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Situation of Earning Management After Revision of the Ohada Accounting Standards Adopted on January 26, 2017

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Abstract

Following the mandatory adoption of the revised OHADA Accounting Standards that have moved closer to the International Financial Reporting Standards (IFRS), this study examines whether the level of Earnings Management of Companies making public offers or listed firms, in the West African Stock Exchange Market Abidjan-Ivory Coast (BRVM) has reduced. The study avails of Financial Statement figures during pre-adoption (2014–2017) and post-adoption (2018–2021) periods, for 26 selected listed firms in the BRVM. Findings suggest that firms in the post-adoption period of the revised OHADA Accounting Standards (2018–2021) are less likely to smooth earnings compared to the pre-adoption period (2014–2017). This indicates that adopting accounting standards of higher quality can bring an improvement in Financial Reporting Quality, everything being equal.

Keywords: revised OHADA Accounting Standards, International Financial Reporting Accounting Standards (IFRS), earnings management

1. Introduction

Over sixteen years (that is, from 2001 to 2017), step by step and mainly driven by the Councils of Ministers, incremental Change occurred on a globally significant scale warranting compliance with basics of the International Financial Reporting Standards (IFRS) or convergence towards them. The above statement by Degos and Souleymanou (2017) is an indication that OHADA Accounting Standards have been evolving and that the evolution is towards the IASB standards. As such, the OHADA Accounting Standards that have been in application since 2001 for business entities presenting Personal Accounts, and 2002 for those presenting Consolidated Accounts were revised and adopted by the Council of Ministers of OHADA Member States on January 26, 2017. This revised version of the OHADA Accounting Standards possessed many features that can convince one to believe that the revision was greatly influenced by the IASB Standards. Seventeen (17) (that is, 13 IASs and 4 IFRSs) of these standards have been cited by the revised Uniform Act relating to Accounting Laws and Financial Information, here after referred to as UAALFI. This can be an indication that most provisions within this Uniform Act have been inspired by the IASB Standards. Notwithstanding, the IFRS application guide for the OHADA Zone provides that there is convergence of 21 out of 28 IASs and therefore, 7 IASs are either almost not adopted or not adopted. From the same source, there is convergence of 7 IFRSs, out of 16, and as such 9 IFRSs are either almost not adopted or not adopted. Most of all, Articles 73.1 of the OHADA UAALFI spells out that listed companies and those making public offers are supposed to go in for dual

reporting; first reporting following the OHADA Accounting Standards and for their market activities, following the IASB Standards.

IFRS Foundation information on the Use of IFRS around the world for the year 2018[i] provides that: 144 jurisdictions require IFRS for all or most companies; 9 jurisdictions have their own national standards or are moving towards IFRS; 12 jurisdictions permit all or most companies to use IFRS; and 1 jurisdiction requires IFRS for financial institutions. From these figures, it is expressed that 87% of jurisdictions require IFRS for most domestically accountable companies. This massive acceptance of IFRS can be an indication that they are of higher quality.

Heemskerk and Van Der Tas (2006) mention that one of the reasons to choose for IFRS is that it makes Financial Reporting more transparent and comparable. If IFRS is a high-quality standard, then Financial Statements prepared in accordance with IFRS are presumed to be of higher quality. With this, we expect that it will bring about some improvement in the transparency and quality of Financial Statements among countries that have adopted or converge towards them. (Bryce & et al., 2015; Gordon & et al., 2010)

Oladeji and Agbesanya (2019) highlight that generally, the benefits of adopting or converging towards IFRS identified in several studies are: (i) The increase in the level of comparability between the Financial Statements and the improvement of the transparency level. (ii) IFRS Standards strengthen accountability by reducing the information gap between the providers of capital and the people to whom they have entrusted their money. (iii) The industry is able to raise capital from foreign markets at lower cost if it can create confidence in the minds of foreign investors that their Financial Statements comply with globally accepted accounting standards. (iv) IFRS contribute to economic efficiency by helping investors to identify opportunities and risks across the world, thus improving capital allocation.

2. The Statement of Problem

Considering the normative positive consequences of IFRS, numerous researches have tried to investigate whether a regime change from one's national GAAP to IFRS, or convergence towards IFRS, will bring about some improvements in the quality of financial information or not and whether this help reduce Earnings Management or not. Nevertheless, researches were not conclusive. Although some studies have documented the increase in Financial Reporting Quality and/or reduction in Earning Management (for example, Barth, Landsman & Lang 2006; Barth & et al., 2012; Chen, Tang, Jiang & Lin 2010; Bryce & et al., 2015; Palea, 2014; among others), many have proved mixed, ambiguous or even negative findings like: Van Tendeloo and Vanstraelen (2005), Hung and Subramanyam (2007), Jeanjean and Stolowy (2008), Paananen and Lin (2009), Hassan & et al. (2009), Ahmed & et al. (2012)… among others. Many arguments were offered to provide the justification of the conflicting findings. Ball and Shivakumar (2006), for instance, argued that there are too many diverse dimensions in enterprises that even Change to the IFRS regime may not provide the clarity in information and quality. Similarly, country-specific factors may become one of other important factors. Notwithstanding, Pelucio-Grecco et al. (2014) also ascertains that there is scarce research on IFRS implementation, particularly during a convergence process.

3. Research Basis

Based on the above motives, the current study seeks to figure out whether the adoption of the revised OHADA Accounting Standards in 2017, which has converged more towards the IFRS, has affected the level of Earning Management of listed companies in the OHADA Zone, specifically in the West African Stock Exchange Market in Abidjan–Ivory Coast. Thus, the following research question forms the basis of this research:

Has the level of Earnings Management, for Public Limited Companies making public offers or listed firms, reduce after the implementation of the revised OHADA Accounting Standards adopted on January 26, 2017?

4. Significance of Study

This research provides significant contribution to accounting literature and professionals alike, in several important ways. First, this research focuses on the IFRS convergence process rather than pure switch from national GAAP to IFRS. To the best of knowledge of the researcher, research looking at the effect of convergence of OHADA Accounting Standards towards IFRS on Earnings Management has not been conducted. As such, it will initiate a process of deliberation on IFRS convergence with respect to Earnings Management practice in the OHADA zone. Second, research studies, particularly in the emerged markets, usually focused on whether Earning Management decrement can be observed for voluntary IFRS adopters rather than non-voluntary IFRS adopters (Ahmed & et al., 2013; Barth & et al., 2008; among others). This research scrutinizes Earning Management outcomes of IFRS convergence in one of developing markets, which has rarely been the focus of research.

5. Defining Earnings Management

Bissessur (2008) highlights that there really is no single definition of Earnings Management and that the definition vary per perspective. However, looking at it from the perspective of a standard setter for financial reporting, Earnings Management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers. (Healy & Wahlen 1999; Leuz & et al. 2003; Chen, Tang, Tjiang & Lin, 2010). Healy and Wahlen (1999) apart from taking the perspective of standard setters for financial reporting, have the view that standards add value when they enable Financial Statements to effectively portray differences in firm's economic positions and performance in a timely and credible manner. Notwithstanding, Hadani, Goranova, & Khan (2011), comment that Earnings Management is negatively correlated to Earnings Quality. It is being observed that Earnings Management is responsible for information asymmetry and have negative impact on Financial Reporting Quality.

6. Incentives for Earnings Management

Healy and Wahlen (1999) give three main incentives for earnings management: capital market expectation, contracts written in terms of accounting numbers and antitrust or other governmental regulation.

The first incentive, the capital market expectation, is about the influence of earnings on the stock price. Managers can increase earnings, in order to increase the stock price, for example to meet analysts' expectations (Burgstahler & Eames, 1998). This can be important for the managers, since they will be held responsible for the results of a company. They therefore will think it is important to meet analysts' expectations, in order to avoid disappointed investors.

