

Arab American University



Faculty of Graduate Studies

**Using Beneish Model in Detecting of Earnings
Management Practices: Empirical Analysis from
Palestinian Listed Companies**

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Thesis Approval

Using Beneish Model in Detecting of Earnings Management Practices: Empirical Analysis from Palestinian Listed Companies

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Declaration

I'm Esraa Noor Aldin Zakarneh, a student with the university number 202012341.

I declare that I have complied with all applicable rules, regulations, and decisions of the Arab American University of Palestine (AAUP) by recognized scientific and ethical standards, including scientific integrity, and that I shall bear all consequences and liability if the contrary is proved.

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Date: 15/6/2023

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Abstract

This study aimed to detect the earning management practices of Palestinian listed firms on the PEX using Beneish Model. Also, the study examined the effect of Beneish indicators on accruals earnings management. Moreover, it investigated the role of firm size as a moderator of the relationship between Beneish Model indicators and earnings management. The data analysis method is panel data regression analysis with E-Views Software over a six-year period (2016-2021). The study population includes all Palestinian industrial and services companies and the sample consists of 8 industrial and 5 services companies giving a total of 78 observations for each variable.

The results demonstrated that Beneish model is non-effective in detecting earnings management. Day's sales in receivables index, assets quality index and sales, general and administrative expense index have a positive non-significant effect on earnings management, while profitability has a negative non-significant effect on earnings management. On the other hand, growth index, depreciation index, accruals and leverage have a positive significant effect on earnings management. Also, it is shown that firm size didn't have a moderating effect on the relationship between Beneish model indicators and earnings management. Additionally, this study revealed that only SGI, DEPI, TATA, and LVGI are significant in detecting earnings management.

Accordingly, this study recommends that the Palestine Capital Market Authority (PCMA), during its evaluation and monitoring of the companies, examine those determined financial ratios in order to ensure that financial reports accurately reflect the company's current situation and it's free from earnings management. Moreover, Firms' managers are recommended to control the debt level to reduce accrual earnings

management and avoid making discretionary accounting choices in order to manipulate earnings. The study also recommends for future researches on Palestinian companies about earnings management practices using other models such as, the CFEBT model and the Q-DMFC models.

Keywords: earnings management, Beneish model, assets quality, profitability, growth, depreciation, accruals, leverage, sales, general and administrative expense, day's sales in receivables.

List of Abbreviations:

Full name	Abbreviation
Earnings Management	EM
Days' Sales in Receivables Index	DSRI
Gross Margin Index	GMI
Asset Quality Index	AQI
Sales growth index	SQI
Depreciation index	DEPI
Sales, general and administrative expenses index	SGAI
Total Accruals to Total Assets	TATA
Leverage index	LVGI

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Chapter One

Introduction

1.1 Background

Earnings management is considered as one of the most important aspects of financial statements (Nguyen & Nguyen, 2016; Svabova, 2021). This concept has an impact on quality of financial statement by manipulating accounting numbers in a way that does not represent the company's true performance (Talab et al., 2017). According to Marai and Pavlovi (2013), commonly, earnings management does not break any accounting standards. Earnings management is defined by Schipper (1989), as the deliberate interference in the external financial reporting process for private gain. Healy and Wahlen (1999) mentioned that earnings management occurs when management directs their judgment or structures transactions in order to falsify financial reporting in order to deceive stakeholders about the firm's economic performance. Because financial information plays an important role in capital market efficiency, the conceptual framework for financial reporting emphasizes the importance of relevance for financial information (Al-Shattarat, 2021). As a result, the most important aspect of accounting information quality for investors, regulatory agencies, and other users of financial statements is value relevance (Barth et al., 2001). Investors are the key users of financial statements, and the accuracy of accounting data is highly desired by them. Companies manage their reported earnings to prevent earnings declines or losses (Burgstahler & Dichev, 1997). Capital market motivations have been acknowledged as the most significant reason for managers to manipulate earnings to change profits, because

manipulating results affects short-term stock prices (Dechow & Skinner, 2000). Managers use earnings management to improve or grow their own incentive or bonus plan, which is frequently linked to a company's performance (Habbash & Alghamdi, 2015). Additionally, businesses manage their earnings in order to avoid violating debt covenants, which come with consequences in the form of increased interest rates and extra covenants if violated (Dyreg et al., 2020). Moreover, managers engage in earnings management to minimize the tax burden (Gargouri et al., 2010).

The many definitions of earnings management are further divided into three categories: white, gray and black. White earnings management is advantageous because it increases report transparency; Black earnings management is pernicious because it entails outright fraud and misrepresentation. Gray earnings management refers to the opportunistic or efficiency-enhancing manipulation of reporting within the bounds of profession standards (Ronen & Yaari, 2008). This study will focus on black earnings management.

1.2 Research Problem

According to Merchant and Rockness (1994), earnings management probably raises the most significant ethical challenge facing the accounting profession. Chief executive officers and Chief financial officers are aware that if they don't meet analyst expectations, the capital markets would penalize the entire company. The capital market rewards a corporation with a premium for meeting or exceeding analysts' expectations, just as a manager receives a bonus when they reach or surpass an internal target (Raoli, 2013). Earnings management occurs when managers use their judgment in financial

reporting to alter financial numbers; in order to mislead some stakeholders about the underlying economic performance of the company and to influence contractual outcomes that rely on accounting numbers reported (Healy and Wahlen, 1999). Earnings management practice is a type of managerial activity that involves changing the real financial earnings and value of the organization in the short run for the purpose of achieving a specific target and misleading investors by utilizing opportunistic flexibilities provided by GAAP (Bhuiyan, 2015). In addition to, businesses are likely to manage earnings during times of economic stress in order to hide their precarious financial situation. Stakeholders typically base their decisions regarding the distressed firm on the quarterly or annual reports of the company. If a company can't get out of a crisis, it will have to declare bankruptcy, which could cause significant economic harm to almost all stakeholders. Therefore, stakeholders are concerned in detecting the firm's crisis in order to prevent further financial harm (Dutzi & Rausch, 2016).

The Beneish M-score Model is a well-known model that is used to detect earnings manipulation and has proven to be effective (Nguyen & Nguyen, 2016; Talab et al., 2017). In view of the Corona pandemic (Covid 19), which has cast a shadow over most of the world's economies, an increase in the involvement of many companies in such non-transparent practices is expected, as a large percentage of companies are suffering from accumulated financial losses. Therefore, this study conducted to detect earnings management among Palestinian listed companies during six years (2016-2021), including the period of covid 19 crisis using Beneish model. Moreover, in Palestine, some scandals had emerged in companies listed on the PEX, such as Globalcom. PEX suspended trading in Globalcom Communications shares. According to the Palestinian Economic Portal

(2016), Globalcom engaged in manipulation activities, which include the registration of nonexistent assets worth around USD 5 million, and the firm was evaluated at a higher amount than its size (Aljadba et al, 2021). Furthermore, no previous studies in Palestine have used the Beneish model to detect earnings management. Also, there is a lack of previous studies about earnings management (Aljadba et al.). Additionally, Alareeni and Aljuaidi (2014) prove that the effectiveness of the Modified Jones (1995) and Yoon et al., (2006) models in detecting earnings management in Palestine context are very weak. So, this study is the first one that used Beneish model to detect earnings management.

The research problem is formulated through the following question: Do Palestinian listed companies engage in earnings management?

1.3 Research Hypotheses

The study seeks to test the following hypothesis:

There is a statistically significant impact of Beneish model on earnings management in Palestinian listed companies.

Sub hypotheses

H1: There is significant effect of day's sales in receivable index on earning management in Palestinian listed firms.

H2: There is significant effect of profitability index on earning management in Palestinian listed firms.

H3: There is significant effect of assets quality index on earning management in Palestinian listed firms.

H4: There is significant effect of growth index on earning management in Palestinian listed firms.

H5: There is significant effect of sales, general and administrative index on earning management in Palestinian listed firms.

H6: There is significant effect of depreciation rate index on earning management in Palestinian listed firms.

H7: There is significant effect of accruals index on earning management in Palestinian listed firms.

H8: There is significant effect of leverage index on earning management in Palestinian listed firms.

H9: Firm size significantly moderates the relationship between the Beneish indicators and earnings management.

1.4 Research Objectives

This study aims to detect the earning management practices using Beneish model in the context of Palestinian listed firms on Palestine Exchange. Also, the study examines the effect of Beneish model indicators on earnings management. Therefore, the purpose of study is to achieve the following sub-objectives:

1. To detect the earnings management practices in listed firms of PEX using 5-factors and 8-factors of Beneish model.

2. To examine the effect of Beneish model factors on earnings management, sub objectives are:
- A. Examine the impact of day's sales in receivables on earnings management.
 - B. Examine the impact of profitability on earnings management.
 - C. Examine the impact of assets quality on earnings management.
 - D. Examine the impact of sales growth on earnings management.
 - E. Examine the impact of depreciation expense on earnings management.
 - F. Examine the impact of sales general and administrative expenses on earnings management.
 - G. Examine the impact of accruals on earnings management.
 - H. Examine the impact of leverage on earnings management.
 - I. Examine the moderating effect of firm's size on the relationship between Beneish model indicators and earnings management.

1.5 Research Significance

The significance of this study lies in highlighting the importance of detecting earnings management and examining the impact of Beneish model indicators on earnings management, which alert users of financial statements to the reality of the profits disclosed by companies. Thus, the fairness of the financial statements in reflecting the result of the business of these companies and helping to reduce earnings management methods carried out by the top management to distort the net profit figure, which leads to increase confidence in companies and their management; thus, directing the decisions of all users of the financial statements in the right direction by relying on credible information. Moreover, this study will be an addition to the past studies. It will also

provide opportunities for future researches on Palestinian companies' earnings management practices using other models, as well as conducting this study in other sectors.

Chapter Two

Literature Review

2.1 Theoretical Foundation

2.1.1 Agency Theory:

Economists (e.g., Wilson, (1968); Arrow, (1971)) investigated risk sharing among people or groups in the 1960s and early 1970s (Eisenhardt, 1989). Jensen and Meckling (1976), described the agency relationship as a written agreement where owners hire another person as an agent to undertake some tasks on their behalf by giving some decision-making power to the agent (Man, 2019). According to Ali (2020), the risk sharing dilemma develops when working parties have opposing views regarding risk. Two dilemmas arise in agency relationship. The first issue is the agency problem, which occurs when the owner's and manager's goals clash and it is costly and challenging for the owner to determine if the manager is acting appropriately (Eisenhardt, 1989). Stephen Ross and Barry Mitnick in the 1970s were the first scholars to explicitly propose and begin developing the agency theory (Mitnick, 2019). Owners expect managers to run the firm in favor of them. Managers, on the other hand, have superior knowledge of the company's operations and, due to divergent interests; they may operate against the interests of its owners. Self-concerned managers may practice in illegal way to boost their personal wealth at the detriment of the owners' wealth (Ali, 2020). The agency relationship causes an information asymmetry dilemma since managers have better access to information than stockholders. This will allow management to pursuit to self-interest by altering the reported earnings in order to meet or exceed earnings targets (Yimenu & Surur, 2019). Agency theory was first developed to explain the relationship

between a business's owner (principal) and management (agent), where the separation of ownership and management leads to agency conflicts and maximize earnings management incentives. Earnings are essential, and financial reports are critical in communicating accounting information to external users. Jensen and Meckling (1976) refer to managers' activities of optimizing their personal interests as agency costs. As a result, agency theory provides a theoretical framework for explaining agency conflicts and management incentives of earnings management (Man, 2019). Agency theory provides an explanation for the emergence of earnings management. This concept first emerged when business owners realized they couldn't run their companies on their own and needed to get into agreements with agents to run them. As an agency, the executives are responsible for maximizing the benefits of the owners. As a result, they will be compensated appropriately (El Diri, 2017).

