



An-Najah National University
Faculty of Graduate Studies

**THE MODERATING EFFECT OF
CORPORATE GOVERNANCE ON THE
RELATIONSHIP BETWEEN EARNINGS
MANAGEMENT AND CAPITAL STRUCTURE**

By
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**This Thesis is Submitted in Partial Fulfillment of the Requirements for the Degree
of Master in Accounting, Faculty of Graduate Studies, An-Najah National
University, Nablus, Palestine.**

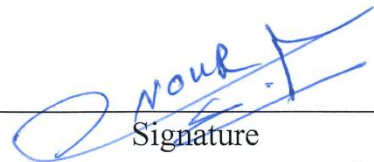
2023

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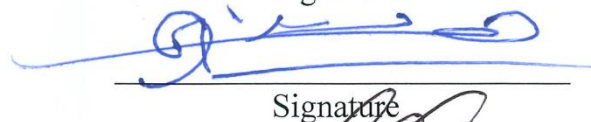
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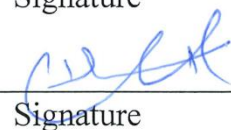
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Dedication

إلى روح والدي الذي طالما تمنى أن يراني في هذا اليوم لكن إرادة الله فوق كل شيء ...

إلى أمي أنيسة الروح وبهجة القلب ...

إلى إخوتي ضلعي الثابت الذي لا يميل ...

وكل من أحب ...

أهدي هذا الانجاز

Acknowledgment

"رَبِّ أَوْزَعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ " – سورة النمل-

بعد الحمد لله رب العالمين الرازق الكريم على ما انعمه عليّ برفعي درجة علمية ثانية.. والصلاة و السلام على اشرف الخلق والمرسلين سيدنا محمد صل الله عليه وسلم..

اتقدم بجزيل الشكر والعرفان لهذا الصرح العلمي العريق جامعتي جامعة النجاح الوطنية، مشرفي الأول أ. د. عبد الناصر نور، مشرفي الثاني الدكتور سامح العطوط على دعمها المستمر في مسيرة إعداد هذه الاطروحة.

كما اتقدم بالشكر الجزيل لجميع القامات العلمية الداعمة اللذين لم يبخلوا بعلمهم ووقتهم خلال رحلة الماجستير د. معز أبو عليا، د. إسلام عبد الجواد، د. غسان دعاس. الشكر موصول للقامة العلمية صاحب الخبرة والعطاء د. كامل جبرين الذي ساهم في إتمام وإثراء قسم التحليل الاحصائي.

كل الامتان للصديقة والباحثة المتميزة أ. ضحى ربابعة على نصائحها المستمرة.

أحسبها عند الله علماً نافعاً..

Declaration

I, the undersigned, declare that I submitted the thesis entitled:

THE MODERATING EFFECT OF CORPORATE GOVERNANCE ON THE RELATIONSHIP BETWEEN EARNINGS MANAGEMENT AND CAPITAL STRUCTURE

I declare that the work provided in this thesis, unless otherwise referenced, is the researcher's own work, and has not been submitted elsewhere for any other degree or qualification.

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25/05/2023

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THE MODERATING EFFECT OF CORPORATE GOVERNANCE ON THE RELATIONSHIP BETWEEN EARNINGS MANAGEMENT AND CAPITAL STRUCTURE

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Abstract

This study seeks to investigate the moderating role of corporate governance (CG) in the relationship between earnings management (EM) and debt level in capital structure of the firm (DCAPS). The annual reports of 38 firms from the manufacturing sector were analyzed for the period 2013–2020. By employing RStudio, the researcher included both fixed and random effect regressions in the analysis.

The overall results showed that EM improved debt ratio. Regarding the moderating role of CG, non-executive directors and female board members increased the high leverage implications of EM.

Palestinian manufacturing firms debt levels were significantly reduced by EM. The moderating role of CG states that larger boards and female directors increase the high-leverage impact of EM, while CEO duality reduces it. However, EM had an insignificant impact on debt in Jordanian manufacturing firms. The presence of female board members increased the firm's reliance on debt financing as a result of EM practices, while institutional investors mitigated the effect of EM on debt financing, decreasing debt reliance.

This study anticipated to contribute to capital structure literature by explaining the link between CG and EM and CAPS. Helping decision makers and investors assess the efficacy of existing CG reforms for strengthening CAPS management, managing EM practices, monitoring procedures, and creating the optimal capital structure. This study recommends that the board of directors and management should evaluate its tolerance while making decisions, especially regarding its financial structure. Capital-structure policy should be considered when making financial decisions. Second, managers should carefully design an optimal capital structure and protect their organization from risk.

Since lenders depend on CG procedures, enterprises may need to maintain a specific level of CG practices to get more debt financing. This method improves monitoring, helping firms attract superior resources.

Study limitations are as follows: Few CG features that may directly affect financing decisions are not included in this study. The Palestinian sample employed in this study is three times smaller than the Jordanian sample, which may have affected the conclusions. Due to small sample size and time period, the findings cannot be applied to non-manufacturing samples.

Keywords: Capital structure, corporate governance, earnings management, Palestine exchange, Amman stock exchange

Chapter One

Introduction and Theoretical Background

1.1 Introduction

The external auditors of one of the big four auditing firms, KPMG, have recently faced renewed public criticism for their lack of due diligence and quality (Bodoni et al., 2021) bringing back to memory the downfall of high profile firms such as Enron and WorldCom. It is thought that the failure of these organizations was caused by a lack of quality and trustworthy financial information essential for their efficient operation. (Idialu, 2008) Basically, the scandal surrounding these organizations may be viewed as the result of their financial statements being doctored or manipulated. (Shen et. al, 2015) clarified that by managers actions of using innovative methods, known as earnings management (EM), to report and characterize assets, liabilities and incomes in a format that deceives stakeholders about the true performance of the company while remaining within the parameters of the financial reporting framework. Therefore, by practicing EM managers fails to reflect the actual performance of the firm leading to compromise financial reports' ability functioning as a guide for making the best business decisions (Amidu et al, 2019).

Capital structure, as a critical area impacting the overall operating level of corporates, has been a focus in the field of finance and accounting literature (Feng et al., 2020). Capital structure, i.e., financing decision, is concerned with the optimal mix of debt and equity. Firms with optimal debt-equity ratios can improve their performance and reduce the cost of capital and the likelihood of financial distress (An et al., 2016). A firm's capital structure specifically relies on profitability, liquidity, cash flow and earnings volatility (Ramli et al, 2019), which shows that the financial information reported by a firm influences its capital structure decision. Consequently, financial statements must convey the underlying economic performance as a change, or manipulation in financial reports would make capital structure selections less appropriate (Okyere et al., 2021).

Due to the unfavorable implications EM has on capital structure decisions, efforts have been focused on diminishing the prevalence of EM among organizations. Some studies contend that monitoring mechanisms could monitor opportunistic management behavior. Consequently, such techniques would control the practice of EM and improve financial

information's quality. However, corporate governance (CG) provides a firm with control tools and mechanisms to help create a system of profit sharing, achieving efficiencies for the firm and a balanced wealth for the stakeholders (Haryetti, 2015). On the same hand, researchers and practitioners seem to agree that excellent CG mechanisms have a key impact on the overall performance of the firm, particularly in achieving massive expansion in the business sector, meeting the firm's objectives and legal compliances and protecting the shareholders' rights. As a result, CG seems to attract more capital (Feng et al., 2020; Sheikh & Wang, 2012).

Although EM has substantial implications for corporate decisions, little is known about its impact on firms' financing choices. In addition, there is a scarcity of research on developing economies, where the practice is thought to be more prevalent. (He et al, 2017) As a result, this study responds to past studies' calls for more research on corporate finance decisions and EM. Also, following to steps of (Okyere et al., 2021). Additionally, because CG, a significant mitigating element in the practice of EM, has been ignored in earlier researches, the effect of CG in the link between EM and corporate finance decision-making is still unclear. Therefore, this study aims to assess the impact of EM on capital structure. It will also examine the interactive effect of the CG and EM relationship on the capital structure of a sample of 38 manufacturing firms listed on the Palestine Exchange (PEX) and Amman Stock Exchange (ASE) during the period 2013-2020.

1.2 Research Problem

Since 1980s, EM has become a researchable issue as a result of the failure of many corporations because due to accounting scandals. Additionally, EM becomes a greater priority for the majority of firms' managers who want to improve their capital structure (Tahir et al., 2011). For decades, numerous empirical and theoretical research in accounting and finance literature have focused on capital structure and its determinants. A substantial number of studies has been conducted to investigate the elements that determine or are connected to capital structure. However, the relationship between CAPS and EM did not get enough attention of accounting academics. Proven by An et al. (2016) that EM, as a significant indicator for information quality supplied by insiders, is shockingly disregarded in the current literatures.

On the other hand, the goal of CG is to maximize the value of shareholders through organizational management which has always been linked to agency issues. (Uwuigbe, 2014) (Gerged & Elheddad, 2020) Corporate governance specifically seeks to prevent opportunistic conduct by minimizing agency issues that may include both insiders and outsiders such as debt holders and shareholders. Additionally, it minimizes the effects of asymmetric information issues and promotes the development of a specific skill needed in strategic choices such as creation of optimal capital structure (Yu & Wang, 2018).

Despite a wealth of studies supporting the factors that influence capital structure (Abor & Biekpe, 2007) (Neves et. al, 2020). current research contends that the choice of capital structure remains a puzzle to accounting researchers and financiers. This puzzle can be clarified by the existing of different theories of capital structure and several models of quantitative regression. So, in this study we investigate the impact of EM on capital structure, as well as the interactive effect of CG features (i.e., the size of the board of directors, board independence, gender diversity, CEO duality and institutional ownership) and EM on capital structure in a sample of 38 manufacturing firms listed on the PEX and the ASE from 2013 to 2020.

1.3 Research Importance

This study seeks to examine the moderating role of CG in the relationship between EM and capital structure through the statical regression model examined using R. In addition, the study aims to establish the determinants of the CAPS of a firm by applying additional statical tests. Empirical results on EM and CG contribute to the financing decisions of a firm, thereby influencing the value of the firm and the total wealth of its shareholders.

This study provides significant and various contributions. First, it demonstrates the importance of CG features and EM in determining the capital structure of a sample of Palestinian and Jordanian manufacturing firms. Second, it clarifies the interactive effect of EM with CG features on the DCAPS of the sample. Third, the study supports the application of the R/RStudio package program in the accounting industry, where Rstudio is one of the most potent statistical programming languages. Drasah (2022) contends that according to 2020 statistics, Rstudio is the best statistical software. Fourth, to categorize the significant variables, artificial intelligence-based statistical techniques were employed in the study. However, it must be noted that such techniques are regarded as innovators

in contemporary and academic research. Fifth, the study connects management and behavioral theories, such as agency theory, pecking order theory, trade-off theory, free cash flow (FCF) theory and signaling theory. Sixth, this study also provides theory and practice contributions. The existing capital structure literature has struggled to present a compelling and unambiguous view of the critical function of CG in creating a firm's CAPS. Furthermore, finance literature depicts contradictory opinions on the relationship between CG and capital structure. This study broadens the existing debate by delving into the relationship between CG and another vital factor, i.e., EM, to endorse and support its effect on a firm's financing decisions. Finally, to the best of our knowledge, there is no concrete proof of CG and EM application on capital structure either in Palestine or Jordan. Hence, this paper is the first to simultaneously assess the relationship between these three variables in Arab countries.

1.4 Research Objectives

This study highlights the impact of EM on debt level in capital structure. The study also aims to assess the interactive effect of EM and CG features represented by the size of the 'board of directors, board independence, gender diversity, CEO duality and institutional ownership, on DCAPS in a sample of 38 manufacturing firms listed on the PEX and the ASE through the period of 2013–2020.

This study aims to achieve the following objectives:

O1: test the impact of EM practices on DCAPS in Palestinian and Jordanian manufacturing firms.

O2: examine the interactive impact of EM and CG features on DCAPS in Palestinian and Jordanian manufacturing firms.

O2a: investigate the impact of the size of the board of directors (BSIZE) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms.

O2b: test the impact of board independence (IND) the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms.

O2c: examine the impact of gender diversity (GEN) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms.

O2d: test the impact of CEO duality (CEOD) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms.

O2e: determine the impact of institutional ownership (INSOWNER) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms.

1.5 Research Questions

The following questions illustrate the research problem surrounding the moderating role of CG features on the relationship between EM and DCAPS:

Q1: What is the impact of EM on DCAPS in Palestinian and Jordanian manufacturing firms?

Q2: What is the interactive impact of CG features and EM on DCAPS in Palestinian and Jordanian manufacturing firms?

Q2a: What is the impact of the size of the board (BSIZE) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms?

Q2b: What is the impact of board independence (BIND) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms?

Q2c: What is the impact of gender diversity (GEN) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms?

Q2d: What is the impact of CEO duality on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms?

Q2e: What is the impact of institutional ownership (INSOWNER) on the relationship between EM and DCAPS in Palestinian and Jordanian manufacturing firms?

The remainder of the thesis is organized as follows. The second chapter presents the literature review, theoretical framework and hypotheses. The third chapter illustrates the methodology of the research, including data sources, the research sample, the measurement of various variables and the research model. Chapter four depicts the empirical results of the tested hypotheses, along with the discussion. Finally, the last chapter provides an overview, the conclusion and limitations of the study and recommendations for future studies.

Chapter Two

Literature Review and Hypothesis Development

2.1 Introduction

This chapter provides a thorough examination of the existing literature on the relationship between the study variables and the related theories. The clarification of the concepts of CG, EM and DCAPS and the related theories has been provided, followed by the formulation of the study hypotheses.

2.2 Definition of the Concepts

In this section, the basic concepts of the study, such as EM, CG and capital structure, based on the previous literature are described in accordance with the related organizations and theories.

2.2.1 Earnings Management

One of the first definitions of EM was given by Schipper (1989), who mentioned EM is a deliberate attempt to influence the external financial reporting process with the goal of gaining a personal advantage. Healy and Wahlen (1999) mentioned that EM occurs when managers use discretion in financial reporting and transaction structuring to change financial reports to deceive some stakeholders about their firm's true economic performance or influence the results of the contracts based on reported accounting numbers (Höglund, 2012).

EM can be both opportunistic and beneficial (Jiraporn et al., 2008). However, when managers of a firm utilize EM opportunistically for their self-interest rather than the benefit of stockholders, the result is detrimental to the firm. Meanwhile, when managers exercise discretion over earnings within GAAP to protect shareholders' interests, it is regarded as ethical and advantageous. Additionally, EM is morally right and helpful in informing the public and stockholders about private information (Nia et al., 2015). EM can be defined as a manipulation of earnings using the discretion granted by corporate laws and accounting standards and/or restructuring activities, which predict that firm value is not negatively impacted. Generally, the previous definition split EM into two types. First is "Paper EM", which depends on manipulating earnings using discretion granted by corporate laws and accounting standards that rely on accounting estimates,

policies and accruals. According to Commerford et al. (2016), it can also be known as “accounting EM”. Accounting EM helps in comprehending accounting accruals and their impact on a firm’s performance measurement (Schipper, 1989). The second type of EM is “Real EM”, which refers to the manipulation of earnings by employing restructuring activities to positively impact a firm, such as by expanding product lines, or show a neutral impact on expected firm value, such as by accelerating the time of sales. Real EM considers the management of earnings through strategic timing of operating, financing and investing decisions. In other words, a powerful instrument for real EM practice is the timing of revenue-generating activities and reporting (Abu Alia et al., 2020).

Many reasons encourage firms to engage in EM. They allegedly use it to smooth earnings, restrain debt covenants, increase share prices, boost management wealth, bargain with labor unions, execute management buyouts and implement bonus plans. Moreover, compensation plans and the value of executives’ stock and stock options are the main incentives that EM provides (Burilovich & Kattelus, 1997; Oberholzer-Gee & Wulf, 2012).

2.2.2 Capital Structure

Capital structure can be defined as the source of financing employed by a firm to finance its assets, growth opportunities and daily operations (Martin & Baker, 2011). There are many measures for capital structure which represented by “leverage”. Leverage is measured using four distinct methods by (Rajan & Zingales, 1995). The ratio of total debt to total assets is the original and most general definition of leverage. Second, the ratio of short/long term debt to total assets. Third, total debt to net assets. Finally, total debt to capital, where capital represents total debt in addition to equity. This ratio focuses on “capital employed”, therefore it most accurately depicts the impact of prior financial choices. Additionally, it most immediately links to the agency issues with debt.

Corporate finance still lacks a unified capital structure theory, even 50 years after Modigliani and Miller (1958). Although the present theories are useful as analytical tools for analyzing the empirical results, none of them is able to fully account for the decision to choose a capital structure. Each theory can explain certain stylized facts but not others. According to the literatures, the most reliable indicators for describing corporate leverage are the following: profitability, size of firm, tangibility, median industry leverage,

expected inflation rate, and market-to-book ratio. These are the "core leverage factors" that determine capital structure decisions, according to (Frank & Goyal, 2009).

To clarify, according to the capital structure theory, the value of a firm increases if the capital structure includes a high amount of debt due to the tax benefits afforded by the debt (Modigliani & Miller, 1958, 1963). The authors believe that if the neutrality theory is contested, two competing theories must be considered while choosing external financing: the pecking order theory and the trade-off theory. The first theory implies that due to information asymmetry, firms are required to finance in a hierarchical order. Myers and Majluf (1984) clarified the theory by the existence of leadership behavior. A decreasing financial hierarchy is used when managers consider the investors' interests, which begins with using retained earnings, debt and new equity issuance, respectively. On the other hand, when managers act in their own interest, the hierarchy is altered; hence, it will first address retained earnings, followed by the issue of new equity and finally using debt to avoid its disciplinary role.

The tradeoff theory suggests that the trade-off between benefits and costs of debt determines a firm's capital structure (Bradley et al., 1984). Tax deductibility is the main benefit of using debt. Modigliani and Miller (1963) demonstrated that to take advantage of tax savings on debt, firms must employ debt. However, excessive use of debt increases the agency cost (Jensen and Meckling, 1976) and the cost of bankruptcy (Kraus and Litzenberger, 1973). From this perspective, it is worth noting that this theory allows for the detection of an optimal debt level from which the firm obtains the most tax benefits (Okyere et al., 2021).

However, when a firm chooses internal funding (FCF) as the main source of capital, it does not regard the agency problem according to the pecking order theory. Accordingly, Jensen (1986) defined FCF as surplus cash that remains after all projects have been funded with a positive net present value (NPV). The existence of surplus cash in a firm leads to a conflict between shareholders and management, reflecting that with an excess of FCF, top management may engage in wasteful and inefficient investments. In other words, in case of excess FCF, managers are more likely to invest in new initiatives, even if the NPV is negative (Park and Jangb, 2013). Therefore, the FCF theory assumes that

the creation of debt represents legal duties that must be paid by management, preventing executive managers from overinvesting and utilizing the financial resources of a firm.

Michaelas et al. (1999) suggest that the choice of capital structure of a firm is considered a signal that shareholders send to investors. The signaling theory stresses that firms should be careful about the signals they send to the market. This implies that any significant changes in the capital structure of a firm will be interpreted by outsiders as a signal of the firm's prospective performance. Shareholders may interpret the announcement of debt financing as a good indication. A debt issuance indicates that the firm's financial prospects are so promising that management does not want additional shareholders to share its possible profits (Koch and Shenoy, 1999).

Jensen and Meckling (1976) define an agency relationship as an agreement in which one or more individuals (the principal(s)) hire another individual (the agent) to execute some job on their behalf, which includes delegating some decision-making authority to the agent. This theory assumes that managers with self-interest attitudes always seek to fulfill their goals at the expense of their firms' shareholders. The agency cost of outside equity occurs due to the conflicts between managers and shareholders since managers in large firms with diffuse ownership do not have total residual claims and cannot profit fully from their value-maximizing actions. As a result, they work less hard to manage the resources of the firms and are more inclined to transfer those resources for their own personal gain. In other words, such managers pursue their activities in a way that does not maximize shareholder wealth, which leads to them consuming more perks and investing in unrelated businesses to expand their empires, such as luxury offices, private jets and compensation. Furthermore, choosing suboptimal CAPS, such as less debt, in capital structure is also another perk enjoyed by these managers.

In accordance with the agency theory, debt financing can be utilized as a helpful governance tool to lessen the conflict of interests between managers and shareholders. In particular, debt can be used as a substitute mechanism to minimize the effect of FCF agency costs available to managers by requiring them to disgorge it to investors (Jensen, 1986).

2.2.3 Corporate Governance

CG was first proposed by the Cadbury committee. The committee believed CG to be a system for directing, controlling and managing firms by determining the role of the board of directors and shareholders. The board of directors oversees the management of their firms, whereas the shareholders' responsibility in governance is to select the directors and auditors and ensure that an effective governance framework is in place (Cadbury Report, 1992).

A governance system can also be defined in a broader sense as a set of complex constraints that determine granted profit by the firm in the course of relationships with stakeholders and shape the ex-post bargaining over them (Zingales, 1998). This definition encompasses rules for both determination of value addition by firms and their distribution among the stakeholders (Claessens & Yurtoglu, 2013). According to the Organization of Economic Cooperation (OECD; 2012), CG can be defined as a group of relationships between a firm's managers, board of directors, stakeholders and shareholders. CG also encompasses the mechanism that determines a firm's goals and provides methods for meeting those goals.

CG is a type of governance with pre-determined connections among the numerous stakeholders in a firm and how they influence its direction and performance. Effective CG plays a major role in economic growth opportunities due to its ability to reduce customer risks, draw venture capital and increase business efficiency (Spanos, 2005). In addition, Claessens and Yurtoglu (2013) believe that better corporate frameworks assist enterprises by lowering the cost of capital, increasing access to funding, improving performance and treating all stakeholders fairly. On the other hand, besides causing hazardous financing and subpar performance, poor CG also contributes to macroeconomic crises.

