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The Earnings Management Effect of IFRS Implementation: Evidence from an Emerging Economy

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Abstract: The issue of earnings management continues to be focus of recent research in accounting due to its implications for capital market. This study assesses the effects of IFRS adoption on earnings management for emerging economy with specific evidence based on comprehensive samples of listed firms on South Africa (SA). Using a sample of 186 listed firms, the procedure supposes a random effect estimation to examine the relationship between earnings management and considered variable, for the "prior-IFRS period (2000 to 2004)" and the "post-IFRS period (2017 to 2022)". The finding confirms significant negative effect of IFRS-adoption on earnings misreporting, suggesting that IFRS-adoption caused a reduction in earnings manipulations in SA. Moreso, book-to-market values, returns on assets and cash flow from operations significantly explains earnings management practices in SA. Lastly, the outcome is observed to be robust and not sensitive to the methods applied for the test; thus, the evidence can be used to make informed policy decisions. The findings have implication for regulation, policy making, and would boost stakeholder's interests on the capital market in the economy. We recommend that regulators should ensure regular assessment and quality audits of firms' reports, as such would enhance the integrity of represented financial information and protect investor's funds.

Keywords: IFRS; Earnings management; Discretionary accruals; Capital market; Random effect estimation

JEL Classification: C21; M40; M48

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1. Introduction

The development of the internetional accounting system dates to the 1960s, when the international harmonizination of domestic accounting standards commenced. In 1973, around 16 accounting professional bodies from various countries, especially from the US, UK, Australia, Canada, Japan, Mexico and three EU members (France, Germany, and Netherlands) created the International Accounting Standards Committee (IASC). The IASC holds the responsibility to issue a globally accepted accounting standard. The IASC was redeveloped to create the International Accounting Standard Board (IASB) in 2001. The board was tasked with the aim of issuing and ensuring the application of the International International Financial Reporting Standards (IFRS, then IFRS 1) to serve as the Primary Basis of Accounting. Afterward, there have been continuous modifications made in forms of amendments to the IFRS 1 (IFRS, 2023). The regular improvement of the standards results in several countries to mandatorily adopt, implement, and require the standard for listed domestic and multinational companies. The hallmark was popularity of the standard was when the EU requires member countries' listed entities to adopt IFRS for representing consolidated accounts of companies in January 2005 (Adedokun, et. al, 2022).

Several studies have investigated different issues on IFRS especially on its harmonisation and convergence with local standards, adoption, and implementation as well as its compliance and consequences (Shruti & Thenmozhi, 2023; Kabir & Su, 2022; Cho, et. al, 2021; Mongruta & Winkelried, 2019; Black & Maggina, 2016; Espinosa, et. al, 2015). Shruti and Thenmozhi (2023) report that though active institutional capital has beneficial influence on how IFRS impact founders' shareholding, but the passive institutional capital has detrimental effects on same. Kabir and Su (2022) show, for some companies whose income recognition are affected by IFRS-adoption, the Standard has no sales impact but foster deferral of revenue recognition. Cho, et. al. (2021) reveal that market reaction to lFRS tightens the gap between values and prices through improves trading volume and market liquidity but decrease in performance volatility. Mongruta and Winkelried (2019) argue that the implementation of IFRS instigates firms to substitute high quality accounting practices in Latin America. Espinosa, et. al. (2015) report that although the implementation of IFRS in Chile causes deviations in financial performance but does not result in its significant improvement or deterioration. Bayerlein and Al-Farooque (2012) show that IFRS implementation supports tax harmonization and goodwill financial accounting in the UK, Australia, and Hong-Kong.

There is evidence that IFRS adoption have impact on earnings management (EM) (Adedokun, et. al, 2022). Earnings management are "sharp" practices engaged by managers involving the use of personal discretion to adjust underlying financial performance. Such misreporting is deceitful and may lead to severe financial

undesirable outcomes, including significant loss to creditors and shareholders (Brennan, 2022). Also, the integrity of the capital market is at risk because if EM is detected, it may discourage institutional investments as well as capital flow (Groff & Mörec, 2020). Many studies on EM are considered based on agency theory, from Jensen and Mecklings (1976). The model depicts that the principals (i.e., shareholders) contractually employ agents (i.e., management) to involves ethical measures to manage her investment and maximize her wealth. EM in this case arises due to existence of information asymmetry, which makes the agents pursue self-interests, that often are unfavourable to the principal (Unerman, 2020; Mercier & Sperber, 2017).

