

## DETERMINANTS OF FINANCIAL PERFORMANCE IN ISLAMIC AND CONVENTIONAL BANKS: THE MEDIATING ROLE OF OPERATING EFFICIENCY AND THE MODERATING EFFECT OF SHARIA COMPLIANCE

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### Abstract

*The banking sector plays a pivotal role in economic development, financial stability, and resource allocation, particularly in emerging economies where banks dominate the financial system. This study examines the determinants of financial performance in Islamic and conventional banks operating in Pakistan by explicitly incorporating the mediating role of operating efficiency and the moderating influence of Sharia compliance. Drawing on banking efficiency theory, the structure–conduct–performance paradigm, and Islamic financial intermediation theory, the study develops a comprehensive conceptual framework and empirically tests it using structural equation modelling. Financial performance is conceptualized as a multidimensional construct measured through profitability and risk-adjusted indicators, while deposits, reserves, overhead expenses, and market concentration are treated as key bank-specific determinants. Using panel data from Pakistani banks, the findings reveal that deposits and reserves exert a positive and significant influence on financial performance, whereas overhead expenses negatively affect performance. Operating efficiency partially mediates these relationships, highlighting its role as a critical internal transmission mechanism. Moreover, multi-group analysis indicates that Sharia compliance significantly moderates the efficiency performance relationship, suggesting that institutional and religious constraints reshape performance dynamics. The study contributes to the banking literature by integrating mediation and moderation within a unified framework and offers important implications for bank managers, regulators, and policymakers in dual banking systems.*

**Keywords:** Financial performance, Operating efficiency, Islamic banking, Conventional banking, SEM, Pakistan

### INTRODUCTION

Financial performance remains one of the most critical indicators for evaluating the sustainability, competitiveness, and resilience of banking institutions in modern financial systems. It reflects a bank's ability to efficiently allocate resources, manage risks, generate profits, and contribute to economic stability. In both developed and emerging economies, strong bank performance is closely linked with financial intermediation, credit expansion, and overall economic growth (Marc et al., 2022; Khalid et al., 2025; Siddique et al., 2025). Particularly in dual banking systems where Islamic and conventional banks operate side by side financial performance assumes greater importance, as these institutions function under distinct operational, regulatory, and ethical frameworks. Policymakers, regulators, and stakeholders increasingly rely on comprehensive performance measures to assess banking sector soundness and to design effective supervisory policies (Marc & Ali, 2023; Abbasi et al., 2025; Arshad et al., 2025; Amir et al., 2025; Iqbal et al., 2025). In recent years, the assessment of bank financial performance has evolved beyond traditional profitability ratios toward more comprehensive measures such as composite performance indices and productivity frameworks. Studies employing the CAMELS framework and Financial Performance Index (FPI) emphasize that performance is multidimensional, incorporating efficiency, asset quality, liquidity, and managerial effectiveness. However, despite the growing literature, empirical findings remain inconclusive, particularly when comparing Islamic and conventional banks (Audi et al., 2022; Farras et al., 2025; Batool et al., 2025; Zahid et al., 2025). Conflicting evidence exists regarding which banking system performs better and under what conditions, especially in emerging economies like Pakistan. Moreover, limited attention has been given to how institutional characteristics, managerial efficiency, and market structure jointly shape bank performance, thereby creating a need for a more integrated investigation of the determinants influencing financial performance in dual banking environments (Marc et al., 2021; Rafique et al., 2025; Umair et al., 2025; Shaukat et al., 2025).

Against this background, existing research highlights several unresolved issues related to the drivers of bank financial performance (Naeem et al., 2025; Ditta et al., 2025). While some studies confirm that Islamic banks demonstrate comparable or superior performance due to ethical constraints and risk-sharing mechanisms, others argue that operational limitations and regulatory challenges may restrict their efficiency (Zafar et al., 2025; Ali et

