Scientific Research Publishing

Open Journal of Accounting, 2025, 14(1), 15-46
https://www.scirp.org/journal/ojacct
ISSN Online: 2169-3412
ISSN Print: 2169-3404

The Nexus of Advancements in Egyptian Accounting Standards with Earnings Management

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How to cite this paper: Hussein, R. H. I., & Gan, S. D. (2025). The Nexus of Advancements in Egyptian Accounting Standards with Earnings Management. *Open Journal of Accounting, 14,* 15-46.
https://doi.org/10.4236/ojacct.2025.141002

Received: September 27, 2024
Accepted: December 14, 2024
Published: December 17, 2024

Abstract

Purpose: This study investigates the relationship between the advancement in Egyptian accounting standards and earnings management practices among listed companies in Egypt. Earnings management refers to the practice of manipulating financial statements to achieve desired financial results. The study aims to examine whether the implementation of updated accounting standards in Egypt has been effective in reducing earnings management levels. **Methodology:** The study covered the years 2004-2020, which included the adoption of three significant changes to Egyptian accounting rules in 2002, 2006, and 2015, and examined a sample of non-financial enterprises listed on the Egyptian Stock Exchange. The modified Jones model was employed to detect earnings management through discretionary accruals. The regression analysis assessed the impact of improvements in Egyptian accounting standards on earnings management practices while controlling for firm characteristics such as profitability, auditor type, firm size, leverage, cash flow from operations, and growth rates. The one-way ANOVA examined differences in earnings management levels during the three periods corresponding to the accounting standards revisions. **Findings:** The results from both the multiple regression analysis and the one-way ANOVA indicate that there is no statistically significant association between the advancement of Egyptian accounting standards and a reduction in earnings management practices. Specifically, the regression analysis revealed no significant relationship between the independent variable representing the advancement of accounting standards and the dependent variable of discretionary accruals, a proxy for earnings management. However, the control variables of profitability, auditor type, cash flow from operations, and growth rates were found to have statistically significant associations with earnings management practices. Furthermore, the one-way ANOVA results showed no

significant difference in the mean levels of discretionary accruals across the three periods corresponding to the different versions of Egyptian Accounting Standards (EAS, 2002, 2006, 2015). **Implications:** The findings of this study have several implications. First, they highlight the need for further efforts to address earnings management practices in Egypt, as the current accounting standards and enforcement mechanisms appear to be insufficient in deterring companies from engaging in such practices. Second, the study provides empirical evidence that the development and implementation of new accounting standards alone may not necessarily lead to a reduction in earnings management. Other factors, such as corporate governance mechanisms, managerial incentives, and regulatory oversight, may also play crucial roles in determining earnings management levels.

Keywords

International Financial Reporting Standards (IFRS), Egyptian Stock Exchange (ESE), Egyptian Accounting Standards (EAS), Earnings Management

1. Introduction

The onset of the 21st century saw the downfall of prominent corporations like Enron, WorldCom, and Xerox, primarily due to extensive accounting inaccuracies and financial frauds (Goncharov & Zimmermann, 2006). Earnings management, pinpointed as the main culprit behind these debacles (Alareeni & Branson, 2013), involves the intentional distortion of financial statements to falsely portray a company's financial health. The flexibility within accounting policies significantly contributes to the prevalence of earnings management, as it permits a range of interpretations and methods (Largay, 2002). Junaidi (2004) concurs, noting that earnings management can be executed through various tactics and calculations embedded within the accounting standards of a nation.

In reaction to these high-profile accounting scandals and the subsequent demand for enhanced quality in financial reporting, the International Accounting Standards Board (IASB) initiated a project to improve existing accounting standards. The IASB's initiative was designed to reduce the number of accounting alternatives and to provide more explicit guidance. However, the effect of these reforms on earnings management practices, especially in emerging markets such as Egypt, has not been extensively explored. Research conducted within the Egyptian setting presents inconsistent results. Some studies indicate that the implementation of Egyptian accounting standards and IFRS has not successfully tackled issues like non-compliance, lax enforcement, and insufficient training (Elbanan, 2008; Ebaid, 2016). Conversely, other research points to enhancements in the quality of earnings following these reforms (Desouky, 2015; Hessein, 2018).

This research seeks to fill the existing knowledge gap by examining the influence of advancements in Egyptian accounting standards on earnings management

practices. Specifically, the study aims to determine whether aligning with high-quality International Financial Reporting Standards (IFRS) has mitigated earnings manipulation within the Egyptian market. By analyzing the prevalence of earnings management during various phases of accounting standard development, this study intends to offer empirical insights into how these standards contribute to enhancing the quality of financial reporting in an emerging economy such as Egypt.

The outcomes of this study carry substantial implications for policymakers, regulators, and standard-setting entities in Egypt and other emerging economies. By elucidating the effectiveness of developments in accounting standards in curbing earnings management practices, this research can guide the formulation and execution of future standard-setting endeavors. Moreover, the insights derived from this study could offer valuable lessons on effective standard-setting and implementation strategies, thereby enriching the ongoing discussions aimed at improving financial reporting quality and reinstating investor trust in emerging markets.

The organization of this study is outlined as follows: Section 2 provides a comprehensive literature review, Section 3 introduces the theoretical framework and formulates the research hypotheses, Section 4 details the research methodology employed, Section 5 discusses the findings and analysis, Section 6 concludes the study with recommendations, and the final section includes the References.

2. Literature Review

Earnings management involves the intentional alteration of financial reports to inaccurately reflect a company's financial performance, a practice highlighted by Dechow et al. (1995) and Healy & Wahlen (1999) as a widespread issue. Managers might resort to such practices for several reasons, including enhancing their compensation, adhering to debt agreements, minimizing political repercussions, reducing tax liabilities, fulfilling analysts' forecasts, and/or facilitating new stock issues. In response, regulatory bodies have implemented reforms, including the creation and harmonization of superior international accounting standards by entities such as the IASB (Iatridis & Kadorinis, 2009), aimed at bolstering financial reporting transparency and curtailing the potential for manipulative earnings management behaviors (Leuz et al., 2003). Nonetheless, the effectiveness of these standards in diminishing earnings management activities remains ambiguous, as evidenced by mixed findings in previous empirical studies.

This literature review delves into existing research on the nexus between the evolution of accounting standards and earnings management, exploring the diverse motivations behind such practices.

2.1. Empirical Evidence on the Effectiveness of Accounting Standards in Reducing Earnings Management

The initial set of research underscores the beneficial effects of the evolution of accounting standards on curbing earnings management activities. Zéghal et al.

(2011) explored the impact of compulsory IFRS implementation on the extent of earnings management, utilizing discretionary accruals calculated through the modified Jones model, across 353 French firms. Their analysis revealed that the transition to IFRS significantly curtailed earnings management, especially in firms with robust corporate governance structures and those participating in international capital markets. Similarly, Brad et al. (2014) assessed how obligatory IFRS adoption influenced earnings management, as indicated by variations in profits, cash flow fluctuations, and the relationship between cash flows and accruals, among 56 Romanian firms listed on the Bucharest Stock Exchange. The results indicated a favorable effect of IFRS adoption in diminishing earnings management activities. Nouri and Abaoub (2014) observed a reduction in the average absolute discretionary accruals, signifying a decrease in earnings management following IFRS implementation in a study involving 145 French companies. In addition, Pelucio-Grecco et al. (2014) noted a decline in earnings management, measured through discretionary accruals via the Jones model, among Brazilian firms post-full IFRS adoption. Furthermore, AL-Garf (2017) investigated the influence of Egyptian accounting standards on earnings management within companies listed on the Egyptian Stock Exchange between 2013 and 2017, finding that the adoption of these standards led to a decrease in earnings management practices.

