**CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD**

# Impact of Earnings Management on Firm Performance: Moderating Role of Board Structure

by

Sheraz Ahmed

A thesis submitted in partial fulfillment for the
degree of Master of Science

in the
Faculty of Management & Social Sciences
Department of Management Sciences

2022

Copyright © 2022 by Sheraz Ahmed

*I dedicate this thesis to my **Mother** who worked so hard with me, more than any of her child after passing away of my father. Dedicate it to my **sumptuous wife** who always encourages and supports me. To **Dr. Arshad Hasan** and I often ran out of words to describe Dr. Sahib. **Dr. Arshad** has treated me with such kindness that I hardly seen in my whole life while studying and professional career. He often accommodates me often out of normal course not only during the thesis but also during my course work and difficult times. To my friend like elder brother **Muhammad Aksa**r who support me a lot during the course of thesis and got all out support from him. To my two kids **Musab** and **Ayesha** who are source of inspiration for me. Last but not the least to my **sister**, whose prayers are always with me.*

## CERTIFICATE OF APPROVAL

## Impact of Earnings Management on Firm Performance: Moderating Role of Board Structure

by

Sheraz Ahmed

(MMS181028)

## THESIS EXAMINING COMMITTEE

| S. No. | Examiner | Name | Organization |
|---|---|---|---|
| (a) | External Examiner | Dr. Muhammad Khalid Sohail | BU, Islamabad |
| (b) | Internal Examiner | Dr. Muhammad Mazhar Iqbal | CUST, Islamabad |
| (c) | Supervisor | Dr. Arshad Hassan | CUST, Islamabad |

_____

Dr. Arshad Hassan
Thesis Supervisor
April, 2022

_____       _____

Dr. Lakhi Muhammad                                   Dr. Arshad Hassan
Head                                                           Dean
Dept. of Management Sciences                   Faculty of Management & Social Sci.
April, 2022                                                  April, 2022

# *Author's Declaration*

I, **Sheraz Ahmed** hereby state that my MS thesis titled "**Impact of Earnings Management on Firm Performance: Moderating Role of Board Structure**" is my own work and has not been submitted previously by me for taking any degree from Capital University of Science and Technology, Islamabad or anywhere else in the country/abroad.

At any time if my statement is found to be incorrect even after my graduation, the University has the right to withdraw my MS Degree.

**(Sheraz Ahmed)**

Registration No: MMS181028

# *Plagiarism Undertaking*

I solemnly declare that research work presented in this thesis titled "**Impact of Earnings Management on Firm Performance: Moderating Role of Board Structure**" is solely my research work with no significant contribution from any other person. Small contribution/help wherever taken has been duly acknowledged and that complete thesis has been written by me.

I understand the zero tolerance policy of the HEC and Capital University of Science and Technology towards plagiarism. Therefore, I as an author of the above titled thesis declare that no portion of my thesis has been plagiarized and any material used as reference is properly referred/cited.

I undertake that if I am found guilty of any formal plagiarism in the above titled thesis even after award of MS Degree, the University reserves the right to withdraw/revoke my MS degree and that HEC and the University have the right to publish my name on the HEC/University website on which names of students are placed who submitted plagiarized work.

**(Sheraz Ahmed)**

Registration No: MMS181028

# *Acknowledgement*

**"Then which of the Blessings of your Lord will you deny"**

First and foremost, to my creator, my life coach, the most gracious, the most beneficent, **ALLAH S.W.T**, I owe it all to you, Thank you! There have been many people who have walked alongside me, who have guided me through all these efforts. I would like to outstretch gratitude to each of them.

I would like to extend special gratitude to my supervisor, **Dr. Arshad Hasan** whose contributions in simulating suggestions, encouragement and helped me to coordinate my thesis work and especially in achieving the results. It was because of your support and guidance from the beginning that I have done it!

Furthermore, I would also like to acknowledge with much appreciation the crucial role of my friends for their support, mentor ship, encouragement and technical advice throughout research work. Without you it was not possible!

A special thanks to my friend **Mr. Muhammad Aksa**r for being with me all the time during the whole process of thesis writing. I express my deepest and earnest thanks to my parents for taking part in useful decisions & giving necessary advices, support and motivation for completion of this degree and all. I choose this moment to acknowledge your contributions appreciatively.

I would like to express my cordial appreciation to all those who provided me the possibility to complete this report.

**(Sheraz Ahmed)**

# *Abstract*

The main aim of the study is to capture the influence of the real earnings management (REM) on firm performance with moderating effect of board structure Index. Panel data has been collected from 200 companies from non-financial sectors of Pakistan and data time period was for 11 years (2009-2019). The firm performance measured by using both book based (ROA and ROCE) and markets based (Tobin's Q) proxies. By following Roychowdhury, (2006), the cash flow based model has been used to measure the Real Earnings Management. The dynamic panel model has been used to obtain the results. The results are showing that REM reduces the firm performance measured by returns on assets and returns on capital employed, but it does not impact the market based measured i.e. Tobin's Q. Board structure index moderates the relationship between REM and firm performance measured by ROA and ROCE, but it does not moderates between REM and Tobin's Q. The study is beneficial for investors and policy makers to monitor the impact of earning management and take decisions accordingly. Investor should be careful in investing such firms and policy makers should improve the quality of board structure to minimize the effect of earnings management.

**Keywords: Real Earnings Management, Returns on Assets, Return on Capital Employed, Tobin's Q, Board Structure Index**

# Contents

# List of Tables

# Abbreviations

| | |
|---|---|
| **AEM** | Accrual Earning Management |
| **BSI** | Board Structure Index |
| **CEO** | Chief Executive Officer |
| **CSR** | Corporate Social Responsibility |
| **EM** | Earnings Management |
| **FP** | Firm's Performance |
| **FSIZE** | Firm Size |
| **GMM** | Generalized Method of Moments |
| **IAS** | International Accounting Standards |
| **IFRS** | International Financial Reporting Standards |
| **LEV** | Leverage |
| **LIQ** | Liquidity |
| **MCS** | Management Control System |
| **PCA** | Principal Component Analysis |
| **PSX** | Pakistan Stock Exchange |
| **R & D** | Research and Development |
| **REM** | Real Earnings Management |
| **ROA** | Return on Asset |
| **ROCE** | Return on Capital Employed |
| **SEC** | Security and Exchange Commission |
| **TANG** | Tangibility |
| **TQ** | Tobin's Q |
| **WRDS** | Wharton Research Data Services |

# Chapter 1

# Introduction

Chapter 1 includes the Introduction, Research Gap, Problem Statement, Supporting Theory, Research Questions, Objectives, Significance and Contribution of this Study.

## 1.1 Background of the Study

Earnings management is the procedure of managerial actions reflected in a firm's financial statements to give the appearance of seamless periodic or annual income, to indicate higher profitability in a provided year at the 'cost' of lesser income in the future, or to exhibit low earnings in a provided time-period so that reported income coming time will be greater. Management may utilize a variety of accounting approaches to transmit confidential data to financial report viewers in some instances. Earnings management has the potential to mislead stakeholders regarding the company's genuine financial results. If management benefits from manipulating earnings, one should wonder if those benefits come at the cost of anyone.

The research investigates the link between earnings management strategies and firm performance. Some variables that can affect the pervasiveness of earnings management including regulatory flexibility; unclear paths that can distinguish fraud and forceful accounting (earning manipulation); flawed market competition;

asymmetric information; shareholders' lack of knowledge regarding accounting policies; and a greater emphasis on profits.

Profit is the most important economic data, and company-issued financial information has become a fundamental resource for every market entrant, as it reduces knowledge asymmetries between directors, investors, and other stakeholders. Profits are the most important factor that determines a company's financial and health security (Khuong et al., 2019). Though, the monetary quality of information has been questioned as a result of recent accounting and financial errors, which have increased investor and market skepticism in the quality, dependability, and value of the information offered by corporations (Tang et al., 2013). Organizations tend to attain specific expected earnings, even though reported earnings are the consequence of accounting decisions and basic corporate activity. Profits management is a phenomenon in which executives employ various legal and occasionally unlawful means and strategies to achieve specific earnings goals (Tang et al., 2013). For opportunistic and/or informational motives, earnings management is any purposeful practice by firm leaders to report accounting results that do not correlate to those achieved. In the initial years of his career, CEO Zhang, Uchida, and Bu (2013) disclosed that he falsified earnings to grab the market and build his reputation. According to Ahadiat and Hefzi (2013), earnings management is the process of manipulating company financial data to achieve a specific aim. Earnings management is critical for a firm's financial statement preparation, and company insiders have used it to control and provide financial data to others to protect their roles and purposes. Earnings management can be done legally, but it is nevertheless seen as an ethical issue in the context of financial reporting. In this regard, Geiger and Smith (2010) argue that, while not all earnings management strategies result in misrepresentation of financial difficulties, an examination from several perspectives is necessary for the acceptance of earnings management.

Firm profits, as well as the firm's short and long-term performance, are used to determine firm valuation. As a result, corporate earnings are directly linked to firm valuation. The release of concurrent information around earnings releases shows that market reaction to earnings announcements is increasing (Beaver et al., 2020). Financial aims functioned as a rationalization to perpetrate manipulation,

according to the fraud triangle theory (Sukirman & Sari, 2013). The study also discovered that managers' abilities would improve business efficiency and reduce the risk of earnings restatement, resulting in higher earnings quality in the long run (Edi & Suyadi, 2018). Furthermore, managers are known to make aggressive accounting decisions and take risks in financial reporting. Managers purposefully take advantage of loopholes in bank rules and accounting choices to earn improper benefits.

Earnings management is a worldwide phenomenon. In August of this year, the Securities and Exchange Commission (SEC) of the United States launched an inquiry against General Electric. General Electric was accused of committing a greater fraud than Enron, with an accounting scam totaling $38 billion, or more than 40% of the company's market capitalization. Similarly, General Electric's executives concealed about $29 billion in losses from the public and are now on the verge of bankruptcy. Startup companies in Silicon Valley are also victims of accounting fraud. WeWork, the unicorn start-up who's IPO is the most anticipated event of 2019, will debut in early 2019. WeWork has lost a lot of money over the years. It lost $429 million out of $436 million in revenue in 2016, and it continues to lose money. In 2019, the company lost $690 million in revenue of $1.5 billion. We Work's troubles have been attributed to poor corporate governance.

Boards of directors perform a significant impact on the structure of a firm. The board serves as a connection between those who give capital (investors) and individuals who create value with that capital (managers). Boards of directors are also in charge of ensuring that the data in financial statements is of high quality. In this context, firm legal mandates that the company's accounting mechanism and fiscal reports be monitored by the board of directors. Since managers typically have self-concerned motives to control earnings, which could lead to shareholders being misled, board oversight of financial reports is critical.

In reality, the board of directors serves as a key internal control tool for monitoring top management's activities. The board membership, number of board members, and the architecture and physical state of the board's observing panels are all thought to be critical factors that influence the board's ability to oversee management. The Portuguese Securities Market Supervisory Authority has embraced the

suggestions that directors be plural, that the board of directors involves an adequate amount of non-directors, and that the board of directors establishes internal control committees. The Portuguese share-market regulator appears to agree that board size, board committees, and board supervising panels are all appropriate corporate governance practices, based on their suggestions.

Boards controlled by non-executives and independent executives, according to Fama (1980) and Fama and Jensen (1983), are probably in an enhanced situation to oversee and hold management. Independent members of management are better capable to supervise the earnings procedure and withstand criticism from the corporation to manipulate earnings. Independent directors' higher monitoring capacity is related to their distinct motives to maintain their external labor market reputations. The size of the board is another crucial factor that influences how effective it is at monitoring management. The higher the number of board members, the larger the organization performs activities. However, bigger boards cause less efficient cooperation, communication, and choice-making, and are much possible to be managed by the management.

The available literature also implies that the architecture and formation of a corporate board's reviewing panels is a value-relevant feature. Researchers have discovered that the organization of the corporate finance committees has an impact on corporate performance. The members of the board and its design seem to be an efficient corporate administration instrument for reducing agency concerns and, as a result, managing profitability. Several studies have discovered that board structure influences corporate financial reporting decisions, such as earnings management.

This study builds on prior research by looking at how the size of a company's board of directors influences the scale of earnings management for organizations listed in Portugal. We concentrate on the primary board structure aspects emphasized by the CMVM's suggestions: board size, board makeup, and board supervising committees. Our findings can help both policymakers and shareholders understand if the suggested governance norms linked to board structures alleviate earnings management and improve earnings quality, particularly in companies with increasingly concentrated stock ownership.

## 1.2  Problem Statement

As a consequence of earnings management the ultimate objective of the firm that is maximization of shareholder's wealth does not achieve. It also arise the agency issue so board structure is used to minimize it. Therefore the aim of the study is to check how board structure, minimizes the agency issue.

## 1.3  Supporting Theory

Management of firm communicates with outside stakeholders with the help of financial reporting by using International Financial Reporting Standards (IFRS) and accounting principles (Abbas & Ayub, 2019). This led to some some important issues among academicians and practitioners regarding the way the financial sector is regulated and monitored. Scholars and policymakers have also been compelled to examine the way corporations are controlled in light of recent mega-corporation failures and scandals.

Previous studies have shown that managers use earnings management to fulfill expected profit margins and compare them with the industry profitability threshold (DeFond and Jiambalvo, 1994; Ding et al., 2018; Elayan et al., 2008; Guidry et al., 1999; Kasznik, 1999). Wage impacts, incentives, and other considerations are only some of the factors that drive companies to meet their financial goals. Earnings management based on accruals and actual earnings management have been categorized in previous research (Roychowdhury, 2006). On the other hand, Real Earnings Management refers to a company's ability to increase its profits by making changes to its business practices (Ewert & Wagenhofer, 2005; Roychowdhury, 2006). Accrual earnings management requires that Real earnings management involves R&D spending manipulation, overproduction, promotional spending forecast, and sales manipulation.

Even though Enron went bankrupt in 2001, it was undoubtedly a result of profits management, as Yoon, Miller, and Jiraporn (2006) pointed out. Profit management is the purposeful use of accounting results that do not correlate to what has really been done by company executives for opportunistic and/or information

motives by the executives of companies. We discovered that CEOs falsify earnings in the early stages of their employment to capture the market and build their reputations (Zhang, Uchida, & Bu, 2013). Ahadiat & Hefzi (2013) describe the practice of manipulating company financial statistics in order to accomplish a certain aim as "earnings management." A crucial part of accounting for a business is managing earnings, which insiders utilized to manipulate and dish out financial information in an effort to protect their points and wellbeing (Lin, Riccardi, & Wang, 2012). Although in actuality, earning-management may be done legally, it is nonetheless viewed as a virtuous issue in fourth commercial estate (Abdelghany, 2005). Despite the fact that not all earnings management solutions lead to financial deception, Geiger & Van Der Laan Smith (2010) argue that a thorough analysis is required to adopt earnings management.

