Impact of Fraud on Risk Assets of Nigerian Commercial Banks

Osuala Alex Emmy[1], Opara Confidence Chinwe[2] & Okoro, Charles Emmanuel[3]

[1]Department of Banking and Finance, College of Management Sciences, Michael Okpara University, of Agriculture, Umudike. Email: dralexosuala@gmail.com

Abstract

The study examines the impact of fraud on the risk assets of commercial banks in Nigeria from 1990 to 2013. Secondary data extracted from Central Bank of Nigeria (CBN) statistical bulletin and Nigerian Deposit Insurance Corporation (NDIC) annual reports were used. In order to investigate the short and long-run relationship and causal association between commercial banks' risk assets and fraud in Nigeria, the study employed Johansen's approach to co-integration, and error correction model. Major findings include that fraud significantly impacted on commercial banks loans and advances in Nigeria within the period of study both in terms of amount involved in fraud and value of money eventually lost as a result of the fraud cases. Furthermore, the actual mobilized fund lost to fraud by banks in Nigeria was high and have been above 50% since 2010, indicating that if such trend is not checked, there may be continuous reconsolidation of already consolidated banks in Nigeria. The study recommends that banks should strengthen their internal control system so as to enhance the detection and prevention of fraudulent activities.

Key Words: Fraud, Risk Assets and Commercial Banks

1.0 Introduction

Fraud is universal in nature and historical in existence. Its magnitude cannot be known for sure, because much of it is undetected and not all that is detected is published. It is a known fact that no area of banking system is immune to fraudsters in spite of the security system designed to protect it (Ajayi, 2012). Fraud is not unique to the banking sector, or for that matter peculiar only to Nigeria. With the crash of multi-national corporations like ENRON in 2001, many organizations in attempt to improve their image have resorted to developing ethical guidelines and codes of ethics to enhance transparency in business transactions (Bratton, 2002). Literarily, fraud depicts a conscious and deliberate action by a person or group of persons with the intention of altering the truth or fact for selfish gains. It is now by far the single most veritable threat to the entire banking industry. It is worrisome indeed that while banks are constantly trying to struggle with the demands of monetary authorities to meet maximum standards, fraudsters are always at work threatening to decimate their financial base (Gold, 2009). More worrisome is the rise in the number of employees who are likely to escape detection and thus encourage many others to join in perpetrating fraud (Olasanmi, 2010). The importance accorded the banking industry in any given economy is as a result of the significant roles they play in their various domestic economies (Owolabi, 2010).

Nigerian banking industry over the years has witnessed several reforms in search of an efficient and effective financial system. Between 1960 and 1969, independent reform scheme was introduced in order to develop local banking institutional infrastructure that will power and drive the economy of a new independent Nigeria, promote capacity building and develop a financial market infrastructure for effective banking (Okafor, 2011). In the year 1970 to 1976, an indigenous banking sector reform scheme was introduced to avail Nigerians the opportunity to participate in the ownership and control of banks (Eseoghene, 2010). Between 1977 and 1985, a reform chaired by a 14 member committee known as "Okigbo Committee", was instituted with the aim of deepening the intermediation capability of banks by extending their services to rural areas in order to achieve integration of all sectors of the economy (Owolabi, 2010). In July 1986, the Structural Adjustment Programme (SAP) was introduced to deregulate banking, liberalize banking operations, promote competition in banking and make banking operations more market driven (Okafor, 2011). To further enhance competitiveness and improve the efficiency of banking services delivery, fourth republic reform scheme was introduced in 2000 followed by 2004 recapitalization and merger exercise which raised capital base of commercial banks to ₦25billion. It is worthy of note that all these reforms were targeted at enhancing the profitability of commercial banks in the country through improved efficiency and by reducing fraud to the barest minimum (Nwankwo, 2007). The question however is, has the various reforms in the Nigerian banking industry been able to significantly reduce the incidence of fraud and thus improve the loan portfolio of commercial banks? The broad objective of the present study is to provide a good understanding of the relationship existing between fraud and risk assets of commercial banks in Nigeria with particular focus on banks' loans and advances. The rest of the paper is organized as follows: section 2 deals with review of related literature while section 3 provides the Research methods. Section 4 describes the data and empirical results while section 5 concludes.

2.0 Review of Related Literature

2.1 Conceptual Framework

Fraud is described as an act of deliberate deception with the intention of gaining some benefit. In other words it is the act of dishonestly pretending to be something that one is not. (Chamber English Dictionary, 2002). Wikipedia (2008) defines bank fraud as that which occurs whenever a person knowingly executes, or attempts to execute, a scheme or artifice to a) defraud a financial institution; or (2) obtain any of the moneys, funds, credits, assets, securities, or other property owned by or under the custody or control of, a financial institution (Ademola, 2001). Risk assets of commercial banks include but not limited to loans and advances which are the most common and simplest forms of credit facilities and yet it forms the major business of any banking institution (Nzotta, 2009). Loans and advances are granted both for working capital and fixed capital projects; and it is through this means, the bank is exposed to various types of risks.

2.1.1 Types of Banking Fraud

Banking fraud is not very convenient to group into types because it takes various dimensions, nature and forms (Ademola, 2001). However, Nwanze (2006) submitted that bank fraud can be classified into, executive fraud and other frauds. Ogundeji (2005) as cited by Nwanze (2006) gave the following types of bank fraud, executive, foreign exchange, domestic operations, reconciliation, money market and treasury, risk assets, information technology, financial control, clearing, fund transfer, teller operations and customer services related frauds (Olojo, 2006). Owho (2005) outlined the following types of fraud, theft and embezzlement, defalcation, forgeries, suppression, fraudulent substitution, unauthorized lending, lending to ghost borrowers, kite flying and cross Firing, unofficial borrowing, foreign exchange malpractices, impersonation, over invoicing, manipulation of voucher, fictitious contracts, fictitious accounts, over valuation/under valuation of properties, false declaration of cash shortages, fraudulent use of bank documents, falsification of status report, misuse of suspense account, duplication of cheque books, drafts, mail transfers, interception of clearing cheques, interception and switching of telex messages, inflation of statistical data, laundering, computer frauds, false proceeds of collection, robberies, teeming and lading, fake payment, claim of supernatural influence, and double pledging (Adeniji, 2004).

