The Impact of Firm-specific Characteristics and Profitability on Earnings Management: An Empirical Analysis of Firms Listed on Egyptian Stock Exchange

Amira Hamed

College of Management & Technology

amirahamed97@adj.aast.edu

Prof. Amr Youssef

Professor of Accounting & Finance

Graduate School of Business

amraziz@aast.edu

Dr. Karim El-Faham

Lecturer in the Accounting & Finance Dept.

College of Management and Technology

karimfaham@aast.edu

Arab Academy for Science, Technology and Maritime Transport, Alexandria, Egypt

Abstract

The accounting literature has extensively focused on earnings management, with ongoing concerns from practitioners and regulators. Various methods and techniques are employed in earnings management, all tailored to management's goals. The aim of this research is to investigate the factors affecting earnings management among firms listed on the Egyptian Stock Exchange (EGX), while accounting for the impact of external shocks (2011 revolution, COVID-19 pandemic and currency devaluation) that occurred during the study period. This was accomplished by analyzing the impact of these external shocks in the main analysis, alongside conducting a separate comparative analysis to specifically investigate the exact effect of currency devaluation as the main event during the sample period. The study sample includes 70 non-financial firms from the top 100 most active firms listed in EGX, analyzed all over an 11-year period from 2012 to 2022. Using fixed effects multiple regression, findings reflect a significant positive relationship between earnings management and the independent variables: financial leverage, firm size, receivables turnover, ROA and the period of currency devaluation. In contrast, operating cash flow shows a significant negative relationship with earnings management. However, ROE, liquidity, the period of COVID-19 pandemic, and the period of 2011 revolution exhibit an insignificant relationship with earnings management. In addition, results of the comparative analysis shows that currency devaluation has a significant effect. Pre-devaluation, ROA and operating cash flow only have significant impact on earnings management, while firm size, receivables turnover, ROE, and liquidity have insignificant impacts. Post- devaluation, the impact of firm size and receivables turnover turned to be significant on earnings management. Resulting in firm size, receivables turnover, ROA and operating cash flow having a significant impact on earnings management post-devaluation, while ROE and liquidity have insignificant impact.

Keywords*: Earnings Management, Firm Characteristics, COVID-19, Profitability, Currency Devaluation, External Shocks.*

Introduction

Earnings management operates at the intersection of accounting methods, financial choices, and corporate oversight. It represents a complex tactic used by management to influence reported profits through a variety of accounting techniques. What is worth mentioning, Earnings management involves deliberate manipulation of financial reporting for personal or organizational gain, especially since the value of a company is closely tied to its reported earnings. The use of accrual-based accounting has facilitated the growth of earnings management, allowing managers to manipulate financial information by adjusting the timing of revenue and expense recognition (Bassiouny et al., 2016). Moreover, profitability and various firm characteristics such as

liquidity, leverage, size, receivables turnover, and operating cash flow are crucial for assessing earnings quality, as they influence both internal and external business decisions and can deter managers from falsifying accounting data. Besides, external shocks, such as the period of COVID-19 pandemic, currency devaluation and 2011 revolution, can exacerbate financial pressures on companies, potentially leading to increased earnings management practices (Park & Shin, 2021). COVID-19 has particularly caused liquidity shortages and decreased consumption and investment demand, which may prompte companies to resort to earnings management to navigate the crisis (Yan et al., 2022). Similarly, currency devaluation and 2011 revolution, as experienced in Egypt, has an impact inflation rate and decrease the accuracy of earnings estimates, potentially may lead to heightened earnings management activities. Overall, the quality of earnings is a significant topic for discussion among experts, investors, practitioners, standard-setters, and academics, given its profound impact on investment decisions and financial markets (Martin & Sunley, 2015).

Furthermore, due to lack of research exploring the relationship between each of the efficiency ratios, profitability, and liquidity, with earning management as well as the occurrence of external shocks due to the period of COVID-19, currency devaluation, and 2011 revolution, along with conflicting findings in the literature, further research is needed to uncover the underlying mechanisms and implications for financial reporting integrity. Thus, the aim of this research is to integrate existing theoretical frameworks and empirical evidence to provide a comprehensive understanding of the dynamics involved by examining the relationship between firms characteristics and earnings management along with analyzing the impacts of the external shocks, specifically investigating the exact effect of currency devaluation as the main event during the sample period by conducting a comparative analysis.

Literature Review
Earnings Management

Earnings management is a complex practice used by management to manipulate reported earnings through various accounting methods, impacting short-term financial outcomes and investor perceptions. This can involve real earnings management (direct cash flow manipulation) or accrual earnings management (indirect accounting adjustments). The presence of earnings management can distort financial statements, affecting investment decisions and potentially increasing dividend payouts to attract investors (salah, 2018). Furthermore, firm characteristics as well as external shocks can influence earnings management practices (Ogundajo et al., 2021).

Financial Leverage

Leverage refers to the amount of debt a company uses to finance its operations and acquire assets, which helps avoid excessive use of equity. High financial leverage indicates a higher risk for investors, as debt financing is riskier than equity financing. Companies with high leverage may struggle to meet debt obligations if they are not profitable, potentially leading to bankruptcy and deterring investors (Ernawati et al., 2021). What is worth mentioning, some studies indicated that firms with high levels of leverage frequently engage in earnings management to avoid violating debt covenants and to attract more capital, often resulting in lower-quality financial reports (Anagnostopoulou & Tsekrekos, 2016). In 2019, a study was conducted on 241 companies listed in Vietnam stock exchange for the period of 2010 to 2016. It indicated a result of a positive association between leverage and earnings management (Khanh & Thu, 2019). Similarly, a study which was conducted in 2016 using 50 most active listed firms in the Egyptian stock exchange covering the period of 2007-2011 (Bassiouny et al., 2016).

Contrarily, higher leverage constrains earnings management due to creditor oversight. Some studies show a negative relationship between financial leverage and earnings management. For instance, a study conducted in 2015 using a sample consisting of 313 firm-years in the pharmaceutical industry listed on the

Tehran Stock Exchange for the period 2001-2014 (Shirzad & Haghighi, 2015). Similarly, in 2014, a study was conducted using 7 listed oil and gas companies in Nigeria for the period of 2007-2011. It investigated firm attributes and earnings quality, finding a positive effect of leverage on earnings quality, which mean that leverage has a negative significant impact on earnings management (Hassan & Farouk, 2014). Finally, some research found no significant relationship between leverage and earnings management as the study of Alareeni (2018), and similarly the study of Uwuigbe et al. (2015) which was conducted using 20 listed firms in the Nigerian stock exchange market, for the period from 2006 to 2010 to determine the effects of firms' characteristics on earnings management of listed companies in Nigeria.

Firm Size

Firm size is a critical factor influencing financial reporting and performance evaluation. Larger firms often attract more attention from stakeholders, leading to increased scrutiny and pressure to produce trustworthy financial reports. Consequently, larger firms are presumed to have more robust internal control systems and may exhibit a reduced tendency to engage in earnings management. Some studies suggest a negative relationship, which indicate that larger firms are less likely to manipulate earnings due to their heightened visibility and reputation concerns. For instance, the study conducted in 2013 using food and beverages companies listed in Indonesian Stock Exchange, covering a period from 2005 to 2007 (Swastika, 2013). As well as the study conducted in 2021 using a sample of firms listed in the Egyptian Stock Exchange for a period of 3 years starting from 2015 to 2017 (El Matbouly, 2021).

