

Impact Of Financial Scam Effect On Stock Market

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ABSTRACT

The present study has made an attempt to examine the white collar bank scams effect on stock market performance with the help of secondary data. The study has considered the three scams which have significantly influenced the equity markets. The study made an attempt to examine the risk return before and after period of scam and observed that risk is going upward after the scam impact period. The ARCH family model has been applied and the result stated that the market volatility is having significant difference in pre and post scam period and in fact market has given constant returns performance. This study is useful to the equity investors, retailers, regulators and academicians.

Keywords: Scam, Volatility, Equity.

INTRODUCTION

The banking system of any country comprises of the savings of the people. When a large number of people deposit the money in banks it becomes the huge amount in the hands of the banks. Commercial Banks lends this money to individuals, traders and institutions and earns profits from it as interest. But when the lenders who do not returns this amount to the banks it becomes the threat to the banks.

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REVIEW OF LITERATURE

1. Ketan Parekh's Case (1999-2000) Ketan Parekh, a Mumbai based stock broker had large borrowings from Global Trust Bank during its Merger with United Trust of India Bank. He got a loan of Rs.250 Crores from Global Trust Bank. This changed the scrips of Global Trust Bank, Zee Tele films, HFCL, etc. The prices of the selective shares constantly increased due to rigging. The investors who bought the share at higher prices thought that the market prices were genuine. Soon after the discovery of the scam of 1999-2000, the price of the stocks came down to the fraction of value at which they were purchased. The investors lost heavily. Even the banks faced a tremendous loss. Ketan Parekh was arrested in the year 2002.

2. Adhivarahan, (2001), this article has attempted to study the provisions of 'Information Technology Act 2000 and its importance on the functioning of banks. The study has pointed out that the number of incidents of e-fraud and on-line breaches is the highest in India. As such, occurrence of cyber crimes in banking sector have to be treated with care. For this purpose, it has been suggested that a statutory body is similar to 'Internet Fraud Center' in the United States has to be formed in India.

3. Arora, S. and Kaur, S (2008) analyzed the internal determinants of diversification moved by banks taking the two dependent variables, net interest margin, and non-interest margin. It has been observed that all the four explanatory variables viz. risk, technological change, cost of production, and regulatory cost have got significant influence on the variations in the structure of income of the banks. It has also been observed that the variations in income in respect of foreign banks in the highest followed by nationalized banks and other banks.

4. Khanna and Arora 2009 The study needs to evaluate the various causes which are responsible for doing bank frauds. This result indicates that "lack of training, overburden staff, competition, "low compliance level" are the main reasons for bank frauds."

5.Chakrabarty (2013) given in his speech that, while most numbers of frauds have been occurred to private and foreign banks, public sector banks have the highest contribution in the amount involved in frauds.

6. Assocham (2014) analyzed the correlation between the sustainable credit growth, leading to good asset creation, and GDP growth. It highlights the robust credit assessment and use of early warning systems in monitoring the asset quality of institutions.

SCOPE OF THE STUDY:

The study here has been limited to analysis of share market growth of ICICI, SBI, PNB. Each bank is analyzed according to its performance against the other based on factor like Abnormal rate of return, Beta, CAR ratio. The statement of the problem of the study is the impact of banking scams on stock market.

OBJECTIVES OF THE STUDY

- 1) To study the impact of select banks' scams on stock market.
- 2) To measure the risk return volatility of select bank's scams after scam effect.
- 3) To examine the performance return in short and long run period of bank scam effect on stock market.

HYPOTHESIS

1. Null Hypothesis (H₀): There is no risk return volatility of select bank's scams after scam effect.

2. Alternative Hypothesis (H₁): There is risk return volatility of select bank's scams after scam effect.

1. Null Hypothesis (H₀): There is no performance returns in short and long run period of bank scam effect on stock market.

2. Alternative Hypothesis (H₁): There is no performance returns in short and long run period of bank scam effect on stock market.

