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AN EMPIRICAL ANALYSIS OF INFLUENCE OF FRAUDS ON THE PROFITABILITY OF INDIAN PUBLIC SECTOR BANKS

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ABSTRACT

Banks is a pivot around, which the whole economy clusters and plays a significant role in the development of an economy. Fraud is a dimension of corruption, which has been enrooted in almost all economies of the world and has affected financial sector as whole, and banking sector is not an exception to this. Considering the dangerous effect of the fraud on the banking sector, the present study aims to analyze the influence of fraud on the performance of the Indian public sector banks. Here the profitability is taken in terms of Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI), which are serving as dependent variable. On the other hand, frauds are considered as Severity of Frauds (SOF) and Frequency of Frauds (FOF), which are serving as independent variable. The data of 11 years i.e. (2005-2015) is taken into account, which is collected from the India Stat. The base year for the purpose of evaluation is taken as 2005. Accordingly the following 26 public sector banks, fall under the scope of the study. For the purpose of analysis, panel least square regression is used. The collected data is analyzed with help of statistical software, E-Views. The p-value of F-Test is.000, which is less than .05, accordingly we reject the null hypothesis, that the frequency and severity of frauds in the public sector banks have no significant impact profitability. Alternatively, there is significant impact of frequency and severity of frauds, on the profitability in the Indian public sector banks.

KEYWORDS: Profitability, Indian Public Sector Banks, Severity and Frequency of Frauds

INTRODUCTION

Financial fraud is like a termite to any economy in the world. Fraud is a dimension of corruption, which has been enrooted in almost all economies, across the globe. Such practices are prevalent, where governance structure is not much efficient and has severe socio-economic impact (Baxevani, M., and Mylonas, G., 2014). Fraud is one of the prime obstacles, in the growth of democratic India. It is the repercussion of open economy, with greater amount of liberalisation and lack of ethics being practised on universal phenomenon, of making profit illegitimately (Sabale, R. J.,2011). Frauds viz. Lehman Brothers, Enron, WorldCom, Waste Management etc. came into clear light in recent discoveries regarding fraudulent financial (Carpenter, T. D., and Reimers, J. L., 2005).

Bank is a pivot around which, whole economy clusters. But, unfortunately this financial sector could not be left safe from it globally. Its growth has become astounding, shaking the credibility of the bank (Nwankwo, O. 2013). The banking sector comprises the public sector, the private sector and foreign banks apart from cooperative banks, and small regional banks. Dynamic technological drive, which has brought significant shifts in business volatility, has also made room for fraudulent activities that has become increasingly challenging, for baking sector to navigate their strategies in such a way that, they can fight the issue to frauds and help themselves, safeguarding their business, assets and reputation (Nayak B M et. al, 2013). Banks are the engines of financial drive in the growth of an economy. With the advent of sophisticated technologies, fraudsters are becoming more ingenious. Though, it's not practically possible for the banking environment to function in a zero fraud level, but steps can be enforced to combat this menace to lowest possible level, by conduction of stringent policies for fraud prevention and detection. And this is verily serious matter, which should be dealt with high priority. With the technological assistance, complex nature of new-age frauds can be mitigated (Bhasin M, L, 2015).

Bank fraud can generally be defined as intentional misrepresentation, to obtain illegitimate money or any other possession, which is originally owned by financial institution fraudulently. According to the criminal law, an intentional attempt made to obtain financial benefit, for personal gain by damaging a financial entity. Bank frauds are entirely differently from bank theft or robbery, since the perpetrators silently commit such frauds both internally and externally, for huge financial benefit expecting their deceitful activity and would go unnoticed in which, they can make enough room to escape. Probably this is the reason; such crimes are called white-collar crimes. Therefore, an effective fraud management system is needed to safeguard both firms' asset and goodwill.

