

Earnings Management in the Banking Industry of Pakistan: Drivers and Implications

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ABSTRACT

This study examines the factors influencing earnings management in Pakistan's commercial banking sector over five years from 2020 to 2024. A sample of 19 commercial banks listed on the Pakistan Stock Exchange (PSX) was selected for analysis. Earnings management was measured using discretionary accruals as the dependent variable, while the independent variables included dividend policy, capital structure, firm size, and bank profitability. Panel data was extracted from the annual reports and financial statements of the selected banks and analysed using E-Views 12 statistical software. The study employed panel regression analysis based on the Hausman test, which confirmed the suitability of the fixed effects model. The results indicated that all selected variables had a statistically significant and positive impact on earnings management. Specifically, capital structure ($B = 0.250$, $p < 0.001$), bank profitability ($B = 0.250$, $p < 0.001$), firm size ($B = 0.241$, $p < 0.001$), and dividend policy ($B = 0.250$, $p < 0.001$) were identified as key determinants. These findings suggest that both internal financial strategies and structural characteristics have a significant influence on the earnings management behaviour of commercial banks in Pakistan. The study offers practical insights for bank management, regulators, and policymakers in strengthening governance mechanisms and promoting financial transparency in the banking sector.

Keywords: Earnings Management, Dividend Policy, Capital Structure

INTRODUCTION

Background of the study

The global economy is broadly categorized into two primary sectors: the manufacturing sector and the services sector. While the manufacturing sector is centred on the production of tangible goods, the services sector significantly

contributes to economic development by promoting trade, attracting investment, and ensuring financial stability. Within the services domain, financial services hold a particularly pivotal role, encompassing key functions such as banking, insurance, and asset management (Challoumis & Eriotis, 2024). Financial institutions serve as intermediaries between savers and borrowers, facilitating the optimal allocation of capital within an economy. Among these institutions, commercial banks hold a central position due to their critical role in supporting economic activity through credit creation, deposit mobilization, and investment facilitation (Odero & Fredrick, 2024). In the context of Pakistan, the commercial banking sector constitutes a foundational component of the financial system, operating under the dual regulatory framework of the State Bank of Pakistan (SBP) and the Securities and Exchange Commission of Pakistan (SECP).

Adherence to international frameworks, such as the International Financial Reporting Standards (IFRS) and Basel III accords, is intended to ensure financial discipline, transparency, and systemic resilience. Nevertheless, despite these regulatory safeguards, the practice of earnings management persists within the sector. Earnings management refers to the strategic manipulation of financial statements within legally permissible boundaries to present a more favourable financial outlook. Although this phenomenon is prevalent across various industries, it assumes heightened significance in the banking sector due to the implications for capital adequacy, risk exposure, and compliance under intense regulatory scrutiny. Such practices can undermine the credibility of financial disclosures, thereby affecting stakeholder confidence and informed financial decision-making (Mesioye et al., 2024).

Over the past decade, Pakistan's commercial banking industry has experienced considerable transformation, driven by technological innovation, regulatory modernization, and competitive dynamics. However, these developments have been accompanied by growing concerns regarding the integrity and reliability of financial reporting. Earnings management practices, when employed to obscure true performance, distort the actual financial health of institutions, mislead stakeholders, and weaken the integrity of financial markets. It is particularly consequential in emerging markets like Pakistan, where regulatory enforcement and investor protection frameworks are still in the process of maturing. Moreover, the country's volatile macroeconomic conditions, including persistent inflationary pressures, exchange rate fluctuations, and fiscal imbalances, create additional incentives for banks to manage earnings in order to maintain market confidence and comply with prudential standards. In such an environment, banking institutions may engage in discretionary accruals or adjust reporting practices to smooth profits, manage capital ratios, or meet external expectations.

Considering the critical role of commercial banks in Pakistan's economic development and financial intermediation, it becomes essential to investigate the determinants influencing earnings management in this sector. This study aims to analyse the impact of key internal bank-specific factors, namely, dividend policy, capital structure, firm size, profitability, and financial risk, on the extent of earnings management practices. Gaining empirical insights into these dynamics is crucial for enhancing transparency, improving governance mechanisms, and informing the development of effective regulatory policies within the banking industry, thereby

fostering investor confidence and informed financial decision-making (Mesioye et al., 2024).

Research Problem

Prevailing macroeconomic conditions significantly shape earnings management in the commercial banking sector. In Pakistan, banks operate within a volatile economic environment characterised by inconsistent GDP growth, persistent inflation, fiscal imbalances, elevated interest rates, and exchange rate volatility. These factors collectively present challenges in maintaining transparent and accurate financial reporting. During periods of economic contraction, such as 2020, when GDP growth declined to -0.9%, and 2023, with a contraction of -0.2%, banks often face profitability constraints. Such pressures may incentivise the use of earnings management strategies to smooth income, maintain regulatory compliance, and uphold investor confidence.

Moreover, high inflation rates, which surged to 29.4% in 2023, combined with escalating public debt (76.4% of GDP in 2023 and 88.6% in 2024), further intensify the need for banks to demonstrate financial stability. Record-high interest rates, maintained at 22% during 2023–2024, alongside significant currency depreciation (USD/PKR reaching 284.7 in 2024), have heightened financial risk exposure, thereby increasing the relevance and potential use of earnings management practices. While the phenomenon of earnings management has been widely explored in the context of developed economies, a substantial research gap remains concerning its prevalence and determinants within Pakistan's commercial banking sector, particularly in relation to macroeconomic factors. Previous studies have largely overlooked the impact of external economic variables, such as GDP growth trends, inflationary pressures, fiscal deficits, sovereign debt levels, interest rate dynamics, and currency devaluation, on earnings manipulation behaviour in financial institutions.

This study aims to fill that gap by analysing financial data from 19 commercial banks listed on the Pakistan Stock Exchange (PSX) over the period from 2020 to 2024. By examining the impact of key internal and external variables on earnings management, this study seeks to offer empirical insights into the dynamics that shape financial reporting behaviour in the banking industry. The findings are expected to support regulators, policymakers, and stakeholders in formulating more effective governance frameworks and promoting transparency and financial integrity in Pakistan's banking sector.