2.1.2 Signaling Theory

Signaling theory was initially established to explain the labor market's information asymmetry (Yimenu & Surur, 2019). Signaling theory originally suggested by Spence (1973) to describe the behavior of two parties (managers and shareholders) that have access to different types of information (Ansah et al., 2022). This theory also proposed how a firm should provide signals to financial statement's users in the form of information that strives to demonstrate a competitive edge over its competitors. Managers have a greater knowledge about the firm's condition than outside parties (Indriani & Pujiono, 2021). Managers' disclosure of information to the market minimizes information asymmetry and has been interpreted positively by the market.

Thus, management engages in earnings management in order to change earnings over time, enabling them to influence stock prices (Yimenu & Surur, 2019).

2.2 Earnings Management

2.2.1 Earnings Management Definitions:

Schipper (1989) defined real earnings management as a sort of earnings management accomplished by modifying the timing of spending in investing or financing activities in order to manipulate reported results. Earnings management is the management of a company's routine operational activities in order to alter earnings in accordance with the managers' targets (Gunny, 2010). Earnings management happens when management utilize their judgment in financial reporting and uses estimated permitted by accounting standards to modify financial reports to either deceive stakeholders about the firm's actual performance or to affect contractual outcomes that rely on disclosed accounting numbers (Healy & Wahlen, 1999). Earnings manipulation occurs when managers violate GAAP to report financial performance favorably (Beneish, 1999). Giroux (2003) focuses on managerial discretion in order to meet specified income goals. As a result, he defined earnings management as the utilization of operating and discretionary accounting procedures to alter earnings to achieve a desired result (El Diri, 2017). Razzaque et al., (2006), defined earnings management as a type of earnings manipulation of accounting results with the aim of providing a misleading image of company's financial performance. Ronen and Yaari (2008) present a broad definition of earnings management that concentrates on the management purpose to affect reported earnings and their interpretation.

According to the most recent definition, earnings management is an intentional manipulation in financial reporting aiming to achieve earnings targets using varied accounting techniques. It can, however, occur without necessarily breaking accounting standards by leveraging from the options for accounting policy. This practice has the potential to mislead stakeholders, leading them to take decisions based on disclosed financial numbers that they wouldn't have made otherwise (Callao et al., 2014).

2.2.2 Earnings Management Methods

Earnings can be managed in two ways. They are accrual-based and real-activity-based manipulation.

2.2.2.1 Earnings Management through Real Activities

This is an intentional activity to change disclosed earnings in a specific orientation by manipulating the timing or the structure of an operating, investing, or financing activities, which has unfavorable business outcomes (El Diri, 2017).

2.2.2.1.1 Real Earnings Management Techniques

Real earnings management practices are classified into three categories: operational decisions, investing decisions, and financing decisions (Enomoto et al., 2015; Habib et al., 2022).

Manipulation of operational activities involves raising sales volume, decreasing discretionary spending, and raising production in order to meet earnings target. Manipulation via investing activities refers to the manipulation of earnings through the

sale of fixed assets. Manipulating earnings via financing activities is described as the process of influencing earnings per share (EPS) via stock repurchases (El Diri, 2017).

1. **Sales Manipulation:** managers' efforts to momentarily enhance sales through granting better credit conditions or larger discount rates on selling prices are referred to as sale activity manipulation. Manipulating earnings in this way will temporarily increase in the volume of sales, resulting in increasing earnings and lower cash flow (Trisnawati, 2012; Ge, 2014; Ali & Kamardin, 2018; Abad, et al., 2018; Wali & Masmoudi, 2020).
2. **Discretionary Expenditures:** Companies can cut discretionary expenditures such selling, general, and administrative and R&D expenses in periods where the spending does not directly contribute to revenue and profit (Trisnawati, 2012; Ge, 2014; Ali & Kamardin, 2018; Abad, et al., 2018; Wali & Masmoudi, 2020).
3. **Overproduction:** is defined as increasing production units more than necessary. Managers in manufacturing firms utilize overproduction to manage earnings. This strategy enables managers to allocate fixed manufacturing overhead expenses over a large number of units produced, which lowers the cost of sales. Indeed, lower cost of products sold leads to higher profit margins. (Trisnawati, 2012; Tabassum, et.al, 2014, Ge, 2014; Ali & Kamardin, 2018; Abad, et al., 2018; Wali & Masmoudi, 2020; Galdi & Johnson, 2021;).
4. **Selling the Fixed Assets:** when managers realize that the desired earnings may not be realized, they utilize selling fixed assets technique to boost current

reported earnings. Managers may sell fixed assets and use the proceeds to avoid declaring losses or low profits, or to prevent violation of debt covenant (Ali & Kamardin, 2018).

5. **Stock repurchases:** stock purchases can be as a real earnings management technique. Managers may engage in stock repurchases to boost earnings per share by reducing the amount of outstanding shares (Ali & Kamardin, 2018; Hsu & Huang, 2020).

2.2.2.2 Accrual-based Earnings Management:

Accounting policies are used to manipulate earnings by selecting specific principles, procedures and regulations in compiling and presenting financial reports. EM using accounting estimates is sometimes characterized as manipulating earnings by modifying the carrying value of liabilities or assets, or the amount of an asset's periodic consumption. Firms typically prefer to use a combination of accounting policies and estimations. For example, modifying the method of depreciation for fixed assets and adjusting the estimation for provision of doubtful accounts which may alter disclosed earnings in a specific way without modifying the underlying transactions (Zang, 2010).

2.2.3 Alternative Approaches for Detection Earnings Management:

To detect earnings management, many approaches have been utilized. The most three common approaches used in previous researches are: total accruals approach, specific accruals approach and earnings distribution approach.

2.2.3.1 Total Accruals

Healy (1985) was the first who presented total accruals as a method for measuring EM. Total accruals are calculated through the variance between earnings and operating cash flow. He proposes that total accruals include both nondiscretionary and discretionary accrual; the premise is established that total accruals equal to nondiscretionary accruals when EM is absent (Marai & Pavlović, 2014). Total accruals are utilized to measure EM early on, and then discretionary accruals are specialized as a measure of EM. Non-discretionary accruals result from the firm's normal activity, whereas discretionary accruals are adjustments to cash flow chosen by management within the flexibility of accounting principles. As a result, discretionary accruals are the element that frequently provides managers chances to manipulate earnings (Sun & Rath, 2010). Companies that have high discretionary accrual values have low-quality profits. The conventional explanation of high accruals is that managers are manipulating earnings (Indriani & Pujiono, 2021).

2.2.3.2 Specific Accruals Approach

This strategy frequently directs attention to a certain sector setting where a specific accrual is significant and requires substantial judgment (Sun & Rath, 2010; Marai & Pavlović, 2014; Miloud, 2014). Under this approach earnings management are determined by assessing management discretions via particular accrual accounts, such as the claim loss reserve, that is a significant accrual in the insurance industry. Furthermore, loan provisions are a specific accrual that requires substantial judgment in the banking sector, or depreciation estimates and allowances for doubtful account in another

environment (Sun & Rath, 2010; Marai & Pavlović, 2014). Specific-accruals models are classified into two forms: specific accruals and multiple specific accruals. Beneish (1997), developed a framework based on multiple specific accruals for detecting earnings management in companies facing a severe financial condition (Almahrog & Lasyoud, 2021).

2.2.3.3 Earnings Distribution Approach

This technique assumes that managers are typically driven to avoid losses and fulfill particular goals and benchmarks (Sun & Rath, 2010; Marai & Pavlović, 2014; Miloud, 2014; Almahrog & Lasyoud, 2021). Consequently, earnings distribution includes fewer observations than expected just below the threshold, but more observations than expected above the threshold (Sun & Rath, 2010; Marai & Pavlović, 2014). The discontinuity in earnings distribution is evidence of earnings management according to McNichols (2000). The distribution approach is effective in detecting EM because it enables to make a solid forecast based on the frequency of earnings distribution without the necessity to estimate the discretionary accruals (Sun & Rath, 2010).

2.3 Beneish Model

The M-score model is a mathematical model developed by Professor Messod Beneish in 1999 through studied 74 US corporations during a 10-year period (1982-1992). Beneish was the pioneer that recognized the significance of financial ratios in forensic accounting. This model is considered as a powerful technique for differentiating earnings manipulators from non-earnings manipulators by using 8 variables related to

financial ratios (Beneish, 1999). When the M-score exceeds the -1.78 benchmark, is high the possibility of earning management (Beneish, et al., 2013).

Messod Daniel Beneish: Professor of Accounting, Indiana University, Kelley School of Business, since 1996.

2.4 Previous Studies

2.4.1 Firm Size, Profitability, Leverage and Earnings Management. Kalbuana et al., (2021) evaluated the impact of company size, ROA and leverage on EM. The study used a purposeful sampling technique. The financial information of a Telecommunications Company listed on Indonesia Stock Exchange from 2014 to 2018 was analyzed. Descriptive statistics were utilized to show the relation between variables. It also utilized test of linearity, T-test, F-test and Multiple Linear Regression. The findings showed that a firm's size has a non-significant negative impact on EM, whereas leverage and profitability have a significant positive impact on EM.

2.4.2 Profitability, Growth, Leverage and Earnings Management. Wirianata (2020) investigated the effect of profitability, growth, institutional ownership and leverage on EM in Indonesia listed companies. During the research period from 2016 to 2018, 54 publicly traded manufacturing firms were chosen using a purposive sample strategy. Multiple regression analysis was utilized to analyze the data. The findings showed that leverage, as measured by the Debt to Assets Ratio, has a significant negative effect on EM. Growth and size have a significant positive effect on EM. Earnings management is unaffected by profitability (ROA) or institutional ownership. The findings also indicate

that institutional ownership can moderate, but not significantly, the impact of profitability, leverage and growth on EM.

2.4.3 Profitability, Firm's Size, Firm's Growth, and Earnings Management. Saleh et al., (2020) investigated the effect of financial factors (working capital ratio, cash to current assets ratio, ROA, firm's size, EPS, current liabilities to total assets ratio, firm's growth) on earnings quality and EM. Furthermore, investigated the impact of EM as a mediator variable in the impact of financial factors on earnings quality. This study used a panel data analysis method over 10 years from 2009-2018. The study sample included all Jordanian insurance listed companies (20 companies). The results revealed that the financial factors, when combined, have an impact on earnings quality and earnings management. Moreover, the results revealed a significant positive effect of company size, company's growth, and ROA separately on earnings management activities. Furthermore, EM has a negative impact on earnings quality; earnings management fully mediates the impact of financial factors on earnings quality.

2.4.4 Leverage and Earnings Management. Hoang and Phung (2019) examined the effect of leverage on EM on 241 Vietnamese listed companies from 2010 to 2016. This study used panel regression. The findings revealed a negative significant impact of leverage on earnings management.

2.4.5 Firm's Size, Profitability and Earnings Management. Purnama and Nurdiniah (2019) examined the impact of a firm's size and profitability on EM, with managerial ownership serving as a moderator variable. The sample included 60 companies listed on the Indonesia Stock Exchange between 2012 and 2016. Normality test, multicollinearity

test, heteroskedastisitas test and autocorrelation test was used in order to test the assumptions. Also, the study used coefficient of determination, T-test and Moderated Regression Analysis (MRA) in order to test the hypotheses. The findings of the tests revealed a positive impact of profitability on earnings management while firm size had a negative effect on EM. Managerial ownership has no moderating effect on profitability or company size on earnings management.