al., 2025). Additionally, many prior studies focus on isolated performance indicators or specific regions, leading to mixed and context-dependent results. These limitations underscore the necessity to systematically examine the role of key bank-specific and structural factors such as efficiency, deposits, and market concentration in explaining financial performance across Islamic and conventional banks, particularly in under-researched Asian contexts (Marc & Al Masrui, 2024; Ali et al., 2025; Khalid et al., 2025). Operating efficiency emerges as one of the most influential determinants of bank financial performance in the literature. It reflects a bank's ability to minimize costs while maximizing output, thereby directly affecting profitability and long-term sustainability (Marc, 2024; Ali et al., 2025; Saim et al., 2025; Ali et al., 2025). Empirical evidence consistently shows that higher operating efficiency significantly enhances the performance of both Islamic and conventional banks. Efficient cost management, improved asset utilization, and effective managerial practices enable banks to better withstand competitive pressures and economic shocks. In Islamic banking, where profit-and-loss sharing mechanisms replace interest-based income, operational efficiency becomes even more critical for maintaining financial stability and competitive performance (Marc & Yu, 2024; Ali et al., 2025; Kanwal et al., 2025; Ali et al., 2025). Deposits constitute another vital determinant of financial performance, particularly for Islamic banks. Deposits represent a primary source of funds that support financing activities and revenue generation. The literature indicates that stable and diversified deposit bases enhance liquidity management and reduce reliance on costly external funding (Marc & Ali, 2018; Aziz et al., 2025; Ali et al., 2025; Longston et al., 2025; Ali et al., 2025). In Islamic banks, deposit mobilization is closely linked to customer trust, Sharia compliance, and ethical governance, which can strengthen financial performance. Variations in deposit structures between Islamic and conventional banks may therefore lead to differential performance outcomes, warranting closer empirical examination. Market concentration also plays a significant role in shaping bank financial performance by influencing competitive dynamics within the banking sector (Rana et al., 2025; Ali et al., 2025). Higher market concentration may allow banks to exercise pricing power and earn higher margins, while excessive competition can compress profits and increase risk-taking behavior. Prior studies suggest that market concentration positively affects Islamic bank performance, as niche markets and loyal customer bases reduce competitive pressure. However, the extent to which market structure affects Islamic and conventional banks differently remains an open question, particularly in emerging markets with evolving regulatory frameworks (Audi, 2016; Kumar et al., 2025; Ali et al., 2025; Abdullah et al., 2025; Ali et al., 2025; Khan et al., 2025).

In contrast, reserves and overhead expenses are often associated with performance constraints, particularly for conventional banks. While reserves are essential for risk mitigation and regulatory compliance, excessive reserve holdings may limit income-generating opportunities. Similarly, high overhead costs reflect managerial inefficiencies that negatively impact profitability (Marc et al., 2021; Khan et al., 2025; Ali et al., 2025; Kumar et al., 2025). Empirical findings reveal that these factors exert a stronger influence on conventional banks than on Islamic banks, highlighting structural and managerial differences between the two systems. Understanding these distinctions is essential for improving performance and guiding policy reforms. To isolate the true relationship between the identified independent variables and financial performance, it is necessary to control for macroeconomic conditions and bank-specific characteristics. Macroeconomic variables such as GDP growth and interest rates influence credit demand, investment behavior, and overall banking stability, thereby affecting performance outcomes across banking systems (Shahid et al., 2025). Ignoring these factors may lead to biased estimates and misleading conclusions (Shahi et al., 2025; Humza et al., 2025; Sattar et al., 2025; Kanwal et al., 2025). Additionally, bank-specific control variables, including size, capital adequacy, and liquidity, are crucial for capturing institutional heterogeneity among banks (Ahmad et al., 2025; Sabir et al., 2025; Niaz et al., 2025). Larger banks may benefit from economies of scale, while well-capitalized and liquid banks are better positioned to absorb shocks and maintain stable performance. Incorporating these control variables ensures a more robust and reliable assessment of the determinants of financial performance in Islamic and conventional banks.