In light of the research gaps identified in existing literature, this study aims to make a meaningful contribution by narrowing the focus to the commercial banking sector of Pakistan and applying panel data econometrics to provide a more accurate and bank-specific analysis. While broader macroeconomic variables like inflation and exchange rate were not included as independent variables in this study, our focus on internal financial factors—dividend policy, capital structure, firm size, profitability, and financial risk—allows for a detailed understanding of earnings management within banks, serving as a valuable complement to systemic risk assessments. Additionally, although this study is context-specific to Pakistan and does not extend to the MENA region or globally, it provides a localised empirical foundation that can support future comparative studies. By using recent five-year data (2020–2024) from 19 listed

commercial banks and applying regression techniques with robust model selection procedures, this research responds to calls for deeper empirical testing and enhances the generalizability of findings in developing economies. Moreover, while country-level heterogeneity and additional control variables are recognised as important areas for future research, this study establishes a practical framework for analysing earnings management. It sets a direction for expanding research into other banking systems, including Islamic banks, in subsequent studies.

Scope of Study

This study examines earnings management in Pakistan's commercial banking sector, focusing on the influence of dividend policy, capital structure, firm size, bank profitability, and financial risk on financial reporting practices. It analyses commercial banks operating under the regulatory framework of the State Bank of Pakistan (SBP) to identify patterns and determinants of earnings management. The research employs a quantitative approach, utilising publicly available financial reports and statistical methods to assess the extent of earnings management. It excludes Islamic banks, non-banking financial institutions, and foreign banks operating in Pakistan, as their financial structures and regulatory requirements differ from those of commercial banks. This study aims to contribute to a deeper understanding of financial transparency, regulatory effectiveness, and the broader implications of earnings management in the banking sector.

Research Significance

The significance of this study lies in its contribution to the understanding of earnings management practices within Pakistan's commercial banking sector. By examining the impact of key financial variables, including dividend policy, capital structure, firm size, bank profitability, and financial risk, this research offers valuable insights that can benefit various stakeholders, including commercial banks, regulatory authorities, and academic researchers. For Commercial Banks, this study offers practical implications by highlighting how internal financial decisions and structural characteristics impact earnings management behaviour. A clear understanding of these relationships can help bank management promote financial transparency, improve internal control systems, and enhance regulatory compliance. Moreover, by recognising the conditions under which earnings management is more likely to occur, banks can adopt more effective risk management and corporate governance practices to maintain stakeholder trust and ensure long-term sustainability. For Policymakers and Regulators, the findings of this research are particularly relevant to financial regulators such as the State Bank of Pakistan (SBP), as they provide empirical evidence on the determinants of earnings management in the banking industry. This information can support the formulation and enhancement of financial regulations and supervisory frameworks aimed at minimising earnings manipulation. Strengthening monitoring mechanisms and improving the enforcement of accounting standards may contribute to more accurate financial reporting, increased investor confidence, and overall market stability. For Academic Researchers and Future Studies, this research contributes to the growing body of literature on earnings management, particularly within the context of developing economies such as Pakistan. While the current study

focuses on five core variables, it opens avenues for future research to explore additional determinants such as corporate governance structures, board composition, ownership concentration, audit quality, and macroeconomic factors. Comparative studies involving different types of financial institutions, such as Islamic versus conventional banks or banking versus non-banking financial institutions, can further enrich the understanding of earnings management practices across various financial landscapes.

Organization of the Study

The study outlines the background of earnings management in commercial banks, highlighting its significance. It presents the problem statement, research objectives, research questions, scope, and significance of the study. The literature review examines relevant theoretical frameworks and empirical studies on earnings management, with a focus on factors such as dividend policy, capital structure, firm size, bank profitability, and financial risk. It also discusses key financial regulations governing commercial banks in Pakistan. The research methodology details the research design, data collection methods, and analytical techniques used to examine earnings management. It explains the quantitative approach adopted, including data sources, sampling criteria, and statistical tools for analysis. The data analysis and findings section presents empirical results derived from financial reports of commercial banks, analysing the extent and patterns of earnings management. The findings are interpreted in relation to the study's objectives, supported by statistical evidence. The conclusion and recommendations summarise the key findings and discuss their implications for commercial banks, policymakers, and financial regulators. It provides recommendations for improving financial transparency and suggests directions for future research.

LITERATURE REVIEW

Theoretical Framework

The banking industry is crucial to Pakistan's economy, providing financial intermediation services to individuals and enterprises. The Financial Intermediary Theory (FIT) posits that banks serve as intermediaries between savers and investors, mobilizing savings and channelling them into investments (Leland & Pyle, 1977). This theory provides a framework for understanding the role of banks in the economy and their practices related to earnings management. According to the FIT, banks engage in earnings management to transform risk, mitigate information asymmetry, and maintain a stable financial position (Diamond, 1984). Earnings management is characterised as the manipulation of financial statements to achieve specific objectives, such as meeting earnings targets or maintaining a consistent financial position (Healy & Wahlen, 1999). Various theories suggest that banks engage in earnings management. Agency Theory suggests that banks may engage in earnings management to reduce agency costs and align the interests of managers and shareholders (Jensen & Meckling, 1976). The Signalling Theory suggests that banks utilize earnings management to communicate their financial well-being to investors and regulators (Ross, 1977). The literature indicates that multiple factors influence earnings management practices in banks, including dividend policy, capital structure,