This study assesses the effects of IFRS adoption on earnings management for emerging economy with specific evidence based on comprehensive samples of listed firms on South Africa (SA). The issue become necessary to address given the importance and implications for capital market efficient, hence, the focus by recent research (Groff & Mörec, 2020; De-Moura & Gupta, De George, et. al, 2019; DeFond, et. al, 2018). News report provides cases of corporate manipulations for Johannesburg Securities Exchange (JSE) firms, including Masterbond and LeisureNet amongst several others, listed on the JSE (Akande, et. al, 2023). Prior evidence shows that IFRS-adoption has implications for earnings management in SA (Isaboke & Chen, 2019; Ozili & Outa, 2018; Yeboah & Yeboah, 2015). Isaboke and Chen (2019) suggest that financial irregularities perpetuated in the SA are associated to weak institutional and regulatory settings. Ozili and Outa (2018) reports that well-capitalised banks implement the IFRS apply loan-loss provisions in earning smoothing during periods of economic boom. Yeboah and Yeboah (2015) observe that comparability benefits from IFRS explain significant reduction in earning manipulations. Despite available research on earnings management response to the IFRS adoption (Adedokun, et. al, 2022, Kund & Neitzert, 2020; Cadot, et. al, 2020), the study contributes by providing more recent earnings management evidence of post IFRS implementation in SA through an accrual-based EM approach.

In line with other recent studies, the paper uses a multivariate panel estimation to confirm that IFRS adoption has implications for earnings manipulations in SA (Adedokun, et. al, 2022; Mensah, 2020; Kousay, 2019). herefore, the paper attempts to find a more definitive response to the relationship between EM practice and IFRS adoption in an emerging economy.

This paper seeks two folds objectives. First, the study empirically confirms whether the IFRS- adoption likely affects estimated discretionary accruals-based EM. To demonstrate this, the paper estimates the extent of EM using the modified Jones discretionary metrics and estimates fixed and random effects models to show how IFRS dummy, alongside other considered correlated controls likely, explains the extent of the estimated earnings management. Because in SA, IFRS was harmonised

with the domestic accounting standards before mandatory adoption, the benefit from adoption is expected to be less (Gbadebo, 2023; Yeboah & Yeboah, 2015). Hence, the paper tests the first null that "IFRS-adoption does not have likely significant effect on earnings management in SA". Second, the paper demonstrates whether the estimation is sensitive to the controlled variables involved. Because earnings management is expected to be insensitivity to this correlated performance (Malofeeva, 2018; DeFond, et. al, 2019), the paper evaluates a second null that "earnings management in SA is sensitive to the choice of performance measure employed".

The finding confirms significant negative effect of IFRS-adoption on earnings misreporting, suggesting that IFRS-adoption caused a reduction in earnings manipulations in SA. Moreso, book-to-market values, returns on assets and cash flow from operations significantly explains earnings management practices in SA. The result is observed to be robust and not sensitive to the methods applied for the test; thus, the evidence can be used to make informed policy decisions. The reminder of the paper is structured such that literature is reviewed in Section 2, the methodology is discussed in Section 3, the empirical results are presented in Section 4 and conclusion in Section 5.

2. Literature

The progressive adoption of IFRS has prompted different research to examine "its impacts on accounting reporting qualities and earnings management. Several empirical papers, including single and cross countries studies, have investigated the impact accounting regulations and IFRS adoption. Some studies identify the positive (negative) impacts and benefits (costs) of accounting regulations. By positive (negative) impact, they find accounting regulations and IFRS brings about increase (decrease) in accounting quality or a reduction (rise) in earnings management (Adedokun, et. al, 2022; Cadot, et. al, 2020; Chimonaki & Konstantinos, 2020; Kund & Neitzert, 2020; Ozili & Outa, 2019).

Cross-countries studies that investigate the effects of the IFRS adoption by listed firms on earnings manipulations are mostly based on the Asia (Sáenz & Sánchez, 2017; Lev & Nissim, 2006) as well as the Europe which region is considered the harbingers of IFRS adoption, and have recorded several research (Cadot, et. al, 2020; Chimonaki & Konstantinos, 2020; Mongruta & Winkelried, 2019). Martínez (2015) reviewed the impact of the convergence to IFRS on the accounting quality of 75 firms and found significant decrease in EM due to convergence of IFRS. Kousay (2019) explore the impact of Adoption on EM in Canada 8 and found IFRS has no direct influence on earnings management used among publicly listed firms.

Dimitropoulos, et. al. (2013) showed how book value of common equity, net income per share and dummy affects the discretionary accruals of 101 European firms from 2001 to 2008 period and found that IFRS contributed less EM and time-loss recognition. Ugrin, et. al. (2017) observed the relationship between IFRS-adoption and EM is not uniform across countries in Europe. He found that earnings management is relatively higher after adoption. Chimonaki and Konstantinos (2020) verify whether transparency in accounting reporting has improved due to adoption firms and found that IFRS enhanced transparency and reduce information costs.

Rahmaningtyas and Mita (2017) and Capkun, et. al. (2016) appear to support that accounting regulations increases earnings manipulations. Ugrin, et. al. (2017) support existence of a non-uniform rise earnings management amongst considered firms across Europe. Baig and Khan (2016) reveal evidence that regulations such as IFRS explains decrease earnings manipulations. Some studies reveal neutral and inconclusive evidence (Abuda & Rudiawarni, 2014; Bryce, et. al, 2015). Abuda and Rudiawarni (2014) discover that there is no significant variations in Indonesia's firms earnings management due to accounting regulations, whereas Bryce, et. al. (2015) show that accounting quality remain stable whether for the use of Australian GAAP or IFRS. Notably, using different methods, some evidence identified results that are either mixed or even of no significant effect (Kousay, 2019; Malofeeva, 2018).

