

Determinants of Financial Performance: An Evidence from Primary Cooperative Agriculture Developments Banks of Punjab

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Abstract

This research investigates the determinants of financial performance in Primary Cooperative Agriculture Development Banks operating in Punjab, India. By analysing the impact of Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity on Return on Assets (ROA), the study aims to offer insights into enhancing financial health and regional economic growth. Using a panel regression model, financial data from multiple periods and banks are analysed. Key findings indicate that maintaining adequate capital positively influences ROA, while prudent lending practices are crucial for asset quality maintenance. Efficient management enhances ROA, and higher earnings and effective asset use contribute to profitability. While liquidity management's impact is limited, its role in meeting short-term obligations remains significant. This study provides actionable insights for banks and policymakers, emphasising capital reserves, prudent lending, operational efficiency, and asset utilisation. Effective liquidity management remains important. This research contributes uniquely to understanding financial determinants in cooperative banks, guiding decision-making, policy formulation, and promoting agricultural development and economic growth.

Keywords: Bank Performance, CAMEL, Primary Cooperative Agriculture Development Banks, Panel Data

Introduction

The financial sector serves as the backbone of a country's economy, playing a vital role in facilitating sustainable economic growth through efficient monetary intermediation. A robust financial system promotes investment by providing funds for productive business opportunities, mobilising savings, and effectively allocating resources. The banking system is considered the heart of the economy, as it mobilises savings and channels funds from savers to borrowers, thus utilising the country's resources for development. Banks play a crucial role in a country's development through resource mobilisation and continuous funding of various economic activities. To ensure sound financial performance, these banks must generate sufficient income to cover their operational costs. Moreover, during times of economic downturns and crises, banks contribute to stabilising the economy. The financial performance of banks has significant implications for the overall economic growth, making it crucial for resource providers to make informed investment decisions. A well-performing financial institution not only rewards its shareholders for their investment but also encourages additional investments that contribute to economic growth.

Conversely, poor banking performance can result in financial failures and crises, which have a detrimental impact on economic growth. Profitability is a key

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parameter for evaluating the performance of financial institutions, and it depends on various factors such as Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity. The performance of banks can be influenced by both internal and external factors. Internal factors are unique to each individual bank and are affected by board and management decisions. On the other hand, external factors are sector-wide or country-wide and lie beyond the control of individual banks. While operational efficiency and effectiveness are crucial for evaluating a company's performance, it is important to note that a company with better efficiency may not always exhibit better effectiveness. Financial ratio analysis plays a significant role in measuring various aspects of a company's performance and fundamentals, aiding investors in identifying better investment options. The financial sector's role in promoting economic growth is essential, and banks play a key part in this process. Understanding the factors that influence financial performance is crucial for ensuring the stability and growth of the banking system and, consequently, the overall economy. However, it is essential to closely monitor the performance of banks and ensure their compliance with regulations and central bank requirements. This oversight is critical to fostering a resilient banking sector and preventing any harmful practices that could potentially lead to economic downturns and crises, given the significant impact banks have on a country's welfare and economic progress. A healthy banking sector has a positive impact on all economic sectors by financing productive investments from internal resources, making it better equipped to handle adverse economic shocks. To achieve profitability and maintain a sound financial standing, banks must carefully assess the factors influencing their profitability, which may fluctuate with changes in the macroeconomic and legal landscape.

For stakeholders in developed economies, such as banks, investors, borrowers, and researchers, evaluating banks' profitability is of great interest. Similarly, in developing economies like India, where the banking industry faces challenges during economic downturns and crises, conducting comprehensive research on banks' financial health and advancements becomes crucial for both bank management and researchers. Therefore, continuous monitoring of banks' activities to gauge their performance and progress toward goals becomes a primary

responsibility for bank management and central bank authorities. Such efforts play a pivotal role in promoting a stable and robust banking sector, thereby making significant contributions to overall economic growth and development in the country. One of the significant players in the banking sector of India is the primary cooperative agriculture development banks. These banks have a crucial role in supporting the agricultural sector, which is often a critical driver of economic development in many countries.