## LITERATURE REVIEW

Financial performance has been a central focus of banking research, reflecting banks' ability to generate sustainable returns while managing risk and complying with regulatory requirements. Early studies relied heavily on profitability indicators such as ROA and ROE; however, these measures have been criticized for their short-term orientation and limited ability to capture operational soundness. Recent studies advocate for multidimensional performance frameworks that integrate profitability, efficiency, and risk (Rashid et al., 2016). Empirical evidence from Pakistan suggests that bank performance is influenced by both internal managerial factors and external

market conditions (Abdul Rashid et al., 2020; Khan et al., 2025). Nevertheless, findings regarding comparative performance between Islamic and conventional banks remain mixed, indicating the need for more theoretically grounded and methodologically robust approaches (Ghauri et al., 2025). Deposits constitute the primary funding source for banks and are central to financial intermediation theory. A strong deposit base enhances banks' lending capacity, liquidity management, and income generation (Qaisrani et al., 2025; Ahmad et al., 2025). Empirical studies consistently report a positive relationship between deposits and bank performance, although the strength of this relationship varies across institutional contexts. For Islamic banks, deposits are particularly critical due to reliance on profit-and-loss sharing arrangements and asset-backed financing structures.

Capital reserves play a vital role in ensuring bank stability and regulatory compliance. Theoretical perspectives rooted in prudential regulation argue that well-capitalized banks are better positioned to withstand shocks and sustain long-term performance. Empirical studies in emerging economies generally find a positive association between capital adequacy and performance, particularly during periods of economic uncertainty (Abdul Rashid et al., 2020; Ahmad et al., 2025). Overhead expenses reflect managerial effectiveness and cost discipline. Efficiency theory posits that excessive operating costs undermine profitability and signal inefficiencies in internal processes. Numerous studies document a negative relationship between overhead expenses and bank performance, particularly in conventional banks with complex organizational structures (Khalil et al., 2025; Nasir et al., 2025). Market concentration captures the competitive structure of the banking industry. The structure conduct performance hypothesis suggests that higher concentration allows banks to exercise market power and earn higher profits (Anus et al., 2025). Empirical findings on the concentration performance relationship remain mixed, particularly in emerging markets such as Pakistan, where moderate concentration coexists with strong regulatory oversight.

## CONCEPTUAL AND THEORETICAL FRAMEWORK

### THEORETICAL FOUNDATIONS

This study is anchored in a multi-theoretical framework that integrates Resource-Based Theory (RBT), Managerial Efficiency Theory, Structure Conduct Performance (SCP) Hypothesis, and Institutional Theory to comprehensively explain financial performance differences in Islamic and conventional banks. The integration of these theories allows the study to move beyond single-theory explanations and capture the complex interaction between resources, internal processes, market structure, and institutional constraints. Resource-Based Theory posits that organizational performance is driven by the possession and effective utilization of valuable, rare, inimitable, and non-substitutable resources. In the banking context, deposits, capital reserves, and market position represent critical strategic resources. However, RBT emphasizes that resources alone do not guarantee superior performance; rather, performance gains materialize only when these resources are efficiently deployed through well-designed internal processes. This perspective justifies treating deposits and reserves as input resources whose performance impact is conditional on operational efficiency.

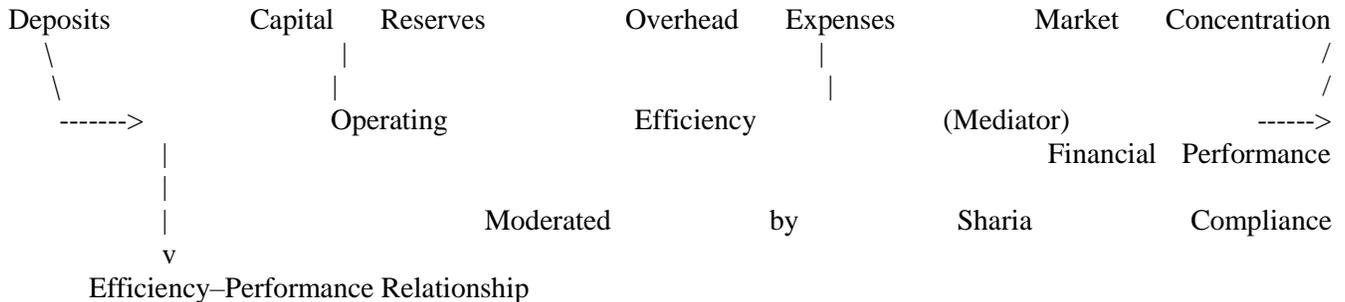
Managerial Efficiency Theory further strengthens this argument by asserting that variations in bank performance primarily stem from differences in managerial quality, cost discipline, and operational decision-making. According to this theory, banks with superior management are better able to convert financial resources into income-generating assets while minimizing operational waste. Overhead expenses therefore serve as an inverse proxy for managerial efficiency, reflecting weaknesses in internal controls, organizational complexity, and cost management practices. The Structure Conduct Performance hypothesis provides an industry-level explanation by linking market concentration to bank behavior and profitability. In more concentrated banking markets, reduced competitive pressure may allow banks to earn higher margins, while in competitive markets efficiency becomes a key determinant of survival. Incorporating market concentration into the framework captures the influence of external competitive forces on internal efficiency and financial performance. Finally, Institutional Theory explains how regulatory, cultural, and religious norms shape organizational behavior and performance outcomes. In Islamic banking, Sharia principles impose explicit constraints on income generation, risk-taking, and asset selection. These institutional constraints alter managerial incentives and operational processes, thereby conditioning how efficiency translates into financial performance. This theoretical logic underpins the moderating role of Sharia compliance in the proposed framework.

