“IFRS adoption and CEO compensation: evidence from listed banks in Nigeria”

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ARTICLE INFO
Stephen Ojeka, Alex Adegboye, Dorcas Titilayo Adetula, Kofo Adegboye and
Inemesit Udoh (2019). IFRS adoption and CEO compensation: evidence from

DOI
http://dx.doi.org/10.21511/bbs.14(3).2019.01

RELEASED ON
Monday, 15 July 2019

RECEIVED ON
Tuesday, 12 February 2019

ACCEPTED ON
Thursday, 02 May 2019

LICENSE
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JOURNAL
"Banks and Bank Systems"

ISSN PRINT
1816-7403

ISSN ONLINE
1991-7074

PUBLISHER
LLC “Consulting Publishing Company “Business Perspectives”

FOUNDER
LLC “Consulting Publishing Company “Business Perspectives”

NUMBER OF REFERENCES
26

NUMBER OF FIGURES
0

NUMBER OF TABLES
4

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Abstract
The study investigates the influence of International Financial Reporting Standards adoption, using accounting performance measure, to determine the CEO pay in listed banks in Nigeria. The audited annual financial statements of listed banks in Nigeria covering the period of 2009–2015 are analyzed. Fixed effect model, viz panel data analysis is adopted to establish the findings. The findings indicate that adoption of IFRS in Nigeria results in an inverse relationship with accounting performance in determining the CEO compensation after controlling for firm and corporate governance mechanism. However, the adoption of IFRS shows significant positive influence on the CEO pay. This result has policy implication, which encourages the regulatory agencies like Central Bank of Nigeria to monitor the compliance of all banks in Nigeria to the IFRS adoption.

Keywords
IFRS adoption, CEO compensation, corporate governance

JEL Classification
G34, G32

INTRODUCTION
The intensification of global markets and economies fosters the need for a unified set of accounting standards. The convergence of accounting standards refers to establishing a single set of accounting standards acceptable globally. Although, International Accounting Standards (IASs) cannot be applied in any jurisdiction unless it gains approval of the national regulators in that jurisdiction. In 2017, the International Accounting Standards Board released a booklet called IFRS as global standards: a pocket guide, which states that 140 out of 150 jurisdictions have made public declarations and commitments to IFRS standards as the single set of IASs. Furthermore, 83%, that is 124 out of 150 jurisdictions, require all or most domestic listed companies to conform to IFRS requirements (Pacter, 2017).

Prior studies have identified the benefits of IFRS adoption on different aspects of financial reporting globally. Most studies suggest a positive impact of IFRS adoption (Cairns, Massoudi, Taplin, & Tarca, 2011; Goncharov, Riedl, & Selhorn, 2014; Hou, Jin, & Wang, 2014; Jinadu, Ojeke, & Ogundana, 2016; Pawsey, 2017; Rodríguez et al., 2017). IFRS adoption introduces fair value relevance, which increases the relationship between market values and earnings reported in financial reporting used by shareholders in economic decision-making (Mantzari, Sigalas, & Hines, 2017; Obigbemi, Omolehinwa, Mukoro, Ben-Caleb, & Olusanmi, 2016). However, the financial statements serve more than one purpose. They tend to provide information for contractual beneficial objectives as well as value relevance (Hou et al., 2014). There is a possibility that increase in fair value relevance will impair other purposes of financial reporting (Voulgaris, Stathopoulos, & Walker, 2014). Ikpefan and Akande (2012) identify that as fair value serves as a fundamental measurement for items in financial statements, it would lead to high volatility and subjectivity. This tends to increase earnings management and decrease conservatism. Earning management enhances creative accounting, while accounting conservatism increases error in estimation.

Recent studies focus on the optimal contracting benefits of mandatory IFRS convergences for users of accounting information. Ozkan, Zvi, and You (2012) investigate the mandatory adoption of IFRS in the European Union using accounting information in determining executive compensation. They suggest that post-mandatory IFRS adoption enhances executive compensation through accounting-based performance. In addition, Hou et al. (2014) analyze the mandatory IFRS adoption and executive compensation in China. They find strong evidence supporting the positive influence of mandatory IFRS adoption on the accounting-based performance. Both studies place emphasis on all listed companies in both territories. However, this study is limited to banking institutions that are listed in Nigeria, to enrich the influence of mandatory IFRS adoption in a specific sector like financial institutions. This study differs from prior research (Hou et al., 2014; Ozkan et al., 2012) by extending the effect of IFRS convergence on the CEO pay in Nigeria characterized by weakly efficient market.