Primary cooperative agriculture development banks are specialised financial institutions that cater to the financial needs of farmers, agricultural cooperatives, and rural communities. They play a pivotal role in promoting agricultural development by providing funds for productive farming activities, offering credit facilities, and mobilising savings from rural areas. By efficiently channelling financial resources to the agricultural sector, these banks contribute to improved productivity, increased agricultural output, and enhanced livelihoods for rural communities. In many developing economies, agriculture is a primary source of income for a significant portion of the population. Therefore, the success and effectiveness of primary cooperative agriculture development banks directly impact the overall well-being of the agricultural sector and, consequently, the country's economic growth. To ensure the sustainable growth of the agricultural sector, it is essential to closely monitor the financial performance of these cooperative banks.

It is essential to assess the adequacy of the capital, the quality of the assets, the effectiveness of the management, the profitability, and the liquidity of the banks in order to maintain their stability and efficiency. During times of economic downturns and crises, primary cooperative agriculture development banks play a vital role in supporting farmers and rural communities. Their ability to provide financial support and stability during such challenging periods helps mitigate the adverse effects on the agricultural sector and contributes to overall economic resilience. Primary cooperative agriculture development banks hold a strategic position within the financial sector, playing a critical role in fostering sustainable economic growth by supporting the agricultural sector. Monitoring their financial performance and ensuring compliance with regulations is crucial to maintaining a robust and effective banking system that positively impacts the economic development of the country.

Literature Review

The recent surge in research papers aimed at identifying the internal variables influencing banks' profitability, referred to as internal determinants of profitability (Gungor, 2007), underscores the significance of understanding these factors. These variables encompass financial ratios that gauge a bank's capacity to maintain sufficient capital for sound asset financing and optimal earnings and liquidity management. For instance, a study by Mamatzakis and Ramoundo (2003) in Greece emphasised that banks' strategic planning focused on key variables that substantially impact profitability, such as expenses and the ratios of loans and equity to assets.

Similar findings were found in Badola and Verma's (2006) study of Indian banks between 2001 and 2004 which highlighted that non-interest revenue, operating costs, provision contingencies, and bank spread were important predictors of profitability. Guru, Staaunton, and Balahanmugam's study (2002) on Malaysian banks highlighted the crucial role of expense management in affecting profitability. According to a study from Switzerland, better capital management and more lending had a positive effect on the success of commercial banks. This is especially true for Indian banks. Athanasoglou, Delis and Staikouras (2008) demonstrated a positive relationship between equity to total assets and profitability, indicating that well-capitalised banks generally achieve higher profitability.

When examining the banking industry in Pakistan, Javaid, Anwar, Zaman and Gafoor (2011) found a strong correlation between bank profitability, equity, and consumer deposits. Meanwhile, a study on Malaysian banks for the years 2003–2009 by Ong and Teh (2013) revealed that internal factors significantly impacted banks' performance. Saeed (2014) found favourable correlations between bank size, loan volume, capital availability, customer deposits, interest rates, liquidity, and profitability in a related study of UK banks.

Kapaya and Gwahula (2016) examined Tanzanian banks' performance during 1998–2010 and found that factors like capital adequacy, credit facilities, bank risk, financial market development, and diversification significantly

affected Return on Assets (ROA). Kumari's research (2017) on South African banks from 2005 to 2009 indicated that the global financial crisis impacted performance, yet liquidity, credit quality, and profitability improved over the studied years. Nagarkar (2015) underscored the strong reliance of Indian commercial banks on deposits.

Given the ever-evolving challenges in understanding bank performance determinants, researchers are increasingly adopting modelling approaches such as the CAMEL model. A bank's performance is assessed by this monitoring system based on five factors: capital, assets, management, earnings, and liquidity. It is common practise to evaluate bank performance and how it affects profitability using the CAMEL technique.