Ademola (2001), Okorie (2005) and Nwaeze (2008) identified the following classifications of fraud: common fraud, letter of credit fraud and executive fraud. Common fraud is a classification that embodies various types of fraud that cut across most common departments in the banking industry. Mostly they are categorized into: clearing fraud, advance fee fraud, money transfer fraud, counterfeit securities, Cheque kitting, theft and embezzlement, robberies, forgeries, defalcation and letter of credit fraud (Ademola, 2001). A letter of credit is an undertaking by an issuing bank on behalf of an importer (the applicant) that payment will be made for goods or services supplied by the exporter (the beneficiary) provided that the exporter complies with all the terms and conditions stipulated by the credit (Okororie, 2005). This document passes through many confirmation stages through which a fraudulent banker can manipulate and defraud the bank or the exporter. The common practice is that some beneficiaries to the credits use forged or fraudulent documents (Ogunleye, 2010). Executive fraud on the other hand is characterized by the following: loan application through fronts, foreign exchange transfer profiteering, Business development and public relations, Loan recovery fraud, cost of fund (Interest padding), property rental frauds, over-invoicing on purchases and other contracts, utilization of bank’s time and other resource (Nwaeze, 2008).

Table 1: Types of Bank Fraud and Forgery Much Familiar to Customers

S/No.	Types of fraud/forgery
1	Presentation of forged cheques and Dividends
2	Granting of unauthorized credits
3	Posting of fictitious credits
4	Transfer/ withdrawal from customers account without notice
5	Cheque suppression and cash distortion
6	Excess charges
7	Non-refund of wrong debit
8	Outright theft of money/embezzlement
9	Identity theft
10	Granting of unauthorized loans

Source*: Author’s compilation*

2.1.2 Causes of Fraud in Banks

Various reasons have been given for increased occurrence of fraud in banks and other financial service industries. Ebong (2005) observes that people are driven to commit fraud as a means of easy acquisition of money and property which, in our today's world, translate into recognition and power. The pursuit of money and the constant quest for growth may not entirely explain all the financial scandals (Babatunde, 2009). However, a survey carried out in India gave the institutional causes of bank fraud as lack of oversight by line or senior managers, deviation from existing process/controls, current business pressure to meet targets, difficult business scenario and collusion between the employees and external parties (Deloitte, 2012). The quest to outperform competitors by corporate leaders can lead a once moral and ethical person to become unethical in his actions. The Barclays Bank of England, for example, was accused of fixing its London Inter-Bank Offered Rate (LIBOR) submissions. The Chief Executive Officer (CEO) of the bank admitted to manipulating the benchmark interest rate because other banks were doing it. Managers, therefore, tend to rationalize their unethical behaviors especially when surrounded by the kind of people who are engaged in the same deviant behavior. Thus, where there is excessive pressure for profit and dividends at the expense of decent business conduct and service, management invariably fails to provide ethical leadership (Nwankwo, 2005).

According to Benson and Edwards (2006), Nwaze (2009) and Adebisi (2009), there are many causes of fraud, depending on the enabling environment. They observed that common among these causes are: social, technological and legal factors. The legal system, they noted, especially in Nigeria, seem to encourage fraud because most fraudulent cases are "bail-able offences"; hence perpetrators in most cases get off the hook even when caught. Fraud prosecution requires "due process of the law". This involves a careful but very long investigation process before the culprits are brought to book. Sometimes when "suspects" or known fraudsters are arrested, they are discharged by the court for want of evidence. Documents that look like clear evidence to a layman are inadequate before the law. The rot in the law enforcement arm of the legal system i.e. police, judiciary etc, also assist fraudsters. In most cases, fraudsters settle their way out (Owolabi, 2013).

2.1.3 Measures Geared Towards Reduction of Fraud and Fraudulent Practices in Nigerian Banks

Nwankwo (2010) wrote that "the crises of confidence in Nigerian banking industry is not a new one, it has been with us for quite a long time. It occurred in the1930s when all indigenous banks, except one (National Bank), collapsed. It occurred again during the banking 'boom and crash' of the late 1940s when all but four indigenous banks escaped the liquidators hammer". Also between 1952 and 1954, 16 out of 21 indigenous banks failed. In the late 1990s, 26 failed banks were liquidated at once while others went through various surgical operations ranging from, restructuring, renaming, acquiring and complete sales to new investors. One thing that is constant in all the reforms was that fraud was a prominent factor in major failures (Adewunmi 2007). Several legislations were put in place to reduce, alleviate and if possible eliminate the occurrence and incidences of fraud in the industry. Most popular and prominent among them are:

- Companies and Allied Matters Decree No 19, 1990. (CAMD 1990).
- Banks Employees, etc (Declaration of Asset) Act 1990
- Special Tribunal (Miscellaneous Offences) Act 1990.
- The Central Bank of Nigeria (CBN) Decree No 24 of 1995.
- Nigeria Deposit Insurance Corporation Decree No 22 of 1998.
- The Banks and other Financial Institutions Decree (BOFID) – 1999.
- Economic and Financial Crime Commission Act 2004.

2.2 Theoretical Literature on Fraud

Fraud is not peculiar either in magnitude or sophistication to Nigeria. For instance the crash of multinational companies like ENRON, WorldCom Inc. and Global Crossing in the wake of fraud and accounting scandals, attests to the fact that fraud is a virus attacking every economy. However, three theories that explain frauds from various perspectives was put forward by Comer (1986). They include:

a) Differential Opportunity
b) Theory of concealment
c) Theory of Deviation

2.2.1 Differential Opportunity

This posits that all employees have the opportunity to commit fraud, against their employers, against suppliers and customers of their employer, against third parties and against government departments (Ogundeji, 2005).
However, such opportunities are guided by:

- The perpetrators accessibility to the accounts, assets, premises and the organization's computer system
- Skills required to identify that such opportunity exists, and
- Availability of sufficient time to plan and execute the fund.

2.2.2 Theory of Concealment

Concealment is an essential ingredient of most systematic fraud. It can be defined as a manipulation of an accounting record or misrepresentation of a physical, personal or commercial reality intended to:

- Hide, disguise or alter an account/inventory discrepancy before, during or after a fraudulent act,
- Disguise, confuse, or delay the recognition of the perpetrators guilt or to establish a plausible excuse for dishonesty; and
- Enable the perpetrator t obtain, a dishonest advantage by deception.

2.2.3 Theory of Deviations

Fraud is deviant behavior and perpetrators often conceal their dishonesty as plausible breach of rules or procedures. This act depicts wrong shift from ethical standards of an organization or routine. More often than not, the perpetrators are limited to the available opportunities and also concentrate on ways to conceal their guilt. Generally deviations from the organizational standards or ethics by employees are clear symptom of fraud (Nwanze, 2006).