As a result of the contemporary corporation's separation of principals and agents, ownership and control have been separated. Certain conflicts of interest arise between the agents in charge of the firm and its owners as a result of this separation between management and ownership. When conflicts arise between the interests of agents and their principals, agency theory recommends that specific protective covenants be placed in place to safeguard and minimize the divergence of those interests. Corporate Governance" is a term recently used to refer to these kinds of control measures (Mitchell & Meacheam 2011; Tariq & Abbas, 2013).

When it comes to controlling and governing the corporation, the term "corporate governance" has taken on a new meaning in the wake of high-profile failures such as Enron's, WorldCom's, and AIG's, as well as recent scandals such as Volks Wagon's, which have brought the issue into public eye (Claessens & Yurtoglu, 2013). Because of Lehman Brothers' fall and other financial institutions' exposure to our financial system's weaknesses during the recent global financial crisis in 2007 and 2008, markets became dysfunctional and tightened lending conditions (Joyce et al., 2010). According to Claessens and Yurtoglu (2013), there are various structural reasons for periodic crises that make corporate control uniform extra vital for social and economic progress.

It should be noted that the 'Board of Directors' is the core of any corporate governance structure; it is their responsibility to protect fund providers. The former

chairwoman of the United States' SECP, Mary Schapiro shrewdly questioned the boards' abilities amid the global financial crisis. As part of the investigation into what went wrong, Schapiro urged the boards to reveal the backgrounds and skills of its directors. Even though there has been an abundance of investigation on commercial boardrooms, the practical confirmation is still largely mixed and requires scholars to shift their attention to other substantial and prevailing variables that might significantly affect the association between industrial efficiency and panel affiliates behavior.

## 1.4   Research Questions

Following are the Research questions of this Study:

**Research Question 1**

Whether earnings management influences the firm performance?

**Research Question 2**

Whether board structure influences the firm performance?

**Research Question 3**

Whether board structures moderates the relationship of earnings management and firm performance?

## 1.5   Research Objectives

This study has the following Research Objectives:

**Research Objective 1**

To examine the influence of earnings management on firm performance

**Research Objective 2**

To check the board structure influence on firm performance

**Research Objective 3**

To investigate the moderating role of board structure index between the relationship of earnings management and firm performance

## 1.6   Significance of the Study

Earnings management means multinational companies use earnings management as a tool to modify certain financial operations to reach or exceed short-term earnings goals by adjusting the duration and configuration of real transactions. These practices have immediate cash flow implications as well as possible long-term economic value implications. Earnings management practices suits management in order to achieve their personal goals and benefits. But firm's real goal is compromised that is maximization of the wealth of shareholders. In this context agency issue arises and the corporate governance becomes very significant.

A non-executive director of a firm who assists the corporation in strengthening the company's reputation and governance standards is known as an independent director. They have no ties to the company that could influence his or her judgment's independence. Board meeting is a gathering of a company's board of directors that takes place at regular intervals throughout the year to discuss company-wide policies or issues. These meetings are significant because they allow the company's leaders to define and discuss the company's future direction. For each accounting year, board size refers to the total number of directors on the board of each sample company, including the CEO and Chairman. External directors, executive directors, and non-executive directors will also be included.

When it comes to the importance of a thesis, it can be divided into two categories: academic and practical application. Regarding the academic goal, this study would be beneficial to finance students and future researchers to conduct their research in this area. It also helps those who want to do more research. When we look at it from a practical standpoint, it is very beneficial because most investors want to know about the success of these companies so that they can predict the future. The purpose of the research is that investors must be aware the consequences of earning management. This study will help for the policy makers to formulate the policies which may improve the efficiency of board so that agency issues may be minimized. This study will also contribute to the existing body of knowledge.

So this study will investigate the impact of Earnings management on firm performance and it examines the moderating role of board structure in the relationship

of Earnings management with firm's performance for the minimization of agency issue.

## 1.7   Contribution of the Study

When it comes to the contribution of study, it can be divided into two categories: academic and practical application. Regarding the academic contribution, this study would be beneficial and helpful to finance students and future researchers who want to conduct more research in this area. When we look at it from a practical standpoint, it is very beneficial because most investors want to know about the success of these companies so that they can predict the future.

The purpose of the research is that investors must be aware the consequences of earnings management. This study is helpful for the policy makers to formulate the policies which will improve the efficiency of board so that agency issues may be minimized. This study will also contribute to the existing body of knowledge. So this study will investigate the impact of Earnings management on firm performance and it examine the moderating role of board structure in the relationship of Earnings Management with firm's performance for the minimization of agency issue.

## 1.8   Scheme of the Study

The previous literature and research hypothesis are explained in Chapter 2. The study's data collection, variable descriptions, and econometric models are discussed in Chapter 3. The analysis of data and discussion of empirical results are covered in Chapter 4. The study's conclusion, recommendations, and limitations are covered in Chapter 5.

# Chapter 2

# Literature Review

Chapter 2 includes the variables review of literature from the previous studies, theoretical review and hypotheses development.

## 2.1 Earnings Management and Firm Performance

Earnings management is defined by Copeland, 1968 (Utami, 2006) as "the same power to grow or reduce reported net revenue at will," which involves managerial attempts to increase or decrease earnings, using earnings apparatus, in line with managerial goals. Earnings management is performed to sway investor perceptions, particularly in the firm's shares purchase decisions.

Managers typically handle accrual income after the financial year closes, according to (Zang, 2012). Since their businesses are in such fierce competition, some executives may find it prohibitively pricey. Companies in a given industry confront varying levels of competitiveness and, as a result, experience varying degrees of stress when departing from the best business plan. As a result, since the loss of their comparative advantage is generally minimal, management of leading market companies might consider manipulating genuine activity to be less expensive.

If it is linked to a rise in the firm's worth, (Syanthi et al., 2013) stated that while there is asymmetric information, managers might send signals to investing people regarding the company's situation with the purpose to increase the benefits of the firm's equity. The indication can be conveyed through financial information

disclosures (disclosure).

Moreover, (Roychowdhury, 2006) identified several ways for manipulating real-world activities, involving sales manipulation, increased production, and lowering the price of decisions. With managers' proclivity to search their advantages (moral risk), a good standard of asymmetric information, as well as certain intentions, the probability of management using accrual objects to introduce earnings in conformance with managerial concerns which may not be in full compliance with primary preferences, such as entrepreneur, shareholder, or creditor, is increasing.

The measuring of accruals is highly crucial to observe to determine if there is earnings management (Utami, 2006). The gap between earnings and cash flows from continuing operations is known as total accruals. Total accruals are separated into two categories: (1) the component that occurs naturally during the preparation of financial records, and (2) the accrual component, which is a type of financial manipulation of data known as anomalous accruals.

The original specific approach of working capital accruals was employed as a substitute for earnings management in this research. Working capital accruals are more suitable, according to research (Utami, 2006). Since discretionary accruals are much more involved, sales are utilized as a substitute for working capital accruals. The reason for this is that numerous sales accounts have earnings management. Shareholders can access additional capital accrual information directly from the financial reporting of cash flows from operational processes, eliminating the need for laborious calculations.

Every action made by management to grasp income management is termed earning management. Recognizing earnings management as administrators' opportunistic behavior in handling the salary, debt, and political cost agreements to maximize their utility. Secondly, from the standpoint of effective contracting, earning management provides managers with the freedom to defend themselves and the firm by predicting unusual situations for the interest of all parties involved in the agreement. Discretionary accruals and non-discretionary accruals are two types of accruals. Non-discretionary revenues are an acknowledgment of accrual income that is rational, unharmed by management plans, and subject to a commonly

accepted benchmark or accounting theory, and in case the criterion is violated, this will impact the reliability of financial reporting.

Discretionary accruals are an acknowledgment of accrual earnings that are free, uncontrolled, and are a preference of management plan, whereas discretionary accruals are an acknowledgment of accrual revenues that are rational, unharmed by managerial policies, and subordinated to a benchmark (Sugiyono, 2010).

The schedule and form of investing, management, and financing activities can all be changed to manipulate earnings (Vorst, 2016). Real earnings management (REM) has indeed been studied in the monetary reporting studies by looking at management implementation plan for R&D and marketing expenses, sales price adjustments, sale of assets, increased production, or share repurchases (Ali & Zhang, 2015; Graham et al., 2005). REM activities, which can have a big monetary effect on profitability, are typically implemented at the closing of the financial year, as management becomes aware that they are not on pace to fulfill their quick earnings projections and take steps to close the gap.

According to research findings in Graham et al. (2005), around 80% of polled CFOs can reduce discretionary expenditure in R&D, promotion, or repair to meet an earnings objective. Likewise, Bhojraj et al. (2009) show that management with equity-based rewards reduces discretionary spending to reach analyst expectations, while Gunny (2010) discovers that REM is closely related to enterprises hitting earnings expectations.

There comes a vast area of research on the factors that influence earnings management. 4 Prior researches, on the other hand, have rarely focused on the forces that drive judgment and the function of MCS in assisting executives in making judgments.

The study findings in Dichev et al. (2013), which implies that internal control system is a major element in assessing earnings quality, and the function of Abernethy et al. (2019), and Brink et al. (2020), consider that reward and remuneration agreements, which are only one component of the MCS, encourage earnings handling, are the exceptional cases. Next, we'll look at MCS's involvement in REM support.

The collaborative usage management control systems (MCS) and real earnings management are investigated (REM). 1 Real-time earnings management (REM) refers to changes in the scheduling and structuring of investing, operational, and financing decisions (Vorst, 2016). Decreasing R&D and promotional spending, extending aggressive lending terms, sales of assets, oversupplying, or rebuying stock are all instances of these acts (Ali & Zhang, 2015; Graham et al., 2005; Roychowdhury, 2006). Management utilizes REM operations to fulfill profit targets, according to previous research.

Earnings management has received much interest in the studies of financial accounting, and it's generally thought to have negative implications (Dechow et al., 2010), but an increasing number of studies shows both advantages and circumstances where REM may damage value. 2 According to (Gunny, 2010), firms who use REM to simply fulfill earnings targets score better in the long run than companies who do not use REM and fail or only accomplish their earnings goals. Bhojraj et al. (2009), on the other hand, indicates inferior long-term market efficiency for corporations that adopt REM to fulfill their earnings goals. With varied results on the effects of REM activities, the function of MCS in assisting people in making judgments and executing such steps becomes a concern. It is investigated if the interactional usage of MCS helps management I take real steps to fulfill earnings targets, which will be categorized as REM, and (ii) make REM more efficient in form of improving firm efficiency.

Two forecasts are made in this regard. Firstly, previous research has found that collaboratively using MCS enables the conversation and execution of implementation plan, allowing employees to monitor the timeframe of their choice-making and resulting in improved management practices. We expect that interactive usage leads to the discovery of REM operations by concentrating organizational attention on operational uncertainty that threatens company existence. The term "interactive MCS" refers to how system-produced material is "defined and examined in in-person conferences of leaders, workers, and top executives" Simons (1995), allowing for ongoing challenge and discussion of the original information that prompts strategies to fulfill profit goals. Although Simons (1995) acknowledges this potential side effect of MCS use, no previous research has been done to

evaluate it.

Second, we believe that proactive use will aid in the assessment, selection, and execution of REM measures, resulting in increased business profitability in the long term. MCS assists management in adopting REM activities, such as reducing inefficient processes and investing, efficiently and accurately, as stated in Gunny (2010). REM actions, on the other hand, are likely to show myopic strategic choices if, for instance, reductions in R&D, coaching, servicing, or promotion causes a reduction in future revenue, customer/employee unhappiness, or harm of competitive edge, as demonstrated by Bhojraj et al. (2009).

The second assumption (on performance repercussions) is unrelated to the first, in that organizations that have already recognized REM activities via prior experience would gain from participatory usage MCS at this phase to assist managerial actions.

While REM might seem to be comparable to notions discussed in the management accounting studies (Ferreira & Otley, 2009; Otley, 1999), it is a separate concept. Ex-ante (ahead of time) preparation and development, including the usage of equipment to boost and preserve business performance depending on the methodologies, measures, procedures, and systems required to monitor it, are all part of performance management (ex-post). One of the most basic assumptions in performance evaluation is that the goal is to enhance performance over time and that activities are conducted in compliance with the required strategy.

REM, on the other hand, refers to managers acting in ways that aren't normally part of the plan to meet short-term financial goals (García Osma et al., 2022). As a result, there are at least four distinct variations between real earning management and performance managing decisions: (1) their scope/objective (in which performance is wider than income); (2) their scheduling (REM activities are taken near the end of the period (Zang, 2012), powered by earnings stresses that arise near year-end, whereas quality management is expanded all through the time frame); (3) their timeframe (REM decisions are based on short, whereas outcome management is distributed all through the period) (REM are one-time activities). As a result, the two conceptions have distinct times, involve different activities, and have different goals (García Osma et al., 2022).

The following analysis is performed to see if our predictions are correct.

First, we look at the link between interacting MCS use and readiness to involve in REM activities. Secondly, we examine whether organizations that employ MCS to choose REM activities dynamically have superior future performance. It would support our hypothesis that interactive usage serves as a method to assist management in identifying and adopting activities that will help them accomplish their profits objectives while preventing actions that will harm the company's future outcome. In our experiments, we combine survey data with financial statement data.

Practice management (mostly CEOs and CFOs) are the targeted survey respondents since they are the most knowledgeable about MCS usage and company profits benchmarks.

We enlisted the help of the Spanish Accounting Association (AECA) in locating and engaging potential research respondents through its membership record.

In Spain, the AECA is the most popular expert organization for practice management. The following are the most important conclusions. Interactive usage of MCS is positively linked with REM, which is compatible with our assumptions. In three windows: t+1, t+2, and t+3, our findings show that REM, in connection with interactive usage of MCS, is favorably connected to efficiency in work performed, as assessed through return on equity (ROE) and return on capital employed (ROCE). These findings are in line with using survey and archival-based REM measurements (García Osma et al., 2022).

Earnings are crucial for business organizations, specifically those which are mentioned on the stock exchange. Senior Management is answerable to investors for the firm's revenues. Earnings are usually a reflection of a firm's output. Earnings became so significant that they are vulnerable to managerial manipulation. The most troubling aspect of using an accounting system in income statements is earnings management (Subramanyam, 2014).

Assumptions and guesses are used in accrual accounting to allow corporate management to recover critical knowledge and obtain professionalism in enhancing accounting use. There are two types of earnings management: original accounting

procedures and accountancy and regulatory assumptions that influence account-
ing calculations, both of which are examples of concealed earnings management
(Subramanyam, 2014).

