



# Earnings management by banks operating in emerging markets - The case of BRICS countries

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Date

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**DECLARATION**

I, Relebohile Tigeli, solemnly affirm that the Research Report submitted herein embodies my intellectual efforts. This work, to the best of my knowledge, is original and has not been published or submitted elsewhere. This report is being tendered to partially fulfill the academic requirements for the Degree of Master of Management in Finance and Investment at the esteemed Wits Business School (WBS), University of the Witwatersrand, Johannesburg. I have ensured that any literature, data, or works referenced in this report, which is the intellectual property of others, have been appropriately cited and acknowledged in the reference section. Furthermore, I declare that I have received authorization from a panel constituted by the research committee of the WBS to undertake this research. This work has not been previously submitted for any degree or examination at any other University.

Signed:

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**DEDICATION**

This work is first and foremost dedicated to God, the source of my strength and wisdom. Without His guidance, this journey would not have been possible.

To my beloved family, this achievement is a testament to your unwavering support and love. To my parents, Malebakeng and Hlapane Tigeli, who have always believed in my dreams and took care of my precious daughter, Keratiole “Kierra” Tigeli, while I embarked on this academic journey. Your sacrifices have not gone unnoticed and this achievement is as much yours as it is mine.

To my sister, Jabs, your belief in me and your daily encouragement have been my pillars of strength. You have walked this journey with me, hand in hand, from the sleepless nights preparing for tests and exams to the finish line. Your support has been invaluable.

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Lastly, to my daughter, Kiky (Kierra), thank you for your understanding and support while mummy was away. Your love and encouragement have been my driving force. This achievement is dedicated to you. May the experience of pursuing dreams and passions firsthand illuminate your path. May this sacrifice plant a seed in you that will propel your wings to fly today and in the future.

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**ABSTRACT**

This study was motivated by the intriguing phenomenon of earnings management within commercial banks, particularly in the BRICS nations. The choice of BRICS countries was driven by their significant role in the global economy and their unique challenges regarding regulatory practices and economic structures. The primary objective of this study is to investigate the extent and strategies of earnings manipulation within BRICS commercial banks, shedding light on both its motivation and the factors that drive such behaviour. Utilizing the Beneish Manipulation Score (M-score) model, the study identifies earnings manipulators from non-manipulators. Through the panel regression, the study elucidates the underlying objective of earnings manipulation and the factors influencing such behaviour. The findings reveal that some banks manipulate their earnings, however, this phenomena is observed in less than 30% of the sampled banks. Notably, the identified purposes for such manipulation include income smoothing, capital management, and signaling strategies. Moreover, the findings also highlight the pivotal role Factors such as management compensation, firm size, and profitability act as catalysts for earnings management, while high leverage and superior audit quality serve as deterrents. Despite the growing body of literature on earnings management, there is a noticeable gap in research focusing on BRICS nations. This study addresses this gap and underscores the need for regulatory authorities to re-assess management compensation structures, enforce stricter auditing requirements, and monitor banks' profitability metrics. It emphasizes the importance of a robust accounting framework and stringent auditing practices for ensuring transparency and accountability in the banking sector of BRICS countries. To our knowledge, this is the first study to examine the extent, strategies, and influencing factors of earnings management within commercial banks in BRICS nations, offering valuable insights for policy formulation.

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## LIST OF ABBREVIATIONS AND SYMBOLS

| | |
|---|---|
| AAA | American Accounting Association |
| ABEM | Accrual-Based Earnings Management |
| ADF | Augmented Dickey-Fuller |
| AQI | Asset Quality Index |
| AUDITQUALITY | Measured by Auditor Independence Rotation |
| BOARD | Board Size |
| BRICS | Brazil, Russia, India, China, and South Africa |
| COMP | Management Compensation |
| DEPI | Depreciation Index |
| DSRI | Day Sales in Receivables Index |
| EBTP | Earnings Before Taxes and Provisions |
| EM | Earnings Management |
| FEM | Fixed Effects Model |
| FSIZE | Firm Size |
| GAAP | Generally Accepted Accounting Principles |
| GMI | Gross Margin Index |
| GMM | Generalized Method of Moments |
| $H_o$ | Null Hypothesis |
| $H_1$ | Alternative Hypothesis |
| I(0) | Order of Integration at level |
| I(1) | Order of Integration at first difference |
| IASB | International Accounting Standards Board |
| IFRS | International Financial Reporting Standards |
| ITC | International Trade Commission |
| LEVERAGE | Financial Leverage |
| LEVI | Leverage Index |

| | |
|---|---|
| LLP | Loan Loss Provision |
| LM | Lagrange Multiplier |
| LOAN | Total Customer Loans |
| M-score | Manipulation Score |
| NPL | Non-performing Loans |
| POLS | Pooled or Panel Least Squares |
| PROFIT | Profitability |
| R&D | Research & Development |
| REM | Random Effects Model |
| REM | Real Activities Earnings Management |
| SA & G | Selling, Administration & General Expenses |
| SGAI | Sales General and Administrative Expenses Index |
| SGI | Sales Growth Index |
| SIGN | One Year Ahead Change in Earnings Before Taxes and Provisions |
| T1 | Tier 1 Capital |
| TATA | Total Accrual to Total Assets |
| ΔGDP | Real Gross Domestic Product Growth Rate |
| ε | Error Term |
| μ | Residual or Error Term |

**LIST OF FIGURES AND TABLES**

# CHAPTER 1

## 1.1 Introduction

This chapter introduces earnings management and its significance in the banking sector, especially in an emerging market context. This chapter is organized as follows: Section 1.2 presents the background. Section 1.3 discusses the research problem. Section 1.4 outlines the research objectives. Section 1.5 presents the gap in the literature. Section 1.6 discusses the benefits of the study. Section 1.7 presents the structure of the thesis, and the chapter summary concludes the chapter.

## 1.2 Background of the Study

Financial reporting is a fundamental process in the banking sector, providing stakeholders with crucial information about a bank's financial performance and position. Accurate and reliable financial reports are vital for making informed decisions, such as whether to invest in the bank or assess its creditworthiness and compliance with regulatory requirements. Over the years, the concept of financial reporting has evolved significantly, driven by the increasing complexity of financial transactions and the need for greater transparency and accountability. The introduction of accounting and reporting standards such as the International Financial Reporting Standards (IFRS) has been a major development in this field. These standards were designed to ensure the quality, transparency, consistency, and comparability of financial reporting globally (Palea, 2013). The use of IFRS in banks, particularly IFRS 9 Financial Instruments, has had a profound impact on the way banks account for financial instruments. This standard deals with the classification and measurement of financial assets and liabilities, impairment of financial assets, and hedge accounting. It introduces an expected credit loss model for recognizing loss allowance to financial assets, which can have a significant impact on banks' reported financial position. Empirical studies have shown that the adoption of IFRS improves the quality of financial statements, enhancing the comparability and reliability of financial information across different jurisdictions (Iatridis, 2010). Auditors play a vital role in the financial reporting process by independently examining and verifying the accuracy and fairness of a bank's financial statements. They conduct audits in accordance with relevant auditing standards, such as the International Standards on Auditing (ISA), and provide an objective opinion on whether the financial statements present a true and fair view of the bank's financial position and performance (Krishnan, 2009). This independent verification enhances the credibility and reliability of financial reports, thus increasing investor confidence and contributing to the stability of the financial system.

Earnings figures contained in the annual reports are a cornerstone of financial information, providing valuable information about a company's financial health and performance to investors and other stakeholders (Chen et al., 2010). They serve as a primary source of financial information in capital markets and act as a good indicator of a company's future cash flows and its going concern status. However, the integrity of these earnings figures can sometimes be compromised by a practice known as earnings management. This involves the use of discretion by managers in financial reporting and transaction structuring to alter financial reports. Managers tend to manipulate company earnings for various reasons, including misleading stakeholders about the company's true economic performance or influencing contractual outcomes tied to reported accounting figures. Often, managers employ this practice to achieve specific earnings targets or objectives (Jones, 1991; Burgstahler et al., 2006). The concept of earnings management has been extensively studied in the literature, with seminal works by (Healy & Wahlen, 1998) providing a comprehensive overview of the methods and implications of this practice. In the banking sector, earnings management can occur through various channels. Managers may select accounting procedures and accruals that maximize the value of their bonus awards when based on earnings-based bonus schemes (Healy, 1985). The executives of banks may engage in income-increasing opportunities to maximize the compensation packages that are linked to the bank's performance (Klein, 2002). Furthermore, banks may engage in earnings management when in need of external financing, they may present low credit risk and higher reported income to attract more depositors (Kanagaretnam et al., 2004).

There are various techniques used in earnings management, some of which have been the subject of extensive empirical research. Techniques such as window dressing and the creation of secret reserves are used to adjust a company's financial statements to present a favorable financial position at the reporting date. For example, a company might postpone payments to suppliers so that the bank balance will be high at the end of the reporting period. Another example is when a company changes the valuation of inventories to increase or decrease profits. In banks, one common technique is the manipulation of loan loss reserves and provisions to influence reported profitability and credit risk. Off-balance sheet transactions, such as securitizations or special purpose entities, are another method used to manipulate financial results by affecting the recognition and disclosure of assets, liabilities, and income. These techniques can give stakeholders a misleading impression of the bank's performance. Furthermore, banks may engage in regulatory arbitrage, taking advantage of gaps or inconsistencies in regulations to achieve their desired accounting results. For example, banks can issue securities to increase regulatory capital, while repurchasing common stock, allowing them to manage their risk. This often causes concerns about

whether banks are following regulations properly and can make it difficult for regulatory authorities to assess the financial risks present in banks.

The motivation for earnings management in the banking sector is multifaceted. At its core, it often lies in the desire for managers to meet or beat earnings benchmarks, such as analyst forecasts or prior-year earnings (Dechow et al., 2012). This can be achieved by intentionally manipulating earnings to create a more consistent and predictable pattern, which can enhance the perceived financial stability of the bank and attract potential investors. Another significant motive for earnings management is to avoid regulatory scrutiny and intervention. By presenting a more favorable view of the company's financial position, managers can potentially avoid regulatory action that could disrupt the bank's operations or negatively impact its reputation. Additionally, managers may manipulate financial records for their gain, which can result in higher bonuses or other forms of compensation linked to the performance of the bank (Schipper, 1989). These practices can boost the value of the company by presenting a more favorable view of its financial position, potentially attracting investment and increasing the company's stock price.

Earnings management is particularly important in the banking industry, especially in emerging market economies. Banks play a vital as intermediaries, taking savings from individuals and businesses and directing them toward investments and productive activities (Allen et al., 2014). They provide credit to entrepreneurs and businesses, allocate capital to different sectors of the economy, and offer essential payment and settlement services. As a result, the financial health and reporting practices of banks can have a significant impact on overall economic stability (Bushman & Williams, 2012).

The emerging markets environment is a good laboratory to assess earnings management because of the unique and sometimes weak economic, regulatory, and institutional features that characterize emerging markets, which may create incentives and opportunities for earnings management practices (W. Li et al., 2017). These markets often have less mature regulatory frameworks, weaker enforcement mechanisms, and information asymmetry, which can enable banks to engage in earnings management more easily (Leuz et al., 2003). South Africa's banking sector, in particular, provides an intriguing case study for examining earnings management. The country has a dynamic emerging market economy with a mix of local and international banks operating within its borders. However, recent developments such as the global financial crisis, increasing regulatory scrutiny, and challenges in the domestic economic environment have placed pressure on banks to maintain profitability while adhering to strict reporting standards (Chaity & Islam, 2021). For example, an increase in cybercrime over the past few years posed a significant challenge

to the South African banking industry, which in turn increases the concern around the potential earnings management practices that distort the true financial position of banks, is a significant concern.

Earnings management in banks is not just a matter of academic interest; it can lead to systemic risk and jeopardize the stability of the financial system (Ceccobelli & Giosi, 2019). This is because banks play a crucial role in the economy, and any instability in the banking sector can have far-reaching effects. For instance, earnings management can distort the true financial position of banks, leading to the misallocation of resources and potentially causing financial crises. Recognizing the critical nature of this issue, various stakeholders, including regulators and investors, have a vested interest in closely monitoring the financial reporting practices of banks to ensure transparency and accountability (Chaity & Islam, 2021). This is particularly important in the context of emerging markets, where regulatory frameworks may be less developed and enforcement mechanisms may be weaker. By exploring the prevalence of earnings management in the banking sector with a particular focus on emerging markets, this research aims to contribute to the existing literature by providing insights into the financial reporting practices of banks operating in these markets. Specifically, it aims to provide a comprehensive understanding of earnings management practices within the BRICS (Brazil, Russia, India, China, and South Africa) banking sector. The BRICS countries represent some of the largest and most influential emerging markets in the world and their banking sectors play a crucial role in their respective economies. They encompass about 26% of the world's land area and 42% of the world's population, with a combined GDP of about 25% of the global economy (Aaron, 2022). Understanding the prevalence, motivations, and factors driving earnings management practices in this sector is essential for ensuring the integrity of financial reporting, promoting investor confidence, and maintaining stability in emerging market economies. Earnings management practices can vary significantly across different countries and regions due to differences in regulatory environments, corporate governance structures, and cultural norms. By focusing on the BRICS countries, this research aims to shed light on the unique characteristics and challenges of earnings management in these major emerging economies. This research will delve into the specific techniques used for earnings management in these countries, the regulatory environment that may enable or constrain such practices, and the potential impacts on the financial health and stability of banks in these markets. The findings of this research could provide valuable insights for policymakers, regulators, and investors, and contribute to the development of more effective strategies for mitigating the risks associated with earnings management in the BRICS banking sector.

## 1.3 Problem Statement

Accounting information plays an important role in addressing the information problems that arise between borrowers and depositors in banks. Banks hold loans, which are typically long-term assets, while their deposits are short-term liabilities. This creates a maturity mismatch that can expose banks to the risk of runs if the value of their assets falls below the value of their depositors' claims (Diamond & Dybvig, 1983). Accounting information is essential for addressing this risk by providing transparent and reliable information about the bank's financial position and performance. Additionally, accounting information is essential for the prudential regulation of banks. Regulators use accounting information to set capital requirements and assess banks' compliance with regulatory standards. Accurate and reliable accounting information is vital for ensuring the safety and soundness of the banking system.

Extant literature confirms that banks engage in earnings management practices, including manipulating loan loss provisions. This practice compromises the accuracy and reliability of the bank's accounting information which in turn undermines the ability of depositors and regulators to assess the bank's financial position and performance, potentially increasing the risk of runs and regulatory failures.

The BRICS nations - Brazil, Russia, India, China, and South Africa - play a significant role in the global economy, accounting for a sizable proportion of the world's population and are projected to remain the main drivers of growth in the world economy by 2030. As emerging economies, they exert a considerable impact on global trade and economic growth. However, each of these nations faces unique challenges in terms of regulatory practices and economic structures, making them compelling subjects for study.

Earnings management practices in banks can involve a variety of techniques and this study focuses on income smoothing, capital management, and signaling. Income smoothing involves manipulating reported earnings to create a more consistent pattern by deferring profits in good periods to a period when the bank will make losses, potentially hiding the true volatility of the bank's performance. Stakeholders may perceive banks with stable earnings as less risky (Gebhardt & Novotny-Farkas, 2011).

Regulatory capital requirements serve as a safeguard to ensure that banks have sufficient reserves to absorb losses arising from credit risk, such as the risk of default. However, it is important to note that some banks may engage in capital management practices, such as manipulating provisions for non-performing loans, to meet regulatory requirements and present a more favorable financial picture. This highlights the importance of vigilant oversight and enforcement of regulatory standards to ensure the accuracy and reliability of financial reporting. Signaling refers to the use of earnings management

practices to convey private information to the market. Banks may engage in this practice to signal private information to reflect their financial strength or prospects to investors. By engaging in these practices, banks can influence the perceptions of stakeholders and the consequences may be significant.

(Ozili, 2021) found that African banks audited by a Big 4 auditor use loan loss provisions to smooth income, especially during recessionary periods. This suggests that banks may engage in earnings management practices to present a more stable financial performance to stakeholders. (Amidu & Kuipo, 2015) found that almost all the 330 banks in the 29 African countries sampled engaged in some management of their earnings during the period 2002-2009, with bank activity mix and funding models explaining bank earnings quality. These findings highlight the widespread nature of earnings management practices in African banks and suggest that factors such as bank activity mix and funding models may play a role in driving such behavior. Despite these studies, there seems to be a need to continuously understand the magnitude of the earnings management phenomena by banks in different emerging market environments characterized by weak institutions, low economic growth, and weak legal systems.

Understanding earnings management by banks in emerging markets is imperative as banks serve as key intermediaries by mobilizing savings from individuals and businesses and channeling them toward investment and productive activities (Allen et al., 2014). They facilitate credit provision to entrepreneurs and businesses, allocate capital to different sectors of the economy, and provide essential payment and settlement services (Allen & Santomero, 2001). This fosters innovation, entrepreneurship, infrastructure, and economic development. Consequently, the financial well-being and reporting practices of banks have far-reaching implications for overall economic stability (Bushman & Williams, 2012). Therefore, there is a pressing need to understand the extent of earnings management in these emerging markets and its drivers. This study aims to address this gap, providing valuable insights that can inform policy formulation and regulatory practices, ensuring that earnings management does not become economically destructive. By doing so, this study will contribute to enhancing the safety and soundness of the banking system in these critical economies. This makes the study of earnings management in BRICS a critical and urgent matter.

Banks may engage in earnings management practices to signal stability, attract investors, influence stock prices, or comply with regulatory requirements (Kanagaretnam et al., 2004). However, manipulating earnings can distort the perception of a bank's financial health and solvency, potentially misleading stakeholders and causing systemic risks (Bushman & Williams, 2012). Moreover, it can misallocate capital and resources, as investors rely on financial statements and information for decision-making (Leuz et al.,

2003). Earnings management practices can have far-reaching consequences for financial stability, investor confidence, and the efficient allocation of resources (Bushman & Williams, 2012). When banks engage in earnings management, it can have a negative impact on their efficiency and increase systemic risk. (Chaity & Islam, 2021) found that an increase in the practice of earnings management leads to a significant reduction in banks' efficiency. This is because earnings management can distort the true economic performance of the bank, making it more difficult for managers to make informed decisions and allocate resources efficiently. Earnings management can also increase systemic risk by obscuring the true level of risk present in the banking system. If banks engage in practices such as manipulating loan loss reserves or using off-balance sheet transactions to hide risks, this can make it more difficult for regulators to accurately assess the level of systemic risk and respond appropriately to mitigate it. Policy-makers and investors need, to name a few, to understand the extent of earnings management in emerging markets and its drivers so that appropriate policies can be adopted to ensure that this practice does not become economically destructive.

## 1.4 Research Objectives and Questions

The objectives of this study are outlined as follows:

- To assess the extent to which banks in emerging markets engage in earnings management practices.
- To investigate the earnings management strategies used by banks in emerging markets.
- To establish the factors (regulatory, institutional, economic) that drive the earnings management by banks in emerging markets.

The related research questions are stated as follows:

- To what extent do banks in emerging markets engage in earnings management practices?
- What are the strategies used by banks in emerging markets to manage earnings?
- What are the regulatory, institutional, and economic factors that influence earnings management in emerging markets?

## 1.5 Significance of the Study

Earnings management in banks has been a topic of interest for researchers, with numerous studies conducted in both developed and emerging markets. In developed countries, studies have found that earnings management through discretionary loan loss provisions can negatively affect the efficiency of banks. For example, (Proença et al., 2023) found that discretionary loan loss provisions negatively affected the efficiency of Eurozone banks. However, when non-discretionary provisions were included, the impact of loan provisions on allocative efficiency was positive. This highlights the importance of properly defining earnings management when analyzing its effect on banking efficiency.

In emerging markets, research on earnings management in banks is less extensive. (Lassoued et al., 2017) investigated the relationship between ownership structure and earnings management in the banking industry of emerging markets. The findings are that banks with more concentrated ownership use discretionary loan loss provisions to manage earnings. (Y. Li et al., 2018) conducted a study to examine the effect of real earnings management on bank lending decisions in China. Their findings indicate that firms engaging in higher levels of real earnings management were able to secure more loans at lower costs, suggesting that banks may not be effective in detecting such practices. Additionally, (Ujah et al., 2017) investigated the relationship between bank structure, earnings management, and bank performance in international markets, with a focus on non-foreign banks in emerging countries. The study found that bank market structure and earnings management negatively affect bank performance, especially in banks with higher levels of concentration and earnings management. Despite these studies, there remains a gap in the literature on the prevalence and strategies used by banks in emerging markets to manage earnings. The gap further extends to the factors (regulatory, institutional, and economic) that drive earnings management by banks in emerging markets. This study aims to fill this gap by conducting a comprehensive analysis of earnings management practices in emerging markets looking at the BRICS countries' banks, by examining their prevalence, motives, and factors that drive earnings management by banks in emerging markets.

