The effects of IFRS Compliance on earnings reporting quality of financial firms in Ghana

*William Coffie[a], Mohammed Amidu[a], Patience Abor[a], Ibrahim Bedi[a]

Abstract

Purpose: We investigate whether compliance with International Financial Reporting Standards (IFRS) is associated with earnings reporting quality of financial firms operating in Ghana. Our paper is based on the premise that complying with International Financial Reporting Standards reflects the combined effects of the financial reporting framework of applying the standards, their interpretation and enforcement.

Methodology: With sample size of 51 financial firms made up of both listed and non-listed firms, we modelled earnings reporting quality as a function of IFRS compliance and relevant control variables using dichotomous logistic regression.

Findings: Contrary to our hypothesis, IFRS compliance has a positive coefficient with our earnings management proxy for reporting quality. The positive coefficient infers higher earnings management and thus, lower earnings reporting quality with the new reporting standards. Our result suggests that the application of IFRS does not necessarily improve the quality of financial reporting among Ghanaian financial firms. The result contradicts the idea that IFRS adoption eliminates certain accounting alternatives, thus reducing managerial discretion, which in turn limits the extent of opportunistic earnings management and thereby improving reporting quality.

Research Limitations/implications: Our sample is limited by industry (i.e. the financial services industry) and geography (i.e. Ghana). We suggest further research that will widely consider other sectors as well as countries in order to widen the industry specific literature in this area. Besides, theoretically, our study is limited to the agency theory and we feel compelled to reiterate the importance of considering alternative theories.

Practical implications: Our results demonstrate that the compulsory adoption of IFRS by financial firms in Ghana has not yielded positive outcome in terms of the reporting quality of the firms. Besides, the results provide information to International Accounting Standards setters on how effectively the standards they set meet intended objective of improved reporting quality.

Originality: Our results extend prior research on IFRS based accounting quality in uncharted industry in Ghana. We use two different quality metrics drawn from common time period. Unlike prior research, our paper considers both listed and unlisted firms. Besides, we present the sensitivity of accounting reporting quality to IFRS compliance, firm size and audit quality as a transmission mechanism as well as robustness check.

[a]University of Ghana Business School, P. O. Box LG78, Legon, Accra, Ghana
Corresponding author: William Coffie

1. Introduction

Global harmonization of National Accounting Standards has taken the centre stage of affairs over the past decade engaging the attention of both academics and practitioners (Prather-Kinsey, 2006; Yaacob & Che-Ahmad, 2012). The main aim of International Accounting Standards Board (IASB) is to meet the growing demand for high quality information that can assist users to make informed decisions as well as preparers of financial statements. For instance, standard setters claim that IFRS produces highly reliable, transparent and timely financial statement information, compared to the national standards they substituted in majority of the jurisdictions adopting them (Ball, 2006). The IFRS harmonized all various national standards by removing permissible alternative accounting measurements which in turn increase accounting quality because it limits opportunistic discretion by management in determining accounting numbers.

The European Union (EU) for example, embraced this new reporting framework in 2005, with the aim of improving the quality of financial reporting and comparability across nations (Paglietti, 2009; Soderstrom & Sun, 2007). Daske *et al.* (2008) opine that IFRS adoption will lead to improved transparency, higher quality financial reporting and effectively enhancing firm information environment. Proponents such as Christensen (2012) claim that the new accounting standards improve transparency over National Accounting Standards. Extant literature offers several pieces of evidence consistent with the aforementioned argument by proponents. For example, Barth *et al*. (2008) found that IAS/IFRS represent superior accounting standards in comparison to domestic accounting standards in that, firms applying IFRS generally demonstrate less earnings management, more timely loss recognition and more value relevance of accounting figures. According to Tyrrall *et al.* (2007), cited in Yaacob and Che-Ahmad (2012), IFRS enhances the perceived quality and status of financial reports, eliminates set up costs by National Standards Setters and increases the efficiency of domestic and global financial markets as a result of enhanced transparent and value relevant financial statements. A study by Ovute and Eyisi (2014) on the problems and prospects of IFRS adoption in Nigeria, documented that adoption of International Financial Reporting Standards attracts more interest of international investors in investing into IFRS compliant firms.

In the financial market, particularly in the banking sector, evidence exists that the banks charge relatively lower loan rates and apply conditions that are more favourable to IFRS adopters than to non-adopters (Kim, Tsui & Yi, 2011). Again, the study found that banks tend to give IFRS compliant firms huge loans with extended payment period. In the area of market liquidity and cost of borrowing, prior literature suggests that the introduction of IFRS on average leads to an enhanced market liquidity, reduction in firms' rate of return and an increase in equity valuations (Daske *et al.,* 2008). Ghana in 2007, adopted the IFRS with the view that it will lead to a higher reporting quality than those based on the Ghana National Standards (GNS). Our study therefore, examines the effects of IFRS adoption on reporting quality concentrating on the financial firms which were mandated by regulators to adopt.

Studies on the effect of the new standards on reporting quality of financial firms is scanty (Callao & Jarne, 2010; Van Tendeloo & Vanstraelen, 2005; Vander Bauwhede *et al*., 2004) as financial institutions are "different" i.e. have different practices and structures, resulting from their sector-specific accounting procedures and their special supervisory treatment (Manganaris, Spathis, &

Dasilas, 2015). The impact of IFRS compliance on reporting quality is widely acknowledged, however there is still dearth of literature in very crucial areas. The lack of research specifically on the banking sector in developing countries and the findings that reveal the impact of the IFRS adoption on the financial institutions support the need for our study.

Furthermore, while some researchers find improvement in reporting quality in some jurisdictions that comply with International Financial Reporting Standards (Meeks and Swann 2009; Chen *et al*., 2010; Chua *et al*., 2012), others do not see any significant improvement in reporting quality (Kao and Wei, 2014; Jeanjean and Stolowy, 2008). Alternative streams of study find improvement in reporting quality with the adoption of International Accounting Standards (Barth *et al*., 2008; Soderstrom and Sun, 2007), however are quick to indicate other factors that contribute to the improvement of reporting quality. Turning to Ghana, Amidu *et al*. (2016) conducted a study and their results suggest that IFRS compliance leads to relatively high-quality reported earnings. Given the contradictions in the literature, our question is, does IFRS compliance indeed improve the reporting of accounting numbers (i.e. financial reporting quality) among the financial firms in Ghana?

