molyneux)*:

- *Access Exclusion*: In this case, access to the people is restricted in the process of risk assessment and kept away from accessing the service itself.
- *Condition Exclusion*: Where the conditions attached to financial products make them unsuitable for the needs of some people.
- Price exclusion: Here the prices of the financial products fixed at a level higher than the affordable level of the people. Only few people can avail financial services at this price.
- *Marketing Exclusion*: Under this type of exclusion, financial service providers intentionally exclude certain segment or group of people from the target market. Such categories of people are not covered under any of the marketing or sales promotional activities launched by the financial service providers.
- *Self-Exclusion*: This indicates that people on their own voluntarily believe that they are refused to avail financial services by the providers and hence feel there is absolutely no need of applying for financial services. The reason why people feel on their own that they will be rejected at application stage itself may be due to perceived differences in dealing with the service providers or due to their experiences.

The risk perception attached to the financial products and services offered to the poor people, its cost of assessment and management of products, inadequate rural infrastructure such as road, electricity, internet etc. and finally the vast geographical spread of rural areas are major causes of financial inclusion in India. There are millions of villages in India that are sparsely populated *(Mohan, 2006)*. Unsuitability of products suiting to the requirements of the people in the rural areas, very strict and rigid documentation, and requirement of suitable collateral for availing loan or financial services and increased competition in providing financial services in the market are some of structural factors that caused financial exclusion. Socio-cultural factors also played a major role in restricting an individual or household from accessing financial services from the mainstream providers *(United Nations, 2006 b)*. Demand side factors have played a dominant role in defining the extent of financial exclusion. The population that desires to access financial services has to have some level of income. Hence, the large population that fall below

the poverty line is deprived of the financial services. As a result, the extent of financial exclusion tends to be higher due to lack of demand from this segment of population. The reason is simple, that poor may not have sufficient savings to place deposit in savings bank account or to avail credit in turn. Consequently low income results in slack demand for financial services, particularly savings and credit products *(RBI, 2008)*.

*CONSEQUENCES OF FINANCIAL EXCLUSION*

Financial exclusion consequences can be either a financial consequence or a social consequence. The way, in which people in country can raise, allocate and use their monetary resources largely affected by financial consequences. The patterns of individual consumption, their participation in economic activities, how well they are accessible to social welfare and the income and wealth distribution among them are going to be affected by social consequences. However, overall both the consequences reduce the overall quality of life. Significant costs are being imposed on individuals, households and in general the whole society. These include (i) as employers have to pay wages through bank account of the employees, it is a barrier for employment; (ii) saving and borrowing can be difficult without proper access to accounts; (iii) possessing or owning assets may be difficult; (iv) difficult to adjust income to sudden changes in the economy; and (v) exclusion or separation from the society *(Treasury Committee, UK, 2006)*. Following are the consequences of financial exclusion as per the available literature:

- Cheques drawn in favour of poor people by third parties will be difficult to process unless they have their own bank accounts. Poor people may have to pay charges for getting these cheques cashed. In many cases, poor people have to pay high charges for networks of cheque cashing companies. The core job of cheque cashing companies is to offer exclusive service of this nature *(Anderloni and Carluccio 2006; Hogarth and O'Donnell 1999, Kempson and Whyley, 1998; Kempson et al, 2000)*. Financial exclusion also causes (a) complication in day-to-day cash flow management. Cash flows are irregular and vulnerable as the households and micro enterprises deal the entire set of transactions through cash only. (b) Due to the lack of bank accounts and other banking services such as savings deposits and transfers, financial planning is complicated, especially the people from unorganized sector. This has hindered or limited the chances of making adequate provisions for old age *(Mohan, 2006)*. In countries where payment of wages is directly credited to employees' account through electronic transfer system, employment is not easy to take up in such countries *(Citizens Advice, 2006; Treasury Committee, 2006 b)*.

- The payment of bills through bank accounts will be the norm in some cases. Some times when cash payment outlets are closed, people may have to pay such bills through the bank accounts. Without own bank account, bills payment transaction turns out to be a costly venture *(BMRB, 2006; Corr 2006; Kempson and Whyley, 1998; Kempson et al, 2000)*. Low-income people in France and Germany, whose credits are impaired, delay utility bill payments in order to 'inject flexibility into their budgets'. As a result, people in France and Germany tend to lose utilities and housing facilities due to non-repayment of bills than those in United Kingdom *(Policies, 2007: 36)*. Banking services turns out to be a costly affair when they are purchased without stable relationship with the banker. In other words, when the relationship between the banker and the customer is not stable or ad hoc, the cost of availing services from the banker is costly. As a result, payments occasionally made by the people for utility bills, payment made to taxes, cashing cheques, bank transfers to third parties and money orders are very expensive for people who are not the customers of bank. If the relationship is continuous, then the service charges are relatively reasonable. Therefore there is not only a problem involved in using alternative commercial profit-oriented financial service providers, but also there are harmful economic outcomes that are detrimental to the society owing to occasional dealing with the banker by the poor people *(BMRB, 2006; Corr 2006; Kempson and Whyley, 1998; Kempson et al, 2000)*.

- People who lack payment cards such as a debit or credit card are deprived of availing lower prices offered on these card holders by the service provider (i.e., bank). Utility companies also offer discounted rates on electronic payments of bills every month. People miss the opportunities of getting benefits from both the ends as a result of financial exclusion *(BMRB, 2006; Corr, 2006; Kempson and Whyley, 1998; Kempson et al, 2000)*. From the macroeconomic perspective financial exclusion, being without formal savings can pose two problems: (a) People are deprived of benefits of enjoying the advantages of interest and tax rates that people in formal methods of savings would have enjoyed otherwise, and (b) Savings channels that are informal are not safe like formal saving facilities *(Mohan, 2006)*.

- In case, where people are not in a position to get credit or any financial service of their interest from financial institutions or any other service providers, then the people have to depend on alternative service providers or the sub-prime lenders prevailing in the market. The service providers in this case have their own discretion to charge a very high rate of interest and impose exploitative terms and conditions in the contract *(Anderloni and Carluccio, 2006; Collard and Kempson, 2005; Corr, 2006; Kempson et al, 2000; Treasury Committee 2006 a)*. The customers of mainstream banking services face lot of difficulties or consequences. However, the bargaining power of the customers is very high as the market is governed largely. There is also a possibility that optional commercial entities and their profit-oriented financial services can bring a number of similar negative consequences to their customers too, as in the case of formal financial service providers. This is for the reason that, financially excluded people have no other alternative than these providers and their bargaining power is less. Major drawback of sub-prime loan is its high cost of interest and operation

and poor terms and conditions. As a result, customers are pushed to greater financial indebtedness and vicious financial circle thereby mounting the financial difficulties.

- There is no formal or professional credit rating system for alternative financial service providers and the customers as well and hence there is a question on their financial credibility. Customers and the service providers can get trapped with the risk at any point of time. Service provider is unaware of the credit standards of the customers and vice versa. Hence, greater risk of defaulting by the customers, charging of higher rate by the service provider is an order. Delay in repayment of loan or submission of poor collateral by the customer will call for additional levy or charge by the service provider. This will drag the financial position of the poor people from bad to worse. In Germany, borrowing loan from the illegal lenders is a major problem. This operation associates with risks such as use of violence and intimidation by the lenders when they find that the borrowers are in financial difficulty and unable to repay the money borrowed. In Slovakia, unlicensed or illegal lenders transfer information on default loans to a third company. The company to which loan collection is outsourced is a specialist in loan collection and use harsh methods to recoup payments from the borrowers who do not fulfill their repayment promise *(Policies, 2007)*.

- Those cannot access any type of credit or totally 'credit excluded' face negative impacts. For example, in Germany, people who cannot get access to credit have to rely on informal service of saving or borrowing *(Policies, 2007)*. When the options of formal finance are completely closed, 'Relational Capital' is looked for. Relational capital is availed by borrowing from relatives, friends, neighbors or kin. However, relational capital is a 'double-edged' source of fund. It may cause conflict and tension among the circle of close people from whom money has been borrowed and ultimately result in unpleasant or hostile social relationships or it may even cease the relationships *Rogaly et al., 1999)*.

- People who do not have savings cannot cope with even small financial shocks. Those who maintain savings in the form of cash (i.e., without bank account) are tend to lose the benefit of interest accruable on such unbanked cash balances *(Kempson et al, 2005)*. In addition, those people who accumulate savings and retain cash at home are exposed to still higher level of risks such as burglary or theft and as a result lose cash for nothing *(Kempson and Whyley 1999; Kempson et al, 2000)*. Paying obligations through cash brings a feeling that the money paid is not clean. Instead, it is obtained in any other manner illegally either within or outside the country. In such a case, people concerned may feel offended and lose their self-respect or esteem *(Gloukoviezoff 2004)*.

- One of the important consequences of financial exclusion, which require profound concern, is the effect on self-esteem. The adverse impact of financial exclusion on self-esteem leads to self-isolation, disintegration from the social relationships and connections of friends and families. Lack of knowledge to use proper banking services and being connected to the banking services without holding an account, cause social detachment depending on individual's profile such as his history, social status and life experience *(Gloukoviezoff, 2004)*.

## CONCLUSION

Financial exclusion is deeply rooted concept. It prevailed in the earlier years too. However, the term 'financial exclusion' was submerged with some other popular terms such as poverty, deprivation, unemployment, and family breakdown. These words were extensively used in the popular policy debates in and around Europe. Literature indicates that the most closely associated words from which financial exclusion emanated are 'geographical exclusion' or 'social exclusion'. Financial exclusion concept, nature, causes and consequences discussed in the paper are not uniform across the world. It varies as per the prevailing economic system, structure of financial system, geographical set-up, institutional structure and spread, regulatory system, political will and so on. Financial exclusion is country specific, geographic specific and people specific. The causes and consequences of financial exclusion are intensive, wide spread and far reaching. Majority of the causes and consequences discussed in this paper are interrelated, interdependent, and chronically prevailing in many countries even until today. They pose several implications for policy formulators to form suitable policies and get rid of financial exclusion or to achieve 100 percent financial inclusion. This will be the way for achieving inclusive growth too. The diversity of the concept and the change in their magnitude or composition are measured in different studies that are quoted under literature review. However, for more quantified analysis present study may not be sufficient unless we compare couple of studies at a time and compare data across the nations.

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# CONSTRUCTION OF OPTIMUM PORTFOLIO WITH BSE LISTED COMPANIES

**Kiran[25] Dr. Kushalappa S.[26]**

## ABSTRACT

The paper aims at constructing an optimal portfolio by applying Sharpe's single Index model of capital asset pricing, this model helps an investor to select the best securities to be included in an optimal portfolio and the weights of investment in each security. The main objective of the study is to construct an optimal portfolio of 30 Index Stocks of Bombay Stock Exchange. The entire study is based on secondary data extracted from websites like Bombay Stock Exchange (BSE), Reserve Bank of India (RBI), books and journals. The sample size 30 companies listed on BSE. The analysis is based on stock returns of 30 companies for one year from 1st April 2013 to 31st March 2014.

## KEYWORDS

**Sharpe's Single Index Model, Sharpe Ratio, Optimal Portfolio, Cut-Off Rate Portfolio, Optimal Portfolio, Market Risk, Unsystematic Risk, Variance etc.**

## INTRODUCTION

Portfolio is the collection of financial or real assets such as equity shares, debentures, bonds, treasury bills and property etc. portfolio is a combination of assets or it consists of collection of securities. These holdings are the result of individual preferences, decisions of the holders regarding risk, return and most of other considerations. Modern portfolio theory has one central theme: "In constructing their portfolios investors need to look at the expected return of each investment in relation to the impact that it has on the risk of the overall portfolio". Portfolio management concerns the constructions and maintenance of a collection of investment. It is investment of funds in different securities in which the total risk of the portfolio is minimized, while expecting maximum return from it. It primarily involves reducing risk rather than increasing return. Return is obviously important though, and the ultimate objective of portfolio manager is to achieve a chosen level of return by incurring the least possible risk.

## OBJECTIVES OF STUDY

The main objective of the study is to construct an optimal portfolio of BSE 30 stocks. In order to achieve the main objective, the following subsidiary objectives have been drawn:

- To analyze the performance of sample companies based on their return, systematic risk, unsystematic risk.
- To find out the excess return to beta ratio.
- To identify the stocks supposed to be included in the optimum portfolio
- To find out the proportion of investment under each security included in the optimum portfolio.
- To offer meaningful suggestions to the investors based on the study

## METHODOLOGY USED

The entire study is based on secondary data extracted from websites like Bombay Stock Exchange (BSE), Reserve Bank of India (RBI), books and journals. The sample size is 30 companies listed on BSE Sensex. The analysis is based on stock returns of 30 companies for one year from April 1 2013 to 31st March 2014.

## SCOPE OF STUDY

The study is all about construction of an optimal portfolio with stocks of BSE 30 companies. Thirty companies have been selected for the purpose construction of an optimal portfolio. The study covers a period of one year from April 1st 2013 to 31st March 2014.

## TOOLS USED FOR ANALYSIS

**Return of the Stock** is being calculated by using the following formula:

$$Return = \frac{ClosingPrice - OpeningPrice}{OpeningPrice} * 100$$

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[25]Student (IInd Year MBA), A.I.E.T., Karnataka, India, kirandevadiga712@gmail.com

[26]Senior Assistant Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com

**Beta Coefficient** is given by;

$$\beta = CorrelationCoefficient * \frac{\sigma(Y)}{\sigma(X)}$$

$Where, \quad \sigma(Y) = Standard\ deviation\ of\ returns\ of\ individual\ stocks$
$\sigma(X) = \ Standard\ deviation\ of\ returns\ of\ sensex$

**Average Return** is the average of daily returns of one year from 1st April 2013– 31st March 2014.

**Excess Return-beta ratio** is given by $\frac{R_i - R_f}{\beta_i}$

$Where, R_i = Expected\ return\ on\ stock$
$R_f = Return\ of\ risk\ less\ asset$
$\beta_i = Beta\ coeffient\ of\ the\ security$

**Systematic Risk:** $\sigma_m^2 * \beta_i^2$

$Where, \sigma_m^2 = Variance\ of\ the\ market\ return$

**Unsystematic Risk**: $\sigma_i^2 - \sigma_m^2 * \beta_i^2$

$Where, \sigma_i^2 = Variance\ of\ the\ stock\ return$

**Cut-off point C\*:** $C_i = \dfrac{\sigma_m^2 \sum_{i=1}^{N} \frac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}}{1 + \sigma_m^2 \sum_{i=1}^{N} \frac{\beta_i^2}{\sigma_{ei}^2}}$

$Where, \sigma_m^2 = Variance of the market return$
$\sigma_{ei}^2 = Unsystematic risk of the stock$

**Weights of investment in each security:** $W_i = \frac{Z_i}{\sum_{i=1}^{N} Z_i}$

$Where, \quad W_i = Proportion of investment in each security$

$$Z_i = \frac{\beta_i}{\sigma_{ei}^2} \left( \frac{R_i - R_f}{\beta_i} - C^* \right)$$

$Where, C^* = The cut-off point$

*DATA ANALYSIS AND INTERPRETATION*

Here the researchers attempt to analyses the data collected from secondary sources.

It is clear from Table-1 that among the stocks under study, Hindalco has highest average returns with 0.206799% return and NTPC obtained the lowest returns with -0.05247% return. In terms of systematic risk, Cipla has the lowest risk and Axis bank has the highest risk. Reliance has the lowest unsystematic risk and Sun Pharma has the highest unsystematic risk compared to other stocks under study. Cipla has the lowest total risk and Sun Pharma has the highest total risk compared to other stocks under study.

As per Table-2 it is clear that Dr. Reddy's stock has the highest (0.248313) excess return-beta ratio and NTPC has the lowest (-0.10892) excess return-beta ratio.

Table-3 shows that the securities supposed to be included in the portfolio. The cut-off point is 0.11198455 and it is obtained for the fourth stock, which is ranked in terms of excess return to beta ratio. As per the rule, the stocks above C* can be included in the portfolio.

Table-4 shows the proportion of investment to be made in each stock. It is clear from the table that highest proportion of investment is to be made (i.e., 0.228053%) in Hero Motorcorp stock and lowest investment is to be made (i. 0.074597 %) in Hindalco stock.