Despite the importance of accurate and reliable accounting information for ensuring the safety and soundness of the banking system, research into earnings management practices in emerging markets, especially in BRICS, is limited. As far as we know, this is the first study to assess the prevalence of earnings management practices in the BRICS countries. This gap in the literature limits our understanding of earnings management practices in BRICS banks and their potential consequences for the banking system. Manipulating earnings can distort the perception of a bank's financial health and solvency, potentially

misleading stakeholders and causing systemic risks (Bushman & Williams, 2012). Moreover, it can misallocate capital and resources, as investors rely on financial statements for decision-making (Leuz et al., 2003). Therefore, understanding the nature, extent, and consequences of earnings management is crucial for ensuring transparency, accountability, and stability in the banking sector.

## 1.6 Benefits of the Study

The research findings may have significant implications for various stakeholders including, policymakers, banks, investors, and academics. For regulators and policymakers, the study provides insights into the effectiveness of existing regulations and highlights areas where regulatory reforms may be needed to mitigate earnings management practices (Leuz et al., 2003). By understanding how banks engage in earnings management and the impact of these practices on financial reporting and stability, policymakers can develop effective regulatory frameworks to promote transparency and reduce systemic risks.

Banks can gain insights into the consequences of earnings management practices and the importance of transparent financial reporting in building trust and credibility (Kanagaretnam et al., 2004). Banks can develop effective internal controls and risk management strategies to ensure the accuracy and reliability of their financial reporting. For investors, the study can reveal the risks associated with investing in banks and provide insights into how banks engage in earnings management practices so that they can make informed decisions (Bushman & Williams, 2012).

Overall, this research contributes to the academic literature on earnings management in emerging markets, specifically in the BRICS countries' banking sector. It addresses a knowledge gap and provides valuable insights into the motivations, techniques, and consequences of earnings management practices.

## 1.7 Structure of the Thesis

The final thesis will be structured as follows: Chapter two, delves into a comprehensive review of the existing literature on earnings management, highlighting key findings and gaps in the current understanding. Chapter three outlines the methodology employed in our research, including a description of the data sources, sample selection criteria, and analytical techniques used. This allows for an in-depth exploration of our research. Chapter 4 presents the research results and Chapter 5 discusses the findings in relation to the existing literature and concludes the research.

## Chapter Summary

Chapter 1 of the thesis provides an introduction to the topic of earnings management in banks, with a focus on emerging markets, particularly BRICS countries. The chapter discusses the background of the study, highlighting the importance of financial reporting in banks and the potential consequences of earnings management. The problem statement highlights the limited research into the prevalence and motivations of earnings management in emerging markets. The research objectives and questions aim to assess the extent to which banks in emerging markets manage their earnings, to investigate the earnings management strategies used by these banks, and to establish the regulatory, institutional, and economic factors that drive earnings management by banks in emerging markets. The significance of the study is discussed, highlighting its potential contributions to the development of effective measures to address earnings management practices. The benefits of the study are outlined, including its potential implications for various stakeholders such as regulators, policymakers, banks, investors, and academics. Finally, the structure of the thesis is presented, outlining its organization into five chapters.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Introduction

This literature review aims to provide a comprehensive analysis of earnings management. The review begins by examining the subject's theoretical foundations, focusing on Information asymmetry and Agency Theory. Subsequently, it scrutinizes the role of accounting, including an evaluation of the impact of accounting standards on the quality of financial statements, an exploration of management discretion in accounting, and an assessment of the function of auditors. The review then proceeds to investigate earnings management in general and in the banking sector, including an analysis of the motivations for its use and the methods employed. Furthermore, it examines techniques for detecting earnings management. It also evaluates the interplay between earnings management and corporate governance and the factors that influence earnings management. Finally, the review concludes by discussing the ramifications and consequences of earnings management.

## 2.2 Theoretical Underpinning

### 2.2.1 Information Asymmetry

The separation of ownership is common in companies where different individuals hold ownership and control. In such a situation, managers look after the firm and have access to all the information related to the business, while owners depend upon the managers to get this information. This can result in information asymmetry, where the information may not reach the shareholders in the same manner as it does the managers (Panda & Leepsa, 2017). Due to this imbalance in information access, managers possess greater information asymmetry. This can lead to a divergence of interests between shareholders and managers, where managers may exploit their informational advantage and manipulate financial results for personal gain (Steyn & Stainbank, 2013). For example, Enron Corporation is a well-known case where managers used their informational advantage to manipulate financial results for personal gain, which led to the collapse of the company and significant losses to the shareholders.

The theory of information asymmetry owes its development to the seminal contributions of three distinguished economists: George Akerlof, Michael Spence, and Joseph Stiglitz. Their collective work has provided a comprehensive theoretical framework that has greatly enhanced our understanding of this phenomenon. (Akerlof, 1970) introduced the concept of information asymmetry. He posited that in many

markets, such as those for used cars or insurance, sellers often possess more information about the product or service than buyers. This imbalance of information can lead to a market failure, where high-quality goods are driven out of the market, leaving only the inferior products, or 'lemons' behind. (Spence, 1973) extended the theory of information asymmetry to the labor market. He suggested that potential employees often have more information about their own abilities and productivity than employers. To overcome this asymmetry, employees may signal their ability to employers by acquiring certain levels of education. (Stiglitz & Weiss, 1990), through his extensive work on market screening, brought the concept of information asymmetry into mainstream economic discourse. He argued that markets could potentially correct for information asymmetry through screening and signaling mechanisms. However, he also cautioned that these mechanisms are not always effective and can lead to further market inefficiencies. The pioneering work of these proponents has been instrumental in the development and popularization of the theory of information asymmetry.

The theory of Information Asymmetry, while influential, is not without criticism. A primary critique lies in the theory's assumption that the party with less information is incapable of enhancing their knowledge or devising strategies to counteract the information asymmetry. This critique challenges the theory's static view of information distribution and highlights the dynamic nature of information acquisition in real-world scenarios. For instance, investors and regulators often employ various mechanisms to verify or 'screen' the information provided by banks, thereby mitigating the effects of information asymmetry. Furthermore, the theory presupposes that the party with more information will invariably exploit this advantage, an assumption that does not always hold true in practice. There are instances where banks, despite possessing more information, opt for transparency about their financial health. This strategic move is aimed at fostering trust with depositors and investors, thereby enhancing their reputation and market standing. This critique underscores the importance of considering the strategic behavior of parties involved and the potential for altruistic or reputation-driven actions that deviate from the theory's predictions.

Information asymmetry between managers and shareholders creates opportunities for earnings management, as managers have greater discretion in choosing accounting policies and making estimates (Dye, 1988; Trueman & Titman, 1988; Leuz et al., 2003). (Richardson, 2000) provides empirical evidence that information asymmetry is positively related to the level of earnings management. The intensity of information asymmetry increases during earnings announcements when the quality of earnings is low, particularly for companies where earnings are the main source of information for market participants.

According to (Bhattacharya et al., 2008), poor-quality earnings can provide informed traders with a greater information advantage. These traders can better process available earnings-related information, giving them a competitive edge over less-informed traders. To promote fair market participation and reduce information asymmetry, companies need to ensure that the quality of their earnings is increased or improved.

Improving the transparency of information disclosure can effectively inhibit earnings management and promote companies' accounting reporting quality to reduce investment risk. (Hunton et al., 2006) found that improved transparent reporting requirements could reduce earnings management attempts or change the focus of earnings management attempts to less visible methods. (Jo & Kim, 2007) found that firms with extensive disclosures are less likely to face information problems, leading to fewer earnings management and better post-issue performance. Additionally, (Dai et al., 2013) suggest that information forecasts can decrease the information asymmetry between managers and owners, reducing the possibility of earnings management.

Moreover, corporate governance plays a crucial role in reducing information asymmetry between managers and shareholders. Measures such as the appointment of independent directors to the board, the establishment of an effective audit committee, increased transparency in financial reporting and disclosures, and active engagement with shareholders (Cormier et al., 2010; Elbadry et al., 2015) can foster better corporate governance. These measures not only reduce the risk of earnings management but also decrease information asymmetry.

Drawing from the theory of Information Asymmetry, we gain a comprehensive understanding of the dynamics of information distribution. This perspective becomes particularly relevant when applied to emerging markets, where less developed regulatory frameworks may provide banks with more opportunities to exploit information asymmetries. The theory emphasizes the role of transparency and accountability in financial institutions as pivotal strategies to counteract the adverse effects of information asymmetry. This nuanced comprehension can serve as a guide for future research and policy-making in the field, especially in the context of emerging markets.

### 2.2.2 Agency Theory

Agency theory is a concept that explains conflicts that may arise in the relationship between business principals and their agents. An example of this relationship is the one between shareholders (principals)

and company managers or executives (agents). In this relationship, principals authorize agents to act on their behalf by delegating decision-making authority to them (Jensen & Meckling, 1976). However, agency theory recognizes that the interests of principals and agents may not always align, leading to what is known as the agency problem. This problem, defined as a situation where there are differences in priorities, opinions, and interests between the two parties, can result in agents not acting in the best interests of the principal. (Jensen & Meckling, 1976) boldly state that this problem exists in every organization. (Eisenhardt, 1989) concurs and extends the problem further to include risk sharing that occurs when the shareholders and managers have different attitudes and preferences toward risk. Principals are risk-neutral and focused on maximizing profits, while agents are risk-averse and focused on securing their benefits.

The agency problem can manifest through earnings management practices. This is where managers, driven by the desire to maximize their gain, may manipulate financial reports, thereby prioritizing their short-term gain over the long-term interests of the company. Accounting information, particularly earnings, is critical in assessing managers' performance, and bonus schemes can offer incentives for managers to choose accounting procedures and accruals that optimize the value of their bonus rewards (Healy, 1985). Managers may use discretionary accruals and select income-increasing procedures to maximize their bonus earnings or select income-decreasing procedures, a strategy referred to as "taking a bath" when earnings are low and targets will not be met (Dechow, 1994). However, firms that include non-financial performance measures in their bonus contracts tend to have lower levels of discretionary accruals compared to firms that rely solely on financial performance measures (Ibrahim & Lloyd, 2011).

Several mechanisms have evolved to mitigate agency problems. For instance, compensation plans that align the interests of managers with those of the firm by tying a portion of their income to the firm's success (Bodie et al., 2014) through the granting of company stocks (Jensen & Meckling, 1976). Additionally, boards of directors may take action to remove underperforming management. Shareholders may also exert their influence to replace underperforming boards of directors. Furthermore, other firms may acquire underperforming firms, which may then replace the existing management with their own (Bodie et al., 2014; Kini et al., 2004), this compels managers to perform efficiently. (Fama, 1980) advocates that competing firms in the market also discipline firms by monitoring the whole team's performance. (Core et al., 1999) add that the periodic review of executive compensation motivates managers to work harder for the better performance of the firm.

The application of agency theory in this research is particularly relevant as it provides a framework to understand the motivations behind earnings management practices. By understanding the agency problem and the factors that contribute to it, we can gain insights into why managers might manipulate financial reports to prioritize their short-term gain over the long-term interests of the company.

Despite the robustness of Agency Theory in explaining the dynamics of principal-agent relationships, it is not without its gaps and criticisms. The theory's assumption of self-interest, which suggests that agents are primarily motivated by their own benefits, has been challenged. This perspective overlooks the possibility that agents may also be driven by other factors such as ethical considerations, professional pride, or a genuine interest in the success of the company. This critique suggests a more nuanced understanding of agent motivation, one that incorporates both self-interest and other-regarding preferences. However, proponents of Agency Theory argue that financial incentives, being quantifiable and universally desirable, are more effective and straightforward to implement. Another critique is the theory's assumption of rationality, which suggests that both principals and agents are fully rational and will always make decisions that maximize their utility (Jensen & Meckling, 1976). However, decision-making can be influenced by a range of factors including emotions, cognitive biases, and social influences (Kahneman & Tversky, 1979). They developed a theory called the certainty effect, which explains that individuals often assign value to outcomes that are certain, compared to those that are merely probable.

The theory often focuses on financial incentives as the primary mechanism for aligning the interests of principals and agents (Jensen & Meckling, 1976). This narrow focus can overlook the potential effectiveness of non-financial incentives, such as recognition, job satisfaction, or opportunities for learning and development (Herzberg, 1968). The theory also assumes a difference in risk aversion between principals and agents (Ross, 1973). However, this may not always hold true, and the risk preferences of principals and agents can be more complex and varied (Mitnick, 1975).

Agency theory offers a lens through which we can examine the complexities of principal-agent relationships. This perspective is particularly pertinent in emerging markets where regulatory structures may be less mature. The theory underscores the importance of aligning incentives and implementing robust governance as strategies to counteract agency problems. It lays a solid foundation for the exploration of earnings management practices in emerging markets and highlights the necessity for stringent regulatory frameworks and transparency in mitigating agency problems.

## 2.3 The Role of Accounting

Accounting is an information system that produces reports about the economic activities of entities for stakeholders, providing information about their economic situation and performance over time (Vokshi & Krasniqi, 2017). It identifies, measures, and communicates economic information to permit informed judgments and decisions by users (American Accounting Association, 1966). For accounting to be effective, it requires a well-designed system for managing and recording data, as well as the capability to deliver valuable information to its users (Alexander et al., 2007).

The role of accounting is to provide relevant and reliable financial information to users, including present and potential investors, lenders, and other creditors (International Accounting Standards Board, 2010), to help them make informed decisions. Accounting involves recording, classifying, and summarizing financial transactions to produce financial statements that provide information about a company's financial performance and position. Stakeholders use this information to make decisions about resource allocation and risk assessment. Earnings information is important in explaining stock price changes (Ball & Brown, 1968), demonstrating the value relevance of financial statement information. The quality of financial accounting information is crucial for the functioning of capital markets (Xing & Yan, 2019).

In addition to providing financial information to external users, accounting also ensures compliance with laws and regulations, such as tax laws and financial reporting standards. Accounting helps companies meet their legal obligations by providing a framework for recording and reporting financial information following relevant laws and regulations (Horngren et al., 2012). Additionally, (Garrison et al., 2010) highlight the use of accounting information for budgeting and performance evaluation, reinforcing the importance of accounting in both external reporting and internal decision-making.

Furthermore, Accounting standards and practices can influence the reporting of financial information and provide opportunities for companies to engage in earnings management. Companies may use different accounting methods or estimates to affect reported earnings (Healy & Wahlen, 1998). However, it is important for accounting to provide transparent and accurate information to users. A notable example of the dire effects of accounting irregularities is the Steinhoff scandal in 2017, leading to a drop in the share price of the company. Investor protection plays an important role in influencing international differences in corporate earnings management (Leuz et al., 2003). Stronger investor protection can improve the quality of financial statements by introducing stricter disclosure requirements and more effective

enforcement mechanisms, which can reduce the incentives for companies to engage in earnings management.

International Financial Reporting Standards (IFRS) are a set of accounting standards developed and maintained by the International Accounting Standards Board (IASB). These standards provide guidelines for reporting particular types of transactions and events in financial statements. The adoption of IFRS aims to improve the quality of financial reporting by providing a common accounting language understood globally by investors and other users of financial statements (Okpala, 2012; Palea, 2013).

The adoption of IFRS enhances the quality of financial reporting (Bodle et al., 2016; Okpala, 2012; Mensah, 2020) and imposes relatively more disclosure requirements in financial statements. For example, companies can provide detailed disclosures regarding specific assumptions and judgments, such as those related to revenue recognition, determining the transaction price, and measuring obligations for returns, refunds, and other similar obligations. This can improve financial reporting quality and provide more information to users. The adoption of IFRS improves investment efficiency, especially for cross-border transactions, increases the cross-border flow of capital, and triggers greater interest from foreign investors and foreign analysts (De George et al., 2016).

However, there are also challenges associated with IFRS adoption. The transition to IFRS can be costly for many firms (Pawsey, 2017) with costs like staff training, and companies may face difficulties in interpreting and applying the standards. Additionally, different countries tend to adopt IFRS through the implementation of options that are closely related to their culture (Nobes, 2013), which may hamper global comparability in financial reporting. There may also be inconsistencies in enforcement across different jurisdictions. Nonetheless, while there are challenges associated with IFRS adoption, it has proved to improve the quality of financial reporting by enhancing transparency, comparability, and reliability. This can help boost investor confidence and attract more capital to organizations that adopt IFRS.

In the context of financial reporting, management is responsible for preparing financial statements that are free from material misstatement, whether due to fraud or error and for the effective operation of the internal control system and related processes (International Auditing and Assurance Standards Board, 2006). Management discretion in accounting refers to the flexibility afforded to managers in interpreting

and applying accounting standards. This discretion is influenced by various factors, including their reporting incentives, and those of other participants in the financial reporting process, such as auditors and supervisory boards (Ball et al., 2000, 2003; Leuz et al., 2003; Watts & Zimmerman, 1986), and the institutional environment of firms (Hail et al., 2010; Kothari, 2000).

Managers are often required to use their professional judgment when deciding if, and to what extent, certain events or transactions should be included in the earnings for the current period. This includes impairments, provisions for bad debts, and accruals. Managers have to report earnings that more accurately reflect the underlying economics of their firms (Hail et al., 2010). However, this discretion can also be misused to misrepresent events and transactions to deceive outsiders about the firm's performance or to influence contractual outcomes in a favorable manner (e.g., (Healy & Wahlen, 1998; Watts & Zimmerman, 1986).

There are conflicting views on management's discretion in earnings. On one hand, more discretion in earnings is associated with opportunistic earnings management and poor earnings quality (Kothari, 2000; Ahmed et al., 2013; Ernstberger et al., 2012; J. Francis et al., 2005). On the other hand, managerial discretion in earnings is viewed as informative (Arya et al., 2003; Ewert & Wagenhofer, 2013, 2015, 2019; Sankar & Subramanyam, 2001), as it conveys managers' private information and enables them to report earnings that more accurately reflect firms' current and future performance (Hail et al., 2010).

The consequences of limiting managerial discretion in earnings may likely mitigate opportunistic earnings management but may prevent managers from incorporating private information into earnings. A stricter enforcement of accounting standards by auditors and other governing bodies can reduce managers' ability to exercise discretion (e.g., (Hitz et al., 2012; Jamal & Tan, 2010; Lu & Sapra, 2009) but it can also lower the informativeness of accruals (Windisch, 2021).

### 2.3.1 The Role of the Auditor

Audit refers to a skilled examination of company records, accounts, and vouchers to enable the auditor to verify the balance sheet of a company. External auditors carry out the independent audit of the financial statements and report their findings to the shareholders through an external audit report. An auditor must use their professional judgment and skill, despite relying on information from relevant personnel (Normanton, 1966).

The role of the auditor is to assure stakeholders that the financial statements are free from material misstatements, which can help reduce earnings management practices (Azad et al., 2023). The auditor can achieve this through their ability to detect and report misstatements in the accounting systems or financial statements (DeAngelo, 1981). A high-quality external audit can have an influential role in reducing earnings management practices by increasing the likelihood of detecting and deterring such practices (Frankel et al., 2002).

The auditor's report must be accurate and reflect the reality of a company's financial standing to present a true and fair view of the financial statements. For this to happen, the auditor must be competent enough to give a sound professional opinion (Sutton, 1997). The auditor is obligated to detect and report fraud to management and the nature and effects of the fraud reported to the shareholders of the company.

Audit partners with industry specialization can reduce real activity earnings management because they can better assess their clients' business risk and will protect their reputation than other auditors (Hsu & Liao, 2023). This suggests that auditors with specialized knowledge and expertise in a particular industry are better equipped to detect and deter earnings management practices. Another study found that auditors charge not only for accrual-based earnings management but also for real earnings management because it increases the litigation risks and audit complexity they face by dampening firms' long-term fundamentals (Choi et al., 2022). This highlights the potential costs and risks associated with earnings management practices and underscores the importance of the auditor's role in detecting and deterring such practices.

## 2.4 Earnings Management

Several authors have defined earnings management as the use of accounting techniques to produce financial reports that may be misleading to investors and other stakeholders. For example, (Jones, 1991) and (Burgstahler et al., 2006) define earnings management as the use of accounting techniques to produce financial statements that present an overly positive view of a company's business activities and financial position. (McNichols, 2000) defines earnings management as the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings. Other authors focus on specific contexts in which earnings management may occur. (Chen et al., 2010), for example, define earnings management as the practice of private equity issuing firms overstating their earnings in the quarter preceding private equity placement announcements to

achieve a desired outcome. (Healy, 1985; McNichols & Wilson, 1988; Schipper, 1989) define earnings management as a purposeful intervention in the external financial reporting process with the intent of obtaining some private gain.