Our paper contributes to the accounting literature examining the quality of IFRS compliant accounting numbers in diverse ways. Firstly, we use a broad sample of firms over several years concentrating on the financial services industry. As documented by previous studies such as Morgan (2002) and Flannery *et al*. (2004), financial statements of financial firms are more opaque than their non-financial counterparts as it is difficult to monitor from outside loans, financial assets and intermediation risk. It has become more critical to study the relationship between reporting quality and financial institutions following the recent global credit derivatives meltdown originated by financial institutions. The credit derivatives turmoil stressed the importance of internal and external control mechanisms in the financial services industry. This is in part due to the inherent opacity of banks arising from their intermediation role as providers of liquidity (Fosu et al, 2017 & Diamond, 1984). Increased sophistication in bank business models has heightened the problem of bank opacity (Morgan, 2002; Flannery et al., 2004). Consequently, evaluating financial reporting quality plays an important role in such an opaque environment in mitigating information asymmetries. Furthermore, the Financial sector was one of the first sectors in Ghana to fully implement the IFRS effective 2007 after it was officially adopted in the same year. The Bank of Ghana (the regulator) made it mandatory for the banking industry. This was necessary considering the crucial role played by the financial institutions to the economic development of Ghana. We argue that Ghana is suitable for our study because the Ghanaian banking as well as the listed firms are obliged to adopt IFRS and therefore, allows us to examine the reporting quality effect of the mandatory adoption of the new accounting standards.

Secondly, the paper identifies that IFRS adoption might not eliminate earnings management through reporting quality. This phenomenon might be so in Sub Saharan Africa because of inadequate financial reporting expertise, weak external audits and poor corporate governance structures. The phenomenon can also be attributed to poor banking and insurance supervision in Ghana - the regulatory bodies have inadequate and inexperienced staff to enforce IFRS compliance (World Bank Report, 2004). Currently, the banking sector in Ghana is experiencing corporate governance and related parties' scandals leading to the collapse of seven banks in 2018. Board members of major banks have misappropriated customers' deposit in related party's entities as

well as for private gains. IFRS compliance would have averted such issues if supervision, auditing and reporting have been effective. Thirdly, we use two different quality metrics drawn from common time period. Besides, we did not only test the quality of IFRS compliant reporting with combined sample from the financial services industry but disaggregate the data into banking and insurance firms. Furthermore, unlike prior research, our paper considers both listed and unlisted firms. Finally, we present the sensitivity of accounting reporting quality to IFRS compliance, firm size and audit quality as a transmission mechanism as well as robustness check.

Guided by our research question and hypothesis, we implement the logistic regression model to examine the effect of IFRS compliance on reporting quality taking cognizance of relevant control variables. Contrary to our hypothesis, IFRS compliance has a positive coefficient with financial reporting quality. Our result suggests that the application of IFRS does not necessarily improve the quality of financial reporting among Ghanaian financial firms. The relationship between IFRS compliance and reporting quality was found to be statistically weak for banks, while it shows significant relationship for insurance companies and the overall industry at a standard level. Our result is consistent with existing literature as Ahmed *et al*. (2013) found that IFRS adoption leads to a decreased reporting quality for a relatively broad set of firms from 20 countries that adopted IFRS in 2005 relative to a benchmark group of firms from countries that did not adopt IFRS. Furthermore, the result contradicts the idea that IFRS adoption eliminates certain accounting alternative, thus reducing managerial discretion which in turn limits the extent of opportunistic earnings management and thereby improving reporting quality.

The remaining sections of the paper are organized as follows. Section 2 provides theoretical and empirical review of literature with hypothesis development. In section 3, we present the data and empirical estimation strategy while in section 4, we discuss the empirical results. Section 5 concludes the paper.

2 Literature Review
This section provides a review of salient theoretical and empirical literature on the linkage of financial reporting quality and adoption of International Financial Reporting Standards.

2.1 Theory underpinning reporting quality
The adoption and implementation of IFRS in this paper is therefore considered as a corporate control mechanism, specifically, monitoring mechanism intended to limit the opportunistic actions of managers and reduce the information asymmetry problems inherent in agency relationships through quality reporting. This study therefore employs agency theory (Jensen & Meckling, 1976) to examine how the adoption of IFRS, which is deemed to bring transparency, accountability and efficiency to financial markets around the world may have contributed to improving or worsening opportunistic actions of agents and the information asymmetric problems associated with agency relationships. The purpose of this study is therefore to examine the role of IFRS compliance in reducing the agency cost (including the conflict of interest that exists between owners and managers) of organizations in Ghana through transparent reporting.

2.2 Empirical literature

There is a substantial literature that examines accounting quality in association with the application of accounting standards. In the following sub-sections, we review empirical literature on IFRS compliance and financial reporting quality.

Barth *et al.* (2008) examined whether the adoption of International Accounting Standards (IAS) improves financial reporting quality than the application of non-US domestic standards. Specifically, the authors investigated whether the accounting amounts of companies that apply IAS show less earnings management, higher value relevance and more timely loss recognition than companies that do apply local standards. Their results show that firms applying IAS from 21 countries show less earnings management, more value relevance of accounting amounts and more timely loss recognition than those applying non-US domestic standards. The authors further document that IAS firms show higher accounting quality between the pre- and post-adoption periods.

Using a sample of German firms, Hung and Subramanyam (2007) investigated the financial statement implications of the application of IAS. In particular, the authors compared the value relevance of the IAS and the German GAAP by regressing stock prices on book values and net incomes. Their study documents that total assets and book value of equity, as well as differences in book value and net income, are significantly lower under German GAAP than under IAS. They further find that book value plays a more important valuation role under IAS than the domestic standards, even though no evidence suggested that the relative value of book value and net income had improved by using IAS. However, Bartov *et al.* (2005) provided contrary evidence when they compared the value relevance of IAS, US GAAP and German GAAP for firms listed on the German Stock Exchange. Their findings suggest that earnings based on IAS and the US GAAP are more value relevant than earnings based on the German GAAP.

Alali and Foote (2012) examine the value relevance of accounting information under IFRS of firms traded on the Abu Dhabi Stock Exchange. Their results from the study show a significant positive association between accounting information based on IFRS and market values. They further find that the value relevance of accounting information improve significantly from 2000 to 2004. However, in 2005 and 2006, accounting information reported using IFRS appear to have less value relevance. The authors argue that the loss in value was due to a bearish market which was characterised by rumours and investors' speculations. They recommend that in order for investors to trust and use accounting information, robust regulations and enforcements is required.

Bryce *et al*. (2015) provide further evidence of IFRS adoption and reporting quality when they examine whether accounting quality had improved following the adoption of IFRS in Australia for the period 2003 to 2008. All financial information data of the 200 firms with 1200 firms-years were collected from the OSIRIS and Bloomberg database. They further investigate whether audit committees are more effective in promoting accounting quality under IFRS than previous Australian GAAP. Employing univariate and multiple regression models to test their hypotheses, their results suggest that accounting quality has not significantly improved following the adoption of IFRS in Australia. They further find that audit committees are more effective under IFRS than under the previous Australian GAAP.