Conversely, a distinct body of research contends that the advancement of accounting standards does not markedly influence earnings management. In their 2008 study, Jeanjean and Stolowy examined how mandatory IFRS implementation affected earnings management in Australia, France, and the UK. They found that after IFRS adoption, earnings management activities increased in France.

This finding implies that the universal adoption of globally recognized standards might not guarantee uniform financial reporting practices. In a similar vein, Callao and Jarne (2010) analyzed discretionary accruals before and after the adoption of IFRS in 11 European Union countries, uncovering an increase in discretionary accruals. This suggests that IFRS could inadvertently facilitate opportunistic earnings management behaviors. Furthermore, Capkun et al. (2016) examined the impact of the shift from local accounting standards to IFRS, both before and after the 2005 IFRS amendments, on earnings management, specifically through income smoothing techniques. Their research indicated heightened earnings management activities during both the optional and mandatory phases of IFRS adoption compared to the period before adoption. This increase was attributed to the greater flexibility allowed by accounting policies and individual judgment under IFRS.

A third cadre of research posits that the evolution of accounting standards exerts negligible influence on the practices of earnings management. Van Tendeloo and Vanstraelen (2005) scrutinized earnings management, assessed through discretionary accruals and income smoothing techniques, among German firms adhering to IFRS compared to those following local accounting standards. Their

analysis indicated that the compulsory adoption of IFRS did not diminish earnings management activities within German corporations. Similarly, Doukakis (2014) investigated how mandatory adoption of IFRS affected real earnings management, as measured by deviations in production costs, operational cash flows, and discretionary expenditures, as well as accounting earnings management, as assessed using the modified Jones model for discretionary accruals, in a sample of European Union companies.

The findings revealed that the transition to IFRS had no marked effect on either accounting or real earnings management behaviors. Beuren and Klann (2015) noted varied outcomes of IFRS adoption on earnings management across different European nations, with some witnessing a decline, others an uptick, and yet others observing no significant alterations. Al-Ghazzawi and Alsoboa (2016) determined that the implementation of IFRS amendments did not curb earnings management, as measured by discretionary accruals, in Jordanian industrial entities across periods before, during, and after financial crises. In a similar vein, Al-Duwairi (2016) evaluated the effect of new Egyptian accounting standards and mandatory corporate governance guidelines on earnings management, as measured by the Miller ratio, in companies that are listed on the Egyptian Stock Exchange. The investigation concluded that the enforcement of these regulations did not significantly curtail earnings management practices. Likewise, Baig and Khan (2016) observed that the shift to IFRS did not lead to a decrease in earnings management, as determined by discretionary accruals through the modified Jones model, in a cohort of Pakistani enterprises.

2.2. Conclusion

The existing body of research offers varied conclusions regarding the effects of the advancement and implementation of accounting standards on earnings management practices, with some studies reporting positive or negative impacts, and others finding no significant effects. These inconsistent findings underscore the necessity for additional research to examine the specific influences of accounting standards across different timeframes and regulatory environments. This study specifically investigates the advancements in Egyptian accounting standards and their association with earnings management during three critical periods following the release of these standards in 2002, 2006, and 2015. Distinct from prior research, this study will not assess the role of factors such as corporate governance or other institutional variables in this context, focusing instead solely on the direct effects of the accounting standards themselves during these pivotal periods.

2.3. Limitations and Research Gap

The following limitation and research gaps may be found in a recent study by AL-Garf (2017) that looked at how applying Egyptian accounting rules affected earnings management procedures for businesses listed on the Egyptian Stock Exchange.

2.3.1. Limitations

The study covered a specific time frame, which may not fully capture the long-term effects of the accounting standards on earnings management practices.

2.3.2. Research Gaps

1) Detailed examination of Egyptian accounting standards: AL-Garf (2017) concentrated on the overall effects of the new Egyptian accounting standards, but a more in-depth examination of certain standards or clauses about earnings management might yield insightful information.

2) Long-term analysis: A more thorough grasp of the dynamic effects on earnings management practices may be obtained by conducting a long-term study that spans many years before and after the adoption of the accounting rules.

3. Theoretical Framework

In this section, we established the theoretical basis that guides our investigation into the nexus of Advancing Egyptian accounting standards with earnings management. Additionally, we drew upon several key concepts and theories, including agency theory, earnings management, the relationship between Egyptian accounting standards and earnings management, and the research hypothesis.

3.1. Agency Theory

The foundation of this study is agency theory, which holds that conflicts arise between managers (agents) and shareholders (principals) because ownership and control are separated in corporations Jensen and Meckling (1976). Managers may act as agents and pursue goals other than increasing shareholder wealth. One way in which managers' interests can diverge is through opportunistic earnings management, which aims to conceal real economic performance Healy and Wahlen, (1999). Fabricating reported earnings figures allows managers to affect their pay, job security, and contracting outcomes Scott (2006). This creates an agency problem where shareholders' desire for a true representation of financial results is not fully aligned with managers' private incentives to manage earnings.

3.2. Earnings Management

3.2.1. Earnings Management Definition

Earnings management has been characterized by Schipper (1989) as a purposeful act of influencing the external financial reporting process to obtain personal benefits. Healy and Whalen (1999) further elaborated that it involves managerial discretion in altering financial reports to either deceive stakeholders or affect contractual outcomes. Rosenfield (2000) highlighted that while earnings management can alter financial statements, it fails to produce genuine economic benefits and could potentially inflict long-term detriment. Hamed (2004) described it as an intentional manipulation by those preparing financial statements to achieve specific profit targets. Abdel Fattah (2007) delved into various accounting methodologies, encompassing standard, conservative, and aggressive tactics, employed to distort

financial disclosures. Thus, earnings management represents a calculated manipulation by managers or financial statement preparers aimed at achieving preferred profit outcomes for personal gain or to align with forecasts and expectations, albeit at the risk of causing future damage.

3.2.2. Types of Earnings Management

Two methods of earnings management are commonly known: accruals-based management and management through real activities. Accruals-based management involves making estimates on certain figures based on GAAP, which significantly impacts the reported profits. Examples include estimating the useful life and scrap value of fixed assets or the provision for doubtful debts (Essa, 2008). Management through real activities manipulates the operations of the company to reflect unreal results in the financial statements, which can influence stakeholders' perception of profit. Examples of this manipulation include profits from the sale of fixed assets or research costs Cang et al. (2014); Sellami (2016).

3.2.3. Motives for Earnings Management

Earnings management practices in the business world are driven by specific motives that guide managers in achieving their desired objectives (Abu Ajeila & Hamdan, 2010). These motives have been extensively discussed in the accounting literature and research, including several aspects we addressed below.

1) Maximize Management Rewards

This factor is based on the idea that company management selects accounting methods that produce higher, prematurely recognized profits to boost their compensation and positions. It aligns with agency theory, which suggests that management consistently seeks to maximize self-interest by manipulating accounting methods to impact annual profits (Al-Sahli, 2006). Al-Qathami and Al-Khayal (2010) further suggest that managerial incentives, such as tangible rewards, job security, and stock option allocations, have been introduced to address the conflict of interests between management and other stakeholders.