2.4.6 Growth, Firm Size and Earnings Management. Debnath (2017) investigated the extent of EM practices and examined the effect of company's performance and growth on EM. A sample of 84 non-financial Indian listed firms was selected. This study used multiple panel regression. The findings revealed a positive impact of growth on EM, whereas a company's size has a negative effect on earnings management.

2.4.7 Leverage and Earnings Management. Moghaddam and Abbaspour (2017) assessed the effect of leverage on EM and capital of Tehran Stock Exchange-listed banks. The financial information of 14 banks from 2010 to 2015 was analyzed; multiple linear regression analysis with panel data was used to carry out this research. The findings revealed that financial leverage has a positive significant effect on EM; thus, raising the degree of financial leverage increases the probability of employing discretionary accruals and EM in banks. The findings also revealed that financial leverage has a considerable negative impact on the bank's capital adequacy ratio, and as financial leverage increases, the bank's capital adequacy ratio decreases.

2.4.8 Leverage, Firm's Size, Profitability and Earnings Management. Dang et al., (2017) investigated the factors that affecting on earnings management, data were

collected from 260 firms listed on Vietnam Stock Exchange for five years (2012 - 2016). Regression using panel data was used to examine the impact levels of factors on earnings management. Ordinary least squares were used with independent variables. Earnings management (dependent variable) was measured using the models of Dechow et al., (1995), Jones (1991), and Kothari et al., (2005). Panel regression was utilized to examine the impact of the factors on EM. The findings showed that seven of the eight factors influence earnings management. In which, 5 factors including, stock issuance, firm size, financial performance (ROA), chair of management board cum a director and consolidated financial statements have a positive relationship with earnings management. Whereas, 2 factors including, financial leverage and auditor size have a negative relationship with earnings management.

2.4.9 Leverage, Profitability, Firm's Size, Growth and Earnings Management.

Alexander and Hengky (2017) examined the impact of leverage, profitability, firm's age, growth, company size, auditor independence, fixed asset turnover, industry, audit quality on EM. The study population comprised of non-financial listed companies on the Indonesian Stock Exchange from 2011 to 2015. Purposive sampling was utilized to choose the sample, which consisted 103 companies. A multiple regression and SPSS was utilized to test the hypotheses. The study revealed that profitability has a positive significant effect on earnings management while growth, leverage, fixed asset turnover, company size, firm age, industry, audit quality, and auditor independence did not have significant effect on EM.

2.4.10 Leverage, Firm's Size and Earnings Management. Nurdiniah and Herlina (2015) examined the factors influencing the motivations for earnings management in 12

automotive sector manufacturing firms. A bonus motivation, debt contracts (leverage), and political costs (firm's size) used in this study as the factors that impact earnings management motivation. The empirical data utilized in this study derived from the Indonesian stock market and included annual financial statements from 2011 to 2013. Multiple linear regression, Descriptive statistics and SPSS were used in this study. Moreover, the simultaneous significance test (F test) is utilized to assess if the independent variables jointly affect the EM. To determine the impact of independent variables on the EM, regression coefficient test (t test) was utilized. On the other hand, the test coefficient of determination is utilized to evaluate the goodness of the regression equation's model. According to the findings of this study, ROA, leverage, firm's size all have a significant positive effect on earnings management.

2.4.11 Firm's Size, Leverage and Earnings Management. Nassir Zadeh et al., (2012) investigated the factors influencing EM of listed firms in Tehran Stock Exchange. As a result, the impact of the firm size, debt-equity ratio, effective tax rate, and managers' bonuses on EM are investigated. 114 listed firms in the Tehran Stock Exchange from 2006 to 2010 were investigated. Cross-sectional ordinary least square regression and correlation analysis were utilized as statistical methods. The study revealed a significant and negative impact of debt-equity ratio on EM. Furthermore, there is a positive and significant effect of company's size on EM. However, there is no significant effect of changes in managers' bonuses and effective tax rates on EM.

2.4.12 Profitability, Growth, Leverage, Assets Quality and Earnings Management. Beneish (1999) proposes a model for distinguishing between manipulated and non-manipulated companies through investigated 74 US firms over a 10-year period (1982-

1992). This model included 8 variables. He considered variables based on accruals and cash flows. He found that a positive relationship between probability, growth, leverage, assets quality and earnings management.

2.4.13 Beneish Model and Earnings Management

Aqilah et al., (2021) investigated the effectiveness of the Beneish model and its accounting variables in detecting the risk of EM in Malaysian public listed companies (PLCs). The Beneish model is utilized to test the financial statements of 80 PLCs from 2015 to 2017. To detect dominating ratios, the Independent T-tests were used. The firms were divided into two groups in this study (manipulator companies and non-likely manipulator companies). M-Score and its three indices (SGI, TATA and DSRI) were found to be significantly different for manipulators and non-likely manipulators. Furthermore, revenue inflation, as well as accruals, could be indicators of earnings management.

Erdoğan and Erdoğan (2020) determined financial organizations that may manipulate financial information using the Beneish model. The study included 40 firms that are part of the BIST-50 index that operate outside of the financial sector as well, and whose data can be accessible on a regular basis in 2015, 2016, and 2017. The Beneish model identifies firms with the potential for financial manipulation, and it is revealed that the SGAI and the asset quality have a positive effect on the possibility of earnings manipulation.

Halilbegovic et al., (2020) examined the Beneish M-Score model's application in 4,580 small and medium industrial firms in Bosnia and Herzegovina Federation (FBiH).

Regression, correlation, and sample t-tests were used to examine the audited financial accounts from 2008 to 2015. The study concluded that the use of the Beneish model in FBiH aids in the detection of earnings manipulation.

Talab et al., (2017) utilized Beneish model to investigate earning management practices in Iraqi listed companies. The data was collected from 23 listed banks during 2014 and 2015. According to the findings, the majority of the Iraqi listed banks have earnings management practices. As a result, this study concludes that the Beneish model is an effective approach for detecting EM. It can also be used to enhance financial reporting quality in order to protect potential investors.

Nguyen & Nguyen (2016) investigated the existence of earnings management in 229 non-financial Vietnamese listed companies during the period (2013-2014) by using Beneish model. The findings revealed that 48.4% of non-financial Vietnamese enterprises engaged in earnings management. Moreover, this study revealed that Beneish model is one of the beneficial tools for detecting earnings manipulation practices in organizations, and it might be used to improve financial reporting quality and provide greater protection for investors.

2.5 Discussion the Results of Previous Studies

There is a conflict between previous studies, regarding the relationship between profitability, growth, leverage, liquidity, firm size and earnings management.

Beneish (1999); Alexander and Hengky (2017); Saleh et al., (2020); Dang et al., (2017); Kalbuana et al., (2021); Purnama and Nurdiniah (2019) found that there is a

positive significant impact of profitability on EM, whereas Wirianata (2020), found that the profitability has a negative non-significant impact on EM.

Beneish (1999); Saleh et al., (2020); Wirianata (2020); Debnath (2017) found that there is a positive significant impact of growth on EM. Whereas, Alexander and Hengky (2017) found that there is a negative non-significant impact of growth on EM.

Nassir Zadeh et al., (2012); Wirianata (2020); Dang et al., (2017); Hoang and Phung (2019) revealed a negative significant impact of leverage on EM. In contrast, Moghaddam and Abbaspour (2017); Kalbuana et al., (2021) revealed a positive significant impact of leverage on EM. Whereas, Beneish (1999); Alexander and Hengky (2017); Nurdiniah and Herlina (2015) found a positive non-significant impact of leverage on EM.

Aqilah et al., (2021) found that only three variables out of eight in the Beneish model have a significant effect on earnings management, whereas Erdoğan and Erdoğan (2020) found that there is a significant effect only of SGAI and AQI on EM.

Nassir Zadeh et al., (2012); Saleh et al., (2020); Wirianata (2020), found a positive significant effect of the company size on EM. Whereas, Nurdiniah and Herlina (2015); Dang et al., (2017) revealed that the company size has positive non-significant impact on EM. Whereas, Kalbuana et al., (2021); Alexander and Hengky (2017) revealed that company size has a negative non-significant impact on EM. Whereas, Debnath, (2017); Purnama and Nurdiniah (2019) found that there is a negative significant effect of firm size on earnings management.

Table 1. Summary of Previous Studies:

Reference	Country	Time	Variables	Methods	Conclusion
Beneish (1999)	US	1982-1992	Profitability Growth Assets quality leverage	Descriptive Statistics for panel data	Positive significant effect Positive non-significant effect
Nassir Zadeh et al., (2012)	Tehran	2006 -2010	Leverage Size	cross-sectional ordinary least square regression, correlation analysis	Negative significant effect Positive significant effect
Nurdiniah and Herlina (2015)	Indonesia	2011 – 2013	Leverage Size	Multiple linear regression	Positive non-significant effect Positive non-significant effect
Nguyen & Nguyen (2016)	Vietnam	2013-2014	DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA, LVGI	Beneish M-score regression	Beneish Model is a beneficial tool for detecting earnings manipulation practices
Alexander and Hengky (2017)	Indonesia	2011-2015	Profitability Growth, size Leverage	multiple regression	Positive significant effect Negative non-significant effect Positive non-significant effect
Dang et al., (2017)	Vietnam	2012 – 2016	Profitability	Ordinary least squares (OLS) with	Positive significant effect

			Leverage Size	Panel data	Negative significant effect Positive non-significant effect
Debnath (2017)	India	2007 – 2015	Growth Size	multiple panel regression analysis	Positive significant effect Negative significant effect
Moghaddam and Abbaspour (2017)	Tehran	2010 – 2015	Leverage	multiple linear regression analysis with panel	Positive significant effect
Talab et al., (2017)	Iraq	2014-2015	DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA, LVGI	Beneish M-score regression	Beneish Model is an effective for detecting EM
Purnama and Nurdiniah (2019)	Indonesia	2012- 2016	Profitability Size	multiple linear regression	Positive significant effect Negative significant effect
Hoang and Phung (2019).	Vietnam	2010 – 2016	Leverage	Panel regression	Negative significant effect
Wirianata (2020)	Indonesia	2016-2018	Profitability Leverage Size, Growth	multiple linear regression analysis with panel	Negative non-significant effect Negative significant effect Positive significant effect

Erdoğan and Erdoğan (2020)	Turkey	2015-2017	DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA, LVGI	Logistic regression analysis	There is a significant effect only to SGAI and AQI on EM
Halilbegovic et al., (2020)	Bosnia	2008 – 2015	DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA, LVGI	The regression analysis	Beneish Model aids in identifying earnings manipulation
Saleh et al., (2020)	Jordan	2009-2018	Profitability, size and growth	Panel regression analysis	positive significant effect on EM
Aqilah et al., (2021)	Malaysia	2015-2017	DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA, LVGI	Independent T-tests	Only SGI, TATA and DSRI have Significant effect on EM.
Kalbuana et al., (2021)	Indonesia	2014- 2018	Profitability Leverage size	Multiple Linear Regression	Positive significant effect Negative non-significant effect

Chapter Three

Research Methodology

3.1 Sample and Data Collection

This study aims to detect the earning management practices and examine the effect of Beneish model indicators on earnings management among Palestinian listed companies. The population is 22 companies which represent all industrial and services companies listed on Palestine Exchange, of which 13 are industrial companies and 9 are service companies. 60% of the population was chosen (13 companies) in order to generalize the results - 8 industrial companies and 5 service companies. All the necessary accounting data are collected from the published annual reports for the last six years (2016-2021) of the respective companies which are listed on PEX. A total of 78 observations were obtained. Those two sectors were selected because the original model (Beneish M-score) included mainly manufacturing and service companies, which have the same characteristics. This period was selected because the annual reports of listed companies available on the PEX are only between the periods of (2016-2021).