2.2.3.1 Corporate Governance in Palestine

In Palestine, the CG topic first emerged in 2005 (Abdelkarim & Zuriqi, 2020). Following direct coordination between the Palestinian capital market authority, PEX, the Monetary Authority and the International Financial Corporation (IFC), the rules of CG were established. A national committee was formed for CG in Palestine, which was composed of regulators, academic agencies and economic legal representatives responsible for the

formulation of the code of rules of CG. These rules were required to be in compliance with the legislations and circumstances existing in Palestine while also considering the steadfast principles in the field of regional and global CG.

In November 2009, the code of CG was issued in Palestine and applied to public shareholders firms, which was defined as “a system of guidelines and practices that the board of directors, executive management, shareholders, and other interested parties coordinate in order to manage and supervise the company’s operations, including its social and environmental responsibilities” (Code of CG in Palestine, 2009). This code was imported from Jordanian corporate law number 12 for the year 1964.

CG rules mainly aim to boost a firm’s capability for competition and improve the performance of the board of directors. Furthermore, these rules reaffirm the value of a firm and raise confidence among all involved parties. In addition, the regulations enhance the environment for investing, reactivating, and growing the financial market.

A number of accomplishments regarding CG were achieved in 2021, most of which were geared toward improving sectoral governance at the developmental stage. Additionally, an agreement with IFC sought to strengthen CG application through developing the Code of Environmental, Social and Corporate Governance and continuing the integrated program of CG in Palestinian universities. More importantly, by the end of 2021, a Palestinian corporate law number 42 was issued and implemented on all Palestinian firms, including publicly listed firms in PEX. This law stipulated that the management of a public shareholding firm shall be undertaken by a board of directors of not less than five and not more than thirteen members. The board of directors had to ensure the presence of representatives of both genders (i.e., at least one-third of the members should be women) and executive and non-executive members, provided that at least one of them is independent. Moreover, another requirement was the separation of duties between the manager of the firm and the chairman. A manager’s responsibility is to supervise and manage the firm in cooperation with its board of directors. Further, a general manager is not allowed to simultaneously work at more than one public shareholding firm. On the other hand, executive directors are responsible for managing the daily business of a firm, practicing the financial management of the firm; taking into account the adequacy of capital and the availability of the necessary liquidity; ensuring the effective application

of the firm's CG rules and principles, risk management procedures and internal auditing; and making sure that the non-executive members of the firm's board of directors obtain all information related to the firm's management in a timely manner.

2.2.3.2 Corporate Governance in Jordan

Following the global interest in CG concepts, interest in CG and its applications flourished in Jordan as well. Globally, the OECD's introduction of CG regulations in 1999 was the first step toward CG implementation in Jordan. Locally, the Bank's Code of Conduct was released in 2002, followed by a CG guide issued by Jordanian Central Bank in 2004. To comply with international requirements for attracting foreign investment and reducing corruption, Jordan Securities Commission (JSC) released a guide for public shareholding firms in 2008, which was to be implemented and enforced in 2009 (Altawalbeh, 2020). The Board of the Securities Commission approved the CG guidelines for shareholding listed firms, which were issued in 2017 and are based on Securities Law No. 18. These guidelines apply to all shareholding firms listed on the financial market (JSC, 2017) to enhance the levels of the Jordanian economy and expand the national capital market by attracting foreign investments (Shahwan & Mohammad, 2016).

2.3 Literature Review and Hypothesis Development

2.3.1 Earnings Management and Capital Structure

Many intensive managers must engage in EM due to the cost of capital. Nikoomaram et al. (2016) exposed a positive significant relationship between debt ratio and discretionary accruals. Moreover, An et al. (2016) studied the impact of EM on capital structure. Their results depicted that EM has a positive and significant relationship with the debt ratio. This result is consistent with the disciplining role of debt to minimize the agency cost of FCF when combined with the assumption that a firm's EM reflects the agency conflicts of information asymmetry between managers and investors.

On the other hand, Jelinek (2007) revealed a negative association between leverage and opportunistic behavior, implying that an increase in leverage leads to a decrease in managers' opportunistic behavior and EM. Additionally, Tahir et al. (2011) examined various factors related to EM impacting the capital structure of Pakistani non-financial

firms for a period of five years. The results revealed that EM represented by return on assets (ROA) had a negative impact on the gearing ratio. Hence, based on the aforementioned argument, the researcher assumes the following:

H1: A positive significant association exists between EM and DCAPS of the firm.

2.3.2 The Size of the Board of Directors

The responsibility of managing a firm's activity and making strategic decisions regarding the financial mix is dependent on the firm's board of directors. The impact of the size of the board of directors on the capital structure of a firm has been well examined in prior studies (Abobakr & Elgiziry, 2015; Alabdullah et al., 2018; Butt & Hasan, 2009; Feng et al., 2020; Grabinska et al., 2021; Sheikh & Wang, 2012; Wen et al., 2002; Yusuf & Sulung, 2019). However, the empirical results for this relationship are mixed.

Wen et al. (2002) proved a positive relationship between the size of the board of directors and capital structure. The authors suggested that a greater size of the board will follow a higher level of gearing policy. The authors also mentioned that when the number of directors increases, the limitation to arriving at a clear decision also increases, which is reflected in the efficiency of CG mechanisms, causing higher levels of financial leverage. Furthermore, Sheikh and Wang (2012) revealed a significant positive relationship between the size of the board and the debt ratio. This result was supported by the theory of resource dependency, implying that when the size of the board is greater, the ability of the board to raise funds and improve the firm's value also rises. Feng et al. (2020) showed that the size of the board has a positive influence on capital structure of the firm.

On the other hand, the result of Butt and Hasan (2009) demonstrated a negative relationship between the size of the board and capital structure, suggesting that a large number of directors can pressurize the managers to have a low level of gearing policy and improve their firm's performance. Moreover, Alabdullah et al. (2018) investigated the impact of two key measurements of board features on the growth and capital structure of emerging market Jordanian non-financial firms using data from a sample of 100 firms made available by this sector. The results showed a negative relationship between the size of the board and the debt ratio. Moreover, Abobakr and Elgiziry (2015) proved a negative and significant impact of the board size on capital structure. According to the findings of

Yusuf and Sulung (2019), the top managers experienced a positive impact on the capital structure's book value. Therefore, as their years of experience increase, their firm's total and long-term debt will also increase. However, the board size was found to have a negative significant impact on the capital structure. Finally, Grabinska et al. (2021) concluded that larger supervisory bodies with more in-depth and advanced financial knowledge were significantly negatively associated with debt ratio due to reduced information asymmetry, which makes it easier to acquire equity capital at a lower cost. Hence, based on the previous argument, the researcher assumes the following hypothesis:

H2a: size of the board of directors has a significantly positive role in moderating the relationship between EM and DCAPS of the firm.

2.3.3 Board independence

Non-executive directors are an essential component of modern CG. A few studies have examined the relationship between the presence of non-executive directors and capital structure, although the pieces of evidence vary. Wen et al. (2002) proved that the existence of non-executive directors depicted a significant negative relationship with gearing levels. A probable explanation of this finding may be that non-executive directors supervise managers more effectively, forcing managers to seek lower gearing levels to achieve superior results. Moreover, Uwuigbe (2014) revealed a negative and significant relationship between board independence and debt-to-equity ratio.

Agyei and Owusu (2014) proved that non-executive directors have a substantial impact on leverage. This may be due to the fact that in large firms, non-executives are typical representatives of financial institutions, so they acquire the required funds easily. Furthermore, Alves et al. (2015) mentioned that the higher the proportion of independent directors (non-executives), the higher the reliance on external financing sources (debt) rather than internal sources (retained earnings). Moreover, Tarus and Ayabei (2016) concluded that board independence had a significant impact on CAPS. Director independence, in particular, was found to be positively related to leverage. In addition, Ehikioya et al. (2021) revealed that board independence has a positive significant relationship with debt ratio; this can be supported by the agency theory, which asserts the ability of outside directors to exert pressure on and influence managers to increase debt

financing to increase the firm value. Following the viewpoint of the agency theory, the researcher proposes the second hypothesis, as follows:

H2b: non-executive directors have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.

2.3.4 Gender Diversity

Women on boards of directors tend to be more independent as they operate independently of the network. According to OECD (2012), a greater representation of female directors may introduce heterogeneity in values, beliefs and attitudes, broadening the range of perspectives in the process of decision-making. (Carter et al., 2003) Women on boards devote more time to observe the executive directors as they are more committed to attending board meetings and keeping better records than male directors (Adams & Ferreira, 2009). Many researchers have explored the impact of gender diversity on firm performance (Brahma et al., 2021; Marinova et al., 2016). Other researchers have investigated the effect of women's presence on the value of a firm, including Isidro and Sobral (2015), who discussed whether a firm experiences economic benefits from having more women on its board of directors following the introduction of legally binding quotas for women on corporate boards in European firms by the European Commission. The results revealed that more female representation on corporate boards of major European firms indirectly increased firm value. A portion of the indirect effect is due to greater adherence to ethical standards, which accounting-based financial performance does not consider. However, Datta et al. (2021) studied the effect of board gender diversity on the financing decision, specifically the relationship between executives' gender on debt maturity over a sample from 1992 to 2014. The results indicate that after adjusting for other proven predictors of debt maturity structure, female CEOs are more consistent with shareholders' interests because they choose a higher proportion of short-maturity debt. The economic relevance of this finding is that enterprises with female executives had a 3.64% and a 4.53% increase in the share of debt due within three and five years, respectively.

Zaid et al. (2020) conducted a unique study that sheds light on another perspective of the effect of gender diversity on financing decisions. They empirically investigated the relationship between board characteristics and financing decisions of 34 non-financial

listed firms in Palestine from 2013 to 2018, as well as the way the degree of gender diversity influenced and moderated their prior relationship. The findings demonstrated that under conditions of high levels of gender diversity, the effects of board size and board independence were more favorable, whereas the impact of CEO duality on the firm's leverage changed from adverse to favorable. In other words, gender diversity limited the impact of board structure on a firm's financial choices.

According to the researcher's knowledge, few studies have explored the direct impact of gender diversity on financing decisions. One of them is Ahmed and Atif's (2021) study, which explores the existence of women in board rooms in the context of using debt financing for a sample of 326 firms listed on ASE through a period from 2009 to 2014. The results presented unique findings by claiming that the percentage of women on corporate boards was positively associated with firms' debt financing, increasing sensitivity to many types of risks, including default risk. However, Elmoursy (2020) mentioned that women executives on the board of directors were negatively and significantly associated with debt financing.

Additionally, previous studies have argued that moderating risky firm decisions is related to the existence of women on a firm's board of directors because they tend to strengthen the monitoring function by considering risk averseness, which leads to decreased reliance on debt in the firm's capital structure (Adams & Ferreira, 2009). However, Abobakr and Elgiziry (2015), along with Heng Teh and Azrbajani (2012), proved that female existence on the board of directors showed an insignificant impact on CAPS. As a result, the researcher developed the following hypothesis:

H2c: female board members have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.

2.3.5 CEO Duality

Board structure typology's nature (CEO duality) has a connection with a firm's financing decisions, according to a stream of earlier empirical studies. In this situation, the chairman is in charge of leading the firm and establishing its strategic goals, whereas the CEO is responsible for managing the operations of the firm. CEO duality occurs when a firm's CEO also serves as the board chairman (Peng et al., 2007). According to the stewardship theory, if the CEO also serves as chairman, power and authority will be concentrated in

the hands of one person. Consequently, the benefits of the traditional unity of direction and control will be enhanced as a result of the firm leadership being more understandable for subordinate managers and board members by reducing information asymmetry.

The impact of a CEO's dual roles on a firm's capital structure is a topic of ongoing discussion. Zaid et al. (2019) stated that the CEO and chairman combination increases the risk of authority abuse, thereby leading to distorted managerial decisions. Thus, giving the same person both tasks might weaken the control process and pose a negative effect on a firm's performance, which can impact its reputation of the "ability of debt-paying" in the eyes of creditors and lending institutions. In other words, due to the high perception of the risks associated with CEO duality, professional lenders will not invest in such firms. On the other hand, given that CEOs are highly skilled and knowledgeable individuals, CEO duality may increase the firm's value. Keeping this in mind, the researcher can contend that when a firm faces a CEO duality situation, it is more likely to use an ideal level of debt in its capital structure (Mande et al., 2012). Thus, while duality is probably beneficial for some firms, separation will be advantageous for others.

However, there is conflicting empirical data regarding the direction of the relationship between CEO duality and financing decisions. Agyei and Owusu (2014) and Butt and Hasan (2009) showed that CEO duality has an insignificant negative effect on financing decisions. Furthermore, Kyereboah-Coleman and Biekpe (2006) revealed that CEO duality has a significant negative relationship with total leverage, mentioning that when a CEO also serves chairman duties, it increases the agency cost and negatively impacts the willingness of creditors to lend to these firms. In addition, Alves et al. (2015) suggested that when a firm is facing the situation of CEO duality, it has less external equity and a higher proportion of retained earnings. Tarus and Ayabei (2016) mentioned that CEO duality has a negative relationship with leverage. On the other hand, Dimitropoulos (2014) and Sewpersadh (2020) proved a positive correlation between CEO duality and leverage, implying that CEO duality may lead to a higher level of leverage. Based on the previous argument, the researcher assumes the following hypothesis:

H2d: CEO duality situation have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.

2.3.6 Institutional Ownership

The active monitoring hypothesis states that the presence of institutional investors can reduce the managerial moral hazard issue in a firm by closely controlling and monitoring the performance of the firm (Jensen, 1986). The presence of institutional shareholding in a firm allows it to raise long-term financing at a lower cost. First, these institutional investors serve as a source of long-term debt. Second, they act as an effective control mechanism for the firm's strategic decisions by reducing managerial opportunism and agency costs, which leads to an increase in the confidence of investors and lenders. In other words, high institutional ownership guarantees that managers will implement corporate strategies in the best interests of the shareholders (Barclay & Warner, 1993). Moreover, institutional investors are perceived to be more at risk than small shareholders as they hold larger ownership stakes, which also encourages them to keep a close eye on the managers.

Using a representative sample of all UK firms from 1998 to 2012, Sun et al. (2016) investigated whether and how agency conflicts in ownership structure influence firm leverage ratios and external financing decisions. The results proved that firms with larger institutional ownership are more likely to have a higher proportion of debt in their capital structure. Since financial institutions make up most institutional investors in the UK, easy access to capital also contributes to a reduction in the cost of debt. Another explanation has been proposed by Tufano (1996), who states that to diffuse their risk, most institutional shareholders invest in a range of businesses. Hence, they might only be concerned with a firm's immediate performance. To adopt investment strategies that satisfy the needs of institutional investors, firms may raise capital through debt financing. Furthermore, in the context of a developing market economy, Kumar (2015) revealed that firms with a higher proportion of foreign ownership or a smaller proportion of institutional ownership have lower debt levels. Additionally, Butt and Hasan (2009) suggested a positive relationship between institutional ownership and capital structure. Tayachi et al. (2021) mentioned that financing choices and dividend policy for sample firms are positively impacted by institutional ownership, causing investors to decide to invest more in institutional ownership that lowers the agency cost rather than in firms with a higher percentage of managerial ownership. However, Liao et al. (2015) proved

that the adjustments of the capital structure toward a target of shareholders are encouraged by institutional ownership rather than the desired level of managers.

On the contrary, Puspita and Suherman (2018) illustrated that institutional ownership has a significantly negative impact on the debt-to-equity ratio, as well as a negative but insignificant impact on the debt-to-assets ratio. This implies that the higher is the proportion of institutional ownership, the more closely the management's performance is monitored. As a result, management becomes more cautious in allocating its investment activities to use its debt policy and reduce the firm's debt. This idea can be supported by the substitution theory, which asserts that institutional ownership replaces debt financing. Moreover, the complementary theory states that institutional ownership can serve as a complement device to debt. Based on the previous argument, the researcher assumes the following hypothesis:

H2e: institutional ownership has a significantly positive role in moderating the relationship between EM and DCAPS of the firm.

Table (1)

Summary of hypotheses

Hypothesis	Content
H1	A positive significant association exists between earnings management and DCAPS of the firm.
H2a	size of the board of directors has a significantly positive role in moderating the relationship between EM and DCAPS of the firm.
H2b	non-executive directors have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.
H2c	female board members have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.
H2d	CEO duality situation have a significantly positive role in moderating the relationship between EM and DCAPS of the firm.
H2e	institutional ownership has a significantly positive role in moderating the relationship between EM and debt level in DCAPS of the firm.

Table (2)*Summary of previous literature*

	Significant		Insignificant	
	Positive	Negative	Positive	Negative
Earnings management	An et al. (2016), Nikoomaram et al. (2016), Tian et al. (2018)	Jelinek (2007), Tahir et al. (2011), Talebniya and Ravanshad (2011)	Al-Mohareb and Alkhalaileh (2019)	
Board size	Agyei and Owusu (2014), Anderson et al. (2003), Feng et al. (2020), Mulwa and Ndede (2021), Sheikh and Wang (2012), Wen et al. (2002)	Abobakr and Elgiziry (2015), Alabdullah et al. (2018), Butt and Hasan (2009), Grabinska et al. (2021), Yusuf and Sulung (2019)		
Board independence	Abor and Biekpe (2007), Agyei and Owusu (2014), Alves et al. (2015), Ehikioya et al. (2021), Tarus and Ayabei (2016)	UWUIGBE (2014), Wen et al. (2002)	Al-Saidi (2020), El-Habashy (2018), Feng et al. (2020), Jaradat (2015)	Abobakr and Elgiziry (2015)
Board diversity	Ahmed and Atif (2021), Datta et al. (2021)	Elmoursy (2020)		Abobakr and Elgiziry (2015)
CEO duality	Dimitropoulos (2014), El-Habashy (2018), Sewpersadh (2020)	Alves et al. (2015), Kyereboah-Coleman and Biekpe (2006), Tarus and Ayabei (2016)	Abobakr and Elgiziry (2015), I and Azrbajani (2012)	Agyei and Owusu (2014), Butt and Hasan (2009)
Institutional ownership	Butt and Hasan (2009), Kumar (2015), Sun et al. (2016), Tayachi et al. (2021)	Puspita and Suherman (2018)		

Chapter Three

Research Methodology

3.1 Introduction

This study aims to examine the impact of EM on debt level in CAPS and the moderating role of CG on the relationship between EM and debt level in CAPS in a sample of Palestinian manufacturing firms and Jordanian manufacturing firms listed in the PEX and the ASE. In this section, the researcher presents the data sources, research sample, measurement of variables, research models and research techniques used to conduct this study.

3.2 Data Collection

Utilizing secondary data associated with the study variables is mandatory to meet the study objectives. The data required to measure CG features (i.e., the size of the board of directors, board independence, gender diversity, CEO duality and institutional ownership), as well as EM and debt level in CAPS of the firm, were primarily collected from the annual reports of industrial sector firms listed on the PEX and the ASE websites between 2013 and 2020. During this period, Palestinian-listed firms began to shift their focus and adhere to CG principles. In total, 304 observations were made for this study, including the data for 38 firms in a period of eight years. The labels of the variables, along with the sources of data collection, are displayed in Table 3.

Table (3)

Variable labels and data sources

Variables	Label	Source of data
Debt level in Capital structure	DCAPS	Annual report
Size of the board of directors	BSIZE	Annual report
Board independence	BIND	Annual report
Gender diversity	GEN	Annual report
CEO duality	CEOD	Annual report
Institutional ownership	INSOWNER	Annual report
Earnings management	EM	Annual report
Firm size	FSIZE	Annual report
Firm age	FAGE	Annual report
Dividend payout ratio	DIV	Annual report

3.2.1 Palestine Exchange

PEX was established in early 1995 as a private shareholder firm in Nablus. PEX aims to encourage investment in the Palestinian environment by investing in securities and directing savings for the benefit of the national economy. In 2010, PEX underwent privatization and became the second publicly traded Arab stock exchange. Forty-eight firms with a combined valuation of \$2.8 billion were listed on the PEX as of July 2012. Moreover, Jordanian dinars are used by half of the listed firms, whereas US dollars are used by the remainder (PEX, 2022). Currently, the firms listed on the PEX represent five industries: insurance, investment, manufacturing, services and banking and financial services (PEX, 2022). The goal of PEX is to provide a trading environment that helps and safeguards investors. Furthermore, it also aims to create enduring connections with institutions of finance, both domestically and abroad; present investment opportunities that draw funding from abroad and the Palestinian diaspora; and boost public understanding of financial markets and products by increasing the depth of the market and providing a wider array of financial products and services. However, in this study, the sample relies only on the manufacturing sector.

3.2.2 Amman Stock Exchange

ASE was founded at the beginning of 1999 as an independent non-profit organization before being permitted to operate in Jordan as a regulated market for trading securities. In 2017, ASE was registered as an entirely government-owned public shareholding corporation under the name of ASE corporation. The seven directors of the ASE corporation are chosen by the general assembly, and the CEO is responsible for running the firm on a daily basis. ASE seeks to practice, manage, run and develop all Jordanian and international market activities. In addition, it has the goal of establishing an environment conducive to the interaction of the forces of supply and demand in the trading of securities in accordance with transparent, righteous, and ethical trading practices. ASE also aims to increase people's comprehension of investing in the financial markets, along with promoting its own services. The main firm categories included in ASE are financial institutions (banks, insurance, diversified financial services and real state); services (such as health, educational, transport, tourism and technology); and manufacturing (pharmaceutical and chemical, food, mining and extraction, and engineering and electrical) (ASE, 2022).

