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**COMPARATIVE ANALYSIS OF FORENSIC ACCOUNTING AND INTEGRATED
FINANCIAL REPORTING OF BANKS**

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ABSTRACT

This study carefully focuses on Forensic Accounting and Corporate Social Responsibility (CSR) as a proxy for integrated financial reporting of listed banks in Nigeria and Ghana. The study aimed to examine forensic accounting's effects on the integrated financial reporting of the listed banks. Its specific objectives compare the effects Litigations, Claims, Fraud cases reported, Cost of forensic investigation, and Non-performing loans (LCFCN) have on integrated financial reporting variables such as corporate social responsibility – CSR. Integrated financial reporting (IFR) is the dependent variable while forensic accounting (FA) is the independent variable. In line with these stated objectives, summed research questions and hypotheses were

formulated and it adopted the ex-post facto research design. The population of study constitutes 23 and 24 listed banks in both countries, only 8 listed banks were selected through purposive sampling. The study's data was obtained from related books of the banks via the Central Banks Bulletin (Ghana), NDIC, CBN, NBS, African financials, and bank reports. Moreover, data were analyzed using the descriptive statistics, the Shapiro - Wilk test for a diagnostic check for normality, and a combination of the panel regression analysis with the Hausman test interpreted appropriate specifications on whether the analysis should be done with a fixed or random-effect model. In Nigeria, the random effect specified that litigation ($\beta = 2.337$, $P = 0.000$) is statistically significant and has a strong relationship with CSR. For Ghana, the Hausman - fixed effect ($P 0.050 < 0.10$) interpreted that claims are positive and have statistically significant effect on CSR ($\beta = 64687.53$, $P < 0.10$); Non-performing loans is statistically significant and had a negative effect on CSR ($\beta = -2.934$, $P = 0.054 @ 0.10$). In the nations analyzed, the results among others demonstrated that forensic accounting and integrated financial reporting were statistically significant at 1%, 5%, and 10%. The study hence concludes that the effective implementation of forensic accounting had a constructive and significant effect on the integrated financial reporting of listed banks. The study recommends among others that the apex banks should mandate banks to incorporate forensic accounting when reassessing their employability skill set, report production, aggressive loan recovery management, and maintaining a structured litigation profile in order to draw in more investment and foster a good reputation.

Keywords: *Hausman test, corporate social responsibility, forensic accounting, integrated financial reporting.*

Introduction

Globally, the financial sector strives to maintain shareholder and stakeholder interest through establishing working corporate governance. Given that the industry's function includes raising money, disbursing it, granting credit to the demand-side industry, paying and settling debts, and carrying out monetary policies, its importance is still of the utmost importance (Nkama and John, 2016). Any nation's economy would benefit from having this sector (CBN, 2003). Therefore, it is vital to pass laws, rules, and codes of conduct that will guarantee effective corporate direction through enhanced board performance in any nation's financial sector. A forensic accountant performs his professional duties in fraudulent financial investigations and has a strong background in law and science, which may enable him or her to work with management to improve corporate governance procedures in the sector and ensure effective fraud prevention and appropriate responsibility. Therefore, having a forensic accountant on staff enables management of any organization to complete their initial tasks painstakingly and successfully since they are confident that a qualified individual will look into any suspicions and find any wrongdoing.

In order to determine the veracity of financial information from a professional view, Zia (2010) defines investigative accounting as the professional application of accounting, finance, tax, and auditing expertise and tools to evaluate, research, enquire, test, and analyze issues in individual disputes (intra and inter), crimes, and adjudication. This idea emphasizes how

important a forensic accountant's role is in a company because of their in-depth understanding of the internal control system and the law (the substantive, statutory, customary, confirmation, and methodological laws). Additionally, they have other institutional requirements, investigative skills, and people skills that help them with inquiries about suspicions of fraud, which may include cases, master assurances, and inquiry by a suitable party.

IIRC (2013), explained that IR encompasses integrated thinking that which the basis for integrated decision. Hence, these decisions are whole and guarantee that value is created within the stipulated period. Apparently, the steady need for set rules in guiding corporate reporting, the IIRC being a global actor as well as NGOs was set up to provide the framework. Integrated corporate reporting as formed in 2010 (IIRC, 2013) and its framework in hinged to providing detail reports concerning external environment that is capable of influencing firms' actions, the resources used as well their association as a whole (Lipunga, 2015). The IR framework clamps on the set rules features such strategic focus and posterity, stakeholder mutuality, information link, materiality status, concise, reliable, complete, consistency and comparability (IIRC, 2015). These 7 set rules facilitate an integrated report discloses strategies. These set rules and elements ensure that the reporting links between financial and non-financial information forms the base for evaluating current operations and the future state of affairs.

Krzus (2011) added that monitoring and review are necessary for stakeholders to gain from and have a better understanding of the performance of the firm's various activities. This enables a better decision-making process, permits a deeper engagement with information, and reduces the risk to the company's reputation. Additionally, Eccles and Saltzman (2011) listed internal, external market, and regulatory risk management as advantages of IR. Improvements in resource allocation and reduced exposures are among the internal benefits. Owner and public satisfaction are among the external benefits, while the ability to participate in setting operational standards is one of the benefits of risk management.