2.3 Review of Related Empirical Literature

There have been extensive studies conducted in many countries on fraud and its effect on bank performance. In a study conducted by Wole and Couisa (2009) the attributes of the theory of diffusion of innovation were tested empirically, using automated teller machines (ATMs) as the target innovation. The study found that attitudinal dispositions significantly influence the use of ATM in any bank and thereby affecting the performance of the bank. Akinfala (2005) conducted a research on job involvement/ experience factors and fraudulent behaviors among serving and convicted bank staffs. The study found that the level of job involvement is a function of three factors: motivation, identification and a feeling of pride that people achieve in their jobs. Nwude (2006) carried out a study on bank frauds using methodology of an interaction with bank staff of various cadres with structured questionnaire to identify the fraud forms and characteristics in the banking industry. The study reveals that some staff involve in fraud due to greediness and arrogance. In a different study, Otusanya (2008) carried out a study on the role of Bank CEO in the perpetration of corporate executive frauds in the Nigerian Banking sector. The study reveals that recent banking crises in Nigeria have exposed the activities of bank executives in corruption and fraudulent practices using institutional anomie theory called American dream theory, whereby the pursuit of monetary success has come to dominate society.

Idowu (2009) did a research on the means of minimizing the incidence of fraud in Nigerian banking industry. Findings of the study revealed that, so many factors contributed to the incidence of frauds in banks amongst which are poor management of policies and procedures, inadequate working conditions, bank staff staying longer on a particular job and staff feeling frustrated as a result of poor remunerations. Adepoju and Alhassan(2010) opined that bank customers have come to depend on and trust the Automatic teller machine (ATM) to conveniently meet their banking needs, but that in recent times; there have been a proliferation of ATM frauds in the country. Managing the risks associated with ATM fraud as well as diminishing its impact is an important issue that face banks as fraud techniques have become more advanced with increased occurrences. Akindele (2010) conducted a research on the "challenges of automated teller machine (ATM) usage and fraud occurrence in the Nigerian banking industry". The study posits that lack of adequate training, communication gap, and poor leadership skills were the greatest causes of fraud in banks. He advised that adequate internal control mechanism be put in place and that workers satisfaction and comfort be taken care of. Onuorah and Ebimobowei (2011) investigate fraudulent activities and forensic accounting in Nigeria. The study found that there is need for the banks in Nigeria to adopt more proactive measures such as the use of forensic accounting techniques in banks. Abdulrasheed, Babaitu and Yinusa (2012) examined the impact of fraud on bank performance in Nigeria. Result of the study shows that, there is a significant relationship between banks profit and total amount of funds involved in fraud. Finally, Kanu and Okorafor (2013) did a work on the nature, extent and economic impact of fraud on bank deposit in Nigeria using descriptive and inference statistics. The study revealed that there is a positive significant relationship between bank deposit and fraud in Nigerian banking industry.

2.4 Summary of Review of Related Literature

Despite the remarkable contribution of empirical and theoretical literatures on the study of fraud on bank performance, it is pertinent to note that most researchers did not pay attention on how this affects risk assets of commercial banks in their study. This is paramount taking into account the prime position of viable banking system in strengthening a domestic economy and acquiring it a position in the world economies. Furthermore, most of the previous studies never took into consideration the topic from the perspective of the impact of fraud on risk assets of commercial banks in Nigeria. For instance while Ajayi (2012) examines the determinants of fraud in Nigerian banking industry. Adepoju and Alhassan (2010) explore the challenges of automated teller machine (ATM) usage and fraud occurrence in Nigeria while Abdul, Babaitu and Tinusa (2012) investigate Fraud and its implications on Banks' performance in Nigeria. This study accordingly contributes to knowledge in that: it diagnoses the impact of fraud on risk assets of commercial banks in Nigeria (1990 to 2013) distinct from previous studies. The study further provides a holistic understanding of the relationship between fraud and banks loans and advances as well as total deposit liability. It equally X-rays the determinants of bank fraud as well as remedies to indiscriminate loss of bank loans and advances.

3.0 Research Methodology

3.1 Data Type and Source

Mainly secondary data obtained from the Central Bank of Nigeria (CBN) annual reports and Nigerian Deposit Insurance Corporation (NDIC) annual reports covering the period: 1990 to 2013 were used for the study.

1.2 Method of Data Analysis

Data obtained for the study was analyzed using descriptive statistics such as means, median and standard deviation, and multiple regression analysis.

1.3 Model Specification

Following the earlier works of Kanu and Okorafor, (2013), Ajayi, (2012), Osuala, (2009) and Onu and Uchenna,(2013), Ordinary least squares regression model was used to measure the impact of fraud on risk assets of commercial banks in Nigeria. The model in its implicit form is given as shown in equation 1.

$LogCLA_t = \beta_0+\beta_1 logTDL_t+\beta_2 logTAF_t+\beta_3 logALF_t+\varepsilon_i$…………………………………eq.1

Where; CLA_t = total loans and advances of commercial banks measured in naira and used as a proxy for risk asset of banks, TAF = Total amount involved in fraud measured in naira, ALF = Actual amount lost to fraud; β_0,β_1,β_2 and β_3 are the regression coefficients, log = natural logarithm (for transforming the variables away from its natural state or form), t = time or period while ε_i = error term.

4.0 Data Presentation, Analysis And Interpretation

4.1 Stationary Properties of the Variables used for Analysis

The Augumented Dickey- Fuller unit root test approach was used in testing the stationary properties of the variables used for the analysis. The choice of the ADF unit Root test approach was informed by its popularity and adoption by several researchers including Osuala (2009), Onyenweaku (2004) and Nnamerenwa (2012) among others. The result of the logged ADF unit root test of the stationary properties of the variables used for analysis is presented in table 4.1.

Table 4.1: ADF Unit root test result of the transformed variables used for analysis

Variables		Level	First Difference	Integration Order
CLA_t		-2.152	-4.708***	I(1)
TDL_t		-0.206	-8.103***	I(1)
TAF_t		-3.523	-4.557***	I(1)
ALF_t		-3.099	-5.308***	I(1)
Critical value	1%	-4.416345	-4.441	
	5%	-3.622033	-3.633	
	10%	-3.248592	-3.255	

Source: Computed by the author using E-view 8

The unit root test was done with the inclusion of intercept and trend deterministic trend. ***, and * signifies 5% and 1% significance levels respectively. The result showed that all the variables used for the analysis were stationary at their first difference, that is, they are integrated of order I(1).