There are two types of earnings management and these are accrual-based earnings management (ABEM) and real activities earnings management (REM) (Brian Lee & Vetter, 2015). REM is achieved through the manipulation of operational, investment, and financing activities thereby creating an impression that the firm has achieved goals relating to the normal course of business (Elleuch Hamza & Bannouri, 2015; Zang, 2012; Dutzi & Rausch, 2016; Brian Lee & Vetter, 2015). Lack of or inadequate understanding of the firm's business operations makes the identification of REM difficult (Elleuch Hamza & Bannouri, 2015; Ferentinou & Anagnostopoulou, 2016). Sales discounts, selling, administration & general expenses (SA & G), and research and development expenses are some of the accounting transactions manipulated in REM (Ferentinou & Anagnostopoulou, 2016; Gunny, 2010). The effects of REM may be negligible in the short term. REM directly affects cash flow and thus if engaged for long periods it (REM) may result in firm bankruptcy.

ABEM takes place through the manipulation of accounting choices allowed by Generally Accepted Accounting Principles (GAAP) to alter the true performance of the firm such as accounting policies and estimates (Roychowdhury, 2006; Gunny, 2010). The accounting standards guide, among others, the recognition and measurement of accounting transactions. The flexibility with which the accounting standards are applied makes ABEM to be easily identifiable by some stakeholders (Elleuch Hamza & Bannouri, 2015). This is more so with auditors as they (auditors) are required to have a good understanding of the accounting standards. Depreciation and provision for doubtful debts are some of the accounting transactions through which ABEM takes place. ABEM does not affect cash flow directly but its impact is more pronounced on accruals instead of on cash flow.

## 2.5 Reasons for Earnings Management

The extant literature presents various reasons for earnings management. (Healy, 1985) and (Klein, 2002), argue that bonus schemes offer incentives for managers to choose accounting procedures and accruals that optimize the value of their bonus rewards. In addition, when a company links its CEO's compensation to its performance, the CEO may have a potential incentive to engage in earnings management practices. (McNichols & Wilson, 1988) argue that managers may manipulate earnings in response to the firm's

optimal financing, production, investment, and marketing strategies. (Jones, 1991), states that firms may attempt to decrease earnings through earnings management during import relief investigations by the United States International Trade Commission (ITC). External and internal pressures also come into play, as (McNichols, 2000; Schipper, 1989; Dechow et al., 2012), contend that managers manage positive earnings to meet earnings targets, avoid covenant violations, and influence compensation contracts and stock prices.

As in other industries, multiple factors drive earnings management in the banking sector, reflecting the dynamic nature of the industry. (Ceccobelli & Giosi, 2019) highlight that the motivations behind such practices often revolve around attracting investment and manipulating stock prices. The pursuit of a stable earnings stream creates an impression of reduced riskiness, resulting in advantages such as higher stock prices and lower borrowing and capital costs (Gebhardt & Novotny-Farkas, 2011). (Greenawalt & Sinkey, 1988), who suggest that managers employ income smoothing to decrease the perceived risk associated with a bank's earnings, support this perspective. Conversely, (Kanagaretnam et al., 2003) propose that bank managers may engage in income smoothing as a means to attract external financing. By presenting a more stable financial position, banks may be more successful in attracting investors and securing capital from external sources. However, it is important to acknowledge that motivations for earnings management can vary depending on the specific circumstances of each bank. While some banks may primarily focus on attracting investment and manipulating stock prices, others may engage in earnings management in response to regulatory pressures and meeting performance targets set by stakeholders. Additionally, banks operating in different economic environments or facing specific challenges may have unique motivations for employing earnings management techniques.

## 2.6 Methods Used in Earnings Management

In the REM front, managers manipulate operating, investing, and financing activities through, discretionary expenditures, productions, inventory, sales, sales of long-term assets, stock repurchases, and financial instruments (Xu et al., 2007). (Bange & De Bondt, 1998) found that firms adjust research and development (R&D) spending to minimize the gap between reported earnings and analysts' forecasts. (Jackson & Wilcox, 2000) found that managers grant sales discounts in the last quarter to avoid reporting losses and decreases in earnings. (Herrmann et al., 2003) used income from the sale of long-term assets

and marketable securities to minimize the gap between management's earnings forecasts and reported earnings.

Concerning ABEM, one commonly adopted approach is the use of the aggregate accruals model, where total accruals are used as a proxy for discretionary accruals. (Healy, 1985; Jones, 1991; Dechow et al., 1995) have adopted this approach, with the latter making adjustments to revenue and receivables. Another approach is the use of specific accruals models, where a particular accrual is used as a proxy for discretionary accruals. For instance, (McNichols & Wilson, 1988) focus on the provision for bad debts as a proxy for discretionary accruals. Additionally, researchers have employed various proxies to detect earnings management practices, including abnormal accruals (Klein, 2002), the tendency to avoid small losses, the magnitude of total accruals, smoothness of earnings relative to cash flows, the correlation between accounting accruals and operating cash flows (Burgstahler et al., 2006), and quarterly discretionary current accruals (Chen et al., 2010).

In the banking sector, the two primary methods used to manipulate earnings are income smoothing and signaling. (Kanagaretnam et al., 2004) found evidence of income smoothing among banks in Canada by loan loss provisions. (Kwak et al., 2009) found a positive relation between discretionary loan loss provision and the demand for external financing, realized securities gains, and prior year taxes, whereas a negative relation to capital and pre-managed earnings. Additionally, a study found a negative relationship between the ratio of loan loss reserves to gross loans and cost efficiency (Ab-Hamid et al., 2018). Loan loss reserves serve as the first method banks normally use to cover losses on loans due to defaults and non-payments and are usually a better indicator of the bank's stability on its lending base compared to nonperforming loans (Abuzayed et al., 2018).

Additionally, (Cohen et al., 2014) provided evidence of real earnings management practices through the discretionary realizations of security gains or losses. (Elnahass et al., 2014) discuss how bank managers accelerate or delay the sale of loans or other securities to affect the timing of gains and losses on sale to change cash flows. Further research that supports REM through realized securities gains or losses includes (A. Beatty & Harris, 1999; A. L. Beatty et al., 2002; Cornett et al., 2009; Leventis & Dimitropoulos, 2012; Abdelsalam et al., 2016).

## 2.7 Methods to Detect Earnings Management

In terms of detecting earnings management, (Dechow et al., 1995) evaluated alternative accrual-based models for detecting earnings management by comparing the specification and power of commonly used test statistics across the measures of discretionary accruals generated by the models. They found that all of the models appear well specified and that a modified version of the model developed by (Jones, 1991) exhibits the most power in detecting earnings management. (Kaur et al., 2014) also use the Modified Jones model and Beneish M-Score to detect earnings management, with the latter using five financial ratios. The results revealed an M-score of greater than -2.22 signaling the use of earnings management. Additionally, (Roychowdhury, 2006) uses abnormal production costs, abnormal discretionary expenses, and abnormal levels of cash flow from operations to detect earnings management.

In the banking sector, the commonly used techniques to detect earnings management practices are loan loss provisions (Ceccobelli & Giosi, 2019). Other researchers that use loan loss provisions include (Garšva & Rudzioniene, 2012; Curcio & Hasan, 2015). A study conducted by (A. L. Beatty et al., 2002), uses the classification and measurement of fair value securities to identify earnings management practices in financial institutions. The timing of securities sales can have an impact on the profits and losses associated with these assets and can play a significant role in earnings management. (Alves Dantas et al., 2013) take it a step further by developing and validating a two-stage model for the identification of discretionary management actions using gains obtained from securities. The study found evidence of income smoothing using securities and the classification of available-for-sale securities among the actions taken by management.

## 2.8 Earnings Management and Corporate Governance

Corporate governance refers to the system of rules, practices, and processes that control and direct a company. Corporate governance mechanisms significantly influence earnings management practices and disclosure. For instance, (Biswas et al., 2022; Mensah & Boachie, 2023) found that board gender diversity significantly moderates the relationship between corporate governance mechanisms and earnings management practices, contributing to improved board quality by fostering creativity, critical thinking, reducing bias, and enhancing problem-solving capabilities. Having women directors can intensify the monitoring process and reduce managers' opportunistic behavior. (Huber & DiGabriele, 2021) provide evidence that corporate governance also positively influences disclosure. Similarly, (Xie et al., 2003; Klein,

2002) showed that corporate governance practices affect earnings quality. (Klein, 2002) found a negative relation between audit committee independence and abnormal accruals, as well as a negative relation between board independence and abnormal accruals. These results suggest that boards structured to be more independent of the CEO are more effective in monitoring the corporate financial accounting process.

The effectiveness of an audit committee's oversight connects to specific accounting and auditing expertise. (Dhaliwal et al., 2010; Sharma et al., 2009) stipulate that former auditors are suitable members to strengthen the audit committee's effectiveness. (Ozili & Outa, 2018) found that former auditors on the audit committee are associated with lower earnings management, suggesting that audit committee members with auditing expertise and background contribute to the effective monitoring of earnings management practices. (Xie et al., 2003) found that board and audit committee meeting frequency and members with corporate or financial backgrounds are associated with firms that have lower discretionary current accruals. (de Haan & Vlahu, 2016) state that the expertise of directors is particularly crucial in the financial industry, leading to an increased demand for audit committee directors with significant knowledge and experience in financial reporting. Such expertise will enhance the audit committee's effectiveness and lead to better oversight of management's behavior.

(Ittonen et al., 2020) examine the association between earnings management and former auditors on the audit committee in US banks. The results indicate that US banks with former auditors on their audit committee exhibit lower levels of income-increasing as well as absolute discretionary loan loss provision. However, there is some debate on whether appointing affiliated former audit partners to executive positions is beneficial or detrimental to financial reporting quality. Studies by (Menon & Williams, 2004) argue that such appointments report higher levels of abnormal accruals, indicating an increased risk of manipulating financial statements. (Dowdell & Krishnan, 2004; C. Lennox, 2005; C. S. Lennox & Park, 2007; Menon & Williams, 2004) concur that the recruitment of afflicted auditors deteriorates financial reporting quality and compromises the auditor's independence. On the contrary, (Dart & Chandler, 2013) report that investors do not view hiring a former auditor by an audit client as a threat to the auditor's independence.

## 2.9 Factors Influencing Earnings Management

Several factors can influence earnings management, including debt levels, the size of the firm, industry type, and industry tenure.

### *2.9.1 Debt levels and earnings management*

According to positive accounting theory, companies with higher debt are more likely to violate debt covenants and may engage in earnings management activities (Press & Weintrop, 1990; Watts & Zimmerman, 1986). For example, (Franz et al., 2014) found that at higher debt levels, a higher financial distress cost leads to more earnings management due to pressures to meet debt covenants. Additionally, (DeFond & Jiambalvo, 1994) detected income-increasing discretionary accruals in financially distressed firms to avoid debt violations, while (Azad et al., 2023) found that managers of distressed firms manipulate earnings downward during debt renegotiation to obtain better terms in contract renegotiations. According to (Wang & Lin, 2013), the increased profitability of the group reduces the member firms' susceptibility to earnings management because of its debt levels. Thus, firms belonging to a profitable group are less likely to experience default and the terms in their debt contracts are favorable.

### *2.9.2 Firm size and earnings management*

The relationship between firm size and earnings management has been widely studied in the literature. (Y. Kim et al., 2003) found that small-sized firms tend to engage in more earnings management to avoid reporting losses, compared to large- or medium-sized firms. Conversely, large- and medium-sized firms are more likely to exhibit aggressive earnings management to avoid reporting decreases in earnings, compared to small-sized firms. Other studies have found mixed results. For instance, (Setyoputri & Mardijuwono, 2020) found that the size of a company does not affect earnings management, while (Burgstahler & Dichev, 1997) found that both large and small firms engage in earnings management. According to (Becker et al., 1998; J. R. Francis & Krishnan, 1999), large firms audited by one of the Big 5 accounting firms report lower levels of discretionary accruals, despite having high overall levels of accruals. In contrast, (Jahmani & Niranjan, 2015) found that firm size has a positive impact on earnings management. These findings suggest that the role of firm size in earnings management is complex and may vary depending on the context.

### *2.9.3 Industry type and earnings management*

A firm's industry can significantly affect its earnings management practices due to unique characteristics such as business activities, accounting practices, and regulations (Chevalier, 1995). Firms within the same industry often share similar characteristics, which can further influence their earnings management practices (Chevalier, 1995). Earnings management activities vary across industries (Wasiuzzaman, 2018) influenced by factors such as accounting standards, industry-specific taxes, and capital market structures (Burgstahler et al., 2006; McNichols, 2000). Studies have found evidence of higher occurrences of earnings management attempts in some industries compared to others (Nelson et al., 2002; Rath & Sun, 2008), and industry variables such as capital intensity, volatility, and profitability can help explain these variations (Wasiuzzaman, 2018). The study found that volatility only explains smoothing measures, while profitability only explains discretionary measures. Additionally, a study analyzing 12 firms from different industries found that the type of earnings management activity varied across industries, with firms in the services sector engaging in income-decreasing earnings management and firms in the non-services sector engaging in income-increasing earnings management (Goel, 2012).

### *2.9.4 Industry tenure and earnings management*

Several factors affect industry tenure and earnings management. On the one hand, longer employee tenure can be positively associated with earnings management through real activities manipulation (REM) when managers persuade employees that their actions benefit the firm's long-term survival (Cho et al., 2021). On the other hand, long-tenured employees may be better at detecting real activities manipulation due to their greater knowledge and experience of daily operations, resulting in a negative relationship between employee tenure and real earnings management (Cho et al., 2021).

In terms of audit firm tenure, previous research has shown that longer audit firm tenure is associated with lower levels of earnings management and, as a result, higher earnings quality (e.g. (Gul et al., 2009; Johnson et al., 2002; El Guindy & Basuony, 2018) discovered a negative relationship between audit firm tenure and earnings management for UK firms that had not changed their accounting standards. Longer audit firm tenure improves audit quality without compromising auditor independence. (Hsu & Liao, 2023) found that industry specialization and audit firm tenure have a negative effect on earnings management.

## 2.10 Impact and Consequences of Earnings Management in Banks

The consequences of earnings management can be far-reaching and can have negative impacts on the accuracy and transparency of a company's financial reporting (Klein, 2002). It can also reduce the quality and reliability of financial reporting, impair the usefulness of accounting information for decision-making, increase the cost of capital, and damage the credibility and reputation of the firm and its managers (Schipper, 1989). Additionally, it can affect the efficiency of resource allocation and the credibility of accounting standards (McNichols, 2000). Sophisticated investors may not be able to uncover the true value of firms when they engage in earnings management (Chen et al., 2010). This can result in investors not asking for a fair discount when purchasing the shares of private issuing firms. Earnings management can also have negative consequences such as loss of reputation or loss of employment for managers who engage in it (Dechow et al., 2012).

Several companies have faced scandals due to earnings management practices. For instance, Enron hid its financial condition using complex financial instruments, which ultimately led to its bankruptcy. Similarly, Worldcom capitalized expenses that should have been expensed, resulting in the stock price plummeting and bankruptcy. Tyco International's executives used accounting tricks to inflate earnings and misused company funds, causing the stock price to fall and the CEO convicted of fraud. Xerox International manipulated revenue from long-term leases and deferred expense recognition, leading to a falling stock price and a large fine. Wells Fargo employees created unauthorized accounts to meet sales targets, which resulted in a large fine and damage to the bank's reputation. These examples demonstrate the consequences of unethical earnings management practices.

The consequences of earnings management in the banking sector can be significant. Engaging in such practices can undermine investor confidence, compromise the effectiveness of regulatory oversight, and potentially lead to adverse market reactions and systemic risks. For example, the 2008-2009 financial crisis, which had a profound impact on both the economy and the financial sector, has been linked to earnings management practices (Filip & Raffournier, 2014). Given the critical role that banks play in the economy, it is essential for regulators and other stakeholders to closely monitor earnings management practices in this sector. Recent studies have provided evidence of the negative impact of earnings management on banks' performance. (Martens et al., 2021) found that efficiency is negatively associated with earnings management, indicating that engaging in such practices can lead to a decline in efficiency and stifle a firm's growth and competitiveness. (Proença et al., 2023) reported that earnings management negatively affects banks' profitability, prevents efficient resource allocation, and causes costs to exceed

minimum levels. Similarly,(Mangala & Singla, 2021) found that earnings management reduces the return on equity, return on assets, and net interest margin. These findings suggest that earnings management has major negative implications for banks' financial performance, both in the short term and in the long term.

# CHAPTER 3 METHODOLOGY

## 3.1 Introduction

This chapter presents the research methodology used in this study to investigate the existence and underlying motives as well as drivers of earnings management practices in BRICS banks. The Chapter is organized as follows: Section 3.2 presents data and data sources. Section 3.3 presents the research design and the chapter summary concludes.

## 3.2 Data and Data Sources

The data used in this study is obtained from the income statements and balance sheets of sample companies. The focus is on earnings and loan loss provisions from the income statement and the corresponding allowance for loan and lease losses from the balance sheet, which represent the total amount of loan loss reserves that banks set aside to cover potential losses on their loan portfolios.

Commercial banks listed on the stock exchanges of the BRICS countries as the selected emerging markets will be included in the sample and they must have annual time-series data for loan loss provisions and at least four consecutive years of data for key variables such as earnings, total assets, and total equity. Banks that do not meet these requirements are excluded from the sample to ensure that the analysis is based on reliable and consistent financial reporting. The sample period is 10 years (2013 to 2022). Data is collected from sources such as *Data Stream, Bloomberg, BRICS countries' Stock Exchanges*, and sample banks' websites.

## 3.3 Research Design

### 3.3.1 Detecting earnings management by banks in emerging markets

The first part of this analysis investigates the existence of earnings management practices by banks operating in emerging markets, represented by BRICS countries, which include Brazil, Russia, India, China, and South Africa. Beneish M-score model is used to identify banks that are likely manipulating their earnings. The model uses eight variables related to financial ratios, and it distinguishes earnings manipulators from non-earnings manipulators. The indicators used in the M-score are the Day Sales in Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI),

Depreciation Index (DEPI), Sales General and Administrative Expenses Index (SGAI), Leverage Index (LEVI) and Total Accrual to Total Assets (TATA). The M-score greater than the benchmark of (-2.22) is flagged as an earnings manipulator, while that less than the benchmark is not a likely manipulator (Beneish, 1999).

The M-score model is measured by the following equation:

$$M - score = -4.84 + 0.920(DSRI) + 0.528(GMI) + 0.404(AQI) + 0.892(SGI) + 0.115(DEPI) - 0.172(SGAI) + 4.679(TATA) - 0.327(LEVI)$$

With banks identified and flagged as earnings manipulators, we will use financial data for these banks to test the purposes of earnings management. To ascertain the purpose and practice of earnings management, we employ a specific accrual-based model and conduct a regression analysis with loan loss provision serving as the dependent variable. The independent variables include non-discretionary variables such as non-performing loans and total customer loans, as well as discretionary variables such as earnings before taxes and loan loss provisions, regulatory capital, and a sign variable.

Specifically, we test to determine whether banks manage earnings for income smoothing, capital management, or signaling. Income smoothing refers to the practice of using accounting techniques to reduce fluctuations in reported earnings. Capital management refers to the manipulation of financial statements to meet regulatory capital requirements. Signaling refers to the use of financial statements to convey information to investors or other stakeholders.

The model determining the purposes of earnings management in banks is presented as follows:

$$LLP_{i,J,t} = \alpha_0 + \alpha_1 NPL_{i,J,t} + \alpha_2 LOAN_{i,J,t} + \alpha_3 EBTP_{i,J,t} + \alpha_4 T1_{i,J,t} + \alpha_5 SIGN_{i,J,(t+1,t)} + \Delta GDP_J + \varepsilon_{i,J,t} \quad (1)$$

Where;

*i* = bank, *t* = year, J = country

LLP = loan loss provision ratio to total assets, NPL = non-performing loans to total assets, LOAN = total customer loans to total assets, EBTP = current earnings before profit and taxes and provisions to total assets, T1 = regulatory capital divided by risk-weighted assets that occurred, SIGN = one-year-ahead change in earnings before taxes and loan loss provisions to total assets, ΔGDP = real gross domestic product growth rate, a proxy for the state of the economy and ε = the residual or error term.

### 3.3.2 Determining factors influencing earnings management.

The second segment of this analysis delves into the factors influencing earnings management within BRICS banks. To facilitate this, a dynamic panel estimation, specifically the Generalized Method of Moments (GMM), is employed. GMM effectively addresses issues of serial correlation, heteroscedasticity, and endogeneity inherent in a model (Alimi, 2015). Consequently, it is particularly suited to handle the dynamic nature of data related to the factors influencing earnings management and its practices.