**Table-1: Ranking of the Stocks of Sample Manufacturing Companies Based on Returns, Systematic Risk, Unsystematic**

| S. No. | Stocks | Daily Average Returns (%) | Rank | Systematic Risk | Rank | Unsystematic Risk | Rank |
|---|---|---|---|---|---|---|---|
| 1 | Dr. Reddy | 0.206799 | 1 | 1.797788 | 22 | 4.93921 | 26 |
| 2 | TCS | 0.192077 | 2 | 0.986917 | 13 | 3.102061 | 19 |
| 3 | Hero Motors | 0.184957 | 3 | 1.392179 | 17 | 3.306045 | 22 |
| 4 | Maruti Suzuki | 0.171369 | 4 | 0.680216 | 9 | 2.2254 | 9 |
| 5 | Hindalco | 0.146861 | 5 | 0.292013 | 2 | 2.613603 | 16 |
| 6 | Tata Motors | 0.140119 | 6 | 0.376661 | 3 | 2.544907 | 14 |
| 7 | HUL | 0.12674 | 7 | 1.653153 | 20 | 6.509378 | 28 |
| 8 | Wipro | 0.12151 | 8 | 1.975426 | 25 | 4.459807 | 25 |
| 9 | Sesa Sterlite | 0.115384 | 9 | 0.494934 | 5 | 3.063706 | 17 |
| 10 | Tata Steel | 0.109427 | 10 | 1.060738 | 14 | 2.490128 | 13 |
| 11 | GAIL | 0.093176 | 11 | 2.980922 | 29 | 2.241758 | 10 |
| 12 | Infosys | 0.089501 | 12 | 1.982849 | 26 | 1.386408 | 2 |
| 13 | Bajaj Motors | 0.084969 | 13 | 1.481221 | 18 | 1.357339 | 1 |
| 14 | Reliance | 0.078435 | 14 | 3.444405 | 30 | 1.778274 | 6 |
| 15 | M&M | 0.075953 | 15 | 0.596857 | 7 | 2.028403 | 8 |
| 16 | HDFC Bank | 0.075885 | 16 | 2.312397 | 28 | 6.409725 | 27 |
| 17 | ITC | 0.072917 | 17 | 0.78672 | 11 | 1.632407 | 4 |
| 18 | ICICI | 0.070865 | 18 | 0.915661 | 12 | 2.287438 | 11 |
| 19 | BHEL | 0.069711 | 19 | 1.060738 | 15 | 1.625308 | 3 |
| 20 | Axis Bank | 0.06559 | 20 | 0.381907 | 4 | 3.860593 | 23 |
| 21 | Bharati Airtel | 0.057572 | 21 | 1.793995 | 21 | 3.118367 | 20 |
| 22 | HDFC | 0.047695 | 22 | 2.06195 | 27 | 1.806092 | 7 |
| 23 | ONGC | 0.035382 | 23 | 1.875166 | 23 | 2.560809 | 15 |
| 24 | L&T | 0.012231 | 24 | 1.894098 | 24 | 6.78766 | 29 |
| 25 | Cipla | 0.009508 | 25 | 0.259163 | 1 | 1.770753 | 5 |
| 26 | SBI | -0.00411 | 26 | 0.566968 | 6 | 3.277208 | 21 |
| 27 | Coal India | -0.01437 | 27 | 1.543525 | 19 | 2.474263 | 12 |
| 28 | Tata Power | -0.02158 | 28 | 1.182864 | 16 | 4.162515 | 24 |
| 29 | Sun Pharma | -0.04936 | 29 | 0.726749 | 10 | 12.33352 | 30 |
| 30 | NTPC | -0.05247 | 30 | 0.608245 | 8 | 3.074582 | 18 |

**Sources:** Authors Compilation

**Table-2: Excess Return to Beta Ratio and Cut-off Point Calculations for Manufacturing Companies under Study**

| S. No. | Stocks | $R_i-R_f/\beta_i$ | Rank | S. No. | Stocks | $R_i-R_f/\beta_i$ | Rank |
|---|---|---|---|---|---|---|---|
| 1 | Dr. Reddy | 0.248313 | 1 | 16 | HDFC Bank | 0.050511 | 16 |
| 2 | TCS | 0.20656 | 2 | 17 | ITC | 0.047937 | 17 |
| 3 | Hero Motors | 0.195362 | 3 | 18 | ICICI | 0.043536 | 18 |
| 4 | Maruti Suzuki | 0.185105 | 4 | 19 | BHEL | 0.03693 | 19 |
| 5 | Hindalco | 0.149218 | 5 | 20 | Axis Bank | 0.03177 | 20 |
| 6 | Tata Motors | 0.149218 | 6 | 21 | Bharati Airtel | 0.026898 | 21 |
| 7 | HUL | 0.141546 | 7 | 22 | HDFC | 0.017528 | 22 |
| 8 | Wipro | 0.090329 | 8 | 23 | ONGC | 0.008495 | 23 |
| 9 | Sesa Sterlite | 0.087158 | 9 | 24 | L&T | -0.01004 | 24 |
| 10 | Tata Steel | 0.075642 | 10 | 25 | Cipla | -0.03302 | 25 |
| 11 | GAIL | 0.072788 | 11 | 26 | SBI | -0.03466 | 26 |
| 12 | Infosys | 0.07256 | 12 | 27 | Coal India | -0.04221 | 27 |
| 13 | Bajaj Motors | 0.059636 | 13 | 28 | Tata Power | -0.04688 | 28 |
| 14 | Reliance | 0.054349 | 14 | 29 | Sun Pharma | -0.09563 | 29 |
| 15 | M&M | 0.05292 | 15 | 30 | NTPC | -0.10892 | 30 |

**Sources:** Authors Compilation

**Table-3: $C_i$ values for Sample Stocks**

| S. No. | Stocks | $\dfrac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}$ | $\sigma_m^2 \sum\limits_{I=1}^{N} \dfrac{(R_i - R_f)\beta_i}{\sigma_{ei}^2}$ | $\dfrac{\beta_i^2}{\sigma_{ei}^2}$ | $\sum\limits_{i=1}^{N} \dfrac{\beta_i^2}{\sigma_{ei}^2}$ | $1 + \sigma_m^2 \sum\limits_{i=1}^{N} \dfrac{\beta_i^2}{\sigma_{ei}^2}$ | CI |
|---|---|---|---|---|---|---|---|
| 1 | Dr. Reddy | 0.02295716 | 0.02295716 | 0.092453 | 0.092453 | 1.11172812 | 0.0249553 |
| 2 | TCS | 0.02529769 | 0.04825485 | 0.122471 | 0.214924 | 1.25973374 | 0.0462920 |
| 3 | Hero Motors | 0.0494122 | 0.09766705 | 0.252927 | 0.467851 | 1.56539362 | 0.0753994 |
| 4 | Maruti Suzuki | 0.04873081 | 0.14639786 | 0.263261 | 0.731111 | 1.88354238\ | 0.0939297 |
| 5 | Hindalco | 0.04494275 | 0.19134061 | 0.301188 | 1.032299 | 2.24752534 | 0.1028836 |
| 6 | Tata Motors | 0.05199516 | 0.24333577 | 0.348452 | 1.380751 | 2.66862632 | 0.1101950 |
| 7 | HUL | 0.01892143 | 0.2622572 | 0.133677 | 1.514428 | 2.83017381 | **0.111984 C\*** |
| 8 | Wipro | 0.0318399 | 0.2940971 | 0.352486 | 1.866914 | 3.25615088 | 0.109151 |
| 9 | Sesa Sterlite | 0.01831636 | 0.31241346 | 0.21015 | 2.077064 | 3.51011575 | 0.107560 |
| 10 | Tata Steel | 0.02772463 | 0.34013809 | 0.366523 | 2.443587 | 3.95305558 | 0.103984 |
| 11 | GAIL | 0.0177228 | 0.3578609 | 0.243485 | 2.687072 | 4.24730524 | 0.101823 |
| 12 | Infosys | 0.00593959 | 0.36380048 | 0.081858 | 2.76893 | 4.34622958 | 0.101157 |
| 13 | Bajaj Motors | 0.0237825 | 0.38758298 | 0.398793 | 3.167723 | 4.82816831 | 0.097012 |
| 14 | Reliance | 0.04907675 | 0.43665973 | 0.903 | 4.070724 | 5.91943716 | 0.0891469 |
| 15 | M&M | 0.01752923 | 0.45418896 | 0.331239 | 4.401963 | 6.31973706 | 0.0868523 |
| 16 | HDFC Bank | 0.05977841 | 0.51396736 | 1.183463 | 5.585426 | 7.74994261 | 0.0801458 |
| 17 | ITC | 0.02588802 | 0.53985538 | 0.540043 | 6.125469 | 8.40258066 | 0.0776441 |
| 18 | ICICI | 0.04790374 | 0.58775913 | 1.100318 | 7.225787 | 9.73230600 | 0.0729839 |
| 19 | BHEL | 0.01102458 | 0.5987837 | 0.298524 | 7.524311 | 10.0930697 | 0.0716952 |
| 20 | Axis Bank | 0.05091945 | 0.64970315 | 1.602772 | 9.127083 | 12.0300071 | 0.0652668 |
| 21 | Bharati Airtel | 0.01280456 | 0.66250771 | 0.476047 | 9.60313 | 12.6053066 | 0.0635157 |
| 22 | HDFC | 0.01655834 | 0.67906605 | 0.944701 | 10.54783 | 13.7469705 | 0.0596964 |
| 23 | ONGC | 0.00514756 | 0.68421361 | 0.605925 | 11.15376 | 14.4792257 | 0.0571071 |
| 24 | L&T | -0.0023183 | 0.6818953 | 0.230908 | 11.38466 | 14.7582759 | 0.0558374 |
| 25 | Cipla | -0.0039992 | 0.67789606 | 0.121108 | 11.50577 | 14.9046335 | 0.0549649 |
| 26 | SBI | -0.0178904 | 0.6600057 | 0.516207 | 12.02198 | 15.5284656 | 0.0513644 |
| 27 | Coal India | -0.006043 | 0.65396269 | 0.143156 | 12.16514 | 15.7014689 | 0.0503334 |
| 28 | Tata Power | -0.0110228 | 0.64293988 | 0.235145 | 12.40028 | 15.9856393 | 0.0486053 |
| 29 | Sun Pharma | -0.004663 | 0.63827693 | 0.048759 | 12.44904 | 16.0445640 | 0.0480756 |
| 30 | NTPC | -0.0178301 | 0.62044679 | 0.1637 | 12.61274 | 16.2423943 | 0.0461634 |

**Sources:** Authors Compilation

**Table-4: Proportion of Investment in Each Stock**

| S. No. | Stock | Proportion of Investment |
|---|---|---|
| 1 | Dr. Reddy | 0.208028 |
| 2 | TCS | 0.168328 |
| 3 | HR Motors | 0.228053 |
| 4 | Maruthi Suzuki | 0.172822 |
| 5 | Hindalco | 0.074597 |
| 6 | Tata motors | 0.098071 |
| 7 | HUL | 0.050099 |

**Sources:** Authors Compilation

*FINDINGS OF STUDY*

- It is found in the study that among the stocks under study, Hindalco stock has highest average daily returns and NTPC has the lowest average daily returns. Therefore, comparatively, the most profitable stock is Hindalco.

- It is clear from the study that Cipla stock has the lowest systematic risk and Axis bank stock has the highest systematic risk compared to other stocks under study.

- It is revealed in the study that Reliance has the lowest unsystematic risk and sun Parma has the highest unsystematic risk compared to other stocks under study.

- As per study it is clear that Dr. Reddys stock has the highest (0.248313) excess return- beta ratio and NTPC has the lowest (-0.10892) excess return-beta ratio.

- It is found in the study that the cut-off point is 0.11198455and it is obtained for the seventh ranked stock.

- The study shows the fact that highest proportion of investment is to be made 0.228053 in Hero Motorcorp stock and lowest investment is to be made (i.e., 5.6421%) in HUL stock to construct the optimal portfolio.

### CONCLUSION

Sharpe's model is a scientific technique, which can be used to construct the optimal portfolio. In this study out of thirty stocks selected for the study, only seven stocks are suitable to construct the optimal portfolio. The stocks supposed to be included for the constructions of optimal portfolio are; Dr Reddy's, TCS, Hero Motor Corp, Maruti Suzuki Hindalco Tata motor HUL. The investor has to decide about the proportion of investment in each security as found in the study to make the investment more scientific. Finally, it can be concluded that present study will help the investors to create optimal portfolio and help the investors as a guiding record in future.

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# USE OF TECHNICAL CHARTS IN STOCK TRADING

**Pavithra[27] Dr. Kushalappa S.[28]**

| ABSTRACT |
|---|
| The core objective of the study is to emphasize the use of technical charts in stock trading. The study is purely based on secondary data extracted from various secondary sources. The study is confined to only one stock, Infosys. |

| KEYWORDS |
|---|
| **Exponential Moving Average (EMA), Moving Average Convergence Divergence (MACD), Rate of Change (ROC), Relative Strength Index (RSI), Simple Moving Average (SMA) etc.** |

## INTRODUCTION

The crucial role-played by the capital market in shaping the pattern and growth of real output imparts a social significance to individual investment and portfolio decisions. The methods used to analyze securities and make investment decisions fall into two very broad categories: fundamental analysis and technical analysis. Fundamental analysis involves analyzing the characteristics of a company in order to estimate its value. Technical analysis takes a completely different approach; it does not care one bit about the "value" of a company or a commodity. Technicians (sometimes called Chartists) are only interested in the price movements in the market. Technically oriented investors start by checking the market action of the stock. If it is favourable, they examine the fundamentals to be sure the company is sound and profitable. At all times their focus is on the market, generally, on the performance of all listed stocks; specifically, on the price/volume movements of the stock they are considering buying. They make their decisions on technical, not fundamental, data. Technicians are keen to detect the beginning of price movement from one equilibrium level to another equilibrium level. This is because, once the beginning of a price movement is discerned, the prudent investor can earn above-average return by selling/buying securities immediately after the price movement has started. Hence, technical analysis is devoted to deriving a system that allows the investors to detect the price movement of security from one equilibrium level to another equilibrium level. The study is aimed at use of technical charts for trading in Infosys shares. The study period is from 17th February 2014 to 31st March 2014.

## OBJECTIVES OF STUDY

The core objective of the study is to emphasize the use of technical charts in stock trading. The study aims at analysis of price movements of shares of Infosys and to interpret the corrections and trends by using technical analysis tools and to forecast the future trends and provide suitable suggestions to the investors.

## SCOPE OF STUDY

The scope of the study is confined to share prices of only one stock i.e., Infosys shares and the study period is from 17th February 2014 to 31st March 2014**.**

## METHODOLOGY USED

The entire study is based on secondary data extracted from various books, journals and websites. Line diagram and various other statistical tools like moving averages are being used to meet the objectives of the study.

### Tools Used

Simple moving Average: $\frac{Total\ of\ n\ days'\ price}{n}$

Exponential Moving Average: $Previous\ EMA + \left[(Current\ Closing\ Price - Previous\ EMA) \times \frac{2}{(n+1)}\right]$

Rate of Change (ROC): $\left[\frac{Current\ Closing\ Price}{n\ Days\ previous\ Closing\ Price}\right] - 1$

Relative Strength Index (RSI): $100 - \left[\frac{100}{1+RS}\right]$ Where $RS = \frac{Average\ Gain}{Average\ Loss}$

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[27]Student (IInd Year MBA), A.I.E.T., Karnataka, India, pavithrabhavya7@gmail.com

[28]Senior Assistant Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com

Moving Average Convergence Divergence: *Short term EMA − Long term EMA*

## DATA ANALYSIS AND INTERPRETATION

Here an attempt is made to analyses the data collected on the topic under study. The results are discussed under various headings:

**Table-1: Simple Moving Average of Infosys from 17th February 2014 to 31st March 2014**

| Date | Price | 5 days SMA | 10 days SMA | Date | Price | 5 days SMA | 10 days SMA |
|---|---|---|---|---|---|---|---|
| 31-03-14 | 3278.85 | | | 10-03-14 | 3672.75 | 3552.67 | 3428.635 |
| 28-03-14 | 3257.75 | | | 07-03-14 | 3740.95 | 3622.97 | 3473.335 |
| 27-03-14 | 3228.5 | | | 06-03-14 | 3835.7 | 3718.61 | 3526.38 |
| 26-03-14 | 3244.65 | | | 05-03-14 | 3815.3 | 3747.49 | 3577.61 |
| 25-03-14 | 3251.6 | 3252.27 | | 04-03-14 | 3799.9 | 3772.92 | 3630.445 |
| 24-03-14 | 3274.05 | 3251.31 | | 03-03-14 | 3793.05 | 3796.98 | 3674.825 |
| 22-03-14 | 3293.95 | 3258.55 | | 28-02-14 | 3820.2 | 3812.83 | 3717.9 |
| 21-03-14 | 3305.25 | 3273.9 | | 26-02-14 | 3803.85 | 3806.46 | 3762.535 |
| 20-03-14 | 3303 | 3285.57 | | 25-02-14 | 3782.7 | 3799.94 | 3773.715 |
| 19-03-14 | 3271.55 | 3289.56 | 3270.915 | 24-02-14 | 3750.75 | 3790.11 | 3781.515 |
| 18-03-14 | 3349.25 | 3304.6 | 3277.955 | 21-02-14 | 3751.7 | 3781.84 | 3789.41 |
| 14-03-14 | 3389.45 | 3323.7 | 3291.125 | 20-02-14 | 3713.7 | 3760.54 | 3786.685 |
| 13-03-14 | 3357.5 | 3334.15 | 3304.025 | 19-02-14 | 3753.95 | 3750.56 | 3778.51 |
| 12-03-14 | 3670.9 | 3407.73 | 3346.65 | 18-02-14 | 3680 | 3730.02 | 3764.98 |
| 11-03-14 | 3672.75 | 3487.97 | 3388.765 | 17-02-14 | 3662.25 | 3712.32 | 3751.215 |

**Sources:** Authors Compilation

**Chart-1: 5 Days SMA and Price of Infosys**
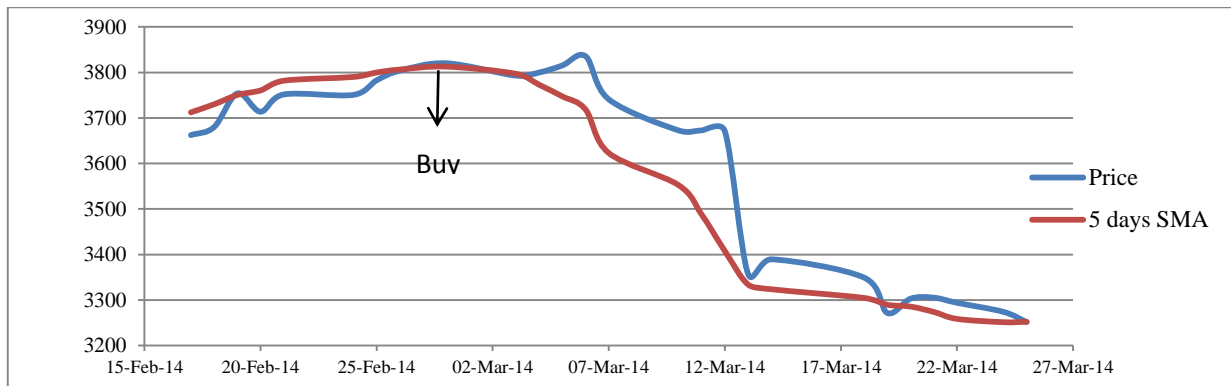


**Sources:** Authors Compilation

**Chart-2: 10 Days SMA and Price**
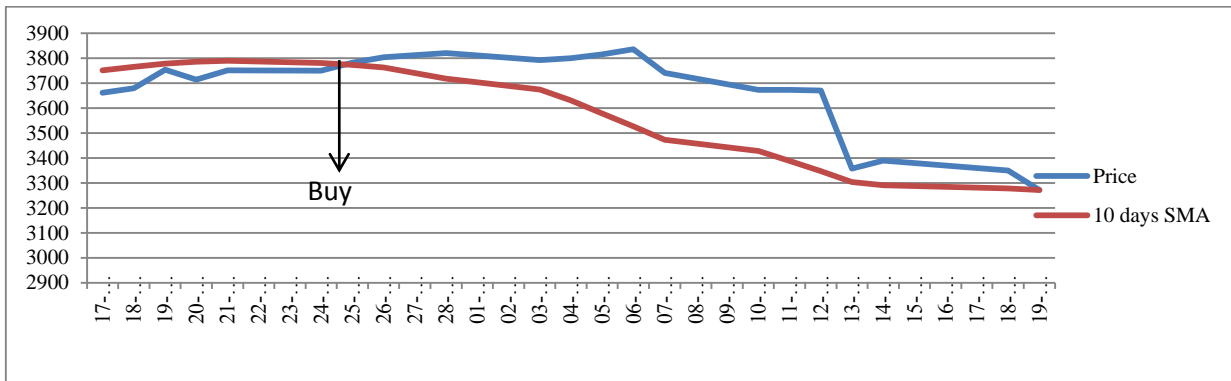


**Sources:** Authors Compilation

**PEZZOTTAITE JOURNALS**

**Interpretation**

The moving average curve, when used along with the price curve, aids in interpreting the price trend. The following rules will be of use for arriving at inferences about the price trend. When the price curve cuts the moving average curve from below, it is expected that the prices would go up. Hence, this gives a 'buy' signal. When the price curve cuts the moving average curve from above, it is expected that the prices would go down. Hence, this gives a 'sell' signal. Chart-1 shows that the investor can buy the share on 26/2/2014, because, on this date, the price curve cuts the 5 days SMA from the bottom. There are no sell signals shown in this chart. It is found in the chart that there are no sell signals during the study period.