Since these rewards depend on the level of profits achieved, management will seek tools and methods that increase profits to obtain the maximum rewards possible. Research by Holthausen et al. (1995); Healy (1985); and Moses (1987) have indicated that management engages in earnings management practices by manipulating earnings to secure rewards. The remuneration plan includes minimum and maximum limits, leading to different management behaviors in several scenarios:

- When the company earns more than the maximum profit limit specified in the bonus plan, management will be incentivized to decrease profits because the excess will not contribute to increasing their rewards.
- If a company earns less than the minimum profit limit specified in the bonus plan, management will be motivated to reduce profits to make up for missed incentives in the future.
- When a company makes profits within the limits specified in the remuneration plan, management is incentivized to maximize profits and increase their

current remuneration.

2) Compliance with Debt Terms

Debt agreements often impose limitations and conditions on companies to minimize risks for lenders. These agreements rely heavily on accounting metrics Al-Rashidi (2010). Beneish (2001) suggests that companies near violating debt restrictions are motivated to manage profits by manipulating accounting figures.

A study by Shtewi (2009) analyzed the relationship between companies that breached debt contracts and earnings management practices. The study revealed evidence of earnings management being used to increase profits, leading up to the breach of debt contracts.

3) Avoiding Political Costs

Political costs refer to expenses acquired due to external interventions from governments, organizations, and regulatory bodies that impact a company's value. These costs may include social obligations, tax increases, anti-monopoly regulations, price controls, and wage hikes. To avoid these costs, management may employ accounting practices that reduce profits. Watts and Zimmermann (1986) found that large companies, due to state-imposed laws and regulations, engage in earnings management and accounting policies that decrease profits to evade political costs. Cahan (1992) conducted a study in the United States that also showed companies reduce profits using optional entitlement before inspection by antitrust authorities. Another study by Jones (1991) indicated that managers reduce profits to benefit from import subsidies while the US Board of Commerce conducts an import subsidy survey.

4) Achieving Tax Savings

Tax savings are the main motivation for managers to engage in earnings management. This can be carried out through the selection of accounting methods that lower tax payments. One common approach is the evaluation of inventory using methods like FIFO and LIFO. Using FIFO can inflate income and result in higher taxes while using LIFO can understate income and lower taxes. The aim of enhancing the economic unit's value for the taxpayer influences managers' decisions on inventory accounting policies. The LIFO method was canceled in Egypt, but there are other methods to increase or reduce profits for tax purposes (Al-Daour & Abed, 2009).

5) Aims to Meet the Expectations of Financial Analysts

Investors rely on financial analysts for information about companies they want to invest in. Meeting or exceeding analysts' expectations establishes credibility and can lead to high returns. Failing to meet expectations can hurt stock returns and executive remuneration. Companies have multiple motivations for meeting analysts' expectations, for example, avoiding reporting losses and improving profits for the previous year (Dechow & Skinner, 2000; Bartov et al., 2002). This is consistent with managing earnings management practices to avoid reporting losses and to improve profits of the previous year (Degeorge et al., 1999). If this is achieved, management tries to meet or exceed analysts' expectations.

6) New Issuing Shares

When transitioning from a closed company to an IPO, companies aim to create a favorable impression of their financial performance and persuade investors to invest in their stocks. Additionally, the absence of a market price for the company's stock can result in a high stock price, which incentivizes profit management.

Companies that falsified financial reports during stock issuance years were the main target of the sanctions levied by the US Securities and Exchange Commission (SEC), as noted by Dechow et al. (1995). According to some research by Teoh et al. (1998) and Chen et al. (2008), businesses use profit inflation to raise the price of their market shares throughout the offering period.

Whether Saudi joint stock enterprises participate in positive earnings management during periods of capital increase was the premise that Al-Sahli (2006) sought to explore. The results of the study confirmed this theory, showing that these businesses do, in fact, show voluntary maturity in the years when capital is raised.

3.3. Egyptian Accounting Standards and Earnings Management

The concept of developing and issuing Egyptian accounting standards emerged as a result of a recommendation from the Second International Scientific Conference on Accounting and Auditing held from December 13 to 15, 1986. This conference, organized by the Egyptian Association of Accountants and Auditors, recommended the necessity of a local conference Presentation and Disclosure and Accounting Standard No. 26 on Financial Instruments Recognition and Measurement were amended to address the global financial crisis (Abdel Badea, 2009). Finally, in 2015, an updated version of the Egyptian Accounting Standards was issued to ensure compatibility with the International Financial Reporting Standards. This update included amendments to existing Egyptian accounting standards and the issuance of new accounting standards, to be applied to financial periods beginning after January 1, 2016.

Regarding the relationship between Egyptian accounting standards and earnings management, Hamed (2004) indicated that these standards can limit earnings management by requiring companies to adhere to them and disclose matters that are currently left to management's discretion. However, Kassab (2008) argues the opposite, suggesting that the flexibility of these standards allows management to make accounting choices that can manipulate profits to achieve the desired outcomes.

In terms of applied research conducted in Egypt, Elbannan (2008) examined the impact of the mandatory adoption of Egyptian accounting standards on earnings quality and firm evaluation between 1997 and 2006. The study found no significant evidence that earnings management decreases after the adoption of these standards, and firm evaluation is negatively affected. The lack of compliance, weak regulatory enforcement, inadequate accounting infrastructure, and inadequate practitioner training are considered potential reasons for these findings.

Similarly, Elbolok et al. (2022) investigated the impact of the new Egyptian Accounting Standards (EAS) on market volatility (MV) and earnings quality (EQ)

in Egypt. The results indicate that the convergence with International Financial Reporting Standards (IFRS) has no effect on EQ, earnings quality is negatively related to MV, and IFRS positively impacts MV. The study could not observe any changes in EQ and MV after using the new EAS. It concluded that implementing high-quality financial standards alone is insufficient to ensure accurate information, suggesting that factors of legal enforcement, organizational performance, and compliance costs are also crucial considerations.

On the other hand, Ebaid (2016) examined whether the adoption of IFRS enhances accounting quality in Egypt. The study compared earnings management practices among Egyptian-listed companies before and after the application of IFRS. The findings indicated a decrease in accounting quality after the adoption of IFRS compared to before. The study suggested that while IFRS is generally perceived to have higher quality standards than domestic ones, it does not necessarily result in improved accounting quality in code-law countries like Egypt. In Egypt, incentives seem to dominate accounting standards in determining accounting quality. Similarly, Hessein (2018) conducted a study examining the economic benefits of adopting IFRS in Egypt. The research discovered that the implementation of IFRS significantly impacted management's ability to manipulate profits through discretionary accruals, consequently diminishing the importance of accounting information. Additionally, variations in previous studies regarding the effects of International Accounting Standards (IAS) or IFRS on earnings management failed to measure earnings management levels of the development of Egyptian accounting standards. In contrast, AL-Garf (2017) investigated the influence of applying Egyptian accounting standards on earnings management practices. The study analyzed a sample of listed companies on the Egyptian Stock Exchange from 2013 to 2017, before and after the update in accounting standards in 2015. The study employed a positive approach to assess earnings management. The results revealed that the new Egyptian accounting standards contributed to a reduction in earnings management practices.

3.4. Research Hypothesis

In light of the aforementioned theoretical reasons, we put forth the following hypothesis:

H1: The Advancement of Egyptian accounting standards is associated with a decrease in earnings management practices in Egyptian firms.

4. Research Methodology

4.1. Population and Sample Size

The study population represents all companies listed on the Egyptian Stock Exchange. The study sample includes selected companies from 2003 to 2020, according to the following conditions:

- Exclusion of the banking and non-bank financial service sectors due to the unique nature of their accounting systems.
- Availability of published financial reports from 2003 to 2020 for selected

companies in the sample.