The panel regression and GMM regression analyses are conducted using the student version of Eviews 13. In this model, the measure of earnings management derived from the first stage of analysis serves as the dependent variable, while the factors influencing earnings management are treated as independent variables. Earnings management (EM) represents the discretionary component of loan loss provision (a proxy for earnings management). This portion captures a portion of LLP that cannot be explained by the model, which is assumed to represent discretionary loan loss provisions. While the independent variables are represented by management compensation (COMP), the size of the board of directors (BOARD), firm size (FSIZE), profitability (PROFIT), financial leverage (LEVERAGE), and audit quality represented by auditor independence rotation (AUDITQUALITY). The coefficients of the independent variables in the regression model represent the impact of each independent variable on earnings management, after accounting for the effects of all other variables in the model. This approach ensures a comprehensive understanding of the dynamics at play in earnings management within BRICS banks.

The model determining the factors influencing earnings management in banks is presented as follows:

$$EM_{i,t} = \beta_0 + \beta_1 COMP_{i,t} + \beta_2 BOARD_{i,t} + \beta_3 FSIZE_{i,t} + \beta_4 PROFIT_{i,t} + \beta_5 LEVERAGE_{i,t} + \beta_6 AUDITQUALITY_{i,t} + \mu_{i,t} \quad (2)$$

Where;

$\beta_0$ = a constant and $\beta_1\ \beta_2\ \beta_3\ \beta_4\ \beta_5\ and\ \beta_6$ = the coefficients of the independent variables

LEVERAGE = is measured by debt to total assets, PROFIT = is measured by return on assets, FSIZE = natural logarithm of total assets and is used to control for bank size, AUDITQUALITY = is measured by auditor independence rotation being the number of years since the last change, and μ = the error term.

The estimates of the coefficients for each of the independent variables represent the relationship between these variables and earnings management.

### 3.3.3 Variable definition

**3.3.3.1 Days Sales in Receivables Index (DSRI):** The DSRI is a measure that compares the ratio of receivables to sales in year *t* with that of year (*t* - 1). If the DSRI is greater than 1, it indicates that the percentage of receivables to sales in year *t* is higher than in year (*t* - 1). A large increase in the DSRI could be due to a change in credit policy to inflate revenue, and thus, a large increase in the DSRI is associated with a higher likelihood that revenues/earnings are overstated.

$$DSRI = \frac{Net\ Receivables_t / Sales_t}{Net\ Receivables_{t-1} / Sales_{t-1}}$$

**3.3.3.2 Gross Margin Index (GMI):** The GMI is a measure that compares the ratio of the gross margin in year (*t* - 1) to the gross margin in year *t*. If the GMI is greater than 1, it indicates that the gross margin has deteriorated, which is a negative signal about a company's prospects. The index expectation is that there is a positive relationship between GMI and earnings management, with companies with poorer prospects more likely to engage in earnings manipulation.

$$GMI = \frac{\Delta Sales - \Delta Cost\ of\ Sales}{\Delta Sales}$$

**3.3.3.3 Asset Quality Index (AQI):** AQI is a measure that compares the ratio of noncurrent assets other than property, plant, and equipment (PPE) to total assets. If the AQI is greater than 1, it indicates that the company has potentially increased its involvement in cost deferral. An increase in asset realization risk indicates an increased propensity to capitalize and defer costs, which is a sign of earnings manipulation. The index expectation is that there is a positive relationship between the AQI and the probability of earnings manipulation.

$$AQI = \frac{(1 - Current\ assets_t + PPE_t)/Total\ assets_t}{(1 - Current\ assets_{t-1} + PPE_{t-1})/Total\ assets_{t-1}}$$

**3.3.3.4 Sales Growth Index (SGI):** The metric measures the growth in revenue from one year to the next. If the index is greater than 1, it indicates positive revenue growth, while an index less than 1 indicates negative growth in the year under review.

$$SGI = \frac{Sales_t}{Sales_{t-1}}$$

**3.3.3.5 Depreciation Index (DEPI):** DEPI is a measure that compares the rate of depreciation in year t-1 to the rate in year t. If a DEPI is greater than 1, it indicates that the rate at which tangible assets are being depreciated has reduced, which could mean that the company has revised the estimates of assets' useful lives upward. The index expects a positive correlation between the likelihood of earning management and DEPI.

$$DEPI = \frac{Depreciation_{t-1}/(Depreciation_{t-1} + PPE_{t-1})}{Depreciation_t/(Depreciation_t + PPE_t)}$$

**3.3.3.6 Sales General and Administrative Expenses Index (SGAI):** This index measures the ratio of sales, general, and administrative expenses to sales in one year compared to the corresponding prior year. A disproportionate increase in sales relative to SGAI would serve as a negative indication concerning the company's prospects.

$$SGAI = \frac{Sales, general, and\ administrative\ expenses_t/Sales_t}{Sales, general, and\ administrative\ expenses_{t-1}/Sales_{t-1}}$$

**3.3.3.7 Leverage Index (LVGI):** The leverage index measures the ratio of total debt to total assets in year t compared to year t-1. If the index is greater than 1.0, it indicates that the company's gearing has increased, which could lead to exposure to manipulation.

$$LVGI = \frac{(Current\ Liabilities_t + Total\ Long\ Term\ Debt_t)/Total\ assets_t}{(Current\ Liabilities_{t-1} + Total\ Long\ Term\ Debt_{t-1}/Total\ assets_{t-1}}$$

**3.3.3.8 Total Accruals to Total Assets (TATA):** Total accruals are calculated by subtracting depreciation from the change in working capital accounts other than cash. The ratio of total accruals to total assets is used as a proxy for the extent to which cash underlies reported earnings. It is expected that higher positive accruals (less cash) would be associated with a higher likelihood of earnings manipulation.

$$TATA = \frac{\Delta Current\ assets_t - \Delta Cash_t - \Delta Current\ liabilities_t - {}^{\Delta Current\ maturities\ in}_{Long\ term\ debt}{}_t - \Delta Income\ tax\ payable_t - {}^{Depreciation\ and}_{amortization}{}_t}{Total\ assets_t}$$

**3.3.3.9 Dependent variable**

Loan Loss Provision (LLP) is the dependent variable and is measured as the loan loss provision ratio to total assets at time *t* for the bank *i* in country *J*. The value of the loan loss provision ratio is used to identify the purpose of earnings management practices in the banking industry.

**3.3.3.10 Independent variables**

The independent variables comprise non-discretionary variables and discretionary variables. The independent variables are direct proxies for the default risk of the loan portfolio, aimed at distinguishing between general and specific provisions. General provisions are set aside to cover potential losses on the loan portfolio as a whole, while specific provisions are set aside to cover potential losses on specific loans that have been identified as being at risk of default. Below are non-discretionary variables and their measurement

**Non-Performing Loans (NLP)** - the ratio of non-performing loans to total assets that occurred at the bank *i* at time *t* (specific provisions) in country *J*. The expectation is that there will be a positive relationship between LLP and NPL.

**Total Customer Loans (LOAN)** - the ratio of customer loans to total assets that occurred at the bank *i* at time *t* (general loans) in country *J*. The expectation is that there will be a positive relationship between LLP and LOAN, even though the association should be lower due to the less significance of general loans.

The discretionary variables are variables influenced or controlled by the decision-maker. They are used to capture the effects of managerial decisions on earnings management practices in banks. Including these variables in a regression model, enables us to assess the extent to which banks use accounting techniques to manipulate their reported earnings, and capital levels, and convey private information to the market.

Earnings before taxes and loan loss provisions (EBTP) - the ratio of current earnings before taxes and loan loss provisions to total assets that occurred at the bank *i* at time *t*. This is the operating profit before impairment, used to test if income smoothing has occurred. A positive coefficient between LLP and EBTP indicates that banks with lower earnings tend to decrease their loan loss provisions, while banks with higher earnings tend to increase their loan loss provisions. The discretionary variables are outlined as follows:

**Tier 1 capital (T1)** – the ratio of regulatory capital to its risk-weighted assets at the bank *i* at time *t* in country *J*. It is composed of shareholders' equity and retained earnings and serves as a measure of the bank's capital adequacy. T1 is an important indicator of a bank's capital management practices. While some studies have found evidence of a positive relationship between loan loss provisions (LLP) and T1, the relationship between the two is complex and can vary depending on the specific circumstances of the bank.

**SIGN** - the ratio of one-year-ahead change in earnings before taxes and loan loss provisions to total assets that occurred at the bank *i* at time *t* in country *J*. It indicates the existence of signaling practices via loan loss provisions. A positive coefficient between LLP and SIGN indicates that changes in loan loss provisions positively correlate with future changes in earnings, suggesting the adoption of signaling practices. Particularly, this variable can be expressed as follows: SIGN$_{i,t,J}$ = *(*EBTP$_{i,t+1, J}$ - EBTP$_{i,t,J}$*)/*0.5*(*TA$_{i,t,J}$ + TA$_{i,t+1,J}$).

## Chapter Summary

The methodology section of this study outlines a quantitative research design that employs regression analysis to investigate whether banks in BRICS countries engage in earnings management practices. Our sample consists of the BRICS-listed banks. Financial statement data will be collected and analyzed, and regression analysis will be used to test for income smoothing, capital management, and signaling purposes in these banks. Overall, our regression model provides a rigorous and comprehensive approach to assessing earnings management practices in BRICS banks. By carefully analyzing the data and interpreting the results of our analysis, we hope to provide valuable insights into earnings management practices in the BRICS countries' banking sector. The results of this study will be of interest to regulators, investors, and other stakeholders.

# CHAPTER 4 RESEARCH FINDINGS

## 4.1 Introduction

This chapter provides the findings of the current research. The chapter is organized as follows; Section 4.2 presents the univariate analysis. Section 4.3 presents the Beneish Manipulation score (M-score) Model results. Section 4.4 shows the reasons for earnings manipulation. Section 4.5 shows the factors influencing earnings manipulation in sample counties. The chapter summary concludes the chapter.

## 4.2 Univariate analysis

Table 1 shows the yearly descriptives of the research variables. Loan Loss Provision (LLP) shows a general increase in the mean from 2013 to 2020, followed by a slight decrease in the subsequent years. This trend is mirrored in the standard deviation of LLP, indicating variability over the years. Meanwhile, Non-Performing Loans (NPL) have seen an increase in both the mean and standard deviation, suggesting an increase in the dispersion of NPL. In contrast, the mean Customer Loans (LOAN) has fluctuated over the years, peaking in 2022. However, the standard deviation of LOAN has generally decreased. Earnings Before Tax and Provisions (EBTP) have seen a slight decrease in the mean from 2013 to 2022, while its standard deviation has increased, indicating greater variability in EBTP.

Interestingly, the mean Tier 1 Capital Ratio (T1) has generally increased from 2013 to 2022, indicating an improvement in the banks' capital adequacy. However, the mean Sign (SIGN) has fluctuated, with a notable decrease in 2022. The mean Gross Domestic Product (GDP) has seen notable fluctuations over the years, with a significant decrease in 2020 followed by an increase in 2021 and a decrease in 2022. On the other hand, the mean Management Compensation (COMP) has fluctuated over the years, with the highest mean observed in 2014.

From 2013 to 2022, both the mean Board Size (BOARD) and the mean Firm Size (FSIZE) have generally increased, indicating growth in the size of the firms and the board. Interestingly, while the firms and board sizes were growing, the standard deviation of the board size decreased. The mean Profit (PROFIT) has fluctuated over the years, with the highest mean observed in 2022. In terms of leverage, the mean Leverage (LEVERAGE) has generally increased from 2013 to 2022, while the standard deviation of LEVERAGE has fluctuated. Lastly, the mean Audit Quality (AUDIT_QUALITY) has generally increased from 2013 to 2022, indicating an improvement in audit quality. The standard deviation of AUDIT_QUALITY has also increased, suggesting an increase in the dispersion of AUDIT_QUALITY.

**Table 1: Yearly variable descriptives**

| | Variables | LLP | NPL | LOAN | EBTP | T1 | SIGN | _GDP | COMP | BOARD | FSIZE | PROFIT | LEVERAGE | AUDIT_QUALITY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2013 | Mean | 0.0053 | 0.0115 | 0.4766 | 0.0175 | 0.0487 | 0.0009 | 6.2332 | 0.0479 | 5.4000 | 14.7152 | 1.2428 | 16.7450 | 1.0842 |
| | Median | 0.0028 | 0.0056 | 0.5631 | 0.0154 | 0.0565 | 0.0010 | 6.3861 | 0.0000 | 0.0000 | 17.5623 | 1.2400 | 12.3432 | 0.0000 |
| | Std. Dev. | 0.0092 | 0.0133 | 0.2553 | 0.0160 | 0.0601 | 0.0100 | 1.9180 | 0.1851 | 7.4468 | 7.1301 | 1.2182 | 16.4105 | 2.1766 |
| 2014 | Mean | 0.0064 | 0.0123 | 0.4627 | 0.0165 | 0.0527 | 0.0007 | 6.1005 | 0.0726 | 5.4632 | 14.9840 | 1.1123 | 19.1242 | 1.2526 |
| | Median | 0.0042 | 0.0060 | 0.5531 | 0.0143 | 0.0620 | 0.0000 | 7.4102 | 0.0000 | 0.0000 | 17.6221 | 1.0700 | 18.3139 | 0.0000 |
| | Std. Dev. | 0.0102 | 0.0138 | 0.2510 | 0.0202 | 0.0372 | 0.0100 | 2.6565 | 0.4938 | 7.3525 | 7.0143 | 1.4434 | 15.6521 | 2.3337 |
| 2015 | Mean | 0.0077 | 0.0148 | 0.4927 | 0.0175 | 0.0566 | 0.0024 | 5.6328 | 0.0397 | 5.2105 | 15.8756 | 1.1223 | 20.5696 | 1.4632 |
| | Median | 0.0052 | 0.0081 | 0.5611 | 0.0137 | 0.0636 | 0.0011 | 7.0413 | 0.0000 | 0.0000 | 17.7108 | 0.9600 | 18.3593 | 0.0000 |
| | Std. Dev. | 0.0096 | 0.0152 | 0.2245 | 0.0222 | 0.0352 | 0.0213 | 3.8652 | 0.1943 | 7.0211 | 6.0220 | 1.5494 | 15.7488 | 2.6329 |
| 2016 | Mean | 0.0091 | 0.0205 | 0.4963 | 0.0160 | 0.0602 | 0.0047 | 5.7008 | 0.0343 | 5.3684 | 16.8805 | 0.9033 | 23.7297 | 1.7158 |
| | Median | 0.0061 | 0.0089 | 0.5569 | 0.0137 | 0.0647 | 0.0035 | 6.8488 | 0.0000 | 0.0000 | 17.8347 | 0.9500 | 21.3027 | 0.0000 |
| | Std. Dev. | 0.0101 | 0.0240 | 0.2091 | 0.0194 | 0.0357 | 0.0145 | 3.7637 | 0.1706 | 7.0107 | 4.7787 | 1.0354 | 18.0525 | 2.9451 |
| 2017 | Mean | 0.0089 | 0.0236 | 0.4823 | 0.0170 | 0.0631 | -0.0007 | 5.7719 | 0.0344 | 6.9684 | 17.3555 | 1.1523 | 23.6653 | 2.1474 |
| | Median | 0.0055 | 0.0093 | 0.5382 | 0.0151 | 0.0675 | 0.0000 | 6.7954 | 0.0000 | 8.0000 | 18.0403 | 1.2200 | 21.2901 | 1.0000 |
| | Std. Dev. | 0.0108 | 0.0296 | 0.1988 | 0.0231 | 0.0341 | 0.0146 | 2.2258 | 0.1836 | 7.2968 | 4.0900 | 1.3728 | 17.3963 | 2.8283 |
| 2018 | Mean | 0.0108 | 0.0278 | 0.5447 | 0.0154 | 0.0723 | 0.0002 | 5.6633 | 0.0202 | 6.7053 | 18.0676 | 1.1059 | 23.0811 | 2.4211 |
| | Median | 0.0063 | 0.0112 | 0.5595 | 0.0153 | 0.0724 | 0.0005 | 6.4539 | 0.0000 | 9.0000 | 18.0662 | 1.2500 | 23.2613 | 1.0000 |
| | Std. Dev. | 0.0118 | 0.0360 | 0.1478 | 0.0187 | 0.0340 | 0.0072 | 1.9245 | 0.0619 | 6.7254 | 1.8389 | 1.3781 | 14.7013 | 3.0021 |
| 2019 | Mean | 0.0112 | 0.0263 | 0.5557 | 0.0136 | 0.0724 | 0.0005 | 4.2115 | 0.0268 | 7.3368 | 18.1645 | 1.2398 | 21.8618 | 2.6421 |
| | Median | 0.0070 | 0.0123 | 0.5792 | 0.0144 | 0.0762 | 0.0002 | 3.8714 | 0.0001 | 10.0000 | 18.1770 | 1.2000 | 21.6782 | 1.0000 |
| | Std. Dev. | 0.0127 | 0.0334 | 0.1524 | 0.0192 | 0.0337 | 0.0136 | 1.8487 | 0.0753 | 6.5161 | 1.8024 | 1.5051 | 14.0288 | 3.0629 |
| 2020 | Mean | 0.0121 | 0.0264 | 0.5552 | 0.0129 | 0.0735 | 0.0036 | -2.0114 | 0.0215 | 8.1263 | 18.2357 | 1.1745 | 21.8432 | 3.0737 |
| | Median | 0.0083 | 0.0119 | 0.5859 | 0.0120 | 0.0762 | 0.0029 | -3.2768 | 0.0004 | 10.0000 | 18.2647 | 1.0200 | 21.1357 | 2.0000 |
| | Std. Dev. | 0.0136 | 0.0315 | 0.1566 | 0.0195 | 0.0330 | 0.0112 | 3.8330 | 0.0493 | 6.4992 | 1.8208 | 1.8658 | 13.8614 | 3.3904 |
| 2021 | Mean | 0.0096 | 0.0254 | 0.5579 | 0.0144 | 0.0777 | 0.0006 | 7.9928 | 0.0210 | 9.0105 | 18.3778 | 1.1626 | 20.9131 | 3.2316 |
| | Median | 0.0072 | 0.0131 | 0.5930 | 0.0128 | 0.0790 | 0.0002 | 8.4475 | 0.0011 | 11.0000 | 18.3898 | 1.1000 | 19.0921 | 2.0000 |
| | Std. Dev. | 0.0086 | 0.0271 | 0.1535 | 0.0124 | 0.0310 | 0.0094 | 1.5008 | 0.0514 | 6.3338 | 1.8191 | 1.0135 | 13.9004 | 3.5951 |
| 2022 | Mean | 0.0085 | 0.0224 | 0.5554 | 0.0145 | 0.0754 | -0.0289 | 4.2398 | 0.0337 | 10.0211 | 18.4037 | 1.2121 | 20.3488 | 3.7661 |
| | Median | 0.0059 | 0.0112 | 0.5987 | 0.0124 | 0.0786 | -0.0247 | 2.9908 | 0.0036 | 11.0000 | 18.3389 | 1.0600 | 18.8344 | 2.0000 |
| | Std. Dev. | 0.0084 | 0.0233 | 0.1596 | 0.0134 | 0.0310 | 0.0267 | 2.3006 | 0.0891 | 5.2043 | 1.8184 | 1.1224 | 13.6602 | 8.3731 |

Figure 1 shows that over the sample period, all variables fluctuated. Notably, Leverage is higher and moves in the same direction as SIGN and GDP. The positive correlation between leverage and SIGN suggests that the bank's debt-equity decisions are potentially influenced by its performance. Specifically, a performance improvement could lead to an increase in leverage as a strategic move to capitalize on favorable market conditions. Conversely, a downturn in performance might necessitate a reduction in leverage.

Furthermore, the movement of leverage and GDP implies that macroeconomic conditions could also play a role in the bank's leverage decisions. During periods of economic growth, characterized by an increasing GDP, banks might be more inclined to take on debt to finance expansion. On the other hand, in periods of economic downturn, when GDP decreases, banks might opt to reduce their leverage to mitigate the risks associated with debt.

Board and Audit Quality show a similar trend pattern but remain relatively stable compared to Leverage and SIGN. This stability could suggest that governance structure and audit quality do not drastically change in response to internal financial decisions or external economic conditions but may still play a subtle role in influencing these aspects. Profit shows an interesting dynamic. Its movement is somewhat parallel with GDP but does not exactly mirror it. This suggests that while profitability is influenced by macroeconomic conditions, other factors may also have a significant impact on it. These observations suggest a dynamic interplay between the bank's internal financial decisions and external economic conditions.