3.3 Research Sample

The necessary information used in this study was collected manually. The ASE and PEX databases were used as the primary sources of these data. The study's sample was based on the following criteria:

1. The firm was listed in the stock market before 2013.
2. The firm does not have any underwriting in the stock market to raise its capital after 2012.
3. The firm does not have a merger with any firm after 2012.

Extraction and mining manufacturing firms were excluded from this study as these firms do not exist in the Palestinian market.

Financial listed firms were not included in the development of the study sample as they have unique accounting system characteristics and organizational and conceptual differences from other firms. It is critical to clarify that approximately 70% (25 firms) of the research sample are Jordanian firms, whereas only 30% (13 firms) are Palestinian firms, implying that the sample is disproportionate. This disproportionality might influence the result of the study. The reason behind choosing this combination is to expand the sample of the study¹.

Table 4 displays the data distribution by market and type of industry. All firms in our sample are mentioned in Appendix 1.

Table (4)

Distribution of the research sample

The market	Type	Number of the firms
Palestinian firms listed in PEX	Manufacturing (industrial)	13
Jordanian firms listed in ASE	Manufacturing (industrial)	25

¹ The combination of research sample was suggested by the supervisor Prof. Abdul Nasser Nour.

3.4 Research Model

Regression modeling is used to test the two models on which the study is based. First, the effects of EM practices on debt level in CAPS were examined to meet the study objectives. Both the fixed effect model and random effect model were evaluated using the Hausman test for each regression. The interaction term between EM and CG features is incorporated into the model to analyze the interactive effect of these two factors on the choice of capital structure:

$$DCAPS = \beta_0 + \beta_1(EM)_{it} + \beta_2 (CG)_{it} + \beta_3(FSIZE)_{it} + \beta_4(FAGE)_{it} + \beta_5 (DIV)_{it} + \beta_6(EM_{it}*CG_{it}) + \varepsilon_t \dots\dots\dots(1)$$

3.5 Variable Measurement

3.5.1 Dependent Variable

Capital structure is the dependent variable in this study. In this regard, CAPS (or financing decision) is defined as the optimal mix between debt and equity, used by firms to finance their daily operations and growth opportunities. To illustrate this, there are two proxies for CAPS. First, in line with Okyere et al. (2021), the debt-to-equity ratio is employed, which is measured by dividing total debt by total equity (DCAPS1). Second, the leverage ratio is used, following Zaid et al. (2020), which is computed as the total debt of a firm divided by its total assets (DCAPS2).

3.5.2 Independent Variables

EM is the independent variable, various methods for identifying and evaluating EM among organizations have been presented in the literature. Particularly, it has been argued that financial firms use discretionary loan loss provisions to manage their earnings. However, in the case of non-financial firm discretionary revenues, discretionary accruals are recommended. Since manufacturing firms (non-financial firms) are being investigated in this study, the method of discretionary accruals is used following to previous literature.

However, there are stages of developing discretionary accruals models. Starting with The Jones (1991), cross sectional Jones model (DeFond and Jiambalvo, 1994) and modified Jones model (Dechow et al., 1995). Then Kasznik (1999) and Kothari et al. (2005) further applied some modification to the previous model.

In this research, the first model is the Modified Jones model, which is the most powerful model to detect EM (Dechow et al., 1995).

$$TA_{it} / A_{it-1} = \alpha_1 (1/A_{it-1}) + \alpha_2 ((\Delta REV_{-t} - \Delta REC_{it}) / A_{it-1}) + \alpha_3 (PPE_{it} / A_{it-1}) + \varepsilon_{it} \dots(2)$$

The second model is performance-matched discretionary accruals, as suggested by Kothari et al. (2005). They modified the previous Jones model to account for performance variations and added the ROAs as an additional regressor. The described model is as follows:

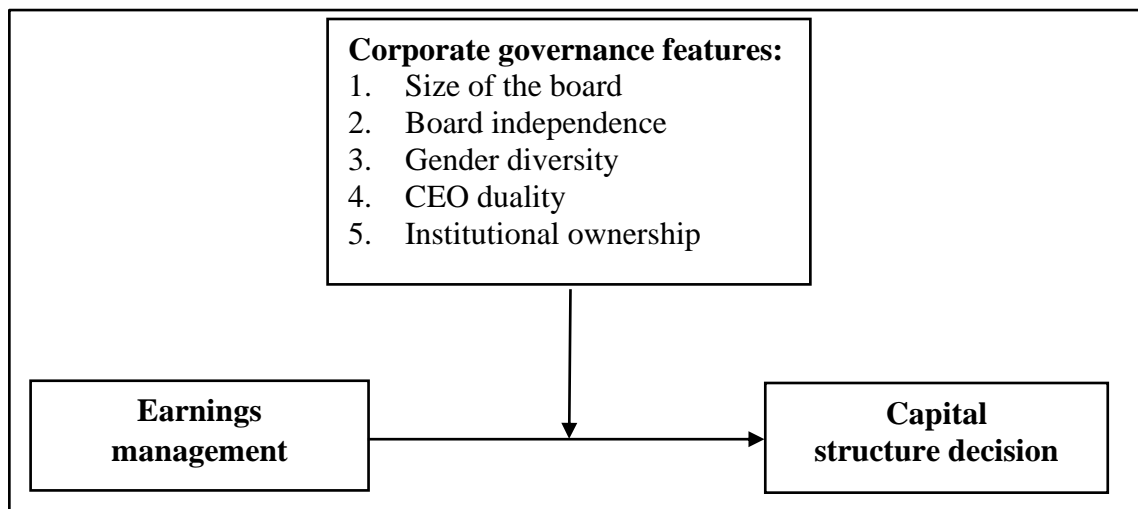
$$TA_{it}/A_{it-1} = \alpha_1(1/A_{it-1}) + \alpha_2((\Delta REV_{-t} - \Delta REC_{it})/A_{it-1}) + \alpha_3(PPE_{it}/A_{it-1}) + \alpha_4ROA + \varepsilon_{it} \dots(3)$$

Where:

- TA: total accruals of the firm (net income before extraordinary items of the firm minus net operating cash flow)
- A-1: total assets of the firm (past year)
- ΔREV : change in revenues
- ΔREC : change in account receivables
- PPE: the total of property plant and equipment
- ROA: ratio of return on assets (net income divided by total assets)
- (i): the firm
- (t): the time (years)
- ε_{it} : the residual, indicating the discretionary portion of total accruals and represents the EM of the firm.

Figure (1)

The interactive effect of earnings management and corporate governance on capital structure



3.5.3 Control variables

Previous studies assessed a variety of other variables that influence CAPS in firms, namely the size of the firm, firm age, profitability, tangibility, liquidity, dividend policy, growth rate and ROA. Moreover, some studies have also examined macroeconomic variables such as GDP and inflation rate. In this study, the focus was on firm-specific variables that have proven to exert a significant impact on CAPS in most studies. Hence, the size and age of the firm, as well as the dividend payout ratio, are examined as control variables. The following table clarifies the way in which each variable is measured.

3.6 R/RStudio Package

To solve problems and analyze natural or social phenomena, a variety of statistical and computing skills are used in statistical computing. Analyses of computational statistics are performed using well-known programs, such as Excel, SPSS, MATLAB, S, Minitab R and Python. These programs seek to develop an algorithm to apply computerized statistical methods. However, R/RStudio is a differently developed implantation of S. It can be defined as a package with a collection of clearly defined parts, data and functional codes that enable users to begin with a specific set of inputs (Hufnagel et al., 2020). One of R's advantages is the ease of creating well-designed plots, including mathematical symbols and formulae. In 1996, the first version of R programming language was developed by Ross Ihaca and Robert Gentleman, statisticians from the University of

Auckland in New Zealand. The first letter of the creators' names serves as the language's moniker.

Table (5)

Measurement of research variables

Variables	Measurement	Previous Literature
Dependent Variable		
DCAPS	1. Debt-to-equity ratio 2. Total debt to total assets	1. Al-Saidi (2020), Butt and Hasan (2009), Hussainey and Aljifri (2012) 2. Itopa et al. (2019), Zaid et al. (2020)
Independent Variables		
EM	1. Performance-matched discretionary accruals (Kothari, 2005) 2. Modified Jones model (Dechow et al., 1995)	1. Okyere et al. (2021) 2. Abdelkarim and Zuriqi (2020), Abu Alia et al. (2020)
Moderator variables		
Size of the board of directors	Natural logarithm of the number of boards of directors	Feng et al. (2020), Sheikh and Wang (2012)
Board independence	The number of non-executive directors divided by the number of total board members	Agyei and Owusu (2014), Alves et al. (2015), Tarus and Ayabei (2016)
Gender diversity	Percentage of female members divided by the number of total board members	Abdeljawad and Masri (2020), Ahmed and Atif (2021), Datta et al. (2021)
CEO duality	The dummy variable equals 1 if the CEO is the same person as the chairman, 0 otherwise	Kyereboah-Coleman and Biekpe (2006), Sewpersadh (2020), Tarus and Ayabei (2016)
Institutional ownership	Percentage of outstanding shares owned by institutional investors to total firms	Kumar (2015), Liao et al. (2015), Puspita and Suherman (2018)
Control Variables		
Firm size	Natural logarithm of the total assets of the firm	Butt and Hasan (2009), Hasanuddin et al. (2021), Oktaviani (2020),
Firm age	Number of years in operation	Kieschnick and Moussawi (2018)
Dividend payout ratio	Dividing dividends paid to shareholders on net income	Hussainey and Aljifri (2012)

Chapter Four

Results and Discussion

In this section, we have presented various statistical analyses for this study. The overall statistics were presented by country, and group descriptive analysis by year was also calculated. The group comparisons for quantitative and qualitative variables were conducted through the Chi-squared test (denoted by a), ANOVA-test (denoted by b) or Kruskal-Wallis non-parametric test (denoted by c), based on the statistical distribution of variables. The panel linear regression model for fix and the random effect was performed on the data to detect the association between capital struct and other features, as well as to answer the seven statistical hypotheses. Moreover, the Hausman test was employed to select the appropriate model, either the fixed effect model or the random effect model, to investigate the relationship between EM and debt level in CAPS in Palestine and Jordan. The results revealed that all Hausman P-values were higher than 5%, implying that the random model was more appropriate, except in the case of association between CG and CAPS in Palestine where the Hausman P-value of less than 5%, implying that a fixed model should be used. Moreover, the variance inflation factor was used to detect the multicollinearity between independent variables in the regression model. We did not encounter problems with multicollinearity between the independent variables. Additionally, statistical learning was employed also to test the data accuracy in predicting the capital structure given the other features. R version 4.1.1 was utilized to analyze the collected data. Based on the extensive works of literature discussed in Chapter (II), the findings are explained in detail.

The researcher also conducted several checks to examine the robustness of the results. The findings of the study are robust to the various measurements of EM as well as different debt level in CAPS measures, CG features, and samples.

4.1 Correlation Analysis

4.1.1 Overall Correlation Analysis

Table 6 displays the findings of the correlation matrix between variables of the study and the overall sample (i.e., Palestinian and Jordanian manufacturing firms). As presented in the table, debt level in CAPS1 was negatively and significantly related to BSIZE with

coefficient of (-.011), and positively and significantly related to INSOWNER with coefficient of (0.29). The other features of CG depicted an insignificant correlation with debt level in CAPS1. EM was positively and insignificantly related to debt level in CAPS1 in both Kothari and Modified Jones models. The other proxy for DCAPS, debt level in CAPS2, demonstrated only a significant and positive relation with INSWONER with coefficient of (0.3). Debt level in CAPS2 was associated insignificantly with the other features of CG and EM in both measurements of Kothari and Modified Jones. It is evident from the table that the explanatory variable with the highest correlation with coefficient of (-0.4) was between CEOD and BIND. Debt level in CAPS was also linked significantly to several firm-specific factors, including FSIZE and DIV. To clarify, debt level in CAPS1 and debt level in CAPS2 are positively and significantly related to FSIZE with coefficient of (0.18). Moreover, debt level in CAPS1 and debt level in CAPS2 are negatively and significantly related to DIV with coefficient of (-0.16); (-0.2), respectively. On the other hand, FAGE was found to relate insignificantly with debt level in CAPS.

Table (6)*Correlation matrix for overall manufacturing firm's sample*

	BFSIZE	BIND	GEN	CEOD	INSOWNER	DCAPS1	DCAPS2	FBSIZE	FAGE	DIV	EM_kothari	EM_Jones
BFSIZE	1(NA)											
BIND	0.14(0.012)	1(NA)										
GEN	-0.07(0.219)	0.05(0.345)	1(NA)									
CEOD	0.07(0.216)	-0.4(<0.001)	0.02(0.752)	1(NA)								
INSOWNER	-0.1(0.069)	0.29(<0.001)	-0.2(0.001)	-0.34(<0.001)	1(NA)							
DCAPS1	-0.11(0.047)	0.06(0.304)	-0.05(0.37)	-0.03(0.651)	0.29(<0.001)	1(NA)						
DCAPS2	-0.05(0.382)	0.1(0.074)	0.01(0.901)	-0.02(0.792)	0.3(<0.001)	0.87(<0.001)	1(NA)					
FBSIZE	0.22(<0.001)	-0.16(0.006)	-0.04(0.45)	0.06(0.265)	0.12(0.041)	0.18(0.002)	0.18(0.002)	1(NA)				
FAGE	0.01(0.829)	-0.02(0.735)	0.19(0.001)	0.13(0.021)	-0.12(0.033)	-0.02(0.773)	-0.1(0.076)	-0.02(0.76)	1(NA)			
DIV	0.08(0.169)	0.06(0.291)	0.02(0.714)	-0.01(0.86)	-0.06(0.339)	-0.16(0.006)	-0.2(<0.001)	-0.05(0.415)	0.06(0.329)	1(NA)		
EM_kothari	-0.05(0.396)	0.04(0.473)	0.09(0.11)	0.11(0.054)	-0.15(0.011)	0.06(0.301)	0.12(0.039)	0(0.95)	-0.01(0.845)	-0.01(0.883)	1(NA)	
EM_Jones	-0.02(0.699)	0.08(0.143)	0.16(0.004)	0.08(0.183)	-0.16(0.006)	0.05(0.377)	0.11(0.049)	0.03(0.599)	0.04(0.533)	-0.01(0.914)	0.96(<0.001)	1(NA)

4.1.2 Overall Correlation Analysis for Palestinian Manufacturing Firms

The correlation matrix for Palestinian manufacturing firms is presented in Table 7. Debt level in CAPS1 is positively and significantly associated with BSIZE (coefficient = 0.2), CEOD (coefficient= 0.23), and INSOWNER (coefficient= 0.22). The same result for debt level in CAPS2 was found, with coefficient of equal to 0.25 for BSIZE, 0.26 for CEOD, and 0.2 for INSOWNER, respectively. This implies that a bigger size of the board leads to a higher percentage of institutional investors, and the existence of CEO duality causes a higher level of debt financing. The other CG features, BIND and GEN, were found to be insignificantly related to both ratios of debt level in CAPS. In accordance with the second independent variable, debt level in CAPS1 is related negatively and significantly to both measurements of EM (Kothari and Modified Jones) with coefficient equal to -0.21 and -0.5, respectively. On the other hand, debt level in CAPS2 is insignificantly and negatively associated with both measurements of EM. Firm-specific variables, i.e., FSIZE, FAGE and DIV, were found to have an insignificant and negative relationship with both CAPS.

Table (7)*Correlation matrix for Palestinian manufacturing firm's sample*

	BSIZE	BIND	GEN	CEOD	INSOWNER	DCAPS1	DCAPS2	FSIZE	FAGE	DIV	EM_kothari	EM_Jones
BSIZE	1(NA)											
BIND	0.06(0.528)	1(NA)										
GEN	-0.23(0.019)	0.13(0.205)	1(NA)									
CEOD	0.31(0.002)	-0.56(<0.001)	-0.19(0.055)	1(NA)								
INSOWNER	0(0.966)	0.21(0.031)	-0.27(0.006)	-0.48(<0.001)	1(NA)							
DCAPS1	0.2(0.042)	0.07(0.496)	0.05(0.61)	0.23(0.02)	0.22(0.027)	1(NA)						
DCAPS2	0.25(0.01)	0.09(0.375)	0.13(0.187)	0.26(0.008)	0.2(0.043)	0.96(<0.001)	1(NA)					
FSIZE	0.65(<0.001)	-0.35(<0.001)	-0.07(0.494)	0.48(<0.001)	-0.15(0.132)	-0.06(0.523)	0(0.995)	1(NA)				
FAGE	-0.15(0.128)	-0.19(0.054)	0.29(0.003)	0.14(0.153)	-0.43(<0.001)	-0.16(0.105)	-0.18(0.066)	0.21(0.033)	1(NA)			
DIV	0.04(0.71)	0.08(0.41)	-0.05(0.638)	-0.03(0.753)	-0.13(0.204)	-0.16(0.114)	-0.17(0.082)	-0.06(0.567)	-0.02(0.819)	1(NA)		
EM_kothari	-0.05(0.65)	0.23(0.019)	-0.02(0.866)	-0.04(0.689)	-0.14(0.167)	-0.21(0.033)	-0.18(0.068)	-0.12(0.226)	0.03(0.745)	0.1(0.326)	1(NA)	
EM_Jones	-0.08(0.445)	0.35(<0.001)	0.07(0.511)	-0.12(0.226)	-0.1(0.307)	-0.19(0.05)	-0.16(0.109)	-0.16(0.101)	0.12(0.211)	0.08(0.392)	0.96(<0.001)	1(NA)

4.1.3 Overall Correlation Analysis for Jordanian Manufacturing Firms

The correlation coefficient matrix for all the factors is displayed in Table 8 for Jordanian manufacturing firms. DCAPS1 is significantly and negatively related to BSIZE with coefficient of (-0.18) and significantly and positively related to INSOWNER with coefficient of (0.34). The other features of CG, BIND, GEN and CEOD are found to be insignificantly related to DCAPS1. DCAPS2 is significantly and negatively associated with BSIZE (-0.16) and CEOD (-0.17) and positively and significantly associated with INSOWNER with coefficient of (0.35). Moreover, DCAPS1 is positively and significantly related to EM in both models, i.e., Kothari (coefficient = 0.13) and Modified Jones (coefficient = 0.15). DCAPS2 is also found to have a significantly positive relationship with both measurements of EM, i.e., = (0.25) and (0.23) , respectively. With respect to the control variables, DCAPS1 and DCAPS2 are positively and significantly related to FSIZE with coefficient of (0.28) and negatively and significantly related to DIV with coefficient of (-0.34) and with coefficient of (-0.47). Meanwhile, FAGE did not show any relationship to CAPS.

Table (8)*Correlation matrix for Jordanian manufacturing firm's sample*

	BSIZE	BIND	GEN	CEOD	INSOWNER	DCAPS1	DCAPS2	FSIZE	FAGE	DIV	EM_kothari	EM_Jones
BSIZE	1(NA)											
BIND	0.18(0.01)	1(NA)										
GEN	0(0.97)	-0.07(0.32)	1(NA)									
CEOD	-0.11(0.122)	-0.31(<0.001)	0.21(0.003)	1(NA)								
INSOWNER	-0.16(0.024)	0.34(<0.001)	-0.2(0.004)	-0.25(<0.001)	1(NA)							
DCAPS1	-0.18(0.012)	0.07(0.351)	-0.07(0.349)	-0.09(0.195)	0.34(<0.001)	1(NA)						
DCAPS2	-0.16(0.027)	0.12(0.105)	-0.07(0.346)	-0.17(0.017)	0.35(<0.001)	0.86(<0.001)	1(NA)					
FSIZE	-0.01(0.917)	-0.01(0.87)	0.16(0.027)	-0.3(<0.001)	0.33(<0.001)	0.28(<0.001)	0.28(<0.001)	1(NA)				
FAGE	0.04(0.541)	0.06(0.415)	-0.16(0.024)	0.03(0.677)	0.03(0.687)	0.06(0.372)	-0.05(0.523)	-0.09(0.185)	1(NA)			
DIV	0.2(0.005)	0.03(0.633)	-0.01(0.911)	-0.13(0.068)	0.07(0.299)	-0.34(<0.001)	-0.47(<0.001)	0.07(0.345)	0.09(0.224)	1(NA)		
EM_kothari	-0.08(0.278)	-0.05(0.466)	0.08(0.284)	0.14(0.042)	-0.16(0.02)	0.15(0.036)	0.25(<0.001)	0.11(0.132)	-0.12(0.085)	-0.37(<0.001)	1(NA)	
EM_Jones	-0.03(0.677)	-0.04(0.619)	0.19(0.008)	0.13(0.067)	-0.2(0.005)	0.13(0.065)	0.23(0.001)	0.18(0.011)	-0.08(0.237)	-0.33(<0.001)	0.96(<0.001)	1(NA)

4.2 Results of Descriptive Statistics

This section contains analyses of the descriptive statistics pertaining to each study variable. Table 9 displays the results of the descriptive statistics for the total sample of the study, including the sample of the selected manufacturing firms listed on ASE and PEX as a group. Table 10 presents a descriptive analysis of PEX, whereas Table 11 (See Appendix A) shows a descriptive analysis of ASE firms. The maximum and minimum values, as well as mean, median and standard deviation, are presented with inputs.

4.2.1 Overall Results of Descriptive Statistics

Table 9 displays the descriptive statistics for all variables related to the sample used in this study, including dependent variable (DCAPS), independent variable (EM), moderator variables (CG) and control variables. The sample included 38 manufacturing firms from Palestine and Jordan listed in PEX and ASE respectively during 2013–2020 (See Appendix 1).