Earnings management might harm investors by providing financial data that is
contrary to reality, causing investors to make poor decisions about the profitability
of firms. Earnings management occurs when there are disputes of concern between
management (agents) and shareholders (principal). Conflicts in interests arising
from managers' or shareholders' aim to maximize their benefit (Susanto, 2018).

Some previous earnings manipulation studies relied on accrual-based earnings ma-
nipulative tactics, although accrual-based earning management approaches might
be abandoned. As a result, it's crucial to know how the corporation manages earn-
ings by manipulating activities apart from earnings-based accrual (Sari, 2015).
Real earnings management is a form of cash flow management carried out by
corporate governance through the firm's operating processes (Sun et al., 2014).

PT Indofarma Tbk was involved in a lawsuit of earnings management at a public
corporation in Indonesia in 2002, concerning the fraud of financial accounts. Earn-
ings management is accomplished by assigning the price of products sold to the
worth of stock in the procedure, resulting in a reduced price of items sold. Since
the administration tries to influence the cost of the product, this is known as real
earnings management. Earnings management depending on the cost of goods sold
allocation is a method of real earnings management, according to the statement
stated (Roychowdhury, 2006). At this time, research on real-time earnings man-
agement strategies is required. Particularly in Indonesia, where the little studies
on real-based profits management has been conducted. Several real earnings man-
agerial practices, like those used by PT Indofarma Tbk, may be taking place in
Indonesian public firms.

Due to a lack of understanding of financial statements, certain companies, such as
Enron, Worldcom, Kimia Farma, and Toshiba, experienced mismanagement errors
that were either underrated or overpriced. This raises concerns regarding honesty,
information leakage, and the role of accounting in the generation of relevant and
trustworthy financial data. The Toshiba issue, which surfaced in April 2015, sug-
gests that the corporation's economic situation differs from that of an independent

panel and that earnings have been overstated by $ 1.2 billion over five years. This has caused shareholder skepticism, resulting in a 20% drop in Toshiba's stock price from April 2015 (Susanto, 2018).

To sustain the continuity of operations, every corporation has a profit target. Earnings, which are defined as the difference between revenues and expenditures over a specified period, are inextricably linked to managerial decisions. Earnings become one indicator of management's performance in running the organization. As a result, the management firm is always ready to show profits in financial accounts. Taking earnings management is among the options available to corporate management (Susanto, 2018).

Earnings management is the manipulation of financial knowledge through leaders' opportunistic actions targeted at obtaining their objectives. By increasing earnings, it can represent a positive firm performance by financial accounting manipulation, which will eventually render the earnings data provided useless. Real earnings management and accrual earnings management are two distinct forms of earnings management. It is dependent on the influence on cash flow, either direct or indirect. Handling the results by functional operations that affect cash flow is termed to be real earnings management.

Whereas accrual earnings management is the rearrangement of earnings management via forecasting and accounting rules that cause no immediate effect on cash flow, accrual earnings management is the rearrangement of earnings management via forecasting and accounting rules that cause no clear influence on cash flow ikk (Sun et al., 2014).

Real earnings management is the type of monetary control conducted by company management by functional activities that cause a direct effect on the firm's cash flow (Sun et al., 2014). Earnings management by manipulation of real action, as mentioned by Roychowdhury (2006), is the transition of earnings management from routine operating practice to performance to attain the intended earnings aim. The firm's management is encouraged by a wish to mislead some shareholders into trusting financial reports depending on regular operating conditions. Real earnings management can depreciate a company's worth since it harms cash flows in the future during the period in question (Roychowdhury, 2006).

Management (agents) seeks to monitor earnings via real operations instead of accrual operations. As per Roychowdhury (2006), the transition from accrual earnings management to real earnings management is because of these factors: (1) accrual modification is more able to impress auditors' attention than real modification, like modifying the firm's cost model; (2) depending on accrual handling independently may come with hazards. Realized loss-earning or deficiency year-end earnings might make it harder for firm management to adjust reimbursements after the conclusion of the financial term. If declared earnings fall short of the expectations, the accrual-based method becomes ineffective.

This indicates that the firm will no more be capable of meeting the desired targets, and in case the required objective is not met, the management will be regarded as inefficient and would not be eligible for a reward. As a result, manipulating real activities is a safe technique to meet earnings goals because it may be conducted at any time during the company's operational period, increasing the likelihood of meeting the target.

Roychowdhury (2006) discovered evidence that firm management manages real earnings in three ways. To begin, sales manipulation is an attempt to raise sales momentarily over some time by providing exceptional product rate discounts or offering more favorable credit-sale conditions. Assuming a favorable margin, this method can boost current-period sales volume and earnings. Giving discounted rates and shorter credit terms, on the other hand, will diminish current-period cash flows, resulting in anomalous cash flows.

Second, the corporation can minimize discretionary expenses like research and innovation, promotion, and sales, as well as leadership and administration, especially during periods when such expenses do not directly contribute to sales and earnings. This method can boost the present period's cash flow and cash flows, but it also has the potential of diminishing future cash flows. Discretionary workloads are reduced, resulting in extraordinarily low discretionary burdens (Susanto, 2018).

Thirdly, excessive manufacturing to minimize the price of products procurement, corporate managers have the option to create more as compared to the requirement on the idea that greater output levels will result in reduced fixed costs for each of

the products. This method has the potential to lower the cost of products sold while also increasing operational earnings. Though, sales during the same period are insufficient to pay costs spent as a consequence of excessive production and the overhead price of products being produced, leading to reduced cash flow from operations than usual. There is a favorable connection among market valuation and real earnings management, as per Liu and Tsai (2015). According to Sun and Lan (2014), real earnings management has a detrimental influence on company worth (Roychowdhury, 2006). Financial reporting, which employs International Financial Reporting Standards (IFRS) and accounting concepts, is used by the company's management to interact with external stakeholders.

The knowledge revealed by the company's management is used by the corporation's stakeholders to decide like allocation of funds. The level of information presented by the financial statement influences the future path and destination of the company, which in return defines the value of these choices. Such accounting rules, on the premise on which a company's management creates financial statements, give the company's management a lot of leeway and flexibility in preparing financial reports.

A company's administration can use this freedom either effectively or strategically. If selectivity and flexibility are employed effectively, the value of financial data and, as a result, the efficiency of the organization will improve (Subramanyam, 2014). Conversely, if discretion is exercised haphazardly, it may detract from the company's or resource allocation's worth.

The earnings of a company are among the most basic and an important piece of information that financial reporting reveals, as it determines the company's future. If management teams use their judgment and discretion in determining earnings, it will result in management or modification of income. The long-term effects of this earnings manipulation on the company's earnings and worth are significant. As a result, earnings management plays a critical role in defining a company's earnings and prospects, and it has been widely debated and investigated in business finance studies.

As previously stated, International Financial Reporting Standards (IFRS) provide finance professionals with some versatility in preparing financial records by

allowing them to choose accounting rules and alternate solution methods for asset valuation, liability appraisal, income, and expense recognition. Using this Earnings management versatility in financial statements, the company's financial outcomes can be changed (Ortega & Grant, 2003). According to Schipper (1989), deliberate interference is performed in the outside reporting procedure for the goal of disseminating the company's confidential information for the intention of reaping private profits. Earnings management is the phrase for this intervention.

Courtis (2002) emphasized the significance of undertaking studies in this field of interest by saying:

"The accounting profession should make strenuous efforts to comprehend the implications of narration and visual tools that aid perceptual engineering".

"Management initiatives that vary from regular company processes, conducted with the sole purpose of attaining specified earnings benchmarks," according to Roychowdhury (2006). Because activities done by management to improve profitability may harm lengthy cash flows and potential value, real operating performance modification can have negative repercussions for company value. Because it is difficult to identify even by analytics and regulators, real-activities-based modification is increasing favor over accrual earnings management. It is also new in comparison to accrual earnings management, thus there are few examples, especially in emerging countries.

Managers understand that actual earnings management can help them reach short-term goals. In recent times, real earnings management has engaged more people who are willing to forgo future cash flows to achieve their goals. Real earnings management is much crucial to identify since this includes real operational and financing approaches, and as a consequence, cash flows are impacted (Kothari et al., 2005).

According to Kothari et al. (2005), real earnings manipulation is much more costly for firms than accrual earnings management, therefore managers prefer to involve in accrual-based earnings management before engaging in real action manipulation. Managers understand that actual earnings management can help them reach short-term goals. In recent times, real earnings management has engaged more people who are willing to forgo future cash flows to achieve their goals.

Real earnings management is much harder to detect because this includes real operational and financing approaches, and as a consequence, cash flows are impacted (Kothari et al., 2005). According to Kothari et al. (2005), real earnings management is much more costly for firms than accrual earnings management, therefore managers prefer to involve in accrual-based earnings management before engaging in real activity manipulation.

Following Roychowdhury's work on real earnings handling, a growing body of research has documented proof on real earnings management, including comparisons of real and accrual earnings management, the function of real earnings management in shareholder offerings, and the replacement of accrual earnings management with real earnings management (Roychowdhury, 2006; Gunny, 2010; Kothari et al., 2005; Zang, 2012).

Roychowdhury (2006) asserted that the motivation for interacting in real-time transaction-based earnings manipulation is to prevent reporting losses and that there is evidence of real-time activity management engagement in meeting analysts' forecasts. Around the time of the Sarbanes-Oxley Act, Cohen et al. (2008) found proof of real transaction-based earnings management. Results revealed outpost Sarbanes Oxley real earnings action-based management boosted minimizing the accrual earnings management. In other terms, Cohen and Zarowin (2010) found proof that as the legal condition has become more restrictive, the emphasis has changed from accrual earnings management to actual earnings manipulations.

A study by Zang (2012) shows evidence of employment of real as well as accrual-based earnings management although the choice-making process concerning real earnings management is made before accrual earnings modification. The research further indicates that after being mentioned in a security class action lawsuit firm shifted the manner of profits manipulation from accrual to actual.

For the previous years, scholars have been fascinated by the connection among earnings management and corporate societal duty, finding that the two are intertwined. Companies that are committed to CSR are much less probable to handle earnings, according to Hong and Andersen et al. (2011), Chih, Shen, and Kang (2008), Scholtens and Kang (2013), and Shafer (2015). Almahrog, Marai, and Knezevic (2015), on the other hand, recognized that there are varied and

contradicting outcomes regarding the effect of EM on CSR, and so provided two viewpoints in their research. The initial viewpoint claims that companies with a good commitment to CSR are less likely to falsify their monetary information, while the other viewpoint claims that CSR could be utilized by managers to falsify results.

Roychowdhury (2006) discovered considerable proof that directors participate in earnings management. After exposing major shortcomings, the management may create certain methods of self-defense as an entrenchment technique, one of which is improving the firm's CSR program, based on the principles of the agency theory (Rahmawati et al., 2014).

CSR initiatives add to the firm's positive image, which helps the business in a variety of ways from a strategic standpoint. Prior et al. (2007) discovered that earnings management has a favorable impact on CSR, and they pointed out that directors manage their companies' profitability for two reasons. Firstly, to fulfill stakeholders' interests via CSR while avoiding activism, and secondly, to employ CSR as a hedging instrument against shareholder disciplinary proceedings.

Few types of research show a link between earnings management and corporate performance, and the results are mixed. Taylor and Xu (2010) discovered that real earnings management causes no important negative influence on a company's later operating results. They supported their results by pointing to Tan and Jamal's (2006) study, which claimed that organizations carefully weigh the prices and advantages of real earnings management to avoid harming future operational results. According to Taylor and Xu (2010) and Tan and Jamal (2006), administration manipulates real earnings to the degree that the company's future economic results are not adversely affected.

Sutrisno (2017) discovered that manipulating real earnings via selling and discretionary expenditures is positively linked with subsequent economic conditions as measured by return on assets in different research. Though, Sutrisno (2017) also stated that, while real earnings management might provide economic benefits in the short term, it may also harm the firm's operational performance in the long run, bas evidenced by another investigation. Leggett et al. (2017) found substantial proof that REM is associated with coming financial results in the shape of

income through assets. Leggett et al. (2017)'s findings are compatible with that of Farooqi et al. (2014), who discovered a strong adverse connection among real earnings management and company value, as well as the fact that "shareholders undergo actual economic damages from managers' endeavors to manage earnings through operating processes". This is also in line with Roychowdhury (2006) and Joosten (2012)'s concerns concerning the long-term harmful implications of departing from standard business practices.

Following Dechow et al. (1998), hereafter DKW, I express normal cash flow from operations as a linear function of sales and change in sales in the current period (Eq. (3) in Appendix B). To estimate the model, I run the following cross-sectional regression for every industry and year:

$$\frac{CFOt}{A_{t-1}} = \alpha_0 + \alpha \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{S_t}{A_{t-1}} \right) + \beta_2 \left( \frac{\Delta S_t}{A_{t-1}} \right) + \varepsilon_t$$

Where At is the total assets at the end of period t, St the sales during period t, and $\Delta S_t$= St-St-1. For each fiscal-year of firm, abnormal cash flow from activities is the real CFO minus the "normal" CFO cumulative utilizing calculated coefficients from the corresponding sector year framework and the company yearly sales and lagged assets.18 Expenditures in DKW are represented to be a linear operation of contemporaneous sales. According to DKW and enabling for intercepts, the framework for normal COGS is evaluated to be

$$\frac{CFOt}{A_{t-1}} = \alpha_0 + \alpha \left( \frac{1}{A_{t-1}} \right) + \beta_1 \left( \frac{S_t}{A_{t-1}} \right) + \varepsilon_t$$

The ability to produce revenue is utilized for assessing the firm's productivity. Resultantly, a firm will do an effort to enhance performance by collecting a bigger amount of profitability. A firm having a strong degree of earnings is much captivating to shareholders as compared to one having a reduced rate of earnings. Earnings, as reported in a financial report, can have an impact on a company's decision-making (Al-Absy et al., 2020; Waliuddin et al., 2018). Traders and investors, on the other hand, analyze these figures to evaluate a firm's profitability and investment possibilities (Ernayani & Robiyanto, 2016). As a result, the

administration will want to record a greater level of earnings to demonstrate that the firm is doing well.

In the face of strong competition, a company makes many attempts to make a large amount of money to increase its value. The usage of a financial statement depends on the evidence, simply focuses on profits information, irrespective of the way the income is obtained. The company's efforts to increase the firm's value are reflected in the high level of earnings. Corporations utilize earnings management to improve or demonstrate a large number of earnings.

Earnings management is a tactic utilized by a company's administration to control earnings presented in financial reports. Firms employ earnings management to balance out earnings volatility and many stable profits at each month, at every quarter year, and every year. Though major variations in revenue and expenditure are a shared factor of business activities, shareholders who search for sustainability and progress might be interested (Suryani et al., 2019).