The results in Bryce *et al*. (2015) are consistent with that of Goodwin *et al.* (2008) and Chalmers *et al*. (2008) who also consider the effects of IFRS adoption on the quality of accounting information. Goodwin *et al*. (2008) find that accounting quality remains stable after the adoption of IFRS in Australia. Similarly, Chalmers *et al.* (2008) report no evidence of change in the value relevance of accounting information after IFRS had been applied in Australia. However, similar studies within the Australian setting on the effect of IFRS on accounting quality reported contradictory results. Chalmers *et al*. (2011) and Jin *et al*. (2015) find an improvement in financial statement numbers after the adoption of IFRS.

Eng *et al*. (2014) examine whether accounting numbers reported based on IFRS by firms cross-listed in the United States are comparable with those reported under U.S. GAAP. They compare the explanatory power of price, return, and cash flow models, timeliness in reporting, accrual quality, and predictive power of accounting of the two samples of firms. They find that value relevance, timeliness, and accrual quality of accounting figures under U.S. GAAP are not significantly different than those based on IFRS. The two accounting standards are comparable in predictive power after 2007. In fact, the result does not suggest significant differences in accounting quality between reporting under U.S. GAAP and IFRS.

Christensen *et al.* (2015) examine the impact of managerial financial reporting incentives on accounting quality changes with German firms following IFRS adoption. Applying the methodology in Barth *et al.* (2008) they find that accounting quality improvements following IFRS adoption are confined to firms with incentives to adopt. They conclude that incentives dominate accounting standards in determining accounting quality. Furthermore, they find a decrease in earnings management and increase in timely loss recognition after the voluntary IFRS adoption. On the other hand, the study find no quality enhancement for firms that resisted IFRS until 2005. Their results further indicate that firms that resist IFRS adoption have closer connections with banks.

Liu and Sun (2015) examine whether the mandatory adoption of IFRS affect the earnings quality of Canadian public firms. They compare the pre-IFRS and the post-IFRS earnings quality, as measured by discretionary accruals, performance-matched discretionary accruals, small positive earnings, earnings persistence, and the earnings response coefficient. Their results suggest no significant difference in discretionary accruals, performance-matched discretionary accruals, the likelihood of small positive earnings, and the earnings response coefficient between the pre-and post-IFRS periods. They conclude that Canadian firms did not experience improved earnings quality following the adoption of IFRS.

El-Sayed (2016) contributes to IFRS-reporting quality debate by examining whether the mandatory adoption of IFRS enhances accounting quality in Egypt. Specifically, he investigates whether the mandatory adoption of IFRS in Egypt reduces earnings management practice. His results suggest that accounting quality, as measured by earnings management, has decreased in post-adoption period compared to pre-adoption period. The author recommends a more effective enforcement system, mandatory corporate governance regulations, investor protection mechanisms and sufficient institutional knowledge of IFRS for the full benefits of IFRS to be realized.

Ahmed *et al*. (2013) examine the effects of mandatory IFRS adoption on three groups of accounting quality metrics: income smoothing, reporting aggressiveness, and earnings management to meet or beat a target. The sample included 16,310 firm-year observations for 3,262 unique firms during the before-IFRS period (2002-2004) and after-IFRS period (2006-2007) across 20 countries. Their results suggest that accounting quality decreased after mandatory IFRS adoption. Also, they find that the effects hold largely for IFRS adopters in strong enforcement countries.

Brüggemann *et al*. (2013) examine empirical literature on the economic consequence of mandatory IFRS adoption in the European Union. They categorized the economic consequence into two groups. There are those that affect the stated objectives of the regulator and those that do not. Thus, the intended and unintended consequence of IFRS adoption. The results from their empirical review show that, the unintended consequence of IFRS adoption is a fruitful research area. However, although, there is rich and unanimous evidence of the positive effects on the capital market at the macro level, evidence from the intended consequence of IFRS adoption fails to document an increase in the transparency of financial statements. De George *et al*. (2016) provide a comprehensive and cohesive picture of the empirical archival literature relating IFRS adoption across several countries. They find an evidence on the improvement in capital market outcomes and reporting quality after the adoption of IFRS. However, there is inconclusive results as to whether the improvement is attributable to IFRS itself or institutional changes or both. They further indicate that simply harmonizing accounting standards does not appear to achieve full comparability in financial reporting.

2.3 Measures of Earnings Reporting Quality
Basically, financial statements are the means through which management display accountability of management of resources entrusted to them. Financial statements show the results of the stewardship of management. Management mostly report their performance to shareholders/investors in the form of earnings through the financial statements. The main objective of financial reporting is to provide information about an enterprise's performance provided by measures of earnings and its components.

In general, accounting income/earnings is an instrument for evaluating financial reporting (Ball & Shivakumar, 2005). Accounting earnings play a very crucial role especially in pricing securities (Defond & Park, 2001).Therefore, the quality of the financial report would basically depend on the quality of the earnings reported to shareholders and other users. But then the quality of a firm's earnings is also a function of the firm's financial performance and the accounting system that measures it (Dechow *et al*., 2010). Penman (2002) considers earnings quality as an important feature of financial reporting in that investors buy future earnings. Ames (2013) describe earnings quality as one of the major components of reporting quality based on the notion of accounting quality as suggested by Penman (2002).

Accounting literature is replete with definitions of earnings quality. The term earnings quality is also vague and has different interpretations. Dechow *et al*. (2010) attribute the lack of single conclusion on the definition of earnings quality to "quality" because "quality" is contingent on

decision context. The study however emphasised that earnings quality depends on the firm's fundamental performance. In broad terms, "Higher quality earnings provide more information about the features of a firm's financial performance that are relevant to a specific decision made by a specific decision maker." The study added that "quality" of earnings is a feature of the firm's fundamental performance.

Cohen (2003) describes earnings quality as the ability of reported earnings to predict a company's future earnings or the degree to which reported earnings faithfully represent the economic implications of the underlying transactions and events. Thus, high-quality reported earnings represent earnings that are that are highly associated with future operating cash flows. In agreement with this view, Dechow and Dichev (2002) also define earnings quality in terms of the association between accruals and cash flows. Chan *et al*. (2004) (quoted in Morais & Curto, 2008) interpret earnings quality as the degree to which the reported earnings reflect the operating fundamentals of the firm. According to Yee (2006), earnings quality refers to the speed and accuracy with which reported earnings reveal fundamental earnings. Thus, the higher the quality of earnings, the more quickly and precisely reported earnings convey shocks to the present value of expected dividends.

The instrument for measuring quality varies across literature. Mostly researchers have measured quality along the lines of primary qualitative characteristics (relevance and faithful representation) as well as the secondary characteristics (understandability, comparability, verifiability and timeliness) of accounting information. Most researchers have used various proxies for measuring ''earnings quality'' including persistence, accruals, smoothness, timeliness, loss avoidance, investor responsiveness, and other external indicators of quality (Dechow *et al*., 2010).
Traditionally, earnings quality has been measured in the literature by the investigation of three dimensions: earnings management, timely loss recognition, and value relevance (Barth *et al.*, 2008; Morais & Curto, 2008). Financial reporting quality shall be taken as earnings management for the purpose of this study sharing in the view by (Barth *et al.*, 2008) that the level of accounting quality can be influenced by managers' opportunistic discretion and non-opportunistic error in estimating accruals.