Each element of the CAMEL model holds specific significance. Capital evaluates a bank's total capital and securities held to determine its resilience to financial calamities. Asset quality reflects a bank's operational support, while Management evaluates decision-making efficiency. Earnings assess profit generation from lending activities, and Liquidity gauges overall resource management. The methodology has been used in a number of studies, including Mustafa and Taqi's (2017) study of the Punjab National Bank.

Ahmeti and Bekteshi (2014) examined the impacts of the global financial crisis on banks' performance in Kosovo using the CAMEL model. Siva and Natarajan (2011) found CAMEL to be a useful instrument for evaluating the resilience of Indian banks in times of crisis. The CAMEL model was employed by Nag and Khatik (2014) and Mohammady (2019) to evaluate the performance of Afghan banks.

Similar results emerged from studies on NCB and PCB banks in Bangladesh (Mohiuddin, 2014) and Malaysian banks (Muhmad & Hashim, 2015). Bastan, Mazrae and Ahmadvand (2016) assessed the performance of Iranian banks and came to the conclusion that management efficiency, adequate capital, and asset quality were the most important metrics. Munir, Salwa and Bustamam (2017) investigated Indonesian and Malaysian banks, finding significant relationships between CAMEL elements and profitability. Ebrahimi, Bahraminasab and Seyedi (2017) explored Tehran's banks, highlighting capital adequacy,

management quality, and liquidity as crucial factors. The CAMEL model was also applied in Jordan, where Ahmad Ali Bawaneh and Ahmad Dahiyat (2019) found that CAMELS elements significantly affected commercial banks' performance, except for capital adequacy and asset quality.

The presented study aims to uncover the key determinants impacting the profitability of Primary Cooperative Agriculture Development Banks by forming hypotheses for each element within the CAMEL model. This research builds upon extensive literature and previous studies, aiming to contribute to the understanding of bank performance determinants.

Research Methodology

The research methodology involves utilising a panel regression model to analyse financial data from Primary Cooperative Agriculture Development Banks in Punjab. The research design, data collection, and analysis methods are structured to provide meaningful insights into the determinants of financial performance and contribute to informed decision-making in the banking sector.

Research Design

- The study employs a quantitative research design.
- Utilises a panel regression model to capture cross-sectional and time-series variations.
- Allows analysis of individual banks over multiple periods.

Data Collection

- *Data Source:* Financial statements of Primary Cooperative Agriculture Development Banks.
- *Time Period:* The study covers a specified 10 year 2010–2011 to 2019–2020 period, considering multiple years.

Variables

- *Dependent Variable:* Return on Assets (ROA).

- *Independent Variables:* Capital Adequacy Ratio (CAR), Asset Quality Ratios (AQ1 and AQ2), Management Efficiency Ratios (ME1 and ME2), Earnings Ratios (E1 and E2), Liquidity Ratios (LQ1 and LQ2).

Model Specification

The regression model used is a panel regression model, which takes into account both cross-sectional and time-series data. This allows for the analysis of individual banks over multiple periods. The model equation is as follows:

$$ROA_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 AQ1_{it} + \beta_3 AQ2_{it} + \beta_4 ME1_{it} + \beta_5 ME2_{it} + \beta_6 E1_{it} + \beta_7 E2_{it} + \beta_8 LQ1_{it} + \beta_9 LQ2_{it} + \varepsilon_{it}$$

Where:

- ROA_{it} represents the financial performance of bank i at time t , expressed by ROA.
- β_0 is the intercept term.
- β_1 – β_9 are the coefficients of the parameters, representing the effects of the independent variables on ROA.
- CAR_{it} is the Capital Adequacy Ratio of Bank i at time t .
- $AQ1_{it}$ and $AQ2_{it}$ are two different Asset Quality Ratios of Bank i at time t .
- $ME1_{it}$ and $ME2_{it}$ are two different Management Efficiency Ratios of Bank i at time t .
- $E1_{it}$ and $E2_{it}$ are two different Earnings Ratios of Bank i at time t .
- $LQ1_{it}$ and $LQ2_{it}$ are two different Liquidity Ratios of Bank i at time t .
- ε_{it} represents the error term, accounting for unobserved factors and random variations.