When a corporation is under stress to manipulate profitability an estimated target, earnings management might occur (Hermiyetti & Manik, 2013). As per Tong and Junarsin (2013) and Handriani and Robiyanto (2018), the idea of profits management is impacted by the contradiction of interest among management (agent) and shareholders (principal) because each of these seeks to reach a given degree of welfare. An earnings management approach inflates results by using accounting processes to give an overly favorable impression of a company's economic status. Companies utilize earnings management to smooth out earnings fluctuations and portray revenues that are regular each quarter or year (Hernawati et al., 2021).

There are two objectives of the firm's management in earnings management practice, as per AlNajjar and Riahi-Belkaoui (2001). The first goal of earnings management is to create an earnings stream that appears more foreseeable and stable. Once the news is released, the value per share of a firm normally rises or falls, depending on if the business fulfills or misses earnings estimates. Management seeks to sway accounting processes to satisfy earnings forecasts and keep stock prices high. Exterior assumptions come into consideration when a corporation has already forecasted its revenues and shareholders are now expecting the same level of profit or even more. To accomplish the predicted target, management might

feel compelled to move earnings from one fiscal period to the next. Simply put, earnings management makes use of the various ways in which accounting processes and practices can be implemented in financial statements (Hernawati et al., 2021).

Management is also expected to manipulate results by real-world activities (such as delaying or reducing R&D, advertising spending, or even foregoing valuable initiatives) than by financial fraud (Graham et al., 2005). Firms select between REM and AEM, according to Cohen and Zarowin (2010), depending on their capability to participate in AEM and its related cost. AEM has also become more difficult due to strict accounting standards, transparent company governance standards, and other factors. As a result, management has either switched totally to REM (Cohen et al., 2008) or regarded REM as a supplement to AEM (Cohen & Zarowin, 2010). Kim and Sohn (2013) investigated whether a company's REM operations had an impact on its price of equity capital.

They argue that investors view REM actions to be damaging to the source credibility of reported results and, as a result, demand greater risk premium costs than AEM. According to Zhang and He (2013), overall mean Chinese enterprises cut R&D spending to fulfill profit targets. Managers slash marketing expenses to exaggerate current profits, according to Mizik and Jacobson (2007), which momentarily boosts stock values but hurts firms' profitability in the long term.

Some researchers have concluded that using REM has no negative effects on a company's future operational performance, while others have discovered that it does. According to Taylor and Xu (2010), companies that involve in REM actions handle their operating operations regularly and do not have bad operative outcomes in the future. In a separate study, Gunny (2010) found that enterprises suspected of engaging in REM functions performed better than their non-REM counterparts in terms of subsequent operating efficiency. Tan and Jamal (2006), on the other hand, discovered that operational EM (REM) used by high foresighted managers was damaging to the company's long-term success. Wang and Zheng (2020) discovered real earning management to be adversely related to the company´s operating results in a latest study. Cohen and Zarowin (2010) looked at how REM and AEM affected post-SEO operating efficiency. They discovered that while both forms of EM have a negative influence on subsequent operating

results, the impact on enterprises utilizing REM is much more severe.

Researchers examined the future performance of the company involved in EM operations to beat analysts' estimates to companies that do not control their profitability and fail analyst forecasts. They discovered that corporations that manage their accruals or purposefully reduce discretionary expenses experience a brief increase in stock price. Moreover, in the long term, their profitability is inferior to companies that maintain normal discretionary expenditure levels. From the foregoing explanation, it is clear that earning management through actual business activity remains largely untapped, particularly in developing economies such as India. Furthermore, academics cannot agree on the association between a company's REM operations and its future results (Kumar et al., 2021).

Earnings management is based on accrual accounting's agility, which allows managers to use their data to enhance the worth of financial reports and hence increase the company's value (Subramanyam, 2014). Essentially, inside the financial report, earning management is critical. Management has external and internal motivations while employing judgment, which drives managers to exploit their powers and purposefully create poor profits management. Free cash flow can also direct the corporate entity to rebuy its stock and perform related party transactions with its figureheads, substantial shareholders, and/or directors, putting the industry's leaders, significant owners, and/or executives in a private position while denying minority investors of a broad approach (Nekhili et al., 2016). These types of activities can negatively influence the corporation's economical worth, causing share prices to decrease and potentially forcing management to transform the monetary policies of the organization.

The threat of bankruptcy forces management to employ efficient earning management strategies to maintain the company's financial performance (Kamran et al., 2018). Managers fear losing their seats if the company goes bankrupt, so they employ the company's assets for positive net present worth projects to increase the firm's wealth rather than wasting them for personal gain. In the event of insolvency, the company's management is replaced by new ones, and the new management is responsible for the same agency costs, free cash flow, and financial power issues as before.

According to studies, business leveraged plays an essential role in lowering agency costs of free cash flow by reducing free cash flow within the control of the supervisor's earning management. This result is consistent with theories of capital structure, and it also investigates the crucial function of earning management in the relationship between a company's value and its monetary policies.

The impact of earnings management as a mediator in the connection between corporate governance and company performance was investigated by Kang and Kim (2011). The study looked at 1,104 companies on the Korean Stock Exchange and discovered that if a business has strong governance framework, genuine action-based earnings management is decreased. This type of earnings management can help to reinforce the link between corporate governance and Tobin Q-measured business performance.

Gong et al. (2008) examine the abnormal returns and how to business outcomes after rebuy to study the earnings management. The proportion of managers who repurchase the company and the CEO's shareholding both increase the drop in earnings management. One reason that businesses have excess return after a post-repurchase and repurchase abnormal earnings, is that post-repurchase understand earnings growth raises expectations developed on the foundations of pre-repurchase discouraging earnings volumes, according to the research (Kamran et al., 2018).

The effectiveness of earning management on the level of transparency and firm performance was explored by Bazrafshan et al. (2015). Over the period from 2006 to 2013, illustrate that a non-linear relationship exists between disclosure and business outcomes when recorded performance is compensated for the influence of earnings management, utilizing Hong Kong-listed companies as a case study. The findings of this study revealed that increased corporate exposure can result in rewards, but that at a certain degree of visibility, growing disclosure lowers genuine business performance.

Ujah and Brusa (2014) used a sample of 489 companies from 1990 to 2009 to investigate the influence of liquidity and financial strength on earnings management in different industries. The findings demonstrate that both financial power and cash flow volatility has an impact on their degree in business management. Furthermore, the study discovered that the sector to which a group is attached is

influenced to varying degrees and amounts by the sector to which it controls its income, with consumer products and users being the most controlled sectors on a cyclical base (Kamran et al., 2018).

## 2.2   Earning Management and Board Structure

Many enterprises in Asia are managed by a family or the administration and have a restricted shareholding. The managerial ownership structure does matter, especially in China's most significant financial markets, the Shanghai and Shenzhen Stock Exchanges. Almost all of the publicly listed companies turn into private firms or are funded by a government company during the original formation of both marketplaces. The government owns the majority of the company shares in most of these firms mentioned on the two stock trading markets, thanks to capital injections from federally-owned businesses. Because of the distinctive ownership model of Chinese listed businesses, if market mechanisms fail to adequately oversee them, the board of directors of whatever form is unable to control the management. According to Qiang (2003), the reformation of Chinese listed businesses' ownership model has still not been achieved, and the best method to strengthen corporate structure is to maximize resource allocation by just decreasing state-owned assets and increasing share transactions in rotation.

As per the China Securities Regulatory Commission, listed businesses must select management executives, along with at least two autonomous directors or one-third of board posts for specialized listed companies (CSRC). As a consequence, papers looking into the influence of corporate governance on profit exploitation in the Chinese stock market have been written. The number of shares, foreign investors, and independent directors are among the effects of business owners, board structure, and financial accounting on discretionary accruals, as per First al. (2007). Using a tunneling perspective, Liu and Lu (2007) explored the connection among earnings management and business management in Chinese public listed businesses, finding that organizations with high corporate governance had reduced levels of earnings management. Chen and Al-Najjar (2012) investigate whether listed businesses with independent directors, as mandated by the CSRC, have

better corporate governance.

They believe that having independent directors on the board does not make the organization operate more efficiently. Derived from empirical findings in the past studies, current research examines the influence of board structure characteristics like the percentage of autonomous directors, the size of the board, and the dualism of the board chairperson and CEO on earnings management. Because of the reformation and opening-up of the Chinese capital market, associated rules and procedures have been enacted and revised regularly, allowing China being the world's second-largest economy and the Shanghai Stock Exchange's collective market worth to rank seventh worldwide in 2013.1This type of significant economic institution, that is among of the world's biggest financial markets, becomes a hot topic among domestic and international specialists and investors.

Furthermore, we are drawn to use A-shares on the Shanghai and Shenzhen Stock Exchanges as findings to evaluate the impact of possession model and composition of board on earnings management in the period 2002 to 2012. This is because of the individuality of Chinese enterprise ownership structures and the CSRC necessity to create independent directors for improving organizational governance. The ownership structure is separated into two groups: institutions and insiders, whose shareholding percentage and intensity influence multiple earnings management strategies. Furthermore, board composition includes board composition, independent director positions, and the dualism of the board chairperson and CEO.

The bigger the fraction of the more centralized the organizational ownership, the more probable the company performs discretionary accruals for short-term purposes, according to empirical findings presented in this study. However, the greater the proportion of insider interests, the less likely the company is to control earnings. Just the dualism of the chairperson of the board and CEO has a substantial and favorable influence on earnings management between the board characteristics variables. Due to the consequences of perpetuation by managers or due to the managerial obligation to follow operation execution, earnings management is employed to beautify financial incomes. The CSRC issued Administrative Measures for Reform of Spilt-Share Structure on Listed Companies in terms of attracting more foreign investment into the Chinese capital market.

Among the most crucial would be that it is said to be able to cope with the issue of non-tradable stocks, which are allowed to trade through legal processes. This program must be taken into account both secondary market trading patterns and the concerns of transferable shareowners, hence it has three primary features: (1) It tries to be adaptive instead of a one-size-fits-all solution; (2) tradable shareowners have the last say; and (3) short-term market volatility may be managed. In 2005, the program will be conducted in three stages. As a result, we look at data from 2006 to 2012 and discover that there is no substantial variation between after and before the legislation's implementation.

Throughout 1990, Gompers, Ishii, and Metrick discovered a substantial association among corporate management and stock earnings, as evaluated by Tobin's Q. Businesses that are properly handled are much successful, attractive, and give higher cash profits to investors, as per Brown and Caylor. Management got a proclivity for getting corporate resources and using them for personal gain.

Good corporate management diminishes managers' 'power to hold' on investors and lenders, enhancing the probability that they make investment in startups having cumulative positive current worth (Naimah & Hamidah, 2017). It represents that organizations having best administration get better operating results, as it was evaluated by L.D. Brown and M.L. Caylor's performance metrics. R. La Porta, F. Lopex-de-Silanes, A. Shleifer, and R. La Porta et al. Investor security is linked to successful corporate governance, according to Vishny. When it comes to the association among the number of board members and company's performance, there are two contradictory ideas. Firstly, assume that the board of directors with lesser participants may cause a major impact on the firm's achievement. D. Yermack discovered an inverse connection among board size and favorable fiscal proportions such as profitableness, asset usage, and Tobin's Q. S. empirical evidence Cheng represented that firms with greater board participants have low unpredictability in their efficiency.

The other point of view affirms that accompanying a bigger board of directors will enhance the company's ability. The ability of board members to supervise and control management is observed by the number of board members. R. Adam and H. Mehran claimed that to monitor successfully, the organization must have

a larger number of board participants. A bigger board of directors will enable the firm to be administered much efficiently. It will be simpler to get information if the board is bigger. Transparency, accountability, commitment, autonomy, and justice are corporate governance values. The Indonesian Institute for Corporate Governance (IICG) created the Corporate Governance Perception Measure, a corporate governance index (CGPI) (Naimah & Hamidah, 2017). The company's performance is predicted to improve if proper corporate administration is applied.

The past research into the link between director freedom and firm success has yielded mixed results. The more outside participants on a board of directors, the increasingly unbiased it will be. There was no connection between the share of external participants and Tobin's Q, ROA, asset turnover, or stock earnings, as per S. Bhagat and B. Black. The membership of the board of directors has a major influence on the monetary outcome of the firm. The members of the board have the power to monitor managerial functions, assess management competence, and award administrators.

The board of directors, as per E.F. Fama and M.C. Jensen, is an institutional method of control that is critical for monitoring senior management. S. Rosenstein and J. Wyatt found that the firm with the outsider receives a market prize. J. Brickley, J. Coles, and R. Terry found a positive connection between the proportion of external participants and stock market response, whereas R. Anderson, S. Mansi, and D. Reeb observed the reverse association between director independence and loan cost.

A large board with a high percentage of outsiders can supply a wealth of information (Naimah & Hamidah, 2017). Several studies have revealed that the number of the board of directors and the percentage of external individuals on the board are connected to the board participants and complication of the company. As mentioned in the research by L.D. Brown and M.L. Caylor, the impartiality of governors was not linked to Tobin's Q, but this has a good relation with ROE, profitability, dividend growth, and share rebuying. They discovered that separation of the CEO from the management board will enhance the worth of the organization. Thus, as per S. Rosenstein and J. Wyatt, the favorable stock rate response to the employment of external directors represents that the percentage

of external directors causes an influence on shareholder wealth.

The majority of accounting fraud instances was generated by the board member's lack of oversight and managerial implementation of earnings management to satisfy their purposes. The board of directors assesses the effectiveness of corporate executives by looking at operating results. As a result, managers who do well are rewarded with better wages, commissions, or incentives.

The board of directors gives bonuses to management to better direct managerial and shareholder objectives. However, in current years, executives with exceptionally greater remuneration and benefits have been dubbed "fat cats," causing widespread controversy and displeasure among investors. As a result, governments all over the globe have tried to avoid fraud incidents from recurring and enhance corporate governance in businesses. The mission and business strategy of a firm are established by the board of directors. As a result, the directors' actions and integrity are critical in determining the course of the companies that these directors oversee. In past years, study on board diversity has emphasized directors' backgrounds, attributes, and attitudes, as well as whether the directors' backgrounds influence the board's performance(Huang et al., 2021).

Furthermore, previous research looked at the effect of earnings management and the use of financial measurements to measure business success. Weak corporate governance, according to these writers, has a major influence on earnings management. Financial ratios, at the other side, are prone to earnings management and hence are unable to accurately reflect a company's genuine success.