4.2 Descriptive Analysis of variables

The descriptive statistic of the variables used in the analysis is presented in Table 4.2

Table 4.2: Descriptive statistic of the variables used in the analysis

Parameters	Commercial Banks Total Loans and Advances (₦'M)	Total Deposit Liabilities of Banks (₦'M)	Total Amount Involved in Fraud (₦'M)	Actual Amount loss to Fraud (₦'M)	Number of Fraud Cases Reported
Mean	2342843.	3011314.	8999.186	2786.485	1137.375
Median	641193.1	715663.6	9695.00	1190.50	823.00
Maximum	9609580.	13825189.	28400.86	11679.00	3756.00
Minimum	26000.10	2128.300	388.60	26.700	141.00
Std. Dev.	3225610	4602672.	7661.697	3178.087	930.0694
Sum	56228227.	72271538.	215980.5	66875.64	27297.00
	24	**24**	**24**	**24**	**24**

Source: *Computed by the author from CBN annual reports, 2000 -2013 using E-view 8 econometric and statistical package.*

Table 4.2 showed that the sum of commercial banks' total loan and advances, total deposit liabilities of commercial banks, amount of bank funds involved in fraud, actual amount lost to fraud and number of fraud cases reported in Nigeria between the year 1990 and 2013 were ₦ 56228227 million; ₦72271538 million; ₦215980.5 million, ₦66875.64 million and 27297 fraud cases respectively. The amount of commercial banks' total loan and advances, total deposit liabilities of commercial banks, amount of bank funds involved in fraud, actual value loss to fraud and number of fraud cases reported in Nigeria between 1990 and 2013 varied from a minimum of about ₦ 26000.10 million in 1990; ₦2128.300 million in 1990; ₦388.60 million in 1991; ₦26.700 million in 1991 and 141 cases in 1990 respectively to a maximum of about ₦9609580 million in 2013; ₦13815189 million in 2013; ₦ 28400.86 million in 2011; ₦11679 million in 2013 and 3756 cases in 2013 respectively, with an overall average of ₦2342843 million; ₦3011314 million; ₦8999.186 million; ₦2786.485 million and 1137 cases; for amount of commercial banks' total loan and advances, total deposit liabilities of commercial banks, total amount involved in fraud, actual amount loss to fraud and number of fraud cases reported respectively.

It is observed that, the standard deviation of value of commercial banks' total loan and advances, total deposit liabilities of commercial banks, total amount involved in fraud, actual amount loss to fraud and number of fraud cases reported in Nigeria between 1990 and 2013 were ₦3225610 million, ₦4602672 million; ₦7661.697 million; ₦3178.087 million and 930 cases respectively, an indication of high degree of co-movement of commercial banks' total loan and advances, total deposit liabilities, total amount involved in fraud, actual amount loss to fraud and number of fraud cases reported in Nigeria overtime.

The pattern of growth of commercial banks' total loans and advances, total deposit liabilities, fraud cases, and amount lost to fraud (1990 – 2013) is presented in table 4.3

Table 4.3: Commercial Banks' Total Loans and Advances, Total Deposit Liabilities, Fraud and Forgery Cases, Money Mobilized by Banks and Amount Lost to Fraud (1990 – 2013)

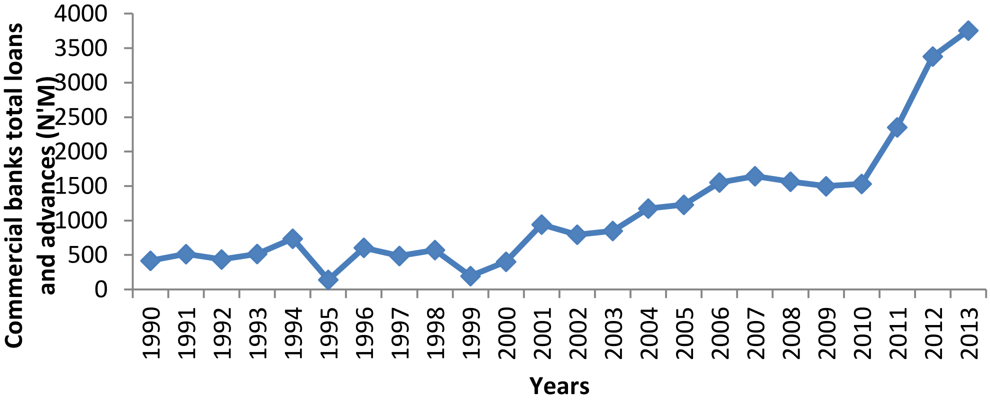
Year	Commercial Banks Total Loans and Advances (₦)	Total Deposit Liabilities of Banks (₦)	Total Amount Involved in Fraud (₦)	Actual Amount loss to Fraud (₦)	Number of Fraud Cases Reported
1990	26000.10	2128.300	804.20	55.800	417.00
1991	31306.20	4540.500	388.60	26.700	514.00
1992	42736.80	31649.75	411.60	73.100	436.00
1993	65665.30	41986.75	1419.1	246.40	516.00
1994	94183.90	42128.56	3399.4	950.70	737.00
1995	144569.6	53752.53	1011.4	229.10	141.00
1996	169437.1	52473.45	1600.7	375.30	606.00
1997	232516.5	269847.2	3777.9	226.54	487.00
1998	262529.9	314303.5	3197.0	692.00	573.00
1999	338160.4	476350.9	7404.0	2730.0	195.00
2000	345327.8	691794.3	2851.0	1081.0	403.00
2001	748144.2	947182.9	11244.0	906.00	943.00
2002	845682.0	739532.9	12920.0	1300.0	796.00
2003	1041664.0	1337296.0	9384.0	857.00	850.00
2004	1294450.0	1661482.0	11754.0	2610.0	1175.0
2005	1859556.0	2036090.0	10606.0	5602.0	1229.0
2006	2338719.0	1816276.0	10006.0	2769.0	1553.0
2007	534242.0	4010543.0	10105.81	3325.0	1644.0
2008	7799400.0	393758.5	11243.94	7854.0	1564.0
2009	8451378.0	9150040.0	12919.55	8943.0	1498.0
2010	6629581.0	9784542.0	21291.41	11679.0	1532.0
2011	6489762.0	11452763	28400.86	4071.0	2352.0
2012	6833637.0	13135887	18045.0	4516.0	3380.0
2013	9609580.0	13825189	21795.0	5757.0	3756.0

Source: computed by the author from CBN annual reports, 1990 -2013 and NDIC annual reports (1990-2013).

Commercial bank total loans and advances grew steadily from 1990-2006. The total loans and advances of banks decreased from ₦2338719 million Naira in 2006 to ₦534242 million naira in 2007, fluctuated between ₦7799400 million in 2008, ₦8451378 million in 2009, ₦6629581 million in 2010, ₦6489762 million in 2011 and ₦6833637 million in 2012 . Thereafter, it grew up with 2013 recording the highest commercial bank total loans and advances in Nigeria with a stunning amount of ₦9609580 million. Similarly, the total deposit liabilities of banks fluctuated between 1990 and 2013. The total deposit liabilities of banks increased from ₦2128.300 million in 1990 to ₦4540.500million in 1991. Thereafter, it grew steadily between 1992 and 1995 and then dropped to ₦52473.45million in 1996 and decreased steadily till 1999 with the value of ₦476350.9 million. It grew in year 2000 from about ₦691794.3 million to about ₦947182.9 million in year 2001. It grew steadily from ₦ 739532.9 million in 2002 to ₦ 2036090 million in 2005. The total deposit liabilities of banks fluctuated between 2006 and 2008, and then grew steadily from ₦ 9150040 million in 2009 to ₦13825189 million in 2013 which recorded the highest total deposit liabilities of banks in Nigeria.