**Chart-3: 5 Days SMA and 10 Days SMA**
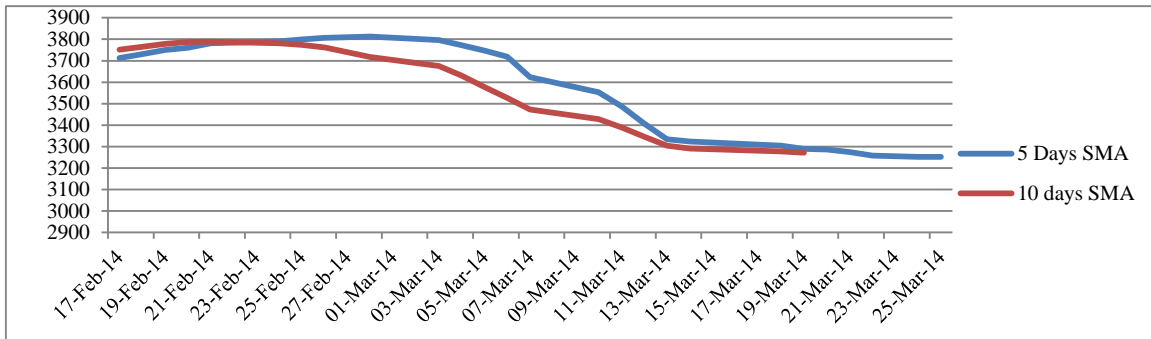


**Sources:** Authors Compilation

**Interpretation**

Sometimes instead of using only one moving average, dual moving averages are also used. The 'buy' or 'sell' signal given by one moving average curve is not immediately acted upon. The 'buy' or 'sell' transaction is put through only if identical buy / sell signals are given by the several set of dual moving averages. Apart from the above, the following rules are also of use for making buy / sell decisions using multiple moving averages. When a shorter-term moving average curve crosses a longer-term moving average curve from below and both the moving averages curves are moving in the upward direction, a 'buy' signal is indicated. It is clear from the above chart that the period under study for this stock, has no buy or sell signals.

*5 Days and 10 Days Exponential Moving Average And MACD*

In order to reduce the lag in simple moving averages, technicians often use exponential moving averages (also called exponentially weighted moving averages). EMA's reduce the lag by applying more weight to recent prices relative to older prices. The weighting applied to the most recent price depends on the specified period of the moving average. The shorter is the EMA's period, the more weight will be applied to the most recent price. Moving Average Convergence Divergence (MACD) is the difference between short term EMA and long term EMA.

**Table-2: Exponential Moving Average of Infosys from 17th February 2014 to 31st March 2014**

| Date | Price | 5 EMA | 10 EMA | MACD | Date | Price | 5 EMA | 10 EMA | MACD |
|---|---|---|---|---|---|---|---|---|---|
| 31-03-14 | 3278.85 | 3278.85 | 3278.85 | 0 | 10-03-14 | 3672.75 | 3574.306142 | 3478.286737 | 96.01941 |
| 28-03-14 | 3257.75 | 3271.816667 | 3275.013636 | -3.19697 | 07-03-14 | 3740.95 | 3629.854094 | 3526.043694 | 103.8104 |
| 27-03-14 | 3228.5 | 3257.377778 | 3266.556612 | -9.17883 | 06-03-14 | 3835.7 | 3698.469396 | 3582.34484 | 116.1246 |
| 26-03-14 | 3244.65 | 3253.135185 | 3262.573591 | -9.43841 | 05-03-14 | 3815.3 | 3737.412931 | 3624.700324 | 112.7126 |
| 25-03-14 | 3251.6 | 3252.623457 | 3260.578393 | -7.95494 | 04-03-14 | 3799.9 | 3758.241954 | 3656.55481 | 101.6871 |
| 24-03-14 | 3274.05 | 3259.765638 | 3263.027776 | -3.26214 | 03-03-14 | 3793.05 | 3769.844636 | 3681.372118 | 88.47252 |
| 22-03-14 | 3293.95 | 3271.160425 | 3268.649999 | 2.510426 | 28-02-14 | 3820.2 | 3786.629757 | 3706.613551 | 80.01621 |
| 21-03-14 | 3305.25 | 3282.523617 | 3275.304544 | 7.219073 | 26-02-14 | 3803.85 | 3792.369838 | 3724.292905 | 68.07693 |
| 20-03-14 | 3303 | 3289.349078 | 3280.340082 | 9.008996 | 25-02-14 | 3782.7 | 3789.146559 | 3734.912377 | 54.23418 |
| 19-03-14 | 3271.55 | 3283.416052 | 3278.741885 | 4.674167 | 24-02-14 | 3750.75 | 3776.347706 | 3737.791945 | 38.55576 |
| 18-03-14 | 3349.25 | 3305.360701 | 3291.561542 | 13.79916 | 21-02-14 | 3751.7 | 3768.131804 | 3740.320682 | 27.81112 |
| 14-03-14 | 3389.45 | 3333.390468 | 3309.359444 | 24.03102 | 20-02-14 | 3713.7 | 3749.987869 | 3735.480558 | 14.50731 |
| 13-03-14 | 3357.5 | 3341.426978 | 3318.112272 | 23.31471 | 19-02-14 | 3753.95 | 3751.30858 | 3738.838638 | 12.46994 |
| 12-03-14 | 3670.9 | 3451.251319 | 3382.255495 | 68.99582 | 18-02-14 | 3680 | 3727.539053 | 3728.140704 | -0.60165 |
| 11-03-14 | 3672.75 | 3525.084213 | 3435.072678 | 90.01153 | 17-02-14 | 3662.25 | 3705.776035 | 3716.160576 | -10.3845 |

**Sources:** Authors Compilation

**Chart-4: 5 Days EMA and Price of Infosys**



**Sources:** Authors Compilation

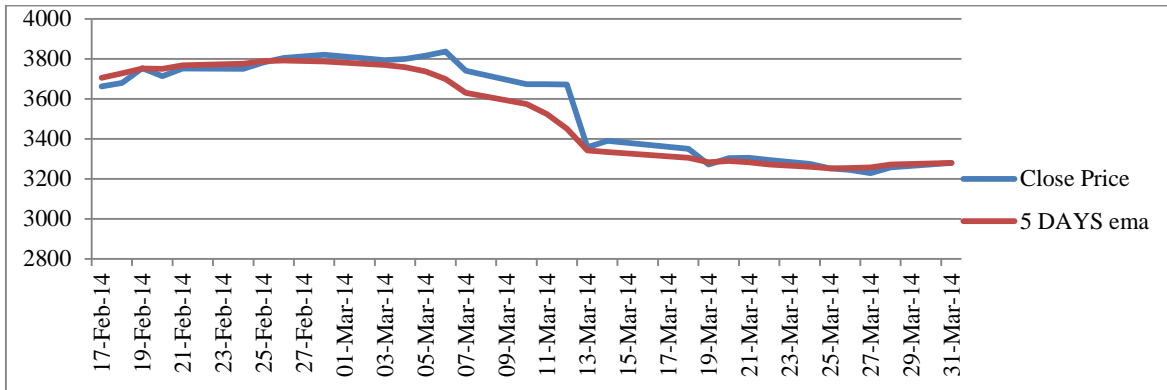**Chart-5: 10 Days EMA and Price of Infosys**
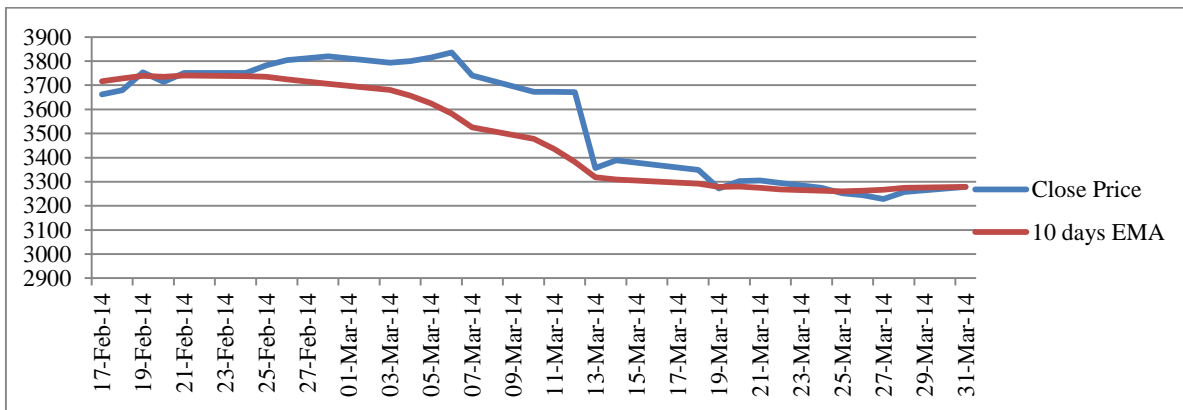


**Sources:** Authors Compilation

**Interpretation**

The moving average curve, when used along with the price curve, aids in interpreting the price trend. The following rules will be of use for arriving at inferences about the price trend. When the price curve cuts the moving average curve from below, it is expected that the prices would go up. Hence, this gives a 'buy' signal. When the price curve cuts the moving average curve from above, it is expected that the prices would go down. Hence, this gives a 'sell' signal. It is clear from Chart No.4 and Chart 5 that there are no buy or sell signals during the study period.

**Chart-6: MACD of Infosys**
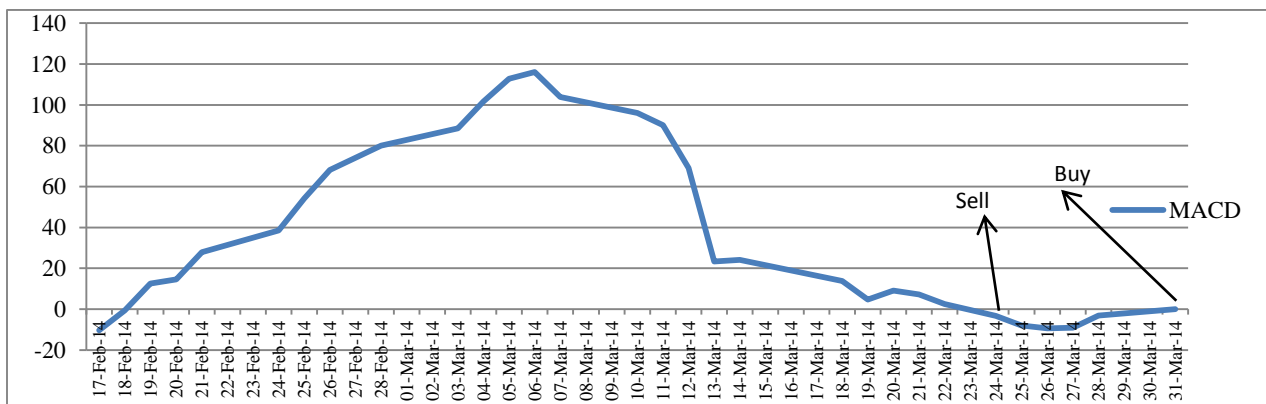


**Sources:** Authors Compilation

**Interpretation**

MACD is calculated from the two sets of exponential moving averages. The resulting curve will be in oscillator format .The resulting curve will oscillate across the zero line. When the MACD curve crosses the zero line from below, a 'buy' signal is indicated and when it crosses the zero line from above, a 'sell' signal is indicated.

*Rate of Change (ROC)*

Rate of change indicator or the ROC measures the rate of change between the current price and the price *'n'* number of days in the past. ROC helps to find out the overbought and oversold positions in scrip. It is also useful in identifying the trend reversal.

**Table-3: Rate of Change of Infosys from 17th February 2014 to 31st March 2014**

| Date | Price | 10 Days ROC | Date | Price | 10 Days ROC |
|---|---|---|---|---|---|
| 31-03-14 | 3278.85 | | 10-03-14 | 3672.75 | 0.114999 |
| 28-03-14 | 3257.75 | | 07-03-14 | 3740.95 | 0.131821 |
| 27-03-14 | 3228.5 | | 06-03-14 | 3835.7 | 0.161278 |
| 26-03-14 | 3244.65 | | 05-03-14 | 3815.3 | 0.166206 |
| 25-03-14 | 3251.6 | | 04-03-14 | 3799.9 | 0.134553 |
| 24-03-14 | 3274.05 | | 03-03-14 | 3793.05 | 0.119075 |
| 22-03-14 | 3293.95 | | 28-02-14 | 3820.2 | 0.137811 |
| 21-03-14 | 3305.25 | | 26-02-14 | 3803.85 | 0.036217 |
| 20-03-14 | 3303 | | 25-02-14 | 3782.7 | 0.029937 |
| 19-03-14 | 3271.55 | -0.00223 | 24-02-14 | 3750.75 | 0.021237 |
| 18-03-14 | 3349.25 | 0.028087 | 21-02-14 | 3751.7 | 0.002874 |
| 14-03-14 | 3389.45 | 0.049853 | 20-02-14 | 3713.7 | -0.03181 |
| 13-03-14 | 3357.5 | 0.03478 | 19-02-14 | 3753.95 | -0.01608 |
| 12-03-14 | 3670.9 | 0.128952 | 18-02-14 | 3680 | -0.03155 |
| 11-03-14 | 3672.75 | 0.121776 | 17-02-14 | 3662.25 | |

**Sources:** Authors Compilation

**Chart-7: Graph showing 10 Days ROC**
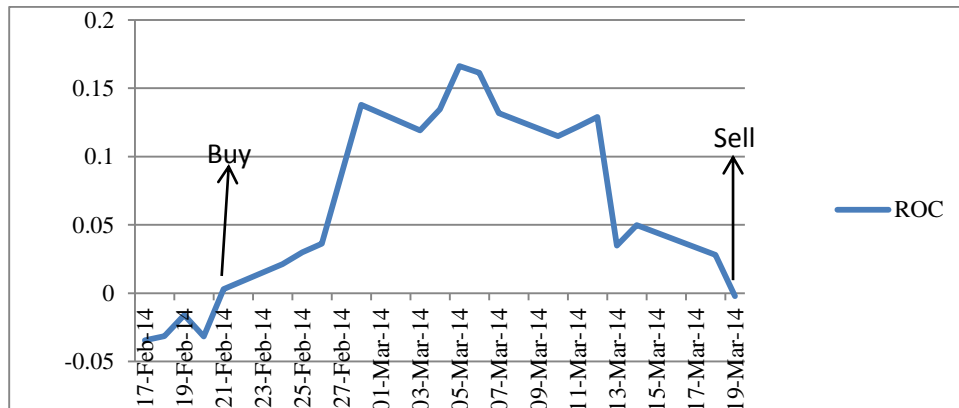


**Sources:** Authors Compilation

**Interpretation**

Where ROC cuts zero and move negative, it is selling indicator. Where ROC cuts zero and move positive, it is buying indicator. From Chart No 7 it is clear that on 21/02/2014 as the price cuts zero from the bottom, the investor should buy the share. The investor should sell the share on 19/02/2014 as the price cuts zero from the top.

*9 Days Relative Strength Index*

The Relative Strength Index Technical Indicator (RSI) is a price-following oscillator that ranges between 0 and 100

**Table-4: Relative Strength Index of Infosys from 17th February 2014 to 31st March 2014**

| Date | Price | Gain | Loss | Average Gain | Average Loss | RS | RSI |
|---|---|---|---|---|---|---|---|
| 31-03-14 | 3278.85 | | | | | | |
| 28-03-14 | 3257.75 | | -3.83 | | | | |
| 27-03-14 | 3228.5 | | -8.45 | | | | |
| 26-03-14 | 3244.65 | | -3.98 | | | | |
| 25-03-14 | 3251.6 | | -1.99 | | | | |
| 24-03-14 | 3274.05 | 2.44 | | | | | |
| 22-03-14 | 3293.95 | 5.62 | | | | | |
| 21-03-14 | 3305.25 | 6.65 | | | | | |
| 20-03-14 | 3303 | 5.03 | | 2.19 | 2.03 | 1.081 | 51.95 |
| 19-03-14 | 3271.55 | | -1.59 | 2.19 | 2.20 | 0.99 | 49.86 |
| 18-03-14 | 3349.25 | 12.81 | | 3.62 | 1.78 | 2.03 | 67.01 |
| 14-03-14 | 3389.45 | 17.79 | | 5.59 | 0.84 | 6.64 | 86.92 |
| 13-03-14 | 3357.5 | 8.75 | | 6.57 | 0.39 | 16.45 | 94.27 |
| 12-03-14 | 3670.9 | 64.14 | | 13.69 | 0.17 | 77.13 | 98.72 |
| 11-03-14 | 3672.75 | 52.81 | | 19.29 | 0.17 | 108.64 | 99.08 |
| 10-03-14 | 3672.75 | 43.21 | | 23.47 | 0.17 | 132.17 | 99.24 |
| 07-03-14 | 3740.95 | 47.75 | | 28.03 | 0.17 | 157.88 | 99.37 |
| 06-03-14 | 3835.7 | 56.30 | | 33.73 | 0.17 | 189.96 | 99.47 |
| 05-03-14 | 3815.3 | 42.35 | | 38.43 | 0 | 0 | 0 |
| 04-03-14 | 3799.9 | 31.85 | | 40.55 | 0 | 0 | 0 |
| 03-03-14 | 3793.05 | 24.81 | | 41.33 | 0 | 0 | 0 |
| 28-02-14 | 3820.2 | 25.24 | | 43.16 | 0 | 0 | 0 |
| 26-02-14 | 3803.85 | 17.67 | | 38.00 | 0 | 0 | 0 |
| 25-02-14 | 3782.7 | 10.61 | | 33.31 | 0 | 0 | 0 |
| 24-02-14 | 3750.75 | 2.87 | | 28.83 | 0 | 0 | 0 |
| 21-02-14 | 3751.7 | 2.52 | | 23.80 | 0 | 0 | 0 |
| 20-02-14 | 3713.7 | | - 4.84 | 17.55 | 0.53 | 32.63 | 97.02 |
| 19-02-14 | 3753.95 | 3.35 | | 13.21 | 0.53 | 24.58 | 96.09 |
| 18-02-14 | 3680 | | -10.69 | 9.68 | 1.72 | 5.60 | 84.86 |
| 17-02-14 | 3662.25 | | -11.98 | 6.92 | 3.05 | 2.26 | 69.36 |

**Sources:** Authors Compilation

**Chart-8: 9 Days RSI**
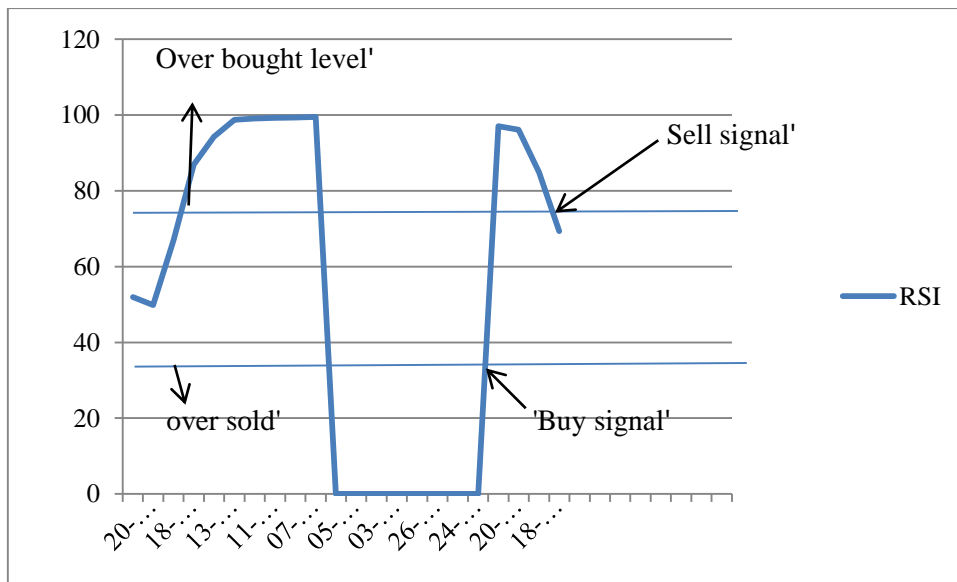


**Sources:** Authors Compilation

**Interpretation**

This model was developed by Wells Wilder. Being a momentum indicator, it offers signals for buying and selling. Wilder recommended over-bought and over-sold lines to be drawn at 70 and 30 levels of RSI respectively. The above chart shows that the buy signal is on 6-03-2014.

