Cash Management: A Key Driver of Performance for Conventional Banks in Pakistan

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Abstract: This research examines the critical influence of cash management on the financial efficacy of the conventional banking sector in Pakistan. This study represents the initial attempt to assess the influence of liquidity, debt ratio, and bank size on return on assets among five conventional banks in Pakistan. Information was obtained from audited annual reports from publicly traded banks that span from 2017 to 2021. The results indicate a significant positive correlation between liquidity and return on assets (ROA). Additionally, a significant negative association between debt ratio and ROA is examined. Furthermore, the study reveals that the size of banks exhibits a significant negative relationship with ROA. The study will provide valuable insights for financial managers, portfolio analysts, treasurers, and controllers on the practical implementation of contemporary cash management strategies.

Keywords: Conventional Banks, Debt Ratio, Liquidity Ratio, Financial Performance

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1. Introduction

Different academics have offered their interpretations of the concept of cash management. For instance, Mazanec (2022) describes cash management as the collection of procedures an organization employs to maximize the benefits from its flow of cash funds. The Chartered Institute of Management Accountants noted that because cash is considered the lifeblood of every firm, cash management is essential in every corporate organization (Enslin et al., 2022). Cash management permeates every aspect of business operations (Butt, 2022).

Cash collection, monitoring, and application to investment activities fall under the purview of cash management (Beebeejaun & Dulloo, 2023). Ensuring conventional banks' financial stability and solvency is critical (Zeidan, 2022). It is important to remember that any conventional bank with the aspiration of escalating earnings must constantly search to acquire the required resources for operation (Kallias et al., 2022; Miller et al., 2022; Sobh, 2020). The supply of these resources is inhibited by the ownership of the companies. The limited amount of money required for any investment opportunities can only be acquired since it keeps from being consumed (Lizcano et al., 2020). In contemporary times, cash management has become a critical global concern (Rizvi et al., 2019).

Businesses hold cash for various reasons; Xu et al. (2019) stated that the transaction motive denotes that people keep cash on hand to cover their daily expenses. The precautionary motive denotes that people keep cash on hand in case of emergencies, and the speculative motive denotes that people hold cash because they anticipate that the price of some of their inputs will drop in the future (Hou & Liu, 2020). They consequently set aside some money to benefit from the low price and buy in bulk to materialize or dispose of when prices rise (Qin et al., 2020).

In conclusion, this objective comprises keeping money on hand to cover a specific scheduled expense. The assumption that every invoice for business payments will go through the bank account is unreasonable. It is wise to prepare the financing of the conventional banks to take control of it once their future financial requirements have been identified (Salas-Molina et al., 2021). If the cash flow problem persists, the entity needs more permanent capital and is undercapitalized. The company may be strained out of business (Luo & Tian, 2022). Rochmah & Ardianto (2020) explained the free cash flow theory of cash management; management is in charge of storing cash to obtain control over it and make investment decision-making that may impact the conventional banks unit. As a result, the business banks' financial performance will be improved. Toumeh defines cash management as collecting and managing cash to ensure banks have the best possible cash balances (Toumeh et al., 2020). Cash management ensures that business banks always have enough cash on hand and that any surplus is put to good use (da Cruz et al., 2019).

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Business banks are responsible for preventing the excessive use of overdrafts as a source of funding (Lei et al., 2022). Overutilization of overdraft facilities can yield higher profits but may still require assistance in maintaining adequate cash flows (Bc & Simpson, 2023). Further analysis reveals that cash forecasting is a vital component of cash management

(Weytjens et al., 2021). Any corporate entity can predict its cash demand at any given time if it is aware of its future cash needs (Elghaish et al., 2021). Constructing a cash projection requires a business entity to have the capability to revise it adequately while recording the entity's cash inflows and outflows (Lei et al., 2022). Effective cash management techniques should ensure that surplus funds are wisely invested. Short-term surpluses may be invested in financial products, considering various factors (Johnson & Pastory, 2023). The marketability and profitability of short-term investments that offer a reasonable rate of return for the risk taken should be realized.