- Companies that have undergone comprehensive audits by the Central Auditing Organization are excluded due to their adherence to specific government regulations in the application of accounting standards. This approach prioritizes the enforcement of laws over the adherence to standards.
- Companies should prepare their financial statements on December 31 for standardization.
- Companies that have not stopped trading during the study period and must have continued trading on the Egyptian stock exchange until 2020.
- Exclusion of sectors that include less than six companies to avoid inaccurate estimates of discretionary accruals at the sectoral level.

Due to these conditions, the study sample consists of 41 listed companies on the Egyptian stock exchange, and represents five industrial sectors, as shown in the following Table 1.

Table 1. The population of the selected sample used to conduct this study.

Industry type	No. of companies	% of the sample
Food, beverages, and tobacco	6	**14.65%**
Real estate	10	**24.40%**
Industrial goods, services, and automobiles	6	**14.65%**
Travel and leisure	7	**17.10%**
Building materials	12	**29.20%**
Total selected companies	**41**	**100%**

Source: Constructed according to the sample size.

Figure 1 below displays the numbers and percentages of companies listed on the Egyptian Stock Exchange that were selected to constitute the research sample.

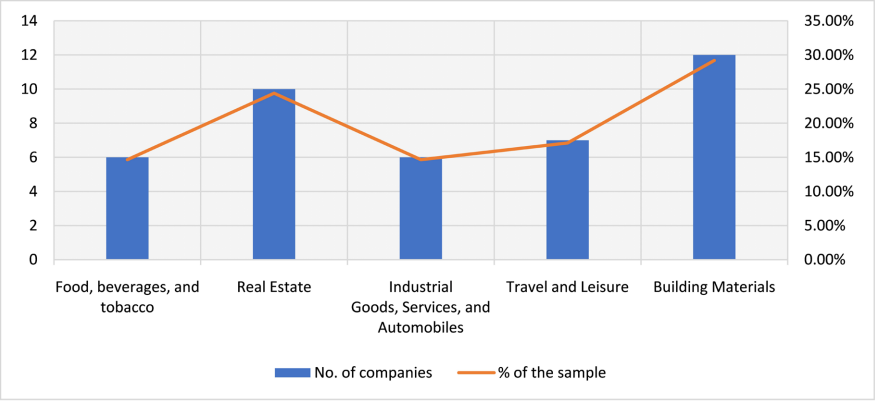

Figure 1. Numbers and percentages of companies in the sample.

4.2. Measurement of Key Variables

The variables of the current study are the independent variable, which is the

development of Egyptian accounting standards, the dependent variable, which is earnings management, and control variables. The measurement of the independent, dependent variables, and control variables are as follows.

4.2.1. The Measurement of the Independent Variable

The study used dummy variables to represent three distinct periods corresponding to different phases of accounting standard enhancements and developments in Egypt, which were issued in 2002, 2006, and 2015.

Period 1 (2004-2005) represents the baseline or initial phase before significant improvements were made to the Egyptian accounting standards, according to the Egyptian Accounting Standards (EAS) issued in 2002. Period 2 (2008-2010) reflects a phase of revisions and updates to align the standards more closely with international practices and address identified issues, according to the EAS issued in 2006.

The EAS was released in 2015 with the goal of bridging the gap with International Financial Reporting Standards (IFRS) and incorporating accounting practices that keep up with economic and technological advancements. Period 3 (2016-2020) corresponds to the most recent phase.

4.2.2. Measurement of the Dependent Variable

In this research, earnings management (EM) is designated as the dependent variable, aligning with prior studies that have employed discretionary accruals (DAs) as indicators for earnings management activities. The computation of total accruals can be approached through two methodologies: the cash flow statement approach and the balance sheet approach. By determining the change in current assets (excluding cash), deducting the change in current liabilities (excluding current components of long-term liabilities), and then further removing depreciation and amortization, the balance sheet technique determines total accruals. On the other hand, the cash flow statement approach determines the difference between operational cash flows, discontinued operations, and earnings before extraordinary items in order to compute total accruals.

The preference among researchers leans towards the cash flow statement approach, attributed to its perceived higher reliability over the balance sheet method. Hribar and Collins (2002) highlighted that when utilized to scrutinize earnings management, the balance sheet approach might be susceptible to measurement inaccuracies in accrual estimations, potentially leading to skewed outcomes. Furthermore, inaccuracies in accounting accrual estimations could distort the results of return regressions, especially when discretionary and non-discretionary accruals serve as explanatory variables.

Given these considerations, and the fact that the modified Jones model does not account for claim manipulations during the estimation period—thereby introducing inconsistencies in calculations—this study opts for the cash flow statement approach to ascertain total accruals. This decision is aimed at circumventing the aforementioned issues and ensuring a more accurate and reliable analysis of earnings management within the scope of this research.

The following steps can be followed when applying this model.

1) Measurement of Total Accruals

To measure total accruals, we use the inputs from the cash flow statement:

$$TACt = NIt - CFOt \quad (1)$$

where:

TAC	total accruals
NI	net income
CFO	net cash flow from operating activities.

It's crucial to understand that total accruals themselves are not indicative of earnings management. Rather, earnings management encompasses that portion of accruals over which managers have discretionary control and can manipulate. Consequently, to isolate Discretionary and non-discretionary accruals make up the total accruals component, which is indicative of earnings management. According to Shah et al. (2009), the procedure entails computing discretionary accruals by subtracting non-discretionary accruals from the overall accruals. A more accurate assessment of the degree to which earnings management affects financial reporting is made possible by this distinction.

$$TAC = DA + NDA \quad (2)$$

where:

TAC	total accruals;
DA	discretionary accruals;
NDA	non-discretionary accruals.

2) Measurement of Non-Discretionary Accruals

The modified Jones model (1991) has been recognized as the most effective and prevalently utilized method for measuring discretionary accruals (DA) across a spectrum of studies (Dechow et al., 1995; Francis et al., 1999; Saleh & Ahmed, 2005; Alareeni & Branson, 2013; Uwuigbe et al., 2012; Atieh & Hussain, 2012; Walker, 2013; Alareeni & Aljuaidi, 2014; Uwuigbe et al., 2014; Ipino & Parbonetti, 2016; Nam & Park, 2016; Alareeni, 2018). In this research, the modified Jones model is applied to calculate Non-discretionary accruals (NDA), following the formula provided by Shah et al. (2009):

$$NDAt = \alpha 1\left(1/At-1\right) + \alpha 2\left[\left(\Delta REVt - \Delta RECt\right)/At-1\right] + \alpha 3\left(PPEt/At-1\right) \quad (3)$$

where:

(NDA)	Non-discretionary accruals for firm (j) in year (t)
(A)	Total assets of firm (j) in year (t − 1)
(ΔREV)	Change in revenue (sales) of firm (j) in year (t) less revenue in year (t − 1)
(ΔAR)	Change in receivables of company (j) in year (t) less receivables in year (t − 1)
(PPE)	Gross property, plant, and equipment, for company (j) in year (t)
(β1), (β2), and (β3)	Firm-specific parameters

To ascertain the firm-specific parameters ((β1), (β2), and (β3)) within the NDA equation, the following regression equation is employed, as suggested by Ahmad et al. (2014), Salleh and Haat (2014), and Uwuigbe et al. (2015)

$$TAt/At-1=\alpha 1(1/At-1)+\alpha 2(\Delta REVt/At-1)+\alpha 3(PPEt/At-1)+\varepsilon t \quad (4)$$

This regression equation facilitates the determination of the specific coefficients that are instrumental in calculating non-discretionary accruals. By isolating these non-discretionary components, researchers can more accurately assess the extent of discretionary earnings management practices, thereby enhancing the understanding of financial reporting quality and integrity.