firm size, bank profitability, and financial risk. The banking industry is crucial to Pakistan's economy, providing financial intermediation services to individuals and enterprises. The Financial Intermediary Theory (FIT) posits that banks serve as intermediaries between savers and investors, mobilizing savings and channelling them into investments (Leland & Pyle, 1977). This theory provides a framework for understanding the role of banks in the economy and their practices related to earnings management. According to the FIT, banks engage in earnings management to transform risk, mitigate information asymmetry, and maintain a stable financial position (Diamond, 1984). Earnings management is characterized as the manipulation of financial statements to achieve specific objectives, such as meeting earnings targets or maintaining a consistent financial position (Healy & Wahlen, 1999). Various theories suggest that banks engage in earnings management. Agency Theory suggests that banks may engage in earnings management to reduce agency costs and align the interests of managers and shareholders (Jensen & Meckling, 1976). The Signalling Theory suggests that banks utilize earnings management to communicate their financial well-being to investors and regulators (Ross, 1977). The literature indicates that multiple factors influence earnings management practices in banks, including dividend policy, capital structure, firm size, bank profitability, and financial risk. The Pecking Order Theory suggests that banks prefer internal financing sources, such as retained earnings, over external financing options, including debt and equity. (Myers & Majluf, 1984). This theory suggests that banks engage in earnings management to maintain a steady dividend payout ratio. The Capital Structure Theory suggests that banks optimise their capital structure to minimise their capital costs (Modigliani & Miller, 1958). This theory suggests that banks engage in earnings management to maintain a favourable capital structure and reduce financial risk. The size of the firm and the profitability of banks also play significant roles in influencing earnings management practices. The Resource-Based View Theory suggests that the largest banks possess more resources and capabilities, enabling them to engage in earnings management (Barney, 1991). The Stakeholders Theory suggests that banks may engage in earnings management to maintain a positive reputation and serve the interests of various stakeholders, including investors and customers (Freeman, 1984). Financial risk is also a crucial factor affecting earnings management practices in banks. The Risk Management Theory suggests that banks engage in earnings management to mitigate financial risk and maintain a stable financial position (Smith, 1995). The Pecking Order Theory suggests that banks prefer internal financing sources, such as retained earnings, over external financing options, including debt and equity. (Myers & Majluf, 1984). This theory suggests that banks engage in earnings management to maintain a steady dividend payout ratio. The Capital Structure Theory suggests that banks optimise their capital structure to minimise their capital costs (Modigliani & Miller, 1958). This theory suggests that banks engage in earnings management to maintain a favourable capital structure and reduce financial risk. The size of the firm and the profitability of banks also play significant roles in influencing earnings management practices. The Resource-Based View Theory suggests that the largest banks possess more resources and capabilities, enabling them to engage in earnings management (Barney, 1991). The Stakeholders Theory suggests that banks may engage in earnings management to maintain a positive reputation and serve the

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Theoretical Underpinning

The exercise of earnings management within the banking sector is shaped by a host of financial theories that offer insights into the essential reasons banks engage in such activities. These theoretical frameworks provide a foundation for understanding the incentives, methodologies, and potential outcomes associated with earnings management in banks, particularly within the context of Pakistan's financial landscape. Financial philosophies help clarify how banks purposefully influence their financial declarations to achieve various objectives, such as maintaining investor confidence, complying with regulatory necessities, and ensuring financial stability. By analyzing these theories, researchers and financial analysts can gain a deeper understanding of the fundamental motivations behind earnings management practices. These motivations often stem from the need to align financial performance with market outlooks, enhance shareholder value, and optimise capital structure to minimise risk.

Furthermore, these theories shed light on the mechanisms employed by banks to engage in earnings management, including income smoothing, provisioning policies, and adjustments to financial disclosures. Through these mechanisms, banks strive to maintain a stable and promising financial position to external stakeholders, including investors, regulators, and customers. The consequences of earnings management in the banking sector can be significant, influencing financial market perceptions, controlling oversight, and overall economic stability. While some earnings management practices may be necessary for maintaining a bank's competitive position, others may raise moral concerns and lead to regulatory scrutiny. Understanding the implications of earnings management through various financial theories allows policymakers and regulators to formulate effective strategies that promote transparency, accountability, and financial integrity within the banking industry. In the context of Pakistan, these financial theories provide a vital perspective for evaluating how banks navigate economic challenges, manage financial risks, and uphold their financial reputation. By integrating these theoretical insights, financial institutions can make informed decisions that align with industry standards and promote long-term economic growth.

The Financial Intermediary Theory posits that banks act as intermediaries between savers and borrowers, ensuring efficient capital allocation (Gorton & Winton, 2003). As banks may falsify financial accounts to preserve investor confidence, reduce risk, and preserve a stable financial position, earnings management is consistent with this hypothesis (Alghamdi & Ali, 2012). According to the Agency Theory, managers and stockholders have conflicting interests due to their disparate motivations (Panda & Leepsa, 2017). To align their interests with those of shareholders, reduce agency expenses, or meet performance targets that impact their compensation, managers in the banking industry may employ earnings management. According to the Signalling

Theory, businesses communicate their financial health to regulators and investors through signals (Steigenberger & Wilhelm, 2018). Even during difficult economic circumstances, banks may manipulate their profitability to appear stable, induce investment, and maintain depositor trust. Agreeing with the Pecking Order Theory, corporations prefer internal finance, or retained earnings, over external financing, which includes debt and equity, due to knowledge asymmetry (Vanacker & Manigart, 2010). To stabilise dividend payments and prevent investors from getting the impression that the bank is unstable, banks may employ earnings management.

Capital Structure Theory posits that businesses seek the optimal capital structure to minimise financing costs (Myers, 2001). Banks may employ earnings management with a high debt-to-equity ratio to maintain favourable capital ratios, meet regulatory standards, and avoid financial difficulties. According to the Resource-Based View Theory, businesses with more resources are at a competitive advantage (Hinterhuber, 2013). Larger banks may have more opportunities to participate in profit management than smaller banks since they have access to more advanced financial tools. According to Stakeholder Theory, businesses adopt actions to pacify a variety of stakeholders, such as investors, regulators, and clients (Richter & Dow, 2017). Banks may manipulate earnings to preserve their reputation and win over various stakeholders. According to the Risk Management Theory, banks manage risk to maintain their financial stability (Ruozi et al., 2013). By employing earnings management as a risk mitigation technique, banks can reduce volatility, meet capital adequacy standards, and maintain investor confidence during times of economic uncertainty.

Hypotheses Development

The banking sector plays a crucial role in financial intermediation by managing funds between savers and borrowers, ensuring liquidity, and supporting economic growth (Gorton & Winton, 2003). However, banks often face internal and external financial pressures that influence their financial reporting practices. Earnings management is one such practice, where banks manipulate financial statements within permissible accounting frameworks to maintain stability, meet regulatory requirements, and enhance financial performance (Leventis et al., 2011). Banks may engage in earnings management to smooth financial results, manage capital adequacy ratios, and respond to regulatory constraints set by authorities such as the State Bank of Pakistan (SBP) and the Basel Committee (Bashir, 2018). Additionally, competitive burdens and executive reimbursement structures often incentivise such practices. Macroeconomic factors, as well as inflation, interest rates, and economic downturns, also prompt banks to adjust their financial reporting to present a stable outlook. This study, based on established financial and economic models, examines the strategic factors that influence earnings management in Pakistani banks. By analysing regulatory policies, corporate governance mechanisms, and macroeconomic variables, this research aims to assess the impact of earnings management on financial transparency, investor confidence, and banking sector stability. The judgments will provide valuable insights for regulators, policymakers, and financial analysts in improving financial oversight and governance within Pakistan's banking industry.