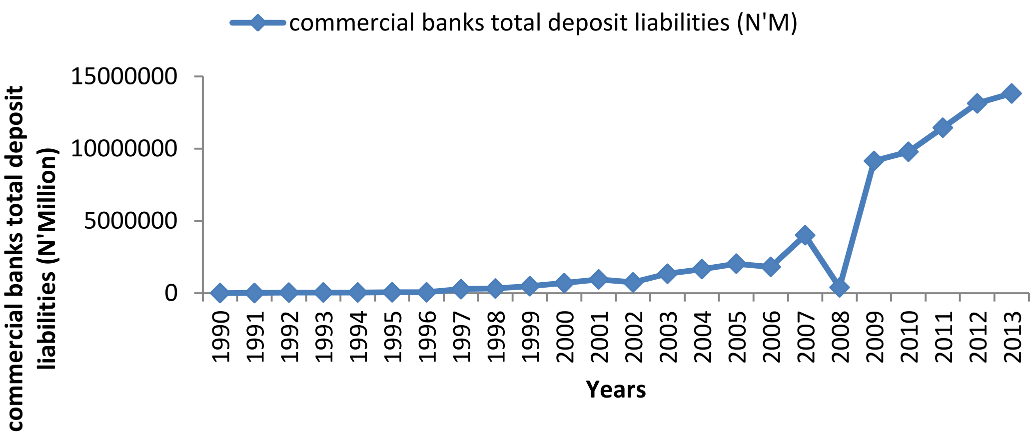
More so, the actual amount involved in fraud fluctuated between 1990 and 2013 with 2011 recording the highest amount involved in fraud (i.e. ₦28400.86million). The number of fraud and forgery cases grew fluctuated from 417 reported cases in 1990 to 850 reported cases in 2003 and thereafter increased to1175 reported cases in 2004. It then fluctuated further from 1229 reported cases in 2005 to 1532 reported cases in 2010 before increasing to 2352 reported cases in 2011. Thereafter, it grew steadily for the remaining years under review with 2013 recording the highest reported fraud and forgery cases with a stunning reported number of frauds and forgery case of 3756. The actual mobilized fund lost to fraud by banks in Nigeria within the study period fluctuated from ₦55.80million in 1990 to ₦857.00 million in 2003, and increased thereafter to ₦2610million in 2004. It then fluctuated from 2005 to 2007 and thereafter appreciated to ₦7854million in 2008. It grew from ₦8943million in 2009 and then up to ₦11679million in 2010 before dropping again to ₦4071million in 2011 and ₦4516million in 2012 respectively. It then ended with ₦5757million in 2013. The actual mobilized fund lost to fraud by banks in Nigeria was highest in 2010, indicating that if such trend is not curbed, there may be continuous reconsolidation of already consolidated banks in Nigeria at the expenses of the depositors' interest in no distance time from now since this was the cause of the policy on bank consolidation in Nigeria. The pattern of growth of commercial banks' total loans and advances, total deposit liabilities, total amount involved in fraud, actual amount loss to fraud and reported cases fraud from (1990 – 2013) is represented in figures 4.1 – 4.5. The actual mobilized funds lost to fraud were highest between 2009 and 2010. But, between 2011 and 2012, there was a significant decrease. This may be due to lack of stringent measures to keep under check the bank recapitalization/merger and acquisition exercise adopted by the Central Bank of Nigeria and her agencies to tackle the menace of fraud and forgery cases in the banking sector in Nigeria.

Fig. 4.1: **Commercial Banks' Total Loans and Advances (1990-2013)**



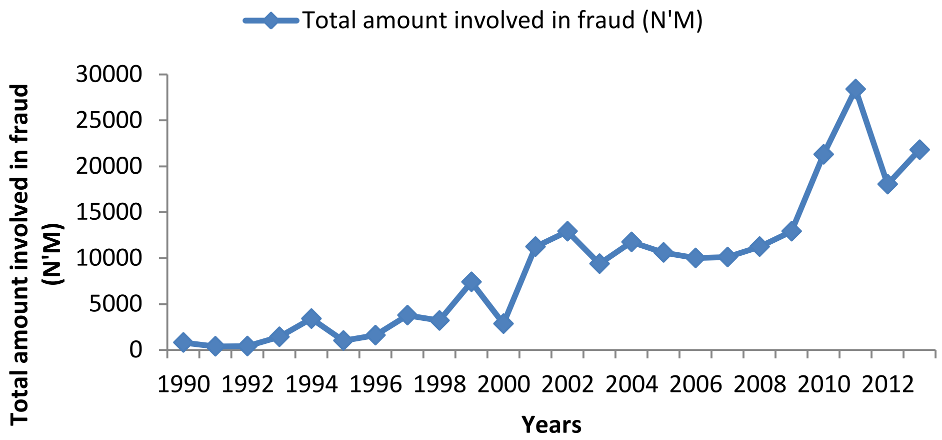
Source: *Authors graphical representation of commercial banks total loans and advances using Excel, 2013.*

Fig. 4.2: **Total Deposit Liabilities of Commercial Banks (1990-2013)**



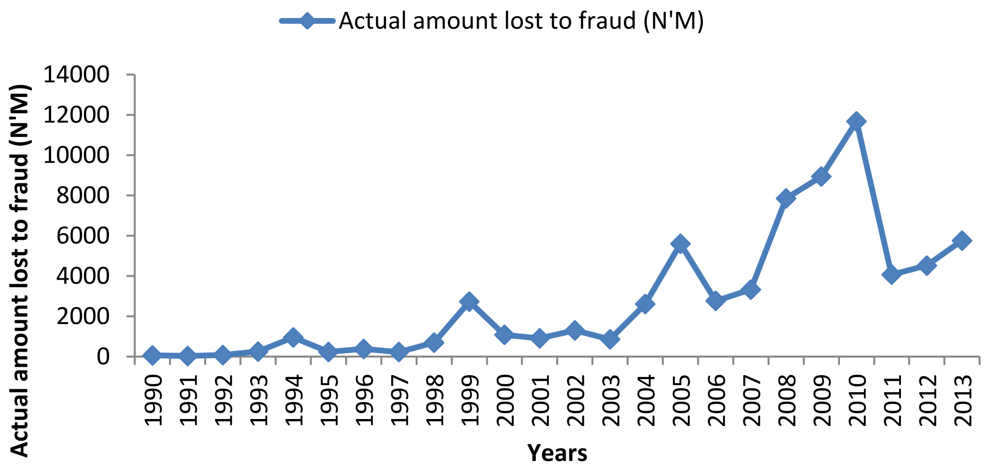
Source*:Author's graphical representation of commercial banks total deposit liabilities using Excel, 2013.*