The decision of the capital structure variable was measured with the help of two ratios. First, the debt-to-equity ratio had a mean of approximately 68%. This indicates that the research sample owned 68% of the firm to its creditors. The maximum value was 7.5, whereas the minimum was zero. The standard deviation was 78%. The second ratio was the debt ratio with a mean of 33%, which implies that the firms financed approximately 33% of their total assets with debt, meaning that firms financed the greater portion of their assets with other financing options, such as equity. The maximum value of the debt ratio was 88% whereas the minimum was zero. EM was also measured by two models: the Kothari model, depicting performance-matched discretionary accruals, and the Modified Jones model, which reported an average of zero. This result was expected since EM is the residual from the regression equation. The maximum and minimum values for the Kothari model were 43% and -66%, respectively, while the maximum and minimum values for the Modified Jones model were 1.46 and -1.65, respectively. This suggests that the firms were engaging in both upward and downward EM.

For CG features, BSIZE was first assessed, which was measured by the logarithm of board size, which had a mean of 0.89. The maximum board size was 1.23, i.e., the logarithm of seventeen board members, and the minimum board size was 0.6, i.e., the logarithm of five board members. Second, BIND was examined, which was measured by

the percentage of non-executive directors to total board members. BIND depicted a mean of 92%, indicating that the board size consisted of more than half of independent directors. Third, Gen was measured by the percentage of women on the board of directors to total board members. Gen had a mean of 0.03, suggesting that on average, 3% of the board of directors were women. The maximum and minimum values were 0.04 and 0, respectively. Fourth, CEOD was a dummy variable, wherein “yes” referred to the existence of a CEO duality situation in the firm and “no” otherwise. Approximately 15% of the “yes” responses depicted a CEO duality situation, whereas 85% of “no” responses meant no CEO duality situation. This implied that CEO duality is not a regular phenomenon and a good level of compliance with CG rules. Finally, INSOWNER was measured by dividing institution ownership shares on the firm by total outstanding shares. The mean for this variable was 43%, which meant that almost the half of research sample shareholders were institutions. The maximum and minimum values were 97% and zero, respectively.

For the control variables, FSIZE was measured by the logarithm of the total assets of the firm. The mean score for the size of the firm was 7.34, which is the logarithm of 22 million total assets. The standard deviation was 0.45, with a minimum and maximum value of 5.91 and 8.27, respectively. The mean score of FAGE indicates that the sample of firms has been in operation for over 30 years. The maximum age was 68 years, whereas the minimum was five years. The dividend payout ratio was measured by dividing the cash dividend by net income. The mean of DIV was 0.49, implying that the firms approximately distributed half of their net income as cash dividends. The maximum ratio was 16.49, and the minimum was -2.17.

Table (9)

Descriptive Statistics for Palestinian and Jordanian manufacturing firms listed in PEX and ASE (Overall)

	Variable	n (%)
Debt level in Capital Structure		
DCAPS1	n (Missing)	304 (0)
	Mean \pm Std-Dev	0.68 \pm 0.78
	Median (Q1-Q3)	0.43 (0.22-0.83)
	Min, Max	0, 7.5
DCAPS2	n (Missing)	304 (0)
	Mean \pm Std-Dev	0.33 \pm 0.19
	Median (Q1-Q3)	0.3 (0.18-0.45)
	Min, Max	0, 0.88
Earning Management (EM)		
EM_kothari	n (Missing)	304 (0)
	Mean \pm Std-Dev	0 \pm 0.29
	Median (Q1-Q3)	0.03 (-0.03-0.1)
	Min, Max	-0.66, 0.43
EM_Jones	n (Missing)	304 (0)
	Mean \pm Std-Dev	0 \pm 0.3
	Median (Q1-Q3)	0.02 (-0.04-0.09)
	Min, Max	-1.65, 1.46
BSIZE	n (Missing)	304 (1)
	Mean \pm Std-Dev	0.89 \pm 0.12
	Median (Q1-Q3)	0.85 (0.85-0.95)
	Min, Max	0.6, 1.23
BIND	n (Missing)	304 (1)
	Mean \pm Std-Dev	0.92 \pm 0.1
	Median (Q1-Q3)	0.93 (0.86-1)
	Min, Max	0, 1
GEN	n (Missing)	304 (1)
	Mean \pm Std-Dev	0.03 \pm 0.08
	Median (Q1-Q3)	0 (0-0)
	Min, Max	0, 0.4
CEOD	No	258 (84.87%)
	Yes	45 (14.8%)
INSOWNER	n (Missing)	304 (1)
	Mean \pm Std-Dev	0.43 \pm 0.31
	Median (Q1-Q3)	0.4 (0.16-0.7)
	Min, Max	0, 0.97
FSIZE	n (Missing)	304 (0)
	Mean \pm Std-Dev	7.34 \pm 0.45
	Median (Q1-Q3)	7.35 (7.05-7.72)
	Min, Max	5.91, 8.27
FAGE	n (Missing)	304 (0)
	Mean \pm Std-Dev	32.78 \pm 17.32
	Median (Q1-Q3)	30 (18-47)
	Min, Max	5, 68
DIV	n (Missing)	304 (0)
	Mean \pm Std-Dev	0.49 \pm 1.32
	Median (Q1-Q3)	0.21 (0-0.68)
	Min, Max	-2.17, 16.49
	Min, Max	0, 97867135

4.2.2 Results of Descriptive Statistics for Palestine

Descriptive statistical analysis for the years 2013 to 2020, related to all research variables including the dependent variable (DCAPS), independent variable (EM), moderator (CG) and control variables, for manufacturing firms listed on PEX, are shown in Table 10.

Regarding the DCAPS variable, we noticed that the mean of the debt-to-equity ratio was 0.57 with a median of 0.4. The maximum value was 2.44, whereas the minimum value was 0. The total debt to total assets ratio had a mean of 0.31, meaning that less than half of the total assets in Palestinian manufacturing firms were financed by debt. The standard deviation was 0.17, with a median of 0.29. The maximum and minimum values were 0.71 and 0, respectively.

With respect to the independent variables, EM was assessed first, which was measured by two models. First, EM under the Kothari model had a mean of 0.08, with a standard deviation of 0.24 and a median of 0.07. The minimum and maximum values of EM using the Kothari model were -0.84 and 1.43, respectively. Second, EM under the Modified Jones model had a mean of 0.08 and a median of 0.06. The maximum value was 0.46, and the minimum was -0.82. This implies that Palestinian manufacturing firms engage in upward and downward EM practices.

For CG features, the board size (BSIZE) had a mean and median of 0.9, with a standard deviation of 0.11. The minimum value was 0.6, which is the logarithm value of five members, and the maximum value was 1.18, which is the logarithm of fifteen members. This implies that all Palestinian manufacturing firms had board members ranging from 5 to 15. This finding indicates that most Palestinian manufacturing firms complied with CG rules, which state that the board of directors must have at least 5 and no more than 11 members (Code of CG in Palestine, 2009). Second, board independence (INDE) scored a mean of 0.92 with a standard deviation of 0.13. The maximum value was 1, with the minimum value being 0. Consequently, one of the most important provisions of the CG code, i.e., the requirement of independent directors on the board, was met. Third, gender diversity (GEN) scored a mean of 0.07, meaning that women composed 7% of the Palestinian manufacturing firm boardrooms, despite a recent surge in calls for more women to serve on corporate boards of Palestinian firms. The maximum and minimum values were 0.4 and 0, respectively. Fourth, the result of the CEO duality (CEOD) feature

proved that around 75% of Palestinian manufacturing firms separate the role between the chairman and chief executive officer, indicating the compliance of Palestinian manufacturing firms with the CG code of conduct. Finally, institutional ownership (INSOWNER) had a mean of 0.44 with a standard deviation of 0.34. The maximum value was 0.94, whereas the minimum value was 0, meaning that almost half of the Palestinian manufacturing firm owners are institutional investors.

Regarding the control group, the size of Palestinian manufacturing firms (FSIZE) scored a mean of 7.25, standard deviation of 0.53, maximum value of 8 and minimum value of 5.91. The average age of the Palestinian manufacturing firms was 40.04 years. The oldest manufacturing firm in the Palestinian market has been in operation for 68 years, whereas the latest launched firm has been in the market for 16 years. The dividend payout ratio scored a mean of 0.79, with a standard deviation of 2.14. This indicates a fluctuation in the dividend payout ratio through the years. The minimum value was -2.17, and the maximum was 16.49.

Table (10)*Descriptive Statistics for Palestinian manufacturing firms listed PEX*

	Variable	n (%)
Debt level in Capital Structure		
DCAPS1	N (n (Missing))	104 (0)
	Mean \pm Std-Dev	0.57 \pm 0.48
	Median (Q1-Q3)	0.4 (0.24-0.82)
	Min, Max	0, 2.44
DCAPS2	n (Missing)	104 (0)
	Mean \pm Std-Dev	0.31 \pm 0.17
	Median (Q1-Q3)	0.29 (0.19-0.45)
	Min, Max	0, 0.71
Earning Management (EM)		
EM: Kothari	n (Missing)	104 (0)
	Mean \pm Std-Dev	0.08 \pm 0.24
	Median (Q1-Q3)	0.07 (0-0.14)
	Min, Max	-0.84, 1.43
EM: Modified Jones	n (Missing)	104 (0)
	Mean \pm Std-Dev	0.08 \pm 0.24
	Median (Q1-Q3)	0.06 (0-0.15)
	Min, Max	-0.82, 0.46
BSIZE	n (Missing)	104 (1)
	Mean \pm Std-Dev	0.9 \pm 0.11
	Median (Q1-Q3)	0.9 (0.85-1)
	Min, Max	0.6, 1.18
BIND	n (Missing)	104 (1)
	Mean \pm Std-Dev	0.92 \pm 0.13
	Median (Q1-Q3)	1 (0.9-1)
	Min, Max	0, 1
GEN	n (Missing)	104 (1)
	Mean \pm Std-Dev	0.07 \pm 0.12
	Median (Q1-Q3)	0 (0-0.11)
	Min, Max	0, 0.4
CEOD	No	77 (74.04%)
	Yes	26 (25%)
INSOWNER	n (Missing)	104 (1)
	Mean \pm Std-Dev	0.44 \pm 0.34
	Median (Q1-Q3)	0.44 (0.11-0.78)
	Min, Max	0, 0.94
FSIZE	n (Missing)	104 (0)
	Mean \pm Std-Dev	7.25 \pm 0.53
	Median (Q1-Q3)	7.36 (6.83-7.66)
	Min, Max	5.91, 8
FAGE	n (Missing)	104 (0)
	Mean \pm Std-Dev	40.04 \pm 16.2
	Median (Q1-Q3)	42.5 (24-54.25)
	Min, Max	16, 68
DIV	n (Missing)	104 (0)
	Mean \pm Std-Dev	0.79 \pm 2.14
	Median (Q1-Q3)	0.39 (0-0.68)
	Min, Max	-2.17, 16.49

4.2.3 Results of Descriptive Statistics for Jordan

In Table 11 (see Appendix A), the researcher presents the result of descriptive statistics of the dependent variable, DCAPS; independent variables, EM, moderator variable (CG) and explanatory variables used in the study for the period between 2013 to 2020 for the sample of selected Jordanian manufacturing firms listed on ASE (See Appendix 1).

The first measurement of DCAPS, the debt-to-equity ratio, had a mean of 0.74. The minimum value was 0.02, and the maximum value was 7.5. Second, the debt-to-total-assets ratio had a mean of 0.34, meaning that 34% of total assets financing relied on debt, with the minimum and maximum values being 0.02 and 0.88, respectively.

The independent variable was EM, and the researcher measured it using two methods: the Kothari model and the Modified Jones model. EM using the Kothari model had a mean of -0.04, with a minimum value of -0.66 and a maximum value of 0.39. EM using the Modified Jones model also had a mean of -0.04, with a standard deviation of 0.32. The maximum value of EM in this method was 0.66, and the minimum was -1.65, indicating downwards and upwards EM practices in Jordanian manufacturing firms. The moderator variable CG, which was presented by five variables. BSIZE, measured by the logarithm of the board of directors' members, had a mean of 0.88 and a median of 0.85, representing that the average value of the number of board members in Jordanian manufacturing firms is seven. The minimum value was 0.7, the logarithm of five members, and the maximum was 1.23, the logarithm of seventeen members—the highest number of board members according to the extraordinary situation as a result of COVID-19. Generally, all Jordanian manufacturing firms follow CG rules, which require the board of directors to have a minimum of five and a maximum of eleven members. Second, BIND represents the percentage of independent directors on the board. The mean value for this variable was 0.93, with a standard deviation of 0.08; the minimum value was 0.69, and the maximum value was 1. This result proved that all Jordanian manufacturing firms have independent directors in their board structure and comply with the important rules of CG. Third, GEN represents the existence of female members on the board; its mean value was 0.01, with a standard deviation of 0.04. The minimum value was zero, while the maximum was 0.29, meaning that the majority of board members are male and there is little presence for women in the boardroom of Jordanian manufacturing firms. Fourth, 90.5% of Jordanian manufacturing firms don't combine the two positions between CEO and chairman, which

is a good indicator of CG rules. Finally, INSWONER represents the ownership of the institution on the firm. This variable's mean was 0.42, with a standard deviation of 0.3; its minimum value was 0, and the maximum was 0.97.

On the other hand, regarding control variables, FSIZE had a mean of 7.38 and a standard deviation of 0.4. Its minimum and maximum values were 6.53 and 8.27, respectively. FAGE had a mean of 29 years, with a standard deviation of 16.7, implying a fluctuation in Jordanian manufacturing age; its minimum value was 6, and the maximum was 68. DIV had a mean of 0.33 and median of 0, meaning some years had no divided distribution to shareholders, and its minimum and maximum values were -0.71 and 2.31, respectively.

4.3 Regression Results

4.3.1 Overall Earnings Management and Capital Structure

In Table 12 (See Appendix A), the researcher provides the results of the association between EM and DCAPS. DCAPS1 depicts an insignificant positive relationship with EM under both the Kothari model and Modified Jones models, with p-values of 0.294 and 0.422, respectively, which is higher than the 5% level of significance. DCAPS2 has a positive significant association with EM ($p = 0.035$) under the Kothari model and demonstrates a p-value of 0.046 under the Modified Jones model, which is less than a 5% level of significance. This means that the practice of EM leads to an increase in the leverage level of the firm. Hence, highly leveraged firms are more likely to engage in activities related to EM. The positive relationship with regard to DCAPS suggests that firms may use the cheaper form of external financing as the firm level of EM practices increases, indicating a rise in the use of debt financing, since debt is a less expensive way to finance the firms' activities than equity. This result is supported by the debt hypothesis theory, which implies that leverage increases the potential for EM activities that are a response to avoid debt covenant violations. Moreover, this result is supported by An et al. (2016), who discovered that firms that use EM more frequently typically have higher levels of debt financing. In other words, when used as a substitute for information asymmetry between corporate stakeholders either inside or outside the firm, these findings imply that more aggressive income management practices raise the demand for debt as an external control tool for lowering FCF agency costs. Tian et al. (2018) argued that highly leveraged firms with limited accounting flexibility tended to use real activities

to manipulate earnings upward. Additionally, this result is consistent with the findings of Lazzem and Jilani (2018) and Nikoomaram et al. (2016). Thus, H6 is supported.

With respect to control variables, the firm size has a positive significant association with DCAPS1 under both the Kothari model and Modified Jones model with a p-value of 0.02, which is lower than the 5% level of significance. Moreover, FSIZE has a positive association with DCAPS2 under both the Kothari model and the Modified Jones model with a p-value of 0.03. The static trade-off model states that large firms should take on more debt because of their capacity for risk diversification and access to tax breaks on interest payments. Hence, this result is supported by (Fama and French (2002) and Feng et al. (2020))

Dividend policy has a negative association with DCAPS1 with a p-value of 0.08, and DCAPS2 with a p-value of 0.01 for both models. This result can be explained by the fact that when a firm does not distribute dividends to the shareholders, it is more likely to use them for future growth opportunities. In other words, paying dividends exposes the firm to more monitoring, which leads to restriction of the management's FCF discretion. Therefore, it is anticipated that the dividend payout will have a negative effect on the leverage. This result is consistent with Hussainey and Aljifri (2012). Lastly, FAGE was found to have an insignificant negative association with both DCAPS1 and DCAPS2.

4.3.2 The Overall Role of Corporate Governance on the Relationship Between Earnings Management and Capital Structure Decisions

Regression findings on the interactive impact of EM and CG features on DCAPS are reported in Table 13 (see Appendix A).

CG features were found to not only have a significant direct impact on firms' DCAPS but also moderate the relationship between EM and CAPS. The first significant feature is the interaction of EM and BIND, which is positively and significantly related to both DCAPS measures at the 5% significant level. The interaction has a p-value of 0.006 under the Kothari model and 0.058 under the Modified Jones model with DCAPS1. Moreover, the interaction was found to be significantly positively related to DCAPS2 under the Kothari model only, with a p-value of 0.01. This denotes that the higher the existence of non-executive directors (i.e., independent directors) on the board, the greater the effect of EM

on the debt level. Thus, H2b is accepted. To clarify, the direct association between EM and debt level was found to be positive and significant, as debt is the cheapest form of financing. Moreover, it acts as a control mechanism to reduce the agency cost, leading to the protection of the stakeholders and shareholders against entrenched managers. Additionally, the existence of non-executive directors assists in enforcing strict and effective management oversight to ensure that the firm operates in the shareholders' best interests by assisting in the decision-making process for capital structure (El Diri et al., 2020). Furthermore, it acts as a protective tool to prevent managers from abusing their positions of power and managing earnings in a way to dampen investors' and lenders' interest leading to higher debt financing (Zaid et al., 2020).

Second, the interaction of EM and GEN depicts a significant positive in relation to DCAPS2 at the 5% significance level with a p-value of 0.036 under the Kothari model. Accordingly, the higher the female existence in the boardroom, the higher the effect of EM on debt financing. Taking into account the fact that the direct association between EM and debt financing is significantly positive as the monitoring role of debt to protect shareholders' and investors' interest, female members in the boardroom strengthen the association between EM and debt level, implying that female board members increase the reliance on debt financing in the capital structure of the firm. This can be explained by the fact that trust-based leadership is more frequently used by female executives as a result of female desire and efforts to create a culture of trust within the organizational culture by implementing transformational techniques, such as team empowerment, visioning and impression management for organizational and individual success (Man & Wong, 2013). This type of trust leadership necessitates managers sharing more information with female board members (Klenke, 2003), leading to the encouragement of more public disclosure of the firm, better management reporting supervision and less information asymmetry. Accordingly, this gains a higher trust from creditors and lenders, thereby leading to a lower debt cost and a higher level of debt in the firms' capital structure (GulBin et al, 2011). The other CG features, i.e., BSIZE, CEOD and INSOWNER, were found to have no moderating impact on the relationship between EM and debt financing in Jordanian and Palestinian manufacturing firms. Thereby, H2c is supported.

4.3.4 Earnings Management and Capital Structure in Palestine

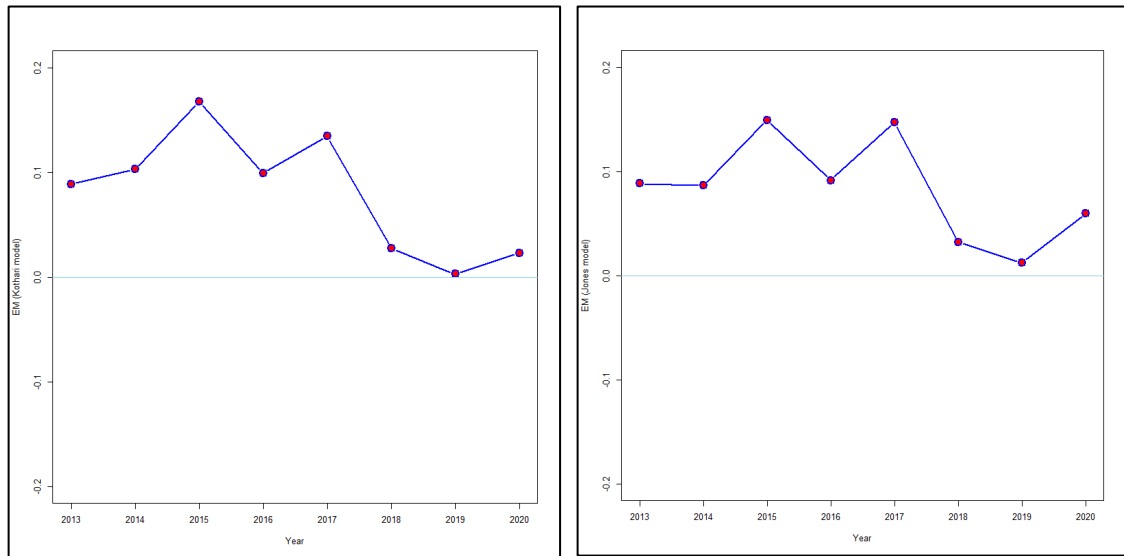
The empirical findings for the effect of EM on the DCAPS of Palestinian manufacturing firms are shown in Table 14 (see Appendix A).

EM was discovered to be significant and negatively associated with DCAPS1, with a p-value of 0.041 using the Kothari model. This relation was also negative when EM with the Modified Jones model was used; however, the result was not significant. This suggests that EM has a negative impact on the level of debt financing adoption, which is used to proxy DCAPS. In other words, the practice of EM leads to a decrease in the use of debt financing in Palestinian non-financial firms, indicating that firms that manage their earnings use more equity to finance their business activities. This result is consistent with that of Talebniya and Ravanshad (2011). On the other hand, Abu Alia et al. (2020) indicated that Palestinian firms use EM to sway the decision and terms of debt financing from banks, which they desperately need. Furthermore, Palestinian firms rarely use external equity financing; instead, they favor using their retained earnings or bank debt. Hence, H1 is rejected.