*FINDINGS*

- It is found in the 5 days SMA and 10 days SMA there are no sell signals during the study period.
- The study shows that in 5 days EMA and 10 days EMA there are no buy or sell signals during the study period.
- The study shows in MACD that when the MACD curve crosses the zero line from below, a 'buy' signal is indicated and when it crosses the zero line from above, a 'sell' signal is indicated.
- It is found in ROC that on 21/02/2014 as the price cuts zero from the bottom, the investor should buy the share. The investor should sell the share on 19/02/2014 as the price cuts zero from the top.
- It is found in RSI that the buy signal is on 6-03-2014.

*CONCLUSION*

Technical analysis alone is not adequate to reap benefits from the stock market. While fundamental analysis require large volume of data and intricate calculations to access the intrinsic worth of the securities, technical analysis need only minimum data, which the past data on price and volume of transactions. Thus, technical analysis is comparatively simple and less time consuming. However, technical analysis can only hint at the idea time for investment/disinvestment. Technical analysis cannot identify undervalued / overvalued securities, which can be done by only by fundamental analysis. Hence, the ideal strategy would be the use fundamental analysis for identifying the undervalued / overvalued securities and to use technical analysis to choose the best time for buying / selling of securities. In this way, technical analysis can be made to supplement the efforts of fundamental analysis. The present study, under most of the technical tools used, does not reveal the buy or sell signals during the period under study. If the period of study is six months or one year, the charts under study may definitely reveal the correct buy and sell signals.

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# PERFORMANCE EVALUATION OF EQUITY FUNDS IN INDIA: A STUDY

**Ramakrishna Hegde[29] Dr. Kushalappa S.[30]**

**ABSTRACT**

The Indian Mutual Fund industry, though still small in comparison to the size of the Indian economy, offers Indian, and in some cases, global investors, both big and small, an avenue to invest safely and securely, at a reduced cost, in a diverse range of securities, spread across a wide range of industries and sectors. The managed portfolio is commonly known as mutual funds. An investment vehicle pools together funds from investors to purchase stocks, bonds or other securities. An investor can participate in the mutual fund by buying the units of the fund. Each unit is backed by a diversified pool of assets, where the funds have been invested. Each investor owns shares, which represent a portion of the holdings of the fund. The primary advantage of funds is the professional management of money. Investors purchase funds because they do not have the time or the expertise to manage their own portfolios.

A mutual fund is a relatively inexpensive way for a small investor to get a full-time manager to make and monitor investments. In India, a number of different types of funds offered by different companies are available. The current study focuses on the evaluation of equity funds in India. In this regard, the yearly returns of various types of equity funds have been taken into consideration. The study covers a period of five years from 1st April 2009 to 31st March 2014. The study is purely based on secondary data extracted from different sources. Various performance evaluation techniques are utilized like Sharpe's Performance Index, Treynor's Performance Index etc.

**KEYWORDS**

**Mutual Funds, Performance, Return, Risk etc.**

*INTRODUCTION*

Portfolio manager evaluates his portfolio and identifies the sources of strength and weakness. A portfolio, which has been evaluated through their relative merits of return and risk criteria is a managed portfolio. The managed portfolio is commonly known as mutual funds. An investment vehicle pools together funds from investors to purchase stocks, bonds or other securities. An investor can participate in the mutual fund by buying the units of the fund. Each unit is backed by a diversified pool of assets, where the funds have been invested. Each investor owns shares, which represent a portion of the holdings of the fund. The primary advantage of funds is the professional management of money. Investors purchase funds because they do not have the time or the expertise to manage their own portfolios. A mutual fund is a relatively inexpensive way for a small investor to get a full-time manager to make and monitor investments. In India, a number of different types of funds offered by different companies are available. The current study deals with performance evaluation of different type of mutual fund like Equity funds, Debt funds, Hybrid funds and Money market funds. In this regard, the yearly returns of mutual funds have been taken into consideration. The study covers a period of five years from 1st April 2008 to 31st March 2013.

*OBJECTIVES OF STUDY*

The prime objective of this study is to evaluate the market performance of the various mutual funds in India. However in order to achieve the main objective, the following specific objectives have been framed by the researchers:

- To examine the performance of various equity funds in terms of their risk and return,
- To compare the performance of various equity funds under study,
- To evaluate the performance of equity funds by using various portfolio evaluation techniques,
- To offer meaningful suggestions to the investors on their investment in mutual funds.

*SCOPE OF STUDY*

The study deals with performance evaluation of various equity funds traded in India. It deals with the following types of equity funds; Large Cap Funds, Small and Mid-Cap Funds, Diversified Funds and ELSS. Under each type of a mutual fund, top five mutual funds taken as sample in this study.

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[29]Student (IInd Year MBA), A.I.E.T., Karnataka, India, ramakrishnahegde2@gmail.com
[30]Senior Assistant Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com

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*METHODOLOGY OF STUDY*

The entire study is based on the secondary data, procured and extracted from various sources like e-source, books etc. For analyzing the market performance of the selected funds and to test the hypothesis, various statistical tools have been used. The statistical tools like Arithmetic Mean, Standard Deviation and Coefficient of Variation. The sample size is five types of equity funds. Under each type of equity fund, the top five funds have been selected.

*DATA ANALYSIS AND INTERPRETATION*

**Table-1: Average, Standard Deviation and Coefficient of Variance of Large Cap Funds**

| Year / Fund | Birla Sun Life Top 100 (G) | Bnp Paribas Equity Fund (G) | SBI Bule Chip Fund (G) | UTI Equity Fund(G) | BOI Axa Equity Fund Direct(G) |
|---|---|---|---|---|---|
| Apr-13 | 4.1 | 3.6 | 3.4 | 4.5 | 3.1 |
| May-13 | -1 | -0.5 | -0.5 | 0.6 | 0.4 |
| Jun-13 | -1.9 | -1.9 | -2.6 | -2.2 | -1.4 |
| Jul-13 | -3 | -0.5 | -3.4 | -2 | -2.6 |
| Aug-13 | -1.6 | -2.2 | -4.8 | -4.5 | -4.1 |
| Sep-13 | 4.3 | 4.2 | 4.6 | 4.2 | 3.8 |
| Oct-13 | 9.8 | 7.3 | 8.7 | 7.7 | 9.9 |
| Nov-13 | -1.1 | -0.6 | -1.1 | -1.5 | -1.6 |
| Dec-13 | 2.6 | 2.3 | 2.1 | 3.4 | 1.8 |
| Jan-14 | -3.8 | -3.4 | -1.8 | -3.1 | -3.2 |
| Feb-14 | 5 | 3 | 4.2 | 4.1 | 5.1 |
| Mar-14 | 8.7 | 8.7 | 6 | 7.8 | 6.6 |
| **AVG** | **1.8** | **1.6** | **1.2** | **1.5** | **1.4** |
| **SD** | **4.5** | **3.8** | **4.2** | **4.2** | **4.3** |
| **CV (%)** | **248.23** | **229.83** | **340.73** | **267.69** | **292.41** |

**Sources:** Authors Compilation

Table-1 shows the fact that, among the large cap equity funds under study, Birla sun life top 100 (G) Fund has the highest average return and BNP Paribas equity fund G has lowest coefficient of variance. SBI blue chip Fund has the lowest average return and has the highest coefficient of variance.

**Table-2: Average, Standard Deviation and Coefficient of Variance of Small and Mid-Cap Funds (Equity Funds)**

| Year / Fund | Reliance Small Cap Fund (G) | Can Robeco Emerg Equity(G) | UTI Mid Cap Fund (G) | L&T Mid Cap Fund (G) | Tata Mid Cap Growth Fund (G) |
|---|---|---|---|---|---|
|  | 0.9 | 0.8 | 3.5 | 3.7 | 1.6 |
| May-13 | -1.5 | -1.2 | 2.8 | -0.3 | 2.1 |
| Jun-13 | -3.4 | -5.7 | -6.5 | -4.7 | -3 |
| Jul-13 | -4.6 | -4.3 | -5.3 | -3.7 | -7.2 |
| Aug-13 | -1.5 | -3.1 | -2.5 | -0.8 | -2.4 |
| Sep-13 | 5 | 5.1 | 5.5 | 5 | 7.7 |
| Oct-13 | 12.5 | 9.2 | 8.5 | 6.8 | 6.5 |
| Nov-13 | 7.5 | 3.3 | 5.1 | 2 | 1.7 |
| Dec-13 | 8.5 | 7.3 | 6.5 | 6.7 | 6.4 |
| Jan-14 | -4.5 | -5.2 | -3.8 | -4.5 | -5.4 |
| Feb-14 | 3.7 | 4.4 | 5.5 | 4.4 | 6.6 |
| Mar-14 | 10.4 | 12.4 | 10.2 | 10.4 | 7.2 |
| **AVG** | **2.7** | **1.9** | **2.4** | **2.0** | **1.8** |
| **SD** | **6.0** | **5.9** | **5.5** | **4.9** | **5.2** |
| **CV** | **219.04** | **312.08** | **227.36** | **236.04** | **289.33** |

**Sources:** Authors Compilation

It is clear from Table 2 that, among the small and mid-cap equity funds, Reliance small cap fund (G) has the highest average return. Tata mid cap growth fund (G) has the lowest average return and Can Robeco Emerg equity fund has highest coefficient of variance. Reliance small cap fund has the lowest coefficient of variance.

**Table-3: Average, Standard Deviation and Coefficient of Variance of Diversified Equity Funds**

| Year/ Fund | Tata Equity P/E Fund (G) | UTI MNC Fund (G) | Reliance Equity Oppor- Rp(G) | Birla SL Special Situations (G) | HDFC Equity Fund(G) |
|---|---|---|---|---|---|
| Apr-13 | 1.6 | 6.5 | 2.3 | 5 | 3.6 |
| May-13 | -1.4 | 4.3 | -2.7 | -2.6 | 1.2 |
| Jun-13 | -5.3 | 4.7 | -3 | -4 | -4.7 |
| Jul-13 | -5 | -2.7 | -5.9 | -7.7 | -7 |
| Aug-13 | -2.5 | -3.5 | -1.2 | -2 | -3.4 |
| Sep-13 | 6.6 | 4.6 | 2.6 | 4.8 | 4 |
| Oct-13 | 0 | 4.2 | 8.2 | 8 | 11.3 |
| Nov-13 | -1.3 | 1.1 | 2.4 | 0 | 0.7 |
| Dec-13 | 6.1 | 4.7 | 6.3 | 3.5 | 4 |
| Jan-14 | -6.1 | -6.2 | -3.8 | -4.8 | -3 |
| Feb-14 | 6.6 | 2.1 | 4.4 | 4.3 | 6.1 |
| Mar-14 | 9.8 | 10.9 | 8.8 | 8.5 | 10.5 |
| **AVG** | **0.7** | **2.5** | **1.5** | **1.0** | **1.9** |
| **SD** | **5.3** | **4.7** | **4.8** | **5.3** | **5.7** |
| **CV** | **707.04** | **185.44** | **317.25** | **490.05** | **298.06** |

**Sources:** Authors Compilation

Table-3 shows that, among the diversified equity funds under study. UTI MNC fund has the highest average return. TATA Equity p/e fund has the lowest average return and has the highest coefficient of variance. UTI MNC Fund (G) has the lowest coefficient of variance.

**Table-4: Average, Standard Deviation and Coefficient of Variance of ELSS (Equity Funds)**

| Year Fund | Reliance Tax Saver (ELSS) Direct (G) | Axis Long Term Equity Fund (G) | Principal Tax Savings Fund (G) | BNP Paribas Long Term Equity Fund (G) | HDFC Long Term Advantages |
|---|---|---|---|---|---|
| Apr-13 | 6.3 | 4.6 | 3.6 | 3.6 | 1.2 |
| May-13 | -0.5 | 2.1 | -0.4 | -0.5 | 1.3 |
| Jun-13 | -4.6 | -2.2 | -3.6 | -1.9 | -3.8 |
| Jul-13 | -9.6 | -2.1 | -4.8 | -0.5 | -2.0 |
| Aug-13 | -2.0 | -4.1 | -2.5 | -2.2 | -4.6 |
| Sep-13 | 4.7 | 4.1 | 5.2 | 4.2 | 3.4 |
| Oct-13 | 9.3 | 8.7 | 9.8 | 7.3 | 10.9 |
| Nov-13 | 2.8 | 3.5 | -0.5 | -0.6 | 0.0 |
| Dec-13 | 7.3 | 2.3 | 4.4 | 2.3 | 2.5 |
| Jan-14 | -6.6 | -2.9 | -4.0 | -3.4 | -2.6 |
| Feb-14 | 4.3 | 6.6 | 4.0 | 3.0 | 5.6 |
| Mar-14 | 15.4 | 8.2 | 8.4 | 8.7 | 7.8 |
| **AVG** | **2.2** | **2.4** | **1.6** | **1.7** | **1.7** |
| **SD** | **7.2** | **4.4** | **4.9** | **3.8** | **4.7** |
| **CV** | **321.28** | **182.82** | **302.54** | **229.83** | **288.04** |

**Sources:** Authors Compilation

According to Table 4, among the ELSS funds under study, Axis long-term equity fund (G) has the highest average return and has the lowest coefficient of variance. Principal tax savings fund (G) has the lowest average return and Reliance Tax saver (ELSS) direct (G) has highest coefficient of variance.

**Table-5: Sharpe's and Treynor's Ratio for Large Cap Funds**

| Fund | Sharpe's Ratio | Rank | Treynor's Ratio | Rank |
|---|---|---|---|---|
| Birla sun life top 100 (G) | 0.2191 | 1 | 1.030896 | 1 |
| BNP Paribas equity fund (G) | 0.215807 | 2 | 1.013199 | 2 |
| SBI blue chip fund (G) | 0.093596 | 5 | 0.429807 | 5 |
| UTI equity fund(G) | 0.175375 | 3 | 0.800584 | 3 |
| BOI axa equity fund direct(G) | 0.148318 | 4 | 0.677798 | 4 |

**Sources:** Authors Compilation

As per the above table, it is clear that under both the techniques of portfolio evaluation, Birla sun life top 100 fund has obtained the first rank and it is followed by BNP Paribas equity fund (G), UTI Equity Fund(G), BOI Axa Equity Fund Direct(G) and SBI Blue Chip Fund (G).

**Table-6: Sharpe's and Treynor's Ratio for Small and Mid-Cap Funds**

| Fund | Sharpe's Ratio | Rank | Treynor's Ratio | Rank |
|---|---|---|---|---|
| Reliance Small Cap Fund (G) | 0.317083 | 1 | 1.72577 | 2 |
| Can Robeco Emerg Equity(G) | 0.179996 | 5 | 1.058693 | 4 |
| UTI Mid Cap Fund(G) | 0.289539 | 2 | 1.77161 | 1 |
| L&T Mid Cap Fund(G) | 0.252831 | 3 | 1.325777 | 3 |
| Tata Mid Cap Growth Fund(G) | 0.185808 | 4 | 1.041428 | 5 |

**Sources:** Authors Compilation

As per Table 6, under Sharpe's ratio, Reliance Small Cap Fund has received first the first rank and Can Robeco Emerg Equity (G) has obtained the last rank. Under Treynor's Ratio, UTI mid cap fund has obtained the first rank and Tata Mid Cap Growth Fund (G) has obtained the last rank.

**Table-7: Sharpe's and Treynor's Ratio for Diversified Equity Funds**

| Fund | Sharpe's Ratio | Rank | Treynor's Ratio | Rank |
|---|---|---|---|---|
| Tata Equity p/e Fund (G) | -0.01523 | 5 | -0.09975 | 5 |
| UTI MNC Fund (G) | 0.362191 | 1 | 2.2275 | 1 |
| Reliance equity Oppor-rp (G) | 0.142527 | 3 | 0.797569 | 3 |
| Birla SL Special Situations (G) | 0.045834 | 4 | 0.233844 | 4 |
| HDFC Equity Fund (G) | 0.190352 | 2 | 0.933764 | 2 |

**Sources:** Authors Compilation

According to Table 7, UTI MNC fund (G) has obtained first rank and Tata equity p/e fund (G) has obtained the last rank under both the techniques of portfolio evaluation.