Udayakumara and Weerathunga (2016) investigated how the IFRS/Adoption impact EM in 157 firms in Sri Lankan and found existence of higher earnings smoothing due to mandatory IFRS adoption, which is an indicative of higher level of EM. Klish, Shubita and Wu (2021) use the bootstrapping approach to identify how EM has reduced since adoptions relative to the local standards. The paper found that IFRS-adopters benefited from adoption in the 9 countries from the Middle Eastern and North African (MENA) region. Awan (2022) document how IFRS adoption affect accounting quality in banking sector efficiency in Pakistan and found significant positive correlation between discretionary weights and IFRS but, a significant negative correlation between IFRS and earnings per share. Mensah (2020) show how adoption affect EM in Ghana and found that IFRS adoption reduced earnings managed. Adedokun, et. al. (2022) show how IFRS affect accrual-based managed earnings for a sample of125 firms in Nigeria and found significant difference between earnings management of pre- and" post-adoption. Table 1 offers a summary of their outcomes.

Table 1. Summary of Selected Studies

Author	Country	Variable	Remarks
Arndt-Gerrit Kund & Florian Neitzert (2020)	15 European Countries	Percentage of Tier 1 Capital, Percentage of Equity; Consumer Price in GDP, Unemployment Rate, Net Income, Return on Assets, Leverage Ratio, Dummy for IFRS, if applicable, Percent of Loan Loss Reserves	Risk-sensitive capital requirements are proactively managed but risk-insensitive are not managed.
Cadot, Rezaee & Chemama (2020)	European Union	Small positive returns, Small positive changes of returns, Current accruals, discretionary accruals are the residuals; Leverage ratio, Net sales Price-earnings ratio	They establish that except for firms using derivatives, earnings management has faded with IFRS adoption. IFRS adoption has improved the accounting quality of firms but the flexibility of the new standards regarding derivatives reporting are applied by managers to manage earnings.
Freitas de Moura, Altuwaijri & Gupta (2020)	Argentina, Brazil, Chile, Mexico, and Peru	Discretionary accruals, Cost of equity; IFRS adoption dummy; Market value of equity, Standard deviation of stock returns, Leverage, Country dummy, Dummy for 12 North American Industry Classification System	There is enhanced disclosure due to IFRS adoption in comparison to previous domestic accounting standards. Also, the cost of debt was reduced after the IFRS adoption.
Mongruta & Winkelried (2019)	Latin America: Argentina, Brazil, Chile, Colombia, Mexico, and Peru	Earnings opacity; IFRS adoption dummy, Audit quality, Size (assets), Bid-Ask spread, Concentration	There is evidence sufficient to disprove the belief that the mere adoption of IFRS is sufficient to guarantee transparency in emerging markets.

Rahmaningtyas & Mita (2017)	Asian countries: Indonesia, Malaysia, Taiwan, Philippines, Korea, Hong Kong	Kothari, Leone and Wasley discretionary accruals; IFRS dummy, Investor protection index, Sales growth rate, Operating cash flow, GDP growth of firm	Earnings management is higher after IFRS adoption. The positive links of IFRS with earnings management is lower in countries with strong investor protection.
Ugrin, Mason & Emley (2017)	14 EU countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, Netherland, U.K., Norway, Portugal, Spain, Sweden	Discretionary accruals; Profit margin and equals net income before extraordinary; Firms operating cycle, Firm size, Logarithm of total assets, Dummy for legal system, IFRS dummy	Earnings management increased amongst firms in Europe post-IFRS adoption, but the relation between adoption of IFRS and earnings management is not uniform across countries.
Capkun, Collins & Jeanjean (2016)	Cross-continental, 29 countries that transitioned to IAS/IFRS between 1994 and 2009	Volatility of year-to-year changes in net income, Volatility of net income scaled by the volatility of cash flows, Correlation between residual cash flows and residual accruals; Natural logarithm of end of year market value of equity, Leverage.	There was increase in earnings management (smoothing) after 2005 for Early, Late and Mandatory Adopters. No differences in earnings smoothing between the Early Adopters and Late Adopters in the post-2005 IFRS regime.

Table 1.1. (Continues). Summary of Selected Studies

Author	Country	Variable	Remarks
Rathke, Lourenço, Santana & Dalmácio (2016)	Brazil, Chile (Latin America); France, Germany (Continental Europe), United Kingdom,	Absolute discretionary accruals; Profitability, Growth potential Size, Leverage level Investment opportunities Cash flow from operations scaled by total assets (CFO), Dummy	Latin American firms shows a higher earnings management than Anglo-Saxon firms and Continental European companies. The countries' specific characteristics play