Considering the ongoing fraudulent activities it can be said that, banks are dealing with high levels of fraud risk, constantly. To fight this financial hazard, banks should not only depend on its existing internal control system, but should look forward for more deterrent anti-fraud methods (Vousinas, G. L. (2015). Indian economy is suffering severely from such problems and this motivated to carry out the study, and analysing the frauds and its repercussions. The present study is based on the impact of fraud, on the performance of commercial banks in India and economy, in general.

According to the Reserve Bank of India (RBI), Credit Cards, Deposits – Savings A/C, Internet Banking, Housing Loans, Term Loans, Cheque / Demand Drafts, Cash Transactions, Cash Credit A/c (Types of Overdraft A/C), Advances and ATM / Debit Cards are few bank frauds, on the basis of area of operation, as reported by the banks of India (Rajdeepa, B., & Nandhitha, D).

(Singh C et.al. 2016) Since liberalization in 1991, Indian banking sector has been witnessing growth. The regulation and supervision of this sector has been performed well too. But in recent times, the sector is seen to suffer on ethical grounds. Somewhere because of weak ethical practices, financial distress and inefficient corporate governance and menace of fraud has affected the growth and prosperity of the Indian banks. High level of non-performing assets (NPA) is a big cause of worry, since it reflects financial inability of borrower clients etc. Rapid increase of the bank branches and diversification in its business and phenomenal networking, via computerization has amplified the operational risks, borne by the banks.

According to RBI and ICICI Bank, with 455 registered fraud cases involving Rs 1 lakh and above is ranked first, witnessing most number of frauds, during the previous fiscal. State-owned SBI stood second, with 429 registered fraud cases, followed by Standard Chartered with 244 cases, HDFC Bank with 237 cases. The other banks in the series of reporting higher number of frauds, were Axis Bank with 189 cases, Bank of Baroda (BOB) with 176 cases and Citibank with 150 cases. However, in terms of value, SBI reported highest frauds with Rs 2,23681Crore, followed by Punjab National Bank (PNB) with Rs 2,250.34 Crore and Axis Bank with Rs 1,998.49 Crore.

(http://timesofindia.indiatimes.com/business/india-business/icici-bank-sbi-stanchart-top-bank-frauds-list-rbi/articleshow/57604586.cms as assessed on march 28-2017)