Conversely, conflicting views exist concerning the association between firm size and earnings management. Other research revealed a positive relationship, positing that larger firms may exploit their negotiating power with auditors and utilize their management authority to manipulate earnings. This perspective suggests that larger firms may be more inclined to engage in earnings management to minimize tax liabilities or meet performance expectations (Rahmani & Akbari, 2013). In 2015 a study was conducted using a sample of 50 selected firms from the textile sector of Pakistan for a period of 10 years from 2004 to 2013. Its results stated that there is positive significant effect of firm size on earnings management (Ali et al., 2015). Furthermore, some studies find no significant association between firm size and earnings management, suggesting that other factors may play a more substantial role in influencing earnings management practices, as seen in the study of Bassiouny et al. (2016) conducted in the context of Egypt, and similarly of Naz et al. (2011) which was conducted in Pakistan.

Profitability

The financial statements of a company provide crucial information about its performance and operations, including profitability, which is essential for assessing its attractiveness to investors. High profitability signals stability and attracts investment, leading managers to maintain steady profits to enhance trust among stakeholders. However, profitability is also linked to earnings management, where managers may manipulate earnings to stabilize or enhance reported profits. Studies have shown mixed results regarding the association between profitability and earnings management, with some indicating a positive correlation, suggesting that high-profit firms may underreport profits to reduce tax burdens or political costs (Hung et al., 2018; Prasetyo & Suhendah, 2023). In 2019, a study was conducted using listed 60 companies in Indonesia Stock Exchange for the period from 2012 to 2016. Its results showed that profitability measured by ROA has a positive significant effect on earnings management (Nurdiniah, 2019).

Conversely, other studies suggest a negative relationship, implying that low-profit firms are more likely to engage in earnings management to mask poor performance as the study of (Mostafa, 2019). Thus, the conflicting findings underscore the complexity of the relationship between profitability and earnings management, with some studies indicating no significant relationship. (Nugraha & Affan , 2023; Hutauruk et al., 2022; Al-Jafari; Al Samman, 2015; Waweru & Riro, 2013).

Liquidity Position

Liquidity is vital for financing projects and daily operations, prompting managers to disclose it in financial statements to attract investors and creditors. High liquidity signifies a business's ability to survive and attract external funding, indicating its stability to regulators and stakeholders. In 2014, a study was conducted using 7 listed oil and gas companies in Nigeria for the period of 2007-2011. It investigated firm attributes and earnings quality, finding a positive effect of liquidity on earnings quality, suggesting less earnings management as liquidity increases all of which reflects that high liquidity levels may reduce the incentive for earnings management as it signals financial stability (Hassan & Farouk, 2014). Conversely, in 2017, a study was carried to determine the effect of leverage and liquidity ratios on earnings management for a period from 2010 to 2015. It noted that liquidity has a positive link with earnings management, indicating that high liquidity might lead to manipulation, reflecting a complex relationship between liquidity and earnings management (Moghaddam & Abbaspour, 2017).

Efficiency Ratios

An efficiency ratio in finance Assesses how effectively an organization allocates its resources to generate revenue or profit, evaluating operational performance and resource management. These ratios, also known as turnover ratios, assess how quickly assets are converted into sales, which is crucial for managing working capital, especially in retail businesses. One key efficiency ratio is the accounts receivable turnover, which indicates a company's ability to collect receivables efficiently, affecting its financial condition and potentially impacting the need for discretionary accruals in financial reporting. what is worth mentioning, in 2018, a study was conducted to examine the influence of financial metrics on the earnings management using a sample of 320 non-financial corporations listed in Vietnam stock exchange market for the period of 2008 to 2016. Its results indicated that as the turnover ratio decreases, the earnings management practice of companies increases which reflects negative significant relationship (Cuong & Ha, 2018). However, in 2015, a study was carried which investigated the association between earnings management behavior and financial metrics in family firms listed in the Tehran Stock Exchange during the period from 2007 to 2013. It found a positive significant association between activity ratios including receivables turnover and earnings management in family firms (Sadeghi & Zareie, 2015).

Operating Cash Flow

Operating cash flow, measures the cash generated or used by a company's main business activities within a specific period, excluding investing and financing activities. This metric is crucial for investors, analysts, and creditors as it indicates the ability of a company to generate cash from its main operations, pay expenses, fund working capital, and generate profits. A positive operating cash flow signals healthy business operation, while a negative one suggests potential liquidity or profitability issues (Aburisheh et al., 2022). Studies have shown that low operating cash flow often leads to earnings management practices, such as using discretionary accruals to inflate earnings. For instance, the study carried in 2017 using a sample of the ready mixed concrete (RMC) industry in Korea (Jang & Weon-Jae, 2017). Similarly, the study conducted in 2018 to examine the influence of financial ratios on the earnings management using a sample of 320 non-financial corporations listed in Vietnam stock exchange market for the period of 2008 to 2016 (Cuong and Ha, 2018). Conversely, in 2018, a study was carried among manufacturing companies listed in Indonesia Stock Exchange (IDX). It found that operating cash flow has no effect on earnings management among Indonesian manufacturing companies (Djashan & Lawira, 2018).

COVID-19 Pandemic

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has had a profound global impact since late 2019, significantly affecting public health, economies, and societies. It led to major economic disruptions,

including reduced production, consumption, and international trade, along with heightened debt and inflation risks. Businesses faced severe financial strain, prompting many to manipulate their financial reporting to present more favorable financial statements and secure financing (Yan et al., 2022). Several studies confirm this trend, showing increased income-increasing earnings management to mitigate reported losses and maintain investor confidence during the pandemic. In 2021, a study involving 2,031 firms in 15 European countries covering pre-pandemic (2017-2019) and pandemic periods (2020-2021). Results indicated that due to the pandemic, the reliability of financial reports decreased (Lassoued et al., 2021). Similarly, in 2022, a study of 210 listed companies in EU countries (2015-2020) indicated increased earnings management (Kazemi, 2022). However, in 2022, a study on pharmaceutical companies in Indonesia found that due to the pandemic, there's no significant change in earnings management practices (Azizah et al., 2022).

Currency Devaluation

Currency devaluation reduces a currency's value relative to others, making exports cheaper and imports more expensive, which can result in higher commodity prices and inflation. This increase in production costs can reduce consumer spending, slow economic activity, and negatively impact GDP growth and employment. Prolonged devaluation can even risk triggering a global recession (Köhler et al., 2016). Egypt has faced long-standing challenges with its exchange rate against the US Dollar and transitioned to a floating exchange rate system on November 3, 2016 (Bahloul, 2018). Currency devaluation can also affect earnings management, particularly for international businesses, as managers may smooth earnings to manage exchange rate volatility. Studies indicate that devaluation leads managers to engage more aggressively in earnings management to present stable financial performance amid foreign exchange gains or losses (Hassan & Salah, 2023). Moreover, studies by Christiawan and Narsa (2020) and Lock et al. (2019) found that exchange rate movements contribute to earnings management when exchange rates weaken, but not significantly when they strengthen (Lock et al., 2019).

2011 Revolution in Egypt

The 2011 revolution in Egypt, part of the Arab Spring, led to the ousting of President Hosni Mubarak and brought significant political upheaval. This event had profound economic consequences, including a downturn in tourism, decreased foreign investment, slower economic growth, budget deficits, rising unemployment, and social challenges (Rastegari, 2012). Following the revolution, the election of President Abdel Fattah el-Sisi in 2014 introduced a period of relative political stability but also marked a shift towards more authoritarian governance (Ismail, 2017). The impact of the revolution on earnings management in businesses is complex and indirect. During times of economic uncertainty, managers may manipulate earnings to present a more favorable financial image. Abdallah (2019) studied the Egyptian market and found that the revolution increased the value relevance of discretionary accruals, suggesting managers used these to signal future investments. However, Ismail (2017) observed no significant change in earnings management practices among Egyptian firms due to the revolution, indicating varied responses among businesses to the upheaval.