	Australia, (Anglo-Saxon)	variables to indicate if the firm is audited by a Big Four audit firm.	fundamental role on the individual country's IFRS implementation.
Leung & Verriest (2015)	18 European countries: Austria, Belglum, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK.	Segment reporting quality; Size, Profitability (return on assets) and a dummy for firms that suffer a loss.	Segment disaggregation does not increase uniformly for all firms. Also, firms report more disaggregated segments under IFRS 8 implying more geographical segments are disclosed.
Li & Yang (2016)	40 Selected Countries	DISC represents a measure of voluntary disclosure; Dummy for IFRS adoption, Size, Profitability (Net income divided by total assets), Book value of equity divided by market value of equity), Leverage (long-term debt divided by total assets), standard deviation of earnings divided by total assets	There is a significant increase in the likelihood of management earnings forecasts following mandatory IFRS adoption. The increase is larger amongst firms domiciled in code-law countries.
Chebaane & Othman (2014)	Cross-continental: 7 countries: UAE, Bahrain, Jordan, Kuwait, Qatar, Turkey, and South Africa.	Price of common stock, Price of share on earnings per share; Dummy for adoption of IFRS, Degree of external economic openness, Rate of net inflows foreign, Direct investment, Dummy variable common law countries, Leverage, Size sales growth rate, Strength of investor	The role of earnings per share became more observable in the post-adoption period. The increase of the value level are positively influenced by a high level of external economic openness, a common law legal system, a strong investor protection, and a full

		protection in country, Minority shareholders interest protection	protection of minority shareholders.
Doukakis (2014)	22 European Union	Accrual-based, Real earnings management; Growth, Firm size, Financial leverage, Ownership structure, Profitability, Dummy variable for Post IFRS, Dummy for auditor type	Establish that IFRS adoption had no significant effect on either real or accrual-based earnings management practices. There is strong earnings management incentives for firm-level reporting over accounting standards.

Source: Author (2024)

3. Data and Method

For the data, the study includes all listed companies on the JSE. We sourced information on variables needed to estimate earnings management. The firm-years accounting "information, on the earnings management variables and estimated models, are sourced from companies' audited reports and the McGregor BFA database. Because only firms with complete information during the examined periods are required the paper excludes all companies and firm-year with insufficient information are for all required variables, thus, obtaining a final sample of 186 listed firms.

For the measurement of EM, in line with extent empirical literature the paper uses the modified Jones' model from Dechow, et. al. (1995) **(**Adedokun, et. al, 2022; Lo, et. al, 2017). The model, which estimate the level of discretionary accruals as the extent of firm's earnings management, for firm i in year t, supposes to adjusts associated change in net receivables from changes in the revenues to accommodate wider reported earnings management. Afterward, the model regresses the scaled $TA_{i,t}$ defined by equation (1) on normalised ($\Delta REV_{i,t} - \Delta REC_{i,t}$) and $PPE_{i,t}$. The discretionary term – i.e., the residuals' estimates – is the modified Jones' discretionary accruals ($MJDA_{i,t}$), measured by equation (2).

$$TA_{i,t}/A_{i,t-1} = \beta_0[1/A_{i,t-1}] + \beta_1[(\Delta REV_{i,t} - \Delta REC_{i,t})/A_{i,t-1}] + \beta_2[PPE_{i,t}/A_{i,t-1}] + e_{2i,t} \quad (1)$$

$$\hat{e}_{2i,t}(\equiv MJDA_{i,t}) = TA_{i,t}/A_{i,t-1} - \hat{\beta}_0[1/A_{i,t-1}] + \hat{\beta}_1[(\Delta REV_{i,t} - \Delta REC_{i,t})/A_{i,t-1}] + \hat{\beta}_2[PPE_{i,t}/A_{i,t-1}] \quad (2)$$

Where for firm i in year $t, \Delta REC_{i,t}$ (change in receivable) is computed as net receivables in year t minus net receivables in year $t-1$); $TA_{i,t}$ (Total accruals) is computed as the difference between operating profit and cash flow from operations (Hribar & Collins, 2002). $\Delta REV_{i,t}$ (Change in revenues) is computed as the revenues in year t minus revenues in year $t-1$), $PPE_{i,t}$ is gross property, plant and equipment in year $t, A_{i,t-1}$ is total assets in year $t-1$.

To capture the earnings management effects of IFRS-adoption, the paper follows prior literature (Adedokun, et. al, 2022; De-Moura, et. al, 2020; Odoemelam, et. al, 2019) to estimate how IFRS-adoption influence the mean of discretionary accruals using equation (3):

$$MJDA_{i,t} = \delta_0 + \delta_1 BTM_{i,t} + \delta_2 CFO_{i,t} + \delta_3 BIG4_{i,t} + \delta_4 FLVG_{i,t} + \delta_5 GRW_{i,t} + \delta_6 ROA_{i,t} + \delta_7 IFRS_{i,t} + \delta_8 [GRW \times IFRS]_{i,t} + \delta_9 [ROA \times IFRS]_{i,t} + \varepsilon_{1i,t} \quad \text{..... (3)}$$

Where: $\text{MJDA}_{i,t}$ (Discretionary Accruals' EM) captures the direction (increase or reduced smoothing) (Malofeeva, 2018); $\text{IFRS}_{i,t}$ (Dummy for IFRS/Accounting Standard) measures as dichotomy variable which takes the 1 for periods following the Adoption but 0 otherwise, and is expected to have negative impact on $\text{MJDA}_{i,t}$ (EM) estimate (Rathke, et. al, 2016; De Moura, et. al, 2020). Its coefficient δ_7 identifies the explanatory power of the effects of IFRS on earnings management, due to the transition from the prior IFRS to the post IFRS regime. Consistent with corresponding literature indicated, the paper controls for other firms specific factors that may influence the extent of EM. The influence of δ_7 – the coefficient of the main variable of interest ($\text{IFRS}_{i,t}$) – as well as the coefficient of other experimental and controlled variables on the discretionary accruals would be used to examine stated hypotheses.