RESEARCH METHODOLOGY

The methodology involves selecting before one year and after year scam effect of selected banks (ICICI, PNB, SBI) nifty of the stock market. The data used for the study was collected from secondary sources. The data collected through websites of selected banks. The statistical tool adopted for this study was Abnormal rate of return, Beta, CAR ratio.

DATA ANALYSIS

TABLE-1

Before	Return	Risk	Volatility
ICICI	-12.5326	47.40425	0.308278
PNB	64.6327	-30.874	0.406428
SBI	17.30692	-0.05169	0.307731

INTERPRETATION: - From the above table study observes that before scam effect of ICICI bank their returns is -12.5326, risk rate is 47% and their volatility is 0.308278, before scam effect PNB bank their returns is 64.6327, risk rate is -30% and their volatility is 0.406428, before scam effect SBI bank their returns is 17.30692, their risk is -0.05% and their volatility is 0.307731.

TABLE-2

after	Return	Risk	Volatility
ICICI	-28.7503	106.2902	0.379391
PNB	-1.91749	-0.47593	0.220942
SBI	-17.5101	0.034082	0.27853

INTERPRETATION:- From the above table study observes that after scam effect of ICICI bank their returns is -28.7503, risk rate is 106% and their volatility is 0.379391, after scam effect PNB bank their returns is -1.91749, risk rate is -0.4% and their volatility is 0.220942, after scam effect SBI bank their returns is -17.5101, their risk is 0.03% and their volatility is 0.27853.

SBI

TABLE-3

Heteroskedasticity Test: ARCH

F-statistic	0.001197	Prob. F(1,236)	0.9724
Obs*R-squared	0.001207	Prob. Chi-Square(1)	0.9723

Test Equation:

Dependent Variable: WGT_RESID^2

Method: Least Squares

Date: 04/13/19 Time: 17:34

Sample (adjusted): 2 239

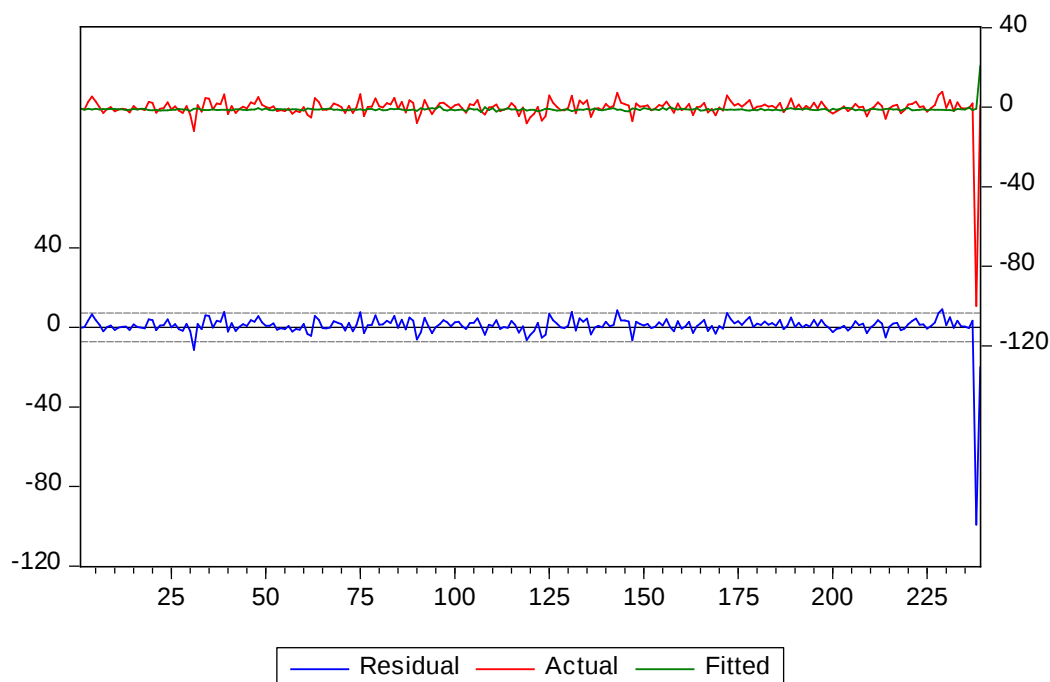
Included observations: 238 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.001938	0.485903	2.062015	0.0403
WGT_RESID^2(-1)	0.002252	0.065094	0.034591	0.9724
R-squared	0.000005	Mean dependent var	1.004199	
Adjusted R-squared	-0.004232	S.D. dependent var	7.412332	
S.E. of regression	7.428000	Akaike info criterion	6.856758	
Sum squared resid	13021.34	Schwarz criterion	6.885937	
Log likelihood	-813.9542	Hannan-Quinn criter.	6.868518	
F-statistic	0.001197	Durbin-Watson stat	1.999934	
Prob(F-statistic)	0.972435			