In the case of the control variables, all three variables were found to have an insignificant association with both capital structure measures. FSIZE had a negative association with DCAPS1, with a p-value of 0.51 under the Kothari model and 0.462 under the Modified Jones model. Similarly, it depicted a p-value of 0.913 under the Kothari model and a p-value of 0.941 under the Modified Jones model regarding DCAPS2. Regardless of the significance, this means that larger Palestinian manufacturing firms rely less on debt financing for their capital structure. FAGE depicts a negative association with DCAPS1, with a p-value of 0.145 under the Kothari model and 0.207 under the Modified Jones model. Likewise, it has a p-value of 0.064 under the Kothari model and a p-value of 0.087 under the Modified Jones model regarding DCAPS2. Regardless of the significance, this indicates that when a firm has spent a long time in operations, its reliance on debt financing decreases. DIV had a negative association with DCAPS1, with a p-value of 0.136 under the Kothari model and 0.126 under the Modified Jones model, while having a p-value of 0.098 under the Kothari model and p-value of 0.089 under the Modified Jones model regarding DCAPS2.

Figure (2)

Trend of earnings management for Palestinian manufacturing firms from 2013–2020



(A)

(B)

4.3.6 The Role of Corporate Governance in the Relationship Between Earnings Management and Capital Structure in Palestine

The result of regression on the interactive impact of EM and CG on DCAPS on Palestinian manufacturing firms are presented in Table 15 (see Appendix A).

CG features proved a direct impact on debt financing on a sample of Palestinian manufacturing firms. It further proved to moderate the relationship between EM and DCAPS (debt financing). First, the finding implies that the interaction of EM and BSIZE transforms the negative effect of EM on DCAPS from the previous analysis into a positive one. Specifically, it suggests that in the presence of a larger board size, the negative impact of EM on debt financing is reshaped positively. To illustrate this point, the p-value of the interaction between EM and BSIZE was found to be less than 0.001 under the Kothari model and the Modified Jones model with DCAPS1 and DCAPS2. This indicates that larger boards in Palestinian manufacturing firms are more engaged in accounting manipulation practices as their existence is considered a threat to managers' control (Chekili, 2012). Additionally, managers get more opportunities to manage earnings as the size of the board increases due to the pressure put on the managers by larger boards to accomplish certain performance levels and optimal capital structures. This result could be attributed to the fact that firms with a larger board possess a diverse range of

knowledge, abilities and ideas, all of which are essential to the process of decision-making and creating debt. H2a is accepted.

Gender posits a moderate role between EM practices and debt financing on Palestinian manufacturing firms. To illustrate this, the interactive association between EM and GEN has a p-value of 0.013 under the Kothari model and 0.022 with DCAPS2. This interaction between EM and GEN transforms the previous negative association between EM and CAPS into a positive one, implying that higher levels of debt financing are used in running a firm. In other words, the existence of female representatives on the board of directors of Palestinian manufacturing firms leads to an increase in the effect of EM on debt financing. However, debt plays a disciplinary role for opportunistic-be managers to constrain the use of FCF and reduce agency costs, while EM practices are used as a way to avoid this disciplining device. As mentioned earlier, female directors can improve board performance by exerting a strong influence on the process of decision-making (Ruigrok et al., 2007). Moreover, given that the participation of female directors on corporate boards minimizes managerial opportunism and information asymmetry, boards with gender diversity have lower debt costs (Usman et al., 2019) Consequently, this increases the trust of lenders and creditors, leading to a higher level of debt on Palestinian manufacturing firms. Hence, H2c is supported.

The third significant factor is CEOD, which moderates the relationship between EM and debt financing. The findings indicate that the existence of the CEOD situation decreases the impact of EM on debt financing for Palestinian manufacturing firms. To clarify, the association between EM and CEOD has a p-value of 0.027 under the Modified Jones model with DCAPS1 only. However, the existence of a CEO duality situation in the firm leads to an increase in the agency cost, consequently reducing the level of debt financing acquired by the firm due to constraining lenders' willingness to the firm with CEO duality condition (Kyereboah-Coleman & Biekpe, 2006). So, H2d is rejected.

The rest of the CG features prove no significant moderate effect between EM and DCAPS. The interactive effect of EM and BIND has a p-value of 0.123 under the Kothari model and 0.913 under the Modified Jones model with DCAPS1. Similarly, it has a p-value of 0.221 under the Kothari model and 0.905 under the Modified Jones model with DCAPS2. Furthermore, the interactive effect of EM and INSOWNER has a p-value of

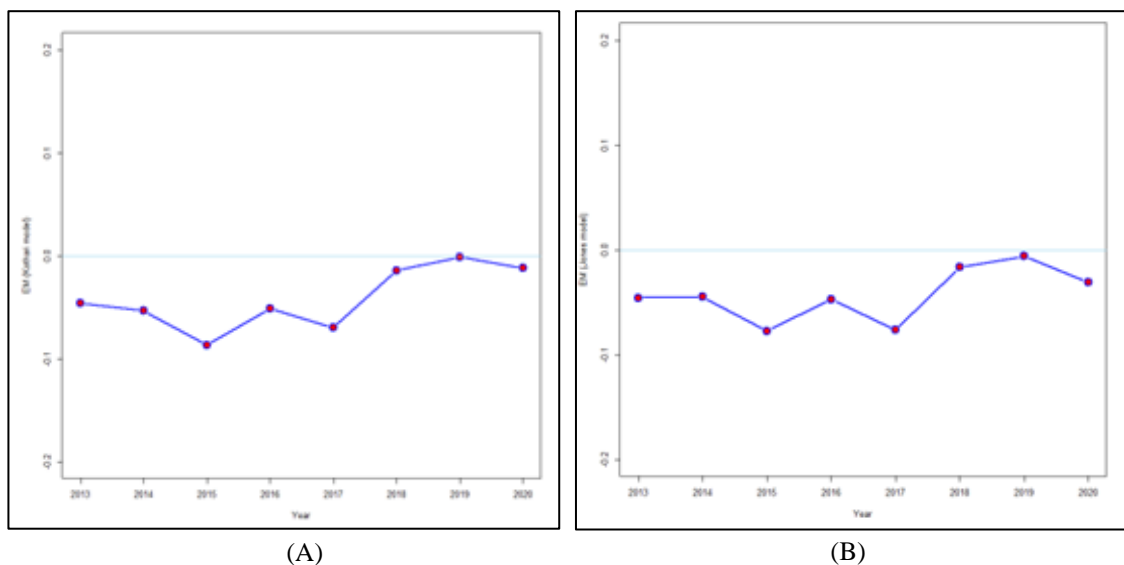
0.943 under the Kothari model and 0.622 under the Modified Jones model with DCAPS1. Likewise, it has a p-value of 0.433 under the Kothari model and 0.164 under the Modified Jones model with DCAPS2.

4.3.8 Earnings Management and Capital Structure in Jordan

Table 16 (see Appendix A) reviews the results of the association between EM and DCAPS in Jordanian manufacturing firms. DCAPS1 has a negative but insignificant association with EM ($p = 0.87$), which is higher than a 5% level of significance using the Kothari model, and an insignificant association ($p = 0.515$) using the Modified Jones model. On the other hand, DCAPS2 has a positive but insignificant association with EM ($p = 0.509$), which is higher than the 5% level of significance using the Kothari model, and the p-value is 0.795 using the Modified Jones model. This result is consistent with that of Al-Mohareb and Alkhalaileh (2019), who mentioned that EM is positively and insignificantly associated with the alternative measurement of leverage (total debt to total assets) at a conventional level in Jordanian manufacturing firms. Hence, H1 is rejected.

Figure (3)

Trend of earnings management for Jordanian manufacturing firms from 2013 to 2020



4.3.9 The Role of Corporate Governance in the Relationship Between Earnings Management and Capital Structure in Jordan

Table 17 (see Appendix A) shows the result of the interaction analysis of CG features with EM on DCAPS.

The results support previous findings that proved CG features have not only a direct effect on the financing decision of a firm but also a moderate effect on the relationship between EM and DCAPS on Jordanian manufacturing firms. First, the interaction between EM and BIND depicted a positive and significant effect on DCAPS1, with a p-value of 0.034 under the Kothari model, and a positive and significant effect on CAPS2, with a p-value of 0.012. This implies that the interaction of EM and BIND alters the previous insignificant relationship between EM and DCAPS and transforms it into a significantly positive relationship. In other words, a higher existence of independent directors increases the effect of EM on debt financing in a sample of Jordanian manufacturing firms. To clarify, independent directors, i.e., non-executive directors, increase the transparency level and help provide growth opportunities by attracting capital. According to the agency theory, independent directors serve as a protective device against entrenched managers to ensure they act according to the best interest of the stakeholders of the firm, including creditors and lenders. Additionally, lenders' trust in independent directors as an efficient internal control body fosters a collaborative environment for debt creation, which improves financing resources accessibility, especially when management is willing to emphasize the firm's values (Zaid et al, 2020). Moreover, Jensen (1986) proved a positive relationship between independent directors and leverage. Thus, H2b is accepted.

Furthermore, the interaction between EM and INSOWNER depicted a negative and significant effect on DCAPS2, with a p-value of 0.004 under the Kothari model and 0.03 under the Modified Jones model. This means that the interaction between EM and INSOWNER transforms the previous positive insignificant relationship between EM and CAPS into a negative and significant relationship. In other words, the effect of EM practices on debt financing decreased by 1.019 under the Kothari model and 0.587 under the Modified Jones model for each unit increase in institutional ownership. This supports the notion that the higher the number of institutional investors, the lesser the debt in a firm's capital structure. This result is consistent with that of Chung and Wang (2014), who concluded that institutional ownership declines as suboptimal leverage rises for a

firm and vice versa for institutional ownership as suboptimal leverage rises. Moreover, institutional investors, who are sizable shareholders, have strong incentives to raise the value of the firm. Thus, they could serve as a debt replacement for the monitoring role of debt to reduce agency costs. Additionally, institutional investors can compel managers to place a greater emphasis on corporate performance and less on selfish or opportunistic behavior, which is consistent with the active monitoring theory (Habashy, 2018). Thus, H2e is rejected.

4.4 Statical Learning Results

Clarifying the variable significance, as determined by random forests, can be conducted using the statistical learning model to determine the best set of variables for the classification problem. In particular, by averaging the results of more than 100 random forest runs, the relevance of each variable can be determined. In an embedded increasing random forests model, variables are prioritized and sequentially inserted in decreasing order of significance (Jebreen & Ghattas, 2016). To acquire valid results, the accuracy of each model is measured using ten cross-validations, and the model that retains the optimal number of pertinent variables is considered the most accurate one. Using a step-by-step procedure, the optimal subset of input variables to be maintained for each classification model is selected. According to Jebreen and Ghattas (2016), after the input variables are arranged, a series of embedded models are built by beginning with the most important variable and progressively adding the others.

In this section, statical learning was employed to visualize the feature association and detection of the accuracy of data in predicting values. Many models were candidates to predict the DCAPS values, such as Linear Regression (LR), Random Forest (RF), Support Vector Machine (SVM) and eXtreme Gradient Boosting (XgBoost). The mean square errors (MSE) were computed over 100 runs, and at each run, different 5-fold cross-validation was used. Table 18 (see Appendix A) demonstrates each model's accuracy. Random forest and XgBoos were the best overall other models in prediction accuracy. For Palestinian firms, 97.7% accuracy was reached using the RF model, while for Jordanian firms, 84.12% accuracy was reached. This confirms the low associations between features as found in the previous hypothesis tests. Moreover, the two markets were merged to reach 88.07% accuracy.

The random forest has an advantage in computing the importance of the variables related to response one DCAPS. The mean decrease in impurity is the default method for computing variable importance. In this section, three figures are presented to illustrate the ranking of the variable according to its significance in composing the firms' capital structure with respect to our research variables, i.e., EM and CG features, including board size, board independence, gender diversity, CEO duality and institutional ownership. In addition, control variables include the size of the firm, age of the firm and dividend payout.

These variables were visualized in Figure 4 in ascending order. The findings show that INSOWNER, BSIZE, FSIZE, GEN and CEOD are critical to be included in the model to predict the value of capital structure in the case of Palestinian manufacturing firms.

Figure 4 depicts similar results to Figure 5 with respect to INSOWNER. Moreover, it showed that DIV, FAGE, FSIZE, BSIZE and BIND are imperative in predicting a Jordanian firm's capital structure.

Figure 6 presents the variables in the prediction model in the case of the research sample that included Palestinian and Jordanian manufacturing firms. The results revealed that INSOWNER is the first important component in model prediction. Moreover, DIV, FSIZE, FAGE and BIND were also found to be significant for model predictions. In summary, the three models proved that INSOWNER, FSIZE and FAGE are critical for model prediction; however, EM was insignificant for model prediction.

Given the significant increase in institutional ownership over the past few decades, institutional investors' ability to influence firm management has grown in importance. Institutional investors can influence a firm's financial decisions in a number of ways, such as EM (Wang, 2014); hedging policy (Tai et al., 2014); risk-taking behavior (Chan et al., 2013); and financing decision (Chadha & Seth, 2021; Sun et al., 2016). However, in theory, the capital structure of the firm may be actively influenced by institutional investors. According to Jensen and Meckling (1976), despite the fact that debt lowers the agency cost of FCF, it also encourages managers to make irrational overinvestment decisions, which can increase their own benefits and decrease the firm's value. Moreover, according to Modigliani and Miller (1963), the trade-off theory mentions that the ideal debt level of a firm is determined by the cost of financial distress and tax benefit. Therefore, institutional investors might be enticed to change a firm's leverage toward the ideal level if the firm has an optimal debt level.

Figure (4)

Prediction model of capital structure component in Palestinian manufacturing firms

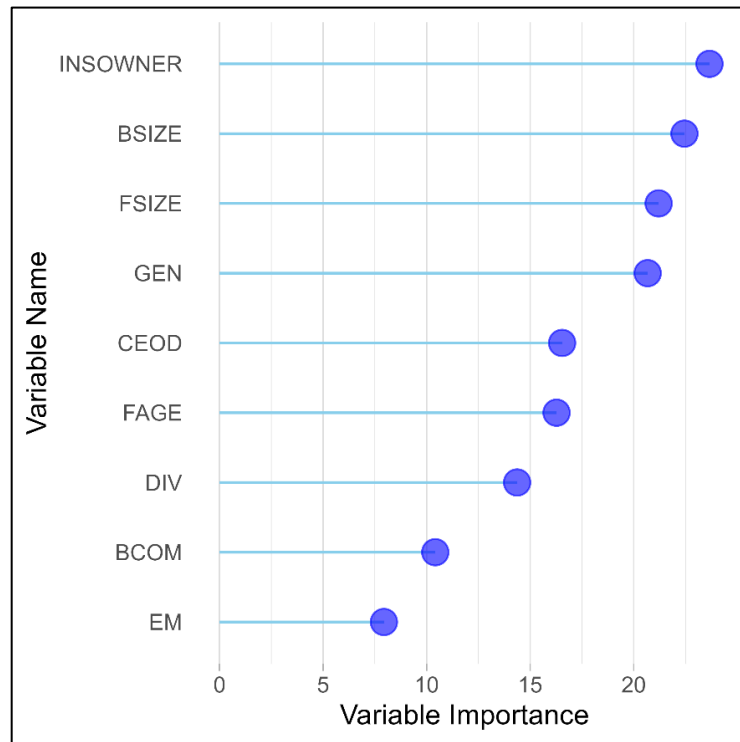


Figure (5)

Prediction model of capital structure component in Jordanian manufacturing firms

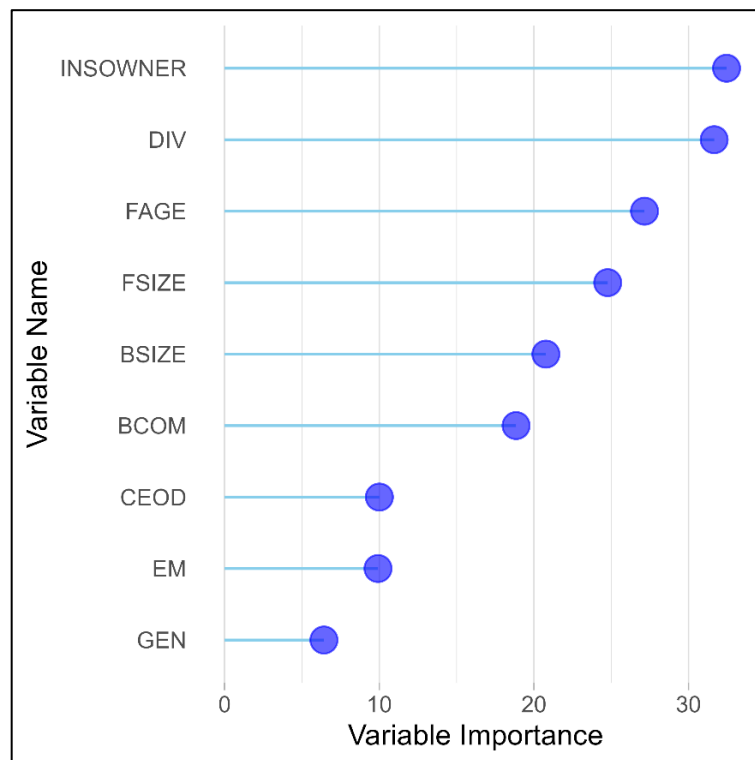
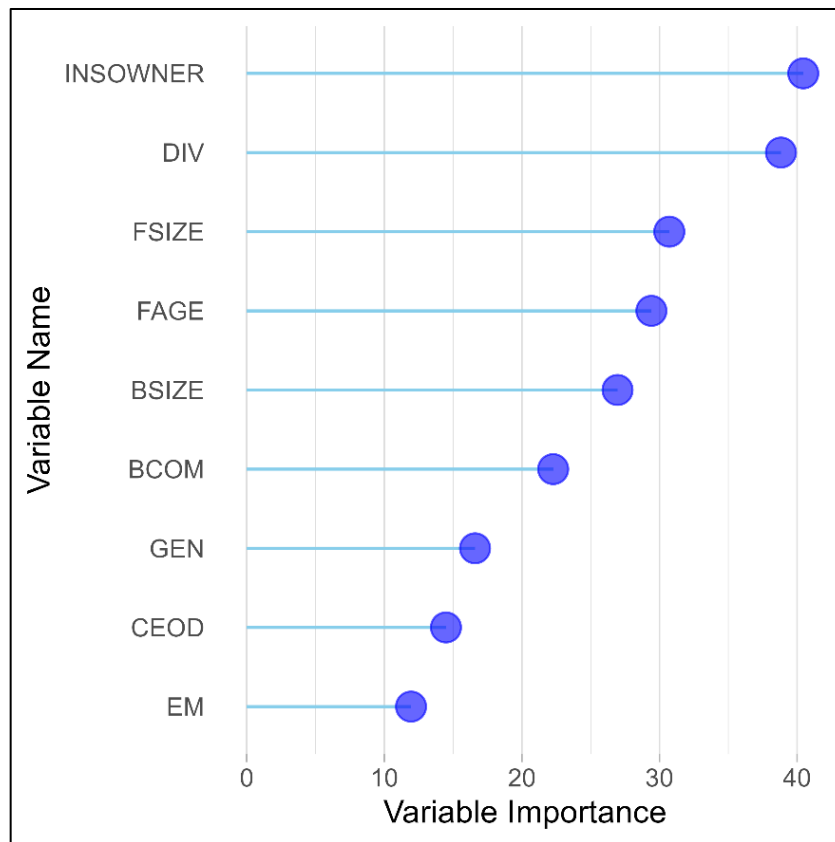


Figure (6)

Prediction model of capital structure component in Palestinian and Jordanian manufacturing firms



In contrast, as large shareholders, institutional investors have strong incentives to increase the value of the firm. Consequently, it may serve as a substitute for debt to reduce the agency cost. Due to this, a negative relationship is predicted between institutional ownership and debt financing in a firm's capital structure. On the other hand, institutional ownership serves as a powerful check on the financial and strategic choices of a firm, which leads to gaining the confidence of the creditors. Additionally, since institutional investors have the privilege of powerful voting, they have the power to influence management decisions and can pressure managers to pay dividends, which results in the requirement for subsequent debt financing (La Porta et al., 2007). Consequently, a positive association between institutional ownership and debt financing is observed. In conclusion, both directions prove that institutional ownership has a direct impact on the firm's capital structure. It must be mentioned that this result is consistent with that of the study conducted by Gharaibeh and Al-Tahat (2020), who proved that institutional

ownership is one of the most fundamental determinants of a firm's capital structure in the case of Jordanian firms.

Second, for several reasons, the size of a firm is listed as one of the important factors influencing the financial structure. Altman (1984) and Warner (1977) suggested that the expense of bankruptcy is lower for bigger firms. Thus, according to the trade-off theory, more debt issuance is likely to occur at larger firms. Moreover, greater economies of scale, greater diversification, less erratic cash flow and simple access to capital markets are all advantages of bigger firms. However, they are more willing to accumulate more debt due to their greater tolerance for leverage; hence, size and debt ratio should be positively correlated. In contrast, according to the pecking order theory, the larger the size of the firm, the less the leverage ratio. Due to their propensity to provide the market with more information, bigger firms tend to have less asymmetric information (Fama & French, 2002; Jensen, 1986). This leads to less borrowing because they can issue securities with information sensitivity, such as equity, without sending the wrong signals to the market. The importance of the size of a firm in the case of Palestinian firms is supported by Abdeljawad and Abed-Rabu (2019), who found that the size of a firm is considered one of the main important components in a firm's capital structure. Moreover, in the case of Jordanian firms, the size of a firm is also considered one of the main components of the capital structure of the firm.

Third, in the capital structure model, the age of the firm is regarded as one of the standard measurements. Existing literature on this topic is split into two directions, according to the age of the firm. The first direction depicts the positive association between the age of the firm and leverage (DCAPS), which is consistent with the trade-off theory. Ali et al. (2021) and Ezeoha (2008) proved that the younger the firm, the lesser the reliance on debt financing. On the other hand, Ikechukwu and Cyril (2017), Kieschnick and Moussawi (2018) and Memon et al. (2019) proved that the age of the firm is negatively related to the leverage level of the firm, which can be clarified by the lack of collateralized assets to younger firms. Another explanation is that smaller firms have less accessibility to retained earnings; hence, they rely mainly on obtaining capital financing from external sources (Acedo-Ramirez et al., 2017). In summary, regardless of the stream of studies, it is evident that the age of a firm plays a major role in determining its capital structure.