$\text{ROA}_{i,t}$ ($Return\ on\ assets$) is measured as net profit to lagged total asset for firm, and expected to have positive impact on $\text{MJDA}_{i,t}$(Gbadebo, 2023; Adedokun, et. al, 2022; De Moura, et. al, 2020; Ugrin, et. al, 2017). $\text{GRW}_{i,t}$ (Firm growth rate) measures as the sales in year *t* minus sales in *t* – 1, and scaled by sales in year *t* – 1,

and would be expected to have positive impact on $\text{MJDA}_{i,t}$ (DeFond, et. al, 2019; Malofeeva, 2018). $\text{CFO}_{\text{i,t}}$ (Cash Flow from Operations) measures as the standard deviation of cash flow of operations scaled by firm i total assets in year t, and expected to have negative impact on $\text{MJDA}_{\text{i,t}}$ (EM) estimate (Rathke, et. al, 2016). $\text{BTM}_{\text{i,t}}$ (Book-Market-Value) measures as the ratio between a firm's book value and market value of total assets and expected to have either positive or negative impact on $\text{MJDA}_{\text{i,t}}$ (EM) estimate (DeFond, et. al, 2019; Rathke, et. al, 2016). $\text{FLVG}_{\text{i,t}}$ (Financial Leverage) measure as total liabilities scaled by total assets for firm i in year t (Gbadebo, 2023; Adedokun, et. al, 2022; De Moura, et. al, 2020; Ugrin, et. al, 2017).

The variable $[GRW \times \text{IFRS}]_{i,t}$ (Interaction between $GRW_{i,t}$ and $\text{IFRS}_{i,t}$), with the coefficient $\delta_{8,}$ measures how $IFRS_{i,t}$ influences the relationship between $GRW_{i,t}$, and is expected to have positive impact on $\text{MJDA}_{i,t}$. The variable $[ROA \times \text{IFRS}]_{i,t}$ (Interaction between $ROA_{i,t}$ and $\text{IFRS}_{i,t}$), with the coefficient $\delta_{9,}$ measures how $IFRS_{i,t}$ influences the relationship between $ROA_{i,t}$ and $\text{MJDA}_{i,t}$, and is expected to have positive impact on $\text{MJDA}_{i,t}$ (Malofeeva, 2018). $\varepsilon_{2i,t}$ are the residuals for the robustness model.

The paper implements a sensitivity of the estimate to correlated measures of two performance and controlled variables robustness. Specifically, the paper replaces the Firm growth rate ($\text{GRW}_{i,t}$) and *R*eturn on assets ($\text{ROA}_{i,t}$) with Firm size ($\text{SIZE}_{i,t}$) and *R*eturn on equity ($\text{ROE}_{i,t}$), respectively, and estimate model as indicated by equation (4).

$$MJDA_{i,t} = \theta_0 + \theta_1 BTM_{i,t} + \theta_2 CFO_{i,t} + \theta_3 BIG4_{i,t} + \theta_4 FLVG_{i,t} + \theta_5 \text{SIZE}_{i,t} + \theta_6 ROE_{i,t}$$

$$+\theta_7 IFRS_{i,t} + \theta_8 [SIZE \times IFRS]_{i,t} + \theta_9 [ROE \times IFRS]_{i,t} + \varepsilon_{2i,t} \quad (4)$$

$Where$: $\text{ROE}_{i,t}$ is measured by scaling the firm's revenue by its total assets and expected to have positive impact on $MJDA_{i,t}$ (Malofeeva, 2018; DeFond, et. al, 2019). $\text{SIZE}_{i,t}$ is measured by computing the natural logarithm of the firm's total assets, and is expected to have either positive or negative impact on $MJDA_{i,t}$ (DeFond, et. al, 2019; Rathke, et. al, 2016). The variable $[SIZE \times \text{IFRS}]_{i,t}$ (Interaction between $SIZE_{i,t}$ and $\text{IFRS}_{i,t}$), with the coefficient $\theta_{8,}$ measures how $IFRS_{i,t}$ influences the relationship between $SIZE_{i,t}$, and is expected to have positive impact on $\text{MJDA}_{i,t}$. The variable $[ROE \times \text{IFRS}]_{i,t}$ (Interaction between $ROE_{i,t}$ and $\text{IFRS}_{i,t}$), with the coefficient $\theta_{9,}$ measures how $IFRS_{i,t}$ influences the relationship between $ROE_{i,t}$ and $\text{MJDA}_{i,t}$, and is expected to have positive impact on $\text{MJDA}_{i,t}$ (Malofeeva, 2018). $\varepsilon_{2i,t}$ are the residuals for the robustness model. Other variables are as earlier represented.