3.2 Variables Measurement

This study used Beneish model to detect earnings management practices among Palestinian listed companies and examined the effect of Beneish model indicators on earnings management. Then, it investigated the role of firm size as a moderator variable on the impact of Beneish Model indicators on earnings management.

The study independent variables are Beneish model factors that have been used by previous studies to detect earnings management and are thought to be concerned to interested parties, namely days sales in receivables (DSRI), profitability (gross margin

index), assets quality (Assets Quality index), growth (sales growth index), depreciation rate (depreciation rate index), sales, general and administrative expenses (sales, general and administrative expenses index), leverage (Leverage index) and accruals (total accruals to total assets). The dependent variable is the accrual earnings management.

Variables and its Formulas:

1. **Days' Sales in Receivables Index (DSRI):** measures the ratio of receivables to sales rate in year t compared to year (t - 1), an index higher than 1 could be the result of a change in credit policy to increase sales in light of the heightened competition, but disproportionate increases in receivables relative to sales could be the result of revenue inflation (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Khan & Akter, 2017; Halilbegovic et al., 2020; Yildirim & Kovacevic, 2022; Wisdianti et al., 2022).

$$\text{DSRI} = [\text{net receivables (t) / sales (t)}] / [\text{net receivables (t-1) / sales (t-1)}]$$

(Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al. 2017).

2. **Gross Margin Index (GMI):** is a measure to the profitability in year t compared to year (t - 1), when GMI is greater than 1, shows that the profit has deteriorated which is a negative signal about the firms' prospects, in this case the firms will be more likely to engage in earnings management. So, there is a positive relationship between the GMI and earnings management (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020; Yildirim & Kovacevic, 2022; Wisdianti et al., 2022). According to Kuncara (2022), GMI is used to measure the level of profitability of the firms.

GMI = [(Sales $t - 1$ - Cost of Goods Sold $t - 1$)/Sales $t - 1$] / [(Sales t - Cost of Goods Sold t)/Sales t]. (Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al., 2017).

3. **Asset Quality Index (AQI):** measures the ratio of non-current assets other than PPE to total assets in current year compared to previous year. Also, it is an aggregate measure of the change in the asset realization risk analysis. Increased asset realization risk signifies a higher propensity to capitalize and defer costs, signaling of potential earnings management. If the AQI is more than 1 the company has possibly raised its cost deferral. As a result, the AQI and EM have a positive relationship (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020). According to (Kuncara, 2022), AQI shows the quality of the company's non-current assets.

AQI = [1 - (Current Assets t + Plant, Property & Equipment t)/ Total Assets t]/[1 - (Current Assets $t - 1$ + Plant, Property & Equipment $t - 1$)/Total Assets $t - 1$]. (Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al., 2017).

4. **Sales growth index (SQI):** is a measure of sales growth in current year compared to previous year. If an index is more than 1 it indicates a positive growth in the year under review. Growth can impose a pressure to preserve a firm's position and meet profits targets, so this is will be an additional incentive for managers to engage in EM. (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020; Wisdianti et al., 2022).

SQI = Sales t /Sales $t - 1$ (Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al., 2017).

5. **Depreciation index (DEPI):** measures the depreciation rate in year ($t - 1$) compared to year t . A slower rate of depreciation (DEPI greater than

1) increases the likelihood that the company increases the life of assets or use a new income technique (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020; Wisdianti et al., 2022).

DEPI = (Depreciation t - 1 / (Plant, Property & Equipment t - 1 + Depreciation t - 1)) / (Depreciation t / (Plant, Property Equipment t + Depreciation t)) (Beneish, 1999; Petrik, 2016; Talab et al., 2017).

6. **Sales, general and administrative expenses index (SGAI):** measures SGA expenses to sales in current year compared to previous year (t - 1). Excessive increase in sales compared to SGA expenses give a bad signal regarding to a firm's future prospects (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020; Yildirim & Kovacevic, 2022). SGA expenses will vary according to the company's major operations. SGA expenses are variable expenses dependent on sales fluctuations. It is assumed in this situation that sales will be manipulated or expenses would be underpriced (Dikmen & Küçükkocaoğlu).

SGAI = [(selling, general & administrative expense (t) / sales (t)) / [(selling, general & administrative expense (t - 1) / sales (t - 1))] (Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al., 2017).

7. **Total Accruals to Total Assets (TATA):** measures the ratio of accruals to total asset and the quality of cash flows of the firm. Total accruals are computed by subtracting operating cash flow from income before extraordinary items (Petrik, 2016). Total accruals to total assets proxies the extent to which cash underlies reported earnings. Higher positive accruals (less cash) would indicate a greater

possibility of EM. (Beneish, 1999; Nguyen & Nguyen, 2016; Khan & Akter 2017; Yildirim & Kovacevic, 2022).

TATA = (Income before extraordinary items – Cash from operations) / Total assets t
(Beneish, et al., 2013; Petrik, 2016).

8. **Leverage index (LVGI):** It is a measure of leverage in the current year compared to the previous year. If LVGI is more than 1 indicates an increase in leverage, and the incentives in debt covenants lead to EM (Beneish, 1999; Nguyen & Nguyen, 2016; Talab et al. 2017; Halilbegovic et al., 2020; Wisdianti et al., 2022).

LVGI = [(Current Liabilities t + Total Long Term Debt t) / Total Assets t] / [(Current Liabilities t - 1 + Total Long Term Debt t - 1) / Total Assets t - 1].
(Beneish, 1999; Corsi et al., 2015; Petrik, 2016; Talab et al., 2017).

9. **Firm size:** is a value that represents the size of a firm. The total assets of a company can be used to measure the firm. The more the quantity of total assets represented, the larger the firm size (Wirianata, 2020). A larger firm will have greater internal control to ensure the accuracy of financial information disclosed to the public. As a result, large corporations are less likely to engage in earnings management (Alexander & Hengky, 2017). Otherwise, smaller firms use earnings management to give positive signals to investors about their performance and encourage them to invest (Wirianata, 2020).

Firm size (size) = Ln (Total Assets) (Beneish, 1999; Alexander & Hengky, 2017; Kalbuana et al., 2021).

10. **Earnings management:** is measured using Healy model (1985), Healy (1985) was the first to use discretionary accruals to detect earnings management. He assumed that discretionary accruals are susceptible to managerial discretion,

whereas non-discretionary accruals are the expected level of accruals in the company given no earnings management. He discovered that managers exploit accruals to enhance their bonus (Sun and Rath 2010). This model is used to measure earnings management through calculating discretionary accruals in a period as total accruals in current year are divided by total assets in previous year. This implies that non-discretionary accruals are expected to be zero during the estimation period (Bilan & Jurickova, 2021).

$$EDAC_{it} = TA_{it}/A_{it-1}$$

Where, $EDAC_{it}$: estimated discretionary accruals for firm I in year t

TA_{it} : total accruals for firm i in year t

A_{it-1} : total assets for firm i in year $t-1$

Total accruals calculated through the following formula: $TA_{it} = NI_{it} - CFO_{it}$

Where, TA_{it} : Total Accrual company i year t

NI_{it} : Net Income year t CFO_{it} : Operating cash flow t (Jena et al., 2020; Bilan & Jurickova 2021; Suhasto et al., 2021).

3.3 Statistical Approach

This study used descriptive statistics and panel regression analysis. The data analysis testing in this study employed EViews (Econometric Views). Before testing the hypotheses, the regression assumptions are tested, which include: (1) normality test; to determine whether data is normally distributed or not, (2) Multicollinearity test; to test the relationship between independent variables, and (3) Autocorrelation test to show the degree of correlation between the values of the same variable across different observations in the form of panel data. The model feasibility test is performed using the

Hausman test. After the completion of the classical assumption test and the model feasibility test, hypothesis testing is performed using the t test to determine the effect of independent variables on the dependent variable and the F test to determine whether the overall independent variables have a simultaneous effect on the dependent variable. Since, the current study is based on panel data, which has both the characteristics of time series and cross sectional data, this study utilized the following panel regression equation with the dependent and independent variables mentioned above.

$$EM_{it} = \alpha + \beta_1 DSR_{it} + \beta_2 PROF_{it} + \beta_3 AQ_{it} + \beta_4 GRTH_{it} + \beta_5 DEP_{it} + \beta_6 SGA_{it} + \beta_7 ACC_{it} + \beta_8 LEV_{it} + e$$

Whereas, EM = earnings management, α = constant value, $\beta_1 - \beta_8$ = regression coefficient, DSR= days sales in receivables, PROF = profitability, AQ= assets quality, GRTH= growth, DEP = depreciation, SGA= sales general and administrative, ACC= accruals, LEV = leverage, e= error term

3.4 Conceptual Model

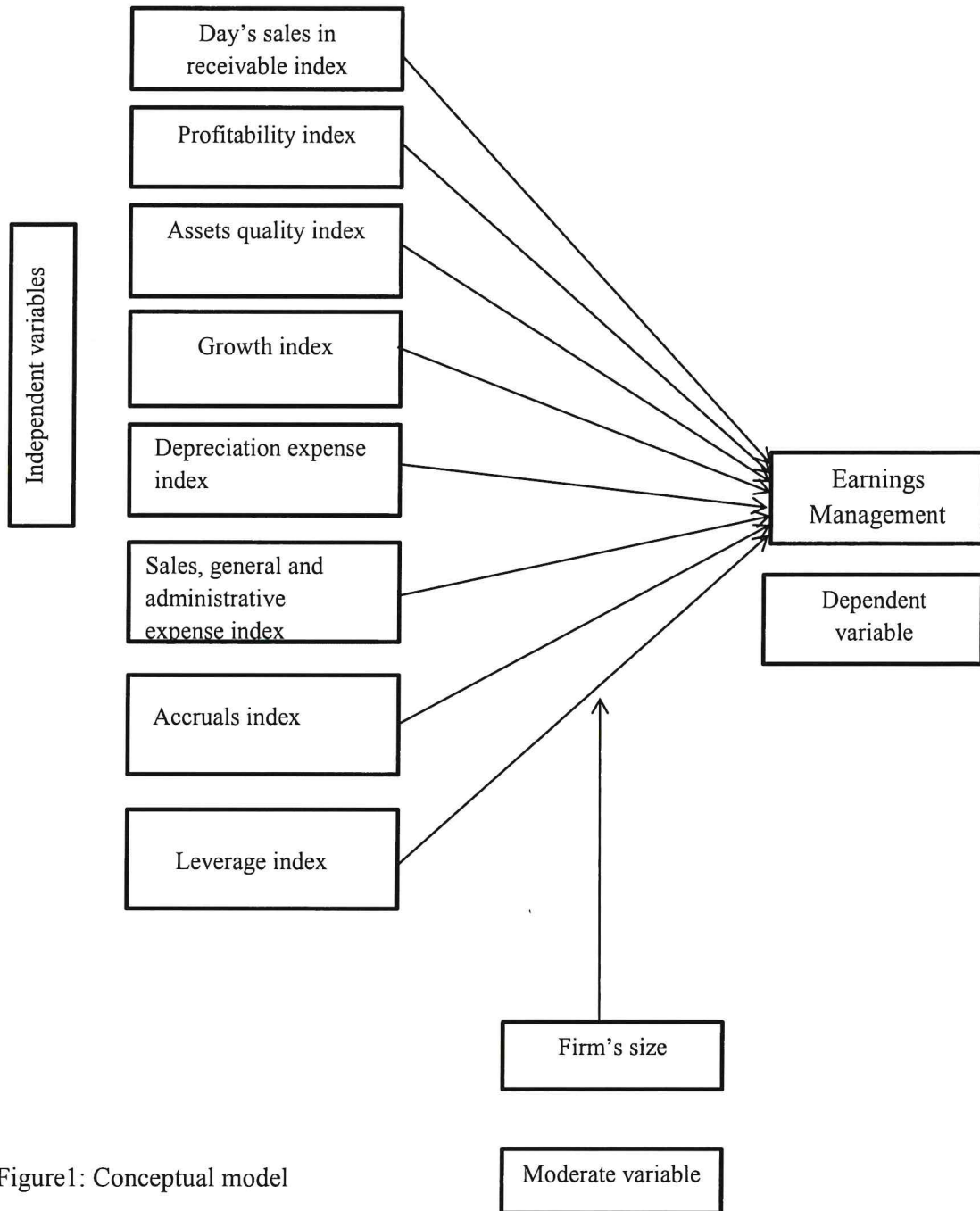


Figure1: Conceptual model

Chapter Four

Results and Discussion

This chapter presents the descriptive statistics of research variables, classic assumption test of panel data set, panel data regression model selection steps, employing the Beneish model to detect earnings management practices, hypotheses testing, and finally a discussion of results.