Chapter Five

Conclusion and Recommendations

5.1 Overview

This chapter presents the conclusion and recommendation of the study. It also discusses the study's limitations, accompanied by a few suggestions for future research.

5.2 Conclusion

One of the most fundamental decisions managers must undertake is the financing policy of their firm. According to theories and previous literature, several factors can influence the capital structure of a firm. This study aimed to investigate the impact of EM practices on DCAPS in a sample of 13 Palestinian and 25 Jordanian manufacturing firms from 2013 to 2020. It also investigated whether CG, in particular indicators of board size, board independence, gender diversity, CEO duality and institutional ownership, could mitigate or reinforce the impact of EM on DCAPS in a sample of 13 Palestinian and 25 Jordanian manufacturing firms from 2013 to 2020. Furthermore, the firm size, firm age and dividend policy were used as control variables.

First, the overall results proved that EM practices result in the use of less equity financing and more debt financing on the firm capital structure, thereby reducing the agency cost. However, firms also face a higher risk of financial distress due to debt overhang (Okyere et al., 2021). Second, in the presence of certain CG features, independent directors, and female directors on the board, it was revealed that the impact of EM practices leads to an increase in DCAPS. Particularly, non-executive directors and female executives depict a higher leverage impact on DCAPS.

The result for Palestinian manufacturing firms indicated that EM has a negative and significant association with DCAPS and debt-to-equity ratio, meaning that the practice of EM leads to higher use of equity financing and reduce debt financing. Furthermore, the moderate effect of CG features on the relationship between EM and DCAPS revealed that the size of the board of directors and gender diversity in the board of directors transformed the negative relationship into a positive one, implying that the existence of such CG features increase the use of debt financing in a firm's capital structure. On the other hand,

the existence of CEO duality as a moderator in the relationship between EM and CAPS causes a decrease in the usage of debt financing.

The findings for Jordanian manufacturing firms suggest no significant impact of EM practices on the capital structure of a firm. Moreover, the findings of the moderating effect of governance features in the relationship between EM and DCAPS demonstrated that the non-executive directors (independent directors) increased the reliance on debt financing in capital structure of the firm. Nonetheless, institutional ownership transformed the positive insignificant relationship between EM and CAPS into a negative significant one, implying that the existence of institutional ownership as a moderator might mitigate the impact of earning management on debt financing.

However, this study has a few limitations. First, there was a lack of previous literature supporting the fundamental premise of the moderating impact of CG features on EM-CAPS. Second, the study lacked a few CG variables, including management expertise (Ganiyu & Abiodun, 2012); CEO tenure (Mersland et al., 2018); CEO compensation (Abor & Biekpe, 2007); and ownership concentration (Itopa et al., 2019). The decision-making process for capital structure may be impacted by these variables. Such variables can be incorporated into models for future research. Third, the absence of a specific CG index to measure compliance with CG rules is also another limitation of this study. Fourth, the agency theory (Jensen, 1986) suggests that debt can alleviate agency issues, implying that the choice of capital structure may have an impact on CG, which presents another potential area for research. Fifth, the research period includes an extraordinary economic condition due to the COVID-19 pandemic, which had a direct impact on the decision-making process and the value of firms. Lastly, the Jordanian market sample is two times bigger than the Palestinian sample used in this study, which most likely results in discrepancies in the accuracy of the results. Moreover, the results cannot be generalized to samples other than the manufacturing sector.

5.3 Recommendations

1. The board of directors and management in a firm should consider the firm's risk tolerance during decision-making, particularly regarding the financial structure of the firm. The capital-structure policy should also be taken into account while making financial choices.

2. Managers should exercise caution in creating an optimal capital structure and take the appropriate steps to ensure that their firm is not exposed to risk. CG mechanisms are critical to lenders; hence, to access more debt financing, firms may need to maintain a certain level of CG practices. This approach leads to an improvement in the monitoring process, aiding firms in luring better resources.
3. Managers of a firm should maintain a certain level of transparency and reduce information asymmetry between stakeholders by using earnings manipulation approaches that help the creation of optimal capital structure, thereby increasing the value of the firm and maximizing shareholders' wealth.
4. To acquire more accurate results, CAPS should be examined by dividing the manufacturing sector into further subcategories, since each category has its own circumstances that influences the choice of financing policy.
5. Creating an official CG index can help policymakers and regulators in assessing and contrasting CG practices between firms. The creation of such an index, which includes official CG recognition for firms using the best CG practices, may increase firms' familiarity with CG and persuade them to encourage more investments in this area.
6. Following the previous literature, the economic country factors should also be considered, which directly influence the capital structure of a firm, such as GDP and inflation rate.
7. Considering the difficulties faced by the researcher with respect to the lack of access to all financial reports of Palestinian firms prior to 2015, website developments are suggested. The ASE website provides easy access to financial reports of the firms listed in ASE. The researcher also did not have access to information related to CG features in Palestinian financial reports. With respect to institutional ownership percentage, it was noted that the ownership was disclosed as "shares number" and not as "ownership percentage of the total shares". Therefore, financial reports should include disclosure ownership percentage, which assists investors with limited financial knowledge to better understand and evaluate the position of the firm.

8. The development of the PEX website and more detailed reports can help researchers immensely. An example can be the ASE website, which provides useful and comparative reports with a single click.
9. Practitioners, policymakers and regulatory bodies should ensure that the gender representation on the board of directors is equal. It was observed that both in Palestine and Jordan, female representation was less than half of the board in the research period, even though female members proved to have a high level of credibility and professionalism that reflect on the value of a firm. This is in line with the emerging concerns about modernizing CG practices on a global scale.

5.4 Future Research

1. The recent growing interest in sustainability should encourage future researchers to study the relationship between a firm's capital structure and corporate sustainability in Palestinian and Jordanian markets.
2. Future research should also incorporate artificial intelligence methods in accounting fields.

List of Abbreviations

Abbreviation	Stand for
ASE	Amman Stock Exchange
INDE	Board independence
BSIZE	Board of directors' size
CAPS	Capital structure
DCAPS	Debt level in capital structure of the firm
CEOD	Chief executive officer duality
CG	Corporate governance
DIV	Dividend payout ratio
EM	Earnings management
ESG	Environmental, social and corporate governance
FAGE	Firm's age
FSIZE	Firm's size
GEN	Gender diversity
IFC	International financial corporation
INSOWNER	Institutional ownership
OCED	The Organization for Economic Co-operation and Development
PCMA	Palestinian capital market authority
PEX	Palestine Exchange
ROA	Return on assets

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Appendices

Appendix

Tabless

Table (11)

Descriptive Statistics for Jordanian manufacturing firms listed in ASE

Variable	n (%)
Debt level in Capital Structure	
DCAPS1	
n (Missing)	200 (0)
Mean ± Std-Dev	0.74 ± 0.89
Median (Q1-Q3)	0.46 (0.22-0.83)
Min, Max	0.02, 7.5
DCAPS2	
n (Missing)	200 (0)
Mean ± Std-Dev	0.34 ± 0.2
Median (Q1-Q3)	0.31 (0.18-0.45)
Min, Max	0.02, 0.88
Earning Management (EM)	
EM_kothari	
n (Missing)	200 (0)
Mean ± Std-Dev	-0.04 ± 0.3
Median (Q1-Q3)	0.01 (-0.04-0.09)
Min, Max	-0.66, 0.39
EM_Jones	
n (Missing)	200 (0)
Mean ± Std-Dev	-0.04 ± 0.32
Median (Q1-Q3)	0 (-0.06-0.07)
Min, Max	-1.65, 0.66
BSIZE	
n (Missing)	200 (0)
Mean ± Std-Dev	0.88 ± 0.13
Median (Q1-Q3)	0.85 (0.78-0.95)
Min, Max	0.7, 1.23
BIND	
n (Missing)	200 (0)
Mean ± Std-Dev	0.93 ± 0.08
Median (Q1-Q3)	0.92 (0.86-1)
Min, Max	0.69, 1
GEN	
n (Missing)	200 (0)
Mean ± Std-Dev	0.01 ± 0.04
Median (Q1-Q3)	0 (0-0)
Min, Max	0, 0.29
CEOD	
No	181 (90.5%)
Yes	19 (9.5%)
INSOWNER	
n (Missing)	200 (0)
Mean ± Std-Dev	0.42 ± 0.3
Median (Q1-Q3)	0.39 (0.19-0.63)
Min, Max	0, 0.97
FSIZE	
n (Missing)	200 (0)
Mean ± Std-Dev	7.38 ± 0.4
Median (Q1-Q3)	7.34 (7.07-7.74)
Min, Max	6.53, 8.27
FAGE	
n (Missing)	200 (0)
Mean ± Std-Dev	29 ± 16.7
Median (Q1-Q3)	26 (13-43)
Min, Max	5, 68
DIV	
n (Missing)	200 (0)
Mean ± Std-Dev	0.33 ± 0.45
Median (Q1-Q3)	0 (0-0.68)
Min, Max	-0.71, 2.31

Table (12)*Answering hypothesis (H1) in Palestinian and Jordanian manufacturing firms listed in PEX and ASE*

		EM (Kothari)										EM (Modified Jones Model)									
		Fixed effect model					Random effect model					Fixed effect model					Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest		
DCAPS1	EM	0.158	0.151	0.296	0.062/0.027	0.159	0.151	0.294	0.062/0.027	0.237	0.118	0.145	0.417	0.061/0.025	0.117	0.146	0.422	0.061/0.025	0.236		
	FSIZE	0.294	0.096	0.002	0.062/0.027	0.299	0.096	0.002	0.062/0.027		0.291	0.096	0.003	0.061/0.025	0.296	0.096	0.002	0.061/0.025			
	FAGE	-0.001	0.003	0.738	0.062/0.027	0	0.003	0.912	0.062/0.027		-0.001	0.003	0.707	0.061/0.025	0	0.003	0.879	0.061/0.025			
	DIV	-0.092	0.033	0.006	0.062/0.027	-0.088	0.033	0.008	0.062/0.027		-0.092	0.033	0.006	0.061/0.025	-0.088	0.033	0.008	0.061/0.025			
DCAPS2	EM	0.076	0.036	0.036	0.097/0.063	0.076	0.036	0.035	0.097/0.063	0.189	0.069	0.034	0.045	0.096/0.062	0.069	0.035	0.046	0.096/0.062	0.178		
	FSIZE	0.067	0.023	0.004	0.097/0.063	0.069	0.023	0.003	0.097/0.063		0.065	0.023	0.005	0.096/0.062	0.067	0.023	0.003	0.096/0.062			
	FAGE	-0.001	0.001	0.066	0.097/0.063	-0.001	0.001	0.115	0.097/0.063		-0.001	0.001	0.053	0.096/0.062	-0.001	0.001	0.095	0.096/0.062			
	DIV	-0.028	0.008	<0.001	0.097/0.063	-0.027	0.008	0.001	0.097/0.063		-0.028	0.008	<0.001	0.096/0.062	-0.027	0.008	0.001	0.096/0.062			

Table (13)*Answering hypothesis (H2a-e) in Palestinian and Jordanian manufacturing firms listed in PEX and ASE (Overall)*

		EM (Kothari)								
		Fixed effect model			Random effect model					
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
DCAPS1	EM	-5.507	2.489	0.028	0.197/0.137	-6.097	2.467	0.013	0.197/0.137	0.98
	BFSIZE	-0.635	0.368	0.086	0.197/0.137	-0.6	0.367	0.102		
	BIND	0.499	0.609	0.413	0.197/0.137	0.398	0.607	0.512		
	GEN	-0.739	0.658	0.262	0.197/0.137	-0.77	0.656	0.241		
	CEOD	0.295	0.153	0.054	0.197/0.137	0.274	0.152	0.072		
	INSOWNER	0.73	0.163	<0.001	0.197/0.137	0.75	0.163	<0.001		
	FBSIZE	0.386	0.104	<0.001	0.197/0.137	0.395	0.104	<0.001		
	FAGE	0	0.003	0.942	0.197/0.137	0.001	0.002	0.834		
	DIV	-0.082	0.031	0.009	0.197/0.137	-0.079	0.031	0.011		
	EM: BFSIZE	0.401	1.989	0.84	0.197/0.137	0.391	1.974	0.843		
	EM: BIND	6.557	2.685	0.015	0.197/0.137	7.317	2.672	0.006		
	EM: GEN	6.062	4.857	0.213	0.197/0.137	5.568	4.841	0.25		
	EM: CEOD	-0.79	1.089	0.469	0.197/0.137	-0.704	1.084	0.516		
	EM: INSOWNER	-1.348	0.859	0.118	0.197/0.137	-1.527	0.849	0.072		
DCAPS2	EM	-1.366	0.582	0.02	0.254/0.198	-1.518	0.576	0.008	0.256/0.201	0.93
	BFSIZE	-0.016	0.086	0.851	0.254/0.198	-0.011	0.086	0.897		
	BIND	0.168	0.142	0.24	0.254/0.198	0.143	0.142	0.314		
	GEN	-0.074	0.154	0.63	0.254/0.198	-0.08	0.153	0.602		
	CEOD	0.096	0.036	0.007	0.254/0.198	0.091	0.036	0.011		
	INSOWNER	0.194	0.038	<0.001	0.254/0.198	0.199	0.038	<0.001		
	FBSIZE	0.082	0.024	0.001	0.254/0.198	0.084	0.024	0.001		
	FAGE	-0.001	0.001	0.039	0.254/0.198	-0.001	0.001	0.083		
	DIV	-0.027	0.007	<0.001	0.254/0.198	-0.026	0.007	<0.001		
	EM: BFSIZE	0.321	0.465	0.49	0.254/0.198	0.358	0.461	0.436		
	EM: BIND	1.458	0.627	0.021	0.254/0.198	1.599	0.623	0.01		
	EM: GEN	2.51	1.135	0.028	0.254/0.198	2.374	1.13	0.036		
	EM: CEOD	-0.289	0.255	0.257	0.254/0.198	-0.279	0.253	0.27		
	EM: INSOWNER	-0.359	0.201	0.074	0.254/0.198	-0.377	0.198	0.057		

EM (Modified Jones Model)										
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
DCAPS1	EM	-4.261	2.367	0.073	0.189/0.128	-5.141	2.334	0.028	0.189/0.128	0.74
	BFSIZE	-0.643	0.37	0.083	0.189/0.128	-0.621	0.368	0.092		
	BIND	0.695	0.611	0.256	0.189/0.128	0.601	0.609	0.324		
	GEN	-0.536	0.69	0.438	0.189/0.128	-0.536	0.689	0.436		
	CEOD	0.255	0.149	0.087	0.189/0.128	0.22	0.147	0.135		
	INSOWNER	0.709	0.163	<0.001	0.189/0.128	0.72	0.163	<0.001		
	FBSIZE	0.317	0.104	0.002	0.189/0.128	0.33	0.104	0.001		
	FAGE	-0.001	0.003	0.687	0.189/0.128	0	0.002	0.895		
	DIV	-0.079	0.032	0.013	0.189/0.128	-0.075	0.031	0.018		
	EM: BFSIZE	1.481	1.863	0.427	0.189/0.128	1.621	1.839	0.378		
	EM: BIND	3.918	2.555	0.126	0.189/0.128	4.793	2.531	0.058		
	EM: GEN	2.614	3.763	0.488	0.189/0.128	2.025	3.751	0.589		
	EM: CEOD	-0.475	1.08	0.66	0.189/0.128	-0.175	1.057	0.868		
	EM: INSOWNER	-1.125	0.799	0.16	0.189/0.128	-1.23	0.787	0.118		
DCAPS2	EM	-0.994	0.556	0.075	0.237/0.18	-1.175	0.548	0.032	0.237/0.18	0.90
	BFSIZE	-0.023	0.087	0.795	0.237/0.18	-0.02	0.087	0.818		
	BIND	0.215	0.143	0.135	0.237/0.18	0.191	0.143	0.183		
	GEN	-0.026	0.162	0.875	0.237/0.18	-0.026	0.162	0.874		
	CEOD	0.084	0.035	0.017	0.237/0.18	0.075	0.035	0.031		
	INSOWNER	0.192	0.038	0	0.237/0.18	0.195	0.038	0		
	FBSIZE	0.064	0.024	0.009	0.237/0.18	0.067	0.024	0.006		
	FAGE	-0.001	0.001	0.016	0.237/0.18	-0.001	0.001	0.037		
	DIV	-0.026	0.007	0.001	0.237/0.18	-0.025	0.007	0.001		
	EM: BFSIZE	0.395	0.438	0.367	0.237/0.18	0.456	0.432	0.291		
	EM: BIND	0.917	0.601	0.128	0.237/0.18	1.057	0.594	0.075		
	EM: GEN	1.22	0.884	0.169	0.237/0.18	1.1	0.881	0.212		
	EM: CEOD	-0.14	0.254	0.582	0.237/0.18	-0.082	0.248	0.741		
	EM: INSOWNER	-0.298	0.188	0.114	0.237/0.18	-0.301	0.185	0.104		

Table (14)*Answering hypothesis (H1) in Palestinian manufacturing firms listed in PEX*

EM (Kothari)										
DCAPS	Variable	Fixed effect model				Random effect model				Hausman
		Beta	SD	p	R2/AR2	Beta	SD	p	R2/AR2	
DCAPS1	EM	-0.349	0.207	0.094	0.096/-0.013	-0.401	0.196	0.041	0.096/-0.013	0.906
	FSIZE	-0.062	0.092	0.505	0.096/-0.013	-0.059	0.09	0.51	0.096/-0.013	
	FAGE	-0.005	0.003	0.114	0.096/-0.013	-0.004	0.003	0.145	0.096/-0.013	
	DIV	-0.037	0.023	0.104	0.096/-0.013	-0.032	0.022	0.136	0.096/-0.013	
DCAPS2	EM	-0.096	0.073	0.192	0.097/-0.011	-0.112	0.069	0.107	0.097/-0.011	0.907
	FSIZE	0.002	0.032	0.94	0.097/-0.011	0.003	0.032	0.913	0.097/-0.011	
	FAGE	-0.002	0.001	0.049	0.097/-0.011	-0.002	0.001	0.064	0.097/-0.011	
	DIV	-0.014	0.008	0.077	0.097/-0.011	-0.013	0.008	0.098	0.097/-0.011	
EM (Modified Jones Model)										
DCAPS	Variable	Fixed effect model				Random effect model				Hausman
		Beta	SD	p	R2/AR2	Beta	SD	p	R2/AR2	
DCAPS1	EM	-0.307	0.208	0.143	0.089/-0.02	-0.355	0.2	0.075	0.089/-0.02	0.869
	FSIZE	-0.069	0.093	0.462	0.089/-0.02	-0.067	0.092	0.462	0.089/-0.02	
	FAGE	-0.004	0.003	0.153	0.089/-0.02	-0.004	0.003	0.207	0.089/-0.02	
	DIV	-0.038	0.023	0.093	0.089/-0.02	-0.033	0.022	0.126	0.089/-0.02	
DCAPS2	EM	-0.071	0.073	0.332	0.089/-0.02	-0.086	0.07	0.22	0.089/-0.02	0.871
	FSIZE	0.001	0.033	0.964	0.089/-0.02	0.002	0.032	0.941	0.089/-0.02	
	FAGE	-0.002	0.001	0.061	0.089/-0.02	-0.002	0.001	0.087	0.089/-0.02	
	DIV	-0.015	0.008	0.068	0.089/-0.02	-0.013	0.008	0.089	0.089/-0.02	

Table (15)*Answering hypothesis (H2a-e) in Palestinian manufacturing firms listed in PEX*

		EM (Kothari)								
		Fixed effect model				Random effect model				housman
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	
	EM	-6.42	1.623	<0.001	0.693/0.613	-7.117	1.533	<0.001	0.693/0.613	0.98
	BFSIZE	1.335	0.497	0.009	0.693/0.613	1.164	0.475	0.014		
	BIND	1.652	0.536	0.003	0.693/0.613	1.708	0.514	0.001		
	GEN	1.665	0.486	0.001	0.693/0.613	1.432	0.468	0.002		
	CEOD	0.995	0.145	<0.001	0.693/0.613	0.955	0.141	<0.001		
	INSOWNER	0.782	0.19	<0.001	0.693/0.613	0.712	0.186	<0.001		
DCAPS1	FSIZE	-0.305	0.106	0.005	0.693/0.613	-0.274	0.103	0.008		
	FAGE	0.001	0.002	0.735	0.693/0.613	0.001	0.002	0.536		
	DIV	-0.033	0.014	0.021	0.693/0.613	-0.028	0.014	0.044		
	EM: BFSIZE	13.82	2.989	<0.001	0.693/0.613	13.51	2.868	<0.001		
	EM: BIND	-4.827	2.917	0.102	0.693/0.613	-4.297	2.784	0.123		
	EM: GEN	4.881	2.961	0.103	0.693/0.613	5.559	2.876	0.053		
	EM: CEOD	-2.222	1.198	0.067	0.693/0.613	-2.11	1.156	0.068		
	EM: INSOWNER	-0.446	0.987	0.653	0.693/0.613	0.068	0.954	0.943		
	EM	-2.221	0.564	<0.001	0.731/0.661	-2.417	0.543	<0.001	0.731/0.661	0.80
	BFSIZE	0.593	0.173	0.001	0.731/0.661	0.532	0.168	0.002		
	BIND	0.622	0.186	0.001	0.731/0.661	0.64	0.182	<0.001		
	GEN	0.657	0.169	<0.001	0.731/0.661	0.583	0.165	<0.001		
	CEOD	0.358	0.05	<0.001	0.731/0.661	0.344	0.05	<0.001		
	INSOWNER	0.279	0.066	<0.001	0.731/0.661	0.253	0.065	<0.001		
DCAPS2	FSIZE	-0.115	0.037	0.003	0.731/0.661	-0.106	0.036	0.003		
	FAGE	0	0.001	0.745	0.731/0.661	0	0.001	0.573		
	DIV	-0.011	0.005	0.029	0.731/0.661	-0.009	0.005	0.057		
	EM: BFSIZE	4.119	1.039	<0.001	0.731/0.661	4.047	1.013	<0.001		
	EM: BIND	-1.306	1.014	0.202	0.731/0.661	-1.206	0.984	0.221		
	EM: GEN	2.312	1.029	0.027	0.731/0.661	2.51	1.013	0.013		
	EM: CEOD	-0.431	0.416	0.303	0.731/0.661	-0.413	0.408	0.311		
	EM: INSOWNER	0.08	0.343	0.816	0.731/0.661	0.264	0.336	0.433		