A method of determining the quality of reported earnings is to determine the degree to which earnings are managed, with the motive of 'either misleading some stakeholders regarding the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy & Wahlen, 1999).

2.4 Earnings Management
Earnings management is the intentional, deliberate, misstatement or omission of material facts or accounting data, which is misleading and when considered with all the information made available would cause the reader to change or alter his/her judgement or decision (National Association of Certified Fraud Examiners, 1993, 12) (quoted in Dechow & Skinner,2000)**.**

Anecdotal evidence and several recent studies provide enough evidence to suggest that managers have a strong incentive to maintain a consistent pattern of earnings increases over a period. Existing literature documents that the motivation for managers to consistently report increases in earnings stem from the fact that firms that maintain a consistent and established pattern of

earnings growth, command a higher price-to-earnings increases multiples with even a higher premium when the pattern is sustained for a longer period (Barth and Landsman, 1995) (cited in Burgstahler & Dichev, 1997). The study again, found that this premium is completely lost or dramatically reduced when the established pattern is interrupted. DeAngelo *et al*. (1996) in support of this argument postulate that firms that experience an interrupted pattern of earnings increases all things being equal, will experience an average of 14% decline in stock return in the year the pattern is broken. These and other factors serve as a strong incentive for managers to manage earnings to avoid the reporting of losses or earnings decreases. It is conjectured that the most likely area to find earnings management is in the area of loss-avoidance or just meeting or beating prior year's results. Burgstahler and Dichev (1997) therefore suggested that an alternative to examine the extent of earnings management is to determine the frequency of small positive earnings.

This study therefore employs earnings management as a proxy to measure the reporting quality of financial institutions in Ghana. The study employs two traditional proxies of earnings management, managing earnings to avoid losses (*LA*) and managing earnings to just meet-or-beat the prior year's earnings or earnings management to avoid earnings decreases (*JMBE*). These models are expected to capture the tendency of managers to exercise their discretion to manage reported earnings. Specifically, the study measure earnings management behaviour of managers through benchmark beating models, i.e. loss avoidance (*LA*) and just meet-or-beat earnings (*JMBE*).

The presence of earnings management is assumed to deplete the quality of the earnings (Dechow *et al*., 2010). For the purpose of this study an unmanaged earnings is considered as a proxy for high quality earnings. However, evidence of earnings management is taken as an indication of low earnings quality. Several measures have been adopted to determine the level earnings management (Barth *et al*., 2008; Morais & Curto, 2008). Our proposition is that since IFRS is intended to improve quality in earnings, and per our proxy for earnings quality i.e. earnings management, we should expect an inverse relationship between IFRS adoption and our earnings quality proxy. Therefore, a negative(positive) IFRS dummy coefficient infers lower(higher) earnings management with the new reporting standards. *We hypothesize that there is a positive relationship between IFRS compliance and earnings reporting quality*. We estimate logistic model relating earnings threshold indicator to the dummy of IFRS financial statements. The indicator of earnings threshold reflects the likelihood that managers manage earnings for benchmark beating behaviour.

3. Evaluating methodology
This section seeks to address the source of data collection, sample and the criteria used to select the sample from the population, measurement of estimation variables and descriptive statistics.

3.1 *Data and sample*
The sample for this study is selected from a total of 267 bank and non-bank financial institutions in Ghana. The banking industry is made up of 27 universal banks, 137 rural and community banks, and 58 non-banking financial institutions including finance houses, savings and loans, leasing and mortgage firms (PWC, 2014). Insurance companies are made up of nineteen (19) life insurance firms and twenty-six (26) non-life insurance firms (National Insurance Commission, 2015). The sample selection covers firms with at least two years application of the local standard: Ghana

National Accounting Standard (GNAS) in Ghana and subsequent post- application of the new standard (IFRS) for at least two years. By this criteria 137 rural and community banks, and 58 non-banking financial institutions including finance houses, savings and loans, leasing and mortgage firms were excluded from the study due to failure to adopt and comply with the new standard (IFRS). Further, 4 universal banks and 17 insurance companies have also been excluded from the study due to unavailable data. In all a total of 216 firms have been excluded from the sample leaving a final sample size of 51 firms made up of both listed and non-listed firms for this study which entails 23 universal banks and 28 insurance companies. Our study period is from 2003 to 2014 to capture pre and post adoption periods. This study uses secondary data from annual financial statements of banks and insurance companies selected for the study. The data was extracted from the audited annual financial statements of the selected companies over the study period.

Table 1: Variable Definition and Measurement

Variable	Definition
$EB_{i,t}$	Earnings benchmark indicator (*LA* or *JMBE*). Loss Avoidance (*LA*) is an indicator variable taking the value one if the bank has a small *ROA* (income before taxes scaled by total assets) in the interval between 0 and .002 and Just Meet or Beating Earnings (*JMBE*) is an indicator variable, taking the value 1 if the change in *ROA* is in the interval between 0 and 0.0005, zero otherwise.
$IFRS_{i,t}$	Dummy variable, taking the value 1 if bank is an IFRS compliant, and zero (0) otherwise.
$SIZE_{i,i}$	Natural logarithm of total assets
$GROWTH_{i,t}$	Percentage growth in total assets from the beginning to the end of the period.
$LOANS_{i,t}$	Gross loan balance scaled by total assets at the beginning of the period
$LEV_{i,t}$	End of year total liabilities scaled by assets at the end of the period
$CFO_{i,t}$	Change in cash flows from operations from the beginning to the end of the period, scaled by total assets at the beginning of the period
$ALLOW_{i,t}$	Allowance for loan losses at the end of the period, scaled by total assets at the beginning of the period
$BIG4_{i,t}$	Auditor type which equals1 if the current auditor is a BIG4 or 0 otherwise
$EFF_{i,t}$	Efficiency computed as ratio of total operating expense to total revenue.

The dependent variables are two earnings quality benchmark, i.e. *LA* and *JMBE*, which measure financial reporting quality from two dimensions. *IFRS* connotes the compliance with international financial reporting standards and is measured as a dummy variable with value of 1 for IFRS compliance firm and 0 otherwise. *SIZE* is firm size and is measured as the natural log of the firm's total assets. Efficiency (*EFF*) is computed as ratio of total operating expense to total revenue. *BIG4* is audit quality and is measured as dummy variable with a value of 1 if a Big 4 audit firm audits the firm, otherwise 0. *ALLOW* is allowance for loan losses at the end of the period, scaled by total assets at the beginning of the period. *CFO* is change in cash flows from operations from the beginning to the end of the period, scaled by total assets at the beginning of the period. *LOANS* is the gross loan balance scaled by total assets at the beginning of the period. *GROWTH* is the

percentage growth in total assets from the beginning to the end of the period. ***LEV*** is the Leverage of the firm and is measured as the ratio of total liabilities to total assets.