4.1 Descriptive Statistic Analysis

Table 2: Descriptive Statistics of Research Variables

Variable	N	Mean	Std. Dev.
EM	78	0.013610	0.085796
DSRI	78	1.019321	0.242215
GMI	78	0.962526	0.299340
AQI	78	1.086397	0.418615
SIG	78	1.096756	0.337878
DEPI	78	1.082115	0.361672
SGAI	78	1.001321	0.230527
TATA	78	0.007728	0.073102
LVGI	78	1.084410	0.621537

Descriptive statistics were used to provide information for variables. Therefore, mean and standard deviation were used for the panel data of 78 observations (13 companies multiplied by 6 years). The Mean shows the average value of the series. The standard deviation shows the deviations of all the observations from the average value.

Table 1 shows that the mean of EM is positive 0.013610 implying that, on an average, the firms are engaging in EM by raising earnings. However, EM varies across the firms as evident from the minimum value and maximum value of EM. Also, the low standard deviation 0.085796 means that the EM is close across the sample firms. The

average of DSRI is 1.019321, more than 1; this may be the result of a change in credit policy to boost sales (Nguyen & Nguyen, 2016), and the low standard deviation 0.242215 means that the DSRI is close across the sample firms. The average of GMI is 0.962526, less than 1, shows that the profit has get better which is a good signal about the firms' prospects, in this case the firms will be less likely to engage in earnings management (Talab et al. 2017), low standard deviation 0.299340 means that the GMI is close across the sample firms. The average value of AQI is 1.086397 which is more than 1 it signifies that the company has potentially increased its cost deferral which is a sign of potential earnings management (Beneish, 1999). The low standard deviation 0.418615 means that the AQI is close across the sample firms. The average value of SGI is 1.096756. This is more than 1, which indicates a positive firms' sales growth. Growth can create pressure to maintain a firm's position and meet profit targets, so this will be an additional incentive for managers to engage in EM (Nguyen & Nguyen, 2016). The low standard deviation 0.337878 means that the SGI is close across the sample firms. The average value of DEPI is 1.082115, more than 1, which raises the possibility that the firm increases the life of assets or adopted a new income method (Halilbegovic et al., 2020). The low standard deviation 0.361672 means that the DEPI is close across the sample firms. The average value of SGAI is 1.001321 approximately 1, this means there will be a positive indication concerning firm's future prospects (Halilbegovic et al., 2020). The low standard deviation 0.230527 means that the SGAI is close across the sample firms. The average value of TATA is 0.007728 less than 1 would be associated with a lower likelihood of earnings management (Talab et al. 2017). The low standard deviation 0.073102 means that the TATA is close across the sample firms. The average value of LVGI is 1.084410, is more

than 1 which indicates an increase in leverage, and it demonstrates the incentives in debt covenants which lead to EM (Halilbegovic et al., 2020). The low standard deviation 0.621537 means that the LVGI is close across the sample firms.

4.2 Regression Assumptions Tests

4.2.1 Normality Test

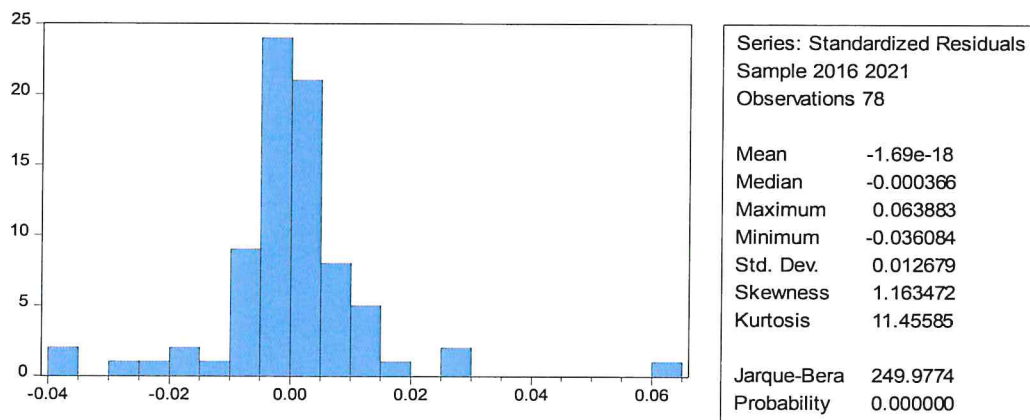


Figure 2: Normality test.

The results show that the Jarque-Bera value is 249.9774 and a significance of $0.000\% < 5\%$, which means that the study variables aren't normally distributed.

4.2.2 Multicollinearity Test

Table 3: Pearson's Correlation Test

	DSRI	GMI	AQI	SGI	DEPI	SGAI	TATA	LVGI	EM
DSRI	1								
GMI	0.078	1							
AQI	-0.090	0.215	1						
SGI	-0.572	-0.299	-0.059	1					
DEPI	0.074	0.113	-0.096	0.020	1				
SGAI	0.671	0.163	-0.125	-0.615	0.062	1			
TATA	-0.137	-0.062	-0.149	0.293	0.203	-0.137	1		
LVGI	-0.004	0.030	-0.016	0.085	0.244	0.010	0.361	1	
EM	-0.136	-0.069	-0.120	0.349	0.262	-0.151	0.976	0.473	1

The most popular sort of analysis is correlation analysis and is an effective instrument to examine the degree of correlation between dependent and independent variables. It also assists in the investigation of the dataset's multicollinearity problem. Its value ranges between +1 to -1, where +1 indicating a strong positive correlation and -1 indicating a completely negative linear correlation. According to the outcomes, all independent variables are free of multicollinearity because their coefficient values are less than 0.80 (Asim & Ismail, 2019).

4.2.3 Autocorrelation Test

The autocorrelation test measures the degree of correlation between the values of the same variable across different observations in the form of time series or cross section data (Religiosa & Surjandari, 2021). To detect the absence or presence of autocorrelation, this study used Breusch Pagan LM, Pesaran scaled LM and Pesaran CD tests.

Table 4: Autocorrelation Test.

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	98.79437	78	0.0561
Pesaran scaled LM	1.664882	78	0.0959
Pesaran CD	-1.117933	78	0.2636

Prob. Value of Breusch-Pagan LM is $0.0561 > 5\%$ significance level, Prob. Value of Pesaran scaled LM is $0.0959 > 5\%$ and Prob. Value of Pesaran CD is $0.2636 > 5\%$, so the autocorrelation doesn't occur.

4.3 Detecting Earning Management Practices

The 8-factors and 5-factors Beneish models were employed in this study, to determine if the companies engage in earnings management. The values of the M-score of the 5 indicators and 8 indicators Beneish model were calculated for each analyzed company during the period (2016-2021). Companies were classified as manipulators if their M-score > -1.78 .

The following M-score formulas are used to express the indicators highlighting the areas of earnings management:

$$\text{M-Score (8 variables)} = -4.84 + .920 \text{ DSRI} + .528 \text{ GMI} + .404 \text{ AQI} + .892 \text{ SGI} + .115 \text{ DEPI} - .172 \text{ SGAI} + 4.679 \text{ TATA} - .327 \text{ LEVGI}$$

$$\text{M-Score (5 variables)} = -6.065 + .823 \text{ DSRI} + .906 \text{ GMI} + .593 \text{ AQI} + .717 \text{ SGI} + .107 \text{ DEPI}$$

Rule:

An M-score of less than -1.78 suggests that the company will not be manipulator. An M-score of greater than -1.78 signals that the company is likely to be manipulator (Beneish, et al., 2013).

Table 5: Summarizes the Average Results for Beneish Model

Sector	Company	DSRI	GMI	AQI	SGI	DEPI	SGAI	TATA	LVGI	5-factors model	Indication of earnings management model	8-factors model	Indication of earnings management model
industrial	BPC	1.021	1.043	1.056	1.1	1.049	0.985	0.023	0.999	-2.753	non-manipulator	-2.211	non-manipulator
industrial	AZIZA	1.067	1.112	0.982	1.039	0.997	0.982	-0.006	0.976	-2.745	non-manipulator	-2.349	non-manipulator
industrial	JCC	0.916	0.916	0.979	1.114	1.146	1.054	0.007	1.023	-2.979	non-manipulator	-2.476	non-manipulator
industrial	NAPCO	1.121	0.978	1.32	1.078	0.962	1.011	0.015	0.996	-2.598	non-manipulator	-2.116	non-manipulator
industrial	JPH	1.015	0.999	1.203	1.106	0.98	0.967	0.019	0.955	-2.713	non-manipulator	-2.183	non-manipulator
industrial	GMC	0.968	0.819	1.478	1.261	0.984	0.893	0.006	1.191	-2.641	non-manipulator	-2.197	non-manipulator
industrial	VOIC	1.019	0.932	1.036	1.098	1.27	0.964	0.141	1.799	-2.844	non-manipulator	-1.961	non-manipulator
industrial	NCI	0.971	0.939	1.007	1.045	1.002	1.06	0.012	1.136	-2.961	non-manipulator	-2.494	non-manipulator
service	PALTEL	1.067	1.012	1.031	1.008	0.951	0.994	-0.059	1.1	-2.834	non-manipulator	-2.706	non-manipulator
service	OOREDOO	1.114	1.002	0.993	1.054	1.097	1.063	-0.113	0.952	-2.815	non-manipulator	-2.866	non-manipulator
service	ABRAJ	1.058	0.928	0.995	1.307	1.134	1.137	0.043	0.949	-2.706	non-manipulator	-1.984	non-manipulator
service	WASSEL	0.879	1.072	1.06	0.993	0.997	0.946	0.013	0.967	-2.923	non-manipulator	-2.455	non-manipulator
service	RSR	1.035	0.761	1.045	1.055	1.5	0.962	0.001	0.898	-2.987	non-manipulator	-2.404	non-manipulator

Table 12: in the appendix, the table shows that the 5-factor model and the 8-factor model didn't indicate some companies that received modified opinions due to distortions in their financial statements as manipulators. Moreover, the 5-factor model and the 8-factor model indicated some companies that received unmodified opinions on their financial statements as manipulators. This indicates that the Beneish model isn't valid to detect earnings management practices among tested companies.