INTERPRETATION: Heteroskedacity Test indicates that volatility of bank scam effect on stock market. The results shows that F-statistic calculate value is observed to be greater than critical value(i.e.0.001197< 2.803) and the probability value seems to be less than 0.005 which signifies rejection of null hypothesis and accept the alternate hypothesis.

I.e., Arch effects exists between volatility of bank scam on stock market.

GRAPH-1



Above graph represents the volatility of bank scam on stock market. Here the plotted lines are crossing the fitted lines and the long clusters are forming, hence the GARCH model is estimated to evaluate the volatility influence of bank scams on stock market.

TABLE-4

Dependent Variable: MSCISBI

Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)

Date: 04/13/19 Time: 17:40

Sample: 1 239

Included observations: 239

Convergence achieved after 23 iterations

Coefficient covariance computed using outer product of gradients

Presample variance: backcast (parameter = 0.7)

GARCH = C(3) + C(4)*RESID(-1)^2

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-1.176354	0.103628	-11.35170	0.0000
SBI	-0.220410	0.062394	-3.532532	0.0004
Variance Equation				
C	4.290502	1.132006	3.790175	0.0002
RESID(-1)^2	7.302181	0.682789	10.69463	0.0000
R-squared	-0.055864	Mean dependent var	-0.424310	
Adjusted R-squared	-0.060319	S.D. dependent var	7.015414	
S.E. of regression	7.223899	Akaike info criterion	6.261791	
Sum squared resid	12367.78	Schwarz criterion	6.319974	
Log likelihood	-744.2840	Hannan-Quinn criter.	6.285237	

Durbin-Watson stat 1.626509

INTERPRETATION; Above table represents the GARCH affect of bank scams on stock market. The result shows that bank co-effecient value is 0.00, which indicates that volatility of bank scam effect to stock market is having positive influence on stock market. The probability value is observed to be statistically significant with 5%level. Hence, it is concluded that volatility influence exist between bank scam effect on stock market.

ICICI

TABLE-5

Dependent Variable: MSCIICICI

Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)

Date: 04/13/19 Time: 17:44

Sample: 1 239

Included observations: 239

Convergence achieved after 33 iterations

Coefficient covariance computed using outer product of gradients

Presample variance: backcast (parameter = 0.7)

GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.003810	0.022946	0.166062	0.8681
ICICI	-0.008359	0.013103	-0.637987	0.5235
Variance Equation				
C	0.005754	0.002417	2.380379	0.0173
RESID(-1)^2	0.076875	0.030879	2.489518	0.0128
GARCH(-1)	0.890697	0.030049	29.64197	0.0000
R-squared	-0.000019	Mean dependent var	-0.003078	
Adjusted R-squared	-0.004238	S.D. dependent var	0.393950	
S.E. of regression	0.394784	Akaike info criterion	0.913407	
Sum squared resid	36.93753	Schwarz criterion	0.986136	
Log likelihood	-104.1521	Hannan-Quinn criter.	0.942715	
Durbin-Watson stat	2.238558			

INTERPRETATION: Above table represents the GARCH affect of bank scams on stock market. The result shows that bank co-effecient value is 0.8681, which indicates that volatility of bank scam effect to stock market is having negative influence on stock market. The probability value is observed to be statistically insignificant with 5%level. Hence, it is concluded that volatility influence does not exist between bank scam effect on stock market.