According to Olakunori (2009), the financial reporting framework is a fundamental accounting principle, regulations, and procedures applied to financial statements produced for a variety of companies. Government is one of these institutions, as well as privately and publicly traded businesses. He stated that the necessity for acceptance and consistency in their framework is the primary goal of financial disclosure, which has been accomplished. Financial statements are necessary for many business enterprises or entities that operate with the intention of building a well-known network; they are included in the annual report for decision-making purposes. The original entry books are useful for spotting personal accounting transactions in financial reporting, and like primary sources, they are frequently examined by qualified experts to determine the value of the relevant financial data and ensure that all economic activities are adequately documented (Omolehinwa, 2000). As a result of the numerous corporate scandals involving Enron, Parmalat, Ireland's Elan, the Dutch Firm, Tyco International, Belgium's Learntout, Hauspie, and WorldCom in the 1990s, the topic of corporate governance and ethical conduct was a major topic of discussion in the context of financial firms during the global liquidity crunch. According to an OECD assessment from 2004, these scandals, along with the purportedly subpar performance of the business sector in Africa, have propelled forensic accounting into action.

Despite this, the number of cases of financial frauds ranging from management, bankruptcy, tax, securities and money laundering schemes has been on the increase. This fraudulent playout impedes crucial sustainable development in many nations and jeopardizes strong corporate governance and suitable business practices (Suleiman et al., 2018). In the African banking system, fraud typically occurs once because the victim is aware of the theft and prevents potential risks ahead; the victim of a cheat on the other hand, is typically uninformed of the misfortune, and thus the fraudster can repeatedly execute the misconducts. In that respect, falsification is just the same as repeating theft on a comparable tragedy by the same perpetrator. In the case of corporate extortion, there is just one victim, the association, and there are usually isolated instances of fraud that affect the industry. According to Ajagun and Agede (2017), these criminal acts are known be carried out by highly skilled syndicates using advanced methodologies, necessitating the use of equally skilled and versatile accountants to unleash the fraudulent charts.

According to Bill Gates (2001), the companies that employ digital tools to re-invent the way they function will be the most successful in the coming decades. These businesses will make quick decisions, respond quickly, and have a direct beneficial impact on their customers. Technological migration will place institutions on a shock wave of change which will destroy conventional company practices. Many African financial institutions are dominated by tiny asset-based institutions that cannot compete effectively with their multinational counterparts. In keeping with what Bill Gates stated, the introduction of information technology has compelled a rapid transformation of African systems, resulting in a high level of competition among these institutions. The need to improve banking technology and institutional arrangements for transmission mechanisms and other operational areas of financial institutions is very important in assuring operational efficiency as an interesting necessity.

The primary aim of this research is to ascertain the effect of forensic accounting on integrated financial reporting with aggregated specific objectives of investigating the effect these variables of Litigation, claims, Fraud cases reported, Cost of Forensic investigation and non-performing loans (*LCFCN*) has on corporate social responsibility (CSR).

Research Questions

Does Litigation, claims, Fraud cases reported, Cost of Forensic investigation and non-performing loans (*LCFCN*) have impact on corporate social responsibility (CSR) Nigeria and Ghana banks?

Research Hypotheses

H_0 : LCFCN have no significant effect on the Co-operate Social Responsibility (CSR) of the Nigeria and Ghana banks.

This research work will be of immense relevance to analysts, regulators, government, professional, students and international cum host communities in a bid to make prompt decision while considering various facets. The scope covers the financial institution in Ghana with specific selection to spread visibility within the 15-year period from 2005 – 2020.

Literature Review

The term "forensic" immediately conjures up images of popular television shows such as CSI, NCIS, and Law and Order, in which a crime is committed and detectives and investigators use various forensic techniques (fingerprints, DNA analysis, blood splatter analysis, tool mark identification, hair and fiber comparisons, etc.) to solve the crime in minutes. In contrast, the phrase accounting immediately conjures up images of debits and credits, financial statements, tax returns, and auditing. "Forensic" as a Latin word "forum," which means "of, relating to, or associated with" the legal system or the court system. The widest definition of forensic science describes it as the application of scientific knowledge to legal problems. The field of forensic accounting combines a unique mix of scientific and quantitative accounting and auditing skills with investigative and legal procedures, judicial procedures, and digital forensics. Analysis of risk, quantitative techniques, and research are all included in the job description. Accountants who have obtained specific training to work as financial investigators and fraud specialists are forensic accountants.

According to Modugu and Anyaduba (2013), forensic science is related to crime solving. It is the application of science to resolve questions arising from criminal or civil litigation, and it has been introduced into the accounting domain in order to serve as a more reliable and evidential means of enhancing financial investigations and preventing or reducing financial impropriety in all of its manifestations. Forensic accounting is concerned with deterring, detecting, and investigating financial reporting fraud on a broad scale (Kristic, 2009). In simpler words, the integration of accounting, auditing and investigative abilities creates the specialty known as Forensic Accounting. Accounting in a judicial setting financial inquiry, investigative accounting, and fraud examination are all terms that are used interchangeably.

Historical Base of Forensic Accounting

A new accounting discipline known as forensic accounting, also known as investigative accounting or financial inquiry, has evolved in Africa in response to a call to arms to establish the legitimacy of the nation's financial statements. Kutilya, the first economist to publicly argue the value of forensic investigation in the wake of the preaching of checks and balances, audit, etc., is credited with developing forensic accounting. He also proposed the infamous "forty ways of embezzlement" in his classic essay "Arthashastra" (Science of Material Wealth). According to Joshi, Emperor Akbar's trusted scholar Birbal also cleverly misled his slaves to look into financial offenses that are similar to the topic at hand (2003). Although Crumbley and Apostolou (2007) claim that the term can be traced back to an 18th century court decision in which a Scottish professional issued a memo canvassing his expert capabilities in arbitration support in 1824, Kasum (2009) claims that Peloubet (1946) was the first to coin the term "forensic accounting" and publish it. However, Tommie and colleagues (2006), on the other hand, assert that the term can be traced back to an 18th century court decision in which a Scottish professional issued.