4.4 Panel Data Regression

In E-views, the regression model is created in two steps: model selection and model estimation.

4.4.1 Panel Data Regression Model Selection

To select a model, Hausman test was performed.

4.4.1.1 Hausman Test

Hausman test selects a model by comparing fixed effect model with random effect model by testing the following hypotheses: H₀: Random Effect Model (REM). H₁: Fixed Effect Model (FEM). If P-value < 0.05, H₀ will be rejected and if P-value > 0.05, H₀ will be accepted (Religiosa & Surjandari, 2021).

Table 6: Hausman Test

Test summary	Chi-sq. Statistic	Chi-Sq. d.f	P-value
Cross=section random	11.132034	8	0.1943

The result showed that the probability value for cross-section F is $0.1943 > 0.05$, therefore random effect model is superior to the fixed effect model.

4.4.2 Panel Data Regression Model Estimation

As shown below, E-views provide three estimating models: common effect which is also called pooled ordinary least square, fixed effect, and random effect regression models. The optimal model was chosen through the selection model step.

4.4.2.1 Panel data regression models

Model 1. Pooled Ordinary Least Square (POLS) Model

This is the simplest panel data model approach because it merely combines time series and cross section data. Common effect model ignores differences between individuals (cross-section) and time due to the same intercepts and slope coefficients (Adiputra & Hermawan, 2020; Harnaji et al., 2021). In this study, as pooled OLS assumes no significant time or individual effects, the intercept and slope coefficients of the 13 firms are assumed to be constant over the period of 6 years. Thus, POLS is considered a constrained model (Aggarwal & Padhan, 2017).

Table 7: Panel Least Square Result

The regression equation of ordinary least square model:

$$Y_{it} = a + B_1 X_{it} + e_{it}$$

Model 1	Coefficient	Std. Error	t-Statistic	P-value
Constant	-0.077435	0.017902	-4.325550	0.0001
DSRI	0.014427	0.008933	1.615082	0.1109
GMI	-0.000684	0.005569	-0.122867	0.9026
AQI	0.006368	0.003871	1.644894	0.1045
SGI	0.025851	0.006461	4.001381	0.0002
DEPI	0.010751	0.004465	2.408115	0.0187
SGAI	0.002806	0.009803	0.286248	0.7755
TATA	1.058846	0.023766	44.55378	0.0000
LVGI	0.017614	0.002690	6.547073	0.0000
R-squared = 0.978159, Adjusted R-squared = 0.975627, Prob (F-statistics) = 0.000000				

Model 2. Fixed effects model (FEM)

Fixed effect model is used to incorporate the effect of firm specific characteristics (Aggarwal & Padhan, 2017). Instead of the homogeneous intercept in the (POLS) model, the FEM allows for heterogeneous intercepts across cross-sectional individuals and over time by using dummy variables, while assumes constant slope coefficients (Keum, 2010). This model also called least square dummy variable (LSDV) (Adiputra & Hermawan, 2020). The Fixed effect model differs from the Common effect model, but it still employs the ordinary least squares approach. The modeling assumption that provides a constant intercept for every individual (cross section) and time is considered to be less realistic; therefore, additional models are required to describe the difference (Zulfikar & STp, 2019).

Table 8: Fixed effects model

The form of fixed effects model regression equation:

$$Y_{it} = a_i + B_1 X_{it} + e_{it}$$

Model 2	Coefficient	Std. Error	t-Statistic	P-value
Constant	-0.080293	0.019751	-4.065331	0.0001
DSRI	0.011533	0.009689	1.190307	0.2389
GMI	0.000687	0.006053	0.113435	0.9101
AQI	0.005810	0.004335	1.340416	0.1854
SGI	0.028671	0.007349	3.901493	0.0003
DEPI	0.010546	0.004958	2.127015	0.0378
SGAI	0.007526	0.010686	0.704240	0.4842
TATA	1.034863	0.037123	27.87658	0.0000
LVGI	0.015478	0.002781	5.565768	0.0000
R-squared = 0.982441, Adjusted R-squared = 0.976280, Prob (F-statistics) = 0.000000				

Model 3. Random Effect Model (REM)

Error Component Model is another name for this model (Amyulianthy & Ritonga, 2016). The Random Effects Model (REM) is a model with a constant slope but varied or different intercepts based on cross-section (in this study, the company) in a random rather than a fixed manner. Individual differences are reflected by the intercept or constants in the fixed effect model, but individual differences are accommodated by the error terms of each individual in the Random effects model (Muda et al., 2018).

Table 9: Random Effect Model

The form of random effects model regression equation:

$$Y_{it} = a + B_1 X_{it} + u_i + e_{it}$$

Model 3	Coefficient	Std. Error	t-Statistic	P-value
Constant	-0.077435	0.017660	-4.384677	0.0000
DSRI	0.014427	0.008812	1.637159	0.1062
GMI	-0.000684	0.005494	-0.124547	0.9012
AQI	0.006368	0.003819	1.667378	0.100
SGI	0.025851	0.006374	4.056076	0.0001
DEPI	0.010751	0.004404	2.441032	0.0172
SGAI	0.002806	0.009671	0.290161	0.7726
TATA	1.058846	0.023445	45.16279	0.0000
LVGI	0.017614	0.002654	6.636566	0.0000
R-squared = 0.978159, Adjusted R-squared = 0.975627, Prob (F-statistics) = 0.000000				

4.5 Hypotheses Testing

Based on model selection formulation, the random Effect Model is the preferred model. Thus, the hypotheses test is based on random effect model.

4.5.1 The Determination Coefficient (Adjusted R²)

The coefficient of determination is 98%. This means that all independent variables (DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA and LVGI) are able to describe Earnings Management (EM) amounting to 98%. While another 2% is influenced by other variables. The value of 98% means that the effect of all independent variables on EM is strong because $> 50\%$.

4.5.2 The F Statistics Test.

The results show that Prob. (F-statistic) is 0.000, which means that all financial factors in the model combined affect the earnings management.

4.5.3 The t-Test

Constant = -0.077435, if the value DSRI, GMI, AQI, SGI, DEPI, SGAI, TATA and LVGI is 0 then the earnings management will be -0.077435. The coefficient of DSRI is 0.014427. Therefore, if DSRI increases by one point, the earnings management will increase by 0.014427. The significant level of DSRI is 0.1062 $>$ 0.05. Then H₁ is rejected. This means that there is a non-significant positive impact of DSRI on EM.

The coefficient for GMI is -0.000684. If GMI increases by 1 point, the EM will decrease by -0.000684 points. The coefficient is positive, which means that there is a negative relationship between profitability and earnings management. The significant level of GMI is 0.9012 $>$ 0.05. Then H₂ is rejected. This means that there is a non-significant negative impact of profitability on EM.

The coefficient for AQI is 0.006368. If AQI increases by 1 point, the earnings management will increase by 0.006368. The coefficient is positive, which means that there is a positive relationship between AQI and EM. The significant level of AQI is $0.100 > 0.05$. Thus, H3 is rejected. This means that there is a non-significant positive impact of AQI on EM.

The coefficient for SGI is 0.025851. If SGI increases by 1 point, the earnings management will increase by 0.025851 points. The coefficient is positive, which means that there is a positive relationship between growth and EM. The significant level of SGI is $0.0001 < 0.05$. Thus, H4 is accepted, meaning that there is a significant positive impact of growth on EM.

The coefficient for SGAI is 0.002806. If SGAI increases by 1 point, the earnings management will increase by 0.002806 points. The coefficient is positive, which means that there is a positive relationship between SGAI and EM. The significant level of SGAI is $0.7726 > 0.05$. Thus, H5 is rejected, which means that there is a non-significant positive impact of SGAI on earnings management.

The coefficient for DEPI is 0.010751. If DEPI increases by 1 point, the earnings management will increase by 0.010751 points. The coefficient is positive, which means that there is a positive relationship between DEPI and EM. The significant level of DEPI is $0.0172 < 0.05$. Thus, H6 is accepted. This means that there is a significant positive effect of DEPI on earnings management.

The coefficient for TATA is 1.058846. If TATA increases by 1 point, the earnings management will increase by 1.058846 points. The coefficient is positive, which means

that there is a positive relationship between TATA and EM. The significant level of TATA is $0.000 < 0.05$. Thus, H7 is accepted, which means that there is a positive significant impact of TATA on EM.

The coefficient for LVGI is 0.017614. If LVGI increases by 1 point, the earnings management will increase by 0.017614 points. The coefficient is positive, which means that there is a positive relationship between leverage and EM. The significant level of LVGI is $0.000 < 0.05$. Thus, H8 is accepted, meaning that there is a significant positive impact of leverage on earnings management.

The table below shows that the relationships between Beneish model factors and earnings management remain the same when firm size is included, so the H9 is rejected.

Table 10: Random Effect Model (with Moderating Variable)

Model 4	Coefficient	Std. Error	t-Statistics	Prob
C	-0.096008	0.028623	-3.354268	0.0013
LN-TA	0.001120	0.001360	0.823486	0.4131
DSRI	0.013270	0.008905	1.490106	0.1408
GMI	-0.001482	0.005567	-0.266207	0.7909
AQI	0.006988	0.003885	1.798912	0.0765
SGI	0.025257	0.006401	3.945768	0.0002
DEPI	0.010991	0.004405	2.495249	0.0150
SGAI	0.003649	0.009704	0.375985	0.7081
TATA	1.066988	0.025400	42.00811	0.0000
LVGI	0.017254	0.002685	6.427045	0.0000

4.6 Discussion

Companies that received modified opinions on their financial statements due to distortions occurred in these statements indicate a manipulation of financial data; however, Beneish model indicates these companies as non-manipulators. Additionally, firms that did not have any event that could indicate that they are manipulators were identified as manipulators by Beneish model. Thus, this study shown that Beneish model is non-effective tool aids in detecting earnings management practices. In contrast with the studies of Talab et al., (2017); Nguyen and Nguyen, (2016); Halilbegovic et al., (2020) which found that Beneish model is an effective model aids in detecting earnings management. As a result, this study can't identify the manipulators among tested companies.

The results of this study show that there is a non-significant positive impact of DSRI on earnings management; this result is in line with the study of Erdoğan and Erdoğan (2020), but it is in contrast with the study of Aqilah et al., (2021) which found that there is a significant impact of DSRI on EM. This result is in contrasts with the agency theory, where disproportionate increases in receivables relative to sales could be the result of revenue inflation. As a result, the large increase in receivables increases the likelihood of earnings manipulation. Managers engage in such practice to achieve their own incentives (Kovacevic, 2019).

The results of this study showed that profitability has a non-significant negative impact on EM. This study contrasts with the studies of Beneish (1999); Alexander and Hengky (2017); Saleh et al., (2020); Dang et al., (2017); Kalbuana et al., (2021);

Purnama and Nurdiniah (2019) which state that profitability has significant positive impact on EM. This study in line with the study of Wirianata (2020) which states that profitability has a non-significant negative impact on EM. Profitability is an indicator of a company's performance, so this result is in contrasts with agency theory, where managers use earnings management to improve or grow their own incentive or bonus plan, which is frequently linked to a company's performance (Habbash & Alghamdi, 2015). Also, is in contrasts with signaling theory because in accordance with this theory profitability reflects a positive signal regarding the firm's prospects in the future (Komara et al., 2020). Thus, when the gross margin has deteriorated, this will send a negative signal about the firm's prospects. In this case, the firm will be more likely to engage in earnings management (Nguyen & Nguyen, 2016).