TABLE-6

Heteroskedasticity Test: ARCH

F-statistic	0.218917	Prob. F(1,236)	0.6403
Obs*R-squared	0.220568	Prob. Chi-Square(1)	0.6386

Test Equation:

Dependent Variable: WGT_RESID^2

Method: Least Squares

Date: 04/13/19 Time: 17:46

Sample (adjusted): 2 239

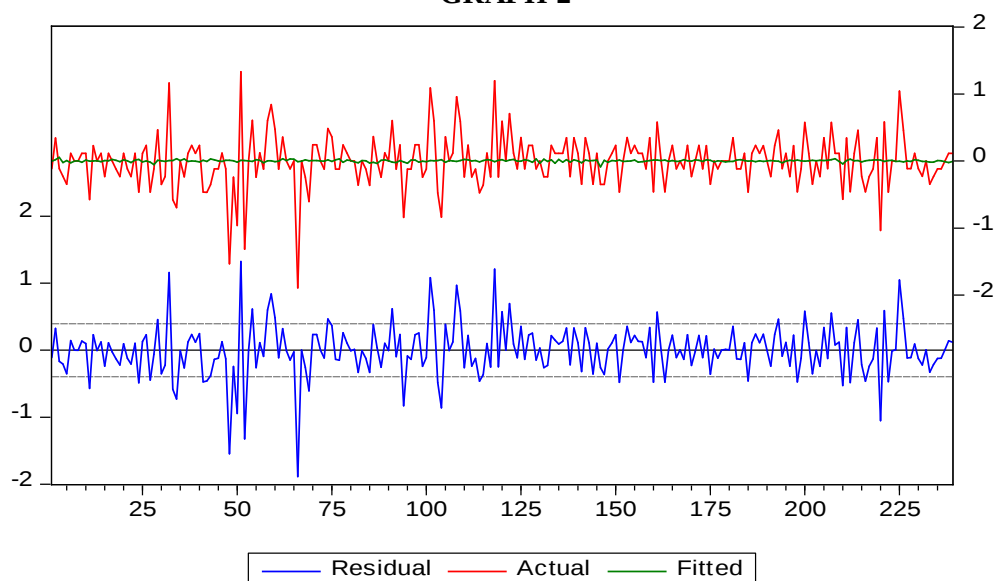
Included observations: 238 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.030004	0.156206	6.593894	0.0000
WGT_RESID^2(-1)	-0.030445	0.065070	-0.467886	0.6403
R-squared	0.000927	Mean dependent var	0.999558	
Adjusted R-squared	-0.003307	S.D. dependent var	2.187162	
S.E. of regression	2.190775	Akaike info criterion	4.414755	
Sum squared resid	1132.680	Schwarz criterion	4.443934	
Log likelihood	-523.3559	Hannan-Quinn criter.	4.426515	
F-statistic	0.218917	Durbin-Watson stat	1.996100	
Prob(F-statistic)	0.640298			

INTERPRETATION: Heteroskedacity Test indicates that volatility of bank scam effect on stock market. The results shows that F-statistic calculate value is observed to be greater than critical value(i.e.0.218917< 2.803) and the probability value seems to be less than 0.005 which signifies rejection of null hypothesis and accept the alternate hypothesis.

I.e., Arch effects exists between volatility of bank scam on stock market.

GRAPH-2



Above graph represents the volatility of bank scam on stock market. Here the plotted lines are crossing the fitted lines and the long clusters are forming, hence the GARCH model is estimated to evaluate the volatility influence of bank scams on stock market.

