

“A STUDY ON THE IMPACT OF MACROECONOMIC VARIABLES ON FINANCIAL CRIME (BANKING SECTOR) FROM INDIAN PERSPECTIVE”

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Abstract:- Financial Crimes has gained a lot of attention recently. The number of bank frauds in India is substantial and it is increasing. This study is to determine the impact of fraud on the macroeconomic variables namely Inflation and Gross Domestic Product and to find the long run relationship among the selected variables and the trend of Fraud, GDP and Inflation. Data for the study were collected from secondary sources only. The researcher has used data analysis tools namely Dickey-Fuller test, Jarque-Bera Test, Johansen cointegration test and Max-Eigen Test for analysis.

It is found that there exists cointegration or long run between the chosen variables and they are Fraud (banking fraud), Gross Domestic Product and Inflation. From the data analysis, it can be concluded that fraud has significant effect on the macroeconomic variables in the long term.

Keywords: Financial crime, Gross Domestic Product, Inflation, Dickey Fuller test, Jarque Bera test, Johansen Cointegration test.

Introduction:

Financial Crimes has gained a lot of attention recently. A financial crime is any non-violent offence that is committed by or against an individual or corporation and results in a financial loss. Financial loss can be in terms of direct loss or indirect loss to the society. Financial crime abuse may implicate financial institutions and authority's reputation which may discourage investors or stakeholders consequently weakening the financial system.

Financial crime can implicate bank's soundness with large fiscal liabilities, discourage foreign investment, and increase the unpredictability of capital flows and exchange rates. In times of very high capital flexibility, financial crime makes national tax collection and law enforcement more difficult. Financial system abuse and the various forms of financial crime which exist may also alter the allocation of resources and the distribution of wealth and can be costly to detect the cost of damage and prevent the same from occurring.

Financial Crime includes the following offences:

- Fraud
- Electronic crime
- Money laundering
- Terrorist financing
- Bribery and corruption
- Market abuse and insider dealing.

Fraud can loosely be defined as “any behaviour by which one person intends to gain a dishonest advantage over another fraud, under section 17 of the Indian contract act, 1872 (Bank FraudsBasics and Investigation, 2014).

RBI has defined the term “fraud” in its guidelines which reads as under.

“A deliberate act of omission or commission by any person, carried out in the course of a banking transaction or in the books of accounts maintained manually or under computer system in banks, resulting into wrongful gain to any person for a temporary period or otherwise, with or without any monetary loss to the bank”.

Types of Frauds:

- **Account opening fraud:** this involves a deposit and cashing of fraudulent cheques.

- **Cheque kiting:** is a method where by a depositor utilizes the time required for cheques to clear to obtain an unauthorized loan without any interest charge.
- **Cheque fraud:** most common cases of this kind of fraud are through stolen cheques and forged signatures.
- **Counterfeit securities:** documents, securities, bonds and certificate could be forged, duplicated, adjusted or altered and presented for loan collection.
- **Computer fraud:** hacking, tampering with a diskette to gain access to unauthorized areas and give credit to an account for which the funds were not originally intended.
- **Loan fraud:** when funds are lent to a non-borrowing customer or a borrowing customer that has exceeded his credit limit.
- **Money laundering fraud:** this is a means to conceal the existence, source or use of illegal obtained money by converting the cash into untraceable transactions in banks.
- **Letters of Credit:** Most common in international trading, these are instruments used across borders and can be forged, altered, adjusted and take longer to identify.
- **Advanced Fees Fraud:** Popularly known as „419“, advanced fees fraud may involve agent with an offer of a business proposition which would lead to access often for a long term.

Need of the Study:

Despite many studies have been conducted in context to Financial Crimes but very few have been conducted on the relationship between the Financial crime in particular Fraud and its impact on the macroeconomic variables namely Inflation and Gross Domestic Product. Past study which is few in number are conducted on outside India, hence the researcher felt the need to study the chosen research topic that is a study on the impact of macroeconomic variable on financial crime from Indian perspective.

Problem Statement:

In recent years, instances of financial fraud have regularly been reported in India and it gained lots of attention from economists and researchers alike. Bank deposits have all along been the mainstay of the savings process in the Indian economy (Reserve Bank of India, 2008). The traditional banking system has seen growth with the current Government's initiative to provide bank accounts to the poor taking a step towards the 'economic mainstream' and an end to 'financial untouchability' (Rai, Saritha, 2014). In order for the initiative to successfully adapt in the long run and for the smooth functioning of a money market and economic growth of a country, an efficient and good banking system is a must (Bhasin, L., Madan, 2016). Therefore, the researcher felt the need to study the chosen research topic in order to find if there is any relationship between the chosen variables namely Fraud, Gross Domestic Product and Inflation.