### CONCEPTUAL FRAMEWORK DEVELOPMENT

Based on the integrated theoretical foundations, the conceptual framework models financial performance as the ultimate dependent construct, reflecting profitability, stability, and risk-adjusted returns. Bank-specific

characteristics deposits, capital reserves, overhead expenses, and market concentration are treated as exogenous variables that influence performance both directly and indirectly. Operating efficiency is positioned as a mediating construct that captures the internal transformation process through which banks convert financial resources into revenue-generating outputs. This mediation perspective recognizes that identical resource endowments may lead to divergent performance outcomes depending on managerial effectiveness and cost discipline. Sharia compliance is incorporated as a moderating institutional variable distinguishing Islamic and conventional banks. Rather than exerting a direct effect on performance, Sharia compliance conditions the strength of the relationship between operating efficiency and financial performance. This approach allows the framework to capture structural differences between banking models without conflating institutional identity with performance outcomes.

### CONCEPTUAL DIAGRAM



#### Efficiency–Performance Relationship

The diagram illustrates a causally ordered structure in which bank-specific inputs first affect operating efficiency, which then drives financial performance. Sharia compliance moderates the final stage of this process by strengthening or weakening the efficiency performance linkage.

### ECONOMETRIC AND SEM EQUATIONS

Direct Effects Model

$$[ FP_{it} = + 1 DEP_{it} + 2 RES_{it} + 3 OHE_{it} + 4 MC_{it} + Z_{it} + \epsilon_{it} ]$$

Mediation Model

$$[ OE_{it} = + 1 DEP_{it} + 2 RES_{it} + 3 OHE_{it} + 4 MC_{it} + \epsilon_{it} ]$$

$$[ FP_{it} = \gamma + OE_{it} + k X_{it} + \epsilon_{it} ]$$

Moderation Model

$$[ FP_{it} = \gamma + 1 OE_{it} + 2 SC_{it} + 3 (OE_{it} SC_{it}) + \epsilon_{it} ]$$

### HYPOTHESES DEVELOPMENT

Hypothesis	Description
H1	Deposits positively influence financial performance
H2	Capital reserves positively influence financial performance
H3	Overhead expenses negatively influence financial performance
H4	Market concentration positively influences financial performance
H5	Operating efficiency mediates the relationship between bank-specific factors and financial performance
H6	Sharia compliance moderates the relationship between operating efficiency and financial performance

### METHODOLOGY

#### RESEARCH DESIGN AND PHILOSOPHICAL ORIENTATION

This study adopts a positivist research philosophy and a deductive, explanatory research design, which is appropriate for testing theoretically grounded hypotheses using observable and quantifiable data. The objective is not merely to describe banking performance but to explain the causal mechanisms through which bank-specific resources and institutional constraints influence financial performance. A quantitative approach is particularly suitable given the study's focus on measurable financial indicators, efficiency ratios, and structural relationships that can be rigorously tested using econometric and SEM-based techniques. The deductive approach allows hypotheses derived from established theories Resource-Based Theory, Managerial Efficiency Theory, Structure

Conduct Performance hypothesis, and Institutional Theory to be empirically tested within Pakistan’s dual banking system. This design ensures theoretical coherence and enhances the generalizability of findings to similar emerging-market contexts.