Earning Management and Dividend Policy

A bank's dividend policy has a significant influence on stock valuation and investor confidence, making it a key aspect of its financial strategy. Stable dividend payouts signal financial strength, while inconsistent payments may raise concerns about a bank's stability and financial health. According to the Pecking Order Theory, firms prefer internal financing over external sources to minimise asymmetric information issues (Leary & Roberts, 2010). In this context, banks aim to maintain steady earnings to support consistent dividends without excessive reliance on external funding. To achieve dividend stability, banks may engage in earnings management, adjusting financial reports to smooth earnings and align with investor expectations (Okezie & Ekwe, 2024). Since dividend cuts can negatively impact stock prices and investor sentiment, banks may manipulate reported earnings to ensure continuous dividend payments. Previous studies highlight that firms employ earnings management to smooth dividends and maintain investor trust. Regulatory requirements, particularly capital adequacy and liquidity constraints set by the State Bank of Pakistan (SBP), also influence banks' dividend policies (Azeem et al., 2023). To comply with these regulations while meeting shareholder expectations, banks may strategically manage earnings. Additionally, macroeconomic factors like inflation, interest rates, and economic downturns impact banks' profitability, making earnings management a tool to sustain dividend consistency during financial uncertainty (Irungu, 2010). This study examines the relationship between dividend policy, earnings management, and financial stability in Pakistani banks. By evaluating practical data, it aims to assess how banks customarily manage earnings to maintain stable dividends and its implications for stock valuation, investor confidence, and regulatory compliance. Considering these dynamics is essential for policymakers, analysts, and regulators to ensure financial transparency and sector stability.

H₁: There is a significant impact of dividend policy on earning management practices.

Earning Management and Capital Structure

A bank's capital structure, the mix of debt and equity financing, significantly impacts its financial risk, decision-making, and stability (Obadire et al., 2023). The Capital Structure Theory suggests that firms seek an optimal capital structure to minimise financing costs (Modugu, 2013). However, in reality, high debt levels increase financial pressure, requiring banks to meet debt covenants and regulatory requirements, which can lead to the adoption of earnings management practices. Banks with high leverage may manipulate their earnings to maintain favourable financial ratios, thereby ensuring compliance with capital adequacy regulations set by the State Bank of Pakistan (SBP) and the Basel Accords. By adjusting loan loss provisions and revenue recognition, they can present a stable financial outlook, avoiding regulatory penalties and market scepticism. Macroeconomic factors, such as interest rate fluctuations and economic downturns, further influence capital structure decisions. Banks facing financial uncertainty may engage in income smoothing to sustain investor confidence (Khan et al., 2021). Corporate governance also plays a crucial role in mitigating excessive earnings management and ensuring financial transparency. This study examines how Pakistani banks employ earnings management

in response to capital structure pressures, offering insights for regulators and policymakers to enhance financial oversight and stability.

H₂: There is a significant impact of capital structure on earning management practices.

Earning Management and Firm Size

Larger banks have a greater ability to manage earnings due to their extensive financial resources, advanced reporting methods, and complex corporate structures. According to the Resource-Based View, firms with greater resources can leverage financial strategies to achieve a competitive advantage (Rao & Brown, 2024). The large corporations, including banks, are more prone to earnings manipulation due to their access to diverse financial reporting alternatives (Wen et al., 2023). With skilled professionals and sophisticated financial tools, larger banks can engage in income smoothing, asset revaluation, and regulatory arbitrage to optimise their financial reporting (Aldasoro et al., 2024). Their ability to navigate regulatory frameworks enables them to influence earnings while maintaining compliance. While earnings management can be a strategic tool, it also raises significant ethical concerns, underscoring the importance of transparency and effective regulatory oversight in the financial sector.

H₃: There is a significant impact of firm size on earning management practices.

Earning Management and Bank Profitability

According to Signalling Theory, banks may manipulate earnings to maintain market value and assure investors of financial stability. Highly profitable firms use earnings management to smooth revenue fluctuations and mitigate investor concerns (Phua et al., 2021). Banks also manage earnings to navigate regulatory oversight, support expansion, and maintain executive incentives. While strategic, excessive earnings manipulation raises ethical concerns, emphasising the need for transparency and regulatory monitoring to ensure responsible financial reporting (Fowler, 2023).

H₄: There is a significant impact of bank profitability on earning management practices.

Conceptual framework

The conceptual framework of this study illustrates the relationship between earnings management and five key independent variables: capital structure, bank profitability, dividend policy, financial risk, and firm size. These variables are selected based on their theoretical and empirical relevance in influencing how banks manage their reported earnings. The framework is designed to illustrate how each of these financial and structural factors may contribute to variations in earnings management practices within Pakistan's commercial banking sector.