The second incentive that explains Earnings Management, according to Healy and Wahlen, has to do with all the contracting agreements a company has. In order to align the interests of managers and stakeholders, diverse contracts are put in place. According to Watts and Zimmerman (1978), these contracts give rise to an increase in possibilities for Earnings Management. An example is that companies that are close to lending contracts manage earnings. Banks for example increase the interest rate when the risk of their client becomes higher. This can be a reason to manage earnings by presenting a better result in order to avoid an interest increase resulting in higher costs. Another, maybe more familiar example is management compensation contracts (Healy & Wahlen, 1999, p. 376). When the compensation of a manager depends on the results of the company, there will be an incentive to manage the earnings in a positive way. The reason for this is that the manager will receive a personal benefit as a result of the numbers presented.

The third incentive for Earnings Management that relate to antitrust or other governmental regulation, has to do with eventual intervention of the government or another institution, for example, when industrial regulations are violated. This is also known as the Political Cost Theory (Deegan & Unerman 2006, p. 241). In order to avoid such intervention, management tries to manage earnings in such a way that the intervention is not needed. An example of this situation can be that a bank which is close to a minimum capital requirement recognizes abnormal gains, which will lead to a better capital position (Healy & Wahlen 1999, p. 378). According to Deegan and Unerman (2006), large companies have to deal with such political costs, since they attract more attention as they are more visible, than small companies are.

The above incentives are justified by two theories: the Agency Theory and the Positive Accounting Theory.

7. Methodology and Data Description

The aim of this study is to examine whether financial reports of companies listed in the West African Stock Exchange exhibit less Earnings Management, after the revision of the OHADA Accounting Standards adopted on January 26, 2017.

7.1 Data Source and Nature

Secondary data was used for the study and collected between December 2021 and August 2022, from the website of the West African Stock Exchange Market. This data is accounting numbers extracted from Financial Statements of listed companies from the years 2014 to 2021. The Financial Statements here are individual Financial Statements of the listed companies. These Statements, as from 2019 and for their market activities, were supposed to be presented respecting the IFRS. However, the researcher noticed that majority of these companies have not been publishing accounts that respect the IFRS; the few who published their accounts following IFRS published another set that follow the OHADA Accounting Standards. As such, the Financial Statements adopted for this research are Personal Accounts published following the OHADA Accounting Standards. Since the study is to look into the effect of the revision on Earning Management, two periods were mapped out: the years 2014 to 2017 was the first strata, while the second was 2018 to 2021. The Financial Statements for the first strata respected the old OHADA Accounting Standards while those of the second strata respected the revised OHADA Accounting Standards, which have comparatively converged more towards the

IFRS. To confirm if a Financial Statement is respecting a particular standard, the researcher verified either the Audit Report or the Annual Report of management to identify the standard in use.

7.2 Target Population, Sample and Sampling Technique

The target population of the study constitute companies listed at the level of the West African Stock Exchange Market. As per the web site[ii] of the market, a total of 67 entities are listed in this market. This is as of August 2022. A sample of 26 companies were selected, using convenience sampling. Financial institutions and insurance companies have been excluded from the research owing to their specific accounting requisites. Firms for which the data are missing, or which are considered unreliable are eliminated. This sample of 26 companies consists of 208 observations. Appendix 1 presents the industrial sector structure of the sample firms.

7.3 Model Specification

The research attempt to associate the concept of Earning Management, to smooth earnings, with OHADA Accounting Standards applicable at a time *t*. Therefore, the dependent variable is Earning Management, and the independent variable is OHADA Accounting Standards applicable at a time *t*. This relation is presented in the function below.

Earning Management = 1 / f (OHADA Accounting Standards applicable at a time *t*)

= 1 / f (OHADA A.S.2002; OHADA A.S.2017)

Following previous studies such as Barth et al. (2006), Barth et al. (2008), and Paananen and Lin (2009), Earning Management is measured in terms of Earnings Smoothing and Managing Towards Earnings Targets, timeliness of loss recognition etc... In this research, we adopt one measure: Earning Management to smooth earnings.

Table 1 provides a summary of Earning Management proxies employed in this study and examples of prior studies that have used these proxies.

Table 1. Measures of Earning Management (Earnings Smoothing)

Proxies	**Used by**
1.1 Variance of Change in Net Income	Leuz, Nanda and Wysocki (2003), Lang, Raedy and Yetman (2003), Lang et al. (2005), Barth, Landsman, Lang and Williams (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010).
1.2 Variance ratio of the Change in Net Income over the Change in Cash Flows from Operations	Leuz, Nanda and Wysocki (2003), Lang, Raedy and Wilson (2006), Barth, Landsman and Lang (2008), Paananen and Lin (2009)
1.3. Spearman correlation between Operating Accruals and Cash Flows from Operations	Chen, Tang, Jiang and Lin (2010) Ahmed, Neel and Wang (2012)

Source: Research work 2022

7.4 First Earnings Smoothing Measure: The Variability of Change in Net Income (ΔNI)

The Agency Theory suggests that insiders have an incentive to hide a firm's current poor performance for various reasons such as their incomes being tied to firm performance through bonus compensation plans (Moses, 1987; Beattie & et al., 1994). Insiders may also want to under report strong performance in order to give themselves a buffer for possible future periods of poor performance (Beidleman, 1973). As such, the first Earnings Smoothing measure used in this research work captures the extent that insiders reduce the variability of reported earnings. To say, the variability of the Change in Net Income (ΔNI) (Item 1.1 in Table 1) used in studies such as Lang et al. (2005), Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010) etc. Earnings Smoothing is shown by a smaller variance in the ΔNI variable. However, it is likely that variance in ΔNI is affected by a variety of firm level factors that are unrelated to Earnings Smoothing. Accordingly, this measure of Earnings Smoothing is based on the residual from the following equation of Change in Net Income on control variables that also includes industry fixed effects:

$$\Delta\text{NITAt}_{it} = \alpha_0 + \alpha_1\text{SIZE}_{it} + \alpha_2\text{GROWTHt}_{it} + \alpha_3\text{EISSUE}_{it} + \alpha_4\text{LEV}_{it} + \alpha_5\text{DISSUE}_{it} + \alpha_6\text{TURNTA}_{it} + \alpha_7\text{OCFTA}_{it} + \alpha_8\text{AUD}_{it} + \xi_{it} \ldots\ldots\ldots\ldots\ldots\ldots Reg.1$$

where ΔNITA is the Change in Net Income available to ordinary shareholders scaled by total assets at the end of the financial year; SIZE is the natural logarithm of total asset at book value in monetary units at the end of the

financial year; GROWTH is annual percentage Change in sales at the end of the financial year; EISSUE is annual percentage Change in book value of equity at the end of the financial year; LEV is end of year total liabilities scaled by end of year book value of equity; DISSUE is annual percentage Change in total liabilities at the end of the financial year; TURNTA is annual sales scaled by total assets at the end of the financial year; OCFTA is annual net Cash Flow from operating activities scaled by total assets at the end of the financial year; AUD is an indicator variable set at one if the firm's auditor is PricewaterhouseCoopers (PwC), KPMG, Ernst & Young or Deloitte Touche Tohmatsu and zero otherwise; Equally, i denotes the enterprises while t denotes the time period, denotes the error term.