In essence, much of what we live and work for revolves around money. Entrepreneurs require cash to purchase and maintain other production inputs, such as capital, land, and labor (Anorue & Ugwoke, 2022). However, storing cash carries an opportunity cost, and management must account for any risks of cash shortages that could diminish bank profitability. Cash management is determined by the debt ratio, liquidity ratio, and bank size (De Vito & Gómez, 2020). The liquidity ratio is summarized as follows:

- Current ratio = Current Assets / Current Liabilities.
- Quick Ratio = (Current Assets - Inventories) / Current Liabilities.

The debt ratio is a financial metric calculated by dividing a bank's total liabilities by its total assets, indicating the relative magnitude of the bank's obligations concerning its asset holdings. The financial leverage of a bank is gauged by how much its assets are financed through debt. If a corporation's debt surpasses its assets, it may face a greater risk of failure, especially if the debt-to-assets ratio exceeds 1 (Feng & Wu, 2021). To calculate a bank's debt ratio, divide the total debts of the bank by its total assets:

- Debt Ratio = Total Debts / Total Assets.

Size illustrates that larger banks are better positioned in transactions than smaller banks, benefiting from higher profit levels due to leveraging economies of scale. Therefore, a positive relationship between size and income is anticipated. Rashid et al. (2020) explained financial literature as a proxy for bank size, using the total assets of the banks. A bank's size is quantified by taking the logarithm of the total asset value denominated in Pakistani rupees.

Shabbir & Wisdom (2020) stated that financial performance measures how effectively a conventional bank has utilized its resources to generate income. Gearing, profitability, and liquidity ratios are typically used to assess financial performance (Arora, 2022). Profitability ratios of any business entity demonstrate its resource utilization efficiency, while liquidity ratios indicate its capability to meet short-term obligations. Gearing ratios reveal the extent of debt a conventional bank has undertaken. Return on assets (ROA) will be used in this study to measure financial performance (Tang et al., 2022). The financial statements of business banks compile reports on their financial outcomes for a specific period, determining their financial performance. Return on assets (ROA) measures a bank's profitability in relation to its total assets. ROA is calculated by dividing a bank's net income by its total assets (Sachin & Rajesh, 2022). As a formula, it is expressed as follows:

ROA = Net Income / Total Assets.

Return on Assets = Net Income / Total Assets

Research questions are presented below:

- What is the Liquidity Ratio's effect on the conventional bank's ROA?

- What is the impact of the Total Debt ratio on the ROA of the conventional bank?

- What is the connection between Bank Size and the ROA of the conventional bank?

Research Objectives are given below:

The objective of this study is to assess the impact of the liquidity ratio on the financial performance of conventional banks in Pakistan, namely Muslim Commercial Bank (MCB), Habib Bank Limited (HBL), Soneri Bank (SB), Askari Bank, JS Bank.

- To determine the influences of the Total Debt Ratio of conventional banks of Pakistan MCB, HBL, SB, Askari Bank, and JS Bank on financial performance.

- To measure the influences of bank size of conventional banks of Pakistan MCB, HBL, SB, Askari Bank, and JS Bank on financial performance.

2. Literature Review

Kuhlicke et al. (2020) suggested three theoretical methods for managing cash: the theoretical approach, the operations research approach, and the financial approach.

The monetary theoretic approach to cash management concerns the behavior of businesses in managing financial resources. Monetary economists focus on describing the instrument underlying the demand for money by businesses (Zubair et al., 2020). Cash management involves executing monetary dealings, including procurement, vending, or obtaining and reimbursing funds. A significant aspect in monetary studies relates to the decision-making process involved in managing financial resources, driven by the inclination toward pecuniary gains (Wang & Huang, 2019). Managing cash balances is likened to managing inventories of goods, considering cash as an inventory held to fulfill obligations under trade agreements (Mertens & Metz, 2022). Firms presumptively hold money to lower transaction costs between cash and securities and minimize interest costs by retaining cash instead of using it for short-term investments (Chiapello, 2020).

The operational approach to cash management involves developing models to optimize fund allocation between cash and marketable securities based on organization's cash requirements, predictability levels, prevailing interest rates, and expenses associated with fund transfers (Saad et al., 2019). Deterministic and Stochastic Miller-Orr inventory models are fundamental transaction models extensively acknowledged in finance literature (Wieandt & Heppding, 2023; Abdullah et al., 2022).