This study examines the influence of IFRS adoption using accounting information to determine CEO pay in selected listed banks in Nigeria. Most literature in Nigeria relating to corporate governance features on CEO pay ignores the effect of IFRS adoption on the governance characteristics and this article seeks this gap to bridge. The influence of the IFRS adoption is investigated, using accounting performance measures in determining the CEO pay in 10 listed banks in Nigeria. In turn, a casual comparative research design is adopted to document evidence in support of the formulated hypothesis: Whether there is a significant relationship in using the accounting performance measures in determining CEO pay with the IFRS adoption. The findings indicate that IFRS adoption has a negative effect on the accounting performance measures of CEO compensation.

This study contributes to the emerging studies on mandatory IFRS adoption by exploring its effect on CEO pay. First, this study extends the prior studies by examining the effect of IFRS mandatory adoption on CEO compensation packages thereby contributing to the limited literature on the subject-matter in emerging countries context. In addition, this study tends to help the practitioners to emphasize the necessity for unified accounting standards in their relative jurisdiction. In furtherance of achieving global relevance in emerging countries, this study will help the policymakers in full adoption of IFRS. This paper is unique as it reflects the interaction of Return on Assets and the mandatory adoption of IFRS given its relative contribution to CEO compensation.

Section 1 of this study reviews the previous literature and develops the hypotheses. Section 2 stipulates the methodology. The empirical results are in Section 3. Then, Section 4 establishes the robustness of the study and the last section concludes.
1. LITERATURE REVIEW

1.1. CEO incentives and firm performance

Many works of literature have built around the correlation between CEO incentives and firm performance. Jensen and Meckling (1976) emphasize the managerial power and discretion in conflict with shareholders in which the modern literature tagged agency problem. Executive incentives are simply spelled out to curb agency problems and encourage the executive to work in the best interest of the shareholders (Jiraporn, Kim, & Davidson, 2005). Under the optimal contracting approach, boards are saddled with the responsibility to design the structure of compensation as efficient incentives for managers to maximize shareholders value (Bebchuk & Fried, 2003). Prior studies suggest that accounting disclosure can influence “pay-performance sensitivity”. Hermalin and Weisbach (2012) indicate that increased mandatory disclosure results in recent high executive pay. They argue increased disclosure enhances better monitoring role and more transparency might adversely affect managers as their pay suffers. They suggest that the public fine-tunes corporate transparency and disclosure in the way to curb firms’ agency conflict. Prior findings relative to executive compensation in Nigeria show a linear relationship to firm performance (Uwuigbe et al., 2016), profitability (Oyerogba, Riro, & Memba, 2016), and an insignificant relationship between financial methods and executive compensation (Umobong, 2015).

1.2. IFRS adoption and accounting quality

Houqe, Easton, and Zijl (2014) examine the influence of the information quality on financial reporting in France, Germany, and Sweden who have low investor protection. Their findings indicate a “significant improvement in forecast accuracy and dispersion” after mandatory IFRS adoption in all the jurisdictions. They pose that the greater the impact of information quality, the lower the strength of investor protection. This implies that IFRS adoption in low investor protection jurisdictions enhances information quality. Pawsey (2017) perceives that transition to IFRS in Australia has resulted in an increase in annual accounting and compliance cost. Umobong and Akani (2015) examine the differences in the quality of accounting information pre and post-IFRS adoption by manufacturing firms in Nigeria. Their results identify a decrease in accounting quality. They find that less value relevance and timely loss recognition is greater in pre-IFRS compared to post-IFRS. Karampinis and Hevas (2009) test for the value relevance in IFRS adoption. They affirm that the adoption of IFRS positively influences the value relevance of consolidated net income and book value which is unconsolidated. Pășcan (2015) posits that those results from empirical research on the influence of IFRS adoption on accounting quality have to be analyzed and interpreted in respect to “country-specific factors and firm-specific factors”.