Variable Defined

The capital adequacy ratio, asset quality ratio, management efficiency ratio, earning ratio, and liquidity ratio were all included as explanatory variables in this

study. While ROA used as Dependent variable. The Dependent variable with their proxy is discussed as below:

Return on Asset

The Return on Asset ratio is as an important Profitability ratio because it measures the ability of banks to generate the profits from its assets. It measures the amount of profits earned from their economic resources or investment in total assets. It can be calculated as follow:

$$\text{ROA} = \text{Net profits} / \text{Total assets}$$

Capital Adequacy Ratio

Capital Adequacy Ratio has emerged as one of the major indicators of the financial performance of a bank. Capital is one of the important determinants of the financial performance of banks. The capital adequacy ratio, or the ratio of total advances to total assets, is one of the important components that make up capital adequacy (Muralidhara & Lingam, 2017). The ratio was also calculated by Muluaem (2015) using shareholders' capital/total assets or gross capital, and the higher the ratio, the better the bank is compared to those with lower ratios. The capital adequacy ratio is positively connected with return on asset and statistically significant at 10%, as shown by Muluaem's (2015) study. This ratio can be represented by the following ratio:

$$\text{Capital/total asset (CA1)}$$

Asset Quality

Assets quality shows the degree of financial strength and risks in a bank's assets, mainly loans and investment. A lower non-performing loan demonstrates the strength of a bank's asset portfolio. According to Sangmi and Nazir (2010), the bank performs better the lower the ratio. A metric of asset quality used by Muralidhara and Lingam (2017) and Echekoba et al. (2014) was the ratio of non-performing assets to total assets. Additionally, Muhamad and Hashim (2015) as well as Capraru & Ihnatv measured it by the ratio of loan loss provisions to total loans granted; the lower the ratio, the better the bank's asset quality is compared to other banks. This implies that management

can enhance its profitability by carefully watching the health status of its assets (loans and advances) A broad evaluation of asset quality is one of the most important dimensions in assessing the current situation and future viability of any bank. Assets quality ratio's which proxies for analysing the performance of state cooperative Agriculture development bank of Punjab are as follows:

$$\text{Provision for NPA/total loan (AQ1)}$$

$$\text{NPA/Loan \& Advance (AQ2)}$$

Management Efficiency

Management Efficiency is another important component of the CAMEL and model that ensures the survival and growth of a Bank. It is another method of determining the financial well-being of banks. The ratio of total loans and advances to total assets (loans and advances/total assets) was used by Tadios (2016) to measure it. Asset quality evaluates the risks associated with the bank's asset portfolio, namely the calibre of the loans the bank issues. The profitability (ROA) of banks is negatively yet statistically significantly impacted by asset quality, according to a study by Ermias (2016). It relates to the management's capacity for effective resource management, income intensification, and declining operational expenses, which can be assessed using various financial connections or ratios.

It is also used to find out whether a bank is relatively over or understaffed. The CAMEL technique provides insight into a few ratios that can demonstrate the management effectiveness of banks, such as Interest Expenses to Total Income and Interest Expenses to Total Loan, even if there are no set criteria for evaluating management effectiveness (Hashim & Muhammad).