3.2 Descriptive statistics
Table 1 presents the descriptive statistics of the dependent and independent variables used in the regression modelling. Specifically, it shows the mean and standard deviation of all the variables used in the study as well as the number of firm-year observations over the sample period. The statistics are based on the combined data (industry) except *LOANS* and *ALLOW* which are for banks only, for the reason that these two variables are not relevant to insurance in our study. The following observations are worth noting. The mean earnings benchmark of *LA* is 0.0803 and that of *JMBE* is 0.0763 with standard deviations of 0.2723 and 0.2660 respectively.

The average size of sampled companies is 7.8665 whiles the mean score for leverage is 0.7617 but a maximum leverage of 9.9346 suggests that some companies have a higher debt than their total assets. *GROWTH* and *EFF* both record a mean of 0.5136 and 0.4589 with standard deviations of 1.5355 and 0.4428 respectively, while *IFRS* and *BIG4* records an average of 0.4698 and 0.6434 with standard deviations 0.4996 and 0.4794 respectively. The mean of *CFO* is 0.0382 with a variation of 0.4662. Turning to the two bank only variables, *LOANS* and *ALLOW* both record an average of 0.7374 and 0.0589 with standard deviation of 0.5515 and 0.0912 respectively.

Insert Table 1: Descriptive statistics

3.3 Empirical estimation method
Following our discussion and the hypothesis in section 2, we conditioned earnings reporting quality on IFRS compliance. Taking guidance from this and controlling for other variables as in Cameran et al. (2014) and Barth *et al.* (2008) we model earnings reporting quality as a function of IFRS compliance and relevant control variables. Guided by our hypothesis, our study employs equations 1, 2 and 3 to test for banks, insurance firms and the financial services industry respectively as below.

$$EB_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \sum_{j=3}^{k} \alpha_j X_{ij} + \varepsilon_{it} \qquad\qquad 1$$

$$EB_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \sum_{j=3}^{k} \alpha_j X_{ij} + \varepsilon_{it} \qquad\qquad 2$$

$$EB_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \sum_{j=3}^{k} \alpha_j X_{ij} + \varepsilon_{it} \qquad\qquad 3$$

X_{ij} is a group of $\{k\}$ variables to control for other relevant firm characteristics that might explain earnings reporting quality. We implement the binary logistic regression model in equations 1-3 to examine the effects of IFRS compliance on earnings reporting quality. With logistic regression, the binary dependent variable i.e. earnings reporting quality which takes the value of 0 and 1 are asymptotes and never actually fall to exactly zero or rise to one, although they may come infinitesimally close.

4.   **Empirical results and analyses**

This section presents results in three parts. The first part analyses the distribution of annual earnings of financial institutions operating in Ghana. The net income is scaled by total assets of the firms for the period 2003-2014. The results from the first part are then used in the second part to test the response of firms' reporting quality to adoption while controlling for specific variables. The third and the final subsection analyses the change in earnings quality in response to a change in audit fees of financial firms.

4.1 Do financial firms in Ghana manage earnings to exceed thresholds?

This subsection analyses the results with the aim of identifying whether or not sample firms operating in Ghana engage in earnings management. We group the firms on the basis of the sector they operate in. The groupings are either the firms are banking firm, or insurance or both banks and insurance. This categorization of the sample is to allow us to examine whether there are sectorial differences as to how firms manage their earnings over time. To begin with, Figure 1 presents the earnings histogram of selected firms. The earnings are scaled by total assets. The results of the histogram of sample firms' earnings show a half-normal distribution shape for all the sample, except those banks operating in the, exhibit half bell-shaped distribution. We draw two inferences from these particular results. First, the half bell-shaped of majority of banks earnings shows that distribution of earnings differs from one bank to the other. Second, even for those that do not clearly exhibit this half-normal distribution, the left hand of the distribution is withered for the others firms. These results provide us with the important stylised facts and motivate us to further investigate whether or not financial firms in Ghana manage earnings and whether the adoption of international standards improve the earnings quality of these firms.

4.2 Evaluation of reporting quality and IFRS compliance

The study examines the effect of IFRS compliance on financial reporting quality of financial firms in Ghana. We measure financial reporting quality using two different earnings benchmark indicator, i.e. loss avoidance (*LA*) and just meeting or beating expectations (*JMBE*). The earnings benchmark indicator reflects the likelihood that managers manage earnings for benchmark-beating behaviour.

Insert table 2: IFRS compliance and reporting quality

We report the estimation results of the logit models relating an earnings benchmark (*EB*) indicator to IFRS compliance financial statements and to a set of control variables in Table 2. Contrary to our expectation, IFRS financial statements has a positive coefficient with earnings management as measured by *LA* and *JMBE,* and therefore, inverse relationship with earnings quality. Our result suggests that the application of IFRS does not necessarily improves the quality of earnings amongst Ghanaian financial firms. The relationship between IFRS compliance and earnings quality proxy is statistically insignificant for banks, while it shows significant relationship for insurance companies and the overall industry at 1% level. Our finding is consistent with existing literature as Ahmed *et al*. (2013) find that IFRS adoption leads to a decreased reporting quality for a relatively broad set of firms from 20 countries that adopted IFRS in 2005 relative to a benchmark group of firms from countries that did not adopt IFRS. Furthermore, considering country level study, our result is in line with existing findings as studies have found that IFRS adoption leads to a decreased earnings reporting quality, in Egypt (El-Sayed Ebaid, 2016), in Canada (Liu & Sun, 2015), and in Australia (Chalmers *et al*., 2008). The result contradicts the idea that IFRS adoption eliminates certain accounting alternative, thus reducing managerial discretion which in turn limits the extent of opportunistic earnings management and thereby improving reporting quality. The agency theory (Jensen & Meckling, 1976) suggests that managers have the motivation to follow self-seeking objectives to the disadvantage of shareholders. Such opportunistic managers' resort to

the abuse of flexibility in accounting principles to influence reported earnings thereby causing reported income to be larger or smaller than it would otherwise be to better reflect their individual incentives. Accordingly, to remove allowable accounting alternatives and ensure accounting measurements that better reflect a firm's economic performance, the IASB developed IFRS which is believed to be an internationally acceptable set of high-quality reporting standards to deal with the principal-agency conflict. However, our result and several others show that this cardinal aim of IFRS is defeated in several jurisdictions.