Fig.4.3: Total Amount Involved In Fraud within the Study Period



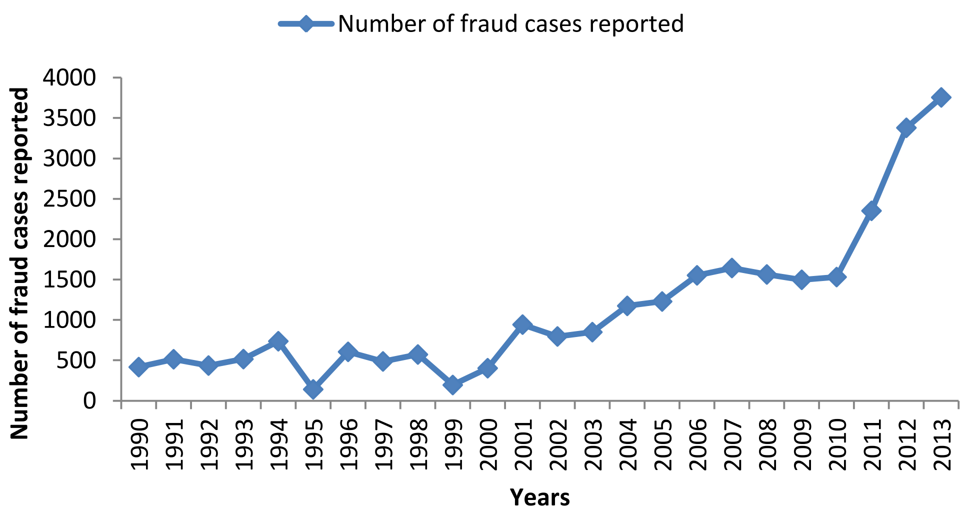
Source: *Author's graphical representation of total amount involved in fraud and forgery using Excel, 2013.*

Fig. 4.4: Percentage of Mobilized Funds Lost To Fraud



Source*: Author's graphical representation of actual amount lost to fraud using Excel, 2013.*

Fig. 4.5: Total Number Of Fraud Cases Reported



Source: *Author's graphical representation of Total number of fraud cases reported using Excel, 2013.*

4.3 Impact of Fraud on the Total Loans and Advances of Commercial Banks

Since the variables are integrated of order I(1) as shown in section 4.1, any attempt to regress them as if they were stationary would lead to spurious regression. According to Kozhan (2010), regression with *I (1)* data only make sense when the data are cointegrated. Hence, we proceeded to test for co-integration using Johansen's approach. The non-stationary time series are cointegrated if there is a linear combination of them that is stationary. The result of the test for long-run equilibrium relationship is presented in table 4.4.

Table 4.4: Result of Johansen's Co-integration Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.965132	103.8293	47.85613	0.0000
At most 1 *	0.650940	29.99320	29.79707	0.0475
At most 2	0.264301	6.837955	15.49471	0.5966
At most 3	0.003875	0.085407	3.841466	0.7701
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.965132	73.83606	27.58434	0.0000
At most 1 *	0.650940	23.15525	21.13162	0.0256
At most 2	0.264301	6.752548	14.26460	0.5188
At most 3	0.003875	0.085407	3.841466	0.7701
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Both the Trace and Eigen statistics suggest that there are 2 co-integrating equations at the 5% level. This means that the four variables have long-run association. Since the variables are cointegrated, we proceeded to run the vector error correction model (VECM). The result of the VECM test is presented in table 4.5.

Table 4.5: Result of VECM Test

Included observations: 21 after adjustments				
D(CLA) = C(1)*(CLA(-1) + 1.9600881433*TDL(-1) + 121.794514637*TAF(-1) - 2703.25246209*ALF(-1) - 934172.365537) + C(2)*D(CLA(-1)) + C(3)*D(CLA(-2)) + C(4)*D(TDL(-1)) + C(5)*D(TDL(-2)) + C(6)*D(TAF(-1)) + C(7)*D(TAF(-2)) + C(8)*D(ALF(-1)) + C(9)*D(ALF(-2)) + C(10)				
	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.638602	0.094086	-6.787413	0.0000
C(2)	0.608461	0.163931	3.711695	0.0034
C(3)	-2.055008	0.326893	-6.286483	0.0001
C(4)	2.737877	0.339253	8.070304	0.0000
C(5)	0.393814	0.123670	3.184380	0.0087
C(6)	-63.77439	49.00987	-1.301256	0.2198
C(7)	172.9567	66.39394	2.605008	0.0245
C(8)	-1085.364	249.0253	-4.358451	0.0011
C(9)	-1358.828	200.0100	-6.793800	0.0000
C(10)	-717569.4	253870.0	-2.826524	0.0165
R-squared	0.923050	Mean dependent var		455564.0
Adjusted R-squared	0.860091	S.D. dependent var		1790338.
S.E. of regression	669664.8	Akaike info criterion		29.97270
Sum squared resid	4.93E+12	Schwarz criterion		30.47009
Log likelihood	-304.7133	Hannan-Quinn criter.		30.08064
F-statistic	14.66114	Durbin-Watson stat		1.756856
Prob(F-statistic)	0.000064			

Source: *Culled regression out using Eviews version 8.0.*

From the resulted presented in table 4.5, it is clear that the coefficient of C1 (i.e., the error correction term) is both negative and statistically significant at 5% level. This is as expected, and its value of 0.638602 represents the speed of adjustment of any disequilibrium towards long-run equilibrium state. In this regard, any disequilibrium will adjust at the speed of 63.86% towards long-run equilibrium position.

C2-C9 are short-run coefficients while C10 is the intercept. Using Wald's test, we confirmed that c2 and c3 (that is, the lags of commercial banks' loans and advances) jointly influenced current year's loans and advances. The same holds true for c4 and c5 (total deposit liabilities of commercial banks), c6 and c7 (total amount involved in fraud), and c8 and c9 (amount lost to fraud). (See appendix 1). The signs on the variables are as expected. It is expected that the higher the previous year's loans and advances, the lower the ability of the banks to give out loans in the current year. Banks' deposit liabilities is positively related to loans and advances while amount involved in fraud and amount lost to fraud are negatively related to loans and advances. The R^2 value (0.923050), F-statistics, and model stability tests (as presented) in appendix 2 show that the model is properly specified and is good in explaining the relationship between the risk assets of commercial banks in Nigeria as proxied by their loans and advances, and fraud and banks' deposit liabilities during the period covered in the study.