REVIEW OF LITERATURE

Umaru, I. A. (2005) identified and discussed the causes of bank frauds and different types of fraudsters, involved in such activities. The study suggested various measures to lessen the incidence of frauds on the banks. Inspectors, banks staffs and customers of the banks were interviewed, to collect primary data and average and percentage was used to interpret the results. **Ikpefan, O. A. (2007)** evaluated the relationship, among deposit in banks and bank frauds with amount lost to frauds. The Ordinary Least Square (OLS), correlation coefficient, t-test, f-test were employed and found that, there is significant influence of independent variables, on deposits. **Adediran, S. A. & Olugbenga, E. (2010),** studied the impact of banks' frauds, on the performance on Nigerian banks. The findings of the study showed that, number of frauds cases reported, amount involved in them and amount lost to frauds have negative significant relationship, with commercial banks. **Aburime, T. U. (2010),** studied the impact of corruption on the profitability of commercial banks in Nigeria and found that, the corruption significantly affected the profitability of the banks. Thus, the paper recommended for taking stringent measures to curb the issue and saving the economy of the country. **Idolor, E. J. (2010)** threw light on the causes and repercussion of the fraud issue with banks and involvement of bank staff in frauds. The results of the study, showed involvement of bank officials in fraud activities and concealing the same. Greed, weak corporate governance and lack of personal ethics were identified as few major factors, encouraging frauds. **Abdul Rasheed, A et. al (2012)** examined the difficulties raised through fraudulent activities and their impact on the performance of banks, in Nigeria. The findings of the study showed that, there was a significant relationship between banks' profit and amount involved in fraudulent activities. **Brendan, E. (2012)** assessed the impact of fraud on the performance of banks and banking public in Nigeria, and found that weak management, inefficient security arrangement and less skilled staff were the major causes of fraudulent activities, in the banks. Frauds in the banks led to frail economy and turnover of the staff. **Chiezey, U., & Onu, A. J. C. (2013)** analysed the impact of frauds, on the performance of Nigerian commercial banks. Different kinds of bank frauds and motivation factors, for committing such frauds were also discussed. Multiple regression analysis was employed, to determine the impact of fraud on the performance of banks. The findings of the study showed that, fraud and fraudulent practices had severe impact on the performance of banks and confidence of their clients. **Kanu, S. I., & Okorafor, E. O. (2013)** reviewed different types of bank frauds in Nigeria, and their impact on the bank deposits. The research endeavoured to ascertain the relationship between the amount of banks involved in fraud, amount which is lost to frauds in the banks and liabilities of insured money in the banks. The results showed that, the relationships are significant and both curative and preventive solutions should be taken care, to minimize the impact of frauds on bank's deposits in Nigeria. **Leonard A (2013),** assessed bank frauds and management of those frauds in banks of Tanzania. It was found out that, banking industry suffered both financial and non-financial impacts of frauds, and the bank frauds are still in existence due to weak internal control, poor management, low remuneration and lower level of compliance and accountability, and thus provides a motivation and rationale for committing fraud. **Nwankwo, O. (2013)** evaluated the impact of fraudulent activities, on the performance of banks in Nigerian economy. The findings of the research revealed a significant impact of fraudulent practices, on the performance of the banks. **Olongo, F. O. (2013)** evaluated the impact of frauds in banks, on financial performance of banks in Kenya. Independent variables taken for the study were, total fraud loss and liquidity ratios and dependent variable was, Return on Asset (ROA). The findings of the study showed that, performance of banks was significantly affected by frauds, in Kenyan commercial banks. **Onwujiuba Joy Ogechukwu (2013)** investigated the effect of fraud on the banks' performance and motivation, to commit it. The findings of the study showed that, inadequate motivation was not the major cause of fraudulent practices in the banks, but frauds committed by top managements i.e., managers and directors were more responsible for such bank frauds. **Chelangat, B. (2014)** studied various types of financial frauds and their impact on the financial performance, of Savings and Credit Cooperative Societies (SACCOs) in Kenya and provided that, fraud factors influenced the performance of SACCOs. Misuse of technology, weak fraud management etc were the causes, discussed in the study. **Bhasin, M. L. (2015)** analysed the perception of bank staffs, towards the bank frauds and examined the factors which effected their compliance, for their duties and responsibilities in India. The findings of the study further revealed that, weak employment practices, heavily burdened employees and their insufficient training, poor internal control system and lower level of compliance of bank officials etc., were identified as a cause to the problem. **Adeniyi, A. (2016)** analysed the impact of fraudulent practices, occurring in the banks of Nigeria and revealed that, frauds cannot significantly influence the amount of loss, and the number of fraud cases in the banks also do not significantly affect their failure. **Gitau, E. W., & Samson, N. G. (2016)** evaluated the impact of financial fraud on the performance on banks in Kenya and provided that, fraud variables significantly influenced the financial performance.

OBJECTIVES AND HYPOTHESIS OF THE STUDY

The objective of the study is to analyze the influence of frauds on the profitability of the Indian public sector banks. The profitability is taken in terms of Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI). On the other hand, frauds are considered as Severity of Frauds (SoF) and Frequency of Frauds (FoF). The hypothesis formulated as:

$H_{0:}$ Frequency and severity of frauds in the public sector banks have no significant influence on their Return on Assets (ROA); Return on Equity (ROE); and Return on Investment (ROI).

$H_{1:}$ Frequency and severity of frauds in the public sector banks have significant influence on their Return on Assets (ROA); Return on Equity (ROE); and Return on Investment (ROI).