Despite the abundance of research on corporate management and earnings management, few researches have looked at how the two elements interact (Huang et al., 2021).The employment skills of the board of directors were examined by Drobetz et al. (2018). They discovered that external directors' job experience is positively connected with a company's worth. In other terms, a board of directors with increased experience and expertise contributes to the value of the company. Whenever the board members have a varied variety of specialist experience and knowledge, the directors may be able to support each other's efforts in the group. Even though the directors have opposing viewpoints on a given subject, they can work together to enhance the board's performance in terms of implementation,

manager oversight, and discussion. Likewise, the panel should have independent members with various professional backgrounds, and so they use their outside connections and abilities to aid the company's business activities, thereby increasing the corporation's total operating efficiency. Since directors from various industries can provide a broad range of managerial skills and information, the members of the panel may broaden their perspectives by allowing additional ideas and proposals relevant to business activities if independent individuals are included. An organization's board of directors, especially, may require members with accountancy, fiscal, or legal knowledge to deliver specialized perspectives to enhance decision-making. Finally, a varied board's perspectives may improve the firm's operations and financial success (Huang et al., 2021).

According to Lemma et al. (2018), a gender-balanced board member is particularly active when the business's chief executive officer (CEO) changes. Active engagement from the board of directors is essential to keep the firm running at this time. When board involvement was desperately required, Lemma et al. (2018) discovered that gender-equated board members indicated superior value. According to Nielsen and Huse (2010), organizations with a larger female chairman ratio can help shape policies and efficiently manage company operations, resulting in improved corporate performance.

Female directors, according to previous studies, have a considerable favorable impact on business performance. Executive managers with greater educational degrees, in particular, increase firm performance dramatically. Similarly, Abbott et al. found that organizations with female board members have lesser earnings management methods.

Jensen and Meckling established independent director studies. According to these writers, having a larger percentage of autonomous members on the board would reduce the agency conflict among management and investors, resulting in improved corporate performance. Likewise, researchers found that autonomous directors who properly oversaw these businesses and increased investor value might alleviate some of the inefficient issues in Chinese manufacturers with the state as the principal shareholder. Independent directors, according to these writers, have a favorable impact on corporate performance in China. Independent directors,

according to Schnatterly and Johnson, not just enhance corporate governance but also promote investor choices. Institutional investors, in particular, want to make investments in organizations with a greater percentage of independent executives. Independent directors, according to Klein (2002), diminish managerial deceit.

Previous research has likewise produced contradictory findings. According to Koerniadi and Tourani-Rad (2012), the percentage of independent executives is negatively correlated with business success. A bigger number of independent directors have a negative influence on firm valuation rather than a positive effect. When a corporation is a family-owned business, independent governors on the panel and certain other monitoring committees, according to Linhares et al., can only fulfill limited functionality. Similarly, past research examined the influence of independent non-executive directors on corporations using regulatory reforms and discovered that independent directors have a detrimental effect on company performance. Furthermore, these authors claimed that when governors' managerial and consultancy responsibilities are limited by increasing knowledge-finding expenses, the directors' detrimental impact on business performance becomes more pronounced (Huang et al., 2021).

Because of the self-interest and knowledge asymmetries, Berle and Means (1932) were one of the first thinkers in leadership literature to restate this concept that top management aims cannot entirely align with that of investors. This basic concept, though, is not unique and can be linked directly to Smith (1776), who stated, "Becoming the leaders of other people's wealth, it cannot well be anticipated that they must see at this having the similar desperate diligence with which collaborators in a private partnership regularly observe for their self." Managers, according to Smith, are stewards who frequently distribute for themselves rather than their masters' honor. Moreover, according to Jensen (2000), the basic difficulty with corporate governance is that the aims of managers as well as those of investors, who own the business, are frequently at odds. The theoretical grounds for the necessity for corporate governance are thus derived through the agency theory, that enhances the dispute of concern that arises between the firm's managers and investors (Aleemi & Uddin, 2020).

Agency theory advises implementing specific secure covenants and regulatory

systems in the shape of business governance to decrease the dispersion that emerges being the result of the individuality of possession and hold. The main goals and objectives of these external factors are to create a sense of safety for finance providers, as well as to implement procedures to safeguard capital providers from management's self-centered inclinations and minimize agency costs (Gillan & Starks, 2000).

Meanwhile, an amount of extreme business failure and controversies, such as those involving Enron, WorldCom, AIG, and, most recently, Volks Wagon, have not only raised the problem of management practices into the limelight, but have also managed to make the phrase good governance a popular statement and mainstream of consideration and dialogue among lawmakers, corporate boardrooms, and academic settings (Claessens & Yurtoglu, 2012). Moreover, the latest episode of worldwide financial recession in 2007 and 2008— especially the resulting implosion of Lehman Brothers and many other financial firms many of our monetary system's security flaws, leading to a loss of trust in the world financial order, markets becoming dysfunctional, and lending conditions tightening.

The crisis's extraordinary quick and dramatic worsening elevated the likelihood of a recession to a magnitude and extent not seen because of the Great Depression of the 1930s (Aleemi & Azam, 2017). Because of these incidents, among others, 'confidence' in corporate executives appears as a critical component for financial stability, market efficiency, and organizational effectiveness. As a response to the economic avalanche, promoters of corporate governance had to do some serious spiritual searching, which resulted in a renewed focus on the flaws in governance structures, forcing researchers and practitioners the same as each other to concentrate on the elevated importance of corporate governance about the mistakes in firms' performance around the world (Aleemi & Azam, 2017). As a consequence, it has become the highest concern for all parties, including government agencies and financial regulators, all over the world (Aleemi & Uddin, 2020). According to Claessens and Yurtoglu (2012), these crises are the result of several structural factors, making corporate governance much more critical for the growth of both society and the economy.

Furthermore, the 'Board of Directors,' which is responsible for safeguarding fund

providers, is at the core of every corporate governance mechanism (as a governance system). In the time world's financial crisis, though, 'Mary Schapiro,' the then-chairwoman of the United States' SECP, shrewdly challenged the competency of boards in various forms. Schapiro demanded that the boards provide the directors' backgrounds and competencies to investigate what did go wrong. These 'filmmakers' background details,' according to Guo (2011), are a demographic feature of directors. Guo went on to say that, despite broad investigations on business panels, the scientific proof is still incomplete and, for the most part, produces mixed results, necessitating that researcher enforce and divert their attention to other substantial and mediating variables that may have a substantial impact on the association among company efficiency and board member behavior. Though, an essential question emerges: how do the demographics of the board of directors affect the firm's performance? Veltrop et al. (2015) make an intriguing proposal by laying a theoretical basis for addressing the subject of how demographic diversity in boards of directors can improve corporate performance. They point out that social and behavioral scientists have generally linked the phenomena to two major areas: knowledge and choice-making and social classification.

Other researchers have reiterated the same argument (2007). Most corporate governance professionals and academicians, on the other hand, link demographic viewpoints to knowledge or decision-making characteristics, believing that greater demographic diversity refers to efficiency (Rice, 2015). Diversified firms, according to the theory (Walker et al., 2015), draw from a range of materials and sources of data. The social classification viewpoints, on the other hand, argue that diversification in boards may disturb board efficiency by behaving as a cause of separation (Aleemi & Uddin, 2020).

## 2.3 Leverage, Liquidity, Firm Size, Firm Age, Tangibility and Firm Performance

The performance of the company has got popularity late to be a problem to be researched in business strategy, and it is most often used being a dependent factor.

Though it is broadly accepted in academics, very little consensus exists on the method to explain and evaluate it.

Though, since all professionals are not united at some functional description of the firm performance till now, alternative viewpoints will be defined by various individuals depending on their priorities. This idea's descriptions can be abstract, comprehensively, or narrowly described (Taouab & Issor, 2019).

The stronger the firm's success, the greater the returns to shareholders will be. Generally speaking, shareholders will seek out organizations that have the greatest performance and participate in them. Organizational value is examined in this research through operating efficiency, namely profit ratios via ROA and leverage ratios via DER (Pernamasari et al., 2020).

The majority of businesses are trying to enhance their profitability in any manner they can. The success card could be conducted by people who find to develop, obtain, and continue operations. As a consequence, it's significant to comprehend and track efficiency in a simultaneously varying condition. Resultantly, managerial groups and scholars remained always concerned in evaluating the performance of businesses. Moreover, in the current financial context, quantifying business performance is a significant topic for academic researchers and practicing managers. Researchers have worked hard to come up with metrics for the concept of performance. In this regard, there is a gap in the literature and a raging dispute about the performance of businesses.

The Company's Success For emerging countries, powerful enterprises are a critical part. As far as evaluating the economic, cultural, and political development of a firm is concerned, several economists relate states with a machine. Each firm must function with some performance-based standards to flourish in a market environment having tough competition.

The concept of organizational achievement in the very first two decades of the 20th century mainly concentrated on a firm's capacity and capability to properly utilize provided resources to achieve excellence coherent with the firm's established goals, and also their importance to its participants.

In recent years, firm performance to be benchmarked against the influence of

various capital structure proxies has yielded fresh insights. Several state-specific researches have looked at the immediate impact of various forms of indebtedness on firm efficiency. The majority of such type of researches found a strong negative correlation between debt and company performance. For seven years, Chakrabarti and Chakrabarti (2019) looked at company-specific and macroeconomic factors in 18 Indian enterprises that were not insured.

Reduced insurance, fewer input expenses, less percentage of inflation, greater income on investment, liquidity, and earning were all shown to be favorable. Between 2008 and 2016, Dalci (2018) looked at the influence of capital framework on 1503 listed production enterprises on the China stock market. They discovered an inverted U-shaped connection between capital framework and profitableness, as well as the reasons for adverse and good economic leverage (being a standard of capital architecture) and income relationships. This is significant research that emphasized the significance of lending market policy and policy developments for the expansion of various-sized Chinese production enterprises.

Dave et al. (2019) looked at the effect of capital structure and profitability on Indian steel manufacturers and discovered a substantial adverse association among longer and less-time indebtedness as a proportion of combined assets and profitableness.

For the years 2007–2010, Helmy et al. (2020) looked at the effect of capital structure, domestic administration mechanisms, and company efficiency of 183 Bursa-listed Malaysian firms. They discovered that capital structure has a beneficial impact on firm performance. Between 2014 and 2018, Gharaibeh and Khaled (2020) looked into the elements that affected the profitability of 46 Jordanian service area enterprises. They discovered that debt as a percentage of total assets and tangible assets had negative associations with profitability, whereas tangible size and business risk have favorable relationships.

Hussein et al. (2019) looked at listed Jordanian companies from 2005 to 2017. They found a favorable significant relationship between firm size, asset development, and return on assets through three indicators of firm efficiency: return on assets, Tobin's Q and return on assets, and total and short-term debt as a proxy for capital structure. They also discovered an important negative relationship

between short-term debt and long-term debt and return on assets utilizing three indicators of company efficiency: return on assets,

Tobin's Q and return on assets, and total and short-term debt as a proxy for capital structure. Though, researchers could not detect a significant negative link between short period and longer time indebtedness and business performance as evaluated through return on equity. Finally, between 2009 and 2012, Yazdanfar looked at 15,897 enterprises in five SME industries of the Swedish economy.

A range of criteria was employed to define profitability in capital structure research which looked at the association among various proxies for capital framework and business performance. Some studies employed a single metric, while others used a combination of metrics like return on equity (ROE), return on assets (ROA), and return on capital invested (ROCE) (Gharaibeh & Khaled, 2020). Various shapes of debts are utilized as alternates for capital structure in such a type of research, and various control variables are utilized to quantify the aggregate effects on the firm. In majority of the literature described already, the connection between business output and capital structure is believed as unidirectional. Recent research has confirmed the causal association between capital structure and company efficiency. Finally, the research found a favorable, unfavorable, and combined link amongst capital structure metrics and company performance in the literature above.

The studies belong to a variety of industries and span a broad series of company cross-sectional data for the whole year. Only a few researches have looked into the relationship between various standards of business performance (or profitableness) and capital structure. In the Australian and worldwide contexts, research on the services industry is barely significant. Furthermore, in the studies described above, the directional causal association between various forms of lending and business performance is rarely studied in depth. This research adds to the expanding body of knowledge about capital structure in under-researched areas of service-providing area enterprises in Australia and around the world.

The characteristics of service sector enterprises listed on the Australian Stock Exchange, as well as their performance (or profitability), were investigated in this article (ASX). The impact of capital structure and leverage was investigated utilizing a group regression method on facts gathered over eleven years (2009–

2019). Return on assets, return on equity, operational margin proportion, and income on capital utilized were the four performance indicators considered. An examination of the data demonstrates a strong link between return on equity and borrowing levels. In these service sector organizations, leverage has a statistically major influence on firm performance.

Operational margin enhances by 0.24 times for every dollar of increased leverage, return on assets decreases by 1.11 times, and return on invested capital decreases by 7.59 times (all statistically vital at the 1% and 5% levels), implying that using debt to finance operations does not benefit Australian services sector firms much. This conclusion contradicts asymmetric information theory, which claims that reduced debt phases conceal poor output (Myers 1984). They are swamped with debt. When total assets are financed by long-term debt, the picture alters substantially. Return on assets, return on invested capital and return on equity all improve by 0.24 times (significant at the 5% level), return on capital employed rises by 1.68 times (significant at the 10% level), and return on equity enhances by 1.27 times (critical at the 5% stage), indicating that the usage of longer time loan adds value. The directional causality analysis revealed a positive unidirectional relation among leverage and operational margin, bi-directional causality with return on assets (negative) and returns on invested capital, and a unidirectional (positive) causality between leverage and return on equity, as captured by the Granger causality test.

Bidirectional causation was also discovered between long-term debt to total assets and operating margin, as well as a bidirectional relationship between return on assets, return on invested capital and return on equity. The existence of unidirectional and bidirectional causation between various kinds of indebtedness to finance functions indicates considerable interdependencies and bad consequences of debt on Australian service sector enterprises (Ahmed & Bhuyan, 2020).

## 2.4   Summary of Hypothesis of the Study

H1: Earnings management has negative impact on firm performance.

H2: Board structure index have positive impact on firm performance.

H3: Board structure index weakens the relationship between Earnings management and firm performance.

# Chapter 3

# Research Methodology

Chapter 3 includes the methodology of the study that explains population, sample, data description, description of variables, source of data collection, and econometric model used for this study.

## 3.1 Data Description and Methodology

### 3.1.1 Population and Sample of Study

The study's main objective is to capture the influence of earning management on firm performance with moderating role of board structure index in Pakistani scenario. Therefore, all the companies listed on Pakistan Stock Exchange (PSX) form the population of the study. However, the targeted population of the study is companies of the non-financial sector listed on PSX and total companies from non-financial sector are 400. However, the data for 200 companies of non-financial sector has been collected on the availability of the data. Therefore, sample size of the study is 200.