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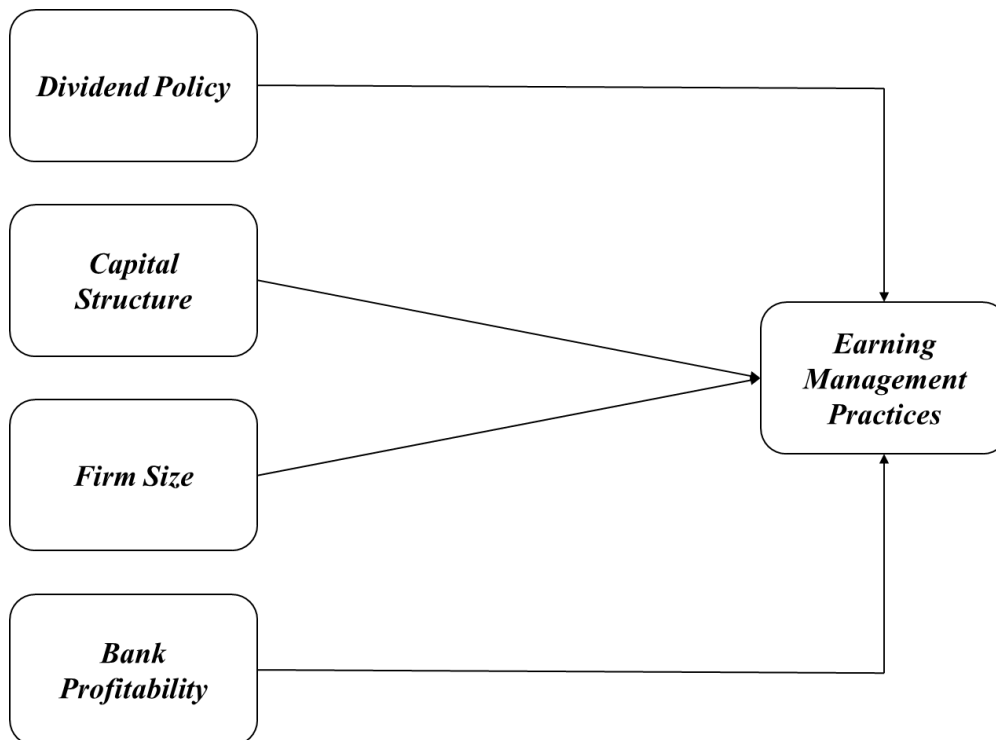


Figure-1: Conceptual Framework

Source: Author Construction

RESEARCH METHODOLOGY

This study adopts the Research Onion framework to structure its research methodology systematically. The structure is based on the Research Onion model, which provides a systematic approach for selecting research methods that align with the study's aims and objectives. This chapter includes details about the research philosophy, approach, strategy, method, time horizon, data sources, and data analysis techniques used in this investigation.

Research Philosophy (Positivism)

The study adopts a positive research philosophy, which supports the use of objective and quantifiable data. Positivism emphasises observation and measurement, assuming that reality is external and can be understood through empirical data. This philosophical stance is appropriate for this study because it seeks to analyse measurable financial indicators, such as dividend policy, capital structure, firm size, bank profitability, and financial risk, and determine their impact on earnings management. By relying on observable and numerical data from the financial statements of commercial banks, the study ensures that the conclusions drawn are objective, unbiased, and replicable, thereby satisfying the criteria of scientific rigour.

Research Approach (Deductive)

A deductive approach is employed in this study, starting from general theories and hypotheses and narrowing down to specific observations. This approach is well-suited for studies that aim to test existing theories through empirical data. In this context, the

study formulates hypotheses based on prior literature and theoretical frameworks concerning earnings management. These hypotheses are then tested using quantitative data from listed commercial banks in Pakistan. The deductive approach strengthens the reliability of the research by ensuring logical reasoning and consistency between theoretical foundations and empirical evidence.

Research Strategy (Not Applicable in Secondary Data Analysis)

No specific qualitative strategy, such as case study, ethnography, or grounded theory, is applied in this research. Instead, the study is based solely on quantitative methods and secondary data analysis. The absence of a defined qualitative research strategy reflects the nature of the data and objectives: to identify statistical relationships rather than explore in-depth narratives or subjective experiences. This decision aligns with the positive philosophy and ensures that the research remains focused on measurable variables and their effects.

Research Choice (Mono Method - Quantitative)

The research adopts a mono-method quantitative approach, relying exclusively on numerical data collected from secondary sources. It includes financial statements, annual reports, and stock market summaries of 19 commercial banks listed on the Pakistan Stock Exchange (PSX) over five years (2020–2024). The choice of a mono-method ensures consistency in data collection and analysis, avoiding potential biases that may arise from mixing qualitative interpretations with quantitative findings. The use of purely numerical data allows the application of statistical models to test hypotheses and determine relationships with greater precision.

Time Horizon (Panel Data)

The study utilises a panel data time horizon, which involves examining both cross-sectional and time-series data. Specifically, it analyses annual data from 2020 to 2024 for 19 commercial banks in Pakistan. This approach enables the researcher to observe the dynamic behaviour of banks over time while accounting for individual differences among banks. Panel data offers the advantage of controlling for unobserved heterogeneity and improving the accuracy of the regression models. It also enhances the generalizability and depth of the study's findings by combining the strengths of both longitudinal and cross-sectional analyses.

Techniques and Procedures (Regression Analysis)

To examine the relationship between earnings management and its influencing factors, the study applies regression analysis using EViews software. The analysis includes panel data regression models such as fixed effects, random effects, and Hausman tests to determine the most appropriate model. Earnings management is measured through discretionary accruals, while explanatory variables include internal factors such as dividend policy, capital structure, firm size, bank profitability, and financial risk. The regression models quantify the strength and direction of these relationships and provide statistical significance levels to support hypothesis testing. The use of regression ensures a robust methodological framework for analysing causality and inferring patterns from financial data.

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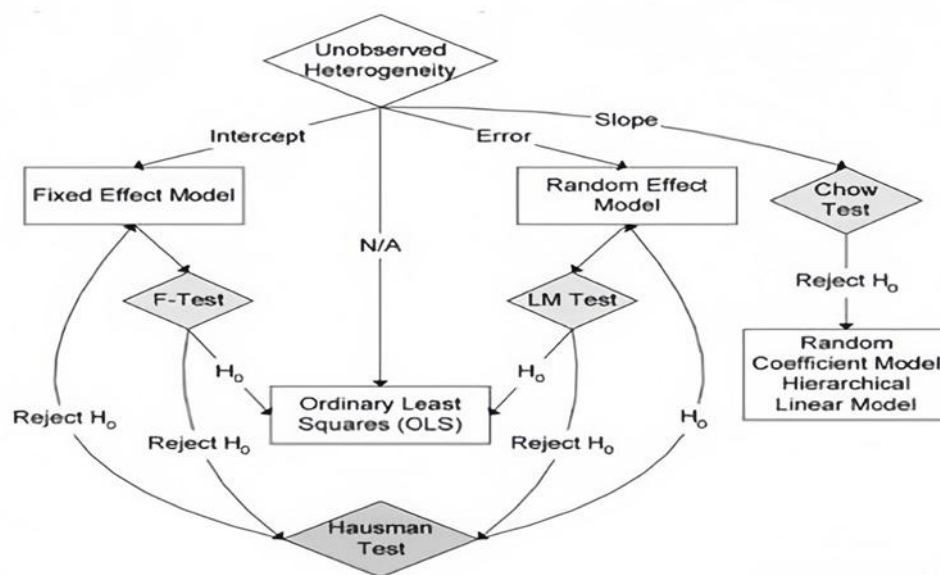
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<http://amresearchreview.com/index.php/Journal/about>**Model Selection Process (Panel Data Analysis)**