Forensic Investigation Cost (FIC)

Professional fees for services rendered by professionals are determined by this factor, as well as other factors such as professionalism and ethical considerations. Internal auditor in collaboration with qualified auditors should be able to conduct an audit of a company in

accordance with regulatory standards, which is one part of excellent accounting professionalism that should be possessed by both (Fachriyah, 2011). Investigation costs are described in Agoes (2012) as "the amount of the charge as determined by a number of factors such as the risk associated with the assignment, complexity of services offered, quantum of expertise required to execute services at a proficiency level, the cost nature of the firm in question, and other considerable factors." They are measured by the agreed fee paid to the professionals for the investigation exercise.

Litigation

Dispute resolution in Nigeria is based on English common law, according to Global Legal Insights (2013), and the legal system and manner of litigation in Nigeria are based on English common law as well. Nigeria, like other common law jurisdictions, has an adversarial system of adjudication, in which competing parties compete to obtain a decision that is most favourable to their position, and in which the Judge plays a non-inquisitorial role in the proceedings. Litigations are measured by the amount recorded or incurred in the lawsuit.

Claims and Indemnification (CI)

According to Cite (2008), making a claim is asking for money, for property, for the enforcement of a legal right, or for money that is owed, for property, for damages, or for the enforcement of a legal right. To make a claim more honorable, it must be filled out properly. Claims and indemnification are measured based on the sum awarded following a judgment in the legal system.

Fraud Cases Reported (FCR)

Silverstone and Sheetz (2007), on the other hand sees it as an action that occurs in a social setting and has serious impact on parties involved. Fraud, according to him, is an opportunistic sickness that manifests itself when greed meets the potential for deception. According to Pasco (2009), fraud is characterized by trickery, deceit, and false statements, and it may also include an omission or purposeful refusal to convey material facts that are relevant to the case. This is measured by the amount of fraud cases captured and reported.

Non-Performing Loans (NPL)

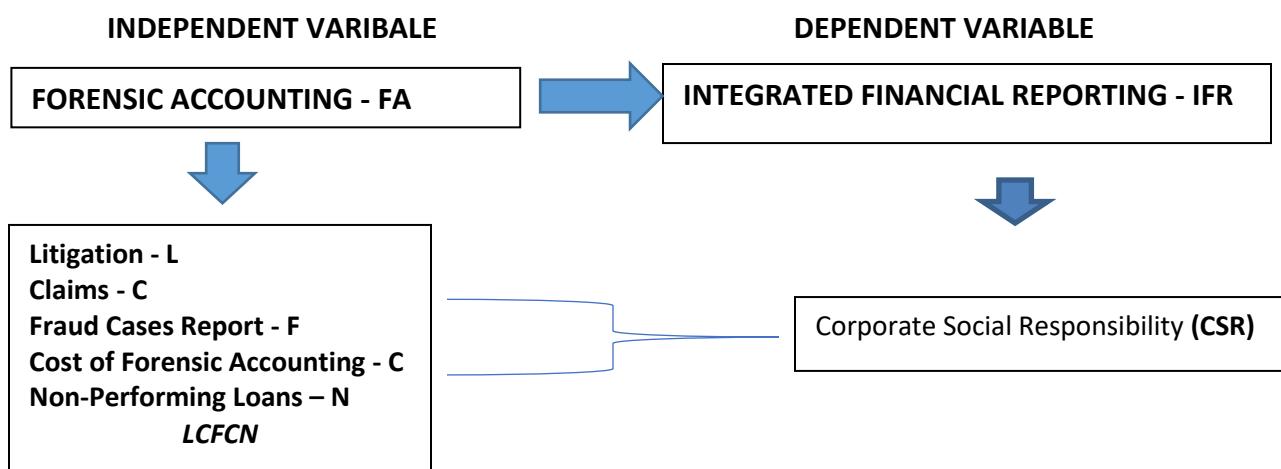
Bank loans and advances are short-term facilities, and in commercial banks, the value of the loan pool is largely determined by the credit evaluation metrics carried out by the responsible officer. The credit expert's role is to ensure that loans granted have a decent qualitative composition, which includes a high liquidity ratio, minimal risk, and a moderate maturity structure. It is also called default loans.

INTEGRATED FINANCIAL REPORTING (IFR)

Integrated reporting, or IR, is a set of rules that are blended with sustainability reporting and financial data to create a singular document (Lipunga, 2015). Essentially, IR is a component of a corporate reporting structure. By definition, it is the totality of reporting as the strategy, business rules, norms, operations, and prospects of an entity with its outwards of influences towards adding and creating values.

Corporate Social Responsibility – CSR

Sheldon was the first to introduce the notion of Social Responsibility (SR) into the world in 1924. As a result, it has become a worldwide topic of significant debate and interest for a variety of groups as well as the general public and academic institutions. A more responsible, open, and long-term approach to operating organisations has arisen as a result of the Social Responsibility (SR) movement (Lindfelt and Tornroos 2006, Marrewijk, 2003). There has been a huge expansion of this discipline, which now includes a large proliferation of ideas, techniques, and terminologies such as social issues management, sustainable development, stakeholder management, among others (Garriga and Mele, 2004). According to Carroll (1991), social responsibility (SR) encompasses all forms of social responsibility, including economic, legal, ethical, and philanthropic responsibilities. Summarily, it can be measured using the GRI index.