Turning to the control variables, firm size has a significant negative coefficient with earnings reporting quality irrespective of firms grouping (i.e. banks, insurance and industry).The magnitude of the association between firm size and earnings quality for insurance companies (with the exception of JMBE) and the overall industry is at 1% level of significance while banks reported a weak significance level of 10%. The negative relationship implies that bigger firms are less likely to engage in manipulating earnings for financial reporting purposes. This is consistent with prior findings that large firms are less likely to engage in earnings manipulation due to the fact that they are subject to more scrutiny by investors and financial analyst (Zhou and Elder, 2002). Nevertheless, our result is contrary to other findings such as that of Lobo and Zhou (2006) which suggest that larger firms may be more inclined to manipulate their earnings for financial reporting purposes because of the complexity of their operations which makes it difficult for users and regulators to detect misstatements. Leverage has an insignificant negative relationship with our earnings benchmarks irrespective of the firm groupings with the exception of *JMBE* for the industry which is significant at 1% level. The negative relationship implies that high levered firms have less appetite to engage in earnings manipulation, and that high levered firms are likely to be subjected to more scrutiny by investors and analysts and therefore, are less likely to engage in earnings manipulation (Zhou & Elder, 2002). Per our result, the negative relationship could be explained by the fact that managers have less opportunity to manipulate reported earnings in the presence of IFRS.

Furthermore, audit quality and efficiency have a positive relationship with earnings quality. The association between efficiency and reporting quality is significant at 5% for banking companies and the overall industry but insignificant for insurance companies. We do not however find any significant relationship between audit quality and reporting quality. This result implies that engaging big-4 firms and enhancing operating efficiency do not necessarily improves the quality of financial reporting amongst Ghanaian financial firms. Turning to *CFO*, we expect higher reporting quality to result in a negative relationship with change in cash flows from operations (*CFO*). The result shows that there is mostly a positive relationship between earnings benchmarks and *CFO* while *JMBE* for insurance and the industry have a very weak negative coefficients. The relationship between percentage *GROWTH* and reporting quality provide mixed results for our two quality metrics. For instance, *GROWTH* in bank assets has a positive association with *LA* while it is negatively related to insurance firms and the industry. Besides, *GROWTH* in bank assets has negative association with *JMBE* metric while it is positively related to insurance and the industry. The positive coefficients indicate that as firm's assets grow year-on-year there is the tendency to manipulate earnings. Turning to the two control variables for banks, i.e. allowance for loan losses (*ALLOW*) and the gross loan balance (*LOANS*) are negatively related to our earnings quality proxy. The results show that loan loss allowances and low-level loan balance(s) encourage earnings manipulation regardless of the metric used to measure earnings quality. Finally, the reporting

quality model shown in Table 2 reports a good fit with an F-statistic statistically significant at 1% level except for column 4, indicating the joint significance of the independent variables in explaining earnings reporting quality metrics.

4.3 Sensitivity of earnings quality to IFRS, firm size and audit quality

In this section, we present the sensitivity of earning quality in three dimensions. Firstly, we analyse the sensitivity of earnings quality to IFRS compliance and firm size. Secondly, in order to provide precise inference on the relationship between reporting quality and IFRS compliance, we interact audit quality with IFRS. Finally, we report the interaction of the firm size and the audit quality. This is to enable us to investigate whether the audit quality sensitivity to earnings reporting quality depends on the size of the firm. We establish that compliance of IFRS affects the earnings reporting quality, and that, the size of the firm and the quality of the audit influence the level of earnings quality of financial firms operating in Ghana. We now present evidence of how IFRS affect earnings reporting quality using firm size and audit quality as a transmission mechanism by executing the following regression model.

$$EB_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 SIZE_{it} + \beta_3 IFRS_{it} * SIZE_{it} + \beta_4 IFRS_{it} * BIG4_{it}$$
$$+ \beta_5 SIZE_{it} * BIG4_{it} + \sum_{j=6}^{k} \alpha_j \boldsymbol{X}_{ij} + \varepsilon_{it} \qquad\qquad 4$$

Table 3 presents the regression results that has the earnings quality proxy as the dependent variable. The different columns relate to different samples.

The results show that coefficient of *IFRS*SIZE* is negative and statistically significant in columns 3, 5, and 6. This means that, all else equal, bigger firm size leads to higher earnings reporting quality in firms that comply with international financial reporting standards than firms that do not. In sum, our results support the hypothesis of a significant effect of *IFRS*SIZE* on earnings quality. Thus, earnings reporting quality is sensitive to compliance with international financial reporting standards and firm size in Ghana.

Insert table 3 here

Besides, our results indicate that sensitivity of earnings quality to IFRS and audit quality (*IFRS*BIG4*) is negative in all cases except column 4 and statistically significant at 5% level for the *JMBE* metric for banks in column 2. This gives us the evidence of an indirect effect of IFRS through audit quality to earnings reporting quality in Ghanaian firms. That is, the quality of auditors who audit IFRS financial statements reduces the earnings management practices and hence improve reporting quality.

Furthermore, our results indicate that audit quality is indeed sensitive to reporting quality through firm size. Specifically, the coefficient of *SIZE*BIG4* is negative and statistically significant in columns 1 and 2, indicating that as the firm size increases, earnings management decreases and reporting quality increases for banks with quality audit service as oppose to banks with low audit quality. All else equal, this result is repeated for the pooled sample in column 6. Meanwhile the results of audit quality alone in this same column 1, 2, and 6 suggest that firms with quality audit service have high reporting quality than their low-quality audit counterparts, with the coefficients of firm size being insignificant in columns 1 and 2, even though with a weak significance in

column 6. This cleared our dilemma and confirm that audit quality sensitivity to reporting quality depends on the size of the firm.

5.   Conclusion and policy implication

This paper investigates the earnings reporting quality effects of International Financial Reporting Standards (IFRS) compliance of financial firms in Ghana. The paper argues that IFRS compliance improves accounting reporting quality among Ghanaian financial firms.

We conditioned IFRS compliance on earnings reporting quality using logistic regression model taking cognizance of relevant control variables. We used two different quality metrics drawn from common time period and data and test the quality of IFRS compliant reporting with combined sample from the financial services industry as well as banks and insurance firms' sub-samples. Contrary to our hypothesis, we find positive relationship between IFRS compliance and earnings management which is an inverse measure of earnings quality. Our result suggests that the application of IFRS does not necessarily improve the quality of financial reporting among Ghanaian financial firms. The relationship between IFRS compliance and reporting quality is found to be statistically weak for banks, while it shows significant relationship for insurance companies and the overall industry at a standard level. The result contradicts the idea that IFRS adoption eliminates certain accounting alternative, thus reducing managerial discretion which in turn limits the extent of opportunistic earnings management and thereby improving reporting quality.

Furthermore, we presented the sensitivity of accounting reporting quality to IFRS compliance, firm size and audit quality as a transmission mechanism as well as robustness check. Our results suggest that insurance firms that comply with international financial reporting standards have higher reporting quality, and this result is consistent when we combine the sample. We establish that, all else equal, bigger firm size leads to higher reporting quality in insurance firms that comply with International Financial Reporting Standards than insurance firms that do not, which is as well consistent for the combined sample. We further establish that audit quality is indeed sensitive to reporting quality through firm size.