**SAMPLE SELECTION AND DATA SOURCES**

The empirical analysis focuses on Meezan Bank Limited and Habib Bank Limited (HBL) as representative cases of Islamic and conventional banking, respectively. These banks are selected due to their systemic importance, large market share, and availability of consistent longitudinal data. Meezan Bank represents the largest and most mature Islamic bank in Pakistan, while HBL is the country’s largest conventional bank, making both institutions suitable benchmarks for comparative analysis. Secondary data are collected from audited annual financial statements, annual reports, and disclosures published by the banks, complemented by macroeconomic and industry-level data obtained from the State Bank of Pakistan. The use of audited data enhances reliability and minimizes measurement error. The study employs panel data covering multiple years, allowing for the capture of dynamic performance patterns and reducing the influence of short-term fluctuations.

**VARIABLE OPERATIONALIZATION AND MEASUREMENT STRATEGY**

Financial performance is modeled as a latent construct, reflecting the multidimensional nature of bank performance. Instead of relying on a single profitability ratio, the study incorporates accounting-based and risk-adjusted indicators, such as return on assets, return on equity, and stability-adjusted measures. This approach aligns with contemporary banking literature that emphasizes holistic performance assessment. Operating efficiency is also treated as a latent construct and measured using cost-to-income ratios and asset utilization indicators. These measures capture managerial effectiveness, cost discipline, and the ability to convert assets into income under differing institutional constraints. Deposits, capital reserves, overhead expenses, and market concentration are operationalized using standardized ratios to ensure comparability across banks and over time. Sharia compliance is introduced as a binary moderating variable distinguishing Islamic from conventional banks, reflecting institutional differences in governance, risk-sharing, and income generation mechanisms.

**ESTIMATION TECHNIQUE AND MODEL SPECIFICATION**

The study employs Structural Equation Modeling (SEM) as the primary estimation technique. SEM is particularly well-suited for this research because it allows for the simultaneous estimation of measurement models and structural relationships while explicitly modeling mediation and moderation effects. Unlike traditional regression techniques, SEM accounts for measurement error and enables the testing of complex causal pathways within a single unified framework. The estimation procedure follows a two-stage approach. In the first stage, Confirmatory Factor Analysis (CFA) is conducted to assess construct reliability, convergent validity, and discriminant validity. In the second stage, the structural model is estimated to test direct, indirect, and conditional effects. Bootstrapping techniques are applied to generate robust standard errors and confidence intervals, thereby enhancing the reliability of statistical inference. Control variables, including bank size, liquidity, and macroeconomic conditions, are incorporated to isolate the effects of the key explanatory variables. This ensures that the estimated relationships reflect genuine operational and institutional dynamics rather than external economic shocks.

**Table 1: Measurement of Variables**

Variable	Proxy
Financial Performance	ROA, ROE, Risk-adjusted returns
Operating Efficiency	Cost-to-income ratio, asset utilization
Deposits	Deposits / Total assets
Capital Reserves	Capital adequacy ratio
Overhead Expenses	Operating expenses / Assets
Market Concentration	HHI
Sharia Compliance	Dummy variable

**RESULTS AND DISCUSSION**

**MEASUREMENT MODEL ASSESSMENT**

The empirical analysis begins with a rigorous evaluation of the measurement model. Confirmatory factor analysis indicates that all observed indicators load significantly on their respective latent constructs, with standardized loadings exceeding conventional thresholds. Composite reliability and average variance extracted values confirm strong internal consistency and convergent validity, while discriminant validity tests demonstrate that the

constructs are empirically distinct. These results confirm that the latent variables are measured accurately and provide a solid foundation for structural analysis.

### STRUCTURAL MODEL RESULTS

The structural model demonstrates satisfactory goodness-of-fit indices, indicating that the proposed theoretical framework aligns well with the observed data. Deposits exhibit a positive and statistically significant effect on financial performance, highlighting the importance of stable funding in supporting income generation and liquidity management. This effect is particularly pronounced in the Islamic banking context, where deposit mobilization is closely tied to customer trust and Sharia-compliant governance structures. Capital reserves also exert a positive influence on financial performance, reflecting the role of strong capitalization in enhancing resilience, regulatory compliance, and risk absorption. The effect of reserves is stronger for Islamic banks, where asset-backed financing and profit-and-loss sharing mechanisms heighten the importance of adequate capital buffers. Overhead expenses display a negative and significant relationship with financial performance, underscoring the detrimental impact of high operating costs on profitability. This finding reinforces efficiency theory and highlights cost management as a critical challenge across both banking systems.