**Figure 1: Year on year descriptive stats plot over the sample period**

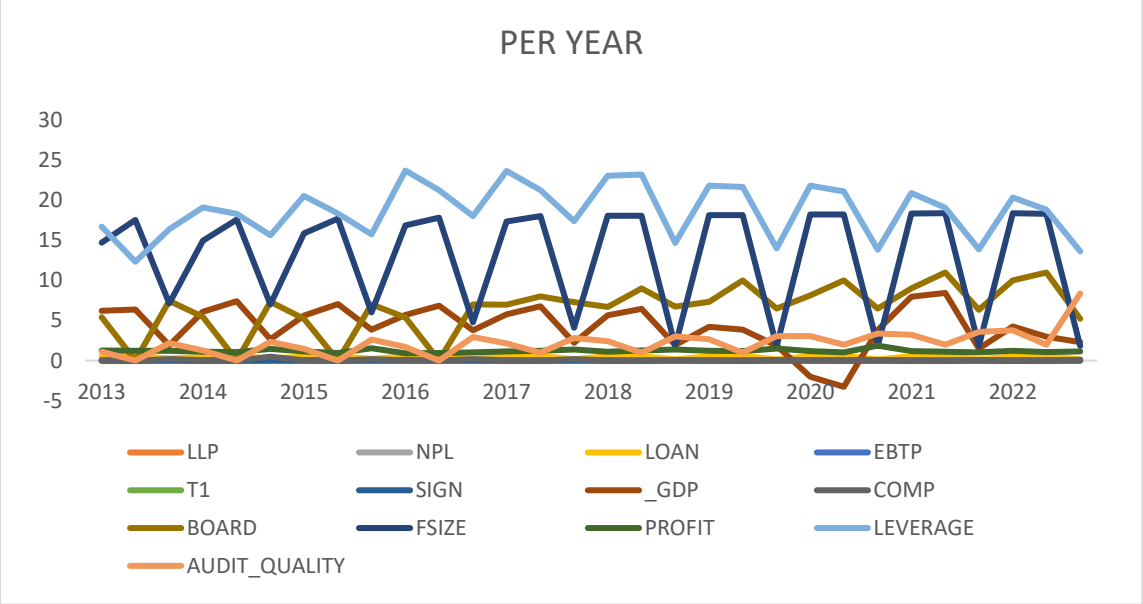


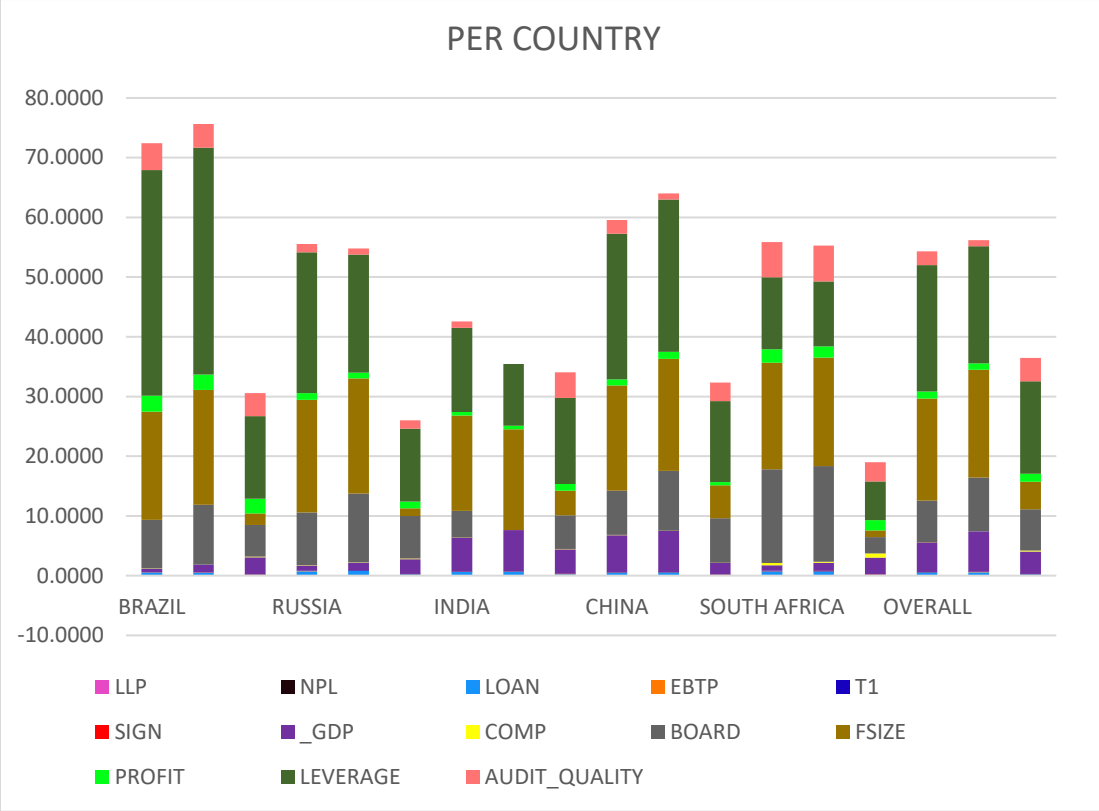
Table 2 presents the descriptives of the variables per country. The variables LLP, EBTP, COMP, and PROFIT are positively skewed in India, China, and South Africa while NPL, LOAN, T1, SIGN, GDP, BOARD, FSIZE, LEVERAGE, and AUDITQUALITY are negatively skewed. The standard deviation shows that LOAN, GDP, COMP, BOARD, FSIZE, LEVERAGE, and AUDITQUALITY exhibit a wide spread of data points, indicating high variability. Conversely, LLP, NPL, EBTP, T1, SIGN, and PROFIT suggest lower variability.

**Table 2: Description of variables by country**

| | Variable | LLP | NPL | LOAN | EBTP | T1 | SIGN | _GDP | COMP | BOARD | FSIZE | PROFIT | LEVERAGE | AUDITQUALITY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BRAZIL | Mean | 0.0158 | 0.0244 | 0.4582 | 0.0359 | 0.0681 | -0.0073 | 0.5627 | 0.0160 | 8.1500 | 18.1219 | 2.6891 | 37.7988 | 4.4800 |
| | Median | 0.0139 | 0.0261 | 0.4266 | 0.0323 | 0.0751 | -0.0019 | 1.2718 | 0.0000 | 10.0000 | 19.2846 | 2.5450 | 37.9730 | 4.0000 |
| | Std. Dev. | 0.0110 | 0.0163 | 0.1419 | 0.0252 | 0.0335 | 0.0323 | 2.8406 | 0.0636 | 5.3492 | 1.9022 | 2.4596 | 13.8240 | 3.8834 |
| RUSSIA | Mean | 0.0107 | 0.0372 | 0.6830 | 0.0187 | 0.0841 | -0.0021 | 0.8435 | 0.0825 | 8.8333 | 18.8585 | 1.1417 | 23.5512 | 1.4000 |
| | Median | 0.0110 | 0.0432 | 0.7686 | 0.0170 | 0.0929 | -0.0002 | 1.2458 | 0.0605 | 11.5000 | 19.2947 | 0.9400 | 19.7992 | 1.0000 |
| | Std. Dev. | 0.0058 | 0.0219 | 0.1847 | 0.0123 | 0.0425 | 0.0121 | 2.4774 | 0.0913 | 7.1298 | 1.2786 | 1.1580 | 12.2053 | 1.3797 |
| INDIA | Mean | 0.0105 | 0.0354 | 0.5528 | 0.0104 | 0.0608 | -0.0005 | 5.7392 | 0.0136 | 4.4143 | 15.9602 | 0.6333 | 14.0590 | 1.0794 |
| | Median | 0.0075 | 0.0242 | 0.6288 | 0.0086 | 0.0594 | 0.0000 | 6.8992 | 0.0000 | 0.0000 | 16.9108 | 0.5600 | 10.3567 | 0.0000 |
| | Std. Dev. | 0.0123 | 0.0346 | 0.2161 | 0.0212 | 0.0407 | 0.0176 | 4.0824 | 0.0399 | 5.6134 | 4.1720 | 1.1129 | 14.3830 | 4.3163 |
| CHINA | Mean | 0.0051 | 0.0058 | 0.4721 | 0.0127 | 0.0626 | -0.0007 | 6.2406 | 0.0044 | 7.4366 | 17.5994 | 1.0340 | 24.3860 | 2.3049 |
| | Median | 0.0049 | 0.0057 | 0.5372 | 0.0138 | 0.0699 | 0.0006 | 6.8980 | 0.0002 | 10.0000 | 18.7800 | 1.1750 | 25.5094 | 1.0000 |
| | Std. Dev. | 0.0030 | 0.0039 | 0.1829 | 0.0063 | 0.0257 | 0.0104 | 1.9267 | 0.0101 | 7.4343 | 5.5279 | 0.5657 | 13.5097 | 3.1479 |
| SOUTH AFRICA | Mean | 0.0141 | 0.0287 | 0.6445 | 0.0292 | 0.0950 | -0.0042 | 0.9482 | 0.3804 | 15.6500 | 17.8487 | 2.2820 | 12.0575 | 5.8833 |
| | Median | 0.0055 | 0.0245 | 0.6787 | 0.0236 | 0.0751 | 0.0007 | 1.3678 | 0.1659 | 16.0000 | 18.1798 | 1.8550 | 10.8842 | 6.0000 |
| | Std. Dev. | 0.0216 | 0.0186 | 0.1076 | 0.0206 | 0.0734 | 0.0218 | 2.7370 | 0.6997 | 2.7607 | 1.1395 | 1.6832 | 6.5138 | 3.1841 |
| OVERALL | Mean | 0.0090 | 0.0211 | 0.5179 | 0.0155 | 0.0652 | -0.0016 | 4.9535 | 0.0352 | 6.9611 | 17.1060 | 1.1428 | 21.1882 | 2.2798 |
| | Median | 0.0059 | 0.0093 | 0.5695 | 0.0138 | 0.0692 | 0.0004 | 6.7498 | 0.0000 | 9.0000 | 18.0498 | 1.1100 | 19.5913 | 1.0000 |
| | Std. Dev. | 0.0108 | 0.0265 | 0.1976 | 0.0187 | 0.0385 | 0.0175 | 3.7077 | 0.1999 | 6.9241 | 4.5727 | 1.3698 | 15.4773 | 3.9078 |

Figure 2 presents the descriptive plot of the variables per country. South Africa has the highest Tier 1 (T1) capital ratio. This suggests a robust level of core capital, a testament to the country's stringent regulatory requirements, adaptive market conditions, and effective risk management strategies. Russia trails closely behind, indicating a similar emphasis on maintaining a high level of core capital. Brazil, China, and India display relatively similar levels of T1. Brazil has the highest LLP, indicating a substantial provision for potential loan losses. This could be a reflection of a higher-risk lending environment or challenges in the credit market. Brazil further boasts the highest negative SIGN, which could be indicative of potential issues with earnings or other financial indicators. Russia has the highest Total Customer Loans (LOAN), coupled with a high NPL, suggesting a higher proportion of loans that may default. This could be indicative of their aggressive lending practices. India, on the other hand, shows a strong economy with a high GDP, second only to China. However, it's banking sector struggles with relatively low profitability, suggesting that a strong economy does not necessarily translate into high profitability in the banking sector. China is the economic powerhouse with the highest GDP, but despite its strong economic performance, the profitability of banks is relatively lower. This can be attributed to the heavily regulated banking sector, which can limit investment opportunities and impact profitability. Additionally, many banks in China are state-owned, leading to a focus on national economic goals over profitability. Furthermore, economic policies aimed at controlling inflation could lead to lower interest rates, thereby reducing banks' net interest margins and profitability. However, China's lowest LLP and NPL among BRICS countries suggest efficient credit risk management or a lower level of risky loans.

**Figure 2: BRICS descriptive plot of variables per country**




### 4.3 Detection of earnings manipulation using M-score

Before performing the analysis, the test for stationarity was performed to determine whether the time-series assumptions hold. The Augmented Dickey-Fuller (ADF) test is used to test the stationarity of the variables. The null hypothesis ($H_o$) of the ADF test is that a unit root is present in the time series, meaning the series is non-stationary, while the alternative hypothesis ($H_1$) is that there is no unit root, meaning the series is stationary. Table 3 presents the ADF test statistics for each variable. Given the 5% level of significance, most variables LLP, NPL, LOAN, EBTP, T1, GDP, COMP, FSIZE, PROFIT, LEVERAGE, and AUDIT QUALITY, have p-values less than 0.05, suggesting that they are stationary at level I(0). This leads us to reject the null hypothesis and accept the alternative hypothesis, indicating stationarity. However, the variables SIGN and BOARD have p-values greater than 0.05, indicating non-stationarity, and we fail to reject the null hypothesis for these variables. To address this, we applied a differencing transformation to both variables. Specifically, in Eviews, we calculated the first difference by subtracting each observation from its preceding value. The resulting transformed variables were denoted as DSIGN (for SIGN) and

DBOARD (for BOARD). After differencing, the p-values decreased below 0.05, signifying that the transformed series achieved stationarity. Consequently, we reject the null hypothesis and accept the alternative hypothesis for the differenced series.

**Table 3: Augmented Dickey-Fuller test for each variable**

| Variable | ADF Statistic-Level | p-value-Level | ADF Statistic-1st Difference | p-value-1st Difference | Order of Integration |
|---|---|---|---|---|---|
| LLP | -5.76966 | 0.0000 | | | I(0) |
| NPL | -2.41481 | 0.0079 | | | I(0) |
| LOAN | -1.71239 | 0.0434 | | | I(0) |
| EBTP | -3.89085 | 0.0000 | | | I(0) |
| T1 | -4.34092 | 0.0000 | | | I(0) |
| SIGN | -1.13017 | 0.1292 | -6.53657 | 0.0000 | I(1) |
| GDP | -4.98333 | 0.0000 | | | I(0) |
| COMP | -2.97395 | 0.0015 | | | I(0) |
| BOARD | -1.32421 | 0.0927 | -11.9332 | 0.0000 | I(1) |
| FSIZE | -2.85359 | 0.0022 | | | I(0) |
| PROFIT | -4.69283 | 0.0000 | | | I(0) |
| LEVERAGE | -5.88662 | 0.0000 | | | I(0) |
| AUDIT_QUALITY | -3.28399 | 0.0005 | | | I(0) |

The first part of the analysis aimed at using the M-score to classify 95 BRICS commercial banks into those that are potentially manipulating their financial information from those that do not. The M-score also assists in detecting any recurring patterns in the banks' disclosure of misleading information. A higher M-score suggests a higher likelihood of earnings manipulation. (Mantone, 2013; Warshavsky, 2012; Omar et al., 2014; Kamal et al., 2016) proposed a total M-score greater than -2.22 as an indicator of potential earnings manipulation and financial statement fraud. In this study, banks with M-Scores above -2.22 are flagged for further investigation to determine the extent to which they manipulate their financial information.

Table 4 presents a yearly breakdown of the proportion of banks likely to be manipulators (with an M-score > -2.22) versus those unlikely to be manipulators (with an M-score < -2.22) from 2014 to 2022, using 2013 as the reference year. Table 4 shows that the percentage of likely manipulators fluctuates over the years, with the highest proportion recorded in 2017 at 37.89% and the lowest in 2016 at 16.84%. On average,

26.78% of the banks are classified as likely manipulators over the sample period. Conversely, the proportion of unlikely manipulators remained consistently higher throughout the years, ranging from 62.11% in 2017 to 83.16% in 2016. The average proportion of unlikely manipulators over the nine years is 73.22%. There was no consistent upward or downward trend in the number of potential and unlikely manipulators. Instead, the rates varied over the years, reflecting the volatile nature of financial manipulation among the banks sampled. This data suggests that a majority of the banks in the sample are unlikely to be manipulators based on their M-scores. However, the presence of likely manipulators, albeit in smaller proportions, indicates the need for continued vigilance and scrutiny in financial reporting practices among BRICS banks.

**Table 4: M-score of likely and unlikely manipulators**

| Year | Likely manipulators (M-score > -2.22) | Unlikely manipulators (M-score < -2.22) |
|---|---|---|
| 2014 | 26 (27.37%) | 69 (72.63%) |
| 2015 | 19 (20.00%) | 76 (80.00%) |
| 2016 | 16 (16.84%) | 79 (83.16%) |
| 2017 | 36 (37.89%) | 59 (62.11%) |
| 2018 | 19 (20.00%) | 76 (80.00%) |
| 2019 | 34 (35.79%) | 61 (64.21%) |
| 2020 | 32 (33.68%) | 63 (66.32%) |
| 2021 | 24 (25.26%) | 71 (74.74%) |
| 2022 | 23 (25.26%) | 72 (75.79%) |
| Average | 26.78% | 73.22% |

Table 5 presents the persistence of potential manipulators within BRICS banks from 2014 to 2022, segmented into three categories: Yearly persistence, continuous persistence, and recent persistence. Yearly Persistence quantifies the proportion of manipulators present in a given year who reappear in the subsequent year. A peak in yearly persistence was noted in 2016, with 56% of that year's manipulators reoccurring in 2017. In contrast, 2017 records the lowest yearly persistence with 22% of the manipulators

persisting into 2018. Continuous persistence, on the other hand, tracks the manipulators who remain constant throughout the entire research period. Interestingly, the period from 2014 to 2022 did not witness any instances of continuous persistence. Recent persistence measures the number of manipulators from the preceding year who persist into the current year. The peak in recent persistence was observed in 2018 and 2021, with 42% of the manipulators from 2017 and 2020 persisting.

**Table 5: Persistence in the manipulation by BRICS banks**

| Year | Yearly Persistence | Yearly Persistence (%) | Continuous Persistence | Continuous Persistence (%) | Recent Persistence | Recent Persistence (%) | Total Manipulators |
|---|---|---|---|---|---|---|---|
| 2014 | 7 | 27% | 0 | 0% | 0 | 0% | 26 |
| 2015 | 6 | 32% | 0 | 0% | 7 | 37% | 19 |
| 2016 | 9 | 56% | 0 | 0% | 6 | 38% | 16 |
| 2017 | 8 | 22% | 0 | 0% | 9 | 25% | 36 |
| 2018 | 8 | 42% | 0 | 0% | 8 | 42% | 19 |
| 2019 | 11 | 32% | 0 | 0% | 8 | 24% | 34 |
| 2020 | 10 | 31% | 0 | 0% | 11 | 34% | 32 |
| 2021 | 7 | 29% | 0 | 0% | 10 | 42% | 24 |
| 2022 | 0 | 0% | 0 | 0% | 7 | 30% | 23 |
| | | | | | | | **229** |

This analysis provides valuable insights into the behavior of likely manipulators in BRICS banks over time. The fluctuating trend in yearly persistence suggests that manipulators may not consistently engage in manipulation activities every year. This could be an indication that earnings manipulation is a result of opportunistic behavior by management that depends on, among others, bank performance, meeting regulatory requirements, or boosting the share price. The lack of continuous persistence further supports this observation. However, the presence of recent persistence indicates that some manipulators may engage in manipulation activities for consecutive years. These findings highlight the importance of continuous monitoring and regulation to detect and deter manipulation activities in BRICS banks.

### 4.4 Determining the purpose of earnings manipulation

Further investigation was carried out to determine the motivation for manipulation by potential manipulators over the sample period using the accrual-based panel regression model. In this model, the loan loss provision is a dependent variable. The independent variables comprise non-discretionary variables such as non-performing loans and total customer loans, alongside discretionary variables including earnings before taxes and loan loss provisions, regulatory capital, a sign variable, and GDP growth rate.

The Lagrange Multiplier test was used to determine the model fit of the pooled/panel least squares method. The test results indicate significant heteroskedasticity in the cross-section of our panel data with a p-value of 0.0000 (p-value < 0.05), but not across time with a p-value of 0.6659 (p-value > 0.05). However, when both cross-section and time are considered, the p-value is 0.0000 which falls below 0.05, leading us to reject the null hypothesis. This implies that the pooled or panel least squares (POLS) regression is unstable and, therefore, not the best fit for our data, leaving the option of fixed and random effect models.

The Hausman Test was then used to determine the appropriateness of the Random Effect Model (REM). The null hypothesis of the Hausman Test asserts that REM is more suitable than FEM, while the alternative hypothesis proposes the opposite. The results of the cross-section random (chi-square statistic = 67.475462, p-value 0.0000) with p-value < 0.05 lead us to reject the null hypothesis. The model fit for the Fixed Effect Model (FEM) of the residual cross-section dependence test. The null hypothesis for this test is the absence of cross-sectional dependence in the residuals. Using the results from the test, the Breusch-Pagan LM test, Pesaran scaled LM test, bias-corrected scaled LM test, and Pesaran CD test all yield statistics with p-values of 0.0000 which are less than 0.05, indicating the presence of heteroskedasticity and cross-sectional dependence. This violates the key assumptions of panel data regression and potentially biases our results. All these tests show that the pooled regression, random effect, and fixed effect are not appropriate for the analysis of this data. The General Method of Moments (GMM) method was then employed for analysis. Table 6 presents the factors that influence the loan loss provision (LLP). The focus of the analysis is on likely manipulators but the unlikely manipulators are also included for control purposes.