Our results have the following public policy implications. First, it adds to the literature on the implication of IFRS on the reporting quality of firms in the financial sector. Second, the compulsory adoption of IFRS by financial firms in Ghana has not yielded positive outcome in terms of the reporting quality of the firms. Finally, our results provide information to International Accounting Standard Setters on how effectively the standards they set meet intended objective of improved reporting quality.

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Table 1: Descriptive Statistics

The dependent variables are two earnings quality benchmarks, i.e. *LA* and *JMBE*, which measure financial reporting quality from two dimensions. *IFRS* is measured as a dummy variable with value of 1 for IFRS compliance firm and 0 otherwise. *SIZE* is the size of the firm size. Efficiency (*EFF*) is computed as ratio of total operating expense to total revenue. *BIG4* is used as a proxy for audit quality. *ALLOW* is allowance for loan losses at the end of the period. *CFO* is change in cash flows from operations. *LOANS* is the gross loan balance scaled by total assets. *GROWTH* is the percentage growth in total assets. *LEV* is the Leverage of the firm. *N* is the number of observations.

Variable	N	Mean	Std. Dev.	Min	Max
LA	530	0.0803	0.2723	0.0000	1.0000
JMBE	530	0.0763	0.2660	0.0000	1.0000
SIZE	530	7.8665	0.9086	5.3341	9.7536
LEV	530	0.7617	0.5352	0.0018	9.9346
GROWTH	530	0.5136	1.5355	-0.9907	18.5564
EFF	530	0.4589	0.4428	0.0002	7.7904
IFRS	530	0.4698	0.4996	0.0000	1.0000
BIG4	530	0.6434	0.4794	0.0000	1.0000
CFO	530	0.0382	0.4662	-3.4845	5.7561
LOANS	250	0.7374	0.5515	0.0315	7.7286
ALLOW	250	0.0589	0.0912	0.0005	1.0488

Table 2: Earnings Reporting Quality and IFRS Compliance

The dependent variables are two earnings quality benchmarks, i.e. *LA* and *JMBE*, which measure financial reporting quality from two dimensions. *IFRS* is measured as a dummy variable with value of 1 for IFRS compliance firm and 0 otherwise. *SIZE* is the size of the firm size. Efficiency (*EFF*) is computed as ratio of total operating expense to total revenue. *BIG4* is used as a proxy for audit quality. *ALLOW* is allowance for loan losses at the end of the period. *CFO* is change in cash flows from operations. *LOANS* is the gross loan balance scaled by total assets. *GROWTH* is the percentage growth in total assets. *LEV* is the Leverage of the firm. ***, **, and * indicates statistical significance at the 1%, 5% and 10% level respectively and *t*-ratios are reported in parentheses. Columns 1 &2, 3& 4 and 5 & 6 represent banks, insurance firms and combined sample respectively. Columns 1, 3 and 5 are *LA* metric while 2, 4 and 6 are *JMBE* metric.

Variable	1	2	3	4	5	6
IFRS	0.7469 (1.1577)	0.8525 (1.3224)	1.4757 (3.8066)***	0.4395 (1.4769)	1.2779 (3.9817)***	0.8715 (3.4094)***
SIZE	-1.2706 (-1.6688)*	-1.4634 (-1.9298)**	-1.1909 (-3.8834)***	-0.0245 (-0.0983)	-1.5201 (-6.6792)***	-1.2383 (-7.4618)***
EFF	6.1534 (2.1863)**	5.7879 (2.0924)**	1.0084 (2.1366)**	0.0634 (0.1491)	2.1046 (2.9497)***	0.5937 (2.1565)**
BIG4	1.0816 (0.9806)	0.9038 (0.8434)	0.3522 (1.1112)	0.3065 (1.2005)	0.5547 (1.8381)*	0.2362 (0.9678)
ALLOW	-0.1420 (-0.0340)	-0.3942 (-0.0982)				
CFO	1.0062 (1.5724)	0.9403 (1.4307)	0.1638 (0.5563)	-0.1487 (-0.5009)	0.3416 (1.5894)	-0.0009 (-0.0045)
LOANS	-0.7315 (-1.0096)	-0.7625 (-1.0346)				
GROWTH	0.1045 (0.2894)	-0.5952 (-1.1671)	-0.3873 (-1.1693)	0.1172 (1.1468)	-0.1218 (-1.0842)	0.0729 (1.1464)
LEV	-0.7005 (-0.1171)	-0.4349 (-0.0722)	-0.3288 (-1.0938)	-0.4094 (-1.4812)	-0.3743 (-1.1613)	-1.4110 (-3.2287)***
α	3.7012 (0.3639)	5.7422 (0.5438)	6.4437 (3.0911)***	-0.0089 (-0.0051)	8.3593 (5.7353)***	8.7752 (7.6913)***
F-Stats	48.6432***	50.1709***	29.9957***	9.4613	79.4566***	97.5295***
N	250	250	280	280	530	530

Table 3: The Sensitivity of earnings quality to IFRS, firm size and audit quality

The dependent variables are two earnings quality benchmarks, i.e. **LA** and **JMBE**, which measure financial reporting quality from two dimensions. **IFRS** is measured as a dummy variable with value of 1 for IFRS compliance firm and 0 otherwise. **SIZE** is the size of the firm size. Efficiency (**EFF**) is computed as ratio of total operating expense to total revenue. **BIG4** is used as a proxy for audit quality. **ALLOW** is allowance for loan losses at the end of the period. **CFO** is change in cash flows from operations. **LOANS** is the gross loan balance scaled by total assets. **GROWTH** is the percentage growth in total assets. **LEV** is the Leverage of the firm. **IFRS*SIZE** is the interaction of IFRS with the size of the firm. **IFRS*BIG4** is the interaction of IFRS with audit quality. **SIZE*BIG4** is the interaction of audit quality with the size of the firm. ***, **, and * indicates statistical significance at the 1%, 5% and 10% level respectively and *t*-ratios are reported in parentheses. Columns 1 &2, 3& 4 and 5 & 6 represent banks, insurance firms and combined sample respectively. Columns 1, 3 and 5 are **LA** metric while 2, 4 and 6 are **JMBE** metric.