1.3. Hypothesis development

Prior studies exhibit mixed results as regards IFRS related literature on accounting quality. Fair value accounting might enhance the transparency of financial statements by reflecting the current market condition, which results in volatility in accounting figures (Voulgaris et al., 2014). Barth, Beaver, and Landsman (2001) indicate that fair value accounting is generally accepted to add extra value-relevant information to financial reporting, which might be useful for firm valuation purposes. Ozkan et al. (2012) support this theoretical argument by suggesting that internal performance valuation is based on the implicit use of accounting earnings. Hou et al. (2014) pose that increase in earnings management after IFRS adoption would reduce the importance of accounting performance in determining executive compensation if the board of directors discovers any form of earnings management activities. They continue by suggesting that reduction in accounting conservatism in post-IFRS adoption should increase the use of accounting performance in determining executive compensation, “because timely recognition of both good news and bad news makes accounting information a better and more natural indicator of managers’ effort”.

It is then assumed that accounting information will be timely and more relevant to firm valuation after IFRS adoption. It is expected that if the board of directors detects earning management after
IFRS adoption, it should reduce the importance of using accounting performance in determining CEO pay. More formally, the hypotheses are:

**H1:** There is no significant relationship between CEO pay and accounting performance with mandatory IFRS adoption.

**H2:** There is no significant relationship between CEO pay and mandatory IFRS adoption.

## 2. METHODOLOGY

To achieve the objective, the fixed effect model, viz panel data analysis is used to establish the findings. The authors extract the highest paid director, mandatorily IFRS convergence, firm characteristics, and corporate governance mechanism data from the financial statements of Nigerian listed banks covering the 2009–2014 period. This period covers the pre-adoption and post-adoption of IFRS in Nigeria. However, 10 listed banks in the Nigerian stock exchange market are selected and analyzed using the purposive sampling method. The final sample has been derived after some filtering procedures. Although Nigeria only has 15 listed banks, some banks are excluded provided the desired data is not available and selected banks that have 5-year consecutive data for the desired variables following the study of Thakur and Kannadhasan (2019), which makes the estimated results robust.

### 2.1. Model specification

Causal-comparative research design is used to examine the influence of IFRS adoption on CEO pay while controlling for firm size, board independence, board meeting and economic factor affecting CEO pay as well as the unobservable firm fixed effect based on prior literature. The model examines the influence of IFRS adoption on CEO pay in selected listed banks in Nigeria.

\[
\log CEO_{\text{pay}} = \beta_0 + \beta_1 IFRS_{t-1} + \beta_2 ROA + \\
+ \beta_3 IFRS_{t-1} \cdot ROA + \sum \beta_n others_n + e_n,
\]

where \(CEO_{\text{pay}}\) represents the natural logarithm of the highest paid director (cash compensation). A dummy variable is used for mandatory IFRS adoption in Nigeria. This variable takes 1 as post-IFRS adoption for 2012–2014, and 0 for the pre-IFRS adoption for 2009–2011. ROA is the annual return of total assets, which signifies the internal firm performance. ROA by Earnings before Interest and Tax (EBIT)/Total assets as at year-end is measured. Coefficient \(\beta_3\) measures the accounting performance sensitivity for \(CEO_{\text{pay}}\) from the post and pre-IFRS adoptions periods. The dependent variable is the log of \(CEO_{\text{pay}}\), while the independent variables consist of \(IFRS, ROA, \) and \(IFRS \cdot ROA\) as an interaction term.