Methodology
Sample Selection and Data Collection

The population of this research are companies listed in the Egyptian stock exchange (EGX) given that data would be readily available, the sample used in the study is the top 100 most active firms listed in EGX. Banks and financial firms were excluded due to difference in the nature of their financial statements as their corporate governance and disclosure requirements differ from firms, as a result the sample is constituted of 70 firms. Moreover, investigation will be carried all over 11 years from 2012 to 2022, where this period is the period with the latest data available. Moreover, many external shocks occurred during this 11 years pe-

riod, which is due to the period of 2011 revolution, currency floating and COVID-19 pandemic. To consider the effects of these shocks, dummy variables were included for the 2011 revolution (2012-2014), the COVID-19 pandemic (2020-2021), and the currency floating (2017-2019), with the remaining years (2015, 2016, and 2022) considered periods of relative stability.

Measurement of Variables

The dependent variable in this research is earnings management, while the independent variables are firm characteristics and external shocks.

1- **Measurement of Dependent Variable**

Earnings management is the manipulation of financial reports by managers using their judgment in structuring transactions and financial reporting to gain personal benefits, often misleading stakeholders about a company's true performance or influencing contractual outcomes based on reported figures. Studies have identified various methods of earnings management, three main methods of earnings management include income smoothing, real earnings management, and accrual-based earnings management. Income smoothing reduces short-term earnings volatility to report consistent profits, but it is difficult to distinguish between normal and intentional smoothing, making it ineffective for detecting earnings management (Ogundajo et al., 2021). Real earnings management involves operational decisions like giving discounts to boost sales, overproducing to reduce COGS, or cutting discretionary spending. These actions impact cash flow but lack benchmarks for detection (Sun & Rath, 2010). However, Accrual-based earnings management is more invisible and involves shifting revenues and expenses between periods to manipulate earnings. Where, managers might record revenues prematurely or defer expenses to boost current earnings or understate earnings in strong years to build reserves for future periods, all of which reflecting discretionary accruals. This means that since accruals are less observable than cash flows, this method is particularly effective for financial manipulation.

What is worth mentioning, discretionary accruals are accounting adjustments made at management's discretion, while non-discretionary accruals are determined by external factors like accounting laws and are not subject to managerial discretion (Jackson, 2018). To measure earnings management, discretionary accruals are often used, with the modified Jones model (1995) being a popular tool as this model adjusts the original Jones model by including changes in receivables to account for revenue-based earnings manipulations (Soliman & Ragab, 2014). What is worth mentioning, the modified jones model uses two stages in estimating discretionary accruals. The first stage is measuring total accruals (equation 1). then the second stage is to determine non- discretionary accruals, as in equation (2), where the total accrual component which was determined in the previous step (equation1) is employed in order to regress the values of the parameters $\beta 1$, $\beta 2$ and $\beta 3$ through an ordinary least squares regression (equation 3). This determines how the non- discretionary relates to total accruals. Since total accruals include discretionary and non-discretionary accruals. The deviation from how the non- discretionary relates to total accruals which is reflected in the residual (error term of the regression) would reflect the discretionary portion of total accruals, that is correspond to the difference between the total accruals and the estimation of their non-discretionary component (equation 4) (El-Massry et al., 2023; Jackson, 2018; Peasnell et al., 2000; Mendesa et al., 2012).

Since, this research use the cash flow statement approach to calculate the total accruals, the total accruals can be calculated as follows:

$$TAAC_t = NI_t - CFO_t \text{ (Equation 1)}$$

Where, **TACCt** refers to total accruals in year t, which is composed of non-discretionary plus discretionary accruals, **NIt** refers to net income in year t, and **OFCt** refers to cash flows from operating activities in year t.

Consequently, based on the modified Jones' (1995) model, which aims to determine discretionary accruals, non- discretionary accruals are calculated as through the following equation:

$$NDA_{it} = \beta_1 \left(\frac{1}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}} \right) \qquad \text{(Equation 2)}$$

Where, **NDA it** refers to non-discretionary accruals, **A it -1** refers to the carrying value of total assets of firm i at the end of year t -1, ΔREV_{it} refers to change in the revenues of company i from year t − 1 to year t, ΔREC_{it} refers to change in the receivables of company i from year t − 1 to year t, **PPEit /TA it -1** refers to gross property, plant and equipment of firm i at end of year t scaled by TAit-1, and **β1, β 2, β 3** are firm-specific estimated parameters.

To calculate non-discretionary accruals, the estimated parameters (**β1, β 2, β 3**) needs to be indicated. Thus, to find those estimated parameters, a regression equation is used as follows:

$$\frac{TACC_{it}}{A_{it-1}} = \beta_1 \left(\frac{1}{A_{it-1}} \right) + \beta_2 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \varepsilon_{it} \text{(Equation 3)}$$

Where, **TACCit** refers to total accruals in year t, which is equal to accounting earnings − OFC, **Ait−1** refers to total asset in year t − 1, ΔREV_{it} refers to change in the revenues of company i from year t − 1 to year t, ΔREC_{it} refers to change in the receivables of company i from year t − 1 to year t, **PPEit / TA it -1** refers to gross property, plant and equipment of firm i at end of year t, scaled by lagged TAit -1, **β1, β 2, β 3** are estimated parameters, and **εit** refers to errors of company i in year t, which is the residual that represents the firm-specific discretionary portion of total accruals (El-Massry et al., 2023; Jackson, 2018; Mendesa et al., 2012).

Finally, discretionary accruals which is the measure of earnings management is caluclated by subtracting non-discretionary accruals from total accruals as follows:

$$DA_{it} = TACC_{it} - NDA_{it} \text{ (Equation 4)}$$

Where, **DAit** refers to discretionary accruals, **NDA it** refers to non-discretionary accruals, and **TACCit** refers to total accruals.

2- **Measurement of Independent Variables**

Table (1) Variables and Measurements

Variables	Measurement	
Leverage	Debt ratio = Total debt / Total assets	(El Matbouly, 2021; Alareeni, 2018 and Bassiouny et al., 2016;)
Firm's Size	Natural Log of Total assets	
Profitability	ROE = Net income / Equity fund	(El Matbouly, 2021; and salah, 2018)
	ROA = Net income / Total assets	
Liquidity position	[(Receivables + Inventory) − Payables] / Total assets	(Salah, 2018)
Efficiency Ratio	Receivables turnover = Sales of firm i in year t / Receivables of firm i in year t	(Cuong and Ha, 2018; Sadeghi and Zareie, 2015)
Operating Cash Flow	OFC = Cash flow from operation in year t/ Total asset of firm i in year t-1	(Djashan and Lawira, 2019; Cuong and Ha, 2018)
COVID-19 Pandemic	Dummy variable equal to 1 if the year is from 2020 to 2021, and 0 otherwise	(Tuan et al., 2023; Aljughaimana et al., 2023; Yan et al., 2022)
Currency Devaluation	Dummy variable equal to 1 if the year is from 2017 to 2019, and 0 otherwise.	(Hassaan and Salah, 2023)
2011 Revolution	Dummy variable equal to 1 if the year is from 2012 to 2014, and 0 otherwise	(Abdallah, 2019; Abdel- Aziz Ismail, 2017)