	1	2	3	4	5	6
IFRS	-13.6175	-15.3366	14.7288	5.3484	7.2932	5.9511
	(-1.0769)	(-1.1996)	(3.1562)***	(-1.398)	(2.7644)***	(2.4824)**
SIZE	-2.2067	-2.525	-0.5119	0.2033	-1.0774	-0.9152
	(-1.6071)	(-1.7800)*	(-1.3754)	(-0.6664)	(-4.2997)***	(-4.6285)***
EFF	6.4079	6.0348	0.9038	0.0321	1.9995	0.5644
	(2.1992)**	(2.1349)**	(1.9497)**	(-0.0738)	(2.8735)***	(2.2904)**
AQ	1.2168	1.0339	0.3429	0.3105	0.5937	0.2722
	(0.9525)	(0.8295)	(1.0510)	(1.2119)	(1.9804)**	(1.1202)
ALLOW	0.5476	0.3119				
	(0.1296)	(0.0761)				
CFO	0.8253	0.7867	0.1925	-0.1367	0.3263	-0.0059
	(1.3040)	(1.2419)	(0.6616)	(-0.4400)	(1.5822)	(-0.0287)
LOANS	-0.6450	-0.6643				
	(-0.9208)	(-0.9394)				
GROWTH	0.1599	-0.6241	-0.3933	0.1179	-0.1359	0.0685
	(0.4091)	(-1.0722)	(-1.1582)	(1.1291)	(-1.1977)	(1.0542)
LEV	-0.6416	-0.4332	-0.3626	-0.3944	-0.3760	-1.3835
	(-0.1053)	(-0.0700)	(-0.9869)	(-1.4477)	(-1.1023)	(-3.3035)***
*IFRS*SIZE*	1.7305	1.9526	-1.8419	-0.6694	-0.8062	-0.6659
	(1.1361)	(1.2568	(-2.8599)***	(0.1970)	(-2.3471)**	(-2.1846)**
*IFRS*BIG4*	-2.9724	-2.7946	-0.2347	0.0638	-0.7786	-0.3822
	(-1.9324)	(-1.8923)**	(-0.3703)	(0.1204)	(-1.3690)	(-0.8195)
*SIZE*BIG4*	-3.2561	-3.0473	0.0784	0.0232	-0.2275	-0.4737
	(-2.1345)**	(-1.9914)**	(0.1633	(-0.0536)	(-0.6575)	(-1.6432)*
α	10.6483	13.7585	1.8504	-1.6034	5.2456	6.4198
	(0.7700)	(0.9304)	(0.7065)	(-0.7452)	(3.0746)***	(4.5843)***
F-stats	49.6989***	46.5978***	37.4533***	11.1070	84.3428***	102.0794***
N	250	250	280	280	530	530

Banking firms
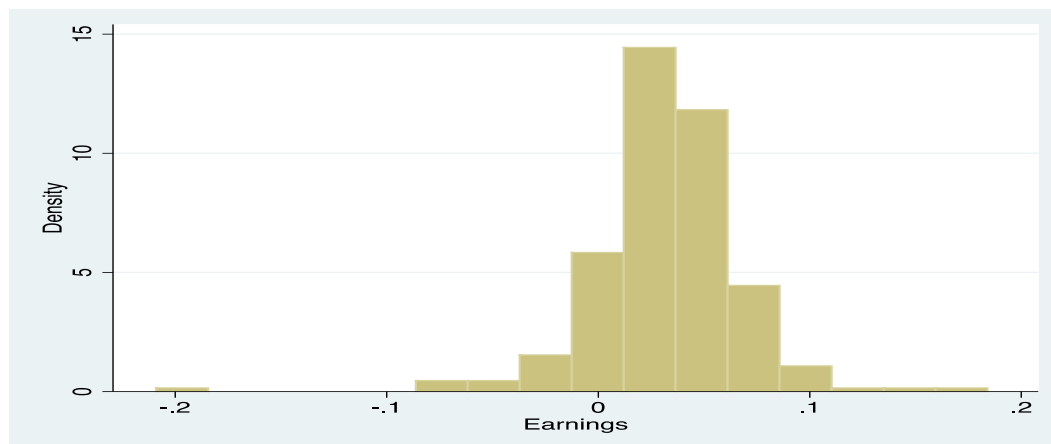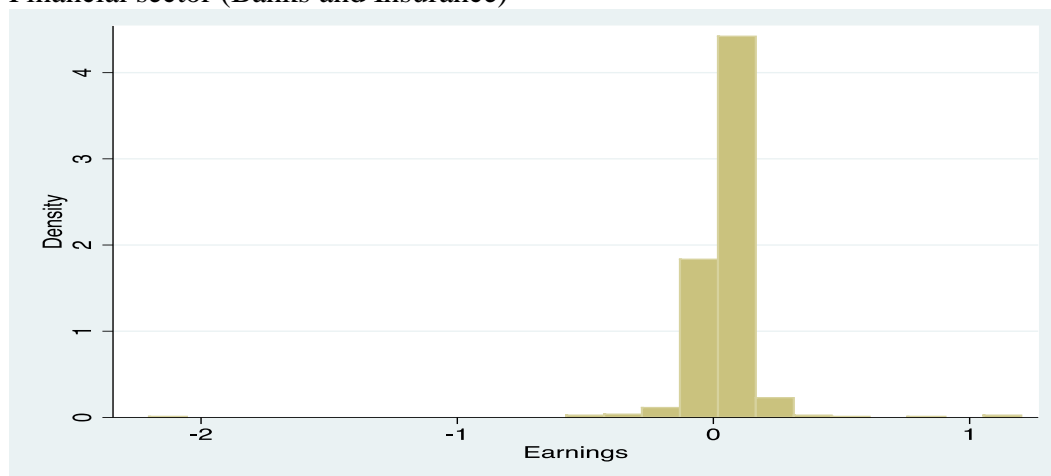
Insurance
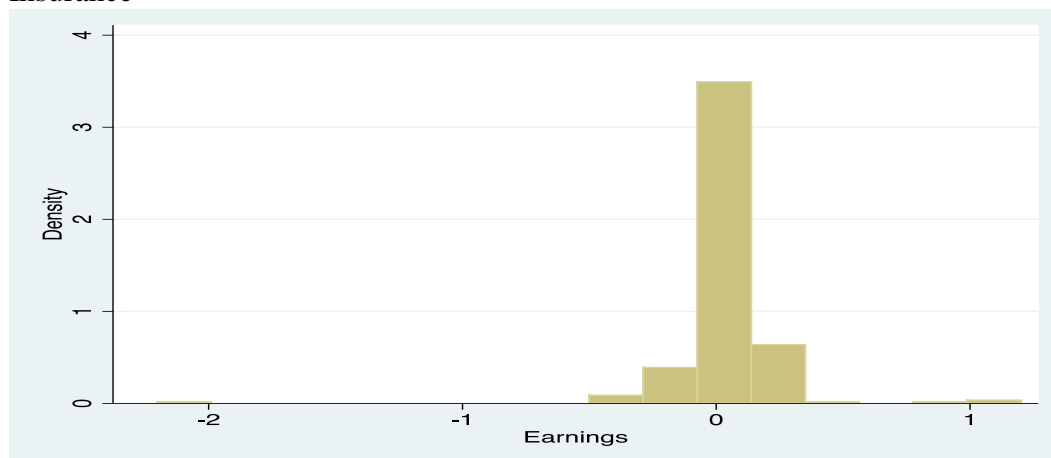
Financial sector (Banks and Insurance)

Figure 1: presents the distribution of annual net income across 51 financial institutions in Ghana. The net income is scaled by total assets of the financial firms for the period 2003-2014