**Table-8: Sharpe's and Treynor's Ratio for ELSS**

| Fund | Sharpe's Ratio | Rank | Treynor's Ratio | Rank |
|---|---|---|---|---|
| Reliance Tax saver (ELSS) direct (G) | 0.194186 | 3 | 1.061749 | 2 |
| Axis long term equity fund (G) | 0.355549 | 1 | 1.742416 | 1 |
| Principal Tax savings fund (G) | 0.160544 | 5 | 0.759824 | 5 |
| BNP Paribas long term equity fund (G) | 0.215807 | 2 | 1.013199 | 3 |
| HDFC long term advantages | 0.169531 | 4 | 0.803271 | 4 |

**Sources:** Authors Compilation

Table-8 shows the fact that according to Sharpe ratio, Axis long term equity fund (G) is in the top position, followed by BNP Paribas long term equity fund (G), Reliance Tax saver (ELSS) direct (G), HDFC long term advantages and Principal Tax savings fund (G). As per Treynor's ratio, Axis long-term equity fund (G) is in the top position, followed by Reliance Tax saver (ELSS) direct (G), BNP Paribas long term equity fund (G), HDFC long term advantages and Principal Tax savings fund (G).

*FINDINGS AND CONCLUSION*

**A**mong the large cap equity funds under study, Birla sun life top 100 (G) Fund has the highest average return SBI blue chip Fund has the lowest average return. BNP Paribas equity fund G has lowest variance in its returns and SBI blue chip Fund has the highest variance in its returns. The fore it can be concluded that under large cap equity funds, Birla sun life top 100 (G) is the best fund for investment.

Among the small and mid-cap equity funds, Reliance small cap fund (G) Fund has the highest average return and Tata mid cap growth fund (G) has the lowest average return. Can Robeco Emerg equity fund has highest coefficient of variance and Reliance small cap fund has the lowest coefficient of variance. Therefore, it is clear that Reliance small cap fund is the best fund among the various small and mid-cap funds under study.

Under diversified equity funds, UTI MNC fund has the highest average return and Tata Equity P/E fund has the lowest average return. UTI MNC fund has the lowest variance in its returns and Tata Equity P/E fund has the highest variance in its returns. Therefore,

Among the ELSS funds under study, Axis long-term equity fund (G) Fund has the highest average return and has the lowest coefficient of variance. Principal tax savings fund (G) Fund has the lowest average return, Reliance Tax saver (ELSS) direct (G) has highest coefficient of variance. Therefore, it is true that Axis long-term equity fund (G) is the best ELSS fund.

The two techniques of portfolio evaluation says that among the Large Cap Equity funds, Birla sun life top 100 fund is the best fund, among the Small and MidCap funds, Reliance small cap fund (G) and UTI mid cap fund (G) are the best funds, among the Diversified funds, UTI MNC fund (G) is the best fund and under ELSS funds, Axis long term equity fund (G) is the best fund for investment.

Finally, it can be concluded that the best funds suggested here does not mean that they are the best funds forever. The investor has to evaluate the performance of the mutual funds regularly to make his investment, a best investment.

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# RISK RETURN ANALYSIS OF NSE LISTED STOCKS

**Narayan Gaonkar[31] Dr. Kushalappa S.[32]**

| ABSTRACT |
|---|
| Risk and return are the two important factors, which will have an impact on the investment decision. One cannot talk about investment return without talking about risk because investment decisions invariably involve a trade-off between the two. Risk refers to the possibility that the actual outcome of an investment will differ from its expected outcome. More specifically, most investors are concerned about the actual outcome being less than the expected outcome as the wider the range of possible outcomes, the greater the risks. Almost everyone recognizes that risk must be considered in determining value and making investment choices. In fact, valuation and an understanding of the tradeoff between risk and return form the foundation for maximizing shareholder wealth. The study is undertaken with the main objective of determining the risk return profile of 30 stocks listed on NSE. Only 30 top companies shares listed on NSE are considered in this paper. |

| KEYWORDS |
|---|
| Portfolio, Return, Risk etc. |

*INTRODUCTION*

Every investment is characterized by risk and return. Risk is a situation involving explore to uncertainty. When an investor deploys his fund into some securities, he/she does so after analyzing the expected return. If actual return obtained is the same as the expected return, such an investment considered to be risk free i.e. an investment with no risk. Usually, higher the risk higher the return, lower the risk lower the return. However, a general understanding of this phenomenon is not sufficient to make appropriate decisions relating to investments. A more quantifiable analysis is required to understand investments better. The quantifiable analysis is done by use of simple arithmetic and statistics to analyses the relationship. Risk is defined as the chance that an investment's actual return will be different from expected. This includes the possibility of losing some or all of the original investment.

Those of us who work hard for every penny we earn have a hard time parting with money. Therefore, people with less disposable income tend to be, by necessity, more risk averse. On the other end of the spectrum, day traders feel that if they are not making dozens of trades a day, there is a problem. These people are risk lovers.

*Component of Risk*

For the purpose of batter analysis and understanding, the total risk in an investment can be split into two types, viz.,

- **Systematic risk**
- **Unsystematic risk**

**Total Risk = Systematic Risk + Unsystematic Risk**

*Systematic Risk*

A dictionary meaning of a systematic risk is "acting according to a fixed plan or system." Systematic risk is the risk that is caused by system-wide factor. Changes in economic conditions, changes in political system, changes in the social system etc. are some factor that affects the entire community. These are called system –wide the particular company and uncontrollable by the company. These market risks cannot be diversified away. Interest rates, recessions & wars are examples of systematic risk. The systematic risk is further subdivided into three types. They are: a) Market risk, b) Interest rate risk, c) Purchasing power risk, d) Market risk.

The risk that value of your investment will decline as a result of market conditions. This type of risk is primarily associated with stocks. You might buy the stock of a promising or successful company only to have its market value fall with a generally falling stock market. The types of market risk are: a) Absolute risk, b) Relative risk, c) Directional risk, d) Non-directional risk, e)Basis risk, f) Volatility risk

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[31]Student (IInd Year MBA), A.I.E.T., Karnataka, India, narayangaonkar@hotmail.com

[32]Senior Assistant Professor, Department of MBA, A.I.E.T., Karnataka, India, kushalkayarthadka@gmail.com

**Interest Rate Risk**

The risk caused by changes in the general level of interest rates in the marketplace. This type of risk is most apparent in the bond market because bonds are issued at specific interest rates. Generally, a rise in interest rates will cause a decline in market prices of existing bonds, while a decline in interest rates tends to cause bond prices to rise. For example, say you buy a 30-year bond today with a 6% annual yield. If interest rates rise, a new 30-year bond may be issued with an 8% annual yield. The price of your bond drops because investors are not willing to pay full value for a bond that yields less than the current rate of interest. The types of interest-rate risk are depicted and listed below: a) Price risk, and b) Reinvestment rate risk.

**Inflation or Purchasing Power Risk**

The risk that returns on your investment will fail to outpace inflation. This type of risk is most closely associated with cash/stable value investments. Thus, although you may think a traditional bank savings account is relatively risk free, you actually could be losing purchasing power unless the interest rate on the account exceeds the current rate of inflation. The types of power or inflationary risk are: a) Demand inflation risk, and b) Cost inflation risk.

*Unsystematic Risk*

Unsystematic risk is due to the influence of internal factors prevailing within an organization. Such factors are normally controllable from an organization's point of view. It is a micro in nature as it affects only a particular organization. It can be planned, so that necessary actions can be taken by the organization to mitigate (reduce the effect of) the risk.

**Business Risk**

This is the risk that issuers of an investment may run into financial difficulties and not be able to live up to market expectations. For example, a company's profits may be hurt by a lawsuit, a change in management or some other event. The types of business risk are, a) Asset liquidity risk, and b) Funding liquidity risk

Asset liquidity risk is due to losses arising from an inability to sell or pledge assets at, or near, their carrying value when needed. For e.g. assets sold at a lesser value than their book value.

Funding liquidity risk exists for not having an access to the sufficient-funds to make a payment on time. For e.g. when commitments made to customers are not fulfilled as discussed in the SLA (service level agreements).

**Financial or Credit Risk**

Financial risk is also known as credit risk. It arises due to change in the capital structure of the organization. The capital structure mainly comprises of three ways by which funds are sourced for the projects. The types of financial or credit risk are: a) Exchange rate risk, b) Recovery rate risk, c) Credit event risk, d) Non-Directional risk, e) Sovereign risk, and f)Settlement risk

*OBJECTIVES OF STUDY*

The core objective of this study is to analyze the risk and return of 30 top stocks listed on NSE. However in order to achieve the main objective, the following specific objectives have been framed:

- To study the variation in the stock returns for the study period of one years.
- To rank the companies on the basis of return and risk
- To find out the risk and return of portfolio consisting of 30 stocks and compare it with risk and return of individual stock.
- To offer meaningful suggestions to the investors based on the findings of the study.

*SCOPE OF STUDY*

The study examines the stock returns of 30 top companies listed on NSE during the period, from March 2013 to March 2014. The study covers the risk return analysis of 30 top listed companies only.

*METHODOLOGY USED*

The study is purely based on secondary data collected from NSE Web Site and Money Control.com. The monthly share prices of 30 top companies listed on NSE, which are used to compile NSE NIFTY, are collected from March 2013 to March 2014. These data are used to calculate actual return, CAPM return and abnormal return of each of the 30 companies. Then, 30 companies are

ranked according to the returns yielded by them. Standard deviations and coefficient of variation of these 30 companies are arrived at to rank them based on risk. This information is presented through tables.

### TECHNIQUES OF ANALYSIS

#### Actual Return

Actual returns for each company have been computed for the study period as under:

$$r_i = \frac{p_1 - p_0}{p_0}$$

Where, $r_i$ is return on individual security, $P_1$ = Market price (closing) of security and $P_0$ = Market price of security on day (t-1). Comparatively, the actual returns for the market are also computed as:

$$r_m = \frac{P_1 - P_0}{P_0}$$

Where $r_m$ is return on market, $P_1$ is closing market return and $P_0$ market return in the beginning. In the next step, average actual returns of individual stocks and market return is computed.

#### CAPM Return

CAPM return is calculated by applying the following formulae:

$$r_i = R_f + \beta_i(R_m - R_f)$$

Where, $R_f$ = Risk free rate, $R_m$ = return on market, $\beta_i$ = beta of individual security and $r_i$ is return on individual security.

Beta of the security is calculated with the help of the following formula:

$$\beta_i = r \frac{\sigma_i}{\sigma_m}$$

Here, $r$ is correlation between individual security return and market return, $\sigma_i$ is standard deviation of individual security and $\sigma_m$ is standard deviation of market return.

#### Abnormal Returns

Abnormal return is the excess of the actual return over the expected return. It is calculated as under:

**Abnormal Return = Actual Return – CAPM Return**

Then, companies are ranked according to actual, CAPM and abnormal returns.

#### Standard Deviation

It measures the amount of variation from the average. A low standard deviation indicates that the data points tend to be very close to the mean (also called expected value); a high standard deviation indicates that the data points are spread out over a large range of values.

$$S.D. = \sqrt{\frac{\sum X^2}{n}}$$

Where:

$\sum X^2$ = The sum of the squares of the differences between the Mean and each score

$n$ = The number of scores

#### Coefficient of Variation

The coefficient of variation represents the ratio of the standard deviation to the mean, and it is a useful statistic for comparing the degree of variation from one data series to another, even if the means are drastically different from each other.

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{Expected Return}}$$

*Systematic Risk*

Systematic Risk is calculated with the help of the following equation:

$$\textbf{Systematic Risk} = \beta_i^2 \, \sigma_m^2$$

*Unsystematic Risk*

Unsystematic Risk is computed as under:

$$\textbf{Unsystematic Risk} = \sigma_i^2 - \beta_i^2 \, \sigma_m^2$$

*Total Risk*

Total risk of individual security is calculated as follows:

$$\textbf{Total Risk} = \sigma_i^2$$

*LIMITATIONS OF STUDY*

Every research has its own limitations. The following are the limitations of this study:

- The study covers only 30 listed companies of NSE
- This study is limited to the analysis of risk and return of 30 stocks.

*RESULTS AND DISCUSSION*

As per Table 1, HCL Tech has the highest actual returns and abnormal returns. Lupin Ltd. ranked second and DR Reddy laboratories third and INFOSYS ranked fourth in terms of actual return. Axis Bank has the highest CAPM return. IDFC Bank has the second highest CAPM return. Bank of Baroda and Asian Paint attained fourth position in terms of CAPM return. Lupin Ltd has the second highest abnormal returns. Asian Paint, DLF, Jindal steel, IDFC have the least Actual Returns respectively. The CAPM Returns of HCL Tech, Infosys, CAIRN and Lupin Ltd are very low. The HCL Tech have high expected return on same time it have very less CAPM return because of high risk involved in the stock.

**Table-1: Rank of the NSE 30 Companies according to Actual, CAPM and Abnormal Return**

| S. No. | Company Name | Actual Return | Rank | Capm Return | Rank | Abnormal Return | Rank |
|--------|--------------|---------------|------|-------------|------|-----------------|------|
| 1 | ACC | -0.77177074 | 22 | 0.913640274 | 11 | -1.685411014 | 21 |
| 2 | AMBUJA CEM | -0.910725222 | 23 | 0.841796613 | 19 | -1.752521835 | 23 |
| 3 | ASIAN PAINT | -7.094725502 | 30 | 1.049909329 | 4 | -8.144634831 | 30 |
| 4 | AXIS BANK | 0.476337556 | 15 | 1.113694681 | 1 | -0.637357125 | 17 |
| 5 | BAJAJ-AUTO | -0.172658716 | 18 | 0.838142362 | 20 | -1.010801078 | 18 |
| 6 | BANK of BARODA | -1.398478273 | 25 | 1.049541255 | 3 | -2.448019528 | 25 |
| 7 | BHARTI ARTL | -0.184718305 | 19 | 0.903092944 | 13 | -1.087811249 | 19 |
| 8 | BHEL | -0.766738079 | 21 | 0.934631951 | 10 | -1.701370029 | 22 |
| 9 | BCPL | 0.315739402 | 17 | 0.937163608 | 9 | -0.621424206 | 16 |
| 10 | CAIRN | 1.011274153 | 8 | 0.736622272 | 27 | 0.274651881 | 8 |
| 11 | CIPLA | 0.438512823 | 16 | 0.710030317 | 28 | -0.271517494 | 13 |
| 12 | COAL INDIA | -1.759205634 | 26 | 0.886276699 | 15 | -2.645482333 | 26 |
| 13 | DLF | -4.314195598 | 29 | 0.982233547 | 8 | -5.296429145 | 29 |
| 14 | DR REDDY | 4.402523386 | 3 | 0.789698547 | 22 | 3.612824838 | 3 |
| 15 | GAIL | 1.146509432 | 6 | 0.842868941 | 18 | 0.303640491 | 7 |
| 16 | GRASIM | -1.017999629 | 24 | 0.911081639 | 12 | -1.929081269 | 24 |
| 17 | HCL TECH | 7.01851448 | 1 | 0.641692288 | 30 | 6.376822193 | 1 |
| 18 | HDFC | 0.631501976 | 11 | 0.870470348 | 17 | -0.238968372 | 11 |
| 19 | HDFC BANK | 0.807450103 | 10 | 0.896688479 | 14 | -0.089238376 | 10 |
| 20 | HERO MOTOCORP | 1.649256631 | 5 | 0.747012153 | 25 | 0.902244478 | 5 |
| 21 | HINDALCO | 0.816266249 | 9 | 0.770024477 | 23 | 0.046241772 | 9 |
| 22 | ICICI BANK | 0.506307839 | 13 | 1.045727243 | 5 | -0.539419405 | 15 |
| 23 | IDFC | -2.819879848 | 27 | 1.057739633 | 2 | -3.877619481 | 28 |

| 24 | INDUSIND BANK | 0.493733731 | 14 | 0.998167221 | 7 | -0.50443349 | 14 |
| 25 | INFOSYS | 2.758394289 | 4 | 0.684721223 | 29 | 2.073673065 | 4 |
| 26 | ITC | 1.130500955 | 7 | 0.805273922 | 21 | 0.325227034 | 6 |
| 27 | JINDAL STEEL | -2.87541528 | 28 | 0.75967123 | 24 | -3.63508651 | 27 |
| 28 | KOTAK BANK | 0.615449912 | 12 | 0.876994371 | 16 | -0.261544459 | 12 |
| 29 | LARSEN AND TOUBRO | -0.516362405 | 20 | 1.03995941 | 6 | -1.556321815 | 20 |
| 30 | LUPIN LTD | 4.915486142 | 2 | 0.745 | 26 | 4.170486142 | 2 |

**Sources:** Authors Compilation

**Table-2: Rank of the NSE 30 Companies according to Standard deviation and Coefficient of variation**

| S. No. | Company Name | Standard Deviation | Coefficient Variance | Rank |
|---|---|---|---|---|
| 1 | ACC | 8.838410301 | -11.45211893 | 5 |
| 2 | AMBUJA CEM | 6.792085151 | -7.457886291 | 8 |
| 3 | ASIAN PAINT | 27.46005231 | -3.870488338 | 11 |
| 4 | AXIS BANK | 15.36720169 | 32.26115916 | 29 |
| 5 | BAJAJ-AUTO | 6.054246486 | -35.06481812 | 2 |
| 6 | BANK of BARODA | 12.49736167 | -8.93640031 | 6 |
| 7 | BHARTI ARTL | 10.24649009 | -55.47089712 | 1 |
| 8 | BHEL | 12.25647184 | -15.98521344 | 4 |
| 9 | BCPL | 10.30618006 | 32.64141244 | 30 |
| 10 | CAIRN | 6.081801655 | 6.013998911 | 20 |
| 11 | CIPLA | 5.165159082 | 11.77880967 | 25 |
| 12 | COAL INDIA | 8.413136139 | -4.782349475 | 9 |
| 13 | DLF | 11.5890396 | -2.686257342 | 13 |
| 14 | DR REDDY | 4.255495403 | 0.966603702 | 14 |
| 15 | GAIL | 6.960317327 | 6.07087664 | 21 |
| 16 | GRASIM | 7.952964083 | -7.812344772 | 7 |
| 17 | HCL TECH | 8.384379598 | 1.194608862 | 15 |
| 18 | HDFC | 6.497956918 | 10.2896858 | 24 |
| 19 | HDFC BANK | 6.675639888 | 8.267557173 | 22 |
| 20 | HERO MOTOCORP | 5.949348796 | 3.607291118 | 18 |
| 21 | HINDALCO | 8.046257715 | 9.857393622 | 23 |
| 22 | ICICI BANK | 11.77845801 | 23.26343206 | 28 |
| 23 | IDFC | 12.69225707 | -4.500992154 | 10 |
| 24 | INDUSIND BANK | 11.22659332 | 22.73815342 | 27 |
| 25 | INFOSYS | 9.748294722 | 3.534046877 | 17 |
| 26 | ITC | 5.607773766 | 4.960432576 | 19 |
| 27 | JINDAL STEL | 9.474572962 | -3.295027688 | 12 |
| 28 | KOTAK BANK | 7.323160284 | 11.8988729 | 26 |
| 29 | LARSEN AND TOUBRO | 16.1690094 | -31.3132971 | 3 |
| 30 | LUPIN LTD | 7.147971949 | 1.45417396 | 16 |

**Sources:** Authors Compilation

Table 2 shows that Bharti Airtel, Bajaj Auto, Larsen and Toubro having less coefficient of variation due to low volatility in the stock returns ranked first, second and third. BCPL ranked least as it has highest rate of volatility. Axis Bank and ICICI Bank are also having less coefficient of variation.