## 3. EMPIRICAL RESULTS

### Table 1. Statistics summary

<table>
<thead>
<tr>
<th>Variables</th>
<th>Obs.</th>
<th>Mean</th>
<th>Std.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>CEO pay</td>
<td>60</td>
<td>10.95</td>
<td>0.651</td>
<td>9.680</td>
<td>12.77</td>
</tr>
<tr>
<td>ROA</td>
<td>60</td>
<td>0.0151</td>
<td>0.0214</td>
<td>−0.103</td>
<td>0.0424</td>
</tr>
<tr>
<td>Firm characteristics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>60</td>
<td>20.84</td>
<td>0.695</td>
<td>19.14</td>
<td>22.19</td>
</tr>
<tr>
<td>Earnings growth</td>
<td>60</td>
<td>0.216</td>
<td>0.256</td>
<td>−0.347</td>
<td>0.803</td>
</tr>
<tr>
<td>Corporate governance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Board size</td>
<td>60</td>
<td>14.62</td>
<td>3.026</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Board indep</td>
<td>60</td>
<td>0.615</td>
<td>0.119</td>
<td>0.100</td>
<td>0.917</td>
</tr>
</tbody>
</table>

\(CEO\) pay represents the natural logarithm of the highest paid director (cash compensation). ROA is the Earnings before Interest and Tax (EBIT)/Total assets as at year-end. Natural logarithm of firms’ total assets is used to control for firm size. Earnings growth is the change in earnings \(t\) from the earnings in \(t−1\). Board size is the number of board of directors and the ratio of non-executive directors on the board size is for board independence.

Table 1 shows the descriptive statistics for both the dependent variable (CEO pay) and other independent variables. The mean of the CEO pay is around 10.95. As regards the Return on Assets, it is on average of 0.0182 with a maximum of 0.218. Concerning other variables (controlling), the firm size (total assets) shows an average of 20.74 and 21.1% were earnings growth. As shown in Table 1, the average board size is 14 with a maximum of 20 executives and non-executive directors and a minimum of six directors. About 62% of the directors on the board are independent on the average.
Table 2. Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>IFRS</th>
<th>ROA</th>
<th>IFRS·ROA</th>
<th>Firm size</th>
<th>Growth</th>
<th>Board_size</th>
<th>Board_indep</th>
</tr>
</thead>
<tbody>
<tr>
<td>IFRS</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>ROA</td>
<td>0.306*</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>IFRS·ROA</td>
<td>0.857***</td>
<td>0.420***</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Firm size</td>
<td>0.394**</td>
<td>0.279</td>
<td>0.462***</td>
<td>1</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Growth</td>
<td>0.0867</td>
<td>0.312*</td>
<td>0.0736</td>
<td>–0.0697</td>
<td>1</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Board_size</td>
<td>–0.0611</td>
<td>–0.228</td>
<td>–0.181</td>
<td>0.229</td>
<td>–0.137</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>Board_indep</td>
<td>0.189</td>
<td>0.0105</td>
<td>0.222</td>
<td>–0.147</td>
<td>–0.190</td>
<td>–0.197</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: * Significance level $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2 reports the Pearson correlation matrix for the independent variables adopted in the analysis. The table indicates low correlation among the variables. Hence, there is no indication of serious multicollinearity in the models.

In Model 1 and Model 3, OLS regression model is used to analyze the data, while the fixed effect model for Model 2 and Model 4. The OLS regression model shows evidence of homoskedasticity ($\chi^2 (1) = 1.12$; Prob $> \chi^2 = 0.2890$). Then, the model is selected based on the F-test or Wald test. The test identifies that the intercept parameters for all companies are not equal. The Lagrange multiplier test also indicates no random individual differences among the companies selected. Therefore, the fixed effect model is appropriate for the current model.

Table 3. Static panel data analyses of IFRS adoption in CEO compensation

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variables</td>
<td>Coefficient</td>
<td>t-value</td>
<td>Coefficient</td>
</tr>
<tr>
<td>IFRS</td>
<td>0.819***</td>
<td>(0.286)</td>
<td>1.123***</td>
</tr>
<tr>
<td>ROA</td>
<td>3.924</td>
<td>(4.085)</td>
<td>–1.270</td>
</tr>
<tr>
<td>IFRS·ROA</td>
<td>–27.19**</td>
<td>(12.72)</td>
<td>–34.89***</td>
</tr>
<tr>
<td>Firm size</td>
<td>–0.0517</td>
<td>(0.135)</td>
<td>–0.0994</td>
</tr>
<tr>
<td>Growth</td>
<td>–0.524</td>
<td>(0.314)</td>
<td>–0.200</td>
</tr>
<tr>
<td>Board_size</td>
<td>0.0850***</td>
<td>(0.0274)</td>
<td>0.0733***</td>
</tr>
<tr>
<td>Board_indep</td>
<td>1.122</td>
<td>(0.680)</td>
<td>–0.297</td>
</tr>
<tr>
<td>Constant</td>
<td>10.04***</td>
<td>(2.815)</td>
<td>12.02**</td>
</tr>
</tbody>
</table>