This study estimates Regression 1 using annual data for different enterprises, then pool the residuals (here referred to as ResidΔNITA of each regression for the respective periods (that is, before and after Accounting Standards Change). The intercept α_0 in combination with the error term is interpreted as capturing the residual component of ΔNITA that remains unaccounted for (by conventional control variables), which we designate as ResidΔNITA. We then consider that the variability of ResidΔNITA as:

$$\text{Variability of ResidΔNITA} = \sigma^2 \text{ Error } (\Delta\text{NITA}) \text{ it} \qquad \text{Test 1}$$

This results in two sets of residuals being generated (before and after the revision) from which the variance of the residuals for each respective period is calculated and compared using a variance ratio F-test. This test for differences in means investigate whether the variance of ResidΔNITA is significantly different under old OHADA Accounting Standards and the revised OHADA Accounting Standards. Thus, a higher variability of residuals (ResidΔNITA) is indicative of managers smoothing their earnings less and therefore lower Earning Management.

7.5 Second Earnings Smoothing Measure: The Variability of the Change in Net Income (ΔNI) Scaled by Change in Operating Cash Flows (ΔOCF)

The second measure of Earnings Smoothing is based on the ratio of the variability of Net Income (ΔNI) scaled by Change in Operating Cash Flows (ΔOCF) (Item 1.2 in Table 1) and is drawn from studies such as Barth et al. (2006), Barth et al. (2008), Paananen and Lin (2009), Chen et al. (2010).

When firms experience more volatile Cash Flows from operations, they can expect more volatile Net Income. However, if firms use Accruals to manage earnings, the variability of the Change in Net Income should be lower than that of Operating Cash Flows. Thus, the second Earnings Smoothing metric therefore considers the mean ratio of the variability of the Change in Net Income, scaled by total assets (ΔNITA) to the variability of the Change in Operating Cash Flows scaled by total assets (ΔCFTA) as:

$$\frac{\textit{Variability of Resid}\Delta\text{NITA}}{\textit{Variability of Resid}\Delta\text{OCFTA}} = \frac{\sigma^2 \textit{ Error } (\Delta \textit{NITA})it}{\sigma^2 \textit{ Error } (\Delta \textit{OCFTA})it} \qquad \text{Test 2}$$

Where ResidΔOCFTA is defined in analogy with ResidΔNITA.

Thus, in analogy with Regression 1, we form the regression, whereby ResidΔOCFTA is obtained:

$$\Delta\text{OCFTA}_{it} = \alpha_0 + \alpha_1 \text{SIZE}_{it} + \alpha_2 \text{GROWTHt}_{it} + \alpha_3 \text{EISSUE}_{it} + \alpha_4 + \alpha_5 \text{DISSUE}_{it} + \alpha_6 \text{TURNTA}_{TAit} + \alpha_7 \text{OCF}_{it} + \alpha_8 \text{AUD}_{it} + \xi_{it} \ldots\ldots\ldots\ldots\ldots Reg.2$$

Where ΔOCFTA is the Change in annual Cash Flow from operating activities scaled by total assets, at the end of the financial year and other variables are defined as in Regression 1.

The intercept (α_0) in combination with the error term may again be interpreted as capturing the residual component, which we designate similarly as ResidΔOCFTA, with the variability of ResidΔOCFTA determined as: Variability of ResidΔOCFTA = σ^2 Error (ΔOCFTA) it

Following Chua et al. (2012), we test whether the ratio of the variances (see Test 2) has Changed significantly across the pre- and post-adoption periods of the revised OHADA Accounting Standards., using a variance ratio F-test.

7.6 Third Earnings Smoothing Measure: The Spearman's Correlation Between Accruals and Cash Flows from Operations

Members of management may use their accounting discretion to conceal significant Changes in a firm's Operating Cash Flows by the early reporting of future revenues or delaying the reporting of current expenses to conceal poor current performance. The same holds that they may also wish to hide stronger than expected current performance to create a buffer for the future (Leuz & et al., 2003). Accruals and Cash Flows generally correlate negative. However, a larger negative correlation may be an indication of Earnings Smoothing as managers react to poor Cash Flows by increasing Accruals or concealing better than expected performance by

decreasing Accruals. (Land & Lang, 2002; Drake & et al., 2009). Since Cash Flows and Accruals can be influenced by factors not related to earnings management, we should not calculate their correlations directly. Instead, we compare the correlations of residuals from Regressions 3 and 4, which include control variables, as well as industry fixed effects. To this end, in analogy with Regressions 1 and 2, we determine the residuals from the following equations:

$$\text{OCFTA}_{it} = \alpha_0 + \alpha_1 \text{SIZE}_{it} + \alpha_2 \text{GROWTHt}_{it} + \alpha_3 \text{EISSUE}_{it} + \alpha_4 \text{LEV}_{it} + \alpha_5 \text{DISSUE}_{it} + \alpha_6 \text{TURNTA}_{it} + \alpha_7 \text{AUD}_{it} + \xi_{it} \ldots\ldots\ldots\ldots\ldots Reg.3$$

$$\text{ACCRTA}_{it} = \alpha_0 + \alpha_1 \text{SIZE}_{it} + \alpha_2 \text{GROWTHt}_{it} + \alpha_3 \text{EISSUE}_{it} + \alpha_4 \text{LEV}_{it} + \alpha_5 \text{DISSUE}_{it} + \alpha_6 \text{TURNTA}_{it} + \alpha_7 \text{AUD}_{it} + \xi_{it} \ldots\ldots\ldots\ldots\ldots Reg.4$$

Where ACCRTA is annual Net Income available to ordinary shareholders at the end of the financial year less annual Cash Flow from operating activities (i.e., ACCRTAit = NITAit-OCFTAit), scaled by total assets at the end of the financial year and the other variables are defined as in Regressions 1 and 2.

Consequently, we use a correlation test to investigate the extent of the correlation between the residuals of Regression 3 (ResidACCTA) and those of Regression 4 (ResidOCFTA). Finally, the Correlation Coefficients from the correlation tests are investigated for the significance in the differences between the various groups under comparison. A lower negative correlation between the residuals of Regressions 3 and 4 is indicative of lower Earnings Smoothing, thereby better lower Earning Management.

Correlation coefficient (P)

$$P = 1 - \frac{6\sum d_i^2}{n(n^2-1)} \quad \text{Test 3}$$

Where $-1 \leq p \leq 1$

7.7 Estimation Technique

In order to examine the effect of the different variables presented in Regressions 1, 2, 3 and 4 we employ the Panel Generalized Least Square (GLS). This approached is adopted because of the numerous advantages that it presents over estimations approaches like the fixe effect and the random effect technique that have been frequently used within literature of this nature. In GLS modeling proceeds in two stages: (1) the model is estimated by OLS or another consistent (but inefficient) estimator, and the residuals are used to build a consistent estimator of the errors covariance matrix (to do so, one often needs to examine the model adding additional constraints. For example, if the errors follow a time series process, a statistician generally needs some theoretical assumptions on this process to ensure that a consistent estimator is available; and (2) using the consistent estimator of the covariance matrix of the errors, one can implement GLS ideas. The proposed GLS estimator is more efficient than the ordinary least squares (OLS) in the presence of heteroscedasticity, serial, and cross-sectional correlations. After estimating the different models using the GLS estimate, we proceed with the examination of the properties of the residual by comparing the variance of the residuals of the different models as explained above. To compare the variance of the different estimates before and after the implementation of the revised OHADA Accounting Standards we employ the F-test for Test 1 and 2,

Snedecor and Cochran (1983) specify that an F-test is used to verify if the variances of two populations are equal. This test can be a two-tailed test or a one-tailed test. The two-tailed version tests against the alternative that the variances are not equal. The one-tailed version only tests in one direction. That is, the variance from the first population is either greater than or less than (but not both) the second population variance. The choice is determined by the problem. In our model, since we have two-time period or two sub panels, we employ the two-tail test.