Conceptual Framework and Operationalization of Variables

Theoretical Framework

Theoretically, this research work is anchored on the Stakeholders theory with strong support by the police man theory. The justification of the decision is that the rising rate of frauds, scandals and business practices cum interruptions as well as the need for fairness, accountability, and transparency in establishing good governance with synergies from the law enforcement agencies. This has raised the visibility of stakeholders in decision making thus positioning the specialists as the bloodhound who screen accounting information in other to spot criminal enterprise tricks on transactions.

Stakeholder Theory

It is a theory of organizational management and ethics that takes into account a variety of factors affecting businesses, such as employees, suppliers, local communities, and the general public (Lin, 2018). It represents a step forward from the traditional view of organizations that states how wealth of the resource providers are created. It was first put forth by Reed and professor Dr. F. Edward Freeman in their seminal book "Strategic Management: A stakeholder's approach" in 1984. (Walsh, 2005). The term "stakeholder" was first used in a memo at the Research Institute in Stanford in 1963, and it has since been widely used (Puytet

al, 2017). As a result, the magnitude of stakeholder theories has been evolved over the years. In order to achieve sustainability, Kroos and Klaus in their book "Achieving Sustainability," argue that "stakeholder theory" must first be understood in terms of long-standing philosophical perspectives.

The reliance on negotiation as the primary mode of engagement for resolving disputes between parties' interests was criticized by political philosopher Blattberg (2004) as being based on the assumption that, at best, the stakes of the various parties may be compromised or balanced against one another. Instead, he advocates for dialogue, which leads him to promote what he refers to as a "patriotic" conception of the business as an alternative to negotiation. The stakeholder's theory serves as the foundation and supports for the investigation, and the researcher asserts that the study under consideration is related to the theory based on the level, availability, and utilisation of key information needs regarding the organization by various stakeholder groups, among other things. It becomes necessary for them to be aware of all activities of the company, the researcher says, and it is for this reason that the stakeholder's theory adds value to research despite other unmentioned theories.

Policeman Theory

This theory was propounded by Limperg Theodore, a Dutch Professor in the late 1920s. Until the 40s, this theory about auditing was the most widely accepted theory in the field. An auditor, according to this notion, is seen to work as a police officer by paying in-depth attention not only to the figure on financial statements and accounts but to forestall the occurrence of misappropriation (Ittonen 2010). In current times, its explanatory values diminished as a result of the sharp shift in auditing theory, which limited auditors' responsibilities to giving credibility to that financial statements were true and fair at the time of the paradigm shift. As a result of the development of standards in auditing (ISA, 240; US SAS 99), which now require qualified professionals to exercise skepticism and demonstrate quantum expertise in understanding and mitigating errors, the policeman idea has once again gained favor (Zikmund, 2008). In the context of the investigation, the forensic investigator acts as a police officer or watchdog, investigating and uncovering illegal financial activities within the banking business, as well as revalidating the assurance or trust of the various stakeholder groups. This study is fully anchored on this theory despite other supporting theories in the sense that it lays serious emphasis on the increasing need of the services rendered by the forensic examiner and their supervisory ability to both the stakeholders and shareholders. Lastly, the activation of forensic accounting in any institution restores financial discipline among stakeholders.

Empirical Framework

Nangih and Ofor (2020) investigated the relationship between anti-fraud, forensic accounting measures, and the financial reporting of Nigerian government parastatals. Their research revealed that anti-fraud and forensic accounting tactics have a positive and statistically significant impact on the financial reporting of government MDAs and parastatals at levels of 1 percent and 5 percent, respectively. Through a questionnaire completed by 120 bank employees from four banks in the National Capital Region, Sharma (2020) conducted research to better understand the challenges that banks face in detecting fraud. According to the

findings, the most significant challenges that banks face in identifying fraud are a lack of consumer vigilance, a lack of customer reporting, and a lack of information exchange with other institutions and organizations.

The prevalence of God fatherism in the Nigerian public sector, which shortens decisions, jeopardizes independence and party system structures, and reduces governance by excluding punishment, protection rights, and the political arena was among the findings of Sa'id and Abas Azmi's (2020) examination of the challenges in combating fraudulent practices: evidence from the Nigerian public sector. In order to enable stakeholders to make informed decisions, a study by Kızıl and Kaşbaş (2018) investigated the contributions of forensic auditing to the development of financial reporting. According to their findings, including the responsibilities of experts and internal control is necessary in order to uncover malpractices in the sector. In a similar vein, better transparency and speed in accounting processes lead to improved reliability in internal controls. They recommend that professionals from the professional accounting body be hired for litigation services and expert witnesses in order to aid the court in making a decision on timely basis.

A study conducted by Nwaiwu and Aaron (2018) assessed the importance of forensic accounting, fraud detection procedure and financial success of a company. Result of this investigation show that a statistically significant association exists between the proxies in both the positive and negative directions. We urge that experts from the professional accounting body be hired for litigation services and expert witnesses in order to assist the court in reaching a decision on problems that the court itself may not be familiar with. Fraud detection and prevention should be accomplished through the implementation of investigative accounting techniques and proactive fraud prevention initiatives. It is recommended that forensic accounting be incorporated in the accounting curriculum of tertiary institution to ensure adequate training of professionals and to raise public awareness. According to Akhidime (2018), forensic accounting services produce suitable result in terms of fraud prevention and detection capability. The study result show that forensic accounting is a more desired approach for determining susceptible areas. It further demonstrated the importance of forensic accounting inquiry in the process of identifying and resolving fraud situations.