The results of this study showed that there is a non-significant positive impact of assets quality on earnings management, which contrasts with the studies of Beneish (1999); Erdoğan and Erdoğan (2020), which state that the assets quality has a significant positive impact on earnings management. This result is in contrasts with agency theory, where an increase in assets quality index (when AQI more than 1) indicates the tendency of managers to avoid expenses by capitalizing costs which provides a signal of possible earnings management (Khan & Akter, 2017).

The results also showed that growth has a significant positive impact on earnings management, this study is in line with the studies of Beneish (1999); Debnath (2017); Wirianata (2020); Saleh et al., (2020). While, it is in contrasts with the study of Alexander and Hengky (2017) which states that the growth has a non-significant negative impact on earnings management. This result is consistent with agency theory, where

higher growth may put pressure on managers to maintain firm's position and achieve earnings target, so they may have greater incentives to engage in earnings management (Nguyen & Nguyen, 2016). The firm planning method begins with a sales target, managers used sales growth opportunities for their own interest to achieve their target and receive bonuses. Additionally, this result is consistent with signaling theory which, states that a company intentionally sends signals to the market so that investors can assess the company's performance and view it as a place to invest in. Sales growth is one of these signals. When evaluating the potential of a firm to invest in, investors look to sales growth as an indicator (Chabachib et al., 2020).

The results of this study showed that there is a significant positive impact of DEPI on EM; in contrasts with the studies of Erdoğan and Erdoğan (2020); Aqilah et al., (2021) which state that there is no significant impact of DEPI on EM. This result is in line with agency theory where managers try to decrease operating cost and increasing net profit by depreciated assets at a slower depreciation rate (Halilbegovic et al., 2020).

The results of this study showed that there is a non-significant positive impact of SGAI on EM; this result is in line with the study of Aqilah et al., (2021), while contrasts with the study of Erdoğan and Erdoğan (2020) which found that there is a significant impact of SGAI on EM. This result is in contrasts with agency theory, since when SGAI is greater than 1 indicates that the firm's selling, general and administrative expenses as a percentage of sales are increasing, which give a signal of decline in marketing and administrative efficiency, as a result managers are more likely to engage in earnings management to cover up deterioration in operating performance (Khan & Akter, 2017).

The results of this study showed that there is a significant positive effect of TATA on EM; this result is in line with the study of Aqilah et al., (2021) while contrasting with the study of Erdoğan and Erdoğan (2020), which found that there is a non-significant impact of TATA on EM. This result is in line with the agency theory where accruals represent the extent to which managers make discretionary accounting decisions in order to change profits. As a result, a higher level of accruals is associated with a higher likelihood of earnings manipulation by management (Aqilah et al., 2021).

Moreover, the results showed that leverage has a significant positive impact on EM. This study is in line with the study of Kalbuana et al., (2021). However, the study contrasts with the studies of Nassir Zadeh et al., (2012); Wirianata (2020); Dang et al., (2017); Hoang and Phung (2019) which state that the leverage has a significant negative impact on EM. Also, contrasts with the studies of Beneish (1999); Alexander and Hengky (2017); Nurdiniah and Herlina (2015) which state that there is a non-significant positive impact of leverage on EM. Moreover, this result is in line with agency theory; companies with high leverage are more likely to engage in EM since they will have difficulty to obtain new funding from creditors, the managers will therefore be exposed to the risk of defaulting on debts. To avoid breaching the debt limit, management will engage in EM, thus, the higher the company's debt, the greater the incentive for management to manage earnings (Nguyen & Nguyen, 2016). Additionally, this result is consistent with signaling theory, where high leverage will send a less positive signal to the investor (Chabachib et al., 2020). To provide a good signal to investors, management will try all kinds of ways to attain its objectives, one of which is by EM technique.

Chapter Five

Conclusion and Recommendations

5.1 Conclusion

The purpose of this study was to detect earnings management practices in Palestinian companies listed on PEX, and examine the effect of Beneish model indicators on earnings management. The population was 22 companies which represent all industrial and services companies listed on Palestine Exchange. 13 of the companies are industrial companies and the remaining 9 are service companies. 8 industrial companies and 5 service companies were selected. Data was collected from the published annual reports for last six years (2016-2022) of the Palestinian listed companies. A total of 78 observations were obtained. Panel regression model was used and hypotheses test was based on random effect model. EViews was employed for data analysis.

The result showed that the day's sales in receivables (proxied by DSRI), assets quality (proxied by AQI) and Sales, general, and administrative expenses (proxied by SGAI) have a positive non-significant effect on earnings management. The results also showed that the profitability (proxied by GMI) has a negative non-significant effect on earnings management. While growth (proxied by SGI), depreciation expenses (proxied by DEPI), total accruals (proxied by TATA) and leverage (proxied by LVGI) have a positive significant effect on earnings management. Furthermore, firm size had no moderating effect on the relationship between Beneish model factors and earnings management. This study revealed that only SGI, DEPI, TATA and LVGI are significant in detecting earnings management. Moreover, according to the findings of this study, the Beneish model is ineffective for identifying companies suspected of being manipulators.

5.2 Research Implications

This study offers a number of theoretical and practical implications.

5.2.1 Theoretical Implications

This study is the first study which examined the effect of financial performance on earning management practices using the Beneish model on Palestinian companies listed on PEX with the moderating effect of firm's size, and tested the effectiveness of the Beneish model in detecting earnings management. The findings of this study will be an addition to the past studies, since this study showed that profitability has positive non-significant effect on earnings management and negative non-significant effect of assets quality on earnings management which is in contrast with other previous studies. In addition, the findings of this study provide opportunities for future researches on Palestinian companies about earnings management practices using other models such as the CFEBT model and the Q-DMFC models, because the study findings show that the Beneish model is non-effective in detecting earnings management. Also, developing a new model is imperative for use in detecting earnings management in the Palestinian context. It is recommended that this study is performed on other sectors, such as the banking sector or the insurance sector. Moreover, it is worthwhile to investigate market awareness of the effects of earnings management practices on the firms' performance.

5.2.2 Practical Implications

The findings of this study assist several stakeholders in taking their decisions, for creditors and investors, the findings of this study recommend sufficient attention of earnings management practices in the presence of leverage and growth, changes in depreciation rate and total accruals. In addition, it is known that earnings management arises from the conflict of interests between managers and shareholders, which lead managers to achieve their personal aims. Managers manipulate earnings in order to circumvent the shareholders' supervisory power, which has a negative effect on the quality of the accounting information used in decision making. Thus, firms' managers are recommended to control the debt level to reduce accrual earnings management and avoid making discretionary accounting choices in order to manipulate earnings. Moreover, this study recommends that the Palestine Capital Market Authority (PCMA) take into consideration, during its evaluation and monitoring of the companies, ensuring that their financial reports accurately reflect the company's current situation, in addition to the indices of growth, leverage accruals, and depreciation, because this study concluded that they have a significant impact on earnings management. Moreover, this study will assist investors and other stakeholders in gaining a broader grasp and comprehension of earnings management. Finally, this study recommends that stakeholders shouldn't rely on the Beneish model to detect earnings management.

Limitations:

1. This study was conducted during the period of (2016-2021) because the annual reports of listed companies available on the PEX are only for this period.
2. This study was performed on the industrial and services sectors and didn't include other sectors because they have different characteristics.

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Appendix:

Table 11: The Results of 5-factors and 8-factors Beneish Models

	Year	Company information	DSRI	GMI	AQI	SGI	DEPI	SGAI	TATA	LVGI	M-score (5-factors model)	indication of manipulation	M-score (8-factors model)	indication of manipulation
BPC (industrial)	2016	unmodified report	1.038	1.1	0.969	1.223	0.98	0.873	0.041	0.916	-2.657	NO	-1.966	NO
	2017	unmodified report	1.076	0.917	1.002	1.018	1.07	1.115	0.026	0.9	-2.91	NO	-2.294	NO
	2018	unmodified report	1.038	1.244	1.259	1.078	1.069	0.944	-0.01	1.304	-2.45	NO	-2.271	NO
	2019	unmodified report	0.955	0.867	1.119	0.973	1.118	1.12	-0.015	1.009	-3.013	NO	-2.648	NO
	2020	unmodified report	0.94	1.145	0.957	1.037	1.085	0.997	0.018	0.986	-2.827	NO	-2.344	NO
	2021	unmodified report	1.081	0.983	1.028	1.268	0.973	0.859	0.076	0.878	-2.662	NO	-1.747	YES
AZZA (industrial)	2016	unmodified reports	1.198	1.096	0.78	1.127	0.958	0.955	0.019	0.92	-2.713	NO	-2.105	NO
	2017	unmodified reports	1.223	1.005	1.204	1.023	1.018	0.997	0.008	1.07	-2.592	NO	-2.152	NO
	2018	unmodified reports	0.953	1.642	1.742	0.863	0.951	1.028	-0.057	1.219	-2.039	NO	-2.355	NO
	2019	unmodified reports	0.977	0.519	0.325	1.118	1.07	1.022	0.001	0.895	-3.682	NO	-2.879	NO
	2020	unmodified reports	1.156	0.914	0.823	1.051	1.011	0.981	0.012	0.868	-2.936	NO	-2.304	NO
	2021	unmodified reports	0.894	1.497	1.017	1.054	0.976	0.908	-0.021	0.884	-2.51	NO	-2.307	NO
JCC (industrial)	2016	unmodified reports	1.081	0.9	1.029	0.975	0.914	1.274	-3E-04	1.034	-2.953	NO	-2.538	NO
	2017	unmodified reports	1.022	0.669	0.966	1.193	1.04	1.155	0.004	1.098	-3.078	NO	-2.511	NO
	2018	unmodified reports	0.683	1.17	1.067	1.007	1.059	1.044	0.044	1.159	-2.975	NO	-2.495	NO
	2019	unmodified reports	0.876	1.104	1.11	1.216	0.996	0.899	-0.098	0.984	-2.707	NO	-2.738	NO
	2020	unmodified reports	1.1	0.981	0.81	1.063	1.403	0.936	0.077	0.932	-2.878	NO	-1.979	NO
	2021	unmodified reports	0.736	0.669	0.894	1.232	1.461	1.013	0.013	0.933	-3.283	NO	-2.6	NO
NAPCO (industrial)	2016	unmodified reports	1.388	0.773	1.106	1.006	0.801	1.219	-0.033	0.964	-2.759	NO	-2.398	NO
	2017	unmodified reports	1.107	1.073	1.085	1.128	0.967	0.955	0.031	1.01	-2.626	NO	-2.049	NO
	2018	unmodified reports	1.036	1.158	1.827	1.093	0.987	0.763	0.062	1.017	-2.191	NO	-1.623	YES
	2019	unmodified reports	1.244	0.891	1.207	0.944	0.98	1.112	0.021	1.075	-2.736	NO	-2.227	NO
	2020	unmodified reports	1.199	0.928	0.659	0.867	1.218	1.284	0.031	1.049	-3.095	NO	-2.486	NO
	2021	unmodified reports	0.749	1.046	2.037	1.427	0.816	0.732	-0.025	0.86	-2.182	NO	-1.933	NO
PALTEL (services)	2016	unmodified reports	1.149	1.007	1.155	1	0.978	0.993	-0.068	1.678	-2.7	NO	-2.818	NO
	2017	unmodified reports	1.314	0.982	1.17	1.007	0.905	1.126	-0.03	0.843	-2.581	NO	-2.247	NO