To estimate (3) and (4), the paper considers equal window periods for the "prior-IFRS period (2000 to 2004)" and the "post-IFRS period (2017 to 2022)" in line with some studies (Adedokun, et. al, 2022; De-Moura, et. al, 2020; Odoemelam, et. al, 2019). The post IFRS periods was selected to include only the years with information sufficient to justify the materialisation of the effects of adoption (De-Moura, et. al, 2020; Odoemelam, et. al, 2019). Accordingly, the estimation process completes the Hausman test to evaluate the optimal model between a fixed effect (FE) and random effect (RE) of the models.

4. Results

Table 2 presents the descriptive statistics of the model's variables. According to the samples, the average (μ) for discretionary accruals ($MJDA_{i,t}$) reduces from approximately 0.06 before the adoption of IFRS to 0.03 after the adoption. This is an indication that the examined firms are more disposed to greater earnings management in the periods before the adoption of IFRS. The evidence identifies a larger spread (i.e., standard deviation, σ) of 1.08 for the post-IFRS's discretionary accruals compared to 0.79 spread identified for the pre- adoption era. The greater variability of the discretionary accruals after IFRS adoption further signals that earnings management is reduced, since it supposes that the adoption broadens the variability between operating cash flows and net incomes (Cadot, et. al, 2020; Lo, et. al, 2017).

Table 3 reports the correlation coefficients for model's variables. The result shows different degrees of corelation amongst the variables. The discretionary accrual is negatively correlated with returns on assets ($ROA_{i,t}$) and audit quality ($BIG4_{i,t}$) in prior and post-adoption periods as well as is negatively correlated with sales growth ($GRW_{i,t}$, -0.04) before adoption. The negative correlation is evidence of reduced earnings management because it identifies that firms manipulate accruals when cash-flow are lower. However, the discretionary accrual is positively correlated with all other modelled variables (leverage, operating cash flows and equity book to market value), in prior and post-adoption periods. The extent of correlations is not significantly high, therefore do not signal likely multicollinearity amongst the variables. Because evidence based on these statistics do not control for factors that explains earnings management and the correlations do not identify causes, the study verifies the panel estimation. Before the estimation, the study completes the Hausman test to verify whether the models are best fitted with the" fixed effect (FE) or random effect (RE).

Table 2. Simple Statistics

	Prior-IFRS Adoption					Post-IFRS Adoption				
$Var.$	μ	Med	σ	$Skew$	$Kurt$	μ	Med	σ	$Skew$	$Kurt$
$MJDA_{i,t}$	0.06	0.16	0.79	-6.47	20.06	0.03	0.09	1.08	-6.71	25.65
$BTM_{i,t}$	1.56	0.63	5.55	1.159	131.01	1.27	0.11	9.46	9.123	493.3
$CFO_{i,t}$	0.34	0.12	0.89	9.712	562.97	0.07	0.03	1.34	14.34	490.7
$BIG4_{i,t}$	0.65	1.00	0.43	-2.20	1.82	0.60	0.98	1.02	-0.23	1.632
$FLVG_{i,t}$	0.19	0.23	0.32	2.028	21.40	0.11	0.00	0.19	5.188	58.68
$GRW_{i,t}$	8.53	9.01	2.69	3.151	2.24	4.57	5.41	2.01	0.145	0.792
$ROA_{i,t}$	0.31	0.25	1.83	29.57	213.58	0.10	0.01	5.09	28.34	713.8

Note: $\mu, Med, \sigma, Skew, and\ Kurt$, are the mean, median, standard deviation, skewness and kurtosis, respectively.
Source: Author (2024)

Table 3. Correlations Coefficients

$Var.$	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**	**[7]**
$MJDA_{i,t}$ **[1]**	1.000	**0.082**	**0.094**	-0.026	**0.111**	0.049	**-0.229**
$BTM_{i,t}$ **[2]**	0.018	1.000	0.010	**0.068**	**0.255**	**0.161**	0.031
$CFO_{i,t}$ **[3]**	**0.164**	0.073	1.000	**0.107**	**0.096**	**0.119**	0.044
$BIG4_{i,t}$ **[4]**	-0.010	**0.129**	**0.088**	1.000	**0.527**	**0.825**	**0.128**
$FLVG_{i,t}$ **[5]**	0.039	**0.100**	0.046	**0.842**	1.000	**0.550**	**0.160**
$GRW_{i,t}$ **[6]**	-0.040	**0.159**	**0.058**	**0.567**	**0.582**	1.000	**0.107**
$ROA_{i,t}$ **[7]**	-0.021	0.074	**0.083**	**0.179**	**0.173**	**0.219**	1.000

Note: Figures above (below) the diagonal are for the pre (post) adoption period. Bold figures show significant correlations.
Source: Author (2024)

Table 4 presents the output of the Hausman test. The test compares the outcomes of the fixed effect (Panel A) and the random effect (Panel B) estimation. The evidence based on the Chi-Square statistic (χ^2) offers no reason to discard the null supposing to retain the random effects estimation of the discretionary accruals model over the fixed effect estimation.