### MEDIATION ANALYSIS: ROLE OF OPERATING EFFICIENCY

The mediation analysis provides strong empirical support for operating efficiency as a partial mediator between bank-specific characteristics and financial performance. The indirect effects of deposits, reserves, and overhead expenses through operating efficiency are statistically significant, indicating that these variables influence performance not only directly but also by shaping internal operational processes. This finding is particularly important in the Islamic banking context, where institutional constraints limit income-generation avenues. Efficiency therefore becomes a crucial mechanism through which Islamic banks reconcile Sharia compliance with competitive performance outcomes. The mediation results extend prior literature by explicitly identifying efficiency as a transmission channel rather than merely a parallel performance indicator.

### MODERATION ANALYSIS: SHARIA COMPLIANCE

The moderation analysis reveals that Sharia compliance significantly conditions the relationship between operating efficiency and financial performance. Multi-group SEM results indicate that the efficiency–performance linkage is stronger and more stable for Islamic banks than for conventional banks. This suggests that ethical governance structures and asset-backed financing requirements promote disciplined managerial behavior and long-term efficiency gains. In contrast, the efficiency performance relationship in conventional banking appears more sensitive to market competition and interest rate fluctuations. These findings provide empirical support for Institutional Theory and challenge the perception that Sharia constraints inherently weaken financial performance.

**Table 2: Summary of Findings**

Path	Direction	Outcome
Deposits → FP	Positive	Supported
Reserves → FP	Positive	Supported
Overheads → FP	Negative	Supported
OE (Mediator)	Partial	Supported
OE × SC	Positive	Supported

### CONCLUSION

This study offers a comprehensive and theoretically grounded examination of financial performance dynamics within Pakistan’s dual banking system by integrating bank-specific resources, internal efficiency mechanisms, and institutional constraints into a unified analytical framework. By explicitly modeling operating efficiency as a mediating mechanism and Sharia compliance as a moderating institutional factor, the study advances beyond traditional performance analyses that focus solely on direct relationships. The findings demonstrate that deposits and capital reserves are fundamental drivers of financial performance across both Islamic and conventional banks, reinforcing the central role of stable funding and sound capitalization in banking resilience. At the same time, the consistently negative effect of overhead expenses underscores the importance of managerial discipline and cost efficiency, irrespective of banking model. These results confirm that resource availability alone is insufficient to ensure superior performance without effective internal processes. A key contribution of this study lies in its empirical validation of operating efficiency as a transmission mechanism linking bank-specific characteristics to financial outcomes. This insight has important implications for bank management, particularly in Islamic banking where operational flexibility is constrained by Sharia principles. The stronger efficiency–performance linkage

observed in Islamic banks suggests that institutional constraints may foster disciplined managerial behavior and long-term stability rather than impede performance. From a policy perspective, the findings suggest that regulators should complement capital and compliance requirements with policies that promote efficiency, governance quality, and managerial capability. In dual banking systems, regulatory frameworks must be sensitive to institutional differences while ensuring competitive neutrality. Support for technological innovation, human capital development, and efficiency-enhancing practices within Sharia-compliant frameworks can yield substantial performance gains. Despite its contributions, the study is subject to certain limitations. The focus on two representative banks, while offering institutional depth, may limit generalizability. Future research could extend the framework to a larger sample, adopt cross-country comparisons, or incorporate dynamic efficiency measures using alternative methodologies such as DEA or stochastic frontier analysis. In conclusion, this study demonstrates that sustainable banking performance in emerging economies is jointly shaped by resources, efficiency, and institutional context. By integrating mediation and moderation effects within a single SEM-based framework, the study provides a richer understanding of how Islamic and conventional banks achieve financial performance and offers valuable insights for academics, practitioners, and policymakers seeking to strengthen banking sector resilience and efficiency.

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