	2018	unmodified reports	0.79	0.987	0.934	0.913	0.818	0.969	-0.048	1.135	-3.255	NO	-3.069	NO
	2019	unmodified reports	0.981	1.063	1.029	0.974	1.132	0.961	-0.073	1.001	-2.865	NO	-2.796	NO
	2020	modified report	1.103	0.989	0.961	0.997	0.942	1.008	-0.056	1.028	-2.876	NO	-2.689	NO
	2021	modified report	1.064	1.041	0.939	1.158	0.931	0.908	-0.078	0.916	-2.759	NO	-2.613	NO
OOREDOO (services)	2016	unmodified reports	1.377	0.955	1.019	1.011	0.951	0.949	-0.07	0.968	-2.636	NO	-2.453	NO
	2017	unmodified reports	1.069	0.968	0.819	1.018	1.662	1.117	-0.072	1.081	-2.915	NO	-2.798	NO
	2018	unmodified reports	0.914	0.976	0.857	1.173	1.029	0.92	-0.171	0.822	-2.969	NO	-3.2	NO
	2019	modified report	0.846	1.088	1.073	0.99	0.952	0.772	-0.102	0.761	-2.935	NO	-2.92	NO
	2020	modified report	1.394	1.031	0.907	0.996	1.05	1.658	-0.114	1.168	-2.619	NO	-2.838	NO
	2021	modified report	1.083	0.993	0.92	1.133	0.938	0.964	-0.146	0.909	-2.816	NO	-2.975	NO
(ABRAJ) (services)	2016	unmodified reports	1.348	1.034	0.981	0.873	0.825	1.013	0.002	0.885	-2.723	NO	-2.238	NO
	2017	unmodified reports	0.282	0.477	1.021	3.261	1.44	0.278	0.078	0.57	-2.303	NO	-0.711	YES
	2018	unmodified reports	1.885	1.072	0.981	0.533	1.243	2.209	0.014	0.948	-2.446	NO	-2.15	NO
	2019	unmodified reports	0.78	0.951	1.047	1.318	0.484	0.76	0.046	2.18	-2.944	NO	-2.594	NO
	2020	unmodified reports	1.161	1.026	0.987	0.878	1.319	1.432	0.046	1.001	-2.824	NO	-2.255	NO
	2021	unmodified reports	0.892	1.008	0.95	0.977	1.493	1.131	0.07	1.057	-2.994	NO	-2.273	NO
JPH (industrial)	2016	unmodified reports	1.06	1.002	1.12	0.991	1.005	0.894	0.011	0.82	-2.803	NO	-2.254	NO
	2017	unmodified reports	0.89	0.938	1.234	1.163	1.015	0.889	0.023	0.828	-2.808	NO	-2.189	NO
	2018	unmodified reports	0.902	1.107	1.951	1.034	0.861	1.036	0.017	0.97	-2.329	NO	-2.032	NO
	2019	unmodified reports	1.097	0.956	1.309	1.107	1.06	1.061	0.037	1.176	-2.613	NO	-2.082	NO
	2020	unmodified reports	1.137	1.103	0.82	1.068	0.948	0.973	0.023	0.913	-2.776	NO	-2.177	NO
	2021	unmodified reports	1.002	0.89	0.785	1.27	0.993	0.951	0.002	1.02	-2.952	NO	-2.372	NO
GMC (industrial)	2016	unmodified reports	0.838	0.209	0.991	1.793	0.964	0.552	-0.012	1.065	-3.21	NO	-2.347	NO
	2017	unmodified reports	0.96	0.492	0.379	0.959	1.026	1.147	0.046	0.964	-3.807	NO	-2.868	NO
	2018	unmodified reports	1.361	0.972	1.009	0.829	0.973	1.041	-0.066	0.825	-2.767	NO	-2.573	NO
	2019	modified report	0.98	1.268	1.834	0.94	0.98	0.851	-0.083	0.601	-2.767	NO	-2.308	NO
	2020	unmodified reports	1.026	1.004	3.765	0.738	0.969	1.037	-0.088	0.933	-2.243	NO	-1.97	NO
	2021	unmodified reports	0.645	0.969	0.888	2.308	0.991	0.732	0.238	2.757	-1.446	YES	-1.117	YES
VOIC (industrial)	2016	unmodified reports	1.126	0.917	1.025	1.022	1.009	0.966	0.172	0.884	-2.369	NO	-1.529	YES
	2017	unmodified reports	1.111	0.868	1.12	1.095	1.909	0.982	0.173	5.767	-2.859	NO	-2.956	NO
	2018	unmodified reports	0.692	1.105	1.006	1.168	0.277	0.965	0.126	0.946	-2.711	NO	-2.026	NO
	2019	unmodified reports	1.28	0.782	1.033	1.005	0.961	0.927	0.121	0.761	-3.031	NO	-1.667	YES
	2020	modified report	0.931	0.908	1.033	1.044	1.048	1.027	0.094	0.762	-2.867	NO	-2.021	NO

	2021	unmodified reports	0.973	1.013	0.996	1.255	2.414	0.915	0.16	1.674	-3.003	NO	-1.567	YES
NCI(industrial)	2016	unmodified reports	0.914	1.095	1.317	0.937	0.976	1.017	-0.051	1.032	-2.598	NO	-2.692	NO
	2017	unmodified reports	1.111	1.037	0.903	0.862	1.169	1.134	0.014	1.107	-2.763	NO	-2.494	NO
	2018	unmodified reports	0.894	0.991	0.76	0.75	1.305	1.264	-0.007	1.776	-2.933	NO	-3.199	NO
	2019	unmodified reports	1.41	0.719	0.743	0.911	0.646	1.085	0.023	0.989	-3.303	NO	-2.379	NO
	2020	modified report	0.711	0.627	0.829	1.299	0.859	0.984	-0.062	0.772	-3.09	NO	-2.974	NO
	2021	unmodified reports	0.787	1.167	1.49	1.513	1.057	0.873	0.154	1.137	-3.397	NO	-1.228	YES
	WASSEL (services)	2016	unmodified reports	0.445	1.454	0.847	0.875	1.278	0.66	0.086	0.592	-2.279	NO	-2.298
2017		unmodified reports	1.184	1.387	1.052	0.964	0.895	1.077	0.068	1.179	-3.115	NO	-1.883	NO
2018		unmodified reports	0.687	0.905	1.157	1.05	1.029	0.814	-0.024	1.068	-2.423	NO	-2.809	NO
2019		modified report	1.024	0.823	1.164	1.032	0.487	0.974	-0.054	1.119	-3.131	NO	-2.803	NO
2020		unmodified reports	0.992	1.087	1.107	0.874	1.126	1.021	-0.017	0.927	-2.994	NO	-2.555	NO
2021		modified report	0.944	0.775	1.033	1.165	1.164	1.132	0.018	0.919	-2.86	NO	-2.383	NO
RSR (services)	2016	unmodified reports	0.947	-0.8	1.039	1.219	0.978	0.696	0.032	0.698	-3.014	NO	-2.968	NO
	2017	unmodified reports	0.426	0.938	1.366	1.411	1.067	0.806	-0.047	0.943	-4.412	NO	-2.687	NO
	2018	unmodified reports	1.143	0.984	0.743	0.874	1.05	1.159	0.01	0.781	-2.929	NO	-2.476	NO
	2019	unmodified reports	1.147	1.006	0.998	0.951	1.084	1.162	0.0001	0.963	-3.053	NO	-2.392	NO
	2020	unmodified reports	1.237	0.909	0.987	0.893	1.863	0.903	0.004	0.949	-2.82	NO	-2.259	NO
	2021	unmodified reports	1.311	1.526	1.134	0.984	2.956	1.043	0.009	1.052	-2.798	NO	-1.634	YES

Source: prepared by the researcher.

Table 12: List of Palestinian Exchange Companies

Company Name	Symbol	Age	Industry Type	Established Year
Birzeit Pharmaceuticals	BPC	49	Industrial	1973
Jerusalem Pharmaceuticals	JPH	53	Industrial	1969
Palestine Poultry	AZIZA	25	Industrial	1997
Golden Wheat Mills	GMC	27	Industrial	1995
Jerusalem Cigarette	JCC	58	Industrial	1964
The Vegetable Oil Industries	VOIC	69	Industrial	1953
National Aluminum and Profile	NAPCO	31	Industrial	1991
The National Carton Industry	NCI	29	Industrial	1993
Palestine Telecommunications	PALTEL	27	Service	1995
Palestinian Company for Distribution & Logistics Services	WASSEL	17	Service	2005
Wataniya Palestine Mobile Telecommunications	OOREDOO	12	Service	2010
The Ramallah Summer Resorts	RSR	77	Service	1945
Al-Wataniah Towers	ABRAJ	27	Service	1995

Source: prepared by the researcher based on data available on PEX website.

المخلص

هدفت هذه الدراسة إلى الكشف عن إدارة الأرباح في الشركات الفلسطينية المدرجة باستخدام نموذج بينيش ودراسة تأثير مؤشرات هذا النموذج على إدارة أرباح، علاوة على ذلك ، فقد بحثت هذه الدراسة في دور حجم الشركة كمتغير وسيط على العلاقة بين مؤشرات نموذج بينيش وإدارة الأرباح، تم تحليل البيانات باستخدام تحليل انحدار بيانات السلاسل الزمنية المقطعية باستخدام برنامج (E-Views) على مدى ست سنوات (2016-2021)، يتكون مجتمع الدراسة من جميع الشركات الصناعية والخدماتية ، وتتكون العينة من 8 شركات صناعية و 5 شركات خدماتية. أظهرت النتائج أن نموذج بينيش غير فعال في الكشف عن إدارة الأرباح. إضافة الى ذلك، كان للربحية تأثير سلبي غير معنوي على إدارة الأرباح ، بينما كان للنمو ومصاريف الاهتلاك والمستحقات والرافعة المالية تأثير إيجابي معنوي على إدارة الأرباح. في حين، كان لمؤشر عدد الأيام اللازمة لتحصيل المبيعات و جودة الأصول ومصاريف المبيعات والإدارية والعمومية تأثير إيجابي غير معنوي على إدارة الأرباح. كما أظهرت أيضًا أن حجم الشركة كمتغير وسيط لم يكن له تأثير على العلاقة بين مؤشرات نموذج بينيش وإدارة الأرباح. بالإضافة إلى ذلك، كشفت هذه الدراسة أن مؤشرات النمو والرافعة المالية والاهتلاك والاستحقاق فقط هي التي تلعب دورًا مهمًا في الكشف عن إدارة الأرباح. وبناءً على ذلك ، توصي هذه الدراسة هيئة سوق رأس المال الفلسطينية، أثناء تقييمها ومراقبتها للشركات ، بفحص تلك النسب المالية المحددة للتأكد من أن التقارير المالية تعكس بدقة الوضع الحالي للشركة وانها خالية من إدارة الأرباح. علاوة على ذلك ، يوصى مديري الشركات بالتحكم في مستوى الدين لتقليل إدارة الأرباح على أساس الاستحقاق وتجنب اتخاذ خيارات محاسبية تقديرية بهدف التلاعب بالأرباح. توصي الدراسة أيضا بإجراء أبحاث مستقبلية على الشركات الفلسطينية حول ممارسات إدارة الأرباح باستخدام نماذج أخرى مثل نموذج CFEBT ونموذج Q-DMFC.

الكلمات المفتاحية: إدارة الأرباح، نموذج بينيش، جودة الأصول، الربحية، النمو، الاهتلاك، المستحقات، الرافعة المالية، مصاريف المبيعات والإدارية والعمومية، عدد الأيام اللازمة لتحصيل المبيعات.