PNB

TABLE-7

Dependent Variable: MSCIPNB
Method: ML ARCH - Normal distribution (BFGS / Marquardt steps)
Date: 04/13/19 Time: 17:52
Sample: 1 239
Included observations: 239
Convergence achieved after 25 iterations
Coefficient covariance computed using outer product of gradients
Presample variance: backcast (parameter = 0.7)
GARCH = C(3) + C(4)*RESID(-1)^2 + C(5)*GARCH(-1)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.111537	0.071485	1.560277	0.1187
PNB	0.948014	0.019404	48.85692	0.0000
Variance Equation				
C	0.008319	0.018151	0.458338	0.6467
RESID(-1)^2	0.191779	0.046538	4.120941	0.0000
GARCH(-1)	0.825589	0.031453	26.24808	0.0000
R-squared	0.879362	Mean dependent var		-0.089346
Adjusted R-squared	0.878853	S.D. dependent var		6.683578
S.E. of regression	2.326300	Akaike info criterion		3.961082
Sum squared resid	1282.566	Schwarz criterion		4.033811
Log likelihood	-468.3493	Hannan-Quinn criter.		3.990390
Durbin-Watson stat	1.987499			

INTERPRETATION: Above table represents the GARCH affect of bank scams on stock market. The result shows that bank co-efficient value is 0.1187, which indicates that volatility of bank scam effect to stock market is having negative influence on stock market.

The probability value is observed to be statistically insignificant with 5%level. Hence, it is concluded that volatility influence does not exist between bank scam effect on stock market.

TABLE-8

Heteroskedasticity Test: ARCH

F-statistic	0.209984	Prob. F(1,236)	0.6472
Obs*R-squared	0.211575	Prob. Chi-Square(1)	0.6455

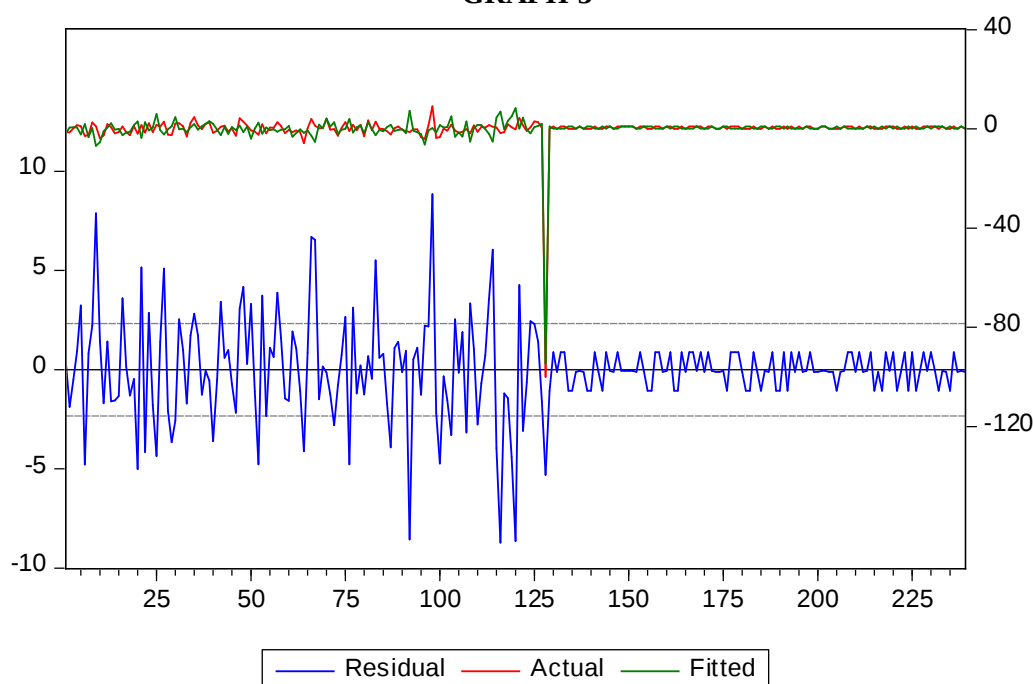
Test Equation:
Dependent Variable: WGT_RESID^2
Method: Least Squares
Date: 04/13/19 Time: 17:52
Sample (adjusted): 2 239
Included observations: 238 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.042649	0.134550	7.749138	0.0000
WGT_RESID^2(-1)	-0.029816	0.065066	-0.458240	0.6472
R-squared	0.000889	Mean dependent var		1.012461
Adjusted R-squared	-0.003345	S.D. dependent var		1.806902
S.E. of regression	1.809921	Akaike info criterion		4.032812
Sum squared resid	773.0923	Schwarz criterion		4.061990
Log likelihood	-477.9046	Hannan-Quinn criter.		4.044571
F-statistic	0.209984	Durbin-Watson stat		2.001595
Prob(F-statistic)	0.647202			