To determine the most appropriate model for panel data analysis in this study, we followed a systematic testing procedure based on the nature of unobserved heterogeneity, whether it affects the intercept, the error term, or the slope. The goal was to select the most suitable model from among the Ordinary Least Squares (OLS), Fixed Effects, and Random Effects models. The process began by checking whether a simple OLS model was appropriate. It was tested using the F-test to compare OLS with the Fixed Effects model. If the null hypothesis is rejected, it suggests Fixed Effects is better. Lagrange Multiplier Test - To compare OLS with the Random Effects model. Rejection of the null hypothesis means Random Effects is preferred. If both Fixed and Random Effects were possible, we conducted the Hausman test - this test helps decide between Fixed and Random Effects. If the null hypothesis is rejected, the Fixed Effects model is more appropriate, as it indicates that the Random Effects model would yield biased results. The flowchart below summarises the entire decision-making process for choosing the best model in panel data analysis.

**Figure-2:** Conceptual Framework

Source: Author Construction

Variables and Measurement Tool

The study includes one dependent variable and four independent variables, selected based on prior empirical research to examine their effect on earnings management practices in commercial banks. The variables have been operationalised using established measurement tools, ensuring validity and comparability.

Table-1: Variable and Measurement Tools

Source: Author Estimation

S.No.	Variable	Variable Name	Measurement Tool	Reference
1	Dependent	Earning	Earning	Syarif et al., (2025)

		Management	Management Index	
2	Independent	Capital Structure	Debt / Equity	Naz & Sheikh (2023)
		Dividend Policy	Dividend / No. of Shares	Ujah et al., (2017)
		Bank Size	Log of Total Assets	Karina & Soenamo (2022)
		Bank Profitability	Net Income / Total Assets	Ahmed et al., (2018)

The table above summarises the key variables used in this study. The dependent variable, earnings management, is measured through an index approach, while the independent variables are quantified using financial ratios that have been widely accepted in past research. This structured approach helps to ensure accurate empirical analysis in the later chapters.

FINDINGS AND DISCUSSION

This section provides an overview of the key empirical findings obtained through various statistical techniques. The results are discussed in relation to the research objectives and hypotheses, highlighting the significance and direction of relationships between the independent variables and earnings management.

Descriptive Statistics

Table 2 presents the descriptive statistics for the variables included in the analysis, based on a sample of 95 observations for each variable. The data includes the mean, standard deviation, minimum, and maximum values, offering insights into the distribution and variability of the dataset. The Earnings Management Indicator EMI has a mean value of 15.74 with a standard deviation of 7.781, indicating moderate dispersion around the average, with values ranging from -3.480 to 34.01. The Debt-to-Equity Ratio DE records a mean of 14.74 and a standard deviation of 8.457, showing notable variability, with a minimum value of -23.50 and a maximum of 27.60.

Table-2: Descriptive Analysis

Source: Author Estimation

Variable	Obs.	Mean	Std. Dev	Min	Max
EMI	95	15.74	7.781	-3.480	34.01
DE	95	14.74	8.457	-23.50	27.60
BP	95	0.949	1.207	-6.450	4.360
FS	95	12.07	0.440	11.03	12.91
DP	95	35.21	29.03	0.000	101.2

Bank Profitability BP has a mean of 0.949 and a standard deviation of 1.207, with observed values ranging from -6.450 to 4.360. Firm Size FS shows relatively low variation across firms, with a mean of 12.07 and a standard deviation of 0.440, ranging from 11.03 to 12.91. Lastly, DP exhibits considerable variability, with a mean

of 35.21, a standard deviation of 29.03, and values ranging from 0.000 to 101.2. These statistics collectively provide an overview of the central tendencies and dispersion in the dataset, forming a foundation for further empirical analysis.

Data Normality

The Jarque-Bera test results offer valuable insights into the distribution of the dataset used for analysing earnings management in Pakistan's commercial banking sector. Specifically, the Jarque-Bera test for the Earnings Management Indicator (EMI) shows a test statistic of 2.11 and a p-value of 0.34. Since the p-value is greater than the conventional significance level of 0.05, we fail to reject the null hypothesis of normality. It indicates that the EMI variable follows a normal distribution, satisfying one of the key assumptions of classical linear regression models. It is crucial for the validity of further regression analysis.

Table-3: Jarque-Bera Test

Source: Author Estimation

Variable	EMI	DE	BP	FS	DP
Jarque-Bera	2.11	201	102	3.91	5.19
Probability	0.34	0.45	0.09	0.14	0.07

The descriptive statistics also highlight variation in the sample data, with the Debt-to-Equity (DE) ratio averaging 201 and Bank Profitability (BP) showing a high average of 102, indicating variability across firms. Firm Size (FS) and Dividend Payout (DP) have average values of 3.91 and 5.19, respectively, reflecting consistent financial behaviour across banks. Overall, the data appear suitable for econometric analysis, with the normality of the dependent variable supporting the reliability of regression-based findings.

Correlation Analysis

The correlation matrix in Table 4 shows that EMI is strongly positively correlated with DP ($r = 0.956$), indicating a significant association between earnings management and dividend payout. EMI also has moderate positive correlations with BP (0.522), FS (0.331), and DE (0.305), suggesting that higher board performance, firm size, and leverage are associated with increased earnings management. DE shows a weak relation with DP ($r = 0.016$) and moderate correlations with BP ($r = 0.324$) and FS ($r = 0.367$).

Table-4: Correlation Test

Source: Author Estimation

Variable	EMI	DE	BP	FS	DP
EMI	1				
DE	0.305	1			
BP	0.522	0.324	1		

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FS	0.331	0.367	0.461	1	
DP	0.956	0.016	0.416	0.214	1

BP is moderately correlated with FS 0.461 and DP 0.416, while FS has a **weak correlation with DP** 0.214. All relationships are positive, with the strongest observed between EMI and DP.