EM (Kothari)										
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	hausman
EM (Modified Jones Model)										
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	hausman
	EM	-7.298	1.786	<0.001	0.683/0.601	-8.364	1.626	<0.001	0.683/0.601	0.99
	BFSIZE	1.115	0.513	0.033	0.683/0.601	1.021	0.486	0.036		
	BIND	2.186	0.596	<0.001	0.683/0.601	2.399	0.552	<0.001		
	GEN	1.772	0.522	0.001	0.683/0.601	1.505	0.487	0.002		
	CEOD	1.045	0.148	<0.001	0.683/0.601	1.007	0.143	<0.001		
	INSOWNER	0.717	0.189	<0.001	0.683/0.601	0.655	0.182	<0.001		
DCAPS1	FBSIZE	-0.308	0.099	0.003	0.683/0.601	-0.289	0.095	0.002		
	FAGE	0	0.003	0.882	0.683/0.601	0.002	0.002	0.451		
	DIV	-0.03	0.014	0.037	0.683/0.601	-0.025	0.014	0.069		
	EM: BFSIZE	9.699	2.791	0.001	0.683/0.601	9.737	2.607	<0.001		
	EM: BIND	-0.769	2.748	0.78	0.683/0.601	-0.281	2.572	0.913		
	EM: GEN	2.606	2.858	0.365	0.683/0.601	3.859	2.699	0.153		
	EM: CEOD	-2.179	0.978	0.029	0.683/0.601	-2.056	0.928	0.027		
	EM: INSOWNER	-0.12	1.111	0.914	0.683/0.601	0.507	1.028	0.622		
	EM	-2.507	0.622	<0.001	0.722/0.65	-2.888	0.572	<0.001	0.722/0.65	0.99
	BFSIZE	0.503	0.179	0.006	0.722/0.65	0.466	0.171	0.006		
	BIND	0.792	0.207	<0.001	0.722/0.65	0.876	0.194	<0.001		
	GEN	0.67	0.182	<0.001	0.722/0.65	0.563	0.171	0.001		
	CEOD	0.374	0.052	<0.001	0.722/0.65	0.358	0.05	<0.001		
	INSOWNER	0.255	0.066	<0.001	0.722/0.65	0.226	0.064	<0.001		
DCAPS2	FBSIZE	-0.112	0.034	0.002	0.722/0.65	-0.108	0.034	0.001		
	FAGE	0	0.001	0.839	0.722/0.65	0.001	0.001	0.372		
	DIV	-0.01	0.005	0.047	0.722/0.65	-0.008	0.005	0.094		
	EM: BFSIZE	3.072	0.971	0.002	0.722/0.65	3.044	0.917	0.001		
	EM: BIND	-0.272	0.956	0.777	0.722/0.65	-0.108	0.905	0.905		
	EM: GEN	1.674	0.995	0.096	0.722/0.65	2.179	0.949	0.022		
	EM: CEOD	-0.511	0.34	0.137	0.722/0.65	-0.496	0.326	0.129		
	EM: INSOWNER	0.227	0.387	0.559	0.722/0.65	0.503	0.362	0.164		

Table (16)*Answering hypothesis (H1) in Jordanian manufacturing firms listed in ASE*

EM (Kothari)										
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
	EM	-0.076	0.203	0.71	0.23/0.185	-0.033	0.202	0.87	0.23/0.185	0.208
DCAPS1	FSIZE	0.711	0.142	<0.001	0.23/0.185	0.698	0.142	<0.001	0.23/0.185	
	FAGE	0.006	0.003	0.071	0.23/0.185	0.007	0.003	0.052	0.23/0.185	
	DIV	-0.778	0.138	<0.001	0.23/0.185	-0.756	0.136	<0.001	0.23/0.185	
	EM	0.018	0.042	0.67	0.323/0.283	0.028	0.042	0.509	0.323/0.283	0.371
DCAPS2	FSIZE	0.152	0.03	<0.001	0.323/0.283	0.15	0.029	<0.001	0.323/0.283	
	FAGE	0	0.001	0.697	0.323/0.283	0	0.001	0.622	0.323/0.283	
	DIV	-0.213	0.029	<0.001	0.323/0.283	-0.208	0.028	<0.001	0.323/0.283	
EM (Modified Jones Model)										
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
	EM	-0.151	0.19	0.428	0.232/0.187	-0.124	0.19	0.515	0.232/0.187	0.099
DCAPS1	FSIZE	0.728	0.144	<0.001	0.232/0.187	0.715	0.144	<0.001	0.232/0.187	
	FAGE	0.006	0.003	0.07	0.232/0.187	0.007	0.003	0.053	0.232/0.187	
	DIV	-0.796	0.136	<0.001	0.232/0.187	-0.778	0.134	<0.001	0.232/0.187	
	EM	0.004	0.04	0.925	0.322/0.282	0.01	0.039	0.795	0.322/0.282	0.352
DCAPS2	FSIZE	0.153	0.03	<0.001	0.322/0.282	0.151	0.03	<0.001	0.322/0.282	
	FAGE	0	0.001	0.721	0.322/0.282	0	0.001	0.654	0.322/0.282	
	DIV	-0.217	0.028	<0.001	0.322/0.282	-0.212	0.028	<0.001	0.322/0.282	

Table (17)*Answering hypothesis (H2a-e) in Jordanian manufacturing firms listed in ASE*

		EM (Kothari)								
		Fixed effect model				Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
DCAPS1	EM	-9.205	6.444	0.155	0.337/0.259	-10.01	6.443	0.12	0.337/0.259	0.988
	BFSIZE	-0.533	0.459	0.248	0.337/0.259	-0.482	0.457	0.291	0.337/0.259	0.988
	BIND	-0.382	0.837	0.649	0.337/0.259	-0.628	0.827	0.448	0.337/0.259	0.988
	GEN	-0.487	1.518	0.749	0.337/0.259	-0.204	1.504	0.892	0.337/0.259	0.988
	CEOD	-0.129	0.274	0.639	0.337/0.259	-0.2	0.266	0.452	0.337/0.259	0.988
	INSOWNER	0.976	0.243	<0.001	0.337/0.259	1.005	0.242	<0.001	0.337/0.259	0.988
	FBSIZE	0.448	0.177	0.012	0.337/0.259	0.419	0.177	0.018	0.337/0.259	0.988
	FAGE	0.006	0.004	0.095	0.337/0.259	0.007	0.004	0.058	0.337/0.259	0.988
	DIV	-0.708	0.138	<0.001	0.337/0.259	-0.688	0.135	<0.001	0.337/0.259	0.988
	EM: BFSIZE	-0.631	2.772	0.82	0.337/0.259	-1.072	2.749	0.697	0.337/0.259	0.988
	EM: BIND	12.07	6.506	0.065	0.337/0.259	13.7	6.469	0.034	0.337/0.259	0.988
	EM: GEN	-3.253	12.56	0.796	0.337/0.259	-7.461	12.37	0.546	0.337/0.259	0.988
	EM: CEOD	1.157	1.739	0.507	0.337/0.259	1.214	1.702	0.476	0.337/0.259	0.988
	EM: INSOWNER	-2.656	1.834	0.149	0.337/0.259	-3.154	1.814	0.082	0.337/0.259	0.988
DCAPS2	EM	-1.905	1.273	0.136	0.472/0.41	-2.078	1.265	0.101	0.472/0.41	0.985
	BFSIZE	-0.07	0.091	0.44	0.472/0.41	-0.059	0.09	0.51	0.472/0.41	0.985
	BIND	-0.084	0.165	0.612	0.472/0.41	-0.132	0.162	0.417	0.472/0.41	0.985
	GEN	-0.019	0.3	0.95	0.472/0.41	0.031	0.295	0.916	0.472/0.41	0.985
	CEOD	-0.12	0.054	0.028	0.472/0.41	-0.13	0.052	0.012	0.472/0.41	0.985
	INSOWNER	0.233	0.048	<0.001	0.472/0.41	0.239	0.047	<0.001	0.472/0.41	0.985
	FBSIZE	0.077	0.035	0.029	0.472/0.41	0.071	0.035	0.041	0.472/0.41	0.985
	FAGE	0	0.001	0.873	0.472/0.41	0	0.001	0.98	0.472/0.41	0.985

EM (Kothari)										
Fixed effect model						Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
	DIV	-0.202	0.027	<0.001	0.472/0.41	-0.196	0.026	<0.001	0.472/0.41	0.985
	EM: BSIZE	-0.262	0.547	0.633	0.472/0.41	-0.34	0.54	0.528	0.472/0.41	0.985
	EM: BIND	2.847	1.285	0.028	0.472/0.41	3.176	1.27	0.012	0.472/0.41	0.985
	EM: GEN	0.401	2.48	0.872	0.472/0.41	-0.305	2.428	0.9	0.472/0.41	0.985
	EM: CEOD	0.515	0.343	0.135	0.472/0.41	0.507	0.334	0.129	0.472/0.41	0.985
	EM: INSOWNER	-0.916	0.362	0.012	0.472/0.41	-1.019	0.356	0.004	0.472/0.41	0.985
EM (Modified Jones Model)										
Fixed effect model						Random effect model				
DCAPS	Variable	Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	phtest
	EM	-3.706	4.4	0.401	0.329/0.25	-5.582	4.341	0.199	0.329/0.25	0.764
	BSIZE	-0.527	0.464	0.258	0.329/0.25	-0.457	0.461	0.322	0.329/0.25	
	BIND	-0.173	0.82	0.833	0.329/0.25	-0.447	0.809	0.581	0.329/0.25	
	GEN	-0.86	1.633	0.599	0.329/0.25	-0.377	1.611	0.815	0.329/0.25	
	CEOD	-0.09	0.25	0.718	0.329/0.25	-0.16	0.243	0.511	0.329/0.25	
	INSOWNER	0.894	0.24	<0.001	0.329/0.25	0.937	0.239	<0.001	0.329/0.25	
DCAPS1	FSIZE	0.458	0.182	0.013	0.329/0.25	0.405	0.181	0.026	0.329/0.25	
	FAGE	0.005	0.004	0.218	0.329/0.25	0.005	0.004	0.144	0.329/0.25	
	DIV	-0.73	0.137	<0.001	0.329/0.25	-0.71	0.134	<0.001	0.329/0.25	
	EM: BSIZE	-0.261	2.477	0.916	0.329/0.25	-0.267	2.441	0.913	0.329/0.25	
	EM: BIND	5.159	4.496	0.253	0.329/0.25	7.492	4.414	0.09	0.329/0.25	
	EM: GEN	-2.748	7.442	0.712	0.329/0.25	-6.14	7.306	0.401	0.329/0.25	
	EM: CEOD	0.961	1.438	0.505	0.329/0.25	0.861	1.408	0.541	0.329/0.25	
	EM: INSOWNER	-1.693	1.385	0.223	0.329/0.25	-2.164	1.364	0.112	0.329/0.25	
DCAPS2	EM	-0.381	0.872	0.663	0.461/0.397	-0.639	0.858	0.456	0.461/0.397	0.944
	BSIZE	-0.078	0.092	0.4	0.461/0.397	-0.063	0.091	0.49	0.461/0.397	

EM (Kothari)										
DCAPS	Variable	Fixed effect model				Random effect model				phtest
		Beta	SD	P	R2/AR2	Beta	SD	P	R2/AR2	
	BIND	-0.021	0.163	0.896	0.461/0.397	-0.075	0.16	0.639	0.461/0.397	
	GEN	-0.267	0.324	0.411	0.461/0.397	-0.176	0.318	0.58	0.461/0.397	
	CEOD	-0.095	0.05	0.055	0.461/0.397	-0.107	0.048	0.027	0.461/0.397	
	INSOWNER	0.22	0.048	<0.001	0.461/0.397	0.229	0.047	<0.001	0.461/0.397	
	FSIZE	0.072	0.036	0.046	0.461/0.397	0.063	0.036	0.08	0.461/0.397	
	FAGE	0	0.001	0.656	0.461/0.397	0	0.001	0.786	0.461/0.397	
	DIV	-0.207	0.027	<0.001	0.461/0.397	-0.202	0.026	<0.001	0.461/0.397	
	EM: BSIZE	-0.389	0.491	0.43	0.461/0.397	-0.421	0.482	0.383	0.461/0.397	
	EM: BIND	1.103	0.892	0.218	0.461/0.397	1.468	0.872	0.092	0.461/0.397	
	EM: GEN	0.356	1.476	0.809	0.461/0.397	-0.214	1.444	0.882	0.461/0.397	
	EM: CEOD	0.363	0.285	0.205	0.461/0.397	0.327	0.278	0.24	0.461/0.397	
	EM: INSOWNER	-0.508	0.275	0.066	0.461/0.397	-0.587	0.269	0.03	0.461/0.397	

Table (18)

Experimental Results with five CV (averaged over 100 runs) for the CS data set and all independent variables

		LR		RF		SVM		XgBoost	
Country		MSE	SD	MSE	SD	MSE	SD	MSE	SD
PS	DCAPS2- CG-EM Kothari	<u>93.14</u>	0.08	<u>97.6</u>	0.03	<u>95.94</u>	0.05	<u>97.75</u>	0.03
JD	DCAPS2- CG- EM Kothari	73.37	0.4	<u>82.98</u>	0.31	80.49	0.34	79.87	0.37
PS-JD	DCAPS2- CG-EM Kothari	75.06	0.34	<u>88.12</u>	0.21	<u>85.35</u>	0.24	<u>86.3</u>	0.23

Table (19)*Overall sample results summary*

	Significant		Insignificant	
	Positive	Negative	Positive	Negative
EM * debt level	X		X	
EM * Board size* debt level			X	
EM *Board independence * debt level	X			
EM *Board diversity* debt level	X		X	
EM *CEO duality* debt level				X
EM *Institutional ownership* debt level				X

Table (20)*Palestinian manufacturing firm's results summary*

	Significant		Insignificant	
	Positive	Negative	Positive	Negative
EM * debt level		X		X
EM * Board size* debt level	X			
EM *Board independence * debt level				X
EM *Board diversity* debt level	X			
EM *CEO duality* debt level		X		
EM *Institutional ownership* debt level			X	

Table (21)*Jordanian manufacturing firms results summary*

	Significant		Insignificant	
	Positive	Negative	Positive	Negative
EM * debt level				
EM * Board size* debt level				X
EM *Board independence * debt level	X			
EM *Board diversity* debt level				X
EM *CEO duality* debt level			X	
EM *Institutional ownership* debt level		X		

Table (22)*Test of study's hypothesis*

Hypothesis	Content	Overall	Palestine	Jordan
H1	A positive significant association exists between earnings management and debt level in CAPS of the firm.	Accepted	Declined	Declined
H2a	size of the board of directors has a significantly positive role in moderating the relationship between EM and debt level in CAPS of the firm.	Declined	Accepted	Declined
H2b	non-executive directors have a significantly positive role in moderating the relationship between EM and debt level in CAPS of the firm.	Accepted	Declined	Accepted
H2c	female board members have a significantly positive role in moderating the relationship between EM and debt level in CAPS of the firm.	Accepted	Accepted	Declined
H2d	CEO duality situation have a significantly positive role in moderating the relationship between EM and debt level in CAPS of the firm.	Declined	Declined	Declined
H2e	institutional ownership has a significantly positive role in moderating the relationship between EM and debt level in CAPS of the firm.	Declined	Declined	Declined

<i>var</i>	2013	2014	2015	2016	2017	2018	2019	2020	P.value
<i>Mean ± Std-Dev</i>	7.31 ± 0.4	7.32 ± 0.4	7.32 ± 0.4	7.33 ± 0.5	7.36 ± 0.5	7.35 ± 0.5	7.36 ± 0.5	7.35 ± 0.5	
<i>Median (Q1-Q3)</i>	7.32 (7-7.65)	7.34 (7.04-7.65)	7.33 (7.04-7.71)	7.34 (7.07-7.72)	7.38 (7.08-7.77)	7.44 (7.08-7.71)	7.43 (7.1-7.76)	7.37 (7.05-7.73)	
<i>Min, Max</i>	6.5, 8	6.4, 8.1	6.2, 8.1	6.1, 8.2	6, 8.3	6, 8.2	5.9, 8.1	5.9, 8.1	
FAGE									
<i>n (miss)</i>	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	0.47****
<i>Mean ± Std-Dev</i>	29.37 ± 17.3	30.34 ± 17.3	31.32 ± 17.3	32.29 ± 17.4	33.26 ± 17.4	34.24 ± 17.4	35.21 ± 17.4	36.18 ± 17.5	
<i>Median (Q1-Q3)</i>	26.5 (16.25-41.75)	27.5 (17.25-42.75)	28.5 (18.25-43.75)	29.5 (19.25-44.75)	30.5 (20-45.75)	31.5 (20.25-46.75)	32.5 (20.5-47.75)	33.5 (20.75-48.75)	
<i>Min, Max</i>	5, 61	6, 62	7, 63	8, 64	9, 65	10, 66	11, 67	12, 68	
DIV									
<i>n (miss)</i>	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	0.28****
<i>Mean ± Std-Dev</i>	0.56 ± 0.7	0.42 ± 0.4	0.32 ± 0.4	0.38 ± 0.4	0.58 ± 1.1	0.43 ± 0.6	0.63 ± 2.7	0.58 ± 2.1	
<i>Median (Q1-Q3)</i>	0.35 (0-0.81)	0.4 (0-0.73)	0.09 (0-0.62)	0.3 (0-0.62)	0.36 (0-0.74)	0.04 (0-0.72)	0 (0-0.35)	0 (0-0.56)	
<i>Min, Max</i>	0, 2.8	0, 1.2	-0.7, 1.5	0, 1.8	0, 6.5	0, 2.4	-0.2, 16.5	-2.2, 12.7	
EM_kothari									
<i>n (miss)</i>	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	0.48****
<i>Mean ± Std-Dev</i>	0 ± 0.3	0 ± 0.3	0 ± 0.3	0 ± 0.3	0 ± 0.3	0 ± 0.2	0 ± 0.2	0 ± 0.2	
<i>Median (Q1-Q3)</i>	0.05 (-0.02-0.14)	0.05 (-0.02-0.11)	0.01 (-0.03-0.06)	0.04 (-0.02-0.1)	0.01 (-0.05-0.08)	0.04 (-0.03-0.09)	0.05 (-0.01-0.11)	0.04 (0-0.09)	
<i>Min, Max</i>	-1.5, 0.3	-1.7, 0.4	-1.4, 1.1	-1.4, 0.3	-1.1, 1.4	-1, 0.3	-1, 0.3	-0.9, 0.3	
EM_Jones									
<i>n (miss)</i>	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	38 (0)	0.45****
<i>Mean ± Std-Dev</i>	0 ± 0.3	0 ± 0.4	0 ± 0.3	0 ± 0.3	0 ± 0.3	0 ± 0.2	0 ± 0.3	0 ± 0.3	
<i>Median (Q1-Q3)</i>	0.04 (-0.03-0.09)	0.03 (-0.04-0.1)	-0.01 (-0.05-0.05)	0.03 (-0.03-0.08)	-0.02 (-0.06-0.06)	0.02 (-0.02-0.09)	0.04 (-0.03-0.12)	0.03 (-0.01-0.11)	
<i>Min, Max</i>	-1.5, 0.6	-1.7, 0.6	-1.4, 1.1	-1.3, 0.7	-1, 1.5	-0.9, 0.5	-1, 0.5	-0.9, 0.5	

Table (24)