For Test 3, we employ the Spearman's Correlation to compare: firstly, the correlation between Cash Flow from Operations and Accruals and secondly the residuals of the regression between Cash Flow from Operations and Accruals before and after the implementation of the revised OHADA Accounting Standards. The Spearman's Correlation Coefficient is a statistical measure of the strength of a monotonic relationship between paired data.

8. Results

8.1 Descriptive Statistics

Tables 2 presents the descriptive statistics for the test variables and control variables across the pre-adoption and the post-adoption periods of the revised OHADA Accounting Standards, for the same set of firms. The dependent and control variables are presented in the order they appear in the Earning Management measures.

Among the test variables, we observe remarkable differences between the pre-adoption and the post-adoption

periods. For ΔNITA, the standard deviation is 0.067 and 0.084 respectively for the pre and post adoption periods. This may signal a decrease of Earnings Management practices under the revised OHADA Accounting Standards. In addition, the decrease in the standard deviation of ΔOCFTA, from 0.150 to 0.129, moving from the pre to the post adoption periods may still be a further signal of less Earnings Management practices, in the post adoption period. Reasons being that it may mean that the ratio of the Standard Deviation of ΔNITA to ΔOCFTA will be higher in the later years.

The descriptive statistics on the control variables indicate that on average firms in the post-adoption period are somewhat larger (SIZE) and that in the post-adoption period, the value of equity (EISSUE) have risen. In addition, more debt securities (DISSUE) have been issued. The findings are consistent with those of prior research (Barth et al., 2008; Christensen et al., 2015).

Table 2. Descriptive Statistics for Test Variables

	Pre-revision period (2014-2017)					**Post-revision period (2018-2021)**				
Variable	Obs	Mean	Std. Dev.	Min	Max	Obs	Mean	Std. Dev.	Min	Max
ΔNITA	104	-0.007	0.067	-0.285	0.244	104	0.008	0.084	-0.340	0.306
ΔOCFTA	104	0.006	0.150	-0.499	0.402	104	0.001	0.129	-0.407	0.467
OCFTA	104	0.121	0.146	-0.183	0.529	104	0.121	0.114	-0.162	0.387
ACCRTA	104	-0.058	0.130	-0.439	0.427	104	-0.066	0.126	-0.457	0.383
ΔWC	104	0.009	0.111	-0.350	0.390	104	0.013	0.136	-0.255	0.781
SIZE	104	24.518	1.341	21.143	27.678	104	24.691	1.287	22.091	28.150
GROWTH	104	5.769	20.398	-42.927	88.771	104	6.999	18.684	-69.058	71.396
EISSUE	104	72.612	458.806	-562.421	4292	104	301.846	2281.605	-254.255	22150.520
LEV	104	0.290	0.745	-3.016	3.936	104	0.223	0.525	-2.879	2.998
DISSUE	104	445.174	3465.108	-91.215	33636.540	104	5151305	4.4e+07	-99.999	4.02e+08
TURNTA	104	1.175	0.693	0.300	3.512	104	1.201	0.829	0.140	4.125
AUD	104	0.712	0.455	0	1	104	0.731	0.446	0	1
COVID19						104	.75	0.435	0	1

Source: Research Work 2022

8.2 Findings on Earning Management after the Revision of the OHADA Accounting Standards

This section of the work presents our results that tells us whether Earnings Management practices reduced (or not) after the revision of the OHADA Accounting Standards adopted on January 26, 2017. As a recap, three proxies are employed here to examine the situation of Earning Management. We have: the variability of Change in Net Income, the variability of Change in Net Income relative to the variability of Change in Cash Flows from operation and lastly the Spearman's Correlation between Operating Accruals and Cash Flows from Operations. The underlying assumption using these proxies is that insiders of firms manage earnings with the intention of smoothing them. In addition, we expect Earnings Management practices to be less visible in the post adoption period of the revised OHADA Accounting Standards than in the pre-adoption period; this because the revised OHADA Accounting Standards have converged more towards the IASB Standards which are presumed to be of higher quality.

8.3 Test 1 for Earning Management: The Variability of Change in Net Income

The first Earnings Management metric is the variability of Change in Net Income (ΔNITA). A higher variance for ΔNITA indicates that the firms are less likely to smooth their earnings (Barth & et al., 2008). Accordingly, it is predicted that firms will display higher variability of ΔNITA in the post-adoption period than in the pre-adoption period of the revised OHADA Accounting Standards. The outcome here is presented in steps: firstly, the overall results of Regression 1 is presented (Table 3), and later, the F-test for the variability of the residuals obtained from the regression is presented in Table 4.

a) Situation on the outcome of the regression function that regresses Change in Net Income (ΔNITA) against firm specific factors (control variables)

Table 3. Generalise OLS (ΛNITA)

VARIABLES	(Reg. 1a) **(ΔNITA)** Before	(Reg. 1b) **(ΔNITA)** After
SIZE	0.0429**	0.174***
	(0.0191)	(0.0327)
GROWTH	0.0716*	0.513***
	(0.0423)	(0.0428)
EISSUE	0.106	0.324***
	(0.487)	(0.0504)
LEV	0.0500	-0.460***
	(0.0604)	(0.0665)
DISSUE	-1,591***	-0.171
	(587.5)	(0.116)
TURNTA	-0.0157	0.0220
	(0.0285)	(0.0363)
OCFTA	0.0586**	-0.0341
	(0.0228)	(0.0298)
AUD	-0.0308***	-0.0148*
	(0.00865)	(0.00809)
Constant	0.440***	0.424***
	(0.0390)	(0.0388)
Observations	104	104
Number of CPNY	26	26
chi2	33.93	367.0
P-Values	0.0000	0.0000
df	8	8
rank	9	9

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author computation, 2022

Where: predicted and control variables are as defined in Reg. 1.

Table 3 above presents the outcome for Regression 1 (Reg. 1). Regressions 1a and 1b are respectively for the two periods; to say, 2014 to 2017 and 2018 to 2021. For Reg. 1, five control variables (that is, SIZE, GROWTH, DISSUE, OCFTA and AUD) and the Constant significantly affect the predicted variable against five control variables (that is, SIZE, GROWTH, EISSUE, LEV and AUD) and the Constant, which significantly affect the predicted variable in Reg. 1b.

b) Variability of Change in Net Income: first indicator of Earnings Management

Table 4. Variance Ratio Test

Variable	**Obs**	**Mean**	**Std.Err.**	**Std.Dev.**	**[95%Conf.**	**Interval]**
Resid ΛNITABef.	104	0.518	0.003	0.027	0.513	0.523
Resid ΛNITAAft.	104	0.535	0.008	0.077	0.520	0.550
Combined	208	0.527	0.004	0.058	0.519	0.535

ratio = sd (RsÉ…NITAB) / sd (RsÉ…NITAaNC) f = 0.1199

Ho: ratio = 1 degrees of freedom = 103, 103

Ha: ratio < 1 Ha: ratio! = 1

Ha: ratio > 1

Pr (F < f) = 0.0000

2*Pr (F < f) = 0.0000

Pr (F > f) = 1.0000

Source: Author computation, 2022

Where: Resid ΛNITABef. and Resid ΛNITAAft.: are the residuals of Regressions 1a and 1b, respectively (see Table 3 above)

The first result, provided in Table 4 above, the test of the variability of Resid ΔNITA suggests that earnings are less volatile in the pre-adoption period than in the post-adoption period, after controlling for other factors. This is because the variability after the revision is higher than before the revision (i.e., Standard Deviations of 0.003 before compared to 0.008 after the revision). This difference is statistically significant at a 0.0000 level, which suggests a significant reduction in Earnings Smoothing and thus an improvement in Financial Reporting Quality (FRQ) after the transition to the revised OHADA Accounting Standards.