RESEARCH METHODOLOGY

A quantitative research design approach was used to analyze the influence of frauds, on the profitability of the Indian public sector banks. Here the profitability is taken in terms of Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI), which are serving as dependent variable. On the other hand, frauds are considered as Severity of Frauds (SOF) and Frequency of Frauds (FOF), which are serving as independent variables. The data of past 11 years i.e., (2005-2015) is taken into account, which is collected from the India Stat. The base year for the purpose of evaluation is taken as 2005, as this is the year in which a master circular was issued by the RBI, containing guidelines/ instructions to the bank, on the procedure to be followed in dealing with forged notes detected at the counters of banks' branches. Accordingly, the following 26 public sector banks fall under the scope of the study.

For the purpose of analysis of data, panel least square regression was used. The collected data was analyzed with help of statistical software E-Views.

Variables and Equations Specification

Independent variable (X) - Frauds in the banks are considered in term of severity/size of fraud and frequency/number of fraud. Hence, the following are the independent variable:

- Frequency/Number of Frauds
- Severity/Size/Amount of frauds

Dependent Variable (Y) - The profitability of the public sector banks was taken as dependent variable and considered in term of the followings:

- Return on Asset (ROA)
- Return on Equity (ROE)
- Return on Investment (ROI)

Taking into account the above mentioned variables, the following equations are formulated:

$$\text{ROA} = \beta_0 + \beta_1 \text{Severity of frauds} + \beta_2 \text{Frequency of frauds} + \cdots \mu$$

$$\text{ROE} = \beta_0 + \beta_1 \text{Severity of frauds} + \beta_2 \text{Frequency of frauds} + \cdots \mu$$

$$\text{ROI} = \beta_0 + \beta_1 \text{Severity of frauds} + \beta_2 \text{Frequency of frauds} + \cdots \mu$$

Where,

$\beta_{0=}$Constant Term

β_1 & $\beta_{2=}$ Coefficients of independent variables

μ =Error Term

EMPIRICAL ANALYSIS AND INTERPRETATION

In this section, the influence of frauds on the profitability of the Indian public sector banks was analyzed. This includes computation of descriptive statistics, followed by Pearson correlation matrix, among the variables under consideration. Afterward, the panel least square regression was used for meaningful analysis and interpretation.

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Frequency	3	784	103.27	106.892
Severity	0.44	2309.73	188.6156	318.1964
ROA	-0.99	2.01	0.8277	0.37655
ROE	-21.73	31.62	14.8174	6.94178
ROI	1.58	9.52	7.4122	0.85238

The table 1 shows that, the frequency of fraud is minimum 3, which goes upto a maximum of 784 numbers of frauds cases, with mean and standard deviation of 103.27 and 106.892. The severity of minimum value is 0.44, which goes upto a maximum of 2309.73, with mean and standard deviation of 188.61 and 318.19. As far as the profitability measures (ROA, ROE, and ROI) are concerned, the mean value is minimum in case of ROA i.e., 0.827 followed by 7.412 and 14.81, in case of ROE and ROI.

Table 2: Correlation Matrix

	Frequency	Severity	ROA	ROE	ROI
Frequency	1				
Severity	0.300**(.000)	1			
ROA	0.045(.452)	-0.329**(.000)	1		
ROE	0.030(.609)	-0.347**(.000)	.884**(.000)	1	
ROI	-0.003(.955)	0.016(.789)	0.035(.551)	0.031(.596)	1

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

This table 2, shows the correlation matrix between the variables. Correlation, shows the degree of relationship between two variables. There is a high positive correlation between ROE and ROA, as the value of correlation (.884) is found between the limit of 0.75-0.90. The values of correlation show positive and negative low correlation, in many cases, except Frequency and Severity (positive moderate), Severity and ROA (negative moderate) and Severity and ROE (negative moderate). The star sign depicts the significant correlation, at one per cent level of significance.

The influence of fraud on the profitability was measured with the panel least square regression.