Objectives of the study:

- To find long run relationship among the selected variables namely Fraud, Gross Domestic Product, Inflation.
- To know the trend of selected variables namely Fraud, Gross Domestic Product and Inflation.
- To give suggestions or recommendations based on the research findings.

Scope of the Study:

In this research, the impact of macroeconomic variables namely Inflation and Gross Domestic Product on Financial Crime from Indian perspective related to Banking Sector data is taken for more 10 years for finding the long run relationship between Fraud, Inflation and Gross Domestic product and to know the trend of selected variables namely Fraud, Gross Domestic Product and Inflation.

Limitations of the Study:

In this study only secondary data is used to find the impact of fraud cases on few selected variables and they are Inflation and Gross Domestic Product from Indian perspective related to Banking Sector.

Future Scope of the Study:

Future studies can focus on the procedures and measures in preventing frauds in computerized environment and rapidly changing Information technology. Identification of various psychological characteristics of potential offenders and choose a potential candidate depending on those criteria. This will help to reduce the fraud cases and thus reduce the impact of frauds on macroeconomic variables can be reduced.

Overall outlay of this study covers the following process: introduction, review of literature,

Review of Literature:

SukanyaKundu&NagarajaRao(2014) have studied frauds, maps a typological trend strategy to be adopted as prevention and implementation strategies and presented the same for implementation with ownership. Primary data has been gathered from the selected bank over a period from 2007 to 2009. It is found that bank frauds occur due to ignorance, situational pressures and permissive attitudes.

Dr.MadanLalBhasin(2015) have examined the perception towards bank frauds and evaluate the factors that influence the degree of their compliance level. Questionnaire-based survey was conducted in 2012-13 among 345 bank employees and secondary data were collected from RBI. The study revealed that "there are poor employment practices and lack of effective training; over-burdened staff, weak internal control systems, and low compliance levels on the part of Bank Managers, Offices and Clerks. Thus, it is also found that banks in India are not able to follow "zero-tolerance" policy.

CharanSingh(2016) tried to study the issues such as banking frauds and mounting credit card debt, with a detailed analysis using secondary data as well as an interview-based approach, spanning across all players involved in reporting financial misconduct. It is found that the total amount involved is much higher in PSBs as compared to the private sector. Credit related frauds have the maximum impact in all the banking frauds in India because of the high amount involved and the cumbersome process of fraud detection followed by CVC. The delays in legal procedures for reporting, and various loopholes in system have been considered some of the major reasons of frauds and NPAs.

OKOYE, GBEGI (2013) studied the impact of fraud and related financial crimes on the growth and development of Nigerian economy. The study used secondary data for the analysis from 2007-2011. The analytical tool adopted by the researcher was the correlation analysis and the regression analysis. It is found that Fraud and related financial crime has no significant effect on inflation. However, it has contributed in affecting the economy in a negative way.

AnjuRohilla&Dr.IpshitaBansal(2017) tried to identify the measures to prevent advance related frauds in Indian Banking sector and offering possible solutions to the problem. This study is Qualitative study and based on the cases of the frauds committed in the Indian banking sector. In this study, the researcher has used the multiple sources of data collection such as FMR Reports collected via. RTI, Fraud cases published in Newspaper, RBI publications and speech. The suggestions from the study were that banks should adopt a strong and efficient information system which enables them to share the information regarding any fraudulent practice. By adopting the KYC Norms the banks can protect themselves from the perpetrators. The adoption of the Forensic accounting is an effective measure for banks to combat financial frauds.

Research Design:

Data:

To study the chosen research topic, secondary data was collected from the Reserve bank of India database and community.data.gov.in, knoema.com.

Sample period:

The sample period for the study was from the year 2000 to 2017, that is for the last 18 years' data are used for data analysis.

Research Analysis:

Unit Root Test, Dickey Fuller Test and Johansen Cointegration Test are used on the chosen variables. The selected variables for this research study are Gross Domestic Product, Inflation and Fraud (Banking Sector).

Result Analysis

Dickey-Fuller test for Fraud:

Null Hypothesis: D(LFRAUD) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.53785	0.0035
Test critical values	1% level	-3.95915	
	5% level	-3.081	
	10% level	-2.68133	

Source: computed from secondary data

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 15

Interpretation: To know the stationary and normality of the fraud data unit root test is used. The test – statistic value is higher than the test critical values these shows the Fraud data is normal.