The financial approach of cash management examines how cash and liquid assets impact company value and the ideal capital structure of a company (Hossain, 2021). This theory connects cash management's significance in an

imperfect market to financial theory, suggesting ways to incorporate cash balances into theoretical financial models like the Modigliani-Miller (M&M) model or the Capital Asset Pricing Model (CAPM). The inclusion of cash balances in these theoretical models demonstrates the implication of liquid assets for a company's value via the systematic risk constituent and engages the principle capital structure (Kumar et al., 2020).

The free cash flow hypothesis by Oded (2020) argues that management must hold cash to acquire control over it when making investment decisions; this theory and others are related to cash management. Dekker (2022) states that the longer the cash conversion cycle, the better the financial performance. Models like the Miller-asserted and the Baumol model approach assert that the optimal bound of the balance significantly affects business results. Effective cash management improves any bank entity's financial performance. Nasiri et al. (2020) measure financial performance as the careful utilization of assets to generate income, evaluating the financial strengths and weaknesses of the bank. Elements like corporate governance, bank size, liquidity, macroeconomic conditions, and leverage affect banks' financial performance (Mukherjee & Nuñez, 2019). Bemisal et al. (2023) studied free cash flow management and firms' profitability in the Pakistan stock market, finding a significant positive effect of cash management on financial performance.

3. Research Method

The present study analyses the positive and negative features of the recent performance of conventional banks. The sample period for this study is years from 2017-2021. The following are the conventional banks that have been selected to measure the performance.

- Habib Bank Limited (HBL)
- Askari Bank Limited (ABL)
- Jahangir Siddiqui Bank (JS)
- Muslim Commercial Bank (MCB)
- Soneri Bank (SB)

This research is based on quantitative analysis. Data was collected from the annual financial reports of conventional banks to determine management's impact on bank performance (Luo & Tian, 2022). The data for this research was collected from secondary sources in the form of financial statements of each bank through annual reports filed by the Pakistan Stock Exchange (PSX) and interest rates provided by the State Bank of Pakistan each year. Additionally, data were gathered from published articles and research journals. The study spanned a period of five years, from 2017 to 2021.
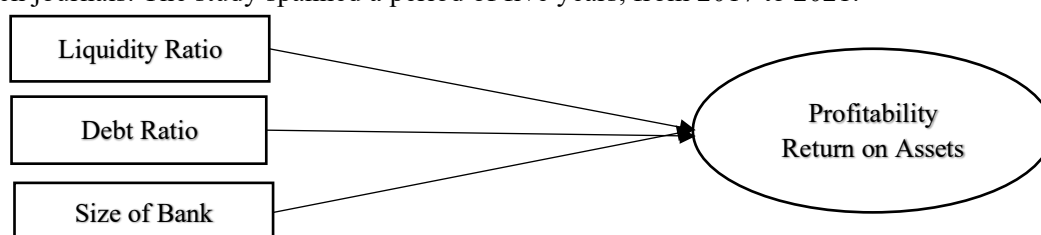

Figure 1: Conceptual Framework

3.1. Hypotheses of the study

H1= Conventional banks' ROA is positively and significantly influenced by their Liquidity Ratio.

H2= Conventional banks' ROA is considerably harmed by increasing debt levels.

H3= Conventional banks' ROA is positively and significantly influenced by their Bank size.

4. Empirical Analysis And Discussion

The current study used descriptive analysis and quantitative techniques to test the hypothesis. Additionally, inferential statistics techniques, such as correlation and regression analysis, were employed to derive results. Table 1 presents further details of the study, including the minimum, maximum, mean, and standard deviations. Over the five years, the average performance was 0.7708. The observed maximum firm performance was 1.86, while the minimum was 0.1. The average liquidity coverage ratio for the period was 186.0336, with a minimum of 106.00 and a maximum of 295.48. Moreover, the average total Debt ratio over the five years was 0.9390, with a maximum of 0.97 and a minimum of 0.89. The average bank size for the same period was 15.1923, ranging from a maximum of 22.19 to a minimum of 12.69.

Karl Pearson's correlation coefficient was employed to calculate the magnitude of correlation between the variables. These coefficients, symbolized by "r," range from +1 to -1. A correlation coefficient of 0 denotes no linear relationship between the variables. Values above 0 indicate a positive correlation, while values below 0 indicate a negative correlation. The correlation coefficient values categorize relationships: $r = 0.10$ to 0.29 represents a significantly weak relationship, $r = 0.30$ to 0.49 indicates a moderate relationship, and $r = 0.50$ to 1 represents a strong one. The correlation coefficient determines the presence or absence of a linear correlation between dividend policy and financial performance variables (PALLANT, 2005).