Table 6 shows that the lagged Loan Loss Provisions LLP (-1) variable is not significantly associated with LLP for both likely manipulators and unlikely manipulators, suggesting that past LLPs do not significantly

influence current LLPs. The coefficient of non-performing Loans (NPL) is positive and significant for the likely manipulators but not for unlikely manipulators. This outcome indicates that there direct correlation between LLP and the worsening condition of the loan portfolio in the sampled banks. The sensitivity of LLPs to the amount of customer loans (LOAN) is also positive and significant for the likely manipulators. Thus, likely manipulator banks increase their LLP by $0.98 for every $100 increase in the amount of LOAN. The unlikely manipulator coefficient for LOAN is not statistically significant in association with LLP. This finding aligns with the prudent behavior of bank managers highlighted by Beaver & Engle (1996), suggesting that banks consider incremental loans as increasingly risky.

**Table 6: Test of Income smoothing, Capital Management and Signaling over the sample period for bank likely manipulators and unlikely manipulators**

| | Likely Manipulators | | Unlikely Manipulators | | Combined | |
|---|---|---|---|---|---|---|
| Variables | Parameters | t-statistic | Parameters | t-statistic | Parameters | t-statistic |
| LLP(-1) | -0.0107 | -0.5640 | 1.5967 | 0.8948 | 0.1941*** | 7.5201 |
| | (0.5743) | | (0.3885) | | (0.0000) | |
| NPL | 0.3028*** | 20.7755 | 0.0565 | 0.0933 | 0.2953*** | 13.3355 |
| | (0.0000) | | (0.9272) | | (0.0000) | |
| LOAN | 0.0098*** | 4.5737 | 0.0145 | 0.1293 | 0.0329*** | 6.7687 |
| | (0.0000) | | (0.8993) | | (0.0000) | |
| EBTP | -0.0568** | -2.9871 | 0.0245 | 0.0151 | 0.0629** | 2.2644 |
| | (0.0037) | | (0.9882) | | (0.0258) | |
| T1 | -0.0687*** | -8.3459 | 0.0672 | 0.1299 | -0.0848*** | -3.9916 |
| | (0.0000) | | (0.8988) | | (0.0001) | |
| D(SIGN) | 0.0327*** | 6.9021 | -0.0016 | -0.0053 | 0.0771*** | 9.8138 |
| | (0.0000) | | (0.9958) | | (0.0000) | |
| GDP | -0.0002*** | -6.9984 | 0.0006 | -0.7104 | -0.0001** | -2.3970 |
| | (0.0000) | | (0.4910) | | (0.0185) | |
| J-statistic | 38.6412 | | 3.6618 | | 36.6012 | |
| Prob(J-statistic) | 0.2679 | | 0.5991 | | 0.3489 | |
| Number of observations | 574 | | 91 | | 665 | |
| Periods included | 7 | | 7 | | 7 | |

All three regressions include the Cross-section fixed (first differences).

P-values associated with test statistics in parentheses; ***, **, and * denote significance at 1%, 5%, and 10%, respectively.

The earnings before taxes & provisions (EBTP) variable is negatively significant for likely manipulators at the 5% significance level and the combined group, providing strong support for the income smoothing hypothesis for this group. The EBTP is not statistically significant for the unlikely manipulators. This finding is consistent with (Greenawalt & Sinkey, 1988; Curcio & Hasan, 2015) that the likely manipulators' objective is to smooth their earnings. Our analysis further confirms the capital management purpose with the regulatory capital (T1) coefficient negative and statistically significant for the likely manipulators, while positive and not significant for the unlikely manipulators. This is consistent with (Bouvatier & Lepetit, 2008) who found that undercapitalized European banks manipulate loan loss provisions (LLPs) to manage regulatory capital. (Anandarajan et al., 2007) found the same in Australian commercial banks, confirming the capital management hypothesis.

The coefficient of the signaling behavior (SIGN) variable exhibits a positive and significant value for likely manipulators, while it is negative but not statistically significant for the unlikely manipulators. This result for likely manipulators suggests that these banks use LLPs as a tool to signal information about their future earnings to the market. This finding aligns with (Bouvatier & Lepetit, 2008; Curcio & Hasan, 2015). The GDP growth rate is negative and significantly associated with the ratio of LLPs to total assets for the likely manipulators, while positive and not statistically significant for the unlikely manipulators. This finding suggests that banks allocate fewer LLP during economic growth due to reduced loan defaults, and vice versa during economic downturns.

The results of the pooled sample, as presented in the combined column of Table 6, provide a comprehensive overview of the relationships between the dependent variable and the independent variables. The statistical significance of all variables in this combined group suggests a meaningful relationship with the dependent variable when both groups, namely the likely manipulators and unlikely manipulators, are taken into account. However, a nuanced interpretation is required when considering the groups separately. In the group of unlikely manipulators, some variables do not exhibit statistical significance. This observation could lead to the inference that the relationships discerned in the combined group are predominantly driven by the dynamics within the likely manipulators group. The potential influence of the likely manipulators group on these results could be due to the size of the groups, with the unlikely manipulators group being too small to detect significant relationships. The statistical significance observed in the combined group provides a broad overview, but the separate group analyses reveal more detailed and nuanced information that can enhance understanding.

To further substantiate these findings, a supplementary mean difference analysis was conducted. The mean of residuals of the likely manipulators was calculated to be 0.000102377, while that of the unlikely manipulators was -5.49E-05. The resulting mean difference was determined to be 0.000157. This negligible mean difference, being proximate to zero, corroborates the assertion that the combined results do not significantly deviate from the results of the likely manipulators. Thus, the analysis validates the initial findings.

The J-statistic of the three regressions from the model suggests a well-specified model, as the over-identifying restrictions are valid, given the statistically significant p-values at all significance levels (p-value = 0.2679, p-value = 0.5991 and p-value =0.3489). This implies that the instruments used in the model are appropriately uncorrelated with the error term, reinforcing the model's reliability and validity.

### 4.5 Factors influencing earnings manipulation

This part of the analysis investigates the factors influencing earnings manipulation within BRICS banks. In this model, earnings management (EM) is represented by the discretionary component of loan loss provision (LLP). Thus, EM is the residual part of LLP after accounting for the non-discretionary portion in the previous model, which is the model used to determine the purpose of earnings manipulation. The EM variable serves as the dependent variable, while the independent variables are represented by management compensation (COMP), board size (BOARD), firm size (FSIZE), profitability (PROFIT), leverage (LEVERAGE), and auditor independence rotation (AUDITQUALITY).

Table 8 shows that the lagged EM (-1) variable is negatively associated with EM for both likely manipulators and unlikely manipulators, suggesting that an increase in past EM is associated with a decrease in current EM. This is statistically significant at the 1% level for all groups, indicating strong evidence of this negative relationship. The COMP variable is positively associated with EM for likely manipulators. This indicates that for every $100 increase in COMP, EM increases by 1.53 units. This is statistically significant at the 1% level. However, for unlikely manipulators, the association between COMP and EM is negative and not statistically significant. (Uygur, 2013; Cornett et al., 2009; Jensen & Meckling, 1976; Assenso-Okofo et al., 2021) all support the finding that management compensation, executive incentives and pay-for-performance schemes lead to increased EM. The BOARD variable does not show a statistically significant association with both likely and unlikely manipulators, implying that corporate governance mechanisms in banks mitigate EM.

The size of the firm has a significantly positive relationship with EM for likely manipulators, suggesting that larger firms are more prone to earnings manipulation. Similarly, the PROFIT also has a significantly positive correlation with EM for likely manipulators, indicating that profitable firms are more inclined to manipulate earnings. Interestingly, for unlikely manipulators, the correlation between PROFIT and EM is negative and statistically significant at the 1% level. The LEVERAGE variable shows a negative association with EM for likely manipulators, supporting (Ahn & Choi, 2009) who found that as banks enhance their corporate governance oversight, the degree of earnings management by firms tends to decrease. This further supports (Alsharairi & Salama, 2012), who found that creditors play a crucial role in monitoring, thereby increasing the reliability of financial reporting and discouraging managers from manipulating accounting figures before mergers and acquisitions. This implies that firms with higher leverage are less likely to manipulate earnings.

**Table 7: Factors influencing earnings manipulation over the sample period**

| | Likely Manipulators | | Unlikely Manipulators | | Combined | |
|---|---|---|---|---|---|---|
| Variables | Parameters | t-statistic | Parameters | t-statistic | Parameters | t-statistic |
| EM(-1) | -0.2899*** | -16.4171 | -0.3196*** | -18.7454 | -0.2832*** | -19.9343 |
| | (0.0000) | | (0.0000) | | (0.0000) | |
| COMP | 0.0153*** | 3.3135 | -0.0093 | -0.9114 | 0.0093*** | 2.9199 |
| | (0.0014) | | (0.3800) | | (0.0044) | |
| D(BOARD) | 0.0000 | -0.0653 | -0.0004 | -0.1818 | 0.0000 | -1.5960 |
| | (0.9481) | | (0.8588) | | (0.1138) | |
| FSIZE | 0.0006*** | 2.6813 | -0.0054 | -0.5301 | 0.0013*** | 3.4676 |
| | (0.0089) | | (0.6057) | | (0.0008) | |
| PROFIT | 0.0013*** | 9.5202 | -0.0043*** | -3.8009 | 0.0003** | 2.1061 |
| | (0.0000) | | (0.0025) | | (0.0379) | |
| LEVERAGE | -0.0002*** | -6.0584 | -0.0018* | -2.0842 | -0.0004*** | -10.6506 |
| | (0.0000) | | (0.0592) | | (0.0000) | |
| AUDIT_QUALITY | -0.0002*** | -3.2490 | -0.0048 | -1.7146 | -0.0002*** | -4.0202 |
| | (0.0017) | | (0.1121) | | (0.0001) | |
| J-statistic | 35.8913 | | 7.8299 | | 37.5988 | |
| Prob(J-statistic) | 0.3345 | | 0.1659 | | 0.2666 | |
| Number of observations | 574 | | 91 | | 665 | |
| Periods included | 7 | | 7 | | 7 | |

All three regressions include the Cross-section fixed (first differences).

P-values associated with test statistics in parentheses; ***, ** and * denote significance at 1%, 5% and 10%, respectively.

The AUDITQUALITY variable demonstrates a negative and statistically significant (at 1% level) correlation with EM for likely manipulators. This suggests that firms with superior audit quality are less prone to earnings manipulation. However, for unlikely manipulators, the correlation between AUDITQUALITY and EM is not statistically significant.

The combined column in Table 8 presents the results of the estimation of the pooled sample to detect whether we find differences between likely manipulators and unlikely manipulators. Wherein all the variables are consistent with results from the likely manipulators, except for the level of significance for PROFIT.

The J-statistic of the three regressions from the model suggests a well-specified model, as the over-identifying restrictions are valid, given the statistically significant p-values at all significance levels (p-value = 0.3345, p-value = 0.1659 and p-value =0.2666). This implies that the instruments used in the model are appropriately uncorrelated with the error term, reinforcing the model's reliability and validity.

**Chapter Summary**

The current chapter presents the results of the study. It starts with identifying potential earnings manipulators and non-manipulators among BRICS banks using the Beneish M-score model. This is followed by an examination of the motivations behind such manipulations. Subsequently, the factors influencing earnings manipulation are presented. The next chapter discusses the results and concludes the research.

# CHAPTER 5 DISCUSSION AND CONCLUSION

## 5.1 Introduction

This chapter concludes the findings of our study on earnings management among BRICS banks. The chapter is organized as follows: Section 5.2 discusses the findings of our study. Section 5.3 outlines the conclusions drawn from the study in the BRICS countries.

## 5.2 Discussion of the Findings

This research aimed to assess the extent of earnings management practices among banks in BRICS countries, investigate the purpose of earnings manipulation, and identify the factors that drive these practices. The study utilized the Beneish M-score model to assess the extent of earnings manipulation among 95 commercial banks over nine years. The analysis revealed that approximately one-fourth of these banks were likely manipulating earnings. These banks predominantly used loan loss provisions (LLPs) as their tool for manipulating earnings for income smoothing, capital management, and signaling of future earnings to the market. Specifically, a small percentage of banks are likely earnings manipulators in BRICS. This finding is in line with (Shahzad, 2016) study which revealed that earnings manipulation is prevalent among companies in BRIC countries, particularly in Brazil, India, and China, due to weak governance and non-adherence to IASB or GAAP. The model couldn't detect significant manipulation in Russia due to limited data. However, our study diverges from Shahzad's in that we found evidence of earnings manipulation in Russia, which Shahzad's study did not. Comparatively, a (Nyakarimi, 2022) study on banks in Kenya, Tanzania, and Uganda found a lower percentage of likely earnings manipulation with 20.6% in Kenya, 16.7% in Tanzania, and 30% in Uganda. These percentages are lower than what we found in BRICS countries, suggesting that earnings manipulation might be less prevalent in these African countries. On the other hand, (Talab et al., 2018) investigated earnings management in banks listed on the Iraq stock exchange and found a significantly higher percentage of earnings manipulation. Using the Beneish model, they discovered that 65.2% of the examined banks were engaged in earnings manipulation. These findings reveal that the prevalence of earnings manipulation varies across different markets and regions. The differences could be attributed to various factors such as governance structures, adherence to international accounting standards, and data availability. The research findings suggest that earnings manipulation is a concern in both BRICS and other emerging markets, albeit to varying degrees. Based on these findings, we accept the hypothesis that earnings manipulation exists in BRICS banks.

The likely earnings manipulators do it to achieve income smoothing, capital management, and signaling. Our findings largely corroborate with the existing literature on income smoothing. We observed that likely earnings manipulators engage in income smoothing, which is consistent with the findings of (Ozili & Outa, 2018). This behavior, however, varies under specific conditions. For instance, banks refrain from using LLPs for income smoothing when they are undercapitalized, facing large non-performing loans (NPLs), or experiencing moderate ownership concentration. However, during economic booms, banks engage in income smoothing when they are more profitable, well-capitalized, adopt International Financial Reporting Standards (IFRS), and are audited by a Big 4 auditor. This aligns with the findings of (Ma, 1988; Ghosh, 2007; Curcio & Hasan, 2015; Ceccobelli & Giosi, 2019; Azira et al., 2015; Abdullah et al., 2013; Ozili, 2015; Pérez et al., 2008; Acar & Ipci, 2015) who all found evidence of banks using LLPs for income smoothing.

In terms of capital management, our study diverges from (Ceccobelli & Giosi, 2019) who found no supporting evidence. In contrast, our findings resonate with the work of (Moyer, 1990; Scholes et al., 1990), who discovered that banks strategically employed LLPs to manage and maintain their capital ratios when they were close to violating minimum capital regulations. This underscores the pivotal role of LLPs in capital management within the banking sector. (Bouvatier & Lepetit, 2008) posit that European banks with low capital employed LLPs for regulatory capital management. Similarly, (Ahmed et al., 1999) provided evidence of LLPs being used for capital management by US banks. However, it's worth noting that (M.-S. Kim & Kross, 1998) found no correlation between LLPs and capital management, indicating the complexity and diversity of practices in this area.

In terms of signaling, our study found that banks use LLPs for signaling, which is supported by several studies including (Wahlen, 1994; Kanagaretnam et al., 2004; Ghosh, 2007; Curcio & Hasan, 2015; Abu-Serdaneh, 2018), who suggest that an increase in LLP is perceived positively by investors. These studies indicate that banks use LLPs to signal prospects, a practice observed in both listed and unlisted banks, as well as banks in both Euro and non-Euro countries. This is seen as an indication of a bank's financial robustness and preparedness for unexpected situations. However, this finding contrasts with the views of (Ahmed et al., 1999; Anandarajan et al., 2007) who suggest that managers do not use LLPs for signaling.

The discrepancies between our findings and some previous studies could be attributed to differences in the sample of banks studied or the period under review, highlighting the diversity and complexity of earnings management practices across different regions and periods. Our study provides support for the

hypotheses of income smoothing, capital management and signaling, even though the evidence of capital management in the literature is mixed.

This research investigated the factors that significantly impact earnings management by BRICS banks, specifically management compensation, firm size, profitability, leverage, and audit quality. The study found that management compensation is positively associated with earnings management. This aligns with the theory supported by (Cornett et al., 2009; Cheng et al., 2011; Uygur, 2013). The research also discovered that firm size and profitability influence earnings management practices. This finding is consistent with studies conducted by (Anandarajan et al., 2003; Zoubi & Al-Khazali, 2007; Abdullah et al., 2013), which found a positive association between the size of a bank and LLPs. Larger banks with a high volume of business transactions necessitate a higher LLP. Additionally, the influence of political factors and regulatory interventions in instances of significant performance fluctuations also plays a role.

In terms of leverage, our findings reveal that leverage has a negative association with earnings management. This is supported by (Ahn & Choi, 2009; Alsharairi & Salama, 2012), who found that as banks enhance their corporate governance oversight and creditors play a crucial role in monitoring, the degree of earnings management by firms tends to decrease. This implies that firms with higher leverage are less likely to manipulate earnings. However, these findings contrast with literature suggesting a positive association between leverage ratios and LLPs. (Tseng & Lai, 2007; Fonseca & González, 2008; Cheng et al., 2011; Packer & Zhu, 2012) all suggest that an increase in loans and the debt-to-asset ratio, which are indicators of default risk, necessitate a corresponding increase in LLPs. This discrepancy could be due to differences in the sample of banks studied, the period under review, or the specific measures of leverage and earnings management used. It's also possible that different regulatory environments, corporate governance practices, or market conditions could influence the relationship between leverage and earnings management.

Our study reveals that firms with superior audit quality are less prone to earnings manipulation. This is in line with (Chowdhury & Eliwa, 2021) which reports that the presence of Big 4 auditors is significantly and positively related with greater levels of sales and discretionary expenses manipulation. This suggests that firms audited by Big 4 auditors, which are generally considered to have superior audit quality, are less prone to earnings manipulation. Our study accepts the hypothesis that management compensation, firm size, profitability, and audit quality significantly impact earnings management in BRICS banks. However,

the relationship between leverage and earnings management is complex and contrasts with some literature.

## 5.3 Conclusion

The study concludes that earnings management practices exist among banks in BRICS countries. These practices typically serve three main purposes; income smoothing, capital management and signaling of future information to the market. Importantly, these practices are not arbitrary but are driven by various factors such as management compensation, firm size, profitability, leverage and audit quality. Our study contributes significantly to the existing body of knowledge on earnings management practices among banks in BRICS countries. It has provided a comprehensive and nuanced understanding of the extent, purpose, and drivers of these practices, which was previously lacking in the literature. There are no studies that examine these factors in BRICS banks, which reduce the gap in this area of literature. The use of the Beneish M-score model to assess earnings manipulation among 95 commercial banks over nine years has revealed that approximately one-fourth of these banks were likely manipulating earnings. This finding underscores the prevalence of earnings management practices in the banking sector and calls for more stringent regulatory oversight. The research has also enriched our understanding of the mechanisms of earnings management. It was found that banks predominantly used loan loss provisions (LLPs) for income smoothing, capital management, and signaling of future earnings to the market. This finding is novel as it provides empirical evidence for the role of LLPs in earnings management, which can guide the development of more effective detection and prevention strategies. Furthermore, the study has identified several factors that drive earnings management practices. It was found that management compensation, firm size, profitability and leverage significantly influence these practices, providing empirical evidence for the role of these factors in earnings management. The study offers a valuable addition to the ongoing discussion about earnings management through LLPs, particularly in the underexplored environment of emerging markets, BRICS countries.

The findings of the study have practical implications for both regulators and bank managers. For regulators, the results highlight the need for effective monitoring and regulation to curb earnings management practices. This includes re-evaluating existing regulations about management compensation, establishing stricter auditing and reporting requirements for larger banks, setting minimum standards for audit quality, and implementing more tailored capital adequacy requirements

that take into account strategies that banks use. This could ensure banks maintain a healthy balance between their debt and equity, even when using sophisticated capital management strategies. For bank managers, the results provide insights into the factors that drive earnings management and the potential consequences of such practices. Bank managers should be aware of these factors and consider them in their decision-making processes.

The limitation of the study is the focus on commercial banks in BRICS countries, limiting the generalizability of the findings to other types of financial institutions or banks in other regions. In addition, the study relies on the Beneish M-score model to assess the extent of earnings manipulation, which may not capture all forms of earnings management. Furthermore, some of the banks did not have data for the years 2013 and 2014 and this could have influenced the classification of banks into likely and unlikely manipulators.