5.0 Summary and Conclusion

The purpose of this study was to examine the impact of fraud on the risk assets of commercial banks in Nigeria from 1990 to 2013. Secondary data extracted from Central Bank of Nigeria (CBN) statistical bulletin and Nigerian Deposit Insurance Corporation (NDIC) annual report were used. The data were analyzed using descriptive statistics. In order to investigate the short and long-run relationship and causal association between commercial banks' risk assets and fraud in Nigeria, the study employed an extensive empirical analysis by utilizing the techniques of co-integration and error correction model. Major findings include that fraud significantly impacted on commercial banks loans and advances in Nigeria within the period of study both in terms of amount involved in fraud and value of money eventually lost as a result of the fraud cases. Furthermore, the actual mobilized fund lost to fraud by banks in Nigeria was high and have been above 50% since 2010, indicating that if such trend is not checked, there may be continuous reconsolidation of already consolidated banks in Nigeria. The study recommends that banks should strengthen their internal control system so as to enhance the detection and prevention of fraudulent activities.

References

Adebisi.A.F (2009). *The Bankers Fortress*, Mega synergy Nigeria limited Lagos.

Adeyemi, S.B. and B.O. Ogundele (2004).The Development of Accounting in Nigeria. *Global Journal of Accounting*, No. 1, pp. 30 -30.

Akano, T. (2008). Banks and e-business challenge in 2008. *Financial Standard*. January 7.

Akpoyomare, O. (1996). The Use of Management Control Strategies in Detection and Prevention of Fraud. *The Nigeria Management Review*, Vol. 10, No. 1, pp. 68-69.

Abdul Rasheed, S., Babaitu, D., &Tinusa, G. (2012). Fraud and its implications for bank performance in Nigeria. *International Journal of Asian Social Science*, Vol. 2, No. 4, *pp.* 35-45.

Ademola, A. (2001). Fraud in banks: The Nigerian perspective expert edge software. *Seminar on Fighting Fraud with Technology: Solutions to Nigerian Banks.*

Adeniji, A. (2004). *Auditing and investigation.*Lagos: Landmark Publisher.

Adepoju, A., &Alhassan, G. (2010). Challenges of automated teller machine (ATM) usage and fraud occurrence in Nigeria-A case study of selected banks in Minna Metropolis. *Journal of Internet Banking andCommerce (JIBC)*, Vol. 15, No. 2, pp. 2-10.

Adewumi, S. (2011). *An Ideal ATM Implementation in an Unsecured Environment*. University of Jos Press.

Akindele, R. I. (2011**)**. Fraud as a negative catalyst in the Nigerian banking industry. *Journal of Emerging Trends in Economics and Management Sciences* (JETEMS). Bank Administration Institute of America and First National Bank of Chicago: Fraud prevention series. *Benson and Edwards fraud prevention series* (Volumes1-11). B & E publishers Lagos.

Ajayi, M.A. (2012). Determinants of fraud in Nigerian banking industry. *Department of Accounting and Finance; University of Ilorin, Ilorin*, Nigeria.

Babatunde, G. (2009). Precipitating factors in fraud and criminal motivation. *International Journal of Bank Marketing*, Vol. 10, No. 3, pp. 232-250.

Berney, L. (2008). For online merchants, fraud prevention can be a balancing act. *Cards & payments*, Vol. 21, No. 2, pg. 227.

Bratton W.W. (2002). Does corporation law protect the interest of shareholders and other stakeholders?: Enron and the dark side of shareholders value, *Tulane Law Review, Tulane University law school*, Vol. 1275, pg. 61.

Central bank of Nigeria (2006). *Banking Supervision Annual Report.*

Deloitte, (2012). Indian banking fraud survey: Navigating the challenging environment. Retrieved April 15, 2013 from http://www.deloitte.com.

Ebong, B.B.(2005). The banking industry and the Nigerian economy post-consolidation. Retrieved April 10, 2015 from www.unionbank.ng.

Eseoghene, J.I. (2010). Bank frauds in Nigeria: Underlying causes, Effects and Possible remedies. *African Journal of Accounting, Economics, Finance and Banking Research,* Vol. 6, No. 6, pp. 62-79.

Fagbemi, O.A. (1989). *Fraud in Banks*: *The Law and the Legal Process*. Lagos, FITC.

Fraid B.G (1973). Fundamentals of behavioural research. *Tulane Law Review. Tulane University law School*, Vol. 1275, pg. 61.

Gold S. (2009). TB starts Switchboard Anti-Hacking Investment. Newsbytes, http://www.infowar.com/, Accessed on 18/04/2015.

Idowu, A. (2009). An assessment of fraud and its management in Nigeria commercial banks. *European Journal of Social Sciences*, Vol. 10, No. 4.

Kanu, S. I., and Okoroafor, E. O. (2013). The nature, extent and economic impact of fraud on bank deposit in Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 4, No. 9, pp. 253-264.

Kozhan, R. (2010). *Financial Econometrics-with Eviews*, Roman Ozhan & Ventus Publishing, Aps.

Mitchell, A; Keith, J. and Brown, C. (2002). Banking ethics and their dimensions. In Hortacsu, A. &Ozkan-Gunay, N.E. (2004): *Ethical issues and attitude in the Turkish banking sector*. Retrieved April, 17,2015 from http://mpra.ub.unimuenchen.de/26338/1/MPRA-Paper-26338.pdf.

NDIC. (2011). Annual Report and Statement of Account.

Nnamerenwa G.C. (2012). Analysis of intra sectoral credit allocation under the Agricultural Credit Guarantee Scheme Funds (ACGSF) in Nigeria (1978-2009). *M.Sc Thesis Department of Agricultural Economics Michael Okpara University of Agriculture Umudike*, Abia state Nigeria.

Nigerian Bureau of Statistics (NBS), (2008). Foreign trade statistics 1998-2007. *Publication of National Bureau of Statistics, Abuja.*

Nnamerenwa G.C. (2012). Foreign Mutual Fund Holding and international accounting standard (IFRS). *Review of International Economics*, Vol. 1 pg. 5.

Nwaeze, C. (2008). Quality and internal control challenges in contemporary Nigeria banking. *Zenith Economic Quarterly*, *Zenith Bank PLC*, Vol. *3*, *No. 2*, pp. 23-28.

Nwankwo, G. O. (2005). *Bank Management Principles and Practices*. Malthouse Press Ltd: Lagos-Nigeria.

Nwankwo, G.O. (1992). *Banking Fraud*. Lecture delivered at the 5th anniversary of Money Market Association of Nigeria.

Nweze, C. (2008). Bank fraud exposed with cases and preventive measures. Control & surveillance associates limited, Lagos.

Nzotta S.M (2004). *Money, Banking and Finance. Theory and practice*. Hudson-Jude 24 Royce Road Owerri. ISBN:978-37201-9-8 Nigeria.