#### 3.1.1.1 Time Frame and Data Type

The value of board structure is measured by Board Structure Index (BSI), Firm Performances measured by Return on Assets (ROA), Tobin's Q (TQ) and Return on Capital Employed (ROCE) and the data for control variables (Leverage,

Liquidity, Firm Size, Firm Age, Tangibility) have been collected from WRDS database and annual reports of the companies. The data for the period of 11 years (2009 to 2019) has been collected from 200 companies of non-financial sector listed on Pakistan Stock Exchange (PSX). Reason for taking data from 2009 is that to nullified the effect of recession of 2008. Therefore, the panel data has been used to test the hypothesis in Pakistan scenario.

## 3.2 Econometric Model and Analysis Technique

The following research model has been used to capture the influence of real earnings management on firm's financial performance and to capture the moderating effect of board structure index.

### 3.2.1 Model-I Impact of REM on ROA with Moderating role of BSI

$$ROA_{it} = \beta_0 + \beta_1 \text{REM}_{it} + \beta_2 \text{BSI}_{it} + \beta_3 (BSI*\text{REM})_{it} + \sum_{i=4}^{n} \beta_i \text{Con}_{it} + \varepsilon_{it} \quad (3.1)$$

### 3.2.2 Model-II Impact of REM on ROCE with Moderating Role of BSI

$$ROCE_{it} = \alpha_0 + \alpha_1 \text{REM}_{it} + \alpha_2 \text{BSI}_{it} + \alpha_3 (BSI*\text{REM})_{it} + \sum_{i=4}^{n} \alpha_i \text{Con}_{it} + \varepsilon_{it} \quad (3.2)$$

### 3.2.3 Model-III Impact of REM on Tobin's Q with Moderating role of BSI

$$TQ_{it} = \gamma_0 + \gamma_1 \text{REM}_{it} + \gamma_2 \text{BSI}_{it} + \gamma_3 (BSI*\text{REM})_{it} + \sum_{i=4}^{n} \gamma_i \text{Con}_{it} + \varepsilon_{it} \quad (3.3)$$

FP=Firm Performance measured by Return on Assets (ROA) , Return on Capital Employed (ROCE) and Tobin's Q (TQ).

BSI=Board structure index (BSI)

REM=Earning Management (Real Earning Management)

Con= Control variables (Leverage, Firm size, Firm age, Liquidity and Tangibility)

In suffix of each variable 'it' is taken for representation of panel data as i=for firm and t=for year

## 3.3 Description and Measures of Variables

### 3.3.1 Corporate Governance Measured by Board Structure Index

The board structure is measured by Board Structure Index constructed by using the principal component analysis (PCA). Board Structure Index is composition of Board Size (Total numbers of board members), Board independence (percentage of independent directors in total board members) and Board meetings (percentage attendance of board members in board meetings). The principal component analysis (PCA) has been used to construct the index of board structure. Procedure of the construction of index through PCA is as follows:

$$PCA \ Index = (Feature \ Vector)^t \times (Standardized \ value \ of \ data)^t$$

Feature vector is constructed by using covariance between the dimensions used to construct index and by using Eigenvectors (Components). Standardized value is obtained by using the following formula.

$$Z = \frac{Orginal \ Value - Average \ value}{standard \ deviation}$$

The product of the transpose of the feature vector and transpose of the standardized values of the data set is the PCA index.

### 3.3.2 Earnings Management

The study's objective is to check the influence of real earning management on firm performance and moderating influence of board structure in the relationship of real earning management with firm performance. Real earning management

(REM) has been measured by following the Roychowdhury (2006) model:

$$\frac{CFO_{it}}{TA_{I,t-1}} = \lambda_1 \frac{1}{TA_{i,it}} + \lambda_2 \frac{Sale_{i,t-1}}{TA_{i,t-1}} + \lambda_3 \frac{\Delta Sale_{i,t-1}}{TA_{i,t-1}} + \varepsilon_{it} \qquad (3.4)$$

CFO is representing the cash flows from operating activities and it is scaled by lagged total assets. TA is the total assets, $\Delta$Sale is for change in sale for firm (i) at year (t). The residual values of the above model are used to measure of Real Earnings Management (REM). Thus the $\varepsilon_{it}$ represents the real earnings managements (REM) for firm "i" at the year "t".

### 3.3.3 Firm Performance

The dependent variable is firm performance, which has been measured through Return on Assets (ROA), Return on Capital Employed (ROCE) and for robustness Tobin's Q has been taken into account.

$$ROCE = \frac{EBIT}{Capital\ Employed}$$

ROCE=Return on Capital Employed, which has been measured by scaling the earings before interest and taxes with capital employed (Sum of debt and equity).

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

OA=Return on assets, which has been determined by dividing the net income with total assets.

$$TQ = \frac{Market\ Value\ of\ Equity + Book\ value\ of\ Debt}{Total\ Assets}$$

TQ=Tobin's Q, which is measured by adding the market value of equity (Market Capitalization) and book value of debt and then scaled by total assets.

### 3.3.4 Control variables

The following firm specific control variables have been used as control variables to reduce the biasness of the model.

- **Firm Size**

  By following the Alzomaia (2014), the firm size is considered as a control variable, according to him the larger firms have the more opportunity to get loan as the default chances of such companies is low. Therefore, the larger firms have opportunity to get debt easily and can use it to enhance firm performance.

  $$Firm\ Size = Natural\ Log\ (Total\ Assets)$$

- **Firm Age**

  By following Awuah-Agyeman (2016), the study used firm age as a control variable and a firm's age is a suitable yardstick for evaluating the capital structure and firm performance. The age of a company expands its ability to gain debt and use it to improve firm performance (Abor, 2008)

  $$Firm\ Age = Natural\ Log\ (1 + Age\ of\ Corporation)$$

- **Leverage**

  According to Bae et al. (2017), the leverage is the ratio that is obtained to divide the debt by total assets. The study of Abor (2005) shows that both positive and negative affect of leverage on firm performance is seen.

  $$Leverage = \frac{Debt}{Total\ Assets}$$

- **Liquidity**

  Liquidity measured by current ratio and shows the ability of a firm to meet its current liabilities with available current assets. According to Lartey et al., (2013), the liquidity has positive influence on firm performance. By following Khan (2012), the study used the liquidity as a control variable.

  $$Liqudity = \frac{Current\ Assets}{Current\ Liabilities}$$

- **Tangibility**

  Tangibility shows the portion of fixed assets in total assets. Tangible assets are used as collateral due to which external financing is obtained and the firm is in the position to use that financing to improve financial performance (Vo, 2017).

$$Tengibility = \frac{FixedAssets}{TotalAssets}$$

### 3.3.5 Source of Data

TABLE 3.1: Source of Data

| S.No. | Variables | Measurement | Source of data |
|---|---|---|---|
| **Real Earnings Management (Independent Variable)** | | | |
| 1 | Real Earnings Management (REM) | Residual values obtained from Equation- 3.4. | WRDS database |
| **Firm Performance (Dependent Variable)** | | | |
| 2 | | Return on Assets (ROA) | WRDS database |
| 3 | Firm Performance | Return on Capital Employed (ROCE) | WRDS database |
| 4 | | Tobin's Q (TQ) | WRDS database |
| **Components of Board Structure Index (Moderator)** | | | |
| 5 | Board Size | Number of members on corporate board | Annaul Reports |
| 6 | Board independence | % of independent members in total board size | Annaul Reports |
| 7 | Board meetings | % of attendance of board members in board meetings | Annaul Reports |
| **Control Variables** | | | |
| 8 | Leverage | Debt to Total Assets | WRDS database |
| 9 | Liquidity | Current Assets to Current liabilities | WRDS database |
| 10 | Firm Size | Natural log (Total Assets) | WRDS database |
| 11 | Firm Age | Natural log (1+Age of corporation) | WRDS database |
| 12 | Tangibility | Fixed Assets to Total Assets | WRDS database |

In the study panel data has been used while collecting from 200 companies of non-financial sector and time period is from 2009 to 2019. The data required

to measure the Real Earnings Management, Firm performance and for control variables have been collected from annual WRDS database. The data for board structure has been collected from annual reports of the companies.

## 3.4 Statistical Techniques

After collecting the data of 200 companies for 11 years (2009-2019) from WRDS database and annual reports. The following statistical techniques have been applied to describe the data and to test the hypothesis.

### 3.4.1 Descriptive Statistics

In descriptive Statistics, the average values of each variable have been obtained by using mean and median. Moreover, the variation in the data over the period of time and from firm to firm is measured by using standard deviation. The maximum and minimum observations of each variable have also been used. The skew ness and kurtosis have also been used to describe the data.

### 3.4.2 Correlation Analysis

In correlation analysis, the relationship between variables has been examined. The correlation analysis has also been used to detect the possibility of the problem of multi-co-linearity between explanatory variables. The co-efficient of correlation between variables may exist from -1 to 1. The values closer to zero indicates the weak correlation and closer to 0.5 determine the moderate relationship between variables. However, co-efficient of correlation tending towards 1 indicates the strong correlation. However negative or positive co-efficient of correlation indicates the direction of the relationship. If value of co-efficient of correlation showing strong correlation between explanatory variable, which indicates the possibility of the problem of multi-co-linearity.

### 3.4.3 Generalized Method of Moments and Dynamic Panel Model

The generalized methods of moments (GMM) have been used to analysis the data and test the hypothesis. GMM is used to address the issue of endogeneity and unobserved heterogeneity (Busch & Lewandowski, 2018). Therefore, in research model (Equation-3.1, 3.2, 3.3, 3.4), the generalized method of moments (GMM) has been applied to test the hypothesis.

# Chapter 4

# Results and Discussions

Chapter 4 explains the results and discussion of this study that included descriptive statistics, correlation analysis, Stationery of data, generalized Method of Movements, Panel Dynamic Model.

## 4.1  Results and Interpretation

### 4.1.1  Descriptive Statistics

TABLE 4.1: Descriptive Statistics

|  | ROA | TQ | ROCE | REM | BSI | LEV | FSIZE | AGE | LIQ | TANG |
|---|---|---|---|---|---|---|---|---|---|---|
| **Mean** | 0.1725 | 1.8242 | 0.1864 | 0.0001 | 0.0001 | 0.2047 | 15.5574 | 3.5056 | 1.6079 | 0.5435 |
| **Median** | 0.0887 | 1.135 | 0.1077 | 0.0014 | -0.2039 | 0.1478 | 15.5156 | 3.5264 | 1.1072 | 0.5725 |
| **Max** | 0.6303 | 5.6655 | 17.318 | 29.6192 | 3.3515 | 0.5113 | 20.4575 | 7.6084 | 58.4968 | 0.7807 |
| **Min** | -0.1166 | 0.4292 | -13.798 | -239.739 | -1.8597 | 0.0722 | 10.5913 | 0.6931 | 0.0009 | 0.102 |
| **Std.** | 0.2097 | 1.5362 | 0.8045 | 5.4698 | 1.097 | 0.1366 | 1.7081 | 0.5921 | 2.4405 | 0.1949 |
| **Skew** | 0.9106 | 1.5133 | 5.7963 | -37.7061 | 0.6767 | 1.0033 | -0.0349 | -0.2919 | 11.9845 | -0.5417 |
| **Kurt** | 2.4752 | 3.9219 | 228.12 | 1682.437 | 2.5871 | 2.6638 | 2.9387 | 7.2619 | 232.1115 | 2.2511 |

The above presented table 4.1 is shows the results of descriptive statistics of all variables used in the study. In descriptive statistics, the average values for each variable are measured by mean and median. However, the variation in the data is determined by using the standard deviation. The maximum and minimum observations have also been mentioned in the results. The skeweness and kurtosis of the data are also elaborated.

50

In table 4.1, the results shown that the averagely return on assets are 17.25% as measured by mean. However, variation in the data of return on assets exist from firm to firm and year to year as predicted by standard deviation i.e. 0.2097, which means average return on assets may vary upto 0.2097 points. The maximum return on assets is 63.03% and minimum is -0.11.66%. The value of skewness is positive, which indicates that the data of return on assets is positively skewed. The value of kurtosis is less than 3 but near to 3, which means the peakedness of the curve is mesokurtic.

The results further report that the average value of Tobin's Q is 1.82 as measured. The variation in the data is captured by using standard deviation and the value of the standard deviation is found 1.5362, which indicates that average value of TQ may vary by 1.5362 points. The maximum and minimum values of the tobin's Q have also been mentioned in above table. The value of skewness is positive, which indicates that the data of TQ is positively skewed. The value of kurtosis is greater than 3, which means the peakedness of the curve is leptokurtic.

The results are demonstrating that the average value of return on capital employed has found as 0.1864 measured by mean with average change 0.8045. Both maximum and minimum values of return on capital employed have been reported in above table. The data of return on capital employed is positively skewed with peakedness of curve as leptokurtic.

As concerned about real earnings management, the average value of real earning management is found as 0.0001 with standard deviation 5.4698. The data of real earnings management is negatively skewed and peakedness of curve is leptokurtic. The results are also indicating that average value of board structure index is 0.0001 with average change measured by standard deviation is found as 1.0970. The data is positively skewed and peakedness of the curve is platykurtic.

In case of the control variables, the results are showing that the average leverage ratio is found as 0.2047 with average change 0.1366 and the data is positively skewed with mesokurtic type of the curve. The average value of firm size is found 15.5574 and firm size was measured by natural log of total assets. The average change in firm size is found 1.7081 and the data of firm size is negatively skewed with mesokurtic type of the curve. The results are further indicating that the

average age of the firm is 3.5056, which means the average age is 33 years. The average change in firm age is found as 0.5921, which is 2 years. The data of firm age is negatively skewed and curve is leptokurtic. The averagely liquidity of the firm is found as 1.6079, which means the companies have their current assets as 1.6079 times of the current liabilities. The average change in liquidity is found as 2.4405 and data is found as positively skewed with leptokurtic type of curve. The average value of tangibility is found as 0.5435, which is indicating that the average fixed assets are 54.35% of total assets. The average change of the tangibility is found 0.1949 and the data for this variable is negatively skewed and curve is mesokurtic.