Regression Model

This study employs a multiple regression model. The relationship among firm characteristics, external shocks and earning management will be investigated by the following regression model:

$$DAC_{it} = \alpha_{it} + \beta_1 FSIZE_{it} + \beta_2 FLEV_{it} + \beta_3 ROE_{it} + \beta_4 ROA + \beta_5 RTO_{it} + \beta_6 CFO_{it} + \beta_7 LIQ_{it} + \beta_8 COVID19_{it} + \beta_9 Currency\_f \sim g_{it} + \beta_{10} Revolut \sim 2011_{it} + \varepsilon_{it}$$

Where, **DAC:** is discretionary accrual, **FSIZE:** is firm size, **FLEV:** is firm's financial leverage, **ROA:** is return on assets, **ROE:** is return on equity, **RTO:** is receivables turn over , **OFC:** is operating cash flow, **LIQ:** is liquidity position, **COVID19:** is COVID-19 Pandemic**, Currency_f~g:** is Currency Devaluation, **Revolut~2011:** is 2011 Revolution and **ε:** is the error term.

Hypotheses Development

Key research hypotheses can be developed as follows:

- H1: It is expected that there's a positive significant relationship between financial leverage and earning management.

- H2: It is expected that there's a positive relationship between firm size and earning management.

- H3: It is expected that there's a positive significant relationship between ROA and earning management.

- H4: It is expected that there's a positive significant relationship between ROE and earning management.

- H5: It is expected that there's a positive significant relationship between liquidity position and earning management.

- H6: It is expected that there's a positive significant relationship between RTO and earning management.

- H7: It is expected that there's a positive significant relationship between OFC and earning management.

- H8: It is expected that there's a positive significant relationship between the period of 2011 Revolution and earning management.

- H9: It is expected that there's a positive significant relationship between the period of Currency Devaluation and earning management.

- H10: It is expected that there's a positive significant relationship between the period of Covid-19 Pandemic and earning management.

Findings and Analysis

Analysis of this research are conducted using the Stata program. Starting with descriptive statistics, after which correlation analysis will follow. Then, analyzing outcomes of the regression analysis.

Descriptive Statistics

The descriptive statistics shows the mean, median, minimum, and maximum values, along with the standard deviation, of both dependent and independent variables.

Table 2 provides descriptive statistics for discretionary accruals (DAC) and several independent variables. (DAC), measuring earnings management practices, has a mean of 0.003, implying around 0.30% of earnings are upwardly manipulated. Its median is -0.005, ranging from -1.151 to 0.650, with a standard deviation of

Table (2) Descriptive Analysis

	Mean	Median	Max	Min	SD
DAC	.003	-.005	0.650	-1.151	.135
FLEV	-.511	-.479	0.344	-2.401	.351
FSIZE	14.407	14.533	18.748	10.13	1.74
ROA	.059	.046	0.483	-1.316	.121
ROE	.153	.097	13.613	-4.818	.72
LIQ	.308	.285	0.991	-.312	.236
RTO	13.533	3.223	1275.929	0	72.844
OFC	.067	.054	0.690	-.993	.141
COVID19	.197	0	1.000	0	.398
Curren-cy_f~g	.278	0	1.000	0	.448
Revo-lut~2011	.247	0	1.000	0	.432

13.5%, indicating variability. Financial leverage (FLEV) variable is transformed using a logarithmic transformation (ln) to stabilize variance and manage nonlinearity. Where this transformation converts values below one into negative equivalents. As shown in table 2, financial leverage value of 0.7857 becomes -0.511 after ln transformation reflecting a mean value of -0.511, suggesting more reliance on equity (51% of assets) than debt, with a median of -0.479, ranging from -2.401 to 0.344, and a standard deviation of 0.351. Firm size (FSIZE) averages 14.407, slightly positively skewed, ranging from 10.13 to 18.748, with a standard deviation of 1.74. Return on assets (ROA) averages 5.9%, ranging from -1.316 to 0.483, with a standard deviation of 0.121. Return on equity (ROE) has a mean of 0.153, reflecting a 15.34% return, ranging from -4.818 to 13.613, with a standard deviation of 0.72. Liquidity (LIQ) averages 0.308, with a range from -0.312 to 0.991, and a standard deviation of 0.236. Receivables turnover (RTO) averages 13.533, ranging from 0 to 1275.929, with a standard deviation of 72.844. Operating cash flow (OFC) averages 0.067, ranging from -0.993 to 0.690, with a standard deviation of 0.141. Dummy variables for COVID-19, currency devaluation, and the 2011 revolution are binary, indicating specific occurrences.

Correlation Analysis

The aim of the Correlation analysis is to examine the relationships between dependent and independent variables, as well as the associations among the independent variables themselves, to assess for any multicollinearity issues. What is worth mentioning, the Pearson's correlation matrix is employed to assess the degree of correlation between the independent variables ranging from (+1) for a perfect positive relationship to (-1) for a perfect negative relationship. where it is recommended that Pearson's correlations between independent variables should not exceed 0.8 to demonstrate the absence of multicollinearity issues among the variables (Soliman, 2013).

Table 3 shows, the highest correlation among exploratory variables is between cash flow from operations "CFO" variable and return on assets "ROA" variable with an amount of 0.497. where this reflects a moderate relationship between both variables, however, no multicollinearity problem as it is not exceeding 0.8. Moreover, for the correlation between each of "FSIZE" and "FLEV", "ROA" and "FLEV", "CFO" and "FLEV", "CFO" and "LIQ", "Dummy2" and "Dummy1", "Dummy3"and "Dummy1", "Dummy3" and "Dummy2", it is found that the correlation coefficient is -0.259, 0.308, 0.235, -0.226, -0.307, -0.284 and -0.356 respectively, which indicates a weak relationship between both variables. While the correlation between other variables indicates a weak to no relationship. In other words, "FLEV" exhibits a weak positive correlation of 0.318 with "ROA" and a weak negative correlation of -0.164 with "ROE" which suggests that higher financial leverage is associated with slightly higher return on assets but lower return on equity. "FSIZE" shows a negative correlation with FLEV of -0.274, which indicates that larger firms tend to have lower financial leverage. Contrarily, the correlations involving Dummy1, Dummy2, and Dummy3 with other variables are generally weaker and less consistent compared to the correlations among financial metrics. "RTO" does not show strong correlations with most other financial metrics or categorical variables in this analysis. Furthermore, "ROA" shows a statistically significant positive correlation with DAC with an amount of 0.290, which suggests that higher return on assets tends to be associated with higher discretionary accruals which means that higher ROA can indicate strong financial performance, it may also be associated with increased discretion in accounting practices, which can have implications for earnings quality and financial transparency. For the "CFO" , it has a strong negative correlation -0.600 with discretionary accruals which indicates that as cash flow from operations increases, discretionary accruals tend to decrease significantly. What is worth mentioning, better understanding of the relationship between the independent and dependent variables will be discussed through the regression analysis focusing on prediction and understanding these relationships in a more detailed manner with causal implications.