8.4 Test 2 for Earning Management: The Variability of Change in Net Income (ΔNITA), Relative to the Variability of Change in Operating Cash Flows (ΔOCFTA)

Firms with more volatile earnings may also have more volatile Cash Flows from Operations (Barth & et al., 2008). Therefore, the second Earnings Management metric controls for this by scaling Changes in Net Income by Changes in Operating Cash Flows. A higher variance for the ratio ΔNITA / ΔOCFTA indicates that the firms are less likely to smooth their earnings. Accordingly, it is predicted that firms will display higher variability of ΔNITA / ΔOCFTA in the post-adoption period than in the pre-adoption period of the revised OHADA Accounting Standards. The outcome here is presented in steps: firstly, the overall results of the regressions are presented (Table 5), and later, the F-test for the variability of the residuals obtained from the two regressions is presented in Table 6.

a) Situation on the outcome of the regression function that regresses Change in Operating Cash Flows (ΔOCFTA) against firm specific factors (control variables).

Table 5. Generalise OLS (ΛOCFTA)

VARIABLES	(2a) **(ΔOCFTA)** Before	(2b) **(ΔOCFTA)** After
SIZE	0.141**	0.0236
	(0.0601)	(0.0412)
GROWTH	0.108	0.159**
	(0.0805)	(0.0705)
EISSUE	2.358**	0.0136
	(0.974)	(0.156)
LEV	0.133	-0.0118
	(0.164)	(0.0280)
DISSUE	-1,898	0.129
	(1,770)	(0.102)
TURNTA	-0.0810	0.0332
	(0.0535)	(0.0495)
OCFTA	0.482***	0.341***
	(0.0625)	(0.0548)
AUD	-0.0409*	0.0175

	(0.0235)	(0.0178)
Constant	0.123	0.277***
	(0.101)	(0.0571)
Observations	104	104
Number of CPNY	26	26
chi2	77.29	50.94
P-Values	0.0000	0.0000
df	8	8
rank	9	9

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author computation, 2022

Where: predicted and control variables are as defined in Regression 2 (Reg. 2).

Table 5 above presents an outcome for Reg. 2. Reg. 2a and 2b, of this table, are respectively for the two periods; to say, 2014 to 2017 1st 2018 to 2021. For the first regression, four control variables (that is, SIZE, EISSUE, OCFTA and AUD) significantly affect the predicted variable against two (that is, GROWTH and OCFTA) and the constant, that significantly affect the predicted variable in Reg. 2b.

b) The variability of the Change in Net Income (ΔNITA) scaled by Change in Operating Cash Flows (ΔOCFTA); second indicator of Earnings Management.

Table 6. Variance Ratio Test before the revision of the OHADA Accounting Standards

Variable	**Obs**	**Mean**	**Std.Err.**	**Std.Dev.**	**[95%Conf.**	**Interval]**
ResidΛNITA Bef.	104	0.518	0.003	0.027	0.513	0.523
ResidΛOCFTA Bef.	104	0.525	0.011	0.115	0.503	0.547
Combined	208	0.522	0.006	0.083	0.510	0.533

ratio = sd (RsÉ…NITAB) / sd(RsÉ…OCFTAB) f = 0.0535

Ho: ratio = 1 degrees of freedom = 103, 103

Ha: ratio < 1

Ha: ratio! = 1

Ha: ratio > 1

Pr (F < f) = 0.0000

2*Pr (F < f) = 0.0000

Pr (F > f) = 1.0000

Source: Author computation, 2022

Table 7. Variance Ratio Test after the revision of the OHADA Accounting Standards

Variable	**Obs**	**Mean**	**Std.Err.**	**Std.Dev.**	**[95%Conf.**	**Interval]**
Resid ΛNITA Aft.	104	0.535	0.008	0.077	0.520	0.550
Resid ΛOCFTA Aft.	104	0.529	0.006	0.063	0.517	0.542
Combined	208	0.532	0.005	0.070	0.523	0.542

ratio = sd (RsÉ…NITAaNC) / sd (RsÉ…OCFTAaNC) f = 1.4800

Ho: ratio = 1 degrees of freedom = 103, 103

Ha: ratio < 1

Ha: ratio! = 1

Ha: ratio > 1

Pr (F < f) = 0.9760

2*Pr (F > f) = 0.0479

Pr (F > f) = 0.0240

Source: Author computation, 2022

Where: ResidΛNITA Bef. / ResidΛNITA Aft. and ResidΛOCFTA Bef. / ResidΛOCFTA Aft. are the residuals of Regressions 1 and 2 respectively (see Tables 3 and 5 above).

The prediction as per Test 2 is that the ratio of the variability of Change in Net Income (ΔNITA) to the variability of the Change in Cash Flow from Operations (ΔOCFTA) should be higher after the adoption of the revised OHADA Accounting Standards than before. The ratio of the variability, in this case, is the F-Statistics. As per Tables 6 and 7, the F-Statistics in the pre and post adoption periods of the revised OHADA Accounting Standards is 0.0535 and 1.4800 respectively. The higher value for the post adoption period is consistent with the prediction and may suggest that the variability in Net Income in the post-adoption period is driven more by the variability in Cash Flow from Operations than by Accruals. The F-statistics for the pre and post adoption periods are statistically significant at the level of 1% and 5% respectively (i.e., 0.0000 and 0.0479). This outcome may be a further confirmation that earning management, to smoothen income, reduced in the post adoption periods of the revised OHADA Accounting Standards.

8.5 Test 3 for Earning Management: The Correlation Between Residuals of Accruals and that of Cash Flow from Operations

Generally, correlations between Accruals and Cash Flows from Operations display negative values. A larger negative correlation can indicate earning smoothing because managers may be responding to poor Cash Flow performance by increasing Accruals (Land and Lang, 2002; Drake, Myers and Myers, 2009). Therefore, we predicted that firms would display a less negative relationship between Accruals and Cash Flows from Operations in the post adoption period of the revised OHADA Accounting Standards than in the pre-adoption period. The outcome here is presented in steps: firstly, the Spearman's Correlation is run between OCFTA and ACCRTA (Table 8). Furthermore, both OCFTA and ACCRTA are regressed on the corresponding control variables (depicted in Regressions 3 and 4), for the four years before and after the revision of the OHADA Accounting Standards (Tables 9 and 10). Residuals from the two regressions are predicted and correlated. (Table 11)

Table 8. The Spearman's Correlation between Cash Flow from Operations and Accruals (Test 3a)

Variable	**Before Revision**	**After Revision**
Spearman's rho	-0.8977	-0.8017
P-values	0.0000	0.0000
Number of obs.	104	104

Source: Author computation, 2022

Table 8 above presents the Correlation Coefficient between OCFTA and ACCRTA, before and after the adoption of the revised OHADA Accounting Standards. It shows that the correlation between Accruals and Cash Flows from Operations is –0.897 and –0.8017 respectively for the periods before and after revision. A lesser coefficient in the post adoption period can be an indication that firms reported smoother Net Income before the revision than after. However, it will be important to verify if the same holds if residuals of the regression of OCFTA and ACCRTA against corresponding control variables are used.

Table 9. Generalise OLS(OCFTA)

	(3a)	(3b)
VARIABLES	**(OCFTA)** Before	**(OCFTA)** After
SIZE	-0.229***	0.00518
	(0.0772)	(0.0748)
GROWTH	0.198	0.0175
	(0.136)	(0.112)

EISSUE	0.874	0.310***
	(1.416)	(0.110)
LEV	-0.317	0.0494
	(0.219)	(0.189)
DISSUE	2,384	0.341***
	(2,324)	(0.0992)
TURNTA	0.279***	0.0665
	(0.0644)	(0.0670)
AUD	-0.00197	-0.0118
	(0.0373)	(0.0282)
Constant	0.490***	0.348***
	(0.137)	(0.106)
Observations	104	104
Number of CPNY	26	26
chi2	45.90	23.34
P-Values	0.000	0.000
df	7	7
rank	8	8

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author computation, 2022

Table 9 above presents the outcome of Reg. 3. Reg. 3a and 3b, of this table, are respectively for the two periods; to say, 2014 to 2017 and 2018 to 2021. For the first regression, two control variables (that is, SIZE and TURNTA) and the Constant significantly affect the predicted variable against two control variables (that is, EISSUE and DISSUE) and the constant, which significantly affect the predicted variable in Reg. 3b.