Table 4. Hausman Test

Null (H0): Random effects for the estimation of discretionary accruals model		
Test stat:	**[A]**	**[B]**
χ^2	18.580	19.361
$p > (\chi^2)$	(0.8559)	0.8912

Note: The Hausman test compares the outcomes of the fixed effect (Panel A) and the random effect (Panel B) estimation. $p > (\chi^2)$ is the probability that χ^2 is greater than obtained value.
Source: Author (2024)

Table 5 reports the random effect estimation for the evaluation of the null. The results, with and without the inclusion of the fixed (time and unit) effects, indicate that the intercept from equation (2), δ_0 is expectedly signed and significant. Ceteris

peribus, this suggests that the average of the estimated discretionary accruals for the entire sample would be 0.058. The coefficient of the main variable of focus, δ_7 which identifies the effects of $\mathrm{IFRS}_{i,t}$ on EM is negative. This shows that earnings management responds to negatively to IFRS adoption suggesting that the accounting regulation led to decrease in earnings management of the firms, ipso facto, causes an improvement in earnings quality. This supposes that the mean of the discretionary accruals' earnings management decrease by an approximately 0.048 after adoption. Since δ_0 is significant, there is no sufficient evidence that the first null that "IFRS-adoption does not have significant effect on EM" could be maintained.

The evidence is consistent with prior literature (Mensah, 2020; Malofeeva, 2018; Ugrin, et. al, 2017; Baig & Khan, 2016; Martínez, 2015; Dimitropoulos, et. al, 2013), but inconsistent with others (Bryce, et. al, 2015; Kousay, 2019). Mensah (2020) show how adoption affect EM in Ghana and found that IFRS adoption reduced earnings managed. Martínez (2015) show that there is significant decrease in earnings managed due to convergence of IFRS adoption in Mexico. Malofeeva (2018) notes that large firms do engage in managing earnings than small firms in Russia. Ugrin, et. al. (2017) show that the link between IFRS and earnings manipulation is not uniform across European nations, and that manipulations is higher due to adoption. While Kousay (2019) found that IFRS-adoption has no direct influence on earnings managed in Canada, and Bryce, et. al. (2015) reports that accounting quality are stable under AGAAP and IFRS, hence, managed earnings have no significant enhancement after its adoption in Australia. The paper further evaluates evidence on the signs and significance of other controlled variables. Only the coefficients of book-to-market value of equity and returns on assets variables are well signed and significantly explains earnings management according to apriori theoretical position (De-Moura, et. al, 2020; Ugrin, et. al, 2017). This confirms that weak performance would lead to greater earnings management. The cash flow from operation has a reversionary effect to motivate earnings misreporting contrary to expectation (DeFond, et. al, 2019).

The coefficient of the dummy, $\mathrm{BIG4}_{i,t}$, which identifies audit firm size is negative and significant, thus, consistent with expectation. The coefficient of sales growth, and financial leverage, are not statistically significant. The coefficients of $\mathrm{OCF}_{i,t}$ ($\mathrm{ROA}_{i,t}$) was negative (positive) as expected and are significant. This is an indication that the cash flow from operation conveys reversionary effects, and since significant contributes to motivate earnings misreporting contrary to our expectations (Malofeeva, 2018; Rathke, et. al, 2016).

The coefficients of the two interactive dummy which proxies how market variables and performance after accounting regulation drives earnings management are further explored. The coefficient of the interactive dummy $[\mathrm{ROA} \times \mathrm{IFRS}]_{i,t}$ which identifies how earnings management responds to the return on assets – the market variable –

after IFRS-implementation, is negative and significant, suggesting that asset returns after the ramification of the accounting regulation further led to decrease in earnings management. The evidence suppose that the quality of financial report improves due to the interactions between the adoption of IFRS and return on assets. Specifically, the expected value of the discretionary accruals' earnings management would decrease by an averagely of -0.144 for a relative increase asset return following the adoption of IFRS. In contrast, the coefficient of the interactive dummy $[\mathrm{GRW} \times \mathrm{IFRS}]_{\mathrm{i,t}}$, which identifies how EM responds to firms' growth performance after IFRS-implementation, not significant, suggesting that sales growth after the ramification of the IFRS has no impacts on earnings management. As identified by the $\bar{R}^2$, the model shows a predictive power of 21% and a significant overall model.

The paper implements the sensitivity analysis by replacing firm growth rate ($\mathrm{GRW}_{i,t}$) and $r$eturn on assets ($\mathrm{ROA}_{i,t}$) with firm size ($\mathrm{SIZE}_{i,t}$) and return on equity, respectively. The coefficient of IFRS-adoption is observed to significantly reduce the discretionary accruals. The estimation further confirms that returns on equity, operating cash flow and sales growth negatively and significantly affect discretionary accruals. The replaced variables retained their excepted signs and significance with little improvement. This implies that the second null "earnings management is sensitive to the choice of performance measure" is refuted.