3) Measurement of Discretionary Accruals

Utilizing the framework of the modified Jones (1991) model, discretionary accruals (DA) are determined through an equation that has been referenced and applied in various studies, including those by González and García-Meca (2014), Salleh and Haat (2014), and Uwuigbe et al. (2015). The formula for calculating discretionary accruals is as follows:

$$DAjt = TACjt/jt-1-NDAjt \quad (5)$$

4.2.3. Measurement of the Control Variables

Consistent with prior research (e.g., Ali & Zhang, 2015; Badolato et al., 2014; Agrawal & Cooper, 2016), we incorporate a range of control variables that potentially influence earnings management practices. These variables include profitability, auditor type, firm size, leverage ratio, and growth rate. By controlling for these factors, our analysis aims to isolate the impact of the variables of interest on earnings management. The following **Table 2** summarizes the measurement of the study variables.

Table 2. Measurement of variables.

Variables	Measuring method
	Independent variable
Egyptian Accounting Standards (EAS)	**The dummy variables for three period of EAS 2002, 2006, and 2015.**
	Dependent variable:
(EM) discretionary accruals	**Modified Jones model**
	Control variables:
Profitability	**Return on Equity (ROE)**
Auditing type	**If the company is being audited by Big4, the dummy variable returns 1, and if not, it returns 0.**
FSize	**The book value of total assets**
leverage	**The ratio of total liabilities to total assets**
Growth Rate	**Percentage of change in annual sales**

Source: The researchers constructed based on the previous studies.

4.3. Tools for Statistics

The relationship between earnings management (the dependent variable), advancements in Egyptian accounting standards (the independent variable), and the impact of several control variables is examined in this study using a wide range of statistical techniques.

1) Descriptive statistics are used at the start of the analysis to give a summary and overview of the main variables.

2) The strength and direction of the linear associations between earnings management and the independent and control variables are next investigated using correlation analysis. This method helps find possible correlations and is used as a first step before more complex studies are carried out.

3) The main statistical method used to evaluate how the enhancements in Egyptian accounting rules have affected profit management procedures is multiple regression analysis. This study employs a comprehensive set of statistical techniques to investigate the relationship between earnings management (the dependent variable) and improvements in Egyptian accounting standards (the independent variable) and the influence of various control variables.

4) A one-way analysis of variance (ANOVA) was used to guarantee the reliability of the findings from the multiple regression analysis evaluating the connections between Egyptian Accounting Standards (EAS) and Earnings Management (EM) practices.

4.4. The Multiple Regression Model

The linear relationship between the dependent, independent, and control variables is expressed in the multiple regression models as follows:

Model (1)

$$EM(DACt) = \beta 0 + \beta 1EAS\ 2002 + \beta 2EAS\ 2006 + \beta 3PROF + \beta 4AD + \beta 5FSIZE + \beta 6LEV + \beta 7GROWTH + e$$

Model (2)

$$EM(DACt) = \beta 0 + \beta 1EAS\ 2002 + \beta 2EAS\ 2015 + \beta 3PROF + \beta 4AD + \beta 5FSSIZE + \beta 6LEV + \beta 7GROWTH + e$$

where:

EAS	= Egyptian Accounting Standards, and EAS 2015 is used as a reference category.
PROF	= Profitability.
AD	= Auditing type.
FSIZE	= Firm Size.
LEV	= Leverage.
GROWTH	= Growth rate.

4.5. Limitations

1) This study examines earnings management resulting from accounting practices; however, it does not cover real earnings management.

2) The study excluded the years 2002, 2006, and 2015, corresponding to the initial issuance of the Egyptian Accounting Standards (EAS) editions, to avoid potential distortions from mistakes or inconsistencies in interpretation and implementation practices during the initial adoption periods of the newly issued standards.

3) The study excluded the year 2003 due to insufficient data in 2002 to accurately calculate discretionary accruals for that year.

4) The study did not include an analysis of the years during which the Egyptian revolution took place (2011 to 2014) to avoid any unnatural circumstances that may have affected the accounting figures.

5. Results and Discussions

5.1. Evaluation of Earnings Management

In order to assess the sampled organizations' participation in earnings management practices, the modified Jones model is used as the foundation for calculating discretionary accruals. This was achieved by calculating the absolute values of discretionary accruals for each organization for each study year. The mean absolute accruals for every year in the sample were then calculated. In this procedure, the average absolute value of accruals for the entire sample for the same year was compared to the absolute value of accruals for each company in the particular year under analysis. It is assumed that a corporation engages in earnings management if its absolute accruals for the year under scrutiny are higher than the sample's average absolute accruals for that year (Whelan & McNamara, 2004). In these cases, the business is assigned a value of 1, indicating that it manipulates earnings. On the other hand, a firm is given a rating of 0 if its absolute accruals fall below the average, which indicates that it has not participated in earnings management.

The number and percentage of businesses that were discovered to engage in accounting earnings management, as determined by measuring discretionary accruals over the course of the study, are shown in **Table 3**. This table shows the extent to which earnings management strategies are used during the study period and provides a quantitative understanding of their frequency among the sample companies.

Despite the adoption of new Egyptian accounting standards, the results show that businesses listed on the Egyptian Stock Exchange still employ discretionary accruals to manage their revenues. It's intriguing to observe, though, that the proportion of businesses adopting this strategy has changed over time. Data for 2004 and 2005 are included in the study in accordance with the 2002 Egyptian Accounting Standards (EAS). Nine businesses (22% of the total of 41 businesses) were found to be exercising accounting earnings management in 2004, whereas the remaining thirty-two businesses (78% of the total) did not. In 2005, there were 16 companies (or 39% of the total) that engaged in discretionary earnings management, compared to 25 companies (61% of the total) that did not.

After switching to EAS in 2006, 2008, 2009, and 2010 are included in the

analysis. Twenty businesses (48.8% of the total) did not employ accounting earnings management in 2008, while 21 businesses (51.2%) did use it. While 25 businesses (61% of the total) did not use discretionary earnings management in 2009, the number of businesses that did so climbed little to 16 (39% of the total). 19 companies (46.3% of the total) did not engage in discretionary earnings management in 2010, whereas 22 companies (53.7%) did.

Table 3. The number and percentage of companies that practiced discretionary earnings management under the Egyptian Accounting Standards 2002, 2006, and 2015.

Standards	Year	Companies that have practiced accounting earnings management		Companies that have not practiced accounting earnings management	
		Number	Percentage	Number	Percentage
2002	2004	9 4N[1] 5P[2]	22%	32	78%
	2005	16 8N 8P	39%	25	61%
	2008	21 10N 11P	51.2%	20	48.8%
2006	2009	16 8N 8P	39%	25	61%
	2010	22 12N 10P	53.7%	19	46.3%
2015	2016	19 4N 15P	46.3%	22	53.7%
	2017	17 11N 6P	41.5%	24	58.5%
	2018	17 7N 10P	41.5%	24	58.5%
	2019	20 3N 9P	48.8%	21	51.2%
	2020	17 7N 10P	41.5%	24	58.5%

Source: The researchers constructed based on the outcomes derived from the modified Jones model.