Dickey-Fuller test for GDP:

Null Hypothesis: D(LGDP) has a unit root

Exogenous: None

Lag Length: 1 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.37822	0.0003
Test critical values:	1% level	-2.74061	
	5% level	-1.96843	
	10% level	-1.60439	

Source: computed from secondary data

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

Warning: Probabilities and critical values calculated for 20 observations and may not be accurate for a sample size of 14

Interpretation: To know the stationary and normality of the GDP data unit root test is used. The test – statistic value is higher than the test critical values these shows the GDP data is normal.

Dickey-Fuller test for Inflation:

Null Hypothesis: D(LINFLATION) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=3)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.72216	0.0025
Test critical values:	1% level	-3.95915	
	5% level	-3.081	
	10% level	-2.68133	

Source: computed from secondary data

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

Warning: Probabilities and critical values calculated for 20 observations

Interpretation: To know the stationary and normality of the Inflation data unit root test is used. The test – statistic value is higher than the test critical values these shows the Inflation data is normal.

Jarque-Bera Test for Fraud:

Series: LFRAUD	
Sample 1 17	
Observations 17	
Mean	8.614710
Median	8.442254
Maximum	10.30595
Minimum	7.210080
Std. Dev.	1.130605
Skewness	0.223866
Kurtosis	1.431814
Jarque-Bera	1.883935
Probability	0.389860

Source: computed from secondary data

Interpretation: To know the normality of the fraud data Jarque – Bera Test is used. The probability value is higher than the 0.05% these shows that Fraud data is normal.

Jarque-Bera Test for GDP:

Series: LGDP	
Sample 1 17	
Observations 17	
Mean	1.942875
Median	2.001480
Maximum	2.332144
Minimum	1.335001
Std. Dev.	0.300855
Skewness	-0.773883
Kurtosis	2.647342
Jarque-Bera	1.784964
Probability	0.409638

Source: computed from secondary data

Interpretation: To know the normality of the Gross Domestic Product data Jarque - Bera Test is used. The probability is higher than the 0.05% these shows that the Gross Domestic Product data is normal.

Jarque-Bera Test for Inflation:

Series: LINFLATION	
Sample 1 17	
Observations 17	
Mean	1.780555
Median	1.768150
Maximum	2.706048
Minimum	0.802002
Std. Dev.	0.491717
Skewness	-0.044167
Kurtosis	2.510814
Jarque-Bera	0.175033
Probability	0.916204

Source: computed from secondary data

Interpretation: To know the normality of the Inflation data Jarque - Bera Test is used. Since the probability value is higher than the 0.05% these shows that the Inflation data is normal.

Johansen cointegration test:

To find long run relationship among the selected variables namely Fraud, GDP, Inflation Johansen Cointegration test is used.

Sample (adjusted): 3 17

Included observations: 15 after adjustments

Trend assumption: Linear deterministic trend

Series: LFRAUD LGDP LINFLATION

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.903278	50.77504	29.79707	0.0001
At most 1 *	0.500443	15.73626	15.49471	0.046
At most 2 *	0.298862	5.325753	3.841466	0.021

Source: computed from secondary data

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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

Interpretation:

Johansen cointegration test result shows that Trace Statistic value is higher than critical value meaning there is long term relationship between these variables namely Fraud, Gross Domestic Product and Inflation.

Max-Eigen Test:

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.903278	35.03878	21.13162	0.0003
At most 1	0.500443	10.41051	14.2646	0.1863
At most 2 *	0.298862	5.325753	3.841466	0.021

Source: computed from secondary data

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

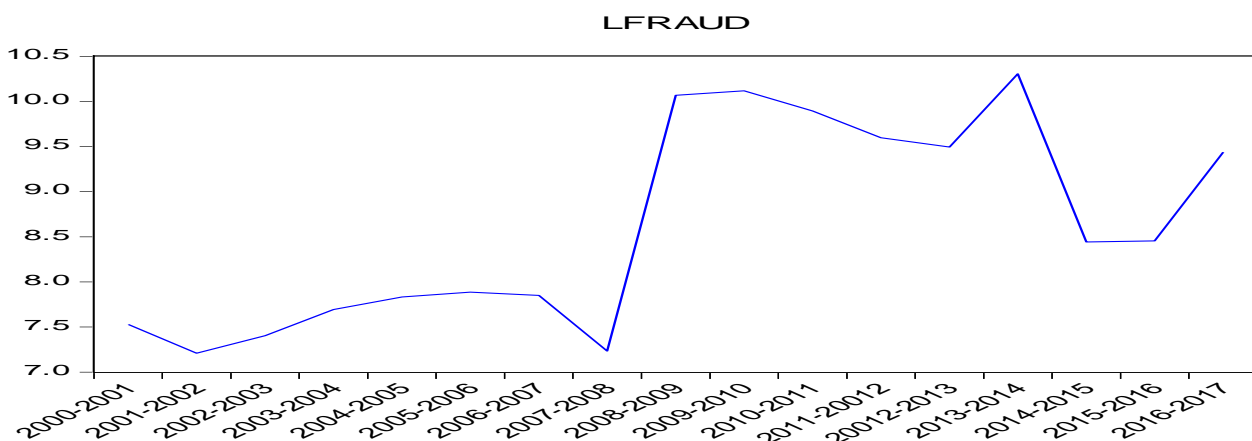
* denotes rejection of the hypothesis at the 0.05 level