Results of descriptive analysis for PEX 2013-2020

Var	2013	2014	2015	2016	2017	2018	2019	2020	P.value
BSIZE									
<i>n (miss)</i>	13 (0)	12 (1)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	1.00****
<i>Mean ± Std-Dev</i>	0.9 ± 0.1	0.92 ± 0.1	0.91 ± 0.1	0.91 ± 0.1	0.9 ± 0.1	0.9 ± 0.1	0.89 ± 0.1	0.91 ± 0.1	
<i>Median (Q1-Q3)</i>	0.9 (0.85-1)	0.93 (0.85-1.01)	0.85 (0.85-1)	0.85 (0.85-1)	0.85 (0.85-1)	0.9 (0.85-0.95)	0.9 (0.85-0.95)	0.9 (0.85-1)	
<i>Min, Max</i>	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.6, 1	0.7, 1.2	
BIND									
<i>n (miss)</i>	13 (0)	12 (1)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.96****
<i>Mean ± Std-Dev</i>	0.91 ± 0.1	0.94 ± 0.1	0.94 ± 0.1	0.92 ± 0.1	0.92 ± 0.1	0.95 ± 0.1	0.93 ± 0.1	0.93 ± 0.1	
<i>Median (Q1-Q3)</i>	0.91 (0.83-1)	1 (0.91-1)	1 (0.91-1)	0.91 (0.86-1)	0.91 (0.86-1)	1 (0.91-1)	1 (0.91-1)	1 (0.91-1)	
<i>Min, Max</i>	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	0.7, 1	
GEN									
<i>n (miss)</i>	13 (0)	12 (1)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.99****
<i>Mean ± Std-Dev</i>	0.09 ± 0.1	0.07 ± 0.1	0.08 ± 0.1	0.09 ± 0.1	0.07 ± 0.1	0.07 ± 0.1	0.05 ± 0.1	0.06 ± 0.1	
<i>Median (Q1-Q3)</i>	0 (0-0.11)	0 (0-0.1)	0 (0-0.11)	0 (0-0.11)	0 (0-0.12)	0 (0-0.09)	0 (0-0.09)	0 (0-0.09)	
<i>Min, Max</i>	0, 0.4	0, 0.4	0, 0.4	0, 0.4	0, 0.4	0, 0.4	0, 0.4	0, 0.2	
INSOWNER									
<i>n (miss)</i>	13 (0)	12 (1)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	1.00**
<i>Mean ± Std-Dev</i>	0.4 ± 0.3	0.39 ± 0.3	0.43 ± 0.3	0.43 ± 0.3	0.44 ± 0.3	0.46 ± 0.3	0.48 ± 0.4	0.48 ± 0.4	
<i>Median (Q1-Q3)</i>	0.44 (0.06-0.57)	0.33 (0.09-0.65)	0.44 (0.12-0.75)	0.44 (0.15-0.75)	0.46 (0.16-0.75)	0.46 (0.19-0.75)	0.58 (0.21-0.8)	0.58 (0.21-0.8)	
<i>Min, Max</i>	0, 0.9	0, 0.9	0, 0.9	0, 0.9	0, 0.9	0, 0.9	0, 0.9	0, 0.9	
DCAPS_debit_equity									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.94****
<i>Mean ± Std-Dev</i>	0.44 ± 0.4	0.66 ± 0.7	0.5 ± 0.4	0.5 ± 0.4	0.54 ± 0.4	0.61 ± 0.5	0.67 ± 0.6	0.64 ± 0.6	
<i>Median (Q1-Q3)</i>	0.4 (0.16-0.45)	0.53 (0.13-0.82)	0.37 (0.22-0.75)	0.34 (0.2-0.79)	0.38 (0.25-0.87)	0.43 (0.3-0.79)	0.37 (0.25-1.24)	0.34 (0.24-1.07)	
<i>Min, Max</i>	0, 1.3	0.1, 2.4	0.1, 1.3	0.1, 1.2	0.1, 1.2	0.1, 1.5	0.2, 1.8	0.1, 1.7	
DCAPS_debt_assets									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.94****
<i>Mean ± Std-Dev</i>	0.26 ± 0.2	0.33 ± 0.2	0.3 ± 0.2	0.3 ± 0.2	0.32 ± 0.1	0.34 ± 0.2	0.34 ± 0.2	0.33 ± 0.2	
<i>Median (Q1-Q3)</i>	0.28 (0.14-0.31)	0.35 (0.12-0.45)	0.27 (0.18-0.43)	0.25 (0.17-0.44)	0.28 (0.2-0.47)	0.3 (0.23-0.44)	0.27 (0.2-0.55)	0.25 (0.2-0.52)	
<i>Min, Max</i>	0, 0.6	0.1, 0.7	0.1, 0.6	0.1, 0.5	0.1, 0.6	0.1, 0.6	0.1, 0.6	0.1, 0.6	
FSIZE									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	1.00**
<i>Mean ± Std-Dev</i>	7.22 ± 0.5	7.2 ± 0.5	7.2 ± 0.5	7.23 ± 0.5	7.27 ± 0.6	7.26 ± 0.6	7.29 ± 0.6	7.31 ± 0.6	

Var	2013	2014	2015	2016	2017	2018	2019	2020	P.value
<i>Median (Q1-Q3)</i>	7.27 (6.82-7.64)	7.34 (6.81-7.58)	7.37 (6.84-7.59)	7.36 (6.83-7.6)	7.38 (6.87-7.66)	7.43 (6.88-7.7)	7.49 (6.93-7.71)	7.52 (6.97-7.7)	
<i>Min, Max</i>	6.5, 7.8	6.4, 7.8	6.2, 7.8	6.1, 7.9	6, 7.9	6, 8	5.9, 8	5.9, 8	
FAGE									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.96**
<i>Mean ± Std-Dev</i>	36.54 ± 16.6	37.54 ± 16.6	38.54 ± 16.6	39.54 ± 16.6	40.54 ± 16.6	41.54 ± 16.6	42.54 ± 16.6	43.54 ± 16.6	
<i>Median (Q1-Q3)</i>	40 (21-50)	41 (22-51)	42 (23-52)	43 (24-53)	44 (25-54)	45 (26-55)	46 (27-56)	47 (28-57)	
<i>Min, Max</i>	16, 61	17, 62	18, 63	19, 64	20, 65	21, 66	22, 67	23, 68	
DIV									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.82****
<i>Mean ± Std-Dev</i>	0.67 ± 0.9	0.53 ± 0.4	0.38 ± 0.4	0.52 ± 0.6	0.98 ± 1.8	0.64 ± 0.7	1.46 ± 4.5	1.11 ± 3.6	
<i>Median (Q1-Q3)</i>	0.4 (0.04-0.55)	0.66 (0-0.95)	0.44 (0-0.56)	0.44 (0-0.62)	0.34 (0-0.76)	0.37 (0-1.04)	0.3 (0-0.35)	0.32 (0-0.45)	
<i>Min, Max</i>	0, 2.8	0, 1	0, 1	0, 1.8	0, 6.5	0, 2.4	-0.2, 16.5	-2.2, 12.7	
EM_kothari									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.82****
<i>Mean ± Std-Dev</i>	0.09 ± 0.1	0.1 ± 0.1	0.17 ± 0.3	0.1 ± 0.1	0.13 ± 0.4	0.03 ± 0.2	0 ± 0.3	0.02 ± 0.3	
<i>Median (Q1-Q3)</i>	0.07 (0.04-0.14)	0.1 (0-0.17)	0.03 (-0.01-0.21)	0.07 (0.03-0.13)	0.01 (-0.04-0.1)	0.06 (-0.02-0.11)	0.07 (-0.02-0.11)	0.07 (0.02-0.12)	
<i>Min, Max</i>	-0.1, 0.3	-0.1, 0.3	-0.1, 1.1	-0.1, 0.3	-0.1, 1.4	-0.4, 0.2	-0.8, 0.3	-0.8, 0.3	
EM_Jones									
<i>n (miss)</i>	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	13 (0)	0.81****
<i>Mean ± Std-Dev</i>	0.09 ± 0.1	0.09 ± 0.1	0.15 ± 0.3	0.09 ± 0.1	0.15 ± 0.4	0.03 ± 0.1	0.01 ± 0.3	0.06 ± 0.3	
<i>Median (Q1-Q3)</i>	0.05 (0.01-0.09)	0.08 (0.01-0.1)	0.01 (-0.02-0.18)	0.05 (0.03-0.15)	0.01 (-0.02-0.14)	0.06 (0-0.1)	0.08 (0.01-0.16)	0.11 (0.05-0.15)	
<i>Min, Max</i>	0, 0.4	-0.1, 0.3	0, 1.1	0, 0.3	-0.1, 1.5	-0.4, 0.2	-0.8, 0.3	-0.8, 0.3	

Table (25)*Results of descriptive analysis for ASE 2013-2020*

var	2013	2014	2015	2016	2017	2018	2019	2020	P.value
BSIZE									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.96****
Mean ± Std-Dev	0.88 ± 0.1	0.89 ± 0.1	0.89 ± 0.1	0.86 ± 0.1	0.87 ± 0.1	0.91 ± 0.1	0.87 ± 0.1	0.88 ± 0.1	
Median (Q1-Q3)	0.9 (0.78-0.95)	0.9 (0.85-0.95)	0.85 (0.85-0.95)	0.85 (0.7-0.95)	0.85 (0.78-0.95)	0.85 (0.85-0.95)	0.85 (0.7-0.95)	0.85 (0.7-1)	
Min, Max	0.7, 1.1	0.7, 1.1	0.7, 1.1	0.7, 1.1	0.7, 1.1	0.7, 1.2	0.7, 1.2	0.7, 1.2	
BIND									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.98****
Mean ± Std-Dev	0.92 ± 0.1	0.93 ± 0.1	0.94 ± 0.1	0.93 ± 0.1	0.93 ± 0.1	0.92 ± 0.1	0.91 ± 0.1	0.92 ± 0.1	
Median (Q1-Q3)	0.92 (0.86-1)	1 (0.86-1)	1 (0.86-1)	1 (0.89-1)	0.92 (0.88-1)	0.92 (0.89-1)	0.9 (0.86-1)	0.91 (0.86-1)	
Min, Max	0.7, 1	0.8, 1	0.8, 1	0.8, 1	0.7, 1	0.7, 1	0.7, 1	0.8, 1	
GEN									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	1.00****
Mean ± Std-Dev	0.02 ± 0.1	0.01 ± 0	0.01 ± 0	0.01 ± 0	0.01 ± 0	0.02 ± 0	0.01 ± 0	0.01 ± 0	
Median (Q1-Q3)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	
Min, Max	0, 0.3	0, 0.1	0, 0.1	0, 0.1	0, 0.1	0, 0.1	0, 0.1	0, 0.1	
INSOWNER									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	1.00**
Mean ± Std-Dev	0.38 ± 0.3	0.41 ± 0.3	0.41 ± 0.3	0.44 ± 0.3	0.43 ± 0.3	0.45 ± 0.3	0.44 ± 0.3	0.43 ± 0.3	
Median (Q1-Q3)	0.38 (0.18-0.59)	0.38 (0.18-0.6)	0.38 (0.19-0.6)	0.4 (0.19-0.6)	0.4 (0.19-0.7)	0.4 (0.25-0.7)	0.4 (0.19-0.7)	0.4 (0.19-0.7)	
Min, Max	0, 1	0, 1	0, 1	0, 1	0, 1	0, 1	0, 1	0, 1	
DCAPS_debit_equity									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.77****
Mean ± Std-Dev	0.73 ± 0.9	0.68 ± 0.8	0.65 ± 0.8	0.52 ± 0.5	0.6 ± 0.5	0.76 ± 0.7	0.87 ± 0.9	1.09 ± 1.6	
Median (Q1-Q3)	0.54 (0.27-0.85)	0.47 (0.28-0.64)	0.41 (0.2-0.65)	0.42 (0.2-0.66)	0.48 (0.22-0.76)	0.49 (0.26-1.04)	0.75 (0.23-0.99)	0.67 (0.23-1.23)	
Min, Max	0, 4.1	0.1, 3	0, 3.2	0, 2	0, 2.2	0, 2.5	0, 3.3	0, 7.5	
DCAPS_debt_assets									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.77****
Mean ± Std-Dev	0.33 ± 0.2	0.33 ± 0.2	0.31 ± 0.2	0.29 ± 0.2	0.32 ± 0.2	0.36 ± 0.2	0.38 ± 0.2	0.39 ± 0.2	
Median (Q1-Q3)	0.35 (0.21-0.46)	0.32 (0.22-0.39)	0.29 (0.17-0.39)	0.3 (0.16-0.4)	0.32 (0.18-0.43)	0.33 (0.21-0.51)	0.43 (0.19-0.5)	0.4 (0.19-0.55)	
Min, Max	0, 0.8	0, 0.7	0, 0.8	0, 0.7	0, 0.7	0, 0.7	0, 0.8	0, 0.9	
FSIZE									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	1.00**
Mean ± Std-Dev	7.36 ± 0.4	7.38 ± 0.4	7.38 ± 0.4	7.39 ± 0.4	7.4 ± 0.4	7.4 ± 0.4	7.39 ± 0.4	7.37 ± 0.4	

var	2013	2014	2015	2016	2017	2018	2019	2020	P.value
Median (Q1-Q3)	7.34 (7.03-7.71)	7.35 (7.07-7.73)	7.29 (7.05-7.72)	7.32 (7.07-7.77)	7.38 (7.12-7.79)	7.44 (7.12-7.79)	7.42 (7.11-7.8)	7.34 (7.05-7.74)	
Min, Max	6.7, 8	6.8, 8.1	6.8, 8.1	6.7, 8.2	6.6, 8.3	6.6, 8.2	6.6, 8.1	6.5, 8.1	
FAGE									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.43****
Mean ± Std-Dev	25.64 ± 16.8	26.6 ± 16.8	27.56 ± 16.8	28.52 ± 16.8	29.48 ± 16.9	30.44 ± 16.9	31.4 ± 16.9	32.36 ± 16.9	
Median (Q1-Q3)	23 (9-39)	24 (10-40)	25 (11-41)	26 (12-42)	27 (13-43)	28 (14-44)	29 (15-45)	30 (16-46)	
Min, Max	5, 61	6, 62	7, 63	8, 64	9, 65	10, 66	11, 67	12, 68	
DIV									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.61****
Mean ± Std-Dev	0.49 ± 0.6	0.36 ± 0.4	0.29 ± 0.5	0.31 ± 0.4	0.38 ± 0.4	0.32 ± 0.4	0.21 ± 0.4	0.31 ± 0.5	
Median (Q1-Q3)	0.19 (0-0.84)	0.28 (0-0.69)	0 (0-0.67)	0.04 (0-0.59)	0.38 (0-0.67)	0 (0-0.65)	0 (0-0.29)	0 (0-0.57)	
Min, Max	0, 2.3	0, 1.2	-0.7, 1.5	0, 0.9	0, 1.1	0, 1.2	0, 1.2	0, 1.3	
EM_kothari									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.58****
Mean ± Std-Dev	-0.05 ± 0.4	-0.05 ± 0.4	-0.09 ± 0.3	-0.05 ± 0.3	-0.07 ± 0.3	-0.01 ± 0.2	0 ± 0.2	-0.01 ± 0.2	
Median (Q1-Q3)	0.02 (-0.04-0.11)	0.04 (-0.03-0.08)	0 (-0.07-0.02)	0.02 (-0.06-0.1)	-0.01 (-0.09-0.06)	0.03 (-0.04-0.09)	0.03 (0-0.11)	0.02 (-0.02-0.08)	
Min, Max	-1.5, 0.3	-1.7, 0.4	-1.4, 0.2	-1.4, 0.3	-1.1, 0.2	-1, 0.3	-1, 0.3	-0.9, 0.3	
EM_Jones									
n (miss)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	25 (0)	0.67****
Mean ± Std-Dev	-0.05 ± 0.4	-0.04 ± 0.4	-0.08 ± 0.3	-0.05 ± 0.4	-0.08 ± 0.3	-0.02 ± 0.3	-0.01 ± 0.3	-0.03 ± 0.3	
Median (Q1-Q3)	0.02 (-0.04-0.08)	0.02 (-0.06-0.08)	-0.03 (-0.06-0.03)	0.02 (-0.07-0.07)	-0.03 (-0.11-0.01)	0 (-0.05-0.07)	0 (-0.03-0.09)	0 (-0.12-0.07)	
Min, Max	-1.5, 0.6	-1.7, 0.6	-1.4, 0.5	-1.3, 0.7	-1, 0.5	-0.9, 0.5	-1, 0.5	-0.9, 0.5	

Table (26)*Study's sample*

#	Country	Name	Symbol
1.	PEX	Beit Jala Pharmaceutical	BJP
2.	PEX	The Vegetable Oil Industries	VOIC
3.	PEX	Palestine Plastics Industries	LADAEN
4.	PEX	Jerusalem Cigarette	JCC
5.	PEX	Al Shark Electrode	ELECTRODE
6.	PEX	Palestine Poultry	AZIZA
7.	PEX	National Aluminum and Profiles	NAPCO
8.	PEX	Golden Wheat Mills	GMC
9.	PEX	The National Carton Industry	NCI
10.	PEX	Arab Company for Paints Products	APC
11.	PEX	Dar Al Shifa Pharmaceutical Industry	PHARMACARE
12.	PEX	Birzeit Pharmaceuticals	BPC
13.	PEX	Jerusalem Pharmaceuticals	JPH
14.	ASE	Jordan Poultry Processing & Marketing	JPPC
15.	ASE	Jordan Dairy	JODA
16.	ASE	NUTRI DAR	NDAR
17.	ASE	General Investment	GENI
18.	ASE	Universal Modern Industries	UMIC
19.	ASE	Jordan Vegetable Oil Industries	JVOI
20.	ASE	Siniora Food Industries Plc	SNRA
21.	ASE	Dar Al Dawa Development & Investment	DADI
22.	ASE	Hayat Pharmaceutical Industries Co.	HPIC
23.	ASE	The Industrial Commercial & Agricultural	ICAG
24.	ASE	Premier Business And Projects Co.Ltd	ACDT
25.	ASE	Philadelphia Pharmaceuticals	PHIL
26.	ASE	Jordan Industrial Resources	JOIR
27.	ASE	INTERMEDIATE PETROCHEMICALS INDUSTRIES CO. LTD.	IPCH
28.	ASE	The Arab Pesticides & Veterinary Drugs Mfg.	MBED
29.	ASE	The Jordan Pipes Manufacturing	JOPI
30.	ASE	Ready Mix Concrete and Construction Supplies	RMCC
31.	ASE	Al-Quds Ready Mix	AQRM
32.	ASE	Arabian Steel Pipes Manufacturing	ASPM
33.	ASE	United Cable Industries	UCIC
34.	ASE	National Cable & Wire Manufacturing	WIRE
35.	ASE	Assas For Concrete Products Co. Ltd	ASAS
36.	ASE	Union Tobacco & Cigarette Industries	UTOB
37.	ASE	The Jordan Worsteds Mills	JOWM
38.	ASE	AFAQ HOLDING FOR INVESTMENT & REAL ESTATE DEVELOPMENT CO. P.L.C	MANR



جامعة النجاح الوطنية
كلية الدراسات العليا

الأثر الوسيط لحوكمة الشركات على العلاقة
ما بين إدارة الأرباح وهيكل رأس المال

إعداد

شمس الضحى محمد حسني ابو الحسن

إشراف

أ. د. عبد الناصر نور

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قدمت هذه الرسالة استكمالاً لمتطلبات الحصول على درجة الماجستير في المحاسبة بكلية الدراسات
العليا في جامعة النجاح الوطنية، نابلس - فلسطين.

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الاثـر الوسيط لحوكمة الشركات على العلاقة ما بين ادارة الاربـاح وهيكـل رأس المال

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أ. د. عبد الناصر نور

د. سامح عطوط

المخلص

تهدف الدراسة الى التحقق من تأثير ادارة الاربـاح على قرار هيكـل رأس المال للشركات الصناعية المدرجة في بورصة فلسطين وبورصة عمان. بالإضافة الى الدور الوسيط لمتغيرات الحوكمة على العلاقة ما بين ممارسة ادارة الاربـاح و هيكل رأس المال. تم تحليل القوائم المالية لـ 38 شركة ما بين عام 2013 الى 2020 باستخدام انحدار الاثر الثابت و العشوائي عن طريق Rstudio.

خلصت النتائج للعيـنة الكلية ان ادارة الاربـاح تؤدي الى زيادة الاعتماد على التمويل بالدين. أما فيما يتعلق بالدور الوسيط لخصائص الحوكمة، تبين ان وجود الاعضاء غير التنفيذيين و وجود النساء في مجلس الإدارة يؤدي الى زيادة أثر ادارة الاربـاح على هيكل رأس المال و بالتالي زيادة الاعتماد على الدين في الهيكل التمويلي للشركة. نتائج العينة الفلسطينية تشير الى ان ادارة الاربـاح ترتبط سلبيا بالاعتماد على التمويل بالدين. أما الدور الوسيط لخصائص الحوكمة تبين ان الحجم الكبير لمجلس الادارة و التمثيل النسائي يؤدي الى زيادة اثر ادارة الاربـاح على هيكل رأس المال و بالتالي زيادة الاعتماد على التمويل بالدين. أما فيما يتعلق بالدور الوسيط لخصائص الحوكمة ، فإن التمثيل النسائي في مجلس الادارة يزيد من اثر ممارسة الاربـاح على الهيكل التمويلي بالتالي زيادة الاعتماد على الدين في هيكل رأس

المال. اما الملكية المؤسسية فتعمل على تقليل اثر ممارسة الارباح على الهيكل التمويلي فالتالي تقليل الاعتماد على الدين.

توصي الدراسة بوجود حرص ادارة الشركة على الاخذ بعين الاعتبار سياسة هيكل رأس المال عند اتخاذ القرارات المالية، اضافة الى حرصها على توخي الحذر عند إنشاء هيكل رأس مال مثالي واتخاذ الخطوات المناسبة لضمان عدم تعرض شركتهم لمخاطر الافلاس نتيجة وجود الديون بنسبة عالية. تشير الدراسة الى وجوب محافظة الشركة على مستوى معين من ممارسات حوكمة، كونها تشكل مصدر ثقة للمقرضين و المستثمرين و بالتالي امكانية الوصول الى مصادر تمويل مناسبة للشركة. يؤدي هذا النهج إلى تحسين عملية المراقبة بالتالي جذب موارد أفضل.

واجهت الدراسة عدة محددات اهمها: وجود بعض متغيرات للحوكمة لم تشتمل عليها الدراسة قد يكون لها تأثير مباشر على قرار التمويل. العينة الفلسطينية المستخدمة في هذه الدراسة أصغر بمرتين من العينة الأردنية ، مما يؤدي على الأرجح إلى اختلافات في دقة النتائج. نظرًا لصغر حجم العينة والفترة الزمنية ، لا يمكن تعميم النتائج على عينات أخرى خارج قطاع الصناعة أو فترات زمنية أخرى.

الكلمات المفتاحية: هيكل رأس المال؛ حوكمة الشركات؛ ادارة الارباح؛ بورصة فلسطين؛ بورصة عمان.