Table 2 details the relationship between variables. The results indicate a statistically significant weak positive correlation between Return on Assets and Liquidity ratio ($r = 0.243$, Sig = 0.242), with Return on Assets explaining 5.9% of the variation in Liquidity ratio. Additionally, there is a statistically significant strong negative correlation between Return on Assets and Total Debt ratio ($r = -0.849$, Sig = 0.000), where Return on Assets explains 72% of the variation in the Debt ratio. Moreover, a statistically significant weak negative correlation exists between Return on Assets and Bank Size ($r = -0.031$, Sig = 0.884), with ROA explaining 9.6% of the variation in bank size.

Table 3 summarizes the variable model obtained from the study. The correlation coefficient (R) value, ranging between -1 and 1, is 0.895 in this model, indicating a positive correlation between ROA, liquidity, solvency, and the bank's size. R Square, the coefficient of determination, represents the total variation in the dependent variable.

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Return on Assets	.01	1.86	.7708	.53891
Liquidity Ratio	106.00	295.48	186.0336	50.82313
Debt Ratio	.89	.97	.9390	.02398
Bank Size	12.69	22.19	15.1923	3.47995

Source: Author's Compilation

Table 2: Correlation Estimations

	Return on Assets	Liquidity Ratio	Debt Ratio	Bank Size
Return on Assets	1	.243	-.849**	0.884**
Liquidity Ratio		1	-.219**	.197**
Debt Ratio			1	-.263**
Bank Size				1

**. Correlation is significant at the 0.01 level (2-tailed). Source: Author's Compilation

From the statistics provided above, the R-squared values signify the goodness of fit of the model, indicating how well the regression model aligns with the actual data points. A coefficient of determination of 0.800 suggests that changes in the independent variables explain 80% of the variance in the dependent variable. The R-squared value of 0.800 indicates that the model is a strong representation of the actual data. Furthermore, the coefficient of determination of 0.895 implies that changes in the independent variables clarify 89.5% of the variance in the dependent variable. This coefficient elucidates the extent to which alterations in independent variables shed light on changes in the dependent variable (ROA) or the percentage of variation in ROA explained by the three independent variables (liquidity ratio, Total Debt ratio, and bank size).

Table 4 illustrates that the regression model significantly predicts the Return on Assets (ROA), indicating its statistical significance (F=28.033). The p-value from the table is 0.000, smaller than 0.05, suggesting that the independent variables effectively predict financial performance. This result underscores the statistical significance of the model (F=28.033, p=0.000<0.05).

In Table 5, the coefficients display ROA (Return on assets of conventional banks) as the dependent variable, while Liquidity ratio, Debt Ratio, and Bank size are the independent variables. The beta values in the table demonstrate the relationship between the independent and dependent variables. Specifically, ROA and liquidity ratio exhibit positive beta values, while Debt ratio and Bank size display negative beta values in the Sig. column. Significance in the Liquidity ratio, Debt ratio, and Bank size columns is noted due to their values being less than 0.05. When the significance value is below 0.05 and aligns with the hypothesis, it is supported; otherwise, it is not supported.

Therefore, based on the table, the hypotheses concerning the liquidity ratio and Bank size are not supported, whereas the Debt ratio hypothesis is supported. Research data emphasizes a positive correlation between the liquidity ratio and return on assets (ROA), a negative correlation between the total debt ratio and ROA, and a notably negative correlation between the bank's size and ROA.

Moreover, additional analyses involving COC, Current ratio, Quick Ratio, Inventory Turnover, and Tobin's Q demonstrate positive beta values. For instance, a beta value of $\beta1= -0.564$, p= 0.00 indicates that a 1% increase in the cash conversion cycle will decrease Cement Industries' profitability by 56%. Similar trends are observed in $\beta2$, $\beta3$, and $\beta4$, showing respective decreases in profitability with increases in specific ratios. These findings are in line with prior research (Hussain et al., 2021; Tiwari et al., 2023; Doğan & Kevser, 2020; Suhendry et al., 2021; Mulyadi et al., 2020; Ramadhanty & Sukmaningrum, 2020; Boisjoly et al., 2020; Ahmad et al., 2023; Garg & Meentu, 2022).