In a similar vein, in the study conducted by Aigienohuwa et al (2018), it was discovered that majority of the response attest that forensic accounting is used to reduce fraud in the bank. The findings also suggest that respondents strongly agree on the significance of forensic accounting in fraud reduction in the sector. Mbah (2018) investigated forensic accounting and performance of the Nigerian financial sector. The analysis showed that expert opinion had a significant impact on the NPM, PAT, RE, and EPS of banks. It was also noted that forensic audit has an impact on profit after tax and dividend per share of Nigerian banks. With these findings, the researcher advises that those at the helms of banks affairs should compel the use of forensic in making up their financial information as it will help in increasing the profitability.

The study, conducted by Osasere, Okoye, and Uniamikogbo (2018), determined how effective forensic accounting is as a corporate governance tool in reducing fraud and improving ICS in the banking. According to the findings of the study, forensic accounting has not only assisted in dramatically decreasing fraud in the banking industry, but it has also assisted in

significantly improving the ICS of banks. The advised that the relevant stakeholders should strongly enforce forensic accounting in banks and that ICS and audit employees must embrace this developing trend as it becomes more widespread. Additionally, accounting professional organisations and academic institutions should provide the particular courses that are required to ensure that forensic accounting staff are properly educated and prepared. Employees of financial institutions should be properly educated on the perils of fraud as well as the importance of morality. Finally, all parties involved should work together to ensure that the financial business is free of fraud.

Van (2017) sampled the opinions of professional accountants on relevant skills that a forensic accountant should develop, factors that aid in the development of forensic accounting practice, and understanding the differences between the roles of professionals. The findings are that, professional accountants believe that possessing multidisciplinary abilities is essential for performing the duties of a forensic accountant in the most effective manner. Furthermore, it was discovered that professionals have a general understanding of the differences between the roles of experts and they are of the view that the authorities should play an important role by providing statutory empowerment to protect discipline in Sri Lanka.

Investigation Accounting in Nigerian university financial systems was conducted by Osho (2017). The study which used financial data of 9 years to discovered that successful financial practice necessitates the use of forensic accounting technique to check the processes and maintain transparent financial statements. Furthermore, professional forensic accountants working with suitable technology would not only improve the efficiency of financial administration and reporting, but they would help a company to avoid financial mismanagement and reporting errors (Osho, 2017). Additionally, good reporting and accounting fosters investor confidence, helps to establish a favourable company brand image, and increases the efficiency of internal procedures and investment. As a result, forensic accounting is an important component of efficient financial reporting, that is the sources of competitive edge.

Nader, El-Mousawi, and Younis (2015) explored the impact of forensic accounting domains on financial corruption in Lebanon. It is regarded as a vital part of accounting since it is concerned with legal disputes and difficulties that require the application of accounting and legal knowledge and practices in order to be handled. Specifically, the impact of two forensic accounting domains expert witness and litigation support on financial corruption in Lebanon is investigated in this study. It was discovered by the researchers that there is an impact of the expert testifiers, which is one of the FA domains, on the gross reduction of financial schemes in Lebanon, and that there is an impact of litigation support, which is another of the forensic Accounting domains, on decreasing financial war.

Mahua, Kiran, and Shalini (2013) are three women who have made significant contributions to the society. A forensic accounting approach to identifying white-collar criminals has become increasingly necessary in recent years, as law enforcement authorities with insufficient competence have failed to bring these perpetrators to justice. This is explored in detail in their paper. Furthermore, technology has advanced significantly, allowing fraudsters

to become much more sophisticated in their use of it. On the other hand, our accountants have not kept pace with technological advancement, and despite having extensive knowledge in fraud detection, the majority of accountants are unable to decode technologically backed up frauds.

As a result of the insufficient empirical assessment of factors that could impact the need of forensic accounting on integrated financial reporting of quoted Ghana banks in Africa countries in past research, there is a gap in the literature, particularly in developing nations that fall within sub-Saharan Africa. Insights from the studied empirical findings, there is a well establish gap based on the different views of the scholars. This could be due to differences in the variable metric, the study period, the number of control variables used or not, methods, data type used, and the tools used for analysis. This study filled in the gap by examining the effect of forensic accounting on integrated financial reporting of quoted Ghana banks, taking into account variables such as claims, non-performing loans, litigations, fraud cases reported, cost of forensic investigations, and corporate social responsibility that have not been extensively tested in other studies.

Methodology

This study used a secondary quantitative research design, which entails collecting quantitative data from pre-existing, reputable sources, such as the one from which the data for this work was gathered. The quantitative data used in this study is referred to as secondary data. It was gathered from the Bank of Ghana - Central Bank (<https://www.bog.gov.gh/wp>), ceicdata.com/en/ghana, and data.worldbank.org, 2004 – 2019. Secondary quantitative research was utilized to assess the link between the study's two primary variables and to provide a helpful recommendation based on the findings. The data analysis method used in this paper is the descriptive statistics (mean and standard deviation will be used to summarize the data), panel regression analysis, which will include the Hausman test, a fixed effect or random effect regression model (depending on the result of the Hausman test), and Pearson correlation. In this study, the variables of interest are forensic accounting and integrated financial reporting. Litigation, Claims, Fraud cases reported, Cost of Forensic Accounting and non-performing loans are all forensic accounting indicators, whereas Integrated financial reporting (CSR) is the dependent variable. Stata 16.0 was used to analyse this paper.