Finally, the examination of EAS in 2015 includes the following years: 2016, 2017, 2018, 2019, and 2020. In 2016, it was discovered that 22 businesses (or 53.7% of the total) did not engage in accounting earnings management, while 19

[1]N refers to that the company has decreased its earnings (Negative).

[2]P refers to that the company has increased its earnings (Positive).

businesses (46.3%) did. In 2017, there were 17 companies (41.5% of the total) that practiced discretionary earnings management, compared to 24 companies (58.5% of the total) that did not. 24 enterprises (58.5% of the total) did not engage in discretionary earnings management in 2018, whereas 17 companies (41.5%) did. Twenty businesses (48.8% of the total) practiced discretionary earnings management in 2019, compared to 21 businesses (51.2% of the total) that did not. Finally, it was discovered that 24 organizations (58.5% of the total) did not exercise accounting earnings management in 2020, whereas 17 companies (41.5%) did. According to the aforementioned analysis, businesses listed on the Egyptian Stock Exchange (ESE) still manage their earnings via discretionary accruals in spite of changes to Egyptian accounting requirements. The proportion of businesses using this strategy has changed over time, nevertheless.

Approximately 30.5% of ESE enterprises made use of discretionary accruals in 2002. By 2006, this had risen to 48%, indicating that the practice was becoming more common. But by 2015, the average percentage had dropped to 44%, suggesting that discretionary accruals were being used less frequently.

Despite this overall decrease, the percentage of companies engaging in discretionary accruals has remained relatively stable over the years. This suggests that, while there may have been some variations in the extent of earnings management, the overall prevalence of this practice has not significantly changed following the implementation of new accounting standards.

Earnings management percentages vary between the years of study from 2004 to 2020, as the highest percentage of earnings management was in 2010, while the lowest percentage was in 2004, which is shown in the following Figure 2.

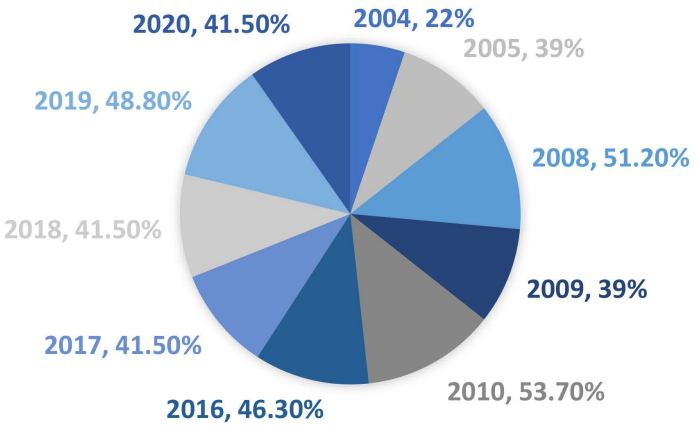

Figure 2. The percentage of earnings management practices among companies over the years studied.

5.2. Statistical Analysis

5.2.1. Preliminary Analyses and Diagnostic Tests

1) Tests of Normality

Two different tests for normality were conducted: the Kolmogorov-Smirnov test and the Shapiro-Wilk test.

Table 4 presents the normal distribution test for the residuals of the models used in the multiple regression analysis. where the Kolmogorov-Smirnov test statistic is 0.038, and 0.034 with a significance value (Sig.) of 0.172, and 0.200 for models (1) and (2) respectively. Since the significance value is greater than the typical alpha level of 0.05, we fail to reject the null hypothesis that the data is normally distributed, according to the Kolmogorov-Smirnov test.

The significance value (Sig.) is 0.570 and 0.692, while the Shapiro-Wilk test statistic is 0.997. Once more, the Shapiro-Wilk test indicates that we are unable to reject the null hypothesis that the data is normally distributed because the significance value is higher than 0.05.

Table 4. The results of tests of normality.

Model	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Regression (1)	0.038	410	0.172	0.997	410	0.570
Regression (2)	0.034	410	0.200	0.997	410	0.692

Source: data processed.

2) Test of Multicollinearity

According to Hair et al. (2010), a common cutoff threshold for VIF values is 10, with values above 10 indicating potential multicollinearity issues. They state, "As a rule of thumb, a variable whose VIF values are greater than 10 may merit further investigation" (p. 204).

Table 5 presents, the test of multicollinearity and suggests that the predictor variables (EAS 2002, EAS 2006, EAS 2015, PROF, AD, FSIZE, LEV, and GROWTH) are not highly correlated with each other, and multicollinearity is unlikely to be a significant issue in the regression analysis.

Table 5. The results of the test of multicollinearity.

	Model (1)		Model (2)	
Description	Tolerance	VIF	Tolerance	VIF
EAS 2002	0.863	1.158	0.953	1.049
EAS 2006	0.879	1.138	---	---
PROF	0.975	1.026	0.920	1.023
AD	0.920	1.088	0.895	1.086
FSIZE	0.895	1.118	0.872	1.117
LEV	0.860	1.162	0.989	1.147
GROWTH	0.989	1.011	0.953	1.011

Source: data processed.

3) Test of Autocorrelation

Table 6 presents that the value of 2.009, and 1.987 is close to 2, indicating little or no autocorrelation in the residuals of the regression mode (Kutner et al, 2005).

Table 6. The results of the test of autocorrelation.

Model	Durbin-Watson
Regression (1)	2.009
Regression (2)	1.987

Source: data processed.

4) Test of Regression Significant

Table 7 presents that the regression model as a whole is statistically significant and can be considered a better fit than a model with no predictor variables.

Table 7. The results of the test of regression are significant.

ANOVA		
Model	F	Sig.
Regression (1)	3.844	0.000
Regression (2)	3.800	0.001

Source: data processed.

5.2.2. Descriptive Statistics

The descriptive statistics for the main variables employed in this investigation are shown in Table 8. A consistent dataset is indicated by the sample's 410 firm-year observations across all variables. With a mean value of 0.12, the variable DACt—a stand-in for earnings management through discretionary accruals—indicates that the sample firms generally use income-increasing earnings management techniques. Both income-decreasing and income-increasing accruals are present, as indicated by the minimum and maximum values of −3.4 and 4.7, respectively. A moderate degree of variation in the enterprises' discretionary accruals is shown in the standard deviation of 1.252.

Profitability (PROF), one of the control variables, shows both profitable and unprofitable enterprises in the sample, with a mean value of 0.096 and minimum and maximum values of −0.74 and 2.89, respectively. The 0.2302 standard deviation indicates a modest degree of variance in business profitability. With a mean of 3.304 billion and values ranging from 0.003 billion to 95 billion, the sample shows a broad range of company sizes (FSIZE). A large degree of variance in company size is indicated by the standard deviation of 9.309. Leverage (LEV) also has a broad range, with a mean of 0.43, a minimum of 0.03, and a maximum of 1.08. A moderate degree of variance in leverage across enterprises is shown by the standard deviation of 0.32275.

Lastly, the growth variable indicates that both contracting and rising enterprises

are present in the sample, with a mean of −0.44, a minimum of −56.00, and a maximum of 1. A large degree of variance in growth rates amongst enterprises is indicated by the standard deviation of 3.939.

Table 8. The results of descriptive statistics.

Description	N	Minimum	Maximum	Mean	Std. Deviation	Observations
DACt	41	−3.4	4.7	0.12	1.252	410
PROF	41	−0.74	2.89	0.096	0.2302	410
FSIZE	41	0.0030	95	3.04	9.309	410
LEV	41	0.03	1.08	0.43	0.2275	410
GROWTH	41	−56.4	1	−0.44	3.939	410

Source: data processed.