## 4.2  Correlation Analysis

TABLE 4.2: Correlation Analysis

|  | ROA | TQ | ROCE | REM | BSI | LEV | FSIZE | AGE | LIQ | TANG |
|---|---|---|---|---|---|---|---|---|---|---|
| **ROA** | 1 | | | | | | | | | |
| **TQ** | 0.2491 | 1 | | | | | | | | |
| **ROCE** | 0.0874 | 0.0919 | 1 | | | | | | | |
| **REM** | -0.0338 | 0.0107 | -0.0129 | 1 | | | | | | |
| **BSI** | 0.2446 | 0.0652 | 0.0349 | 0.0057 | 1 | | | | | |
| **LEV** | -0.0049 | 0.0561 | -0.0826 | -0.0223 | 0.0154 | 1 | | | | |
| **FSIZE** | -0.3588 | -0.3522 | -0.0408 | 0.0033 | 0.1868 | -0.0279 | 1 | | | |
| **AGE** | -0.0792 | 0.0509 | 0.0196 | 0.0355 | 0.058 | -0.1583 | 0.0031 | 1 | | |
| **LIQ** | 0.0335 | 0.0366 | 0.08 | -0.0677 | -0.0694 | -0.1509 | -0.0373 | -0.0781 | 1 | |
| **TANG** | 0.0983 | -0.0729 | -0.0198 | -0.0055 | 0.0848 | 0.4895 | 0.0713 | -0.1041 | -0.2326 | 1 |

In table no 4.2, the results of correlation analysis have been mentioned. The results indicating that all explanatory variables have weak correlation to each other, which means there is no big issue of mulit-co-linearity and all these variables may be used for further analysis. The reported results shown that ROA has positive relationship with ROCE, Tobin's Q, BSI, liquidity and tangibility, where it shown negative relationship with REM, LEV, FSIZE and AGE. These all relationships are weak. Tobin's Q has positive relationships with all variables except firm size and tangibility and it also has weak correlations with all variables. Return on capital employed has negative and weak correlation with REM, LEV, FSIZE and TANG, but positive and weak with other variables. Real Earnings Management (REM) has negative and weak relationships with LEV, LIQ and Tangibility, but

showing positive and weak relationships with other variables. Board Structure Index (BSI) is showing negative and weak relationship with liquidity and weak positive relationships with LEV, FSIZE, AGE and TANG. The results are further showing that leverage has negative and weak correlation with FSIZE, AGE and LIQ, but weak positive relationship with TANG. Firm Age has negative weak co-efficient of correlation with LIQ and TANG. There is negative and weak co-efficient of correlation between liquidity and tangibility.

## 4.3 Stationery of the Data

TABLE 4.3: Panel Unit Root Test

| S.NO | Variables | Status |
|------|-----------|--------|
| 1 | Return on Assets | Stationary at level |
| 2 | Tobin's Q | Stationary at level |
| 3 | Return on Capital Employed | Stationary at level |
| 4 | Real Earings Management | Stationary at level |
| 5 | Board Structure Index | Stationary at level |
| 6 | Leverage | Stationary at level |
| 7 | Firm Size | Stationary at level |
| 8 | Firm Age | Stationary at level |
| 9 | Liquidity | Stationary at level |
| 10 | Tangibility | Stationary at level |

The results reported in Table no 4.3 are show the results of Panel Unit Root Test (ADF and Levin, Lin & Chu t). The results of the tests show that all variables are stationary at level I (0).

## 4.4 Generalized Method of Moments and Panel Dynamic Model

In Table 4.4, the results are indicated the impact of real earnings management (REM) on firm performance measured by return on assets (ROA), return on capital employed (ROCE) and Tobin's Q. Basically, the main three models have been constructed in the study. In model No. 1, the impact of real earnings management

TABLE 4.4: Generalized Method of Moments (GMM) and Panel Dynamic Model (Impact of Earnings Management on Firm Performance, Moderating Role of Board Structure Companies from Non Financial Sector and listed on Pakistan Stock Exchange)

| Selected Model | Difference Panel Model | Dynamic | | | Difference Panel Model | Dynamic | | | System GMM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D.V Variable | ROA (Model-1) | | | | ROCE (Model-II) | | | | Tobin's Q(TQ) (Model-III) | | | |
| | $\beta$ | S.E | T-Stat | Prob. | $\alpha$ | S.E | T-Stat | Prob. | $\lambda$ | S.E | T-Stat | Prob. |
| DV (-1) | 0.3506 | 0.059 | 5.9328 | 0 | 0.0214 | 0.003 | 8.6111 | 0 | 0.8455 | 0.072 | 11.77 | 0 |
| REM | -0.014 | 0.006 | -2.349 | 0.019 | -0.236 | 0.031 | -7.564 | 0 | 0.0573 | 0.094 | 0.6126 | 0.54 |
| BSI | 0.0116 | 0.016 | 0.7302 | 0.4654 | 0.3032 | 0.076 | 4.0148 | 0.0001 | 0.0364 | 0.02 | 1.7895 | 0.07 |
| REM*BSI | -0.012 | 0.005 | -2.363 | 0.0182 | -0.203 | 0.027 | -7.586 | 0 | 0.0486 | 0.081 | 0.599 | 0.55 |
| LEV | -0.038 | 0.019 | -1.998 | 0.0459 | -0.903 | 0.113 | -7.972 | 0 | 0.2188 | 0.167 | 1.3118 | 0.19 |
| FSIZE | -0.117 | 0.016 | -7.403 | 0 | 0.0243 | 0.025 | 0.9597 | 0.3373 | -0.054 | 0.024 | -2.2301 | 0.03 |
| AGE | -0.005 | 0.004 | -1.179 | 0.2387 | -0.064 | 0.036 | -1.778 | 0.0757 | 0.001 | 0.023 | 0.0451 | 0.96 |
| LIQ | 0.0029 | 0.001 | 2.0499 | 0.0405 | 0.0155 | 0.011 | 1.4457 | 0.1484 | 0.0092 | 0.006 | 1.6586 | 0.1 |
| TANG | 0.0254 | 0.024 | 1.0612 | 0.2888 | 1.605 | 0.172 | 9.3555 | 0 | -0.17 | 0.071 | -2.3765 | 0.02 |
| R2 | 0.269 | | | | 0.191 | | | | 0.87 | | | |
| Adjusted R2 | 0.266 | | | | 0.188 | | | | 0.869 | | | |
| Prob of J-Stat | 0.296 | | | | 0.067 | | | | 0.271 | | | |

*TQ=Tobin's Q, ROCE=Return on Capital Employed, REM=Real Earnings Managements, BSI=Board Structure Index, Age=Firm Age, FSize=Firm Size, Lev=Leverage, Liq=Liquidity, Tang=Tangibility*

on return on assets (ROA), has been tested. In model-II the influence of real earnings management (REM) has been investigated on return on capital employed (ROCE). In model-III, Tobin's Q has been used as a dependent variable. In all models, the moderating role of board structure index (BSI) has been examined. The board structure index (BSI) is a composition of board size, board independence and board meetings on the basis of principal component analysis (PCA). In all models, 1800 firm-year observations have been used. In all models (I, II & III), the leverage (Debt to total assets), firm Size (Natural log of total assets), firm age (natural log of 1+age of the corporation), Liquidity (current assets-current liabilities) and tangibility (Fixed assets to Total assets) have been used as control variable to remove the un-biasedness of the results.

### 4.4.1 Model No.1 Impact of REM on ROA with Moderating role of BSI

In model-I, the difference GMM has been applied and Dynamic Panel Model is used to capture the effect of REM on ROA and moderating of BSI in relationship of REM with ROA. In this model, the lagged values of all variables have been used as instrumental variables. The probability of J-statistic is greater than 0.05 (P-value>0.05), which indicates that the model has no issue of endogenity. The explanatory power of the model is 26.60% as the value of adjusted R-square is found as 0.2660.

The co-efficient of REM is negative and significant (-0.0141, P-value<0.05), which means the real earnings management has negative and significant impact on ROA. The hypothesis of the study H1: H1: Earning management has negative impact on firm performance is accepted.

The results shown that the co-efficient of board structure index (BSI) is positive with p-value greater than 0.05, which means board structure index does not bring change in ROA. So, the hypothesis of the study H2: Board structure index have positive impact on firm performance does not accepted. Moreover, the co-efficient of interaction term (REM*BSI) is negative and significant, which means the BSI strengthen the relationship between REM and ROA. Therefore, the hypothesis

of study H3: Board structure index strengthen the relationship between earning management and firm performance is partially accepted.

## 4.4.2 Model No.1I Impact of REM on ROCE with Moderating role of BSI

The results presented in Table 4.4 shown that in model-II, the difference GMM and dynamic panel model has been applied to test the hypotheses. In model-II, lagged values of all variables have been taken as instrumental variables. The probability of J-Statistic is greater than 0.05, which shows that the model has no issue of endogenity. The explanatory power of the model-II is 18.80% as the value of adjusted R-square is found as 0.1880.

The results are further elaborated that the co-efficient of REM is negative with P-value less than 0.05, which means real earnings management (REM) has negative and significant influence on ROCE. Thus, the results support the hypothesis of the study H1: Earning management has negative impact on firm performance is accepted.

The results are also showing that the co-efficient of board structure index (BSI) is positive with p-value less than 0.05. So, the hypothesis of the study H2: Board structure index have positive impact on firm performance is accepted. Moreover, the co-efficient of interaction term (REM*BSI) is negative and significant, which means the BSI strengthen the relationship between REM and ROCE. Therefore, the hypothesis of study H3: Board structure index strengthen the relationship between earning management and firm performance is partially accepted.

## 4.4.3 Model No.III Impact of REM on Tobin's Q with Moderating role of BSI

In the Model -III GMM and dynamic model has been applied to test the hypotheses. The results indicated that the explanatory power of the model is 86.9% as the value of adjusted R-square is 0.869. The probability of J-statistic is greater than 0.05 (P-value>0.05), which indicates that the model has no issue of

endogenity. The results shown that the co-efficient of REM is positive with p-value greater than 0.05, which indicates that REM does not affect the Tobin's Q. The hypothesis of the study H1: Earning management has negative impact on firm performance is not accepted. As the Tobin's Q is a market based measured and many other factors affect the market capitalization due to which the influence of managerial earnings management cannot be captured.

TABLE 4.5: Status of Hypotheses

| Model | Firm Performance | Hypotheses | Status |
|---|---|---|---|
| Model-I | RoA | H1: Earning management has negative impact on firm performance. | Accepted |
| | | H2: Board structure index have positive impact on firm performance. | Rejected |
| | | H3: Board structure index weaker the relationship between earning management and firm performance. | Accepted |
| Model-II | ROCE | H1: Earning management has negative impact on firm performance. | Accepted |
| | | H2: Board structure index have positive impact on firm performance. | Accepted |
| | | H3: Board structure index weaker the relationship between earning management and firm performance. | Accepted |
| Model-III | TQ | H1: Earning management has negative impact on firm performance. | Rejected |
| | | H2: Board structure index have positive impact on firm performance. | Accepted at 10% level of significance |
| | | H3: Board structure index weaker the relationship between earning management and firm performance. | Rejected |

The results are also showing that the co-efficient of board structure index (BSI) is positive with p-value 0.0737, which means board structure index brings change in Tobin's Q at 10% level of significance. So, the hypothesis of the study H2: Board structure index have positive impact on firm performance is accepted. The co-efficient of interaction term (REM*BSI) is positive with p-value greater than 0.05, which means the BSI is not playing moderating role in the relationship of BSI with Tobin's Q. Therefore, the hypothesis of study H3: Board structure index weaker the relationship between earning management and firm performance is not accepted. So, the empirical status of the hypothesis is concluded in the above table no. 4.5

## 4.5 Discussion on the Results

### 4.5.1 Model-I

In modle-1, the results are showing that real earnings management affects the return on assets negatively. The previous studies support the results, In short run REM might show better economic results but in log run it may damage the firm's operating performance, Sutrisno (2017). Leggett et al. (2017)'s results are same as the Farooqi et al. (2014), where they found that there is contradictory relationship between REM and firm performance and shareholders suffer the economic loss due to EM of managers.

The board structure index weaker the relationship between real earnings management and return on assets. The result of the study are spotted by the agency theory as this theory discuss that corporate governance plays an important role to reduce the conflicts between the managers and shareholders due to which it reduces the relationship between Earnings management and firm's performance.

### 4.5.2 Model-II

In model-II, the results are showing that real earning management affects the return on capital employed negatively. The previous studies back these results, Roychowdhury (2006) and Joosten (2012)'s also found that deviating from standard business practices have harmful impact on firm performance in the long run. Leggett et al. (2017) reported that there is significant association of REM and financial results in terms of return through assets.

The board structure index weaker the relationship between real earnings management and ROCE as board structure hamper the earnings management practices of the managers.

### 4.5.3 Model-III

In model-III, the results are showing that real earnings management does not affect the Tobin Q. the effect of REM on Tobin's Q is inconclusive as TQ is

market based measure and it is effected by many other factors rather than REM
. It also depends upon the price of share which depends upon the information
decimated in the market. The board structure index does not moderate between
real earnings management and TQ. It is market based so corporate governance
has no impact

# Chapter 5

# Conclusion and Policy
# Implications

This chapter is about the conclusion of the study and it also elaborates the practical implications of the research. Moreover, this chapter is discussing the limitations and future direction of the study.

## 5.1   Findings and Summary

The main purpose of the research is to pinpoint the effect of real earnings management (REM) on firm performance (ROA, ROCE & Tobin's Q) with moderating effect of board structure. To achieve the purpose, the hypotheses of the study have been constructed after reviewing the extensive literature. To check the empirical status of the hypotheses, the panel data has been collected from 200 companies from non-financial sectors of Pakistan and data time period for 11 years (2009-2019). The firm performance has been measured by using return on assets (ROA), return on capital employed (ROCE) and Tobin's Q (TQ).

The real earnings management has been measured by using the Roychowdhury (2006) model of cash flow from operating activities and board structure index has been constructed by using principal component analysis (PCA). Afterwards, generalized method of moments has been applied to test the hypotheses in all three models. In model-I, the dependent variable is return on assets, in models-II

the dependent variable is return on capital employed and in model-III, Tobin's Q is used as dependent variable.

## 5.2  Policy Implications

When it comes to the contribution of study, it can be divided into two categories: academic and practical application. Regarding the academic implication, this study is beneficial and helpful to finance students and future researchers who wants to conduct more research in this area. When we look at it from a practical standpoint, it is very beneficial because most investors want to know about the success of these companies so that they can predict the future. The purpose of the research is that investors must be aware the consequences of earning management. This study is also helpful for the policy makers to formulate the policies which may improve the efficiency of board so that agency issues may be minimized. This study would also contribute to the existing body of knowledge.

REM has significant impact on firm performance so investor be careful in investing in such firms. REM has negative impact on firm's performance so governance should monitor and discourage such practices. Board structure has significant positive impact on firm performance so quality of the board should be improved. The moderating role of board structure was conceived to reduce the negative effect of Real earning management on firm performance is not found significant so board structure should be further strengthen to create value for shareholders.

## 5.3  Limitations and Future directions of the Study

Although a lot of work has been carried out but there always remains the space to do more work. The study has some limitations. First of all, the study has been conducted only in the scenario of Pakistan. Only non-financial sector has been taken into account. Only one dimension of corporate governance i.e. Board structure has been used. The real earnings management has been measured only by cash flows model and other two models have not been included.