Future research could extend this study in several ways. A natural extension to this analysis would be a more in-depth study that considers specific factors and regulatory practices in individual countries. This could provide a more nuanced understanding of earnings management practices and the effectiveness of regulatory measures in different contexts. Further research could also explore the impact of banking regulation reforms, such as Basel III, which was implemented during the period of our study, on the pro-cyclicality of capital requirements and its effect on the lending business. Additionally, researchers could examine earnings management practices among other types of financial institutions or in other regions to compare and contrast with the findings of this study. They could also explore other models or methods for detecting earnings manipulation to validate or challenge the findings based on the Beneish M-score model. Further research could also explore the potential impact of the proposed policies and identify additional strategies for curbing earnings manipulation. This would provide valuable insights into the effectiveness of these reforms in promoting a more transparent and accountable banking sector.

**REFERENCES**


Aaron, O. (2022). *BRIC countries*. Statista. https://www.statista.com/study/14028/bric-countries-statista-dossier/

Abdelsalam, O., Dimitropoulos, P., Elnahass, M., & Leventis, S. (2016). Earnings management behaviors under different monitoring mechanisms: The case of Islamic and conventional banks. *Journal of Economic Behavior & Organization*, *132*, 155–173. https://doi.org/10.1016/j.jebo.2016.04.022

Abdullah, H., Bujang, I., & Ahmad, I. (2013). Loan Loss Provisions and Earnings Management in Malaysian Banking Industry. *Global Journal of Business and Social Science Review*, *1*(1), 93–104.

Ab-Hamid, M. F., Asid, R., Che Sulaiman, N. F., Wan Sulaiman, W. F., & Abdul Bahri, E. N. (2018). The effect of earnings management on bank efficiency. *Asian Journal of Accounting and Governance*, *10*, 73–82. https://doi.org/10.17576/AJAG-2018-10-07

Abu-Serdaneh, J. (2018). Bank loan-loss accounts, income smoothing, capital management, signaling and procyclicality: Evidence from Jordan. *Journal of Financial Reporting and Accounting*, *16*(4), 677–693. https://doi.org/10.1108/JFRA-06-2016-0041

Abuzayed, B., Al-Fayoumi, N., & Molyneux, P. (2018). Diversification and bank stability in the GCC. *Journal of International Financial Markets, Institutions and Money*, *57*, 17–43. https://doi.org/10.1016/j.intfin.2018.04.005

Acar, M., & Ipci, M. O. (2015). Loan Loss Provisions and Income-Smoothing Hypothesis: Experience from Turkish Banking Sector. *Journal of Accounting, Finance and Economics*, *5*(1), 118–135.

Ahmed, A. S., Neel, M., & Wang, D. (2013). Does Mandatory Adoption of IFRS Improve Accounting Quality? Preliminary Evidence. *Contemporary Accounting Research*, *30*(4), 1344–1372. https://doi.org/10.1111/j.1911-3846.2012.01193.

Ahmed, A. S., Takeda, C., & Thomas, S. (1999). Bank loan loss provisions: A reexamination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics*, *28*(1), 1–25. https://doi.org/10.1016/S0165-4101(99)00017-8

Ahn, S., & Choi, W. (2009). The role of bank monitoring in corporate governance: Evidence from borrowers' earnings management behavior. *Journal of Banking & Finance*, *33*(2), 425–434. https://doi.org/10.1016/j.jbankfin.2008.08.013

Akerlof, G. A. (1970). The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics*, *84*(3), 488–500. https://doi.org/10.2307/1879431

Alexander, D., Britton, A., & Jorissen, A. (2007). *International financial reporting and analysis* (3rd ed). Thomson Learning.

Alimi, R. S. (2015). Financial deepening and economic growth: A System GMM Panel Analysis with application to 7 SSA countries. *Munich Personal RePEc Archive*, 1–11. https://mpra.ub.uni-muenchen.de/65789/

Allen, F., Carletti, E., & Gu, X. (2014). The Roles of Banks in Financial Systems. In A. N. Berger, P. Molyneux, & J. O. S. Wilson (Eds.), *The Oxford Handbook of Banking* (p. 0). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199688500.013.0002

Allen, F., & Santomero, A. M. (2001). What do financial intermediaries do? *Journal of Banking & Finance*, *25*(2), 271–294. https://doi.org/10.1016/S0378-4266(99)00129-6

Alsharairi, M., & Salama, A. (2012). *Does High Leverage Impact Earnings Management? Evidence from Non-Cash Mergers and Acquisitions* (SSRN Scholarly Paper 2172062). https://papers.ssrn.com/abstract=2172062

Alves Dantas, J., Ribeiro de Medeiros, O., Caio Galdi, F., & Moraes da Costa, F. (2013). Securities-Based Earnings Management in Banks: Validation of a Two-Stage Model. *Revista Contabilidade & Finanças - USP*, *24*(61), 37–54.

American Accounting Association. (1966). *A statement of basic accounting theory*. American Accounting Association.

Amidu, M., & Kuipo, R. (2015). Earnings management, funding and diversification strategies of banks in Africa. *Accounting Research Journal*, *28*(2), 172–194. https://doi.org/10.1108/ARJ-07-2013-0045

Anandarajan, A., Hasan, I., & Lozano-Vivas, A. (2003). The Role of Loan Loss Provisions in Earnings Management, Capital Management, and Signaling: The Spanish Experience. *Advances in International Accounting*, *16*, 45–65. https://doi.org/10.1016/S0897-3660(03)16003-5

Anandarajan, A., Hasan, I., & McCarthy, C. (2007). Use of loan loss provisions for capital, earnings management and signalling by Australian banks. *Accounting & Finance*, *47*(3), 357–379. https://doi.org/10.1111/j.1467-629X.2007.00220.x

Arya, A., Sunder, S., & Glover, J. (2003). Are Unmanaged Earnings Always Better for Shareholders? *Yale School of Management Working Papers*, Article ysm295. https://ideas.repec.org//p/ysm/somwrk/ysm295.html

Assenso-Okofo, O., Jahangir Ali, M., & Ahmed, K. (2021). The impact of corporate governance on the relationship between earnings management and CEO compensation. *Journal of Applied Accounting Research*, *22*(3), 436–464. https://doi.org/10.1108/JAAR-11-2019-0158

Azad, A., Salehi, M., & Lari Dashtbayaz, M. (2023). The materiality of identified misstatements by auditors and earnings management. *Management Research Review*, *46*(10), 1405–1426. https://doi.org/10.1108/MRR-01-2022-0073

Azira, Adzis, A., Anuar, H., Shahieda, N., & Hishamuddin, M. (2015). Malaysian Commercial Banks: Do Income Smoothing, Capital Management, Signaling, and Pro-Cyclicality Exist Through Loan Loss Provisions? *International Journal of Economics, Finance and Management*, *4*(2), 68–76.

Ball, R., & Brown, P. (1968). An Empirical Evaluation of Accounting Income Numbers. *Journal of Accounting Research*, *6*(2), 159–178. https://doi.org/10.2307/2490232

Ball, R., Kothari, S. P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics*, *29*(1), 1–51. https://doi.org/10.1016/S0165-4101(00)00012-4

Ball, R., Robin, A., & Wu, J. S. (2003). Incentives versus standards: Properties of accounting income in four East Asian countries. *Journal of Accounting and Economics*, *36*(1), 235–270. https://doi.org/10.1016/j.jacceco.2003.10.003

Bange, M. M., & De Bondt, W. F. M. (1998). R&D budgets and corporate earnings targets. *Journal of Corporate Finance*, *4*(2), 153–184. https://doi.org/10.1016/S0929-1199(98)00006-6

Beatty, A., & Harris, D. G. (1999). The Effects of Taxes, Agency Costs and Information Asymmetry on Earnings Management: A Comparison of Public and Private Firms. *Review of Accounting Studies*, *4*(3), 299–326. https://doi.org/10.1023/A:1009642403312

Beatty, A. L., Ke, B., & Petroni, K. R. (2002). Earnings Management to Avoid Earnings Declines across Publicly and Privately Held Banks. *The Accounting Review*, *77*(3), 547–570.

Becker, C. L., Defond, M. L., Jiambalvo, J., & Subramanyam, K. r. (1998). The Effect of Audit Quality on Earnings Management*. *Contemporary Accounting Research*, *15*(1), 1–24. https://doi.org/10.1111/j.1911-3846.1998.tb00547.x

Beneish, M. D. (1999). The Detection of Earnings Manipulation. *Financial Analysts Journal*, *55*(5), 24–36. https://doi.org/10.2469/faj.v55.n5.2296

Bhattacharya, N., Desai, H., & Venkataraman, K. (2008). *Earnings Quality and Information Asymmetry: Evidence from Trading Costs* (SSRN Scholarly Paper 1266351). https://doi.org/10.2139/ssrn.1266351

Biswas, S., Bhattacharya, M., Sadarangani, P., & Jin, J. (2022). Corporate governance and earnings management in banks: An empirical evidence from India. *Cogent Economics & Finance*, *10*. https://doi.org/10.1080/23322039.2022.2085266

Bodie, Z., Kane, A., & Marcus, A. (2014). *EBOOK: Investments - Global edition*. McGraw Hill.

Bodle, K. A., Cybinski, P. J., & Monem, R. (2016). Effect of IFRS adoption on financial reporting quality. *Accounting Research Journal*, *29*(3), 292–312. https://doi.org/10.1108/ARJ-03-2014-0029

Bouvatier, V., & Lepetit, L. (2008). Banks' procyclical behavior: Does provisioning matter? *Journal of International Financial Markets, Institutions and Money*, *18*(5), 513–526. https://doi.org/10.1016/j.intfin.2007.07.004

Brian Lee, B., & Vetter, W. (2015). Critical Evaluation of Accrual Models in Earnings Management Studies. *Journal of Accounting & Finance (2158-3625)*, *15*(1), 62–71.

Burgstahler, D., & Dichev, I. (1997). Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics*, *24*(1), 99–126. https://doi.org/10.1016/S0165-4101(97)00017-7

Burgstahler, D., Hail, L., & Leuz, C. (2006). The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review*, *81*(5), 983–1016.

Bushman, R. M., & Williams, C. D. (2012). *Accounting Discretion, Loan Loss Provisioning and Discipline of Banks' Risk-Taking* (SSRN Scholarly Paper 1521584). https://doi.org/10.2139/ssrn.1521584

Ceccobelli, G., & Giosi, A. (2019). *Earnings management practices in the banking industry: The role of bank regulation and supervision* (p. 214). https://doi.org/10.22495/cpr19p10

Chaity, N. S., & Islam, K. M. Z. (2021). Bank efficiency and practice of earnings management: A study on listed commercial banks of Bangladesh. *Asian Journal of Accounting Research*, *7*(2), 114–128. https://doi.org/10.1108/AJAR-09-2020-0080

Chen, A.-S., Cheng, L.-Y., Cheng, K.-F., & Chih, S.-W. (2010). Earnings management, market discounts and the performance of private equity placements. *Journal of Banking & Finance*, *34*(8), 1922–1932. https://doi.org/10.1016/j.jbankfin.2009.12.013

Cheng, Q., Warfield, T., & Ye, M. (2011). Equity Incentives and Earnings Management: Evidence from the Banking Industry. *Journal of Accounting, Auditing & Finance*, *26*(2), 317–349. https://doi.org/10.1177/0148558X11401219

Chevalier, J. A. (1995). Do LBO Supermarkets Charge More? An Empirical Analysis of the Effects of LBOs on Supermarket Pricing. *The Journal of Finance*, *50*(4), 1095–1112. https://doi.org/10.2307/2329345

Cho, H., Choi, S., & Kwon, D.-H. (2021). Employee tenure and earnings management through real activities manipulation. *Asia-Pacific Journal of Accounting & Economics*, *28*(3), 387–410. https://doi.org/10.1080/16081625.2019.1694953

Choi, A., Lee, E. Y., Park, S., & Sohn, B. C. (2022). The differential effect of accrual-based and real earnings management on audit fees: International evidence. *Accounting and Business Research*, *52*(3), 254–290. https://doi.org/10.1080/00014788.2021.1911779

Chowdhury, S. N., & Eliwa, Y. (2021). The impact of audit quality on real earnings management in the UK context. *International Journal of Accounting & Information Management*, *29*(3), 368–391. https://doi.org/10.1108/IJAIM-10-2020-0156

Cohen, L. J., Cornett, M. M., Marcus, A. J., & Tehranian, H. (2014). Bank Earnings Management and Tail Risk during the Financial Crisis. *Journal of Money, Credit, and Banking*, *46*(1). https://doi.org/10.2139/ssrn.2064928

Core, J. E., Holthausen, R. W., & Larcker, D. F. (1999). Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics*, *51*(3), 371–406. https://doi.org/10.1016/S0304-405X(98)00058-0

Cormier, D., Ledoux, M., Magnan, M., & Aerts, W. (2010). Corporate governance and information asymmetry between managers and investors. *Corporate Governance: The International Journal of Business in Society*, *10*(5), 574–589. https://doi.org/10.1108/14720701011085553

Cornett, M. M., McNutt, J. J., & Tehranian, H. (2009). Corporate governance and earnings management at large U.S. bank holding companies. *Journal of Corporate Finance*, *15*(4), 412–430. https://doi.org/10.1016/j.jcorpfin.2009.04.003

Curcio, D., & Hasan, I. (2015). Earnings and capital management and signaling: The use of loan-loss provisions by European banks. *The European Journal of Finance*, *21*(1), 26–50. https://doi.org/10.1080/1351847X.2012.762408

Dai, Y., Kong, D., & Wang, L. (2013). Information asymmetry, mutual funds and earnings management: Evidence from China. *China Journal of Accounting Research*, *6*(3), 187–209. https://doi.org/10.1016/j.cjar.2013.03.001

Dart, E., & Chandler, R. (2013). Client employment of previous auditors: Shareholders' views on auditor independence. *Accounting and Business Research*, *43*(3), 205–224. https://doi.org/10.1080/00014788.2012.707968

De George, E. T., Li, X., & Shivakumar, L. (2016). A review of the IFRS adoption literature. *Review of Accounting Studies*, *21*(3), 898–1004. https://doi.org/10.1007/s11142-016-9363-1

de Haan, J., & Vlahu, R. (2016). Corporate Governance of Banks: A Survey. *Journal of Economic Surveys*, *30*(2), 228–277. https://doi.org/10.1111/joes.12101

DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, *3*(3), 183–199. https://doi.org/10.1016/0165-4101(81)90002-1

Dechow, P. M. (1994). Accounting earnings and cash flows as measures of firm performance. *Journal of Accounting and Economics*, *18*(1), 3.

Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R. G. (2012). Detecting Earnings Management: A New Approach. *Journal of Accounting Research*, *50*(2), 275–334. https://doi.org/10.1111/j.1475-679X.2012.00449.x

Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, *70*(2), 193–225.

DeFond, M. L., & Jiambalvo, J. (1994). Debt covenant violation and manipulation of accruals. *Journal of Accounting and Economics*, *17*(1), 145–176. https://doi.org/10.1016/0165-4101(94)90008-6

Dhaliwal, D., Naiker, V., & Navissi, F. (2010). The Association Between Accruals Quality and the Characteristics of Accounting Experts and Mix of Expertise on Audit Committees. *Contemporary Accounting Research*, *27*(3), 787–827. https://doi.org/10.1111/j.1911-3846.2010.01027.x

Diamond, D. W., & Dybvig, P. H. (1983). Bank Runs, Deposit Insurance, and Liquidity. *Journal of Political Economy*, *91*(3), 401–419.

Dowdell, T. D., & Krishnan, J. (2004). CAP Forum on Enron: Former Audit Firm Personnel as CFOs: Effect on Earnings Management. *Canadian Accounting Perspectives*, *3*(1), 117–142. https://doi.org/10.1506/6RDR-AXNP-RH7A-U5J8

Dutzi, A., & Rausch, B. (2016). Earnings Management before Bankruptcy: A Review of the Literature. *Journal of Accounting and Auditing: Research & Practice*, 1–21. https://doi.org/10.5171/2016.245891

Dye, R. A. (1988). Earnings Management in an Overlapping Generations Model. *Journal of Accounting Research*, *26*(2), 195–235. https://doi.org/10.2307/2491102

Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review*, *14*(1), 57–74. https://doi.org/10.2307/258191

El Guindy, M. N., & Basuony, M. A. K. (2018). Audit Firm Tenure and Earnings Management: The Impact of Changing Accounting Standards in UK Firms. *The Journal of Developing Areas*, *52*(4), 167–181.

Elbadry, A., Gounopoulos, D., & Skinner, F. (2015). Governance Quality and Information Asymmetry. *Financial Markets, Institutions & Instruments*, *24*(2–3), 127–157. https://doi.org/10.1111/fmii.12026

Elleuch Hamza, S., & Bannouri, S. (2015). The detection of real earnings management in MENA countries: The case of Tunisia. *Afro-Asian Journal of Finance and Accounting*, *5*, 135. https://doi.org/10.1504/AAJFA.2015.069889

Elnahass, M., Izzeldin, M., & Abdelsalam, O. (2014). Loan loss provisions, bank valuations and discretion: A comparative study between conventional and Islamic banks. *Journal of Economic Behavior & Organization*, *103*, S160–S173. https://doi.org/10.1016/j.jebo.2013.08.018

Ernstberger, J., Stich, M., & Vogler, O. (2012). Economic Consequences of Accounting Enforcement Reforms: The Case of Germany. *European Accounting Review*, *21*(2), 217–251. https://doi.org/10.1080/09638180.2011.628096

Ewert, R., & Wagenhofer, A. (2013). *Accounting Standards, Earnings Management, and Earnings Quality* (SSRN Scholarly Paper 2068134). https://doi.org/10.2139/ssrn.2068134

Ewert, R., & Wagenhofer, A. (2015). Economic Relations Among Earnings Quality Measures. *Abacus*, *51*(3), 311–355. https://doi.org/10.1111/abac.12054

Ewert, R., & Wagenhofer, A. (2019). Effects of Increasing Enforcement on Financial Reporting Quality and Audit Quality. *Journal of Accounting Research*, *57*(1), 121–168. https://doi.org/10.1111/1475-679X.12251

Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *Journal of Political Economy*, *88*(2), 288–307.

Ferentinou, A. C., & Anagnostopoulou, S. C. (2016). Accrual-based and real earnings management before and after IFRS adoption: The case of Greece. *Journal of Applied Accounting Research*, *17*(1), 2–23. https://doi.org/10.1108/JAAR-01-2014-0009

Filip, A., & Raffournier, B. (2014). Financial Crisis and Earnings Management: The European Evidence. *The International Journal of Accounting*, *49*(4), 455–478. https://doi.org/10.1016/j.intacc.2014.10.004

Fonseca, A. R., & González, F. (2008). Cross-country determinants of bank income smoothing by managing loan-loss provisions. *Journal of Banking & Finance*, *32*(2), 217–228. https://doi.org/10.1016/j.jbankfin.2007.02.012

Francis, J., LaFond, R., Olsson, P., & Schipper, K. (2005). The market pricing of accruals quality. *Journal of Accounting and Economics*, *39*(2), 295–327. https://doi.org/10.1016/j.jacceco.2004.06.003

Francis, J. R., & Krishnan, J. (1999). Accounting Accruals and Auditor Reporting Conservatism. *Contemporary Accounting Research*, *16*(1), 135–165. https://doi.org/10.1111/j.1911-3846.1999.tb00577.

Frankel, R. M., Johnson, M. F., & Nelson, K. K. (2002). The Relation between Auditors' Fees for Nonaudit Services and Earnings Management. *The Accounting Review*, *77*, 71–105.

Franz, D. R., HassabElnaby, H. R., & Lobo, G. J. (2014). Impact of proximity to debt covenant violation on earnings management. *Review of Accounting Studies*, *19*(1), 473–505. https://doi.org/10.1007/s11142-013-9252-9

Garrison, R. H., Noreen, E. W., & Brewer, P. C. (2010). *Managerial accounting* (13. ed). McGraw-Hill/Irwin.

Garšva, G., & Rudzioniene, K. (2012). Earnings Management in European Banks: The Financial Crisis and Increased Incentives for Manipulation through Loan Loss Provisions. *Transformations in Business & Economics*, *11*(2A (26A)), 504–526.

Gebhardt, G., & Novotny-Farkas, Z. (2011). Mandatory IFRS Adoption and Accounting Quality of European Banks. *Journal of Business Finance & Accounting*, *38*(3–4), 289–333. https://doi.org/10.1111/j.1468-5957.2011.02242.