**Table-3: Rank of NSE 30 Companies according to Systematic, Unsystematic and Total Risk**

| S. No. | Company Name | Systematic risk | Rank | Unsystematic Risk | Rank | Total Risk | Rank |
|---|---|---|---|---|---|---|---|
| 1 | ACC | 40.49927849 | 20 | 37.61821816 | 17 | 78.1174966 | 17 |
| 2 | AMBUJA CEM | 13.34273952 | 11 | 32.78968117 | 12 | 46.1324207 | 9 |
| 3 | ASIAN PAINT | 132.3933315 | 28 | 621.6611415 | 30 | 754.054473 | 30 |
| 4 | AXIS BANK | 193.5790834 | 30 | 42.57180449 | 20 | 236.150888 | 28 |
| 5 | BAJAJ-AUTO | 12.35432936 | 9 | 24.29957116 | 8 | 36.6539005 | 5 |
| 6 | BANK of BARODA | 132.0738844 | 27 | 24.11016434 | 7 | 156.184049 | 26 |
| 7 | BHARTI ARTL | 35.59177611 | 18 | 69.39878302 | 25 | 104.990559 | 20 |
| 8 | BHEL | 51.20916689 | 21 | 99.01193506 | 28 | 150.221102 | 25 |

| 9 | BCPL | 52.58561721 | 22 | 53.63173021 | 21 | 106.217347 | 21 |
|----|------|-------------|-----|-------------|-----|-------------|-----|
| 10 | CAIRN | 0.099948716 | 2 | 36.88836266 | 16 | 36.9883114 | 6 |
| 11 | CIPLA | 1.741438199 | 5 | 24.93743015 | 9 | 26.6788683 | 2 |
| 12 | COAL INDIA | 28.42272837 | 16 | 42.35813132 | 19 | 70.7808597 | 16 |
| 13 | DLF | 80.14508411 | 23 | 54.16075477 | 22 | 134.305839 | 23 |
| 14 | DR REDDY | 2.8451915 | 6 | 15.26404962 | 3 | 18.1092411 | 1 |
| 15 | GAIL | 13.64000291 | 12 | 34.80601438 | 14 | 48.4460173 | 10 |
| 16 | GRASIM | 39.27967917 | 19 | 23.96995852 | 6 | 63.2496377 | 13 |
| 17 | HCL TECH | 15.19813069 | 13 | 55.09969054 | 23 | 70.2978212 | 15 |
| 18 | HDFC | 22.41851756 | 14 | 19.80492655 | 4 | 42.2234441 | 7 |
| 19 | HDFC BANK | 32.76648661 | 17 | 11.7976813 | 2 | 44.5641679 | 8 |
| 20 | HERO MOTOCORP | 0.005765627 | 1 | 35.38898547 | 15 | 35.3947511 | 4 |
| 21 | HINDALCO | 0.891773772 | 4 | 63.85048945 | 24 | 64.7422632 | 14 |
| 22 | ICICI BANK | 128.7864678 | 26 | 9.945605157 | 1 | 138.732073 | 24 |
| 23 | IDFC | 139.2805684 | 29 | 21.81282115 | 5 | 161.09339 | 27 |
| 24 | INDUSIND BANK | 91.27243416 | 24 | 34.7639634 | 13 | 126.036398 | 22 |
| 25 | INFOSYS | 5.174323124 | 8 | 89.85492686 | 27 | 95.02925 | 19 |
| 26 | ITC | 5.173489629 | 7 | 26.27363699 | 10 | 31.4471266 | 3 |
| 27 | JINDAL STEL | 0.306519233 | 3 | 89.46101357 | 26 | 89.7675328 | 18 |
| 28 | KOTAK BANK | 24.81049943 | 15 | 28.81817712 | 11 | 53.6286766 | 12 |
| 29 | LARSEN AND TOUBRO | 123.8936927 | 25 | 137.5431722 | 29 | 261.436865 | 29 |
| 30 | LUPIN LTD | 12.62872774 | 10 | 38.46477525 | 18 | 51.093503 | 11 |

**Sources:** Authors Compilation

Table-3 clearly shows that Hero Motocorp has the least systematic risk, followed by Cairn, Jindal Steel and Hindalco respectively. The systematic risk of Axis Bank is the highest. The systematic risk of Asian Paint, IDFC, Bank of Baroda and ICICI Bank is more when compared to other companies.

Unsystematic risk of ICICI Bank is the least. Companies like HDFC Bank, Dr. Reddy laboratories and HDFC are also having least unsystematic risk. Asian Paint has the highest unsystematic risk. The unsystematic risk of Larsen and Toubro, BHEL and Infosys is also more.

In terms of total risk, the risk of Dr. Reddy laboratories is the least. It is followed by Cipla, ITC Ltd, Cipla, and Hero Motocorp respectively. Asian Paint has the highest total risk. Even Larsen and Toubro, Axis Bank, IDFC and Bank of Baroda are having more total risk.

**Table-4: Risk and Return of Portfolio**

| Particulars | Return / Risk |
|-------------|---------------|
| Portfolio return (assuming equal amount of investment) | 0.1510 |
| Portfolio risk (assuming equal amount of investment) | 21.63568 |

**Sources:** Authors Compilation

It is clear from Table 4 that the portfolio has a return of 0.1510% and risk of 21.63568. When we compare the return of portfolio with the returns of individual securities, the following securities have returns less than the portfolio returns: ACC, Ambuja Cement, Asian Paint, Bajaj Auto, Bank of Baroda, Bharti Airtel, BHEL, Coal India, DLF, Grasim Cement, IDFC, Jindal Steel, L&T.

*FINDINGS*

This part of the study speaks about the major findings of the study:

- It is clear from the study that HCL Tech has the highest actual returns and abnormal returns.
- It is found in the study that Asian Paint has the least actual returns.
- The study reveals the fact that the CAPM return of HCL Tech is the least.
- It is crystal clear from the study that BPCL has the least abnormal returns.
- It is evidence from the study that Hero Motocorp has the least systematic risk.
- It is clear from the study that ICICI Bank has the least unsystematic risk.
- The study shows that Total risk of Dr. Reddy laboratories is the least.
- It is fact from the study that the systematic risk of Axis Bank is the highest

- It is found in the study that Asian Paint has the highest unsystematic risk and total risk.
- The study shows that out of 30 stocks, 13 stocks have returns less than the portfolio returns and the most of the stocks have returns higher than the portfolio return.

## SUGGESTIONS AND CONCLUSION

The study risk return analysis helps the investor to pick up the securities based on his choice. The study of this kind provides information about the performance of various stocks in the market in terms of risk and return. A stock with more systematic risk is not favorable for investment due to the reason that it has highest market risk, which cannot be diversified like unsystematic risk. Thus to construct an efficient portfolio, it is better to avoid such stocks. The study does not suggest the universal best or worst stocks for investment, because ratings of the stocks must be based on the type of investment and the type of investor. An investor who is ready to bear high risk but expect high return will go such stocks where risk and returns are high. Whereas an investor with less risk bearing capacity will go for those stocks where the risk and return are low. Among the stocks under study HCL Tech has the highest actual returns and abnormal returns and therefore better for those investors whose objective of investment is to maximize the returns. A risk adverse investor can prefer Dr. Reddy's stocks as it has the lowest risk compared to all other stocks under study.

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# DIVIDEND AND CAPITAL STRUCTURE PATTERN IN INFORMATION TECHNOLOGY INDUSTRY: A CASE STUDY OF TATA CONSULTANCY SERVICES

**Rajesh Tiwari[33] Priyanka Kumari[34]**

## ABSTRACT

The paper attempts to analyze the correlation of dividend payment and capital structure with market price of firm. The financial performance of Tata Consultancy Services (TCS) is also analyzed. The secondary data from financial statements are used for the study. The data of five years is considered. Information Technology has made its mark in the world as well as contributed in the economic growth of the company. TCS is a leading company in the Information Technology sector. The findings support the Modiglaini and Miller approach of irrelevance of capital structure and dividend policy on the market value of the firm.

## KEYWORDS

**Modiglaini and Miller, Capital Structure, Dividend Policy, Tata Consultancy Services (TCS)  etc.**

## INTRODUCTION

Indian Information Technology and Information Technology enabled Services (ITeS) is one of the fastest growing IT services market in the world accounting for 52% of US $ 124-130 billion market. The software products market is estimated to grow at 14% in 2014. The industry is divided into four segments namely IT services, business process management (BPM), software products and engineering services, and hardware. During FY 2008-2013, the industry grew at a compounded annual growth rate (CAGR) of 13.1% (Indian Business, 2014).

TCS was established in 1968 as a division of Tata Sons, than got incorporated as a separate entity in 1995. TCS is an IT services, consulting and business solutions organization. TCS offers IT and IT enabled services through its Global Network Delivery Model (GNDM), which is recognized as the benchmark in software development. TCS has presence in 46 countries with 3, 00, 000 IT consultants. The company recorded revenues of $ 13.4 billion for year ended March 2014 (TCS, 2014). TCS has been ranked recently as one of the world's most innovative company by Forbes (ranked 57th among top 100 companies) (Forbes, 2014).

## OBJECTIVES OF STUDY

- To analyze financial performance of TCS,
- To Study the correlation of Dividend per Share and Market Price per Share,
- To Study the correlation of Debt Equity ratio and Market Price per Share.

## OPPORTUNITIES FOR INFORMATION TECHNOLOGY INDUSTRY

- Availability of trained manpower to increase R&D efforts and move up the value chain globally.
- Growth of smart phones with enhanced IT features.
- Rising internet penetration.
- Growth in e-commerce.
- Trend to move towards e-governance by central and state governments.
- Rising demand of IT products and services in educational establishments.
- Increased usage of cloud computing and IT products and services by micro, small and medium enterprises.
- Support from state and central government. Bihar government has unveiled 20 km free Wi-Fi zone in Patna. Government of Tamil Nadu and Maharashtra are planning to start incubation centers for start-up companies. Central government is planning to come up with first electronic system design and manufacturing (ESDM) cluster development in Bengaluru apart in addition to separate policy for cloud computing.
- Tax relief and special economic zone (SEZ) scheme.
- Favorable demographic profile of the country. India has significant proportion of young people who prefer to use IT products and services.

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[33]Assistant Professor & H.OD., Department of Management, Asia Pacific Institute of Information Technology (A.P.I.I.T.), Haryana, India, ambitionrajesh@yahoo.co.in

[34]Student, Asia Pacific Institute of Information Technology (A.P.I.I.T.), Haryana, India, ptm130103@apiit.edu.in

## REVIEW OF LITERATURE

Capital structure is the way a company finances its assets through a combination of equity and liabilities (Shah, 2010).

Modigliani and Miller argued that capital structure is irrelevant as long as firm's investment decisions are taken as given (Brealey et al. 2011).

Myers, Majluf (1984) argued that firms prefer to use internal fund. If external fund is needed, managers will choose debt financing rather than issue new equity.

Magnus et al. (2004) argued that increased debt in companies can encourage both operational and capital investment efficiency. Debt-service obligation (i.e., periodic interest and principal payment), which need ongoing cash outflows and focus management's attention on cash flow generation; an higher risk of financial distress or default cases when debt increases more than equity and if the company defaults on its loans then managers will have the threat that they would be dismissed.

Ehrhardt (2005) said that Increasing debt and reducing the available cash flow has its downside. It increases the risk of bankruptcy. Financial institution is also a useful source of capital. Large companies can get capital from financial institution, ICIC, IDBI, etc., however, this source is not useful for small business.

Arnold and Kumar (2005) argued that Debt finance is less costly than equity finance not only because cost of rising the funds are lower because the annual return required to attract investors is less than equity. Debt finance is cheaper and risky.

In India, private sectors enterprises are expected, as prescribed by financial institutions such as IDBI, IFCI, etc. to have a 2:1 ratio for financing by debt and equity whereas for the public sector enterprises, the norm is 1:1 for the same. One of the reasons for this variation is that the average profitability of a private sector enterprise is better than that of a public sector enterprise. So, a private sector enterprise is expected to bear greater financial risk than a public sector enterprise (Shah, 2010).

Debt lowers cost of capital for the company as compared to equity or preference capital. It is also beneficial, as it does not result in dilution of control (Banerjee, 2008). Venture capital has become one of the best possible sources for raising funds for the companies involving more business risks and for whom the normal avenues for raising the funds are unavailable as the common investors are unwilling to invest their funds into such ventures. Venture capital as a source of funds has become a necessity for the organizations that has good growth opportunities (Shah, 2010).

Dividend policy of the firms is a major decision area where a firm has to make a choice between what portion of profits is to be retained by the business and what portion is to be distributed as dividend to its shareholders.

Manjunatha 2013 found that debt equity ratio has no impact on market value of firm.

## DIVIDEND POLICY

Miller and Modigliani (1961) as cited in Kapoor (2009) argued dividend policy does not affect firm value given that firms maximize their value through investment and firm choose the optimal investment policy. From the point of view of investors, dividend policy is irrelevant because any wanted stream of payment can be replaced by appropriate purchases and sales of equity. So, investors will not pay a premium for any specific dividend policy. Hence, dividend policy is irrelevant when it comes to affecting firm value.

Dhameja (1978) study the dividend behavior of Indian companies by organizing them into size wise, industry wise, growth wise and control. They found that there was no statistically significant relationship between dividend payout and industry and size of the firm. Growth was inversely related to dividend payout and it was found to be significant.

Pandey and Bhat (1994) found that managers observe current earnings as the most important aspect. The authors analyzed the dividend payout Behavior of Indian firms and found that the Indian firms have lower target ratios and higher adjustment factors. They also observed that monetary policies have a significant influence on the dividend payout Behavior of Indian firms, which cause about a 5-6 per cent reduction in the payout ratios.

Pecking order theory (Myers, 1996) proposed that dividend is sticky. Managers only increase the dividend when they sure maintain the increasing dividend in the future.

Gupta and Banga 2010 argued that leverage and liquidity are the determinants of dividend policy for Indian companies.

Das and Samanta 2013 studied impact of dividend policy on market price for Indian IT companies. It was found that dividend irrelevance hypothesis holds good. The dividend policy is not a decisive factor for stock price in Information Technology sector in India. It was argued that investors prefer growth of firm through profitability rather than cash dividends.

Manjunatha 2013 studied 29 companies from National Stock Exchange and Bombay Stock Exchange. It was found that dividend policy has no impact on market value of the firm. The findings support dividend irrelevance hypothesis.

Hunjra et al. 2014 studied impact of dividend policy on market price of four non-financial sectors of sugar, chemical, food and personal care, energy. It was found that dividend payout has a positive correlation with stock price. The findings contradict the dividend irrelevance hypothesis.

## *METHODOLOGY OF RESEARCH*

The research design used was descriptive. Secondary data was used for the study. The data was obtained from financial statements through annual reports of the company available on the website and web sources. The study has been conducted from 2009 to 2013 i.e. for 5 years. The data was analyzed using financial ratios and correlation using SPSS. To analyze dividend policy following hypothesis are developed for testing.

$H_0$: There is no correlation between Dividend per Share (DPS) & Market Price per Share (MPS)
$H_1$: There is a correlation between Dividend per Share (DPS) & Market Price per Share (MPS)

## *FINDINGS*

This section presents the findings of the study.

**Table-1: Debt Equity Ratio**

| Particulars | 2009 | 2010 | 2011 | 2012 | 2013 | Average |
|---|---|---|---|---|---|---|
| Debt-equity ratio | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |

**Sources**: Annual Reports, www.moneycontrol.com, 2014

Debt equity ratio remained constant i.e. 0.01 throughout the whole study period. . TCS has a conservative capital structure. It has little financial risk as the capital structure does not rely on leverage. TCS is unable to take advantages of leverage and tax shield of debt.

**Table-2: Liquidity Ratios**

| Particulars | 2009 | 2010 | 2011 | 2012 | 2013 | Average |
|---|---|---|---|---|---|---|
| Current ratio | 1.83 | 1.49 | 2.45 | 2.48 | 2.85 | 2.22 |
| Quick ratio | 1.83 | 1.48 | 2.44 | 2.47 | 2.88 | 2.22 |

**Sources**: Annual Reports, www.moneycontrol.com, 2014

The current ratio was highest in 2013-14, being 2.85 times while the minimum in 2010-11, which was 1.49 times. The average current ratio was 2.22. The quick ratio varied from 1.48 times to 2.88 times with the average of 2.22 times. Thus is it concluded that short-term financial position of the company is satisfactory and company has the capacity to meet short-term obligations comfortably.

**Table-3: Profitability Ratios**

| Particulars | 2009 | 2010 | 2011 | 2012 | 2013 | Average |
|---|---|---|---|---|---|---|
| Gross profit margin | 25.01 | 26.89 | 28.12 | 27.52 | 27.88 | 27.084 |
| Net profit ratio | 20.74 | 24.13 | 25.42 | 26.42 | 25.24 | 24.39 |
| Operating profit ratio | 26.87 | 28.93 | 29.96 | 29.30 | 29.54 | 28.92 |

**Sources**: Annual Reports, www.moneycontrol.com, 2014

Gross profit margin of the company was satisfactory, remained 25.01% during 2009-10 while 27.88% during 2013-14. A satisfactory ratio of gross profits to sales clearly reflected financial strength showing good management and low cost of production. The operating profit ratio remained highest, 29.96% during 2011-12 while lowest, 26.87% during 2009-10 with the average of 28.92%. The net profit ratio was highest, 26.42% in 2012-13 and lowest, 20.74% during 2009-10. It indicated that the management of the company was able to operate the business with sufficient success and recover expenses from revenues of the period.