Table 1: Variables Measurement

Variables	Denote	Measurements (unit)
Integrated Financial Reporting	IFR	Billion (Naira)
Litigation	L	Percentage (%)
Claim	CL	Percentage (%)
Fraud cases Reported	FCR	Percentage (%)
Cost of Forensic Investigation	CFR	Million (Naira)
Non-Performing Loans	NPL	Percentage (%)

Table 2: List of the selected Quoted Banks through purposive sampling for this study

S/No	African Countries	Total Number of Bank	Numbers of Banks with the significant spread presence	Names of Banks with presence in the countries
1	Nigeria	23	10	Zenith Bank, UBA, Stanbic IBTC Bank, GTCO, Fidelity, Ecobank, SCB, Polaris, Citibank, Access bank
2	Ghana	24	09	Zenith Bank, UBA, Stanbic IBTC Bank, GTCO, Fidelity, Ecobank, SCB, Barclays, Access bank
Banks Present in both Countries			08	Zenith Bank, UBA, Stanbic IBTC Bank, GTCO, Fidelity, Ecobank, SCB, Access bank
Not present			3	Nigeria - Polaris, Citibank, Ghana- Barclays

Source: Author

This study will adopt the model of Mbah, Paulinus (2019). The justification for adopting the model is that both studies share similar variables, hence, making it suitable for adaptation and modification. See below as stated:

$$\text{FAUD} = \beta_0 + \beta_1 \text{NPM}_{t-1i} + \beta_2 \text{PAT}_{t-1i} + \beta_3 \text{RE}_{t-1i} + u_t \dots$$

Modified as:

$$\text{IFR}_{it} = \beta_0 + \beta_1 \text{Lit}_{it-1} + \beta_2 \text{Cl}_{it} + \beta_3 \text{FCR}_{it} + \beta_4 \text{CIF}_{it} + \beta_5 \text{NPL}_{it} + \varepsilon_{it}$$

Where, β = coefficient of the variables, i = i th bank, t = period under review, e = error term

$$\text{CSR}_{it} = \beta_0 + \beta_1 \text{Lit}_{it-1} + \beta_2 \text{Cl}_{it} + \beta_3 \text{FCR}_{it} + \beta_4 \text{CIF}_{it} + \beta_5 \text{NPL}_{it} + \varepsilon_{it}$$

Global rule: Reject the null hypothesis if $P < \alpha$ and do not reject if otherwise. Where α is the significant level (1%, 5%, 10% respectively)

Results and Findings

Descriptive Statistics for Nigeria

Variable	Obs	Mean	Std. Dev.	Min	Max
Litigation	153	23.60784	4.522219	8	30
Claims	153	4.577307	1.380821	2.06903	7.22084
Fraudcases~d	153	81129.46	47776.39	1193	163067
Costoffore~l	153	26.83333	3.818285	4.83	53.52
nonperform~s	153	12.14013	3.730193	5	25.6
CustomerBase	153	62.77778	10.89436	31	80
PAT	153	72.43791	11.76627	26	93
Debttoequity	153	11.68627	3.003223	3	15
Currentratio	153	26.33574	12.08143	6.0762	63.205
CSR	153	85.47059	15.10841	39	110

With 153 Observations, Litigation ($M=23.61$, $SD=4.52$) implies that on the average Litigation in Nigeria banks represent about 23.61% with variability of about 4.52%. Claims ($M=4.58$, $SD=1.38$) means that on the average claims in Nigeria Banks represent about 4.58% with variability of about 1.38%. Fraud cases ($M=81129.46$, $SD=47776.39$) tells us that on the average, number of fraud cases reported in Nigeria banks is about 81129.46 with variability of about 47776.39. Cost of forensic ($M=26.83$, $SD=3.82$) means that on the average cost of forensic in Nigeria banks represent about 26.83million naira with variability of about 3.82 million naira. Non-performing loan ($M=12.14$, $SD=3.73$) means that on the average non-performing loans in Nigeria banks represent about 12.14% with variability of about 3.73%. Customer Base ($M=62.78$, $SD=10.89$) implies that on the average customer base in Nigeria banks represent about 62.78% with variability of about 10.89%. PAT ($M=72.44$, $SD=11.77$) means that on the average, profit after tax in Nigeria Banks represent about 72.44% with variability of about 11.77%. Debt to equity ($M=11.69$, $SD=3.00$) means that on the average, debt to equity in Nigeria banks represent about 11.69% with variability of about 3%. Current ratio ($M=26.34$, $SD=12.08$) means that on the average, current ratio in Nigeria banks under study represent about 26.34% with variability of about 12.08%. CSR ($M=85.47$, $SD=15.11$) implies that on the average participation of Nigeria banks in corporate social responsibility represent about 85.47% with variability of about 15.11%.

Descriptive Statistics for Ghana

Variable	Obs	Mean	Std. Dev.	Min	Max
Litigation	136	24.04053	5.813441	12	33.6558
Claims	136	14.35082	.2755516	13.8788	14.8228
Fraudcases~d	136	21005.75	11249.81	1774	40277
Costoffore~l	136	476.0675	246.0773	54.53	897.605
nonperform~s	136	33.00725	11.92001	7.678	53.3844
CustomerBase	136	62.71324	11.67771	28	80
PAT	136	66.69118	12.42668	31	85
Debttoequity	136	19.24265	4.834285	5	25
Currentratio	136	23.45588	5.242091	8	30
CSR	136	71.27206	12.67396	37	90