5.2.3. Correlations Results

Table 9 displays the independent variables EAS 2006 and EAS 2015 (advancement in Egyptian Accounting Standards), the dependent variable DACt (discretionary accruals), and the control variables PROF, AD, FSIZE, LEV, and GROWTH along with the corresponding p-values and Pearson correlation coefficients.

Table 9. The results of correlations[3].

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) DACt	1							
(2) EAS 2002	−0.028 0.575	1						
(3) EAS 2006	−0.078 0.114	−0.327** 0.000	1					
(4) PROF	0.039 0.426	0.021 0.675	0.039 0.436	1				
(5) AD	−0.155** 0.002	0.027 0.587	0.003 0.948	0.102* 0.039	1			
(6) FSIZE	0.115* 0.020	−0.112* 0.023	0.037 0.459	0.069 0.162	0.189** 0.000	1		
(7) LEV	−0.029 0.554	0.147** 0.003	−0.145** 0.003	0.077 0.121	0.235** 0.000	0.250** 0.000	1	
(8) GROWTH	0.073 0.141	0.041 0.413	−0.013 0.796	0.091 0.066	0.030 0.544	0.031 0.534	0.021 0.668	1

*. The two-tailed significance level for correlation is 0.05.
**. The two-tailed significance level for correlation is 0.01.

Source: data processed.

[3]In this analysis, the dummy variable for the EAS 2015 version was used as the reference category.

The dependent variable DACt and the independent variables EAS 2002 and EAS 2006 have the most significant correlation of interest. These two variables have a weak and statistically negligible association, according to the data.

However, the correlations between the dependent variable, DACt, and the control variables provide additional information. DACt and the control variable AD have a significantly significant negative correlation (−0.155, $p < 0.01$). There is a statistically significant positive correlation between DACt and the control variable, FSIZE (0.115, $p < 0.05$). There are modest and non-significant correlations between DACt and the control variables PROF, LEV, and GROWTH.

One of the significant connections among the control variables is the positive association between PROF and AD (0.102, $p < 0.05$). LEV (0.235, $p < 0.01$) and FSIZE (0.189, $p < 0.01$) show positive correlations with AD. LEV and FSIZE are positively correlated (0.250, $p < 0.01$).

Despite the relationship between the two primary variables is weak, multiple regression analysis that takes into account control variables may reveal significant relationships after controlling for the effects of these other variables.

5.2.4. The Regression Results

1) Model (1)

The results of the multiple regression analysis are shown in Table 10 for Model (1), where the independent variable is the advancement in Egyptian Accounting Standards (EAS 2002, 2006, 2015), the dependent variable is discretionary accruals (DACt), and the reference category is the dummy variable for EAS 2015. The variables that are under control include PROF, AD, FSIZE, LEV, and GROWTH.

When the independent and control variables are equal to zero, the estimated value of DACt is represented by the constant (0.453), according to the interpretation of the coefficients. The findings show that there is no statistically significant impact on earnings management and that the independent variable EAS 2006 (β = −0.116) decreased earnings management by 0.116 when switching from EAS 2015 to EAS 2002. However, EAS 2006 (β = −0.279**) indicates a 0.279 drop in earnings management from EAS 2015 to EAS 20006 At the 5% level, the association with earnings management is statistically significant. Based on the results of the regression study, it is unclear how advancements in Egyptian accounting standards and earnings management relate to one another because of the statistically significant link between EAS 2006 and earnings management (model (1)). However, as there is no statistically significant correlation between EAS 2002 and earnings management, we use EAS 2015 as a reference. Thus, model (2) will use the effect of moving from EAS 2006 to EAS 2002 on earnings management.

AD (β = −0.452***) shows a statistically significant negative effect on earning management among the control variables, indicating that companies audited by the Big 4 auditor type typically have inferior earning management. Furthermore, a statistically significant positive influence of FSIZE (β = 0.021**) on earnings management suggests that companies with larger total asset values also typically have stronger earnings management. Nevertheless, this model does not show

statistically significant impacts of the control variables PROF (β = 0.264), LEV (β = −0.220), and GROWTH (β = 0.022) on DACt.

Table 10. The results of regression model (1).

Description	Coefficients	Std. Error	Beta	t	Sig
(Constant)	0.453	0.149		3.043	0.002
EAS 2002	−0.116	0.162	−0.037	−0.716	0.475
EAS 2006	−0.279**	0.141	−0.102	−1.986	0.048
PROF	0.264	0.266	0.049	0.994	0.321
AD	−0.452***	0.126	−0.180	−3.575	0.000
FSIZE	0.021**	0.007	0.153	3.003	0.003
LEV	−0.220	0.287	−0.040	−0.768	0.443
GROWTH	0.022	0.015	0.070	1.445	0.149
R = 0.250 R Square = 0.063 Adjusted R Square = 0.046					

Source: data processed. At the 1% and 5% levels, respectively, statistical significance is indicated by the symbols *** and **.

2) Model (2)

The results of the multiple regression analysis, Model (2), are shown in Table 11. The estimated value of earnings management when the independent and control variables are equal to zero is represented by the constant (0.329) while analyzing the coefficients. The findings show that there is no statistically significant impact on earnings management and that the independent variable EAS 2002 (β = −0.017) indicates a 0.017 drop in earnings management from EAS 2006 to EAS 2002.

Table 11. The results of regression model (2).

Description	Coefficients	Std. Error	Beta	t	Sig
(Constant)	0.329	0.135		2.425	0.016
EAS 2002	−0.017	0.155	−0.006	−0.112	0.911
PROF	0.237	0.267	0.044	0.888	0.375
AD	−0.459***	0.127	−0.183	−3.623	0.000
FSIZE	0.020**	0.007	0.151	2.949	0.003
LEV	−0.155	0.286	−0.028	−0.541	0.589
GROWTH	0.022	0.015	0.071	1.448	0.148
R = 0.231 R Square = 0.054 Adjusted R Square = 0.039					

Source: data processed. ***, **, indicates statistical significance at the 1% and 5% level respectively.

AD (β = −0.459***) shows a statistically significant negative effect on earning management among the control variables, indicating that companies audited by the Big 4 auditor type typically have inferior earning management. Furthermore, a statistically significant positive influence of FSIZE (β = 0.020**) on earnings management suggests that companies with larger total asset values also typically have stronger earnings management. However, this model does not show statistically significant impacts of the control variables PROF (β = 0.237), LEV (β = −0.155), and GROWTH (β = 0.022) on DACt.

Based on the regression results, model (1) and model (2) we can summarize the statistically significant between advancement of Egyptian accounting standards and earnings management in the following Table 12.

Table 12. Summarized the results of model (1) and (2).

Model (1)		
Description	**Coefficients**	**Sig.**
Moving from EAS 2015 to EAS 2002	**−0.116**	**0.475**
Moving from EAS 2015 to EAS 2006	**−0.279****	**0.048**
Model (2)		
Moving from EAS 2006 to EAS 2002	**−0.017**	**0.911**

Source: summarizing Tables 10-11.

According to the statistically significant in the table above (Table 12), the following comment can be made regarding the hypothesis:

"H1: The Advancement of Egyptian accounting standards is associated with a decrease in earnings management practices in Egyptian firms."

This hypothesis is not supported by the findings of the regression analysis. In particular, the independent variable advancement in Egyptian Accounting Standards has a coefficient that is not statistically significant (two are not statistically significant, but one is). This implies that, among the Egyptian enterprises included in the analysis, there is no discernible correlation between the development of Egyptian accounting rules and a decline in earnings management methods as indicated by discretionary accruals (DACt). We used one-way in the following to guarantee this outcome.