**Table-4: Dividend Ratios**

| Particulars | 2009 | 2010 | 2011 | 2012 | 2013 | Average |
|---|---|---|---|---|---|---|
| Dividend Payout (%) | 34.20 | 81.61 | 42.21 | 51.94 | 39.30 | 49.85 |
| Dividend Per Share | 100 | 142.86 | 100 | 178.57 | 157.10 | 135.71 |
| | 22 | 25 | 14 | 20 | 14 | |

**Sources**: Annual Reports, www.moneycontrol.com, 2014

The Dividend payout ratio registered a fluctuating trend, remained highest 81.61% during 2010-11 while lowest 34.20% during 2009-10 with the average payout of 49.85%. Fluctuating trend of Dividend payout ratio indicated financial threat of liberal dividend policy and company was not giving fixed dividends but based on profits of the current year. The company was distributing almost 50% of the profits as dividends showing financial strength. In other years, it would have retained the profits for further growth of the company.

The DPS of TCS is showing a fluctuating trend during the study period. The increasing DPS shows that company gives higher profits to its shareholders.

Hackett (2012) argued that TCS and Infosys are the leading players when it comes to grabbing off shoring opportunities in the global areas. Most of the industry feels that there still exists a great potential for growth in the Indian IT sectors. Increase the efficiency of business day-by-day .according to the Nasscom has forecasted the Indian IT outsourcing industry to grow at 12-14% in the fiscal, slightly better than last financial year, led by economic recovery in US and Europe. Factors like increase in global technology spending and opportunities created through adoption of technologies such as social media, mobility analytics and cloud computing are expected to continue the growth. Nasscom expect, domestic IT business to grow 13-15% led by spends from government and BFSI sectors. TCS, which capture the market nearly 47% and 4/5th of the net profit of listed IT companies on the BSE-500 index.

**Table-5: Dividend vs. Market Price**

| Year | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|
| Dividend Per Share | 22 | 25 | 14 | 20 | 14 |
| Market price per share | 462.52 | 825.55 | 1088.37 | 1226.44 | 1454.55 |

**Sources**: Annual Reports, www.moneycontrol.com, 2014

Correlation between DPS and MPS: P value is obtained as 0.202. P value is more than 0.05, therefore $H_0$ is not rejected which means that there is no correlation between DPS and MPS. The findings support the Modigliani and Miller hypothesis of irrelevance of dividends. Correlation between Debt/Equity and MPS: Correlation between Debt/ equity and Market price cannot be computed because of constant variables of Debt/ Equity. It can be concluded that the market price is not dependent on capital structure. The market price has shown a consistent growth trend whereas debt equity ratio has remained constant.

*CONCLUSION*

The growth of IT industry has been admirable in the recent past until 2002 services sector was totally ignored in India and main stress on manufacturing and agricultural sectors. It was only after 2002 that services sector started growing at a well rate of 8-10%. Today it is the highest contributor to the GDP of our economy. The financial performance of the company has been found to be satisfactory. The company provides a good investment opportunity in the long-term returns. The study found those capital structure and dividend payouts are not correlated with market price of share. The findings support the irrelevance of capital structure and dividend policy.

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# REVIEW ON DEVELOPMENT & EFFICIENCY OF CURRENCY FUTURE MARKET IN INDIA

**Ritu Gupta[35] Dr. Ravi Kumar Gupta[36]**

## ABSTRACT

Currency futures trading in INR-US$ started on August 29, 2008. Until January2010, exchange rate futures was available only for US $ vis-à-vis Indian Rupee. Exchange-traded currency futures have now been expanded to the euro, pound and yen pairing. At the time of introduction of currency futures in India, it was thought that the currency futures market in India would make a notable contribution towards improving the menu of options available for currency risk management. International experience of the emerging markets with the introduction of currency futures is a mixed one. The focus of this paper is to review the literature related with the growth, strength and weakness of currency futures market in India and to find the research gaps for the further researches in this area.

## KEYWORDS

**Currency Futures, Growth, Efficiency, Volatility, Development etc.**

## INTRODUCTION

After the collapse of the Bretton Woods System in 1971, we witnessed an increasing trend of the adoption of flexible exchange rate system worldwide. This flexible exchange rate system exposed market participants to risks arising out of exchange rate fluctuations. These risks have greater significance in globally integrated foreign exchange markets. So high economic growth and globalization of capital markets led to a rise in the demand for exchange rate risk management instruments. Thus, currency derivatives products were emerged to manage exchange rate risk. These currency derivatives are divided into two segments - OTC (forwards, options and swaps) and exchange-traded (futures, options).

Derivatives market provides an efficient mechanism for the transfer of risk to parties that are willing to bear risk. In some cases, derivatives markets may even bring together two parties with opposite risk exposures (e.g. an Indian company with dollar revenues and an American company with rupee revenues), thus neutralizing the risk exposure of both parties. Currency futures were first created in 1970 at the International Commercial Exchange in New York. However, the contracts did not "take off" because the Bretton Woods system was still in effect. After it, International Monetary Market, which is a sub division of Chicago Mercantile Exchange (CME), launched seven currency futures on May 16, 1972.

"Financial Futures (Currency Futures) are the most significant financial innovation on the last twenty years" Merton H. Miller (1986). This statement indicates the importance of currency futures contracts now days. This innovation opened the futures market to participants who never participated before in the future market such as corporate treasures, multinational corporations. In India, the emergence and growth of derivatives market is relatively a recent phenomenon. Since its inception in stock market from June 2000, derivatives market has exhibited exponential growth in terms of both volume and number of traded contracts. With electronic trading and capable risk management systems, exchange traded currency derivatives were introduced from August 2008 onward. Firstly currency futures on USD:INR were launched by National Stock Exchange(NSE) on August 29, 2008, then by Bombay Stock Exchange(BSE), and Multi Commodity Exchange (MCX-SX) on October 1, 2008 and on October 7, 2008 respectively. Futures on 3 additional currency pairs, namely, EURO: INR, GBP: INR and JPY: INR were introduced at NSE and MCX-SX on February 1, 2010. Trading on all currency futures pair was started at United Stock Exchange (USE) on September 20, 2010. Further, options on USD: INR, were introduced at NSE and USE on October 29, 2010. The currency derivatives segment in India has witnessed an increasing growth over time.

## LITERATURE REVIEW

**Dale (1981)** examined the hedging effectiveness of currency futures markets. The author to check the hedging effectiveness used expected return equation and standard deviations. In particular, the study demonstrated that the futures markets for British pounds, German marks, and Japanese yen were as effective as hedging devices as some of the long established contracts in agricultural commodity futures market. The feature of their effectiveness in reducing risk, more and more rational hedgers could be expected to use foreign currency futures markets.

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[35]Research Scholar, IMSAR, Maharshi Dayanand University, Haryana, India, ritu28nov@yahoo.co.in

[36]Professor, Department of Management Studies, Vaish College of Engineering, Haryana, India, ravigupta29@gmail.com

**Ellis (n. d.)** published a conceptual study on the problem of changing concept of convertibility and the futures of currencies. Convertibility is a pearl of great price in furthering the efficacy of market forces and the economic strength of the free world. While its attainment was not an intractable or insoluble problem, as some economists maintained, it was a matter of great complexity because such a large variety of adversities can interfere. Only by a great degree of self-discipline in domestic affairs and by effective and Continuous co-operation by the chief trading nations of the world could secure and maintain convertible currencies.

**Odgen & Turker (1987)** investigated empirically the efficiency of the currency futures options market. Synchronous transactions data are used to test six arbitrage-pricing conditions applicable to American futures options. The data consist of all transactions in the calendar year 1986 on British pound, Deutschemark, and Swiss franc futures options that mature in 1986 from CME. Every futures option was paired with that corresponding futures contract exhibiting the same contract month and trading immediately prior to the futures option. This pairing technique was employed to ensure price synchronization. To further, ensure synchronization, only those pairs trading less than 30 minutes apart were used. Currency call and put upper & lower bound options were used to analyze the data. Results support market efficiency for the period studied; few violations of these conditions are observed for American options traded on British pound, Deutschemark, and Swiss franc futures.

**Ray (1987)** tested the contemporary currency futures market for interest rate parity, purchasing power parity, market efficiency and hedging effectiveness by examining five major currencies: the British pound, the Canadian dollar, the German Detusche, the Japanese yen and the Swiss franc, all expressed in US dollars. Futures prices were monthly averages of daily settlement prices of contract months from March 1978 to December 1983. Data was obtained from statistical yearbooks of CME's International Monetary Market. The study found that the currency futures market was a highly efficient, hedging effective market exhibiting significant degrees of interest rates parity and purchasing power parity.

**Remolona (1993)** studied the growth pattern of future and option contracts over the Chicago Board of Trade (CBOT) and The London International Financial Futures and Options Exchange (LIFFE) and the factors driving the growth of derivatives trading. The study includes data of the official website of Bank of International Studies (BIS). The study identified four developments giving rise to such demands: sustained shifts and temporary shifts in market volatility, the emergence of important but relatively illiquid cash markets for government bonds, new inducements for financial institutions and non-financial firms to deal with interest rate risks and the international diversification of institutional equity portfolios.

**Biswas & Shawky (1997)** examined the time series properties of two nominal exchange rates, the U.S. dollar to British Pound and the U.S. dollar to Japanese Yen, for the period January 1987 to December,1994.The study also tested for violations of forward market efficiency hypothesis explicitly around a political event i.e. Gulf War. Applying Augmented Dickey-Fuller test for unit-roots in the forecast error ratio, author found that forward market efficiency was violated during the gulf war for both exchange rate series.

**Fung & Patterson (1999)** examined the dynamic interactions among return volatilities, volume, and market depth for five currency futures markets. Data collected for the study was from June 1977 to March 1994. Author employed vector autoregressive analysis (VAR) to analyze the data. Results found that return volatility is subject to strong reversal effects from trading volume and market depth. The results also indicated that the volatility appears to have predictive power on volume but not on market depth. Furthermore, findings reported that volume and depth are not endogenously determined. It was observed that there was an increasing trend of integration between offshore and domestic information that affects the movement of currency futures prices.

**Cheung & Wong (2000)** conducted a survey of individual traders in three Far East foreign exchange Centers i.e. Hong Kong, Tokyo, and Singapore to study the exchange rate dynamics and the determinants of bid ask spread. Further, the role of speculation in the foreign exchange market was analyzed. The survey was conducted between October 1995 and January 1996. Percentage method and frequency distribution was used for the analysis of data. It was found that liquidity and market uncertainty are two important reasons for deviating from the conventional interbank bid-ask spread. Findings reported that non-fundamental factors have pervasive impacts on short-run exchange rates. Speculation is believed to increase volatility but also improve market liquidity and efficiency.

**Allayannis & Ofek (2001)** examined whether firms use foreign currency derivatives for hedging or for speculative purposes. A sample of S&P 500 nonfinancial firms for the year 1993 was used for the study. Data on year-end notional value of forward contracts reported in the footnotes of the annual reports of all the S&P 500 nonfinancial firms in 1993 was collected for the analysis. A model used by Jorion, Amihud and Allayannis was employed by the author to estimate exchange rate exposure. Further, to examine the sensitivity of results a real and much broader index (RX-101) published by the Federal Reserve Bank of Dallas was used which measures the strength of the dollar against 101 of the US's trading partners. Finally, to control for the market movements, the CRSP monthly value weighted market index was used in the study. Several additional tests on the sample of positive exposures were used to examine the robustness of the results. Results indicated a strong negative association between foreign currency derivative use and firm exchange-rate exposure. It was found that firms are using currency derivatives for hedging the foreign exchange risk.

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**Cheung & Chinn (2001)** conducted a survey of currency traders to study the exchange rate dynamics, in both the microstructural and macroeconomic areas. A mail survey of the foreign exchange traders located in the US was conducted between October 1996 and November 1997.Results reported that technical trading and electronic transaction had increased gradually with the time. It was also found that news about macroeconomic variables is rapidly incorporated into exchange rates. Speculation is found as a positive factor for enhancing market efficiency and liquidity, even though it exacerbates volatility. It was revealed that the market norm is an important determinant of interbank bid-ask spread and the most widely cited reason for deviating from the conventional bid–ask spread is a thin/hectic market and half or more of market respondents believed that large players dominate in the dollar–pound and dollar–Swiss franc markets. Further, economic fundamentals were perceived to be more important at longer horizons, while short-run deviations from the fundamentals were attributed to excess speculation and institutional customer/hedge fund manipulation.

**Ramon (2004)** stated on the topic that from where the brokers get e-forex quotes. As per the article, foreign exchange is the liquid market in the world. Futures and options have centralized exchanges and clearing houses that report every trade and the resulting price ticks in these contracts, but there is no one entity that registers every single forex trades. Market makers make foreign exchange prices. A market maker can be a major banking institution, handling multibillion-dollar clients or an online trading company handling online retail clientele. The price these market makers quote for a currency pair are simply the prices at which they are willing to buy or sell a particular pair.

**Schulmeister (2005)** examined the mutually reinforcing interactions between exchange rate dynamics and technical trading strategies. The analysis was based on the performance of 1024 moving average and momentum models in the single most active foreign exchange market, the DM/$ market between 1973 and 1999. An out-of-sample test of the performance of all 1024 models between 2000 and 2004 (euro/US dollar) was also the part of the study. The main results showed that technical trading systems were quite profitable during the floating rate period. It was also found that technical models exert an excess demand pressure on currency markets. When these models produced trading signals, almost all signals were on the same side of the market, either buying or selling. When technical models maintain open positions, they were either long or short. Initial exchange rate movements triggered by news or by stop-loss orders were strengthened by technical trading and often transformed into a trend. This "Multiplier effect" was reflected by the close relationship between technical trading signals and Order flows. Author concluded that order flows were not only driven by (fundamental) news but also by Technical trading, which reinforces exchange rate trends to which it responds.

**Heaney & Winata (2005)** explained the use of derivative by Australian firms. It was analyzed with multivariate analysis over a sample of 374 large Australian companies. Eight variables i.e. Scale, financial distress, taxes, management compensation, agency costs, optimal investment arguments, the existence of foreign assets and foreign sales were used to explain derivative use in Australia. It was found that there are important differences in the motivation for derivative use between the larger firms and the smaller firms. Results indicated that size, advantage, research and development, return on assets, the existence of tax losses and foreign sales were positively associated with the derivative use. On the other side liquidity, director shareholding and the market-to-book/leverage interaction were negatively associated with the derivative use.

**Bose (2006)** studied about the major developments in the Indian commodity, exchange rate and financial derivatives markets and outlines the regulatory provisions that were introduced to minimize the misuse of derivatives. It was revealed that there were a number of pointers to the efficient functioning of the derivatives markets. Study found that in the early years of the equity derivatives market there was a degree of concentration in the market and consequent lack of width and depth across segments. Further, there were violations of put-call parity, and consequential arbitrage opportunities. Author emphasized that there was a need to see how these attributes were changed over time along with increased participation in the market and whether the growing volumes were in corroboration with a move towards more efficient markets.

**Siva Kumar & Sarkar (n. d.)** evaluated the various alternatives available to the Indian corporates for hedging financial risks. Author concluded that forward and options were preferred as short term hedging instruments while swaps were preferred as long term hedging instruments. The high use of forward contracts by Indian firms also highlighted the absence of a rupee futures exchange in India. It was found that there was a requirement for managing foreign currency risks. Author also emphasized that Reserve Bank India had responsibility to realize the need for rupee futures and the convertibility of the rupee in India.

**Shastri et. al. (2008)** studied on the information revelation in futures market of single stock futures. This paper analyzed 31 months of data on 137 single-stock futures (SSFs) traded from January 2003 to July 2005 for stocks listed on the NYSE and NASDAQ. Research technique developed by Hasbrouck and Chakravarty to determine the contribution of each market to price discovery when a security trades in multiple markets was used to analyze the data on currency futures market. The results indicated that on the days they trade, SSFs contribute approximately 24% of the price discovery for underlying stocks. Information revelation in the SSFs market decreases with the ratio of spreads in the futures, the stock markets, and the volatility in the stock market. Moreover, the quality of the market for the underlying stocks improves substantially after the introduction of the SSFs market, with the largest improvement occurring on days with SSFs trading.

**Anand & Kaushik (2008)** examined management motivations for usage of foreign currency derivatives in corporate India vis-à-vis the rest of the world. Authors used factor analysis for the analysis and explained that major motivation of using currency derivatives in India is hedging risk, to reduce the volatility in profits after tax, to reduce volatility in cash flows and cost of capital for enhancing the value of the firm.

**Srivastava et. al. (2008)** aimed to gauge the broker perception about the efficiency of the derivatives market in India. Survey was carried out on a sample of brokers who are active market participants in the derivative segment of the NSE. The survey found that high net worth individuals and proprietary traders account for a large proportion of broker turnover and revealed that investors were using derivatives for different purposes such as risk management, profit enhancement, speculation and arbitrage. Results indicated that there was a need to popularize option instruments because they may prove to be useful medium for enhancing retail participation. Author stated that there are two important issues that deserve the special attention of the regulators-low liquidity and concentration of trading among few members and among selected members. It requires need for policy initiatives to improve market functioning.

**Gupta & Singh (2009)** investigated the information dissemination efficiency of the Indian equity futures market. Data used for the study was collected from the official website of NSE. Eighty-four individual stocks futures have been selected out of 150 individual stock futures trading as on 31 December 2006 for that sample size of study. Author applied autocorrelation and Box Ljung (Q) tests and to examine the relationship between returns of different periods, ARMA (p, q) was applied where p is order of auto regression and q is the order of moving average, which were determined based on correlograms of partial autocorrelation and autocorrelation respectively. Exponential GARCH (EGARCH) model (originally proposed by Nelson 1991), which studies whether good and bad news causes asymmetric changes in volatility was applied. Daily log returns of all indices as well as individual stock futures contracts understudy were found to be non-normal and responding asymmetrically to the information shocks. Volatility clustering in daily log returns of all indices and individual stock futures contracts were identified, which suggested that Indian equity futures market is not an efficient price-discovery vehicle. In addition, the study found an evidence of leverage effect, which implies that traders assign more weightage to bad news, whereas, they cautiously react to positive news. Mean reversion in daily log returns of the Indian equity futures market further suggested that traders (especially retail traders) need to be overcautious while adding equity futures as leverage products in their portfolio because in a highly volatile market, framing a trading rule to earn super normal profit t may be an easy task for big/institutional traders but may not be possible for small/uninformed traders.