Table 10. Generalise OLS(ACCRTA)

VARIABLES	(4a) **(ACCRTATA)** Before	(4b) **(ACCRTA)** After
SIZE	0.0821	0.0213
	(0.0632)	(0.0690)
GROWTH	-0.114	0.227***
	(0.0983)	(0.0795)
EISSUE	-0.341	-0.112
	(0.997)	(0.121)
LEV	0.0437	-0.231
	(0.173)	(0.204)
DISSUE	-332.8	-0.306***
	(1,584)	(0.102)
TURNTA	-0.175***	0.0527
	(0.0452)	(0.0576)
AUD	-0.00267	-0.0285
	(0.0228)	(0.0191)
Constant	0.507***	0.444***

	(0.102)	(0.0918)
Observations	104	104
Number of CPNY	26	26
chi2	19.58	20.13
P-Values	0.000	0.000
df	7	7
rank	8	8

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: Author computation, 2022

For what concerns the regression for ACCRTA (Reg 4), Table 10 above presents the outcome for the two periods; to say, 2014 to 2017 and 2018 to 2021. For Regression 4a, one control variable (TURNTA) and the Constant significantly affect the predicted variable against two control variables (that is, GROWTH and DISSUE) and the Constant, which significantly affect the predicted variable in Reg. 4b.

Table 11. The correlation between residuals of OCFTA and ACCRTA (Test 3b)

Variable	**Before Revision**	**After Revision**
Spearman's rho	-0.9394	0.4370
P-values	0.0000	0.0000
Number of obs.	104	104

Source: Author computation, 2022

Table 11 above presents the Spearman's Correlation Coefficient for the residuals of the regressions of OCFTA and ACCRTA, before and after the adoption of the revised OHADA Accounting Standards. The results are consistent with those obtained in Table 8, but for the fact that the Correlation Coefficient in the post-adoption period is positive. However, comparing the absolute value of the coefficients before and after, we can see that the correlation after the revision, in absolute values) is lesser than that before the revision.

The outcomes of the results presented in Tables 8 and 11 show that the correlation of Cash Flow from Operations and Accruals after the adoption of the revised OHADA Accounting Standards is lesser than that before. This may suggest that Earning Management practices reduced after the adoption of the revised OHADA Accounting Standards. This outcome further consolidates the outcomes of Test 1 and Test 2 and confirms the a priori prediction that Earning Management reduced after the adoption of the revised OHADA Accounting Standards or that convergence with the IASB Standards enhances the Quality of Financial Reporting.

9. Conclusions

The current study extends the literature on the situation of Earning Management after the convergence of an accounting standard with the IASB standards. The level of Earnings Management was measured using three proxies namely: the variability of Change in Net Income, the variability of Change in Net Income scaled by Change in Cash Flows from operation and the Spearman Correlation between Cash Flow from Operations and Accruals. It sheds more light on the role of convergence with IFRS in emerging markets to provide more evidence of the impact on the quality of financial information. The results show that firms in the post-adoption period of the revised OHADA Accounting Standards (2018–2021) are less likely to smooth earnings compared to the pre-adoption period (2014–2017). This indicates that adopting Accounting Standards of higher quality can bring an improvement in Financial Reporting Quality, everything being equal.

This study is subject to several limitations. First, the study sample is limited to twenty-six listed companies in the West African Stock Exchange Market. It could be expanded by examining (or including) other markets like the Central African Stock Exchange Market. Second, only three measures of Earning Management are investigated. Further studies can be conducted using other measures like Earnings Persistence, Managing Towards Earnings Targets, Timeliness of Loss Recognition, etc. Notwithstanding, the study did not justify why the Spearman's Correlation Coefficient between the residuals of Cash Flow from Operations and Accruals, in the second half of the study period was positive. However, the results expose the importance of convergence with

(or adopting) IASB Standards and thus have direct implications for practitioners, international standard setters, and regulators. In addition, the results are of interest to analysts and investors who need to understand convergence and Earning Management (or Financial Reporting Quality) issues in emerging markets.

References

Ahmed, A., Neel, M. and Wang. E., (2012). Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence. *Contemporary Accounting Research*, Forthcoming.

Ball, R. and Shivakumar, L., (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics, 39*(1) pp. 83-128. Barth et al., (2008).

Barth, M., Landsman, W. and Lang, M., (2008). International Accounting Standards and accounting quality. *Journal of Accounting Research,46*(3), pp. 467-498.

Barth, M., Landsman, W., Lang, M. and Williams, C., (2006). Accounting quality: International Accounting Standards and US GAAP, Available from: SSRN. [21 October 2010].

Beidleman, C., (1973). Income smoothing: the role of management. *The Accounting Review*, *48*(4), pp. 653-667.

Beattie, V., Brown, S., Ewers, D., John, B., Manson, S., Thomas, D. and Turner, M., (1994). Extraordinary items and income smoothing: a positive accounting approach. *Journal of Business Finance and Accounting, 21*(6), pp. 791-811. Bissessur, (2008).

Bryce, M., Ali, M. J. & Mather, P.R., (2015). Accounting quality in the pre-/post-IFRS adoption periods and the impact on audit committee effectiveness—evidence from Australia. *Pacific-Basin Finance Journal, 35,* 163-181.

Burgstahler, D. & Dichev, I., (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics, 24*, 99-126.

Chen, H., Tang, Q., Jiang, Y. & Lin, Z., (2010). The role of international financial reporting standards in accounting quality: Evidence from the European Union. *Journal of International Financial Management & Accounting, 21*(3), 220-278.

Chua, W. F. & Taylor, S. L., (2008). The rise and rise of IFRS: An examination of IFRS diffusion. *Journal of Accounting and Public Policy, 27*(6), 462-473.

Chua, Y. L., Cheong, C. S. & Gould, G., (2012). The impact of mandatory IFRS adoption on accounting quality: Evidence from Australia. *Journal of International Accounting Research, 11*(1), 119-146. http://doi.org/10.2308/jiar-10212.

Deschow, P.M. and Schrand, C.M., (2004). *Earnings Quality*, Research Foundation of CFA Institute.

Deegan, C. & Unerman, J., (2006). *Financial accounting theory: European edition, McGraw-Hill Education.* pp. 241.

Degos, J. G. & Souleymanou, K., (2018). Révision de l'Acte Uniforme SYSCOHADA: à l'heure de l'adoption des normes IFRS dans les structures informelles des Etats parties. *Revue du Financier.*

Drake, M., Myers, J. and Myers, L., (2009). Disclosure quality and the mispricing of accruals and cash flow. *Journal of Accounting, Auditing & Finance, 24*(3), 357-384. Gordon et al., (2010).

M Hadani, M Goranova, R Khan, (2011). Institutional investors, shareholder activism, and earnings management, *Journal of business research, Elsevier.*

Hasan, T. & Karim, A K M. W., (2005). Regulatory change and the quality of compliance to mandatory disclosure requirements: evidence from Bangladesh, *Working Paper Series, (34),* Victoria University of Wellington, New Zealand.