As depicted by Muluaem (2015), the management efficiency ratio exhibit the highest negatively correlated variable with return on asset even though different researchers used different ratios to measure it, the most important method of ratio used as a proxy of management efficiency are the following Ratio's:

$$\text{Interest earned to total assets (ME1),}$$

$$\text{Interest exp to total loan (ME2),}$$

Earnings Ratio

Earnings quality reflects the quality of the bank's profitability and its ability to earn consistently generate earnings. According to some scholars such as, Muhmad and Hashim (2015), Zagherd and Barghi (2017), and Echeboba et al. (2014) is the best measurement that evaluates the earning performance of a bank obtained by dividing Interest income by total assets, Interest expenses to Total Assets, Interest Income to Total Income it reflects the extent to which a bank can generate profits from its assets. It proxies by following Ratios in this study:

Interest Income to Total Income (E1)

Interest Expenses to Total Assets (E2)

Liquidity Ratio

Liquidity is a critical aspect that represents the ability of banks to meet the financial obligation. For a bank it is important to maintain the correct level of liquidity, otherwise, it leads to declined earnings. It refers to the capacity of banks to cover their deposit liabilities with readily accessible liquid assets. Liquidity ratios were measured using a variety of methods by various experts. For instance, Ermias, 2016 used the ratio of liquid assets to total assets and liquid assets to total deposits to measure the liquidity of banks. According to Mulualem (2015), the liquid assets to deposit ratio (liquid assets/total deposit) is

another way to measure liquidity. According to Mulualem (2015) and Muhamad and Hashim's study, liquidity ratio and return on asset have a negative correlation. This is in line with the result depicted by Abdu Mohammed Assfaw (2018) that indicated as there is an insignificant negative relationship between liquidity management and ROA of sampled Ethiopian private commercial banks. The most important method of ratio used as a proxy of Liquidity is the following Ratio's

Liquid asset/Total assets (L1)

Liquid assets/Total Deposits (L2)

Result and Discussion

Descriptive Statistics

The descriptive statistics for the dependent and the independent variables are presented below. The dependent variable is financial performance of Primary Cooperative Agriculture Development Banks are measured by ROA. Based on the CAMEL model, the independent variables are bank-specific factors.

Table 1 presents the descriptive statistics for all variables considered in the model. It shows the characteristics of the variables used by revealing the statistical mean, standard deviation, minimum and maximum values.

Table 1: Descriptive Statistics of the Variables

<i>Variables</i>	<i>Observation</i>	<i>Mean</i>	<i>S. D</i>	<i>Minimum</i>	<i>Maximum</i>
ROA	890	0.010	0.013	0.040	1.865
CA1	890	0.045	0.017	0.003	0.3408
AQ1	890	0.008	0.018	0.002	0.1748
AQ2	890	0.005	0.009	0.003	0.0655
ME1	890	0.915	0.232	-0.076	1.970
ME2	890	0.055	.016	0.008	0.2860
E1	890	0.077	0.027	0.005	0.2763
E2	890	0.083	0.0330	0.0010	0.7789
LQ1	890	0.010	0.020	-0.078	0.4465
LQ2	890	1.091	5.729	0.004	1.330

Source: Financial statement and own computation through GRETL.

The analysis of descriptive statistics for primary cooperative banks' financial performance reveals important insights into their overall health and characteristics. The study examined key indicators, including Return on Asset (ROA), Capital Adequacy Ratio (CA1), Asset Quality Ratios (AQ1 and AQ2), Management Efficiency Ratios (ME1 and ME2), Earnings Ratios (E1 and E2), and Liquidity Ratios (LQ1 and LQ2). On average, the banks generated a return of 1% from their assets (ROA of 0.010), indicating a modest profitability level. However, there was notable variability among the banks, as indicated by the standard deviation of 0.013. According to the capital adequacy ratio (CA1), banks typically retained 4.5% of their total assets in capital reserves.. The study also observed variations in capital adequacy ratios, with the lowest at 0.003 and the highest at 0.3408. Regarding asset quality, the provision for non-performing assets (NPA) accounted for approximately 0.8% of total loans on average (AQ1 of 0.008). The asset quality ratios (AQ1 and AQ2) exhibit variability, with the highest observed asset quality ratio (AQ1) at 0.1748 and the highest observed NPA to total loans and advances ratio (AQ2) at 0.0655. The management efficiency ratios (ME1 and ME2) reflected different perspectives on interest income and expenses. The study highlighted variations in management efficiency among the banks. The earnings quality ratios (E1 and E2) assessed the banks' earnings from interest income and expenses. On average, interest income represented 7.7% of total income (E1 of 0.077), while interest expenses accounted for 8.3% of total assets (E2 of 0.083). The analysis revealed some variability in earnings ratios among the banks. Lastly, the liquidity ratios (LQ1 and LQ2) provided insights into the banks' ability to meet short-term obligations. On average, liquid assets represented 1% of total assets (LQ1 of 0.010), and liquid assets covered 109.1% of total deposits (LQ2 of 1.091). The wide standard deviation for LQ2 (5.729) indicated substantial variation in liquidity among the banks. Overall, the descriptive statistics shed light on the financial performance of the primary cooperative banks.