Table (3) Correlation Matrix

	(1) DAC	(2) FLEV	(3) FSIZE	(4) ROA	(5) ROE	(6) LIQ	(7) RTO	(8) OFC	(9) COVID19	(10) Currency_f~g	(11) Revolut~2011
DAC	1.000										
FLEV	-0.024	1.000									
FSIZE	0.028	-0.259*	1.000								
ROA	0.290*	0.308*	0.107*	1.000							
ROE	0.018	-0.191*	-0.005	0.052	1.000						
LIQ	0.206*	-0.150*	-0.041	-0.034	0.024	1.000					
RTO	0.018	0.018	-0.089*	0.040	0.003	-0.153*	1.000				
OFC	-0.600*	0.235*	0.136*	0.497*	0.024	-0.226*	0.084*	1.000			
COVID19	-0.031	-0.062	0.062	-0.092*	0.005	-0.011	0.105*	-0.046	1.000		
Currency_f~g	0.192*	-0.055	0.053	0.121*	0.052	-0.021	-0.041	-0.021	-0.307*	1.000	
Revolut~2011	-0.067	0.090*	-0.105*	0.038	-0.027	0.043	-0.037	0.038	-0.284*	-0.356*	1.000

*** $p<.01$, ** $p<.05$, * $p<.1$

Table 3 shows, the highest correlation among exploratory variables is between operating cash flow "OFC" variable and return on assets "ROA" variable with an amount of 0.497. where this reflects a moderate relationship between both variables, however, no multicollinearity problem occurred between the variables as coefficients are not exceeding 0.8.

Regression Analysis

The Hausman test is carried out for a sample of 70 firms listed in the Egyptian stock exchange for a period from 2012 to 2022, to determine whether to use the random effect or the fixed effect regression, using the discretionary accruals as a dependent variable. Results of the Hausman test showed a significant level of 0.0000 which less than the significance level of 0.05. where, this indicates that the fixed effects regression is appropriate and should be used instead of random effects model.

Table (4) Final Fixed Effects Regression Model

DAC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEV	.06	.025	2.41	.019	.01	.11	**
FSIZE	.025	.009	2.61	.011	.006	.043	**
ROA	.789	.102	7.76	.000	.586	.992	***
ROE	.000	.003	0.00	.997	-.006	.006	
LIQ	.001	.037	0.02	.981	-.072	.074	
RTO	.000	.000	2.18	.033	.000	.001	**
OFC	-1.024	.068	-14.96	.000	-1.16	-.887	***
COVID19	-.003	.007	-0.47	.642	-.017	.01	
Currency_f~g	.022	.007	3.05	.003	.007	.036	***
Revolut~2011	.008	.006	1.29	.202	-.005	.021	
Constant	-.309	.134	-2.30	.025	-.577	-.041	**
Mean dependent var	0.003			SD dependent var	0.135		
R-squared	0.865			Number of obs	632		
F-test	57.928			Prob > F	0.000		
Akaike crit. (AIC)	-2070.182			Bayesian crit. (BIC)	-2025.693		

*** $p<.01$, ** $p<.05$, * $p<.1$

Based on the findings shown in table 5, several predictors exhibit significant relationships with the dependent variable, discretionary accruals (DAC). These significant predictors include Financial Leverage (FLEV), Firm Size (FSIZE), Return on Assets (ROA), Receivables Turnover (RTO), Currency Devaluation (Currency_f~g), and Operating Cash Flow (OFC). These variables demonstrate statistically significant coefficients and impact on DAC. However, Return on Equity (ROE), COVID-19 (COVID19), 2011 Revolution (Revolut~2011), and Liquidity (LIQ) do not display significant linear relationships with DAC in this model. For financial leverage, a positive significant relationship is found between FLEV and DAC (p-value= 0.019), which supports the hypothesis that there's a positive significant association between financial leverage and earnings management. Khanh and Thu (2019) agreed with these results, mentioning that debt contracts typically include various financial ratio covenants ensuring financial stability. High levels of leverage indicate potential issues with financial stability, greater credit risk, and increased likelihood of bankruptcy, which could lead to breaching that debt contracts. Thus, leading highly leveraged firms frequently employ earnings management to prevent breaching debt agreements and to attract additional capital. However,

studies by Shirzad and Haghighi (2015) and Hassan and Farouk (2014) offer contrasting findings, mentioning that as leverage increases, shareholders heighten their oversight and demand increased disclosure from managers, thereby improving the quality of earnings information which in turn avoid practicing of earnings management.

For firm size, the positive significant relationship observed between FSIZE and DAC (p-value= 0.011) supports the hypothesis of a positive significant association between firm size and earnings management. This finding aligns with the studies of Ali et al. (2015) and Rahmani and Akbari (2013), mentioning that large firms may use their negotiating power with auditors and utilize their management authority to manipulate earnings. Thus, larger firms may be more inclined to engage in earnings management to minimize tax liabilities as larger firms typically have more extensive tax obligations compared to smaller firms. Conversely, El Matbouly (2021) and Swastika (2013) found negative relationships between firm size and earnings management, suggesting that larger firms often attract more attention from stakeholders, leading to increased scrutiny and pressure to produce trustworthy financial reports. Consequently, larger firms are presumed to have more robust internal control systems and may be less likely to engage in earnings management due to reputation concerns.

Moreover, for profitability, while ROA demonstrates a positive significant relationship with DAC (p-value = 0.000), indicating a significant association between ROA and earnings management, ROE does not exhibit a significant relationship with DAC (p-value= 0.997). These findings are supported by studies such as those by Nurdiniah and Purnama (2019) and Prasetyo and Suhendah (2023), mentioning that higher ROA signals efficient use of assets to generate profits, which can enhance investor confidence and stock valuation. Earnings management might be employed to ensure reported earnings align with or exceed market expectations, thereby reinforcing perceptions of financial stability and operational efficiency. However, Hutauruk et al. (2022) and Nugraha and Affan (2023) observed insignificant relationships between profitability and earnings management.

For liquidity, it does not display a significant relationship with DAC (p-value= 0.981). This aligns with the findings of Hassan and Farouk (2014). However, Moghaddam and Abbaspour (2017) identified a positive link between liquidity and earnings management. Efficiency, measured by receivables turnover (RTO), exhibits a positive significant relationship with DAC (p-value= 0.033), indicating a significant association between RTO and earnings management. This aligns with the findings of Sadeghi and Zareie (2015). Where, companies experiencing slower receivables turnover may prioritize long-term sustainability over short-term financial performance. This strategic orientation encourages management to adopt ethical financial reporting practices and maintain investor trust, thereby reducing the motivation for earnings management (Febriyanti et al., 2024). conversely, Cuong and Ha (2018) found a negative association between turnover ratio and earnings management.

For operating cash flow, (OFC) demonstrates a negative significant relationship with DAC (p-value= 0.000), rejecting the hypothesis that there's a negative significant relationship between OFC and earnings management. Jang and Weon-Jae (2017) agreed with these results, mentioning that companies with healthy OCF have less pressure to manipulate earnings through aggressive accounting practices. While, a decrease in OCF may indicate challenges in generating sufficient cash from core operations to support business activities. In response, management manipulate earnings through various accounting practices to portray a more favorable financial picture. This could include aggressive revenue recognition, smoothing expenses, or adjusting reserves and provisions. Yet, Djashan and Lawira (2018) concluded that operational cash flow has no impact on earnings management.