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

Interpretation: To support Johansen cointegration test Max-Eigen test is used. It also shows that statistic values is higher than critical value it state that there is cointegration between these values.

To know the trend of selected variables namely Fraud, GDP and Inflation:

Trend of Frauds:

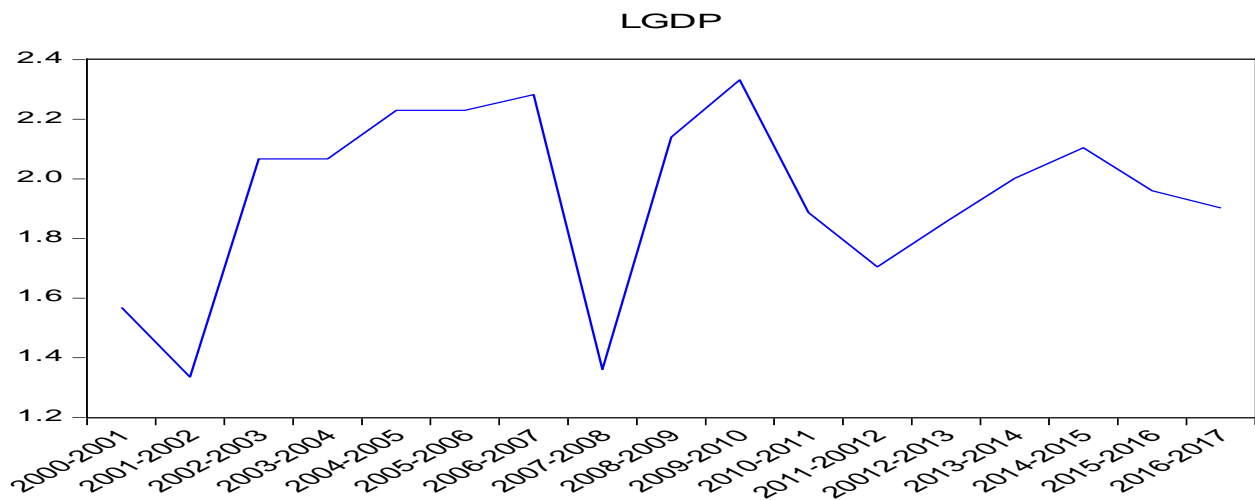


Source: computed from secondary data

Interpretation:

From the above graph it shows that fraud data of Indian banking sector is in increasing trend that is it is seen moving upward at the end of selected year (2016-2017). The upward trend of the fraud data will have affect on the growth of the Indian economy as it is shown from the cointegration test that both the selected variables (Gross Domestic Product and Fraud) are having long run relationship.

Trend of GDP:

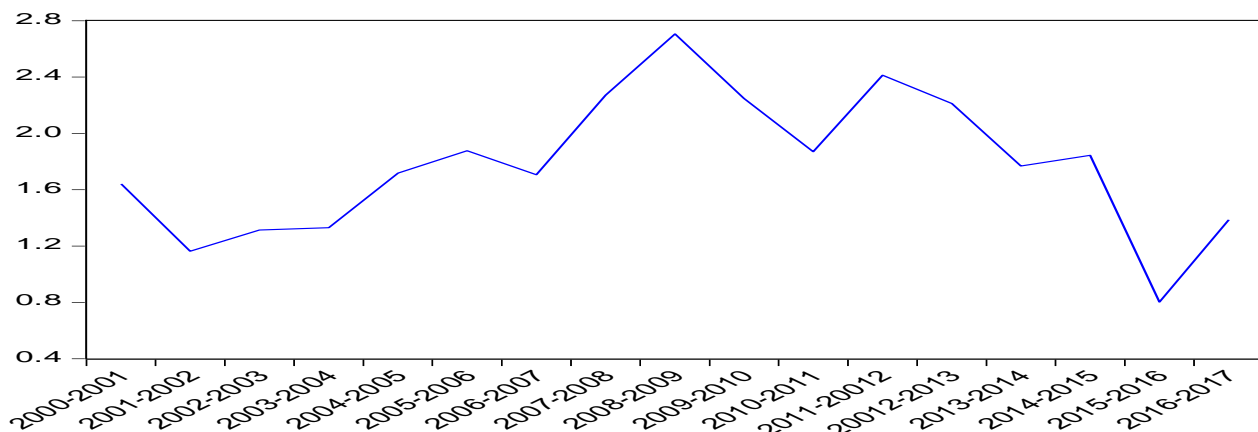


Source: computed from secondary data

Interpretation:

From the above graph it shows that Gross Domestic Product value is in decreasing trend and it will affect the growth of the Indian economy.