The total observation for all variables is 136 with litigation ($M=24.04$, $SD=5.81$) implies that on the average Litigation in Ghana banks represent about 24.04% with variability of about 5.81%, min of 12% and Max of 37% approximately. Claims ($M=14.35$, $SD=0.28$) means that on the average claims in Ghana Banks represent about 14.35% with variability of about 0.28%, min of 14% and max of 15%. Fraud cases ($M=21005.75$, $SD=11249.81$) tells us that on the average, number of fraud cases reported in Ghana banks is about 21005.75 with variability of about 11249.81. Cost of forensic investigation ($M=476.07$, $SD=246.08$) means that on the average cost of forensic in Ghana banks represent about 476.07 million GHc with variability of about 246.08 million GHc. Non-performing loan ($M=33.01$, $SD=11.92$) means that on the average non-performing loans in Ghana banks represent about 33.01% with variability of about 11.92%. Customer Base ($M=62.71$, $SD=11.68$) implies that on the average customer base in Ghana banks represent about 62.71% with variability of about 11.68%. PAT ($M=66.69$, $SD=12.43$) means that on the average, profit after tax in Ghana Banks represent about 66.69% with variability of about 12.43%. Debt to equity ($M=19.24$, $SD=4.83$) means that on the average, debt to equity in Ghana banks represent about 19.24% with variability of about 4.83%. Current ratio ($M=23.46$, $SD=5.24$) means that on the average, current ratio in Ghana banks under study represent about 23.46% with variability of about 5.24%. CSR ($M=71.27$, $SD=12.67$) implies that on the average participation of Ghana banks in corporate social responsibility represent about 71.27% with variability of about 12.67%.

Normality Test for Nigeria

Shapiro-Wilk W test for 3-parameter lognormal data

Variable	Obs	W	V	z	Prob>z
CustomerBase	153	0.97147	3.376	-1.085	0.86099
PAT	153	0.96204	4.493	-1.091	0.86229
Debttoequity	153	0.93071	8.200	2.275	0.01145
Currentratio	153	0.97232	3.276	-1.143	0.87349
CSR	153	0.97150	3.373	-1.226	0.88996

Normality Test for Ghana

Shapiro-Wilk W test for 3-parameter lognormal data

Variable	Obs	W	V	z	Prob>z
CustomerBase	136	0.96804	3.420	-1.133	0.87137
PAT	136	0.96699	3.533	-1.161	0.87709
Debttoequity	136	0.92688	7.825	0.520	0.30160
Currentratio	136	0.93268	7.204	0.234	0.40766
CSR	136	0.95219	5.116	-1.128	0.87039

We can see from the output of normality test in the using Shapiro-Wilk test for normality shows that $P>0.05$ for the response variables of Nigeria and Ghana banks under study which means we do not reject the null hypothesis and we conclude that the data is normally distributed.

Table 3: Panel Data Analysis for (Nigeria)

CSR	RE P < 0.01	Hausman P > 5%
Litigation	$\beta = 2.337, P = 0.000$	

Table 4: Panel Data Analysis for (Ghana)

CSR	FE P < 0.05	Hausman P 0.050 < 10%
CLAIMS	$\beta = 64687.53, P 0.052 < 0.10$	
NON-PERFORMING LOANS	$\beta = -2.93, P 0.054 < 0.10$	

Authors extract.

H_{01} : LCFCN have no significant effect on the Co-operate Social Responsibility (CSR).

H_{0a} : Litigation, Claims and Non-performing loans has no significant impact on corporate social responsibility.

For Nigeria, the Hausman specified the random estimator thus litigation ($\beta = 2.337, P = 0.000$) is statistically significant with a positive association with the CSR. This implies that for every one unit increase on Litigation it leaves a positive effect of 2.337.

For Ghana banks, the fixed effect model was specified for CSR (**P 0.050 < 0.10**). Besides, Claims ($\beta = 64687.53, P < 0.10$) as we can see in the appendix part 1 means that we reject the null hypothesis at 10% level and conclude that claims are statistically significant and has a positive effect on corporate social responsibility for the reviewed banks. This implies that for every one unit increase in claims there is a 64687.53 increase on the CSR.

In the same vein, the Non-performing loans (**$\beta = -2.93, P < 0.10$**) as seen in appendix part 1 means that we reject the null hypothesis and conclude that Non-performing loans has statistically significant but has a negative effect on corporate social responsibility for the he reviewed banks.

Summarily, since the variables under study are statistically significant implying that a unit increase in the independent variable result to a respective increase CSR except for NPL that has a negative association with CSR meaning that the much the NPL the lesser or inability of the banks to respond to CSR of Ghana country. This informs the bank to beef up their debt strategy so as to respond positively to their environments.

Summary of Findings

Based on the above analysis, we can summarize the key findings as follows: forensic accounting and integrated financial reporting have a significant relationship in Ghana. This suggests that, despite the difficult task associated with it, forensic accounting is a very appropriate approach to be considered in order to have good integrated financial reporting, which agrees with the literature as forensic accounting alternatively called investigative accounting or financial inquiry, can be said to be a new specialty in accounting domain as Africa is concerned and it sprang up based on essence to ensure all total quality reporting.

In Nigerian banks, litigation is statistically significant with a positive effect on the CSR while in Ghana banks Claims and Non-Performing loans, have an effect on the CSR, with claims having a positive effect and non-performing loans having a negative statistically significant effect on CSR.

Recommendations

Based on this finding, the study recommends amongst others;

1. To prevent and detect fraud, all banks must have appropriate and independent forensic accounting, as well as well financial reporting.
2. The central bank of Nigeria and Bank of Ghana - Central bank should as a matter of urgency recommend forensic accounting in order to have unbiased integrated financial reporting.
3. The Nigerian banks should maintain a suitable litigation base to avoid mixed feelings
4. Banks in Ghana have a massive non-performing loan profile, which has a detrimental effect on their performance. To resolve this, there should be a proper loan recovery strategy, forensic accounting should be used always.