INTERPRETATION: Heteroskedacity Test indicates that volatility of bank scam effect on stock market. The results shows that F-statistic calculate value is observed to be greater than critical value(i.e.0.209984< 2.803) and the probability value seems to be less than 0.005 which signifies rejection of null hypothesis and accept the alternate hypothesis.

I.e., Arch effects exists between volatility of bank scam on stock market.

GRAPH-3



Above graph represents the volatility of bank scam on stock market. Here the plotted lines are crossing the fitted lines and the long clusters are forming, hence the GARCH model is estimated to evaluate the volatility influence of bank scams on stock market.

TABLE-9

SBI	ICICI	PNB
16.07169	5.40193	-9.57865

INTERPRETATION: From the above table we study that the SBI and ICICI have the good performance returns after the short run period after the bank scam effect on stock market. Whereas PNB is having

negative value which shows the poor performance returns after the short run period after the bank scam effect on stock market.

FINDINGS & SUGGESTIONS

1. The study examined that before the scams the return performance of select banks namely ICICI, SBI and PNB are observed to be higher return as compare with after the scams return performance.
2. The study synchronized that volatility of select banks is higher in before the scams as compare with after the scams return performance volatility.
3. The study estimated that select banks had shown significant effect on their prices after the scams.
4. ARCH model stated that after the scam effect select banks had shown significant negative volatility effect on their stock prices.
5. The study estimated that SBI and ICICI have the good performance returns after the short run period as off PNB which shows the poor performance returns after the bank scam effect on stock market

CONCLUSION

The present study has been focused on the bank scams effect on the stock market performance. The study has considered the big scams which have shown the significant impact on the equity markets. The study made an attempt to examine the risk return before and after period of scam and observed that risk is going upward after the scam impact period. The study result indicated that the scam effect has been observed in short run period. The ARCH model indicated that the volatility of the scam effect on stock market has been observed and given significant returns. The market is found be higher before scams compare with after scam effect. Hence there is a need to do further research in this are by considering the fundamental changes in pre and post scam period.

REFERENCES

1. <https://finance.yahoo.com/quote/MSCI/history/>
2. https://en.wikipedia.org/wiki/Bank_fraud
3. <https://www.moneycontrol.com/stockmarketsindia>
4. <https://www.moneycontrol.com/india/stockpricequote/banks-public-sector/statebankindia/SBI>
5. <https://www.moneycontrol.com/india/stockpricequote/banks-private-sector/icicibank/ICI02>
6. <https://www.moneycontrol.com/india/stockpricequote/banks-public-sector/punjabnationalbank/PNB05>
7. https://www.researchgate.net/publication/240259327_The_Ketan_Parekh_fraud_and_supervisory_lapses_of_the_Reserve_Bank_of_India_RBI_A_case_study
8. http://www.mpi-fg-koeln.mpg.de/pu/mpifg_dp/dp16-5.pdf