Table 5. Main Estimation [Dependent Variable: $MJDA_{i,t}$]

	Fixed Effect Estimation		Random Effect Estimations			
Var.	$\mathrm{Coef}(\delta_i)$	$\mathrm{p_r}(\delta_i)$	$\mathrm{Coef}(\delta_i)$	$\mathrm{p_r}(\delta_i)$	$\mathrm{Coef}(\delta_i)$	$\mathrm{p_r}(\delta_i)$
Const.	0.056***	(0.093)	0.056	(0.085)	0.058***	(0.085)
$\mathrm{BTM}_{\mathrm{i,t}}$	0.004	(0.243)	0.005	(0.318)	0.005	(0.321)
$\mathrm{CFO}_{\mathrm{i,t}}$	-1.045**	(0.048)	-1.212	(0.011)	-1.379**	(0.016)
$\mathrm{BIG4}_{\mathrm{i,t}}$	-0.007**	(0.056)	-0.008	(0.049)	-0.008**	(0.046)
$\mathrm{FLVG}_{\mathrm{i,t}}$	0.051	(0.649)	-0.064	(0.657)	0.059	(0.636)
$\mathrm{GRW}_{\mathrm{i,t}}$	0.080	(0.386)	0.081	(0.206)	0.105	(0.189)
$\mathrm{ROA}_{\mathrm{i,t}}$	1.135**	(0.035)	1.222	(0.022)	1.301**	(0.021)
$\mathrm{IFRS}_{\mathrm{i,t}}$	-0.039***	(0.091)	-0.081	(0.038)	-0.048**	(0.038)
$[\mathrm{GRW} \times \mathrm{IFRS}]_{\mathrm{i,t}}$	0.185	(0.469)	0.216	(0.289)	0.195	(0.276)
$[\mathrm{ROA} \times \mathrm{IFRS}]_{\mathrm{i,t}}$	-0.143*	(0.015)	-0.144	(0.062)	-0.169***	(0.065)
Fixed Effect:						
Time	Excluded		Excluded		Included	
Unit	Excluded		Excluded		Included	
Statistics:						
$\bar{\mathrm{R}}^2$	0.198		0.216		0.215	
F	5.886*	(0.001)	6.682*	(0.000)	6.331*	(0.000)

*Note: **, *** significant at 5%, 10%. The outputs are fixed effects (FE) and random effects (RE) estimations.*
F is F statistic; Var. is variable; and Const. is the constant term (or intercept)
Source: Author (2024)

Table 3. Model for Sensitivity Analysis [Dependent Variable: $MJDA_{i,t}$]

	Random Effect Estimations			
Var.	$Coef(\delta_i)$	$p_r(\delta_i)$	$Coef(\delta_i)$	$p_r(\delta_i)$
Const.	0.064	(0.041)	0.059	(0.041)
$BTM_{i,t}$	0.000	(0.170)	0.000	(0.165)
$CFO_{i,t}$	-0.723	(0.000)	-0.817	(0.000)
$BIG4_{i,t}$	-0.015	(0.189)	-0.014	(0.185)
$FLVG_{i,t}$	0.042	(0.488)	0.039	(0.465)
$SIZE_{i,t}$	-0.052	(0.313)	-0.049	(0.312)
$ROE_{i,t}$	0.468	(0.000)	0.463	(0.000)
$IFRS_{i,t}$	-0.018	(0.051)	-0.017	(0.002)
$[SIZE \times IFRS]_{i,t}$	0.000	(0.000)	0.000	(0.009)
$[ROE \times IFRS]_{i,t}$	-0.151	(0.151)	-0.160	(0.154)
Fixed Effect:				
Time	Excluded		Included	
Unit	Excluded		Included	
Statistics:				
$\overline{R}^2$	0.381		0.389	
F	11.382*	(0.000)	12.192*	(0.000)

*Note: **, *** significant 5%, 10% level. Outputs are random effects (estimations). F is the F-statistic of estimated model.*
Source: Author (2024)

5. Conclusions

This study investigates whether IFRS adoption has implication for the improvement of accounting information. This important because EM puts the integrity of capital market at risk as well as discourage institutional and capital flow. The study analyses how level of earnings management measured by estimated discretionary accruals is influenced by the adoption of IFRS. The result supports that:

- IFRS-adoption leads reduced earnings management, and improvement in earnings quality;

- Cash flow from operation has a reversionary effect to motivate earnings misreporting;

- Change in the book to market value does not incentivise the firm to indulge in likely earnings misreporting practice;

- firm growth supports the position that increase performance motivates more tendency to misreport earnings.

The findings are of importance to policy implication for regulations. Thus, the paper recommends that:

- policymakers should give the issue of earnings management more serious concerns, including to ensure adequate efforts to monitor firms' operations and reports;

- policy makers should regularly assess and conduct quality audits of firms' reports;

- earnings misreporting firms should be immediately sanctioned to ensure the protection of investors funds and attract more foreign investors to the markets;

- regulators must subject their reports to thorough inspection in order to improve the information usefulness of financial reports as well as build the capital market confidence;

- There should be stricter financial sanctions such as large "penalty fees for misreporting", must be legislated to dampen the tendency to misreport.

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