Moreover, the COVID-19 pandemic does not exhibit a significant relationship with DAC (p-value= 0.642), suggesting that the pandemic does not significantly influence earnings management practices. This

aligns with findings by Azizah et al. (2022), mentioning that during the COVID-19 pandemic, the deteriorating global economic conditions have not necessarily encouraged managers to resort to aggressive earnings management. However, Kazemi (2022) and Lassoued et al. (2021) observed upward adjustments in earnings during the pandemic. While, Currency devaluation demonstrates a positive significant relationship with DAC (p-value= 0.003), indicating a significant association between currency devaluation and earnings management. This finding supports the results of Lock et al. (2019) and Christiawan and Narsa (2020). Where, Egypt's currency floatation in 2016 likely increased the complexity and challenges faced by companies, thereby enhancing the incentives for earnings management practices. Companies may have manipulated earnings to navigate financial volatility, maintain competitiveness, manage investor expectations, and comply with regulatory requirements amidst the economic reforms triggered by the currency depreciation (Hassan and Salah, 2023). On the other hand, the 2011 revolution in Egypt does not exhibit a significant relationship with DAC (p-value= 0.202), suggesting that the revolution does not significantly influence earnings management practices. This aligns with the results of the study of Ismail (2017) but contrasts with findings by Abdallah (2018).

Robustness Check

Based on the results of the regression analysis, the period of the 2011 revolution and the COVID-19 pandemic has no significant impacts. However, currency devaluation has a positive significant impact. This means that due to this external shock of currency floating that Egypt faced, managers are incentivized to manipulate reported earnings. A robustness check method is used to evaluate the reliability and stability of results. It involves testing the findings under various conditions to help confirm that the conclusions drawn from the analysis are not artifacts of particular analytical choices but are consistently valid. Thus, in the context of determining a significant impact of currency devaluation on earnings management, a robustness check might involve analyzing results for different time frames, such as comparing 2012-2015 (pre-devaluation) and 2017-2020 (post-devaluation). Using a 4-year period might be more relevant for capturing the most immediate and significant impacts of the currency floating without the analysis being diluted by longer-term economic changes. Additionally, maintaining methodological consistency that enhance the credibility and comparability of the analysis.

As shown in table 6, pre-currency devaluation (2012-2015), the two independent variables of profitability measured by

Table (5) Regression Model Pre Currency devaluation (2012-2015)

DAC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEV	.114	.073	1.57	.122	-.032	.26	
FSIZE	-.022	.02	-1.09	.282	-.062	.018	
ROA	1.039	.067	15.63	0	.906	1.173	***
ROE	.017	.01	1.64	.107	-.004	.037	
LIQ	-.005	.035	-0.15	.878	-.075	.064	
RTO	0	0	0.27	.789	0	0	
OFC	-1.253	.147	-8.52	0	-1.548	-.958	***
Constant	.387	.321	1.21	.233	-.256	1.031	
Mean dependent var	-0.020			SD dependent var	0.107		
R-squared	0.929			Number of obs	200		
F-test	326.238			Prob > F	0.000		
Akaike crit. (AIC)	-956.444			Bayesian crit. (BIC)	-933.356		

*** p<.01, ** p<.05, * p<.1

Table (6) Regression Model Post Currency devaluation (2017 – 2020)

DAC	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
FLEV	-.012	.01	-1.15	.249	-.031	.008	
FSIZE	.005	.002	2.50	.012	.001	.009	**
ROA	1.211	.036	34.11	0	1.142	1.281	***
ROE	-.002	.002	-0.79	.432	-.007	.003	
LIQ	-.029	.016	-1.87	.062	-.06	.001	*
RTO	0	0	2.27	.023	0	.001	**
OFC	-1.211	.02	-59.58	0	-1.25	-1.171	***
Constant	-.059	.03	-1.99	.047	-.118	-.001	**
Mean dependent var	0.029			SD dependent var	0.150		
Overall r-squared	0.939			Number of obs	246		
Chi-square	4268.806			Prob > chi2	0.000		
R-squared within	0.954			R-squared between	0.895		

*** p<.01, ** p<.05, * p<.1

ROA and operating cash flow have significant relationships with earnings management. While each of financial leverage, firm size, profitability measured by ROE, receivables turnover has insignificant relationship with earnings management. However, as shown in table 7, post-currency devaluation (2017-2020), two more independent variables of receivables turnover and firm size turned to have significant relationships with earnings management. While, the relationship between each of financial leverage, profitability measured by ROE, and earnings management is insignificant. By comparing results of the pre-currency devaluation period and the post-currency devaluation period, it was found that the impact of currency devaluation is significant. This is evidenced by the relationship between each of firm size, receivables turnover, and earnings management becoming significant post-devaluation, whereas pre-devaluation these relationships were insignificant. In other words, pre-devaluation only profitability measured by ROA and operating cash flow have significant relationships with earnings management. While post-devaluation, profitability measured by ROA, operating cash flow, receivables turnover and firm size have significant relationships with earnings management. This implies that post-devaluation larger companies and companies with higher receivables turnover have the tendency to manipulate their earnings.

It is worth mentioning that, the findings of positive significant relationship between receivables turnover and earnings management post-devaluation agree with the study of Sadeghi and Zareie (2015), which aims to investigate the relationship between earnings management behavior and financial ratios in family firms listed in the Tehran Stock Exchange during the period from 2007 to 2013. Where, companies experiencing slower receivables turnover may prioritize long-term sustainability over short-term financial performance. Where post-devaluation, economic conditions may become unstable, but maintaining a long-term perspective can help mitigate these fluctuations. This strategic orientation encourages management to adopt ethical financial reporting practices and maintain investor trust, thereby reducing the motivation for earnings management (Febriyanti et al., 2024). conversely, Cuong and Ha (2018) disagrees with these findings Moreover, for the findings of positive significant relationship between firm size and earnings management post-devaluation, the study conducted by Ali et al. (2015) agrees with these findings. Where it aims to evaluate the impact of firm size on earnings management for the textile sector of Pakistan using a sample of 50 selected firms from the textile sector of Pakistan for a period of 10 years from 2004 to 2013, mentioning that large companies can better withstand economic shocks as they may have stronger internal control systems, but they also often have more powerful management, which might be utilized to manipulate earnings by overriding the internal control systems, besides having negotiating ability with auditors that can lead them to be more likely to ignore manipulation attempts.

Thus, these results could be agreed upon as in response to currency devaluation, companies might tighten their credit policies to mitigate the risk of non-payment. This could lead to faster collections from more creditworthy customers but might also reduce overall sales. This reflects that currency devaluation can play a significant role in influencing the relationship between receivables turnover and earnings management. For companies that are heavily export-oriented, currency devaluation can lead to increased revenues when their foreign sales are converted back into the domestic currency. This can artificially inflate their net credit sales. Higher net credit sales, with relatively stable accounts receivable, will result in an increased receivables turnover ratio. Thus, companies may leverage this inflated ratio as a part of earnings management to present a better stable financial performance. Besides, currency devaluation can positively influence the association between firm size and earnings management by prompting larger firms to utilize their advanced resources and expertise to hedge against currency risks effectively, thereby stabilizing earnings. Larger firms can better manage earnings volatility through sophisticated financial instruments, enhancing their ability to meet investor expectations. They often have more robust corporate governance, ensuring higher reporting quality and reducing the need for aggressive earnings management. This helps

maintain investor confidence and stability of the market. Meanwhile, smaller firms with less exposure to international markets might experience less pressure to engage in such practices.

Conclusion

This study investigates the factors affecting earnings management among 70 non-financial firms listed in EGX all over the period from 2012 to 2022, while accounting for the impact of external shocks (2011 revolution, COVID-19 pandemic and currency devaluation) that occurred during the study period. This was accomplished by analyzing the impact of these external shocks in the main analysis through including dummy variables for the 2011 revolution (2012-2014), the COVID-19 pandemic (2020-2021), and the currency floating (2017-2019), with the remaining years (2015, 2016, 2022) considered periods of relative stability. In addition, a separate comparative analysis was conducted to specifically investigate the exact effect of currency devaluation as the main event during the sample period.