Ghosh, S. (2007). Loan Loss Provisions, Earnings, Capital Management and Signalling: Evidence from Indian Banks1. *Global Economic Review*, *36*(2), 121–136. https://doi.org/10.1080/12265080701374040

Goel, S. (2012). Demystifying Earnings Management through Accruals Management: An Indian Corporate Study. *Vikalpa*, *37*(1), 49–56. https://doi.org/10.1177/0256090920120104

Greenawalt, M. B., & Sinkey, J. F. (1988). Bank loan-loss provisions and the income-smoothing hypothesis: An empirical analysis, 1976–1984. *Journal of Financial Services Research*, *1*(4), 301–318. https://doi.org/10.1007/BF00235201

Gul, F. A., Fung, S. Y. K., & Jaggi, B. (2009). Earnings quality: Some evidence on the role of auditor tenure and auditors' industry expertise. *Journal of Accounting and Economics*, *47*(3), 265–287. https://doi.org/10.1016/j.jacceco.2009.03.001

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. https://doi.org/10.1111/j.1911-3846.2010.01029.

Hail, L., Leuz, C., & Wysocki, P. (2010). Global Accounting Convergence and the Potential Adoption of IFRS by the U.S. (Part I): Conceptual Underpinnings and Economic Analysis. *Accounting Horizons*, *24*(3), 355–394. https://doi.org/10.2308/acch.2010.24.3.355

Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, *7*(1), 85–107. https://doi.org/10.1016/0165-4101(85)90029-1

Healy, P. M., & Wahlen, J. M. (1998). *A Review of the Earnings Management Literature and its Implications for Standard Setting* (SSRN Scholarly Paper 156445). https://doi.org/10.2139/ssrn.156445

Herrmann, D., Inoue, T., & Thomas, W. B. (2003). The Sale of Assets to Manage Earnings in Japan. *Journal of Accounting Research*, *41*(1), 89–108. https://doi.org/10.1111/1475-679X.00097

Herzberg, F. (1968). One More Time: How do You Motivate Employees? *Harvard Business Review*, *81*(1), 87–96. https://doi.org/10.1007/978-1-349-02701-9_2

Hitz, J.-M., Ernstberger, J., & Stich, M. (2012). Enforcement of Accounting Standards in Europe: Capital-Market-Based Evidence for the Two-Tier Mechanism in Germany. *European Accounting Review*, *21*(2), 253–281. https://doi.org/10.1080/09638180.2011.641727

Horngren, C., Harrison, W., Oliver, S., Best, P., Fraser, D., & Tan, R. (2012). *Financial Accounting*. Pearson Higher Education AU.

Hsu, A. W.-H., & Liao, C.-H. (2023). Auditor industry specialization and real earnings management. *Review of Quantitative Finance and Accounting*, *60*(2), 607–641. https://doi.org/10.1007/s11156-022-01106-3

Huber, Wm. D., & DiGabriele, J. A. (2021). Corporate governance and disclosure: Purpose, scope, and limitations. *International Journal of Disclosure and Governance*, *18*(2), 153–160. https://doi.org/10.1057/s41310-021-00103-7

Hunton, J. E., Libby, R., & Mazza, C. L. (2006). Financial Reporting Transparency and Earnings Management. *The Accounting Review*, *81*(1), 135–157.

Ibrahim, S., & Lloyd, C. (2011). The association between non-financial performance measures in executive compensation contracts and earnings management. *Journal of Accounting and Public Policy*, *30*(3), 256–274. https://doi.org/10.1016/j.jaccpubpol.2010.10.003

International Accounting Standards Board. (2010). *Conceptual Framework for Financial Reporting*.

International Auditing and Assurance Standards Board. (2006, November 30). *Basis for Conclusions: ISA 240, The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements | IAASB*. https://www.iaasb.org/publications/basis-conclusions-isa-240-auditors-responsibilities-relating-fraud-audit-financial-statements

Ittonen, K., Tronnes, P., & Vähämaa, S. (2020). Do Former Auditors on the Audit Committee Constrain Earnings Management? Evidence from the Banking Industry. *SSRN*. https://doi.org/10.2139/ssrn.2753710

Jackson, S. B., & Wilcox, W. E. (2000). Do Managers Grant Sales Price Reductions to Avoid Losses and Declines in Earnings and Sales? *Quarterly Journal of Business and Economics*, *39*(4), 3–20.

Jahmani, Y., & Niranjan, S. (2015). Earnings Management, Weak Internal Controls, and Firm Size. *Accounting and Taxation*, *7*(2), 51–64.

Jamal, K., & Tan, H.-T. (2010). Joint Effects of Principles-Based versus Rules-Based Standards and Auditor Type in Constraining Financial Managers' Aggressive. *The Accounting Review*, *85*(4), 1325–1346.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Jo, H., & Kim, Y. (2007). Disclosure frequency and earnings management. *Journal of Financial Economics*, *84*(2), 561–590. https://doi.org/10.1016/j.jfineco.2006.03.007

Johnson, E., Khurana, I. K., & Reynolds, J. K. (2002). Audit-Firm Tenure and the Quality of Financial Reports. *Contemporary Accounting Research*, *19*(4), 637–660. https://doi.org/10.1506/LLTH-JXQV-8CEW-8MXD

Jones, J. J. (1991). Earnings Management during Import Relief Investigations. *Journal of Accounting Research*, *29*(2), 193–228. https://doi.org/10.2307/2491047

Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, *47*(2), 263–291. https://doi.org/10.2307/1914185

Kamal, M., Md Salleh, M. F., & Ahmad, A. (2016). Detecting Financial Statement Fraud by Malaysian Public Listed Companies: The Reliability of the Beneish M-Score Model. *Jurnal Pengurusan*, *46*. https://doi.org/10.17576/pengurusan-2016-46-03

Kanagaretnam, K., Lobo, G. J., & Mathieu, R. (2003). Managerial Incentives for Income Smoothing Through Bank Loan Loss Provisions. *Review of Quantitative Finance and Accounting*, *20*(1), 63–80. https://doi.org/10.1023/A:1022187622780

Kanagaretnam, K., Lobo, G. J., & Mathieu, R. (2004). Earnings Management to Reduce Earnings Variability: Evidence from Bank Loan Loss Provisions. *Review of Accounting & Finance*, *3*(1), 128–148. https://doi.org/10.1108/eb043399

Kaur, R., Khanna, A., & Professor, A. (2014). Detecting Earnings Management in India: A sector-wise study. *European Journal of Business and Management*, *6*, 11–18.

Kim, M.-S., & Kross, W. (1998). The impact of the 1989 change in bank capital standards on loan loss provisions and loan write-offs. *Journal of Accounting and Economics*, *25*(1), 69–99. https://doi.org/10.1016/S0165-4101(98)00015-9

Kim, Y., Liu, C., & Rhee, S. G. (2003). The Effect of Firm Size on Earnings Management. *Journal of Management Research*.

Kini, O., Kracaw, W., & Mian, S. (2004). The Nature of Discipline by Corporate Takeovers. *The Journal of Finance*, *59*(4), 1511–1552. https://doi.org/10.1111/j.1540-6261.2004.00671.

Klein, A. (2002). Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics*, *33*(3), 375–400. https://doi.org/10.1016/S0165-4101(02)00059-9

Kothari, S. P. (2000). The role of financial reporting in reducing financial risks in the market. *Conference Series-Federal Reserve Bank of Boston*, *44*, 89–102. https://www.academia.edu/download/30262220/cf44_6.pdf

Krishnan, L. (2009). The Role of Auditors in the Banking Sector | Journal of Malaysian and Comparative Law. *Journal of Malaysian and Comparative Law*, *36*, 99–116.

Kwak, W., Lee, H.-Y., & Eldridge, S. (2009). Earnings Management by Japanese Bank Managers Using Discretionary Loan Loss Provisions. *Review of Pacific Basin Financial Markets and Policies (RPBFMP)*, *12*, 1–26. https://doi.org/10.1142/S0219091509001526

Lassoued, N., Ben, R. A. M., & Sassi, H. (2017). Earnings management and ownership structure in emerging market: Evidence from banking industry. *Managerial Finance*, *43*(10), 1117–1136. https://doi.org/10.1108/MF-11-2015-0312

Lennox, C. (2005). Audit quality and executive officers' affiliations with CPA firms. *Journal of Accounting and Economics*, *39*(2), 201–231. https://doi.org/10.1016/j.jacceco.2003.12.002

Lennox, C. S., & Park, C. W. (2007). Audit Firm Appointments, Audit Firm Alumni, and Audit Committee Independence. *Contemporary Accounting Research*, *24*(1), 235–258. https://doi.org/10.1506/F024-686L-7233-N62J

Leuz, C., Nanda, D., & Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, *69*(3), 505–527. https://doi.org/10.1016/S0304-405X(03)00121-1

Leventis, S., & Dimitropoulos, P. (2012). The role of corporate governance in earnings management: Experience from US banks. *Journal of Applied Accounting Research*, *13*(2), 161–177. https://doi.org/10.1108/09675421211254858

Li, W., Bruner, R. F., Conroy, R. M., & Hoyer-Ellefsen, R. (2017). *Characteristics of Emerging Economies* (SSRN Scholarly Paper 2974421). https://doi.org/10.2139/ssrn.2974421

Li, Y., Nie, W., Xiang, E., & Djajadikerta, H. G. (2018). Can banks identify firms' real earnings management? Evidence from China. *Finance Research Letters*, *25*, 23–29. https://doi.org/10.1016/j.frl.2017.10.005

Lu, T., & Sapra, H. (2009). Auditor Conservatism and Investment Efficiency. *The Accounting Review*, *84*(6), 1933–1958.

Ma, C. K. (1988). Loan Loss Reserves and Income Smoothing: The Experience In the U.S. Banking Industry. *Journal of Business Finance & Accounting*, *15*(4), 487–497. https://doi.org/10.1111/j.1468-5957.1988.tb00150.x

Mangala, D., & Singla, N. (2021). Earnings Management in Banking Industry: A Systematic Review of Literature. *SCMS Journal of Indian Management*, *18*(1), 87–106.

Mantone, P. (2013). *Using Analytics to Detect Possible Fraud: Tools and Techniques*. John Wiley and Sons. https://learning.oreilly.com/library/view/using-analytics-to/9781118715987/chapter04.html

Martens, W., Yapa, P., Safari, M., & Watts, S. (2021). The influence of earnings management on bank efficiency: The case of frontier markets. *Heliyon*, *7*(10), e08232. https://doi.org/10.1016/j.heliyon.2021.e08232

McNichols, M. F. (2000). Research design issues in earnings management studies. *Journal of Accounting and Public Policy*, *19*(4), 313–345. https://doi.org/10.1016/S0278-4254(00)00018-1

McNichols, M. F., & Wilson, G. P. (1988). Evidence of Earnings Management from the Provision for Bad Debts. *Journal of Accounting Research*, *26*, 1–31. https://doi.org/10.2307/2491176

Menon, K., & Williams, D. D. (2004). Former Audit Partners and Abnormal Accruals. *The Accounting Review*, *79*(4), 1095–1118.

Mensah, E. (2020). The effect of IFRS adoption on financial reporting quality: Evidence from listed manufacturing firms in Ghana. *Economic Research-Ekonomska Istraživanja*, *34*. https://doi.org/10.1080/1331677X.2020.1860109

Mensah, E., & Boachie, C. (2023). Corporate governance mechanisms and earnings management: The moderating role of female directors. *Cogent Business & Management*, *10*(1), 2167290. https://doi.org/10.1080/23311975.2023.2167290

Mitnick, B. M. (1975). The Theory of Agency: A Framework. *Cambridge University Press*. https://doi.org/10.2139/ssrn.1021642

Moyer, S. E. (1990). Capital adequacy ratio regulations and accounting choices in commercial banks. *Journal of Accounting and Economics*, *13*(2), 123–154. https://doi.org/10.1016/0165-4101(90)90027-2

Nelson, M. W., Elliott, J. A., & Tarpley, R. L. (2002). *How are Earnings Managed? Examples from Auditors* (SSRN Scholarly Paper 301518). https://doi.org/10.2139/ssrn.301518

Nobes, C. (2013). The continued survival of international differences under IFRS. *Accounting and Business Research*, *43*(2), 83–111. https://doi.org/10.1080/00014788.2013.770644

Normanton, E. L. (1966). *The Accountability and Audit of Governments: A Comparative Study*. Manchester University Press.

Nyakarimi, S. (2022). Probable earning manipulation and fraud in banking sector. Empirical study from East Africa. *Cogent Economics & Finance*, *10*(1), 2083477. https://doi.org/10.1080/23322039.2022.2083477

Okpala, K. E. (2012). Adoption of IFRS and Financial Statements Effects: The Perceived Implications on FDI and Nigeria Economy. *Australian Journal of Business and Management Research*, *02*(05), 76–83. https://doi.org/10.52283/NSWRCA.AJBMR.20120205A10

Omar, N., Koya, R. K., Sanusi, Z. M., & Shafie, N. A. (2014). Financial Statement Fraud: A Case Examination Using Beneish Model and Ratio Analysis. *International Journal of Trade, Economics and Finance*, *5*(2), 184–186. https://doi.org/10.7763/IJTEF.2014.V5.367

Ozili, P. K. (2015). Loan Loss Provisioning, Income Smoothing, Signaling, Capital Management and Procyclicality: Does IFRS Matter? Empirical Evidence from Nigeria. *Mediterranean Journal of Social Sciences*, *6*(2), 224–232. https://doi.org/10.2139/ssrn.2541076

Ozili, P. K. (2021). *Big 4 Auditors, Bank Earnings Management and Financial Crisis in Africa* (SSRN Scholarly Paper 3879864). https://papers.ssrn.com/abstract=3879864

Ozili, P. K., & Outa, E. R. (2018). Bank income smoothing in South Africa: Role of ownership, IFRS and economic fluctuation. *International Journal of Emerging Markets*, *13*(5), 1372–1394. https://doi.org/10.1108/IJoEM-09-2017-0342

Packer, F., & Zhu, H. (2012). *Loan Loss Provisioning Practices of Asian Banks* (SSRN Scholarly Paper 2038215). https://doi.org/10.2139/ssrn.2038215

Palea, V. (2013). IAS/IFRS and financial reporting quality: Lessons from the European experience. *China Journal of Accounting Research*, *6*(4), Article 4. https://doi.org/10.1016/j.cjar.2013.08.003

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of Theory and Evidence on Problems and Perspectives. *Indian Journal of Corporate Governance*, *10*(1), 74–95. https://doi.org/10.1177/0974686217701467

Pawsey, N. L. (2017). IFRS adoption: A costly change that keeps on costing. *Accounting Forum*, *41*(2), 116–131. https://doi.org/10.1016/j.accfor.2017.02.002

Pérez, D., Salas-Fumás, V., & Saurina, J. (2008). Earnings and Capital Management in Alternative Loan Loss Provision Regulatory Regimes. *European Accounting Review*, *17*(3), 423–445. https://doi.org/10.1080/09638180802016742

Press, E. G., & Weintrop, J. B. (1990). Accounting-based constraints in public and private debt agreements: Their association with leverage and impact on accounting choice. *Journal of Accounting and Economics*, *12*(1), 65–95. https://doi.org/10.1016/0165-4101(90)90042-3

Proença, C., Augusto, M., & Murteira, J. (2023). The effect of earnings management on bank efficiency: Evidence from ECB-supervised banks. *Finance Research Letters*, *51*, 103450. https://doi.org/10.1016/j.frl.2022.103450

Rath, S., & Sun, L. (2008). Do Australian Firms Engage in Earnings Management? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1009121

Richardson, V. J. (2000). Information Asymmetry and Earnings Management: Some Evidence. *Review of Quantitative Finance and Accounting*, *15*(4), 325–347.

Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. *The American Economic Review*, *63*(2), 134–139.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(3), 335–370. https://doi.org/10.1016/j.jacceco.2006.01.002

Sankar, M. R., & Subramanyam, K. R. (2001). Reporting Discretion and Private Information Communication through Earnings. *Journal of Accounting Research*, *39*(2), 365–386. https://doi.org/10.1111/1475-679X.00017

Schipper, K. (1989). Commentary on Earnings management. *Accounting Horizons*, *3*(4), 91.

Scholes, M. S., Wilson, G. P., & Wolfson, M. A. (1990). Tax Planning, Regulatory Capital Planning, and Financial Reporting Strategy for Commercial Banks. *The Review of Financial Studies*, *3*(4), 625–650. https://doi.org/10.1093/rfs/3.4.625

Setyoputri, L. S., & Mardijuwono, A. W. (2020). The impact of firm attributes on earnings management. *Polish Journal of Management Studies*, *22*(1), 502–512.

Shahzad, A. (2016). Detecting Earning Management and Earning Manipulation in BRIC Countries; a Panel Data Analysis for Post Global Financial Crisis Period. *International Journal of Accounting Research*, *4*. https://doi.org/10.4172/2472-114X.1000134

Sharma, V., Naiker, V., & Lee, B. (2009). Determinants of Audit Committee Meeting Frequency: Evidence from a Voluntary Governance System. *Accounting Horizons*, *23*(3), 245–263. https://doi.org/10.2308/acch.2009.23.3.245

Spence, M. (1973). Job Market Signaling. *The Quarterly Journal of Economics*, *87*(3), 355. https://doi.org/10.2307/1882010

Steyn, B., & Stainbank, L. (2013). Separation of ownership and control in South African-listed companies. *South African Journal of Economic and Management Sciences*, *16*, 316–345. https://doi.org/10.4102/sajems.v16i3.418

Stiglitz, J., & Weiss, A. (1990). *Sorting Out the Differences Between Signaling and Screening Models*. https://doi.org/10.3386/t0093

Sutton, M. H. (1997). Auditor independence: The challenge of fact and appearance. *Accounting Horizons*, *11*(1), 86–91.

Talab, H., Flayyih, H., & Mohammed, Y. (2018). *Book of proceedings: Third International Conference on: "Social and Natural Sciences—Global Challenge 2018" (ICSNS III-2018)*.

Trueman, B., & Titman, S. (1988). An Explanation for Accounting Income Smoothing. *Journal of Accounting Research*, *26*, 127–139. https://doi.org/10.2307/2491184

Tseng, L.-J., & Lai, C.-W. (2007). The Relationship between Income Smoothing and Company Profitability: An Empirical Study. *International Journal of Management*, *24*(4), 727-733,823.

Ujah, N. U., Brusa, J., & Okafor, C. E. (2017). The influence of earnings management and bank structure on bank performance: International evidence. *Managerial Finance*, *43*(7), 761–773. https://doi.org/10.1108/MF-12-2015-0329

Uygur, O. (2013). Earnings Management and Executive Compensation: Evidence from Banking Industry. *Banking and Finance Review*, *5*, 33–54.

Vokshi, B. N., & Krasniqi, X. F. (2017). Role of Accounting Information in Decision-Making Process, the Importance for its Users. *ENTRENOVA - ENTerprise REsearch InNOVAtion*, *3*(1), Article 1.

Wahlen, J. M. (1994). The Nature of Information in Commercial Bank Loan Loss Disclosures. *The Accounting Review*, *69*(3), 455–478.

Wang, H.-D., & Lin, C.-J. (2013). Debt Financing and Earnings Management: An Internal Capital Market Perspective. *Journal of Business Finance & Accounting*, *40*(7–8), 842–868. https://doi.org/10.1111/jbfa.12030

Warshavsky, M. (2012). Analyzing Earnings Quality as a Financial Forensics Tool. *Financial Valuation and Litigation Expert*, *39*, 6–20.

Wasiuzzaman, S. (2018). Industry characteristics and earnings management: A study of Malaysian industries. *International Journal of Emerging Markets*, *13*(5), 837–854. https://doi.org/10.1108/IJoEM-09-2017-0336

Watts, R. L., & Zimmerman, J. L. (1986). *Positive Accounting Theory* (SSRN Scholarly Paper 928677). https://papers.ssrn.com/abstract=928677

Windisch, D. (2021). Enforcement, Managerial Discretion, and the Informativeness of Accruals. *European Accounting Review*, *30*(4), 705–732. https://doi.org/10.1080/09638180.2020.1771393

Xie, B., Davidson, W. N., & DaDalt, P. J. (2003). Earnings management and corporate governance: The role of the board and the audit committee. *Journal of Corporate Finance*, *9*(3), 295–316. https://doi.org/10.1016/S0929-1199(02)00006-8

Xing, X., & Yan, S. (2019). Accounting information quality and systematic risk. *Review of Quantitative Finance and Accounting*, *52*. https://doi.org/10.1007/s11156-018-0703-z

Xu, R. Z., Taylor, G. K., & Dugan, M. T. (2007). Review of Real Earnings Management Literature. *Journal of Accounting Literature*, *26*, 195–228.

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.

Zoubi, T. A., & Al-Khazali, O. (2007). Empirical testing of the loss provisions of banks in the GCC region. *Managerial Finance*, *33*(7), 500–511. https://doi.org/10.1108/03074350710753771