Contribution to Knowledge

This study contributes by extending the boundaries of knowledge in understanding the effect of forensic accounting on IFR to Ghanaian banks. It is the first time ever novelty to consider Ghana with veritable variables such as Non-performing loans, Claims and indemnity, fraud cases reported, and CSR which is an evolving trend. However, these variables had different substantial and significant impacts. It integrated the policeman among others as being paramount for ensuring safeguard of quaternary information. See

$$IFR_{IT} = \beta_0 + \beta_1 L_{it-1} + \beta_2 C_{it} + \beta_3 FCR_{it} + \beta_4 CFI_{it} + \beta_5 NPL_{it} + \varepsilon_{it}$$

$$CSR_{IT} = \beta_0 + \beta_1 L_{it-1} + \beta_2 C_{it} + \beta_3 FCR_{it} + \beta_4 CFI_{it} + \beta_5 NPL_{it} + \varepsilon_{it}$$

Suggestion for Further Research

Based on our findings, the researchers suggest that the study of forensic accounting and integrated financial reporting of selected banks in this countries be extended to other countries and sectors of such as Agric- allied, Servicing, Manufacturing, ICT, Taxation, the oil and Gas sector, among others to see if same result will be achieved.

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COMPARATIVE ANALYSIS OF FORENSIC ACCOUNTING AND INTEGRATED FINANCIAL REPORTING OF...

Appendix

Random-effects GLS regression
 Group variable: Banks

R-sq:	Number of obs = 153
	Number of groups = 9
	Obs per group:
within = 0.5104	min = 17
between = 0.7305	avg = 17.0
overall = 0.5471	max = 17
	Wald chi2(5) = 163.44
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.0000

CSR	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
CostofForensicAccountingBill	Litigation	2.337107	.1872773	12.48	0.000 1.97005 2.704163
	Claims	.0404118	.5884883	0.07	0.945 -1.113004 1.193828
	Fraudcasesreported	-.0000348	.0000298	-1.17	0.243 -.0000933 .0000236
	nonperformingloans	-.073693	.2312484	-0.32	0.750 -.5269315 .3795455
	_cons	-.2817548	.277203	-1.02	0.309 -.8250626 .261553
		38.33624	8.546358	4.49	0.000 21.58569 55.08679
sigma_u	2.8589442				
sigma_e	9.5075064				
rho	.08292456	(fraction of variance due to u_i)			

— Coefficients —				
	(b) fixed	(B) random	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
Litigation	-.3769666	-.3931256	.0161591	.
Claims	64687.53	-6.167134	64693.69	33013.07
Fraudcases~d	-.2582225	-.2517658	-.0064566	.
CostofFore~l	-60.41847	11.6602	-72.07867	36.75423
nonperform~s	-2.933975	-2.826263	-.1077114	.

b = consistent under H₀ and H_a; obtained from xtreg
 B = inconsistent under H_a, efficient under H₀; obtained from xtreg

Test: H₀: difference in coefficients not systematic

$$\begin{aligned}
 \text{chi2}(1) &= (\mathbf{b} - \mathbf{B})'[(\mathbf{V}_b - \mathbf{V}_B)^{-1}](\mathbf{b} - \mathbf{B}) \\
 &= 3.84 \\
 \text{Prob}>\text{chi2} &= 0.0500
 \end{aligned}$$

Random-effects GLS regression
 Group variable: Banks

R-sq:	Obs per group:
within = 0.0258	min = 17
between = 0.1498	avg = 17.0
overall = 0.0348	max = 17
Wald chi2(5) = 797.11	
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.0000

CSR	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
Litigation	-.3931256	.6659981	-0.59	0.555	-1.698458 .9122066
Claims	-6.167134	9.317222	-0.66	0.508	-24.42855 12.09429
Fraudcasesreported	-.2517658	.1816439	-1.39	0.166	-.6077813 .1042497
CostofForensicAccountingMill	11.6602	8.358658	1.39	0.163	-4.722465 28.04287
nonperformingloans	-2.826263	1.540562	-1.83	0.067	-5.845709 .1931823
_cons	0 (omitted)				
sigma_u	6.4568108				
sigma_e	11.141305				
rho	.25142105	(fraction of variance due to u_i)			

. xtreg CSR Litigation Claims Fraudcasesreported CostofForensicAccountingMill nonperformingloans, fe

Fixed-effects (within) regression
 Group variable: Banks

R-sq:	Obs per group:
within = 0.0878	min = 17
between = 0.1403	avg = 17.0
overall = 0.0142	max = 17
F(5,123) = 2.37	
corr(u_i, Xb) = -0.9291	Prob > F = 0.0433

CSR	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Litigation	-.3769666	.6520814	-0.58	0.564	-1.667722 .9137886
Claims	64687.53	33013.07	1.96	0.052	-659.8306 130034.9
Fraudcasesreported	-.2582225	.177701	-1.45	0.149	-.6099707 .0935258
CostofForensicAccountingMill	-60.41847	37.69272	-1.60	0.112	-135.0289 14.19195
nonperformingloans	-2.933975	1.507913	-1.95	0.054	-5.918797 .0508471
_cons	-893954.2	456167.2	-1.96	0.052	-1796909 9000.868
sigma_u	19.38058				
sigma_e	11.141305				
rho	.75161128	(fraction of variance due to u_i)			