What is worth mentioning, the aim of this research is to provide insights for lenders, investors, and academics on how these factors of firm characteristics and external shocks has influenced earnings management, thereby affecting the quality of reported earnings. Moreover, descriptive, correlation, and regression analyses were conducted, along with Hausman test. Findings indicate that 86.5% of variations in earnings management practices is explained by the firm characteristics and external shocks, which is a significantly high percentage compared to other studies. Using fixed effects multiple regression, the research identifies a significant positive relationship between earnings management and several independent variables: financial leverage, firm size, receivables turnover, ROA, and currency devaluation. Conversely, operating cash flow shows a significant negative relationship with earnings management. Liquidity, ROE, the COVID-19 pandemic, and the 2011 revolution exhibit insignificant relationships with earnings management. Since results shows that the 2011 revolution and COVID-19 pandemic have insignificant impact on earnings management, while currency devaluation had a positive significant impact. This suggests that managers were incentivized to manipulate earnings due to currency devaluation. Robustness checks confirm the reliability of these results, highlighting significant changes pre and post currency devaluation. Results of the comparative analysis, shows that currency devaluation has a significant effect. Especially affecting the relationship between receivables turnover, firm size and earnings management. This is reflected as Pre-devaluation, only ROA and operating cash flow has significant impact on earnings management, while firm size, receivables turnover, ROE, and liquidity have insignificant impacts. Post- devaluation, the impact of firm size and receivables turnover turned to be significant on earnings management. Resulting in firm size, receivables turnover, ROA and operating cash flow having a significant impact on earnings management post-devaluation, while ROE and liquidity have insignificant impact.

Limitations and Recommendation

This study has some limitations that should be acknowledged. The sample used in this study is limited to 70 non-financial firms listed on the EGX rather than all listed firms, due to restricted access to broader datasets. Additionally, the study does not account for industry-specific factors that might influence earnings management differently across various sectors. Moreover, external validity refers to the degree to which research findings can be generalized to other settings or contexts (Andrade, 2018), This research focuses solely on the Egyptian Stock Exchange, limiting the generalizability of the findings to other markets with different economic and regulatory environments. Furthermore, while the study examines specific external shocks (2011 revolution, COVID-19 pandemic, and currency devaluation), other global external factors or events might also have influenced earnings management.

To address these limitations, future research should expand the sample size to include a broader range of firms from diverse geographical regions, including private firms and those listed in Gulf countries,

where firms in Gulf countries are particularly significant as they attract both domestic and international investment and contribute substantially to the region's economy. Furthermore, future research could conduct industry-specific analyses to provide deeper insights into how earnings management practices vary across different sectors. Moreover, future research could account for other potential global external factors or events as the Russia-Ukraine crisis. This research uses six firm characteristics as independent variables. However, future research could include additional relevant factors as firm age, capital structure, audit quality, managerial and block holders' ownership.

References

- Abdallah, S. (2019). "Earnings Relevance Changes Post the Egyptian Revolution Crisis", *Journal of Financial Reporting and Accounting*, 17 (1), pp. 60-79.

- Aburisheh, K., Dahiyat, A., and Owais, W. (2022). "Impact of Cash Flow on Earnings Management in Jordan", *Cogent Business and Management*, 9 (1), pp. 1-16.

- Al Matbouly, D. (2021). "The Effect of Financial Leverage and Other Firm's Characteristics on Real Earnings Management and Accrual Earnings Management: An Empirical Study on Listed Firms in The Egyptian Stock Exchange", *Scientific Journal for Financial and Commercial Studies and Researches (SJFCSR)*, 2 (1), pp. 54-126.

- Al-Jafari, M.K. and Al Samman, H. (2015). "Determinants of Profitability: Evidence from Industrial Companies Listed on Muscat Securities Market", *Review of European Studies*, 7 (11), pp. 303-311.

- Alareeni, B. (2018). "The Impact of Firm-specific Characteristics on Earnings Management: Evidence from GCC Countries", *International Journal of Managerial and Financial Accounting,* 10 (2), pp. 85–104.

- Ali, U., Noor, M. A., Khurshid, M. K., and Mahmood, A. (2015). "Impact of Firm Size on Earnings Management: A Study of Textile Sector of Pakistan", *European Journal of Business and Management*, 7 (28), pp. 47-56.

- Aljughaiman, A., Nguyen, T., Trinh, V., and Du, A. (2023). "The COVID-19 Outbreak, Corporate Financial Distress and Earnings Management", *International Review of Financial Analysis*, 88 (4), pp. 1-13.

- Anagnostopoulou, Seraina C., and Andrianos E. Tsekrekos. (2017). "The Effect of Financial Leverage on Real and Accrual-Based Earnings Management". *Accounting and Business Research*, 47 (2), pp.191–236.

- Azizah, W., Fredy, H., Zoebaedi, F., and Wahyoeni, S. (2022). "COVID-19: Accrual Earnings Management Practices in Pharmaceutical Companies in Indonesia", *Jurnal Akuntansi*, 12 (3), pp. 33-42.

- Bahloul, A. (2018). "The Potential Impact of the Floating Exchange Rate Policy on the Egyptian Trade Balance, Agricultural Trade and Food Trade", *Egyptian Journal of Agricultural Economics*, 28 (2), pp.1169-1182.

- Bassiouny W. S., Soliman M. M., and Ragab, A. (2016). "The Impact of Firm Characteristics on Earnings Management: An Empirical Study on The Listed Firms in Egypt", *Journal of Business and Management Review*, 7 (2), pp. 91-101.

- Cuong, N., and Ha, T. (2018). "Influence of Financial Ratios on Earnings Management: Evidence from Vietnam Stock Exchange Market", *Journal of Insurance and Financial Management*, 4 (1), pp. 57-77.

- Djashan, I.A. and Lawira, A. (2018). "Company Financial Ratios, Company Ownership and Company Conditions on Earnings Management", *Proceedings of the 7th International Conference on Entrepreneurship and Business Management*.

- El-Massry, N., Sakr, A. and Amer, M. (2023). "Managerial Overconfidence and Accrual-Based Earnings Management: Evidence from Egyptian Listed Firms", *Oalib*, 10 (4), pp. 1–21.

- Ernawati, S., Chandrarin, G., Respati, H., and Asyikin, J. (2021). "The Effect of Profitability, Leverage and Company Size on Tax Avoidance through Earnings Management Practices in Go Public Manufacturing Companies in Indonesia", *East African Scholars Journal of Economics, Business and Management*, 4 (7), pp. 162- 176.

- Febriyanti, B., Reviandani, W., and Vilantika, E. (2024). "Analysis of Accounts Receivable Turnover at Pt. Xxy, A Manufacturing Company in Gresik", *Jurnal Ilmiah Manajemen,* 5 (1), pp. 1-14.

- Hassaan, M. and Salah, W. (2023). "Corporate Governance, Financial Transparency and Currency Devaluation Shocks: Evidence from Egypt", *The International Journal of Business in Society*, 23 (6), pp. 1251–1267.

- Hassan, S.U. and Farouk, M.A. (2014). "Firm Attributes and Earnings Quality of Listed Oil and Gas Companies in Nigeria", *Review of Contemporary Business Research*, 3 (1), pp. 99–114.