Ogunleye, G. A. (2004). The causes of Bank Failures and persistent distress in the Banking Industry.*NDIC Quarterly*, Vol. 13, No. 4.

Ogunleye, G. A. (2007). Proactive Measures to guard against fraud/cash theft in the banking industry and in organizations. *NDIC Quarterly*, Vol. 17, No. 3/4.

Ogunleye, G. A. (2010). Perspectives on the Nigerian Financial safety–Net Nigeria Deposit insurance corporation, Abuja.

Ojo, A. (2006). *Curbing Fraud within the Banking System*:*A Banker's Perspectives*. Lagos: A.M. Continental Ltd.

Okafor, F.O (2011). *50 YEARS of Banking Sector Reforms in Nigeria (1960-2010): Past Lessons: Future Imperatives.* Ezu Books Ltd New Haven, Enugu, Nigeria. ISNB: 978-978-53075-9-7

Olasanmi O.O (2010). Computer Crime and Measures in the Nigerian Banking sector. *Journal of Internet Banking and Commerce*, Vol. 15, No. 1, pp. 1-10.

Onyenweaku C.E (2004). Stagnation, acceleration and deceleration in agricultural production in Nigeria, 1970-2000. *Journal of Agricultural and Food Sciences*, Vol. 2, No. 2, pp. 131-140

Onuorah, S., &Ebimobowei, D. (2012). Fraudulent activities and forensic accounting services of banks in Port Harcourt, Nigeria. *Asian Journal of Business Management*, Vol. 4, No. 2.

Osuala A.E (2009). *Econometrics Theory and Problems*. Tony Printer Service Umuahia Abia State, Nigeria ISBN 978-2009-06-7, pg. 5-13, 278-296.

Otusanya, J. O. (2009). An investigation of corporate executive fraud by CEOs in the Nigerian banking industry.

Owho, O. (2005). *Bank Frauds, Causes and Prevention: An Empirical Analysis*. Ibadan: ATT Books Ltd.

Owolabi S.A (2010). Fraud and Fraudulent Practices in Nigeria Banking Industry. *An international Multi-Disciplinary Journal, Ethiopia.* Vol. 4, No. 3b, ISBN 1994-9057.

Peter, E.A. (1998). Banks fraud. *Nigeria Financial Review*, Vol. 1, pp. 25-31.

Russell, H.F. (1977). *Foozles and Frauds*, Florida, The Institute of Internal Auditors.

Uchenna C. and Onu, A.C.J (2013). Impact of Fraud and fraudulent practices on the performance of Banks in Nigeria. *British Journal of Arts and Sciences ISSN: 2046-9578*, Vol. 15, No1.

Unugbro, A.O and Idolor, E. J. (2007). Business social responsibility: concept strategy and implication for policy. *African Journal of Contemporary Issues*, Vol. 7, No. 2, pp. 57-71.

Wikipedia, the free encyclopedia (2007). *Advance Fee Fraud*. Downloadable from http://www.wikipedia.org/wiki/advancefeefraud.

Appendix 1: Wald's Test

Wald Test:			
Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	24.42499	(2, 11)	0.0001
Chi-square	48.84997	2	0.0000
Null Hypothesis: C(2)=C(3)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(2)		0.608461	0.163931
C(3)		-2.055008	0.326893
Restrictions are linear in coefficients.			

Wald Test:			
Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	33.03680	(2, 11)	0.0000
Chi-square	66.07360	2	0.0000
Null Hypothesis: C(4)=C(5)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(4)		2.737877	0.339253
C(5)		0.393814	0.123670
Restrictions are linear in coefficients.			

Wald Test:			
Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	6.769812	(2, 11)	0.0121
Chi-square	13.53962	2	0.0011
Null Hypothesis: C(6)=C(7)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(6)		-63.77439	49.00987
C(7)		172.9567	66.39394
Restrictions are linear in coefficients.			

Wald Test:			
Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	30.48411	(2, 11)	0.0000
Chi-square	60.96822	2	0.0000
Null Hypothesis: C(8)=C(9)=0			
Null Hypothesis Summary:			
Normalized Restriction (= 0)		Value	Std. Err.
C(8)		-1085.364	249.0253
C(9)		-1358.828	200.0100
Restrictions are linear in coefficients.			

Appendix 2: MODEL STABILITY TEST RESULT

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.387227	Prob. F(12,8)	0.3283
Obs*R-squared	14.18368	Prob. Chi-Square(12)	0.2891
Scaled explained SS	4.258129	Prob. Chi-Square(12)	0.9783
The obs-R^2 >0.05.			

Heteroskedasticity Test: ARCH			
F-statistic	0.068304	Prob. F(2,16)	0.9342
Obs*R-squared	0.160849	Prob. Chi-Square(2)	0.9227

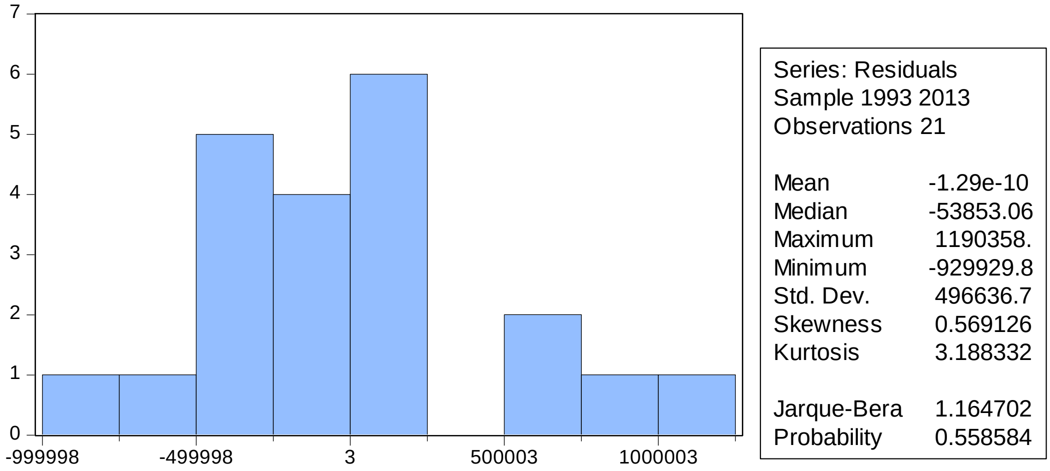
This implies that there is arch effect. This is good.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.490332	Prob. F(2,9)	0.2760
Obs*R-squared	5.224580	Prob. Chi-Square(2)	0.0734

It implies the variables are not serially correlated. This too is good.

Normality Test



The pro is > 5% so we cannot reject null hypothesis that the residual are normally distributed. This is desirable.