5.2.5. One-Way ANOVA

Table 13 presents, employing one-way ANOVA to examine the impact of advancements in Egyptian accounting standards on earnings management practices, as measured by discretionary accruals.

According to the findings of the one-way ANOVA, the average values of accounting earnings management techniques using discretionary accruals (DACt), are relatively similar across the three periods corresponding to the different versions of Egyptian Accounting Standards (EAS): 0.05 for EAS 2002, −0.028 for EAS 2006, and 0.24 for EAS 2015. However, the F-statistic (1.913) and the corresponding

p-value (Sig. = 0.149) imply that the mean DAC values for the three EAS periods do not differ statistically significantly. These findings, in conjunction with the earlier regression analysis results, provide further evidence that fails to support the hypothesis that the advancement of Egyptian accounting standards is associated with a decrease in earnings management practices in Egyptian firms

Table 13. One-way ANOVA results.

N	EAS Versions	Minimum	Maximum	mean	Std. Deviation	F	Sig.
82	EAS 2002	−3.4	1.97	0.05	1.01		
123	EAS 2006	−2.8	3.6	−0.028	1.33	1.913	0.149
205	EAS 2015	−2.9	4.7	0.24	1.28		

Source: data processed.

In conclusion, there is no statistically significant correlation between the improvement of Egyptian accounting standards and a decline in earnings management practices among listed companies on the Egyptian Stock Exchange, according to the results of the statistical analyses carried out, including the regression analysis and the one-way ANOVA. Specifically, the regression analysis revealed no significant relationship between the independent variable of the development of accounting standards and the dependent variable of discretionary accruals (DACt), a proxy for earnings management techniques.

Additionally, the mean levels of discretionary accruals for the three periods that corresponded to the various versions of Egyptian Accounting Standards (EAS 2002, 2006, 2015) did not differ significantly, according to the findings of the one-way ANOVA. These findings are consistent with previous studies, such as Van Tendeloo and Vanstraelen (2005), Elbannan (2008), Doukakis (2014), Beuren and Klann (2015), Al-Ghazzawi and Alsoboa (2016), Baig and Khan (2016), Al-Duwairi (2016), and Elbolok et al. (2022), which have found that the adoption of new accounting standards does not necessarily lead to a reduction in earnings management practices. The lack of a significant impact could be attributed to various factors, including the complexity of the new standards, inadequate enforcement mechanisms, or the unwillingness of companies to change their practices.

Drawing from the theoretical framework of agency theory, the persistent misalignment of interests between managers (agents) and shareholders (principals) could potentially explain the lack of significant impact of the Egyptian accounting standards on earnings management practices. Despite the introduction of new accounting standards aimed at improving financial reporting transparency, managers may still be motivated to engage in earnings management practices to maximize their rewards, comply with debt covenants, avoid political costs, achieve tax savings, or meet analysts' expectations.

Furthermore, the institutional environment and regulatory enforcement mechanisms in Egypt may play a crucial role in determining the effectiveness of

accounting standards. Weak regulatory enforcement, inadequate accounting infrastructure, and insufficient practitioner training, as highlighted in previous studies by Elbannan (2008) and Ebaid (2016), can undermine the intended benefits of adopting new accounting standards. The lack of robust legal and regulatory frameworks to hold companies accountable for non-compliance with the standards could perpetuate earnings management practices.

Additionally, the complexity and flexibility inherent in the new accounting standards themselves may provide opportunities for managers to exercise discretion and engage in earnings management practices. As discussed by Kassab (2008), the flexibility of accounting standards can allow management to make accounting choices that manipulate profits to achieve desired figures, potentially undermining the intended transparency and comparability of financial reporting.

6. Conclusion and Recommendations

6.1. Conclusion

This study looked into how companies listed on the Egyptian Stock Exchange managed their earnings in relation to changes in Egyptian accounting requirements. The results of the regression analysis and the one-way ANOVA showed that the adoption of revised Egyptian accounting standards in 2002, 2006, and 2015 did not significantly reduce earnings management practices. This was demonstrated by using the modified Jones model to compute discretionary accruals as a stand-in for earnings management.

The lack of a substantial reduction in earnings management practices despite the adoption of new accounting standards aligns with the findings of previous studies conducted both within and outside the Egyptian context, such as those by Van Tendeloo and Vanstraelen (2005), Elbannan (2008), Doukakis (2014), Beuren and Klann (2015), Al-Ghazzawi and Alsoboa (2016), Baig and Khan (2016), Al-Duwairi (2016), and Elbolok et al. (2022). This outcome highlights the persistent challenges in mitigating opportunistic earnings management behaviors, even with implementing higher-quality accounting standards.

The study contributes to the existing body of knowledge by providing empirical evidence from the Egyptian context, an emerging market with unique institutional and regulatory characteristics. The findings underscore the importance of considering factors beyond the technical aspects of accounting standards, such as enforcement mechanisms, corporate governance practices, and managerial incentives, in effectively curbing earnings management practices.

Furthermore, this research adds to the ongoing academic discourse on the effectiveness of accounting standards in enhancing financial reporting quality and transparency. The insights gained from this study can inform policymakers, standard-setters, and regulators in developing strategies to address earnings management and promote high-quality financial reporting. The results suggest that the mere adoption of new accounting standards may not be sufficient to achieve the desired reduction in earnings management practices, and complementary

measures, such as strengthening enforcement mechanisms and aligning managerial incentives, may be necessary.

Last but not least, this study advances our understanding of the variables affecting the caliber of financial reporting and how accounting rules might increase transparency in developing nations. The study's conclusions can direct discussion and policy development for other developing countries facing comparable issues with regard to earnings management practices and encouraging greater clarity in financial disclosures, even though the specific cultural, economic, and regulatory environments may vary by region.

6.2. Recommendations

1) Recommendations for Regulatory Bodies and Professional Organizations To address the persistent issue of earnings management and improve financial reporting quality in Egypt, regulatory bodies and professional organizations should consider the following recommendations:

(1) Strengthen enforcement mechanisms and monitoring processes to ensure strict compliance with accounting standards among listed companies.

(2) Implement robust auditing and oversight procedures to detect and penalize instances of non-compliance or earnings manipulation.

(3) Provide comprehensive training and guidance to companies, auditors, and practitioners on the proper application and interpretation of accounting standards.

2) Recommendations for Companies Listed companies in Egypt should take proactive measures to enhance their financial reporting practices and align with the principles of high-quality accounting standards:

(4) Implement robust corporate governance mechanisms, including independent audit committees and effective internal control systems, to monitor and mitigate earnings management practices.

(5) Provide comprehensive training and resources to accounting and finance personnel to ensure a thorough understanding and proper application of accounting standards.

(6) Promote a culture of transparency, ethical conduct, and accountability within the organization, emphasizing the importance of accurate and reliable financial reporting.

3) Suggestions for Professional Associations and Regulatory Bodies The following suggestions should be taken into consideration by regulatory agencies and professional associations to address the ongoing problem of earnings management and enhance the caliber of financial reporting in Egypt:

(7) Investigate the effects of individual accounting standards on earnings management behaviors, instead of analyzing the standards collectively.

(8) Examine the relationships between managerial incentives, corporate governance frameworks, and profits management tactics in the context of Egypt.

Broaden the research framework to encompass practices of real earnings management alongside accruals-based earnings management, offering a more detailed

insight into the phenomenon.

Conflicts of Interest

The authors declare no conflict of interest.

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