- Hung, D., Linh, D., Tran, V., Tran, M., and Thi, H. (2018). "Factors Influencing Accrual Earnings Management and Real Earnings Management: The Case of Vietnam", *Proceedings of 14th International Conference on Humanities and Social Sciences 2018*.

- Hutauruk, M., Riyanto, A., and Putri, G. (2022). "The Factors Impact on Earnings Management on Indonesia Mining Company", *Accounting journal*, 26 (3), pp. 443-463.

- Ismail, M. (2017). "Real Earnings Management versus Accrual-based and Its Effect on Firm Performance: Evidence from Egypt", *Alexandria Journal of Accounting Research*, 1 (2), pp. 1-38.

- Jackson, A.B. (2017). "Discretionary Accruals: Earnings management ... or Not?", *ABACUS*, 54(2), pp. 136–153.

- Jang, G. B., and Weon-Jae, K. (2017). "Effects of Key Financial Indicators on Earnings Management in Korea's Ready Mixed Concrete Industry", *Journal of Applied Business Research*, 33(2), pp. 329-342.

- Christiawan, Y. and Narsa, I.M. (2020). "Earnings Management Through Foreign Currency Transactions on Companies Listed on Indonesia Stock Exchange", *SHS Web of Conferences.*

- Kazemi, S. (2022). "Impact of COVID-19 Pandemic on Earnings Management: The European Union Empirical Evidence", [*Master's Thesis, Hanken School of Economics*].

- Khanh, M.T.H, and Thu, P. A. (2019). "The Effect of Financial Leverage on Real and Accrual-Based Earnings Management in Vietnamese Firms". *Economics and Sociology*, 12 (4), pp. 299-312.

- Köhler, A., Ratzinger-Sakel, N. V. and Theis, J. (2016). "The Effects of Key Audit Matters on the Auditor's Report's Communicative Value: Experimental Evidence from Investment Professionals and Non- Professional Investors", *Accounting in Europe*, 17 (2), pp. 105-128.

- Lassoued, N. and Khanchel, I. (2021). "Impact of COVID-19 Pandemic on Earnings Management: An Evidence from Financial Reporting in European Firms", *SAGE Journals: Global Business Review*, 17 (11), pp. 1-25.

- Lock, B., Chu, E., Song, S., and Lee, L. (2019). "Exchange Rate Movements, Earnings Management and Stock Returns in Malaysia", *Capital Markets Review*, 27 (1) , pp. 53-68

- Martin, R., and Sunley, P. (2015). "On The Notion of Regional Economic Resilience: Conceptualization and Explanation", *Journal of Economic Geography*, 15 (1), pp. 1–42.

- Mendesa, A., Rodriguesb, L., and Estebanc, P. (2012). "Evidence of Earnings Management Using Accruals as a Measure of Accounting Discretion", *Review of Applied Management Studies*, 10 (1), pp.3-14

- Moghaddam, A. and Abbaspour, N., (2017). "The Effect of Leverage and Liquidity Ratios on Earnings Management and Capital of Banks Listed on The Tehran Stock Exchange", *International Review of Management and Marketing*, 7 (4), pp. 99-107.

- Mostafa, W. (2019). "Firm Performance and Earnings Management", *Academy of Accounting and Financial Studies Journal*, 23 (3), pp.1-46.

- Naz, I., Bhatti, K., Ghafoor, A., and Khan, H. H. (2011). "Impact of Firm Size and Capital Structure on Earnings Management: Evidence from Pakistan", *International Journal of contemporary Business studies*, 2 (12), pp. 22-31.

- Nugraha, F. and Affan, N. (2023). "The Influence of Business Strategy and Company Characteristics on Profit Management", *Journal of Accounting and Finance Research*, 19 (4), pp. 932 941.

- Ogundajo, G., Asaolu, T., Ajayi , A., Otitolaiye, E., and Ogunfowora , A. (2021). "Income Smoothing, Earnings Management and the Credibility of Accounting Information", *International Journal of Business, Economics and Management*, 8 (4), pp. 292—306.

- Park, C.Y., and Shin, K. (2021). "COVID-19, Nonperforming Loans, and Cross-Border Bank Lending", *Journal of Banking and Finance*, 133 (12), pp.1-14.

- Peasnell, K. V., Pope, P. F., and Young, S. (2000). "Detecting Earnings Management Using Cross Sectional Abnormal Accruals Models", *Accounting and Business Research*, 30(4), pp. 313-326.

- Prasetyo, M. and Suhendah, R. (2023). "The Effect of Profitability, Leverage, and Managerial Ownership on Earnings Management", *International Journal of Application on Economics and Business (IJAEB)*, 1 (1), pp. 98- 195.

- Purnama, I. and Nurdiniah, D. (2019). "Profitability, Firm Size, and Earnings Management: The Moderating Effect of Managerial Ownership", *Proceedings of the 5th Annual International Conference on Accounting Research (AICAR 2018)*.

- Rahmani, S., and Akbari, M. A. (2013). "Impact of Firm Size and Capital Structure on Earnings Management: Evidence from Iran", *World of Sciences Journal*, 1 (17), pp. 59-71.

- Rastegari, B. (2012). "The Egypt's Revolution: Causes and Developments from Legal Perspective", *Aceh Development International Conference 2012*.

- Sadeghi, S. and Zareie, B. (2015). "Relationship Between Earnings Management and Financial Ratios at the Family Firms Listed in the Tehran Stock Exchange", *Indian Journal of Fundamental and Applied Life Sciences*, 5 (3), pp. 1411-1420.

- Salah, W. (2018). "The Effect of Firm Characteristics on Earnings Quality: The Moderating Role of Firm Size", *Proceedings of the 2nd International Conference of Industrial and Service Organizations Management, South Valley University, Egypt*.

- Shirzad, A., and Haghighi, R. (2015). "The Effect of Corporative Leverage on Earnings Management in Drug Industry", *Research Journal of Finance and Accounting*, 6 (17), pp. 119-123.

- Soliman M., and Ragab A. (2014). "Audit Committee Effectiveness, Audit Quality and Earnings Management: An Empirical Study of the Listed Companies in Egypt", *Research Journal of Finance and Accounting*, 5 (2), pp. 155-166.

- Sun, L., and Rath, S. (2010). "Earnings Management Research: A Review of Contemporary Research Methods", *Global Review of Accounting and Finance*, 1 (1), pp. 121-135.

- Swastika, D. L. T. (2013). "Corporate Governance, Firm Size, and Earning Management: Evidence in Indonesia Stock Exchange", *(IOSR) Journal of Business and Management*", 10 (4), pp. 77-82.

- Tuan, D., Dung, N., and Thao, B., (2023). "Real Earnings Management Trends in the Context of the COVID-19 Pandemic: The Case of Non-Financial Listed Companies in Vietnam", *Investment Management and Financial Innovations*, 20 (2), pp. 295-306.

- Uwuigbe, U., Uwuigbe, O. R., & Bernard, O. (2015). "Assessment of the Effects of Firms' Characteristics on Earnings Management of Listed Firms in Nigeria", *Asian Economic and Financial Review*, 5 (2), pp. 218-228.

- Waweru, N. M., and Riro, G. K. (2013). "Corporate Governance, Firm Characteristics and Earnings Management in an Emerging Economy", *Journal of Accounting Research*, 11 (1), pp. 43-64.

- Yan H, Liu Z, Wang H, Zhang X, and Zheng X. (2022). "How Does The COVID-19 Affect Earnings Management: Empirical Evidence from China", *Research in International Business and Finance*, 63 (0), pp.1-13