Table 3: Result of Panel Least Square Regression (ROA as Dependent Variable)

	Coefficient	Standard Error	P-Value
Constant	0.854458	0.029794	0.0000
Severity of Fraud	-0.000446	6.89E-05	0.0000
Frequency of Fraud	0.000564	0.000205	0.0063
F-Test	21.34130 (0.0000)		
Adjusted R^2	0.67238		

The table 3, shows the results of panel least square regression, when ROA is taken as dependent variable. The value of adjusted R^2 is 0.67238 which signifies that, 67% variation in the ROA is because of independent variables under consideration. The p-value of F-Test is .000, which is less than .05. Accordingly, we reject the null hypothesis, that the frequency and severity of frauds in the public sector banks have no significant influence on their Return on Assets (ROA). Alternatively, there is significant influence of frequency and severity of frauds in the public sector banks, on their ROA.

$$\mathrm{ROA} = 0.854458 - 0.000446\,\text{Severity of frauds} + 0.000564\ \text{Frequency of frauds}$$

Table 4: Result of Panel Least Square Regression (ROE as Dependent Variable)

	Coefficient	Standard Error	P-value
Constant	15.44098	0.547080	0.0000
Severity of Fraud	-0.008548	0.001264	0.0000
Frequency of Fraud	0.009739	0.003766	0.0102
F-Test	23.02465 (0.0000)		
Adjusted R^2	0.49667		

The table 4, shows the results of the panel least square regression, when ROE is taken as dependent variable. The value of adjusted R^2 is 0.49667, which signifies that 49% variation in the ROE is because of independent variables under consideration. The p-value of F-Test is.000, which is less than .05. Accordingly, we reject the null hypothesis, that the frequency and severity of frauds in the public sector banks have no significant influence on their Return on Equity

(ROE). Alternatively, there is significant influence of frequency and severity of frauds, in the public sector banks on their ROE.

$$\mathrm{ROE} = 15.44098 - 0.008548\,\text{Severity of frauds} + 0.009739\,\text{Frequency of frauds}$$

Table 5: Result of Panel Least Square Regression
(ROI as Dependent Variable)

	Coefficient	Standard Error	P-value
Constant	7.411884	0.072474	0.0000
Severity of Fraud	5.140025	0.000168	0.7594
Frequency of Fraud	-7.261135	0.000499	0.8844
F-Test	51.60917 (0.0000)		
Adjusted R^2	0.48169		

The table 5, shows the results of the panel least square regression, when ROI is taken as dependent variable. The value of adjusted R^2 is 0.48169, which signifies that 48% variation in the ROI is because of independent variables under consideration. The p-value of F-Test is.000 ,which is less than.05. Accordingly, we reject the null hypothesis that the frequency and severity of frauds in the public sector banks have no significant influence on their Return on Investment (ROI). Alternatively there is significant influence of frequency and severity of frauds in the public sector banks, on their ROI.

$$\mathrm{ROI} = 7.411884 + 5.140025\,\text{Severity of frauds} - 7.261135\,\text{Frequency of frauds}$$

CONCLUSIONS

Fraud is a dimension of corruption, which has been enrooted in almost all economies of the world and has affected financial sector as whole, and banking sector is not an exception to this. Considering the treacherous effect of the fraud on the banking sector, the present study aims to analyze the influence of fraud, on the profitability of the Indian public sector banks. A quantitative research design approach was used, to analyze the impact of frauds on the performance of the Indian public sector banks. Here, the profitability is taken in terms of Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI), which are serving as dependent variable. On the other hand, frauds are considered as Severity of Frauds (SOF) and Frequency of Frauds (FOF), which are serving as independent variable. The data of 11 years i.e., 2005-2015 is taken into account, which is collected from the India Stat. For the purpose of analysis, panel least square regression was used. The collected data was analyzed with help of statistical software E-Views. The p-value of F-Test was .000, which is less than.05. Accordingly, we reject the null hypothesis, that the frequency and severity of frauds in the public sector banks have no significant impact on their profitability [Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI)]. Alternatively, there is significant influence of frequency and severity of frauds on the profitability [Return on Assets (ROA), Return on Equity (ROE) and Return on Investment (ROI)].

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