Note: Variables as defined in Table 1. Standard errors are in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. To be consistent with previous studies on CEO compensation, the firm mechanism is controlled. Natural logarithm of firms’ total assets is included to control for firm size, the growth rate of earnings to control for growth opportunities and the ratio of total liabilities to total assets as leverage to control for overall financial risk. The corporate governance mechanism is also included, which is widely assumed to have an influence on CEO pay. The board size of the directors and the ratio of non-executive directors on the board size are included to control for board independence. In addition, the high frequency of board meeting suggests the importance of the board and effective corporate governance (Luo, 2015). Board meeting frequency is controlled for as the number of meetings per year. While CEO tenure represents the number of years that the CEO served in the position.
4. ROBUSTNESS TEST

The influence of IFRS adoption on accounting performance measures is analyzed to determine the CEO pay in selected listed banks in Nigeria using pooled regression model (OLS) and fixed effects model’s regression. Nevertheless, fixed effects model regression is more appropriate after testing for the presence of heteroscedasticity. Table 3 reports the influence of IFRS adoption on the CEO pay via accounting-based performance, while Table 4 presents robustness test for fixed effect model. Five Models are used, while the study assumes the unobservable firm fixed effect wherever is indicated in the table. Model 4 eliminates control variables, while Model 5 includes the control variable.

Based on the result of the fixed effect model, the coefficient of IFRS is positive at a significance level of 1% in all models. This suggests that the IFRS adoption leads to higher CEO pay. This result is in line with the prior suggestion by Hermalin and Weisbach (2012) and it shows the importance of IFRS adoption in determining the CEO, pay. Furthermore, as shown in Table 3 ROA coefficient is negative, which is insignificant but only positive for model 1. This means that an increase in ROA will lead to a higher rate of CEO pay when all controlling variables are included.

The interaction term IFRS·ROA is negative at a significance level of 5% and 1% respectively for the models. This finding suggests that accounting-based performance measure is negative in determining the CEO pay with the adoption of IFRS. This result opposes the previous studies by Hou et al. (2014) in the case of Nigerian banks.

Standard errors are robust to serial correlation which is qualitatively the same as previous results, but only CEO tenure shows a negative insignificant relationship with CEO pay, which differs from the previous result.

When controlling variables are included, Model 5 shows an insignificant positive correlation between the Firm size and the CEO pay. The earnings growth is negatively associated with CEO pay. The ratio of total liabilities to total assets (leverage) coefficient suggests an insignificantly non-linear relationship with CEO pay. Under this Model, only Board size shows a significant positive relationship with CEO pay. This implies that
the higher the growth rate of CEO pay, the higher the board size, which is consistent with the prior study by Ertimur, Ferz, and Muslu (2010). It is essential to note that robustness test of the fixed effect model is qualitatively the same as the previous result, but only CEO tenure differs, which shows a negative insignificant relationship with CEO pay.

CONCLUSION AND RECOMMENDATION

The overall analysis indicates that the adoption of IFRS in Nigeria results in an inverse relationship with accounting performance in determining the CEO compensation. This implies that CEO pay is not determined by “accounting-based performance sensitivity” with mandatory IFRS adoption in Nigeria. This means that the board of directors discovers an increase in earning management after post-IFRS adoption as suggested by Hou et al. (2014). However, the adoption of IFRS results in a significant positive influence on CEO pay. This study highlights that IFRS adoption results in higher CEO pay, but it is not based on accounting performance sensitivity, which contradicts prior studies (Hou et al., 2014; Ozkan et al., 2012; Voulgaris et al., 2014). This result has policy implication, which encourages the regulatory agencies like Central Bank of Nigeria to monitor the compliance of all banks in Nigeria to IFRS adoption.

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