**Lingareddy (n. d.)** studied the state of currency derivatives in India with a comparison to futures and forwards. Sample period was from September 2008 to March 2009. Research tools i.e. Correlation, T test, Standard deviation and Coefficient of Variation were used as volatility measure. Data on forward rates for various term structures was collected from traded as well as polled data. Source for traded data was from the official website of Clearing Corporation of India Ltd. (CCIL) while the polled rates were collected from the official website of Reserve Bank of India (RBI). The extent of match/mismatch between the polled and traded forward rates were studied for pooled as well as individual categories of major trading members such as foreign banks, nationalized banks and private banks. Results indicated that the foreign exchange market become more efficient due to the introduction of currency futures but introduction of currency futures had no impact on the volatility of spot market.

**Vashishtha & Kumar (2010)** analyzed about the historical roots of derivative trading, types of derivative products, regulation and policy developments, trend and growth, future prospects and challenges of derivative market in India. The study also analyzed the status of global derivatives markets vis-a–vis the Indian derivatives market. The turnover of derivatives on the NSE increased from Rs. 23,654 million (US $ 207 million) in 2000-01 to Rs. 130,904,779 million (US $ 3,275,076 million) in 2007-08. This reiterated the strengths of the modern development of India's securities markets, which were based on nationwide market access, anonymous safe and secure electronic trading, and a predominantly retail market. The equity derivatives market was playing a major role in shaping price discovery with an increasing trend. The factors like increased volatility in financial asset prices; growing integration of national financial markets with international markets; development of more sophisticated risk management tools; wider choices of risk management strategies to economic agents and innovations in financial engineering, proved to be the drivers for the growth of financial derivatives worldwide and also fueled the growth of derivatives in India.

**Mihaljek & Packer (2010)** reviewed derivatives markets in emerging market economies (EMEs) on a comprehensive basis. The study was based on the objectives to study about the structure and dynamics of EME's ,the difference between the growth of EME's and mature markets, to study the factors that explain differences in the growth of derivatives markets across countries and time. The study combined data from the Triennial Central Bank Survey of OTC derivatives market activity with those on derivatives traded on emerging market exchanges and data on exchange-traded derivatives, compiled by commercial providers and published on a regular basis in the BIS Quarterly Review, provide detailed information on standardized derivative contracts listed and traded on emerging market exchanges. Data was analyzed through regression and coefficient of correlation. It was found that First, daily turnover in derivatives markets in EMEs was expanded four times over the past decade, to over 6% of emerging market GDP. Second, derivatives in emerging markets were traded in almost equal proportions over the counter and on exchanges. Third, unlike in advanced economies, FX derivatives were still the most traded derivatives in EMEs (50% of total turnover), while interest rate derivatives remain underdeveloped. Fourth, the FX derivatives turnover in emerging markets was becoming increasingly global, with a growing share of transactions being done cross-border, and transactions in emerging market

currencies increasingly taking place offshore. Fifth, the largest derivatives markets in EMEs were located in Korea, Brazil and the 2 Asian financial centers of Hong Kong SAR and Singapore. Sixth, trade, financial activity and per capita GDP were positively related to the growth of derivatives markets in EMEs.

**Lintari (2011)** investigated how awareness and trust impact on stock exchange market Efficiency in Uganda. The study adopted a cross sectional survey design, which was correlational in nature. It used both primary and secondary data sources and later analyzed using the statistical package for social sciences to generate descriptive and inferential statistics. The findings revealed a strong positive correlation between awareness and trust among the investing public. The study also revealed a strong positive correlation between trust and stock market efficiency. Both awareness and trust had an impact on stock market efficiency but from the simultaneous multiple regression model the findings revealed that trust was a more important predictor of stock exchange performance.

**Friedman (2011)** studied on the need of futures market in currencies in United States. Changes in international financial Structure will create a great expansion in the demand for foreign cover. It was highly desirable that this demand be met by as broad, as deep, as resilient a futures market in foreign currencies as possible in order to facilitate foreign trade and investment. Such a wider market was almost certain to develop in response to the demand. The U.S. was a natural place and it was very much in the interests of the U.S. that it should develop here. Because the dollar was almost certain to continue to be the major intervention currency for central banks and the major vehicle currency for international transactions. Exchange rates will almost surely continue to be stated in terms of the dollar. Its development here will encourage the growth of other financial activities in this country, providing both additional income from the export of services, and easing the problem of executing monetary policy.

**Kawamoto & Hamori (2011)** investigated market efficiency of spot and futures prices in the Crude Oil Futures market. In this study, market efficiency and unbiased among such futures were defined and the concept of "consistently efficient (or consistently efficient and unbiased) market within n-month maturity" was introduced. According to this definition, market efficiency and unbiasedness among WTI futures with different maturities were tested using co-integration analysis, and short-term market efficiency, using an error correction model and GARCH-M-ECM. The settlement price of the (s _ 1)th contract traded on the last trading day of every month between February 1991 and May 2008 was quoted by author and collected from Bloomberg, developing monthly time-series data of futures with a constant maturity of s months. The results showed that WTI futures are consistently efficient within 8-month maturity and consistently efficient and unbiased within 2-month maturity.

**Pandey (2011)** assessed the speed of growth and volatility of currency futures in India and aimed at analyzing the volatility of the currency futures. Author employed correlation and Kolmogorov- Smirnov test for a 10 months sample period from February to December 2010. Kolmogorov- Smirnov Test is a non-parametric test and it was used to determine whether the distribution was homogeneous. Study included all the four currencies traded under currency futures (EURO, Dollar, YEN and Pound) in India. The number of contracts traded and open interest at NSE and MCX were inclusively compared to study the growth of the currency futures. Findings showed a growth pattern in currency futures but highest in the case of USD-INR currency futures and least in the EURO-INR as the value of rupee for Euro was more volatile that creates negative return.

**Allanyannis et al. (2012)** examined the use of currency derivatives, corporate governance and firm value using a broad sample of firms from thirty-nine countries with significant exchange-rate exposure. The focus of the study to check the usage of derivatives for managers' self-interest, for hedging or for speculative purposes. A sample of foreign firms that are cross-listed on a major U.S. exchange (e.g. level II and level III ADRs) between 1990 and 1999. Author used descriptive statistics and econometric method i.e. Tobin's Q for the panel data set of foreign firms' currency derivatives activities to assess the effect of the use of currency derivatives on firm value. Results found that on average FCD usage for firms with FX exposure is valuable across countries. Majority of firms are using foreign currency derivatives for hedging. Corporate governance plays an important role when investors assess the reason behind the use of FCDs and its potential value for the firm. A significant relation was found between the use of foreign currency derivatives and firm value when both the internal firm level governance and external country level governance environment are strong.

**Nguyen (2012)** examined whether derivatives play a primary role in mitigating an adverse movement in currency in multinational firm. The empirical study was conducted on British large and medium- sized companies. Study was based on qualitative method and the secondary data was collected from the analysis of annual financial reports of 50 United Kingdom based companies. The findings identified the downward effect of currency risk and evaluated in a majority of multinational companies. Although other hedging techniques such as netting, borrowings or natural hedge were at times employed, financial derivative instruments were crucial to hedge against currency risk in multinational companies. In general, forwards were designated as the most favorable type of derivatives to minimize exchange rate fluctuation, followed by swaps. Furthermore, hedging strategy was implemented in accordance with individual firm's policy.

**Bhagwat et. al. (2012)** analyzed the Indian financial derivative market and its position in global financial market. Study was based on the secondary data collected from the official website of National Stock Exchange (NSE). The analysis was made through tables using percentage method of total turnover of cash segment, the derivate segment of stocks, currency futures and options. It was found that financial derivatives earned a well-deserved and extremely significant place among all the financial

instruments (products), due to innovation and revolutionized the landscape. The growth of derivatives in the recent years had surpassed the growth of its counterpart globally. The Notional value of option on the NSE increased from 1195.691178 lakhs USD in 2003 to 354648.1941 lakhs USD in 2012 and notional value of NSE futures increased from 14329.35627 lakhs USD in 2003 to 39228.38563 lakhs USD in 2012. India is one of the most successful developing country in terms of a vibrate market for exchange-traded derivatives. The equity derivatives market was playing a major role in shaping price discovery. Volatility in financial asset price, integration of financial market internationally, sophisticated risk management tools, innovations in financial engineering and choices at risk management strategies were driving the growth of financial derivatives worldwide in India.

**Rajkumar & Rani (2012)** analyzed the trend and growth pattern of currency futures market in India. Secondary data was compiled from the SEBI annual reports and analysis was made using percentage method. It was revealed that the turnover of exchange traded currency derivatives increased day by day since its introduction and in 2010-2011, it was more than OTC currency derivatives market turnover. USDINR futures contracts were found to be the most actively traded contract among all the exchange traded currency derivatives instruments.

**Saha (2012)** focused on the growth of Indian economy and its financial sector using the different economic and financial indicators. The study used secondary data collected from different sources such as reports of Indian National Sample Survey Organization (NSSO), annual Economic surveys published by the Ministry of Finance, Government of India, reports of the World Bank etc. Data presentation was made with help of bar graphs and line graphs. It was observed that while the country was liberalized its international trade and investment regime, the economy was still insulated from international competition. Author suggested that the Central and State policymakers should exercise innovative measures to address to the challenges to lead India to become one of the leading economic powerhouses in near future.

**Choudhary (2012)** stated that foreign exchange markets are the biggest based on traded turnovers and thus had a significant volatility. The journey of Indian futures has to face some challenges of myths of traders about the market and of liquidity. USD-INR pair is the mostly traded currency futures pair in India. While facing these challenges currencies were still best performers amongst all the classes, presently in India as there is no counter party risk in currency futures trading. It was also suggested that FIIs and NRIs must be allowed in currency future trading and the trading hours must be extended.

**Mathur (2012)** pointed that globalization of trade and volatility in the cash market has led the emergence of currency futures market. The basic objective of trading currency futures is hedging and the major benefits are price transparency and standardization. RBI is also playing a significant role as a regulator of the market by imposing strict MTM margins to curb speculation. Currency future market had an increasing growth pattern since its inception year and holds bright opportunities for the investors.

**Srinivasan(2012)** sated that lower transaction cost, elimination of counter party risk are the advantages that give impetus to the growth of currency futures trading in India. On the other side, the concept of cash settlement process has discouraged true hedging interest from participating in the market and it has exposed the market to speculation. It can be resolved by delivery-based settlement. Author also suggested that hedging on exchanges should be customized so that corporates can take benefits of exchange-traded futures.

**Prasad (2012)** studied that currency derivative segment has developed as a deep and efficient market in a very short span of 3 years. It provides an alternative platform for the hedgers using the OTC market. It is an opportunity for trader, which provides automated transaction system, efficient clearing process for risk management to hedge against the volatile market.

**Subbarayan (2012)** stated that currency future contracts facilitate efficient price discovery, wider participation, enable counter party credit risk management and reduced transaction cost. Corporates participation have not seen much due to the lack of knowledge among this group about the market. The regulators, exchanges, brokers and the industry associations should work together to spread awareness regarding the working and benefits of currency futures.

**Pandey (2012)** studied that currency futures are the immense requirement for the developing economies to grow international space and efficient currency risk management system for the economy. Currency derivative provides better understanding and forecasting of actual and implied volatility numbers. It also helps in the price discovery in long run and make treasury operations viable for Indian banks, multinationals exporters and importers. High net worth individuals and medium size entities contribute majority of the trade in currency futures. A further research in currency futures could be conducted by academicians related to accounting & reporting of currency derivatives in Indian context.

**Mantri (2012)** stated that for globalized business environment and highly volatile currency, currency derivative provide an efficient hedging platform. The reason of growth is price discovery and efficient management of counter party risk. FIIs and NRIs are significant participants in foreign exchange flows but they go for NDF market for their hedging. The position limits for clients trading in this segment are restricted, which is major roadblock in the development of an efficient and in depth market with the participation from all segments. It was also pointed out by the author that the very reason of remarkable growth of currency

derivatives is the high degree of faith of the participants in this market that there is no possibility of manipulation as compared to other commodities derivatives.

**Shunmugam (2012)** emphasized that the economic efficiency of the markets has improved since inception due to declining bid ask spread. Currency market is also having advantage of price discovery and it is accessible to a wide variety of traders with the development of information and communication technology. Exchanges are providing a reliable source of hedging to retail participants with a choice for varied modes of connectivity depending on their needs. The efforts of regulators and exchanges would take the markets to further height in future.

**Thunuguntla (2012)** stated that with electronic trading and efficient risk management system currency future market has witnessed an increasing growth over time. Steep Depreciation of rupee in 2011 could possibly be a reason for growth of the market. However, corporates are not aware properly about the relevance of currency futures market. Author suggested that more currencies should be added to the product basket of Indian currency market especially Swiss Franc. Extension of trading hours in the market is also one requirement for the efficiency of market.

**Pavaskar & Kala (2013)** examined the relation between volatility in currency futures and trading volumes. Data sample was from financial year 2009-10 to 2012-13, collected from the official website of Multiple Commodity Exchange - Stock Exchange (MCX-SX). Volatility was approximately calculated from the difference between daily highs and lows of such currency rates. The regression model was used to find the relation between volatility and trading volume of currency futures. It was concluded that exchange rate volatility leads to higher intra-day trades to the benefit of currency hedgers as the regression co-efficient was positive and statistically significant.

**Njoroge et al. (2013)** studied the factors influencing development of financial derivatives markets in listed companies in Kenya. The target population was the 138 comprising of 8 departments of Capital Market Authority of Kenya (CMA), 58 Quoted Companies at Nairobi Stock Exchange (NSE) and 72 other financial market intermediaries. The respondents were the staff from finance department, research policy analysis and planning, market supervision and legal affairs of the respective accessible population. Data was obtained through primary and secondary sources. Primary data was obtained through questionnaires, which were open and closed ended. The questionnaires were divided into three sections targeting staff of Capital Market Authority, Quoted Companies at Nairobi Stock Exchange and Financial Market intermediaries. Data was collected on legal and regulatory framework, market environment, operational efficiency and financial market intermediaries. Quantitative data was analyzed using statistical software i.e. SPSS. Correlation analysis was used to determine the relative strength of each variable. The study found that the use of financial derivatives instruments by quoted companies in Kenya was mainly influenced by legal and regulatory framework, market environment, operational efficiency and the role of financial market intermediaries. Hence, the study concluded that there was need of building upon existing financial derivatives instruments to enhance efficiency and effectiveness in their use in Kenya as modern tools for financial risk management.

**Thamotharan & Prabakaran (2013)** evaluated the dynamics influencing investors' perception towards investment decision on derivatives market with reference to Dharmapuri district. This research was a descriptive research study, in which, systematic sampling technique was used. Researcher used questionnaire for collecting the primary data from the investor. Secondary data was collected from various journals, books, magazines, and websites and trade magazines for previous researches. Trail survey was used to select the sample size, validity and reliability of the instrument. 150 samples were selected for this study. Mean and chi square tests were used to test the significance of variables. Major findings of this study included, age has significant impact on investment, and educational qualification has significant impact on tax advantages. 118 functional variables were used in this study to measure investors' perception. These variables had 72% impact on measuring investor perception. Charges, liquidity and investment attributes were mediating factor for investors' perception. Investment influences and investment benefits were having highly relevant.

**Kumar & Truck (2014)** explored the relationship between currency futures and realized spot rates for the Indian rupee US dollar exchange rate. Author used futures contracts with maturities of one, two and three months. The author to analyze the data used descriptive statistics and regression analysis. Findings reported that significant time-varying risk premiums in the considered futures market, while the premium is of greater magnitude and more significant with increasing maturity of the contracts. It was found that spot currency returns and the futures basis could be considered as significant determinants of realized risk premiums in the considered futures market.

**Gupta et. al. (2014)** analyzed the volatility of rupee and the normality in the daily changes in the value of rupee with respect to four currency pairs i.e. JPY/INR, GBP/INR, EUR/INR and USD/INR during 2013. Kolmogorovsmirnov Test and Shapiro Wilks W Tests were used for the testing normality of data. The data was analyzed through Descriptive Statistics of the daily reference rates given by RBI. The study concluded that the rupee was highest volatile in the month of August during 2013 in respect of all the four currencies. The daily changes in the value of the rupee were not normally distributed. It was also found that rupee was more volatile to GBP currency in comparison of other three currencies.

**Detrixhe (2014)** stated that growth in high frequency and algorithmic trading might promote efficiency in the spot-trading foreign exchange market by the availability and persistence of pricing arbitrage opportunities available in the FX spot market.

## *CONCLUSION*

Various studies reviewed above were focused mainly on currency futures market .After reviewing the literature it was revealed that the studies on currency derivatives have been done by researchers throughout the world during the last thirty years. The currencies included mainly were British Pound, S Dollar, Euro, German Mark, Japanese Yen, Canadian Dollar, Swiss Franc etc. There were different objectives of the studies regarding the currency futures market as per the review of literature:

- Growth pattern of currency future & option contracts.
- Dynamic interactions among return volatilities, volume and market depth.
- Volatility of currency futures
- Position of financial derivatives in the global financial markets
- Introduction of more currency pairs in the market
- Factors influencing the development of derivative market in general and currency futures market in particular.
- Assessing the broker's perception about the efficiency of derivative market
- Management motivation for the uses of currency futures.
- Contribution of derivatives in emerging market economics.
- Information dissemination efficiency of Currency futures.
- Hedging effectiveness of currency futures in risk management by MNCs.
- Investor's perception towards investment decision on derivative markets.
- Relationship of currency futures with realized spot rates
- Time series properties of exchange rates.
- Exchange rate dynamics and determinants of bid-ask spread.
- Application of currency futures in hedging, speculation, arbitrage etc.

The studies reviewed above showed that exchange rate dynamics and growth& pattern of currency futures had been an area of research for the derivatives market. Some studies also focused on the usage of currency futures by the firms in different countries. A very few studies are focusing on the determinants of currency futures market. Trading volumes was the only factor considered for the review of growth of derivative market in India. Market efficiency and Information dissemination efficiency were checked by the secondary data using different models like GARCH-M-ECM etc. The previous studies of Indian currency futures market do not cover the perception of market participants who form an integral part of the functioning of currency futures market. Therefore, It emphasized the need of further research in Indian currency futures market. It embarked a good growth since inception and a number of changes has been occurred in the dynamics of exchange rates. The academicians should focus on the factors, which give impetus to the growth of currency market in India, as well as on the volatile nature of Indian Rupee. Currency future market in India is becoming more deep and efficient market. Therefore, another research area to focus is to study the efficiency of currency futures market and a survey study can be conducted for this purpose.

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