Panel Data Regression Analysis

Pooled Ordinary Least Square Method (EMI):

To run the regression model, the researcher applies the Pooled Ordinary Least Squares method by pooling all 95 observations together, thereby neglecting any time series and cross-sectional distinctions. The purpose of using the POLS method here is to examine the relationship between the Earnings Management Index, as the dependent variable, and Debt to Equity, Bank Profitability, Firm Size, and Dividend Payout, as the explanatory variables. The constant coefficient is 0.0019, indicating that when all independent variables are held constant, EMI increases marginally.

Table-5: Pooled Ordinary Least Square Method

Source: Author Estimation

Source: Author Estimation.

Coefficients				
Model	Unstandardized Coefficients		T	prob
	B	Std. Error		
(Constant)	0.0019	0.0241	0.0796	0.9367
DE	0.2500	0.0001	2450.0	0.0000
BP	0.2504	0.0008	311.53	0.0000
FS	0.2498	0.0020	120.78	0.0000
DP	0.2499	2.9900	8363.4	0.0000
R-Squared	0.9400			
Adjusted R-Squared	0.9200			
Prob (F-Statistic)	0.0000			
Durbin Watson	2.1754			
a. Dependent Variable: EMI				

All explanatory variables (DE, BP, FS, and DP) are highly significant with p-values of 0.0000, and each has a positive impact on EMI. Specifically, a unit increase in DE, BP, FS, or DP results in an approximately 0.25-unit increase in EMI. This consistent influence suggests a strong and uniform contribution of each variable to EMI. The R-squared value is 0.94 and the adjusted R-squared value is 0.92, reflecting an almost perfect model fit. The F-statistic is also significant, confirming the joint relevance of the explanatory variables. The Durbin-Watson statistic of 2.1754 indicates that autocorrelation exists in the model. However, despite the model's statistical robustness, one must be cautious. The POLS method ignores heterogeneity and firm-specific characteristics by treating all firms as homogeneous entities. This simplification may not capture the true dynamics of the relationship, leading the

researcher to consider alternative estimation techniques for more accurate results.

Bruesh-Pagan Test (LM Test)

The Breusch-Pagan LM test was conducted to evaluate the suitability of incorporating random effects in the panel data model. The test statistics for cross-sectional, time, and joint effects were 2.025182 ($p = 0.1547$), 0.287159 ($p = 0.5920$), and 2.312341 ($p = 0.1284$), respectively.

Table-6: Bruesh-Pagan LM Test

Source: Author Estimation

	Cross-section	Time	Both
Breusch-Pagan	2.025	0.287	2.312
Probability	(0.154)	(0.592)	(0.128)

As the p-values are above conventional significance thresholds, the results indicate that random effects are not statistically significant in the model. Findings suggest that the variation across entities and over time is adequately captured without the need for a random effects specification. Therefore, the pooled OLS model is considered an appropriate and reliable choice for analysis.

Fixed Effect Model

This modification is required to execute the regression model; the Fixed Effect Method was applied, utilising panel data comprising 95 observations. Unlike the Pooled Least Squares POLS method, which ignores the unique characteristics of each bank and the effects over time, the FEM captures firm-level heterogeneity by allowing intercepts to vary across banks. As shown in Table 7, the regression results indicate that all explanatory variables (DE, BP, FS, and DP) are positively and significantly associated with EMI, each with a p-value of 0.0000. It suggests that, holding other variables constant, a unit increase in any of these factors leads to a nearly proportional rise in EMI. The constant term is 0.1130 with a p-value of 0.524, indicating that it is not statistically significant.

Table-7: Fixed Effect Method

Source: Author Estimation

Coefficients				
Model	Unstandardized Coefficients		T	prob
	B	Std. Error		
(Constant)	0.1130	0.1765	0.6403	0.524
DE	0.2503	0.0003	735.12	0.000
BP	0.2498	0.0013	191.62	0.000
FS	0.2406	0.0148	16.244	0.000
DP	0.2499	0.0004	5281.1	0.000
R-Squared	0.95			
Adjusted R-Squared	0.91			
Prob (F-Statistic)	0.0000			

Durbin Watson	2.5120
a. Dependent Variable: EMI	

The model demonstrates an excellent fit, with both R-squared and Adjusted R-squared values at 0.95, suggesting that nearly all variation in EMI is explained by the independent variables. The overall model is statistically significant, supported by the F-statistic probability of 0.0000. Additionally, the Durbin-Watson statistic is 2.5120, implying no serious autocorrelation in the residuals. These findings validate the effectiveness of the Fixed Effect Model in accounting for the distinctive characteristics of each bank and provide strong support for the relationships identified in the model.

Random Effect Model

According to the Random Effect Model REM, the constant parameter of commercial banks in Pakistan shows a positive value of 0.0019, which means that if the independent variables are held constant, a unit increase in all other variables will bring about a 0.0019 unit increase in EMI. Holding other variables constant, all independent variables, DE 0.2500, BP 0.2504, FS 0.2498, and DP 0.2499, have a significant positive relationship with EMI, as indicated by their respective T-values (2450.5, 311.53, 120.78, and 8363.4) and very low probability values 0.0000, showing strong statistical significance at the 1% level. As in REM, all the commercial banks are assumed to have a common mean value for the intercept; this model is applied as part of the Multiple Regression of Panel Data framework. After estimating the random effect model, the Hausman Test is typically applied to determine the suitability of the model.

Table-8: Random Effect Method

Source: Author Estimation

Source: Author Estimation

Coefficients				
Model	Unstandardized Coefficients		T	prob
	B	Std. Error		
(Constant)	0.0019	0.0243	0.0796	0.9367
DE	0.2500	0.0001	2450.5	0.0000
BP	0.2504	0.0008	311.53	0.0000
FS	0.2498	0.0020	120.78	0.0000
DP	0.2499	0.0002	8363.4	0.0000
R-Squared	0.93			
Adjusted R-Squared	0.91			
Prob (F-Statistic)	0.0000			
Durbin Watson	2.1754			
a. Dependent Variable: EMI				

Table 8 shows that the probability of the F-statistic is 0.0000, indicating that we reject the null hypothesis and accept the alternative hypothesis. The model's R-squared is 0.93 and the Adjusted R-squared value is 0.91, indicating an excellent fit, and the

Durbin-Watson statistic is 2.1754, suggesting no significant autocorrelation in the residuals.