The same study may be conducted by taking into account other emerging and developed countries. The corporate governance may be measured by adding other dimensions e.g ownership structure and audit quality. Other proxies of real earnings management may also be used in future studies. In future studies the real earnings management may also be used as a mediator in the relationship of board structure and firm performance.

# Bibliography

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. T*he journal of risk finance*, 6(5), 438-445.

Abor, J. (2008). *Determinants of the capital structure of Ghanaian firms.* AERC.

Ahmed, R., & Bhuyan, R. (2020). Capital structure and firm performance in Australian service sector firms: A panel data analysis. *Journal of Risk and Financial Management*, 13(9), 214-224.

Al-Absy, M. S. M., Ismail, K. N. I. K., Chandren, S., & Al-Dubai, S. A. A. (2020). Involvement of board chairmen in audit committees and earnings management: Evidence from Malaysia. *The Journal of Asian Finance, Economics, and Business*, 7(8), 233-246.

Dave, A., Parwani, A., Joshi, A., & Dave, T. (2019). A study of capital structure and profitability of Indian steel sector companies. *International Journal of Advanced Science and Technology*, 28(1), 866-873.

Ali, A., & Zhang, W. (2015). CEO tenure and earnings management. *Journal of Accounting and Economics*, 59(1), 60-79.

AlNajjar, F., & Riahi-Belkaoui, A. (2001). Growth opportunities and earnings management. *Managerial Finance.*

Alrabba, D.H., Ahmad, M.A., & Hamadneh, M. (2019). Capital Structure And Firm Performance: Evidence From Jordanian Listed Companies. *International Journal of Scientific & Technology Research*, 8, 364-375.

Alzomaia, T. S. (2014). Capital structure determinants of publicly listed companies in Saudi Arabia. *The International Journal of Business and Finance Research*, 8(2), 53-67.

Awuah-Agyeman, D. (2016). Assessing the impact of capital structure on profitability of manufacturing industry in Ghana: A case study at selected firms *(Doctoral dissertation, Doctoral dissertation)*. Retrieved from http://ir. knust. edu. gh/bitstream/123456789/8672/1/DUAH% 20AWUAH-AGYEMAN.pdf).

Bae, J., Kim, S. J., & Oh, H. (2017). Taming polysemous signals: The role of marketing intensity on the relationship between financial leverage and firm performance. *Review of Financial Economics*, 33(1), 29-40.

Bhojraj, S., Hribar, P., Picconi, M., & McInnis, J. (2009). Making sense of cents: An examination of firms that marginally miss or beat analyst forecasts. *The Journal of Finance*, 64(5), 2361-2388.

Chakrabarti, A., & Chakrabarti, A. (2019). The capital structure puzzle–evidence from Indian energy sector. *International Journal of Energy Sector Management.*

Chih, H. L., Shen, C. H., & Kang, F. C. (2008). Corporate social responsibility, investor protection, and earnings management: Some international evidence. *Journal of business ethics*, 79(1), 179-198.

Claessens, S., & Yurtoglu, B. B. (2013). Corporate governance in emerging markets: A survey. *Emerging markets review*, 15, 1-33.

Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1), 2-19.

Dalci, I. (2018). Impact of financial leverage on profitability of listed manufacturing firms in China. *Pacific Accounting Review.*

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2-3), 344-401.

Dichev, I. D., Graham, J. R., Harvey, C. R., & Rajgopal, S. (2013). Earnings quality: Evidence from the field. *Journal of Accounting and Economics*, 56(2-3), 1-33.

Drobetz, W., Von Meyerinck, F., Oesch, D., & Schmid, M. (2018). Industry expert directors. *Journal of Banking & Finance*, 92, 195-215.

Ernayani, R., & Robiyanto, R. (2016). The effect of the cash flows, gross profit and company size on Indonesian stock returns (a study on the chemical and basic industry companies during the periods of 2009-2014). *International Journal of Applied Business and Economic Research*, 14(3).

Ferreira, A., & Otley, D. (2009). The design and use of performance management systems: An extended framework for analysis. *Management accounting research*, 20(4), 263-282.

Osma, B. G., Gomez-Conde, J., & Lopez-Valeiras, E. (2022). Management control systems and real earnings management: Effects on firm performance. *Management accounting research*, 100781.

Gillan, S. L., & Starks, L. T. (1995). Relationship investing and shareholder activism by institutional investors. Unpublished manuscript, University of Texas at Austin.

Gong, G., Louis, H., & Sun, A. X. (2008). Earnings management and firm performance following open-market repurchases. *The Journal of Finance*, 63(2), 947-986.

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1-3), 3-73.

Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks. *Contemporary accounting research*, 27(3), 855-888.

Guo, L. (2011). The Moderating impact of directors' demographic characteristics on the relationship between corporate governance and firm performance in China's listed companies *(Doctoral dissertation, Lincoln University)*.

Handriani, E., & Robiyanto, R. (2019). Institutional ownership, independent board, the board size, and firm performance: Evidence from Indonesia. *Contaduría y administración*, 64(3).

Hermiyetti, H., & Manik, E. N. (2013). The influence of good Corporate governance mechanism on earnings management: empirical study in Indonesian

Stock Exchange listed company for periods of 2006-2010. *The Indonesian Capital Market Review*, 5(1), 5.

Hernawatt,R. I., Ghozali, I., Yuyetta, E. N. A., & Prastiwi, A. (2021). The effect of income and earnings management on firm value: Empirical evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(4), 105-112.

Hernawatt,R. I., Ghozali, I., Yuyetta, E. N. A., & Prastiwi, A (2021). The effect of income and earnings management on firm value: Empirical evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(4), 105-112.

Helmy, M. H. Z. B. N., Fei, G. C., Kowang, T. O., Hee, O. C., Teck, T. S., Yew, L. K., & Hoo, W. C. (2020). Capital structure, internal governance mechanisms and firm performance. *International Journal of Psychosocial Rehabilitation*, 24(1), 7313-7321.

Hong, Y., & Andersen, M. L. (2011). The relationship between corporate social responsibility and earnings management: An exploratory study. *Journal of business ethics*, 104(4), 461-471.

Hsu, M. F., & Wen, S. Y. (2015). The influence of corporate governance in Chinese companies on discretionary accruals and real earnings management. *Asian Economic and Financial Review*, 5(3), 391-406.

Huang, H. L., Liang, L. W., Chang, H. Y., & Hsu, H. Y. (2021). The Influence of Earnings Management and Board Characteristics on Company Efficiency. *Sustainability*, 13(21), 11617.

Joosten, C. (2012). Real earnings management and accrual-based earnings management as substitutes. *Tilburg University, Tilburg*, 52.

Kamran, M. R., Zhao, Z., Ali, H. S., & Sabir, F. (2018). Does earnings management mediate the impact of financial policies on market value of firms? A comparative study of China and Pakistan. *International Journal of Financial Engineering*, 5(01), 1850006.

Kang, S. A., & Kim, Y. S. (2011). Does earnings management amplify the association between corporate governance and firm performance?: Evidence from Korea. *International Business & Economics Research Journal (IBER)*, 10(2).

Khan, A. G. (2012). The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan. *International Journal of Accounting and Financial Reporting*, 2(1), 245-262.

Kim, J. B., & Sohn, B. C. (2013). Real earnings management and cost of capital. *Journal of Accounting and Public policy*, 32(6), 518-543.

Klein, A., & Audit Committee. (2011). Board of Director Characteristic and Earnings Management. *Journal Accounting and Economics*, (33), 375-400.

Koerniadi, H., & Tourani-Rad, A. (2012). Does board independence matter? Evidence from New Zealand. *Australasian Accounting, Business and Finance Journal*, 6(2), 3-18.

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197.

Kuang, Y., Abernethy, M. A., & Qin, B. (2019). The Relation between Strategy, CEO Selection, and Firm Performance.

Kumar, M., Vij, M., & Goswami, R. (2020). Effect of real earnings management on firm performance: Evidence from India. Vision, 09722629211007577.

Lartey, V. C., Antwi, S., & Boadi, E. K. (2013). The relationship between liquidity and profitability of listed banks in Ghana. International *Journal of Business and Social Science*, 4(3).

Leggett, D., Parsons, L. M., & Reitenga, A. L. (2017). Real Earnings Management and Subsequent Operating Performance. https://papers.ssrn.com/abstract=3071456

Lemma, T. T., Negash, M., Mlilo, M., & Lulseged, A. (2018). Institutional ownership, product market competition, and earnings management: Some evidence from international data. *Journal of Business Research*, 90, 151-163.

Simons, R. (1994). *Levers of control: How managers use innovative control systems to drive strategic renewal*. Harvard Business Press.

Liu, J. L., & Tsai, C. C. (2015). Board member characteristics and ownership structure impacts on real earnings management: Evidence from Taiwan. *Accounting and Finance Research*, 4(4), 84-96.

Mizik, N., & Jacobson, R. (2007). Myopic marketing management: Evidence of the phenomenon and its long-term performance consequences in the SEO context. *Marketing Science*, 26(3), 361-379.

Naimah, Z. (2017). The role of corporate governance in firm performance. *In SHS Web of Conferences*,34, 1-6.

Nekhili, M., Amar, I. F. B., Chtioui, T., & Lakhal, F. (2016). Free cash flow and earnings management: The moderating role of governance and ownership. *Journal of Applied Business Research (JABR)*, 32(1), 255-268.

Nielsen, S., & Huse, M. (2010). The contribution of women on boards of directors: Going beyond the surface. *Corporate governance: An international review*, 18(2), 136-148.

Farooqi, J., Harris, O., & Ngo, T. (2014). Corporate diversification, real activities manipulation, and firm value. *Journal of Multinational Financial Management*, 27, 130-151.

Gharaibeh, O., & Khaled, M. H. B. (2020). Determinants of profitability in Jordanian services companies. Investment Management and Financial Innovations.

Ortega, W. R., & Grant, G. H. (2003). Maynard manufacturing: An analysis of GAAP-based and operational earnings management techniques. *Strategic Finance*, 85(1), 50.

Otley, D. (1999). Performance management: a framework for management control systems research. *Management accounting research*, 10(4), 363-382.

Pernamasari, R., Purwaningsih, S., Tanjung, J., & Rahayu, D. P. (2020). Effectiveness Of Firm Performance And Earnings Management To Stock Prices. *EPRA International Journal of Multidisciplinary Research (IJMR)-Peer Reviewed Journal*, 6(1), 75-83.

Prior, D., Surroca Aguilar, J., & Tribo Gine, J. A. (2007). Earnings management and corporate social responsibility.

Aleemi, A. R., & Azam, M. (2017). The Integration of Financial Markets in Pakistan: New Extensions and Evidence from Bounds Testing and TYDL Granger Non-Causality Approach. *Abasyn University Journal of Social Sciences*, 10(1).

Aleemi, A. R., & Uddin, I. (2020). Corporate Governance and Firm Performance: The Moderating Role of Directors Demographic Characteristics. *KASBIT Business Journal*, 13(2), 1-20.

Wati, R., Honggowati, S., & Supriyono, E. (2014). The effect of corporate social responsibility on financial performance with real manipulation as a moderating variable. *International Journal of Management, Economics and Social Sciences*, 3(2), 59-78.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, 42(3), 335-370.

Sari, G. P. (2015). Manipulasi Laba Riil: Upaya Untuk Menghindari Kerugian. *Akuisisi: Jurnal Akuntansi*, 11(2).

Scholtens, B., & Kang, F. C. (2013). Corporate social responsibility and earnings management: Evidence from Asian economies. *Corporate Social Responsibility and Environmental Management*, 20(2), 95-112.

Shafer, W. E. (2015). Ethical climate, social responsibility, and earnings management. *Journal of business ethics*, 126(1), 43-60.

Subramanyam, K. R. (2014). Financial statement analysis. Không nhà xuất bản.

Sugiyono, P. D. (2010). Metode penelitian pendidikan. Pendekatan kuantitatif.

Sun, J., Lan, G., & Liu, G. (2014). Independent audit committee characteristics and real earnings management. *Managerial Auditing Journal*.

Suryani, A., & Putri, H. T. (2019). The Effect of Related Party Transactions through Opportunistic Behaviour Management to Increase Firm Value. *J. Fin. Bank. Review*, 4(2), 64-72.

Susanto, Y. K. (2017). Accrual Earnings Management, Real Earnings Management, Firm Value. *International Journal of Business, Economics and Law*, 14(1), 1-6.

Syanthi, N. T., Sudarma, M., & Saraswati, E. (2013). Dampak Manajemen Laba terhadap Perencanaan Pajak dan Persistensi Laba. *EKUITAS (Jurnal Ekonomi dan Keuangan)*, 17(2), 192-210.

Tan, H. C., & Jamal, K. (2006). Effect of accounting discretion on ability of managers to smooth earnings. *Journal of Accounting and Public Policy*, 25(5), 554-573.

Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal*, 15(1), 93-106.

Taylor, G. K., & Xu, R. Z. (2010). Consequences of real earnings management on subsequent operating performance. *Research in accounting regulation*, 22(2), 128-132.

Tong, S., & Junarsinb, E. (2013). Do private firms outperform SOE firms after going public in China given their different governancecharacteristics?. *Gadjah Mada International Journal of Business*, 15(2), 133-170.

Utami, W. (2006). Pengaruh Manajemen Laba Terhadap Biaya Modal Ekuitas (Studi pada Perusahaan Publik Sektor Manufaktur). *The Indonesian Journal of Accounting Research*, 9.

Vo, Xuan Vinh. 2017. Determinants of Capital Structure in emerging markets: evidence from Vietnam. *Research in International Business and Finance*, 40(1) 105 − 113.

Vorst, P. (2016). Real earnings management and long-term operating performance: The role of reversals in discretionary investment cuts. *The Accounting Review*, 91(4), 1219-1256.

Razali, M. W. M., Yee, N. S., Hwang, J. Y. T., Tak, A. H. B., & Kadri, N. (2018). Directors' remuneration and firm's performance: A study on Malaysian listed firm under consumer product industry. *International Business Research*, 11(5), 102-109.

Walker, A., Machold, S., & Ahmed, P. K. (2015). Diversity and conflict in boards of directors: An exploratory study of personality traits. *International Studies of Management & Organization*, 45(1), 25-42.

Wang, W., & Zheng, K. (2020). Real earnings manipulation and future performance: A revisit using quarterly data of firms with debt covenants. *Review of Financial Economics*, 38(1), 76-96.

Zang, A. Y. (2012). Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review*, 87(2), 675-703.

Zhang, X., & He, Y. (2013). R&D-based earnings management, accounting performance and market return: Evidence from national-recognized enterprise technology centers in China. *Chinese Management Studies*.