Correlation Analysis

The correlation coefficient between the explanatory variables provides the relationship between the variables. The correlation of variables analysis shows

how the selected independent variables can influence the financial performance which is indicated by ROA and ROE. Correlation is also a method used to test the multicollinearity amongst the independent variables.

Table 2: Correlation Matrix between Variables

<i>Variables</i>	<i>ROA</i>
CA	0.2327
AQ1	-0.2408
AQ2	-0.1246
ME1	-0.1352
ME2	-0.3326
E1	0.3892
E2	0.2170
LQ1	-0.0096
LQ2	-0.0793

Source: Financial statement and Own Computation through GRETL).

The correlation matrix presents the relationships between the dependent variable, Return on Assets (ROA), and various independent variables for Primary Cooperative Agriculture Development Banks in Punjab. Table 2 indicate that capital adequacy (CA) has a weak positive correlation with ROA, while asset quality ratios (AQ1 and AQ2) exhibit weak negative correlations, suggesting that deteriorating asset quality negatively impacts ROA. Management efficiency ratios (ME1 and ME2) demonstrate weak negative correlations, indicating that higher management efficiency improves ROA. On the other hand, earnings ratios (E1 and E2) show moderate positive correlations, implying that higher earnings contribute positively to ROA. Liquidity ratios (LQ1 and LQ2) exhibit very weak negative correlations, suggesting that liquidity has minimal impact on financial performance. Overall, the correlation matrix highlights the varying degrees of influence that these financial ratios have on the financial performance of the banks in Punjab.

Regression Analysis

The regression analysis in this case is conducted to examine the relationship between the financial performance of banks (measured by ROA) and various variables from the CAMEL model. The performance a of banks is evaluated using the CAMEL model.

Table 3: Regression Results for ROA (Model-One)

Fixed-effects, using 890 observations

Included 89 cross-sectional units

Time-series length = 10

Dependent variable: ROA

Robust (HAC) standard errors

	<i>Coefficient</i>	<i>Std. Error</i>	<i>Z</i>	<i>P-Value</i>	
Const	0.0251037	0.00590059	4.254	<0.0001	***
CAR	0.0454908	0.0147205	3.090	0.0020	***
AQ1	-0.0925250	0.0317521	-2.914	0.0036	***
AQ2	-0.00252685	0.0117030	-0.2159	0.8291	NS
ME1	-0.0284585	0.00690022	-4.124	<0.0001	***
ME2	-0.457735	0.0577875	-7.921	<0.0001	***
E1	0.405739	0.0503662	8.056	<0.0001	***
E2	0.0412590	0.0193012	2.138	0.0325	**
LQ1	-0.00511984	0.0114571	-0.4469	0.6550	NS
LQ2	-2.84289e-05	1.80179e-05	-1.578	0.1146	NS

Source: Financial statement and Own Computation through GRETL).

(Dependent Variable: ROA, Explanatory Variable: CAR, AQ, ME, E, LQ and P-values indicate Coefficients at statistically significant level 1%, 5 % and 10 %.)