Table 3: R-Square Estimations

Model	R	R Square	Adjusted R Square	Std. Error
1	.895a	.800	.772	.25753

Predictors:(Constant), Bank Size, Liquidity Ratio, Debt Ratio.

Source: Author's Compilation.

Table 5: Regression Estimations

		Some of Squares	Df	Mean Square	F	Sig.
1	Regression	5.577	3	1.859	28.033	.000b
	Residual	1.393	21	.066		
	Total	6.970	24			

Source: Author's Compilation

Table 7 illustrates the Hypotheses Testing conducted in the study. The significance value (P-value) was used to determine support or lack of support for the hypotheses. Ordinary Least Squares (OLS) analysis indicates that the cash conversion cycle has an adverse effect on Tobin's Q in the Pakistani Cement industry. The (p=0.000) value is less than 0.05, thus supporting H1. Similarly, the (p=0.0040) value, also less than 0.05, supports H2. This signifies that the current ratio adversely impacts Tobin's Q in the Cement industry of Pakistan.

Moreover, OLS analysis suggests that the quick ratio also adversely affects Tobin's Q in the Cement industry of Pakistan. The (p=0.000) value being less than 0.05 supports H3, while the (p=0.0040) value similarly supports H4. These findings suggest that the inventory turnover ratio also adversely affects Tobin's Q in the Cement industry of Pakistan.

In summary, the associated theory is supported when hypotheses align; otherwise, they are not supported. Consequently, hypotheses related to size, liquidity, and solvency are all supported by the study's analysis.

Table 6: Coefficient Estimations

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	20.293	2.275		8.920	.000
Liquidity Ratio	.001	.001	.102	1.008	.325
Debt Ratio	-20.283	2.308	-.903	-8.787	.000
Bank Size	-.045	.016	-.288	-2.817	.010

Source: Author's Compilation

The results highlight that conventional Banks in Pakistan hold a liquidity ratio of 0.102, depicting a weak positive relationship between liquidity and returns on assets. Conventional banks exhibit low efficiency in covering short-term obligations during emergencies; current liabilities are considered liquid assets. Concerning the total debt ratio, conventional banks in Pakistan hold a -0.903 debt ratio, indicating a moderate negative correlation between the debt ratio and return on assets. This suggests that conventional banks have fewer liabilities than assets. A high ratio indicates that a bank may be at risk of defaulting on its loans if the interest rate suddenly rises. The size of the bank exhibits a moderate (-0.288) and significantly negative correlation with return on assets. Larger banks are better positioned in transactions than smaller banks, leveraging economies of scale, resulting in a higher profit level.

Table 7: Hypotheses Testing

S. No	Hypothesis	P=Value	Supported / Not Supported
H1	Conventional banks' ROA is positively and significantly influenced by their Liquidity Ratio.	0.325	Not Supported
H2	Conventional banks' ROA is considerably harmed by increasing debt levels.	0.000	Supported
H3	Conventional banks' ROA is positively and significantly influenced by their Bank size.	0.010	Supported

Source: Author's Compilation

5. Conclusions

The study's results and analyses lead to several conclusions regarding the primary objectives. Firstly, in measuring the influences of the liquidity ratio of conventional banks in Pakistan on financial performance, it was found that the Liquidity ratio exhibits an insignificant yet positive relationship with Return on Assets. Secondly, concerning the second objective, which evaluates the influence of the Total Debt ratio of conventional banks in Pakistan on financial performance, the study revealed a significant negative impact of the Total Debt ratio on the financial performance of these banks. Thirdly, regarding the objective of assessing the influence of bank size on the financial performance of conventional banks in Pakistan, it was observed that bank size holds a negatively significant correlation with financial performance.

Based on these findings, several recommendations emerge:

This study primarily relies on secondary data sourced from financial reports, which might occasionally be unreliable due to potential errors, require updates, or even be incomplete. The research focuses on profit maximization and includes five conventional banks in Pakistan over a span of five years. Future studies could consider expanding the number of banks studied and extend the period of financial performance analysis."

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