Hausman Test

To check the suitability of the model, the researcher applied the Hausman Test. As the table given below shows, the Prob The value is 4.41%, which is less than 5%, meaning the results are statistically significant. Therefore, we reject the Null Hypothesis (H_0 : REM is appropriate) and accept the Alternative Hypothesis (H_1 : FEM is appropriate).

Table-9: Hausman Test

Source: Author Estimation

Test Summary	Chi-Sq.Stats	Chi-Sq d.f	Prob
Cross Section Random	9.7936	4	0.0441

Findings suggests that, in this case, the Fixed Effects Model (FEM) is more suitable than the Random Effects Model (REM). As the results of the Hausman Test suggest that the probability value is equal to 4.41%, which is less than the 5% threshold, we conclude that FEM is the suitable estimation method for this data.

Summary of the Results

The hypothesis testing was conducted using panel data regression analysis, which evaluated the relationship between each independent variable and earnings management. The results revealed significant associations in all proposed hypotheses, as detailed in the summary below.

Table-10: Summary of the Results

Source: Author Estimation

S.No.	Hypothesis	Results
1	Capital Structure has a significant impact on earning management practices	Accepted
2	Dividend Policy has a significant impact on earning management practices	Accepted
3	Bank Profitability has a significant impact on earning management practices	Accepted
4	Firm Size has a significant impact on earning management practices	Accepted

All four hypotheses were accepted based on the statistical significance of their respective coefficients. It indicates that each independent variable, capital structure, bank profitability, firm size, and dividend policy, plays a meaningful role in influencing earnings management practices within the banking sector of Pakistan.

CONCLUSIONS, RECOMMENDATIONS, LIMITATIONS

Conclusion

This study offers comprehensive insights into the factors influencing earnings management within Pakistan's commercial banking sector. By analyzing data from 19 commercial banks listed on the Pakistan Stock Exchange (PSX) over the period from 2020 to 2024, the research aimed to identify how key internal financial variables, specifically dividend policy, capital structure, firm size, bank profitability, and financial risk, affect the degree to which banks engage in earnings management practices. The empirical findings suggest that dividend policy and capital structure have a significant influence on earnings management in banks. Specifically, a stable and consistent dividend policy tends to encourage transparent earnings reporting and reduce the likelihood of financial statement manipulation. On the other hand, capital structure, particularly high levels of debt financing, was found to have a negative impact on earnings management. It is largely attributed to the burden of interest payments associated with debt, which can reduce overall profitability and incentivise management to adjust reported earnings in an attempt to present a more favourable financial position. Additionally, the analysis revealed that firm size and financial risk exhibited more nuanced relationships with earnings management. Larger firms may have better access to resources and more structured governance systems, which can act as a deterrent to aggressive earnings manipulation. However, in some cases, their complexity and broader financial activities may create more opportunities for discretionary reporting. Financial risk, meanwhile, was found to have mixed effects, suggesting that banks with higher risk profiles may resort to earnings management as a buffer against volatility or regulatory pressures; however, this behaviour may vary depending on the nature and perception of the risk involved. Overall, sound financial management practices, particularly those promoting an optimal balance between debt and equity and encouraging a stable dividend payout policy, can help minimise the need for earnings manipulation. The findings underscore the significance of internal governance and strategic financial planning in promoting financial transparency and accountability within the banking sector.

Recommendation / Future Implications

While the study highlighted the importance of dividend policy and capital structure in influencing earnings management, it is recommended that commercial banks maintain a cautious and well-monitored approach toward dividend policy and capital structure decisions. Financial institutions should strive to strike an optimal balance between equity and debt financing to ensure financial stability and minimise the potential need for earnings manipulation. Excessive reliance on debt can lead to increased financial pressure, thereby encouraging management to alter reported earnings to meet performance benchmarks or regulatory requirements. Moreover, the role of corporate governance mechanisms cannot be overlooked. Banks are encouraged to strengthen internal audit systems, promote board independence, and enforce strict ethical standards to ensure that financial reports reflect actual performance rather than manipulated figures. Transparent financial reporting not only improves stakeholder trust but also reduces the risk of reputational damage and regulatory sanctions. Future researchers are encouraged to explore additional external factors that may influence

earnings management in banks. Macroeconomic conditions, including inflation, interest rates, GDP growth, exchange rates, and monetary policy, can have a substantial impact on the financial behaviour of banks and their incentives to manage earnings. Understanding how these broader economic forces interact with internal financial decisions could provide more holistic insights into earnings management dynamics. Furthermore, the integration of qualitative assessments, such as management intent, regulatory environment, and governance quality, could enhance the depth and practical relevance of future studies.

Limitations

While the findings of this study are meaningful, certain limitations should be acknowledged to provide context and guide future research efforts. Firstly, the study is constrained by a five-year data range (2020–2024), which may not fully capture long-term earnings management trends or the delayed effects of financial decisions. A longer time horizon might reveal cyclical patterns and structural shifts in bank behaviour over time, enhancing the robustness of the conclusions. Secondly, the data used in this research is secondary and sourced from the annual financial reports of banks listed on the PSX. While these reports are publicly available and audited, they may still be subject to limitations such as reporting biases, differences in accounting practices, and the discretionary nature of certain financial disclosures. These factors could affect the accuracy and comparability of the data across institutions and over time. This study is limited to commercial banks in Pakistan, which restricts the generalizability of the findings to other sectors or international banking systems. Different regulatory environments, economic contexts, and financial structures may lead to varying earnings management practices in other countries or industries. Therefore, caution should be exercised in applying the conclusions of this study beyond its defined scope. Lastly, the methodology employed, regression analysis, while effective in identifying relationships between variables, does not establish causality. The observed associations may be influenced by omitted variables, reverse causality, or other unobserved factors. Future research could enhance causal inference by employing methodologies such as structural equation modelling (SEM), instrumental variables (IV), or case-based qualitative analysis. These limitations, however, do not diminish the value of the study. Instead, they provide direction for more in-depth and expansive research on earnings management, particularly within the context of developing financial markets, such as Pakistan.

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