Hassan, Romilly, Giorgioni & Power, （2009）. The value relevance of disclosure: Evidence from the emerging capital market of Egypt. The *International Journal of Accounting, 44*(1), 79-102. DOI: 10.1016/j.intacc.2008.12.005

Healy, P.M. and Wahlen, J.M., (1999). A Review of the Earnings Management Literature and Its Implications for Standard Setting. *Accounting Horizons, 13*, 365-383. http://dx.doi.org/10.2308/acch.1999.13.4.365.

Heemskerk, M., & L.G. van der Tas., (2006). Veranderingen in resultaatsturing als gevolg van de invoering van IFRS. *Maandblad voor Accountancy en Bedrijfseconomie, 80*, 571-579.

Hung, M. and Subramanyam, K., (2007). Financial statement effects of adopting International Accounting Standards: The Case of Germany. *Review of Accounting Studies, 12*(4), pp. 623-657. Jeanjean & Stolowy (2008).

https://www.ifrs.org/content/dam/ifrs/around-the-world/adoption/use-of-ifrs-around-the world-overview-sept-2018.pdf, Accessed August 30, 2022, at 12:40 pm.

IASB, (2021). Retrieved from *https://www.iasplus.com/en/resources/ifrsf/governance/ifr*s Accessed June 30, 2022.

Land, J. and Lang. M., (2002). Empirical evidence on the evolution of international earnings. *The Accounting Review, 77*(s-1), pp. 115-133.

Lang M, Raedy JS, Wilson W., (2006). Earnings Management and Cross Listing: Are Reconciled Earnings Comparable to US Earnings? *Journal of Accounting and Economics, 42*(1-2), 255-283. DOI= https://doi.org/10.1016/j.jacceco.2006.04.005.

Lang, M., Raedy, J. & Wilson, W., (2005). Earnings management and cross listing: Are reconciled earnings comparable to US earnings. University of North Carolina.

Leuz, C., (2003). IAS versus U.S. GAAP: Information asymmetry-based evidence from Germany's New Market. *Journal of Accounting Research, 41*(3), pp. 445-472.

Leuz, C., Nanda, D. and Wysocki, P., (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics, 69*(3), pp. 505-527.

Moses, O., (1987). Income smoothing and incentives: Empirical tests using accounting changes. *The Accounting Review, 62*(2), pp. 358-377.

OLADEJI W. S. and AGBESANYA E. O., (2019, June). Benefits and Challenges of Adoption of International Financial Reporting Standards. *International Journal of Research and Innovation in Social Science (IJRISS), III*(VI).

Paananen, M. and Lin, H., (2009). The development of accounting quality of IAS and IFRS over time: The case of Germany. *Journal of International Accounting Research, 8*(1), pp. 31-55.

Palacios Manzano M, Martinez Conesa I., (2014). Assessing the Impact of IFRS Adaptation on Earnings Management: An Emerging Market Perspective. *Transformation in Business & Economics, 13*(1(31)), 21-40.

Pelucio-Grecco, Marta Cristina & Geron, Cecília Moraes Santostaso & Grecco, Gerson Begas & Lima, João Paulo Cavalcante, (2014). The effect of IFRS on earnings management in Brazilian non-financial public companies, *Emerging Markets Review, Elsevier, 21*(C), pp. 42-66.

Van Tendeloo, B. and Vanstraelen, A., (2005). Earnings management under German GAAP versus IFRS. *European Accounting Review,14*(1), pp. 155-180.

Watts, R. and Zimmerman, J., (1978). Towards a positive theory of the determination of accounting standards. *The Accounting Review, 53*(1), pp. 112-134.

Appendix A

Number of firms per sector

Sector	Number of Firms	Cumulation
Agri Business	5	5
Distribution	6	11
Industrial	10	21
Public Utilities	3	24
Transport	2	26
Total	**26**	

Appendix B

Stata 15 Output for Reg. 1a.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.2162)

Estimated covariances      =        26          Number of obs     =       104
Estimated autocorrelations =         1          Number of groups  =        26
Estimated coefficients     =         9          Time periods      =         4
                                                Wald chi2(8)      =     33.93
                                                Prob > chi2       =    0.0000
```

ΔNITA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.0428939	.0191375	2.24	0.025	.005385	.0804028
GROWTH	.0715748	.0422737	1.69	0.090	-.0112802	.1544298
EISSUE	.1060118	.4869714	0.22	0.828	-.8484346	1.060458
LEV	.0499651	.0604409	0.83	0.408	-.0684969	.168427
DISSUE	-1591.13	587.4525	-2.71	0.007	-2742.515	-439.7439
TURNTA	-.0157233	.0285148	-0.55	0.581	-.0716113	.0401648
OCFTA	.058622	.0228388	2.57	0.010	.0138587	.1033852
AUD	-.0308313	.0086522	-3.56	0.000	-.0477893	-.0138733
_cons	.4401741	.0389958	11.29	0.000	.3637438	.5166044

Appendix C

Stata 15 Output for Reg. 1b.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (-0.0418)

Estimated covariances      =        26          Number of obs     =       104
Estimated autocorrelations =         1          Number of groups  =        26
Estimated coefficients     =         9          Time periods      =         4
                                                Wald chi2(8)      =    367.04
                                                Prob > chi2       =    0.0000
```

ΔNITA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.1735841	.0326911	5.31	0.000	.1095107	.2376576
GROWTH	.5127831	.0427908	11.98	0.000	.4289147	.5966515
EISSUE	.3238073	.0504078	6.42	0.000	.2250098	.4226047
LEV	-.4601084	.0664644	-6.92	0.000	-.5903763	-.3298405
DISSUE	-.1711093	.1158569	-1.48	0.140	-.3981846	.055966
TURNTA	.0219511	.0363394	0.60	0.546	-.0492728	.093175
OCFTA	-.0340645	.0297881	-1.14	0.253	-.0924481	.0243192
AUD	-.0148118	.0080947	-1.83	0.067	-.0306772	.0010535
_cons	.4237096	.0387996	10.92	0.000	.3476638	.4997554

Appendix D

Stata 15 Output for Test 1

```
Variance ratio test
```

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
RsΔNITAB	104	.5183197	.0026032	.0265472	.5131569	.5234825
RsΔNI~NC	104	.5349665	.0075178	.0766671	.5200567	.5498764
combined	208	.5266431	.0040102	.0578361	.518737	.5345492

```
    ratio = sd(RsΔNITAB) / sd(RsΔNITAaNC)                     f =   0.1199
Ho: ratio = 1                                 degrees of freedom = 103, 103

    Ha: ratio < 1               Ha: ratio != 1                 Ha: ratio > 1
```

Appendix E

Stata 15 Output for Reg. 2a.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.3067)

Estimated covariances      =        26          Number of obs     =       104
Estimated autocorrelations =         1          Number of groups  =        26
Estimated coefficients     =         9          Time periods      =         4
                                                Wald chi2(8)      =     77.29
                                                Prob > chi2       =    0.0000
```

ΔOCFTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.1414522	.060062	2.36	0.019	.0237327	.2591716
GROWTH	.1083709	.0804739	1.35	0.178	-.0493551	.2660969
EISSUE	2.357518	.9735402	2.42	0.015	.4494141	4.265621
LEV	.1330675	.1639536	0.81	0.417	-.1882756	.4544106
DISSUE	-1898.414	1770.178	-1.07	0.284	-5367.898	1571.071
TURNTA	-.0809559	.0534751	-1.51	0.130	-.1857651	.0238534
OCFTA	.4823783	.0625317	7.71	0.000	.3598184	.6049381
AUD	-.0408615	.0235234	-1.74	0.082	-.0869665	.0052435
_cons	.1231776	.10108	1.22	0.223	-.0749354	.3212907

Appendix F

Stata 15 Output for Reg. 2b.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.1101)

Estimated covariances      =        26          Number of obs     =       104
Estimated autocorrelations =         1          Number of groups  =        26
Estimated coefficients     =         9          Time periods      =         4
                                                Wald chi2(8)      =     50.94
                                                Prob > chi2       =    0.0000
```

ΔOCFTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.0235772	.0412102	0.57	0.567	-.0571933	.1043478
GROWTH	.1587544	.0704893	2.25	0.024	.0205979	.2969109
EISSUE	.0136493	.1559514	0.09	0.930	-.2920098	.3193083
LEV	-.0118055	.0279995	-0.42	0.673	-.0666835	.0430725
DISSUE	.1292195	.101994	1.27	0.205	-.070685	.3291241
TURNTA	.0331685	.0495416	0.67	0.503	-.0639313	.1302682
OCFTA	.3409781	.0548092	6.22	0.000	.2335541	.4484021
AUD	.0174821	.0177917	0.98	0.326	-.0173889	.0523532
_cons	.2771037	.0571455	4.85	0.000	.1651007	.3891068

Appendix G

Stata 15 Output for Test 2

Variance ratio test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
RsΛNITAB	104	.5183197	.0026032	.0265472	.5131569	.5234825
RsΛOCF~B	104	.5249654	.0112563	.1147922	.5026412	.5472897
combined	208	.5216426	.0057674	.0831779	.5102723	.5330129

ratio = sd(RsΛNITAB) / sd(RsΛOCFTAB) f = 0.0535
Ho: ratio = 1 degrees of freedom = 103, 103

Ha: ratio < 1 Ha: ratio != 1 Ha: ratio > 1
Pr(F < f) = 0.0000 2*Pr(F < f) = 0.0000 Pr(F > f) = 1.0000

Variance ratio test

Variable	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf.	Interval]
RsΛNI~NC	104	.5349665	.0075178	.0766671	.5200567	.5498764
RsΛOC~NC	104	.5293364	.0061796	.0630203	.5170805	.5415923
combined	208	.5321515	.004858	.0700634	.5225739	.541729

ratio = sd(RsΛNITAaNC) / sd(RsΛOCFTAaNC) f = 1.4800
Ho: ratio = 1 degrees of freedom = 103, 103

Ha: ratio < 1 Ha: ratio != 1 Ha: ratio > 1
Pr(F < f) = 0.9760 2*Pr(F > f) = 0.0479 Pr(F > f) = 0.0240

Appendix H

Stata 15 Output for Test 3a

Number of obs = 104
Spearman's rho = -0.8977

Test of Ho: OCFTA and ACCRTA are independent
Prob > |t| = 0.0000

Number of obs = 104
Spearman's rho = -0.8017

Test of Ho: OCFTA and ACCRTA are independent
Prob > |t| = 0.0000

Appendix I

Stata 15 Output for Reg. 3a.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.1306)

Estimated covariances      =        26          Number of obs      =       104
Estimated autocorrelations =         1          Number of groups   =        26
Estimated coefficients     =         8          Time periods       =         4
                                                Wald chi2(7)       =     45.90
                                                Prob > chi2        =    0.0000
```

OCFTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	-.2285101	.0771733	-2.96	0.003	-.3797669	-.0772532
GROWTH	.197932	.1358549	1.46	0.145	-.0683388	.4642027
EISSUE	.8735408	1.416381	0.62	0.537	-1.902515	3.649597
LEV	-.3165147	.2192069	-1.44	0.149	-.7461524	.1131229
DISSUE	2384.447	2323.514	1.03	0.305	-2169.556	6938.45
TURNTA	.2787758	.0644125	4.33	0.000	.1525297	.405022
AUD	-.0019654	.0372585	-0.05	0.958	-.0749908	.07106
_cons	.4904153	.1372574	3.57	0.000	.2213957	.7594348

Appendix J

Stata 15 Output for Reg. 3b.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.2045)

Estimated covariances      =        26          Number of obs      =       104
Estimated autocorrelations =         1          Number of groups   =        26
Estimated coefficients     =         8          Time periods       =         4
                                                Wald chi2(7)       =     23.34
                                                Prob > chi2        =    0.0015
```

OCFTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.0051841	.0748389	0.07	0.945	-.1414975	.1518657
GROWTH	.0174518	.112198	0.16	0.876	-.2024523	.2373558
EISSUE	.3102195	.1104962	2.81	0.005	.0936509	.5267881
LEV	.0493556	.1892321	0.26	0.794	-.3215325	.4202437
DISSUE	.3405556	.0992251	3.43	0.001	.146078	.5350332
TURNTA	.0664767	.0669814	0.99	0.321	-.0648044	.1977579
AUD	-.0117685	.0281568	-0.42	0.676	-.0669548	.0434178
_cons	.3484412	.1058437	3.29	0.001	.1409913	.5558911

Appendix K

Stata 15 Output for Reg. 4a.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.1324)

Estimated covariances      =        26          Number of obs      =       104
Estimated autocorrelations =         1          Number of groups   =        26
Estimated coefficients     =         8          Time periods       =         4
                                                Wald chi2(7)       =     19.58
                                                Prob > chi2        =    0.0065
```

ACCRTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.0820527	.0631815	1.30	0.194	-.0417807	.2058861
GROWTH	-.1140624	.0983104	-1.16	0.246	-.3067472	.0786224
EISSUE	-.3412531	.996673	-0.34	0.732	-2.294696	1.61219
LEV	.0437371	.1725711	0.25	0.800	-.294496	.3819703
DISSUE	-332.8307	1584.457	-0.21	0.834	-3438.309	2772.647
TURNTA	-.1748025	.0452005	-3.87	0.000	-.2633939	-.0862111
AUD	-.0026675	.0227671	-0.12	0.907	-.0472902	.0419552
_cons	.5069851	.1021487	4.96	0.000	.3067772	.7071929

Appendix L

Stata 15 Output for Reg. 4b.

```
Cross-sectional time-series FGLS regression

Coefficients:  generalized least squares
Panels:        heteroskedastic
Correlation:   common AR(1) coefficient for all panels  (0.1858)

Estimated covariances      =        26          Number of obs     =       104
Estimated autocorrelations =         1          Number of groups  =        26
Estimated coefficients     =         8          Time periods      =         4
                                                Wald chi2(7)      =     20.13
                                                Prob > chi2       =    0.0053
```

ACCRTA	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
SIZE	.0213299	.0689978	0.31	0.757	-.1139033	.1565632
GROWTH	.2268897	.0795127	2.85	0.004	.0710477	.3827317
EISSUE	-.1121428	.1207702	-0.93	0.353	-.348848	.1245624
LEV	-.2312099	.2042647	-1.13	0.258	-.6315612	.1691415
DISSUE	-.3063125	.1018097	-3.01	0.003	-.5058558	-.1067691
TURNTA	.0526675	.0576053	0.91	0.361	-.0602368	.1655719
AUD	-.0284957	.0191356	-1.49	0.136	-.0660008	.0090094
_cons	.4439226	.0917852	4.84	0.000	.2640269	.6238183

Appendix M

Stata 15 Output for Test 3b

```
Number of obs =     104
Spearman's rho =     -0.9394

Test of Ho: ROCFTAbef and RACCRTAbef are independent
    Prob > |t| =      0.0000
```

```
Number of obs =     104
Spearman's rho =      0.4370

Test of Ho: ROCFTAaftNC and RACCRTAaftNC are independent
    Prob > |t| =      0.0000
```

[i] https://www.ifrs.org/content/dam/ifrs/around-the-world/adoption/use-of-ifrs-around-the-world-overview-sept-2018.pdf, Accessed August 30, 2022 at 12:40pm.

[ii] Website: http//www.brvm.org