The regression results are presented in Table 3. The analysis includes 890 observations, with data from 89 cross-sectional units (banks) over a time-series length of 10 periods. Robust (HAC) standard errors are used to account for potential heteroscedasticity and autocorrelation in the data. Each coefficient in the regression results indicates the estimated effect of the corresponding independent variable on the dependent variable (ROA). The “Z” column represents the calculated z-score for each coefficient, while the “p-value” column indicates the statistical significance level. In this analysis, the asterisks (*) next to the p-values indicate coefficients that are statistically significant at the 1% level, suggesting a highly significant relationship between those variables and ROA. The double asterisks (**) denote significance at the 5% level, while “NS” (not significant) indicates that the coefficient is not statistically different from zero at the 10% level. The model includes both cross-sectional and time-series data, allowing for an analysis of individual banks over multiple time periods.

The table presents the regression results for Return on Assets (ROA) in Model-One, using fixed-effects with 890 observations and 89 cross-sectional units over a time-

series length of 10. The dependent variable is ROA, and robust (HAC) standard errors are utilised. The regression coefficients indicate the strength and significance of the relationships between ROA and the independent variables. The intercept (const) is statistically significant at the 1% level, with a coefficient of 0.0251037, suggesting a significant baseline value for ROA even without considering other variables. Capital Adequacy Ratio (CAR) has a positive and statistically significant impact on ROA ($p = 0.0020$), implying that higher levels of capital adequacy are associated with improved financial performance. Asset Quality Ratio 1 (AQ1) also negatively affects ROA with statistical significance ($p = 0.0036$), indicating that deteriorating asset quality has a negative impact on financial performance. However, Asset Quality Ratio 2 (AQ2) does not show statistical significance, suggesting it may not significantly influence ROA in this analysis. Management Efficiency Ratios (ME1 and ME2) have negative coefficients that are statistically significant at the 1% level, indicating that higher management efficiency leads to improved ROA. Earnings Ratios (E1 and E2) have positive coefficients and are statistically significant at the 1% level, suggesting that higher earnings contribute positively to ROA. On the

other hand, both Liquidity Ratios (LQ1 and LQ2) do not demonstrate statistical significance, suggesting they may not have a significant impact on ROA in this particular analysis. These findings offer valuable insights into the factors influencing the financial performance of Primary Cooperative Agriculture Development Banks in Punjab and can guide strategies for enhancing their overall effectiveness and profitability.

Conclusion

In summary, this study brings to light the intricate web of factors that influence the financial health of Primary Cooperative Agriculture Development Banks in Punjab. The banking sector's significance as a cornerstone of economic growth cannot be overstated, and the findings from this research offer valuable insights into maximizing the positive impact these banks can have on the agricultural sector and the overall economy. As fundamental pillars of economic development, the financial sector facilitates the flow of funds, investment, and resource allocation. This study underscores the importance of prudent financial management and robust operational practices in ensuring the stability and prosperity of the banking system. With a keen focus on Capital Adequacy, Asset Quality, Management Efficiency, Earnings, and Liquidity, banks can strategically align their operations to promote sustainable financial performance. Furthermore, this research resonates not only within the confines of Punjab but also holds relevance for other regions and economies where agricultural development and rural communities are vital contributors to economic growth. The findings emphasize the need for tailored financial strategies that cater to the unique needs of these sectors, ensuring that financial institutions remain agile in adapting to the changing economic landscape.

Overall, the study's conclusions illuminate a path forward for Primary Cooperative Agriculture Development Banks to thrive. By maintaining robust capital reserves, prioritizing asset quality, optimizing management efficiency, bolstering earnings, and carefully managing liquidity, these banks can empower the agricultural sector and, consequently, contribute to the overall economic progress of the region. The symbiotic relationship between the financial sector, agricultural development, and economic growth is underpinned by these critical

determinants of financial performance. The study's insights are not just academic; they have real-world implications that can guide policy decisions, shape business strategies, and pave the way for a more prosperous and resilient financial ecosystem.

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