**Trend of Inflation:
LINFLATION**

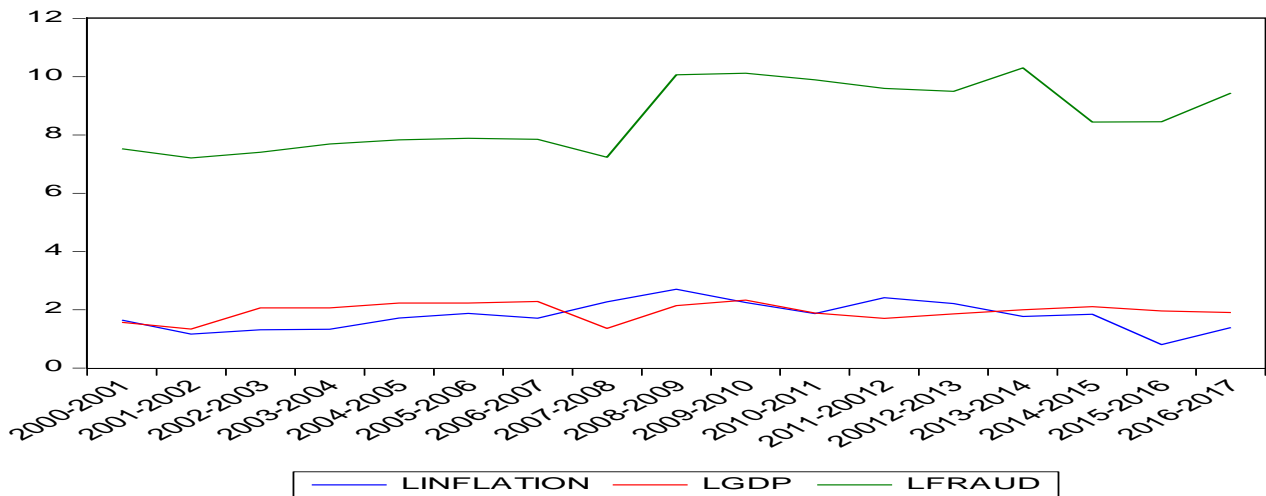


Source: computed from secondary data

Interpretation:

From the above graph it shows that Inflation rate is in increasing trend and it will affect the rise in price levels and growth of the Indian economy negatively.

Comparison of the trends:



Source: computed from secondary data

Interpretation:

From the above graph, it can be seen that there is an impact of frauds (banking sector) on Gross Domestic Product growth and it affects the rise in inflation rate. When the inflation rate in downward trend (mid of 2007-2008) Gross Domestic Product is seen to have upward trend while fraud is seen stable. Whereas while Gross Domestic Product is trending downward (2008-2009), inflation and fraud data are seen as trending upward which is followed same till the end of the chosen period of the study.

Finding:

- From the study, it is clear that there is an impact of frauds (banking sector) on Gross Domestic Product and it also affects the rise in inflation rate.
- The findings from this study may also lead to lose of trust on custodian (bank) by its customers.
- It is clear that there is long run relationship among fraud, Gross Domestic Product and Inflation.

Conclusions:

The vulnerability of banks to fraud has been heightened by technological advancements in recent times. From the data analysis, it can be concluded that there is long run relationship between the chosen variables namely Gross Domestic Product, Inflation and Fraud. The impact of frauds on entities like banks, and the economic cost of frauds can be huge in terms of likely disruption, confidence in the banking system and may damage the integrity and stability of the economy.

It can bring down banks, undermine the central bank’s supervisory role and even create social unrest, discontent and political upheavals.

Suggestion:

- To reduce number of fraud cases in banks, it can be suggested that banks need to continuously audit at frequent intervals by either keeping in touch with its borrowers so that cases of multiple financing may be detected in the initial stages itself.
- Through adoption of new technology like keeping in track of financial flows (inflow and outflow) of the borrowers and potential borrowers, it might help the banks to prevent and detect fraud cases.

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