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BANKS PROFITABILITY, DEBT, LIQUIDITY AND INFLATION: A CASE OF PAKISTAN

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Abstract

Measuring the profitability is known to survive for an organization which is not in profitable condition while an organization with vast profit has the capability to provide its shareholders with huge benefits on their investment. This study majorly investigates the determinants of profitability of Commercial Banks by Return on Assets (ROA) and Return on Equity (ROE) through micro-environment and macro-environment factors: debt and liquidity and macro-environment factor is inflation rate. This study based on secondary data analysis and includes 26 commercial banks working in Pakistan. Multiple regression used to examine the influences of independent variables (debt, liquidity, and Inflation) on dependent variable profitability (ROA and ROE).mAll other factors have influence on ROE and ROA except assets is insignificant statistically. The study findings have implications for both levels: at firm level as well as economic level with respect to micro-environment and macro-environment effects.

Key Words: Profitability, Debt, Liquidity, Inflation, Return on Assets (ROA), Return on Equity (ROE)

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INTRODUCTION

Profitability is essential for the endurance and attainment of an organization for a period of long term. Profitability of an organization also affects its employment, economic growth, technological growth and innovation (Yazdanfar, D. 2013). measuring success the profitability of an organization is the most important factor being the difficult to survive. On the other hand, an organization which is vastly profitable has the capability to provide its shareholders with huge benefits on their investment (Hofstrand, D. 2009). This study majorly investigates the determinants of profitability of Commercial Banks using two major categories includes, assets and liquidity. While the Macro-Environment factors affecting the profitability of Commercial Banks includes, Gross Domestic Product (GDP. There are a number of measures of profitability of an organization but this research measures the profitability in terms of : Return on Assets (ROA) and Return on Equity (ROE) (Marak, D. R., & Chaipoopirutana, S. 2014; Ayadi, N., & Boujelbene, Y. 2012, Obert, M., & Olawale, F. 2007: Khan et al., 2021:Lancaster, 2007:Moudud-Ul-Huq & Ashraf, 2022). Some authors defined the determinants of Profitability as Internal factors and external factors. Internal factors are those which are under the control of the organization. On the other hand external factors includes those variables which are beyond the control of the organization. Examples of internal factors comprised of assets, expenses, liquidity, capital, management and funds. While the examples of external factors includes market conditions, inflation, ownership, lack of investment funds, supply of money, size, policies and regulations, GDP, concentration and competition (Nawaz & Hanif, 2018: Penman, 2007: Petersen & Schoeman, 2008:Ali et al., 2019: Astuti & Stephen, 2025: Anderson, Fornell, & Lehmann, 1994:Haron, 1996). At the microeconomic level, organizational performance is a direct outcome of the effective management of financial resources across all financing, operational, and investment activities. To enhance economic outcomes, managerial decisions must be based on comprehensive data from all internal operations. Annual financial statements provide a summary of a firm's financial position and performance, serving as the primary tool for analysts to evaluate how assets are used to create value. Sustaining long-term success requires implementing coherent financial and economic strategies informed by a thorough understanding of both internal and external conditions. Ultimately, the effectiveness of managerial choices depends on identifying and efficiently utilizing the key components that drive superior performance (Burja, 2011).

Liquidity

In topical years, financial observers have allied stock market fizzes and covering price bangs to additional liquidity in the system of finance and an extensive economic policy (Adrian & Shin, 2008). In words of Chandra (2008), the liquidity of a firm is referred as the capability of a firm to satisfy its responsibilities for a period of short term, which is frequently a retro of lone year. Haron, S. (1996) has derived conclusions from his investigation that liquidity spectacles a statistically significant influence on the profitability.

Debt

According to (Ebert & Griffin, 1998) the debt of an organization is referred to its total liabilities. The results findings of the variable debt are highly mixed in literature. Some people found that debt has positive relationship with profitability of an organization (Obert & 2007). While some researchers found a negative correlation between debt and profitability of an organization (Marakv & Chaipoopirutana, 2014).

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Return on Assets (ROA)

In words of Gitman 2006 ROA processes the overall efficacy of management in producing revenues with the assets available to the firm. The ROA gives facts about how much revenues are produced at average by every component of assets. Consequently, the ROA is a pointer on how professionally an organization is being operate.

Return on Equity (ROE)

The ROE is referred in words of Gitman, (2006) as revenues received on the investment made by ordinary shareholders of the firm. This fraction can also articulated as a percentage and can also be calculated through a fraction of net earnings (take earnings excluding interest and tax) by capital of owners. By dividing the interest and tax of operating profit, the net earnings are computed. Then a fraction of shareholders capital and the value of net earnings obtained is made (Obert & Olawale, 2007).

Inflation

Azeem Qureshi & Yousaf, 2014, Chowdhury & Rasid, (2020) and Mises (1912), argued that the term inflation is not an economic term. He argued that inflation depends on some popular or political considerations. This is because he used the words inflationism and deflationism instead of inflation or deflation because it encompasses the changes (increase or decrease) in the behavior of money. He explained the term inflation as: a rise in the magnitude of money which is not equipoise by a consistent upsurge in the demand of money so that a reduction in the impartial exchange value of currency essentially transpire. He further argued that the concept of inflation has close relations to level of prices or index numbers and economies should be careful in using such terms (Cachanosky, 2011).

Research Objectives

- To find out the relationship between micro environment components (debt and liquidity) to profitability measure of return on assets (ROA) and return on equity (ROE).
- To find out the association between macro environment components (inflation) and profitability measure of return on assets (ROA) and return on equity (ROE).

Research Questions

- Do micro environment components including debt and liquidity are related to return on assets (ROA) and return on equity (ROE)?
- Do macro environment component inflation has impact on return on assets (ROA) and return on equity (ROE)?

LITERATURE REVIEW

At microeconomic level the profitability has been premeditated contingent also on gauges, such as liquid ratio, current ratio, working capital to total asset and receivables turnover ratio. Some other studies contemplate the assessment of performance articulated by "earnings before interests and taxes (EBIT)" and the accompanying risk caused by the stimulus of consuming a specific structure of financing, or communicating it via return on equity (ROE), economic value added (EVA), earnings per share and operating profit margin (OPM). Previous studies also found that the profitability of an organization may upsurge also by hastening the rotation of capitals which an organization owns, features which can partake in this mode to various economic courses, subsidizing in superior quantity for the purpose of value creation and yield (Burja, 2011). This study follows the procedure presented by (Marak, & Chaipoopirutana, 2014) and take two measures of profitability: return on assets (ROA) and return on equity (ROE).

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Liquidity

In words of Chandra (2008), the liquidity of a firm is referred as the capability of a firm to satisfy its responsibilities for a period of short term, which is frequently a retro of lone year. Liquidity may be referred as a characteristics under which assets can be realized with more surely at small notification without cost, for instances, call loans and bills can more easily realized than investment specifying that call loans and bills are more liquid than investments. On the other hand, investments can more easily realized (liquid) than advances (Hicks, 1975). In topical years, financial observers have allied stock market fizzes and covering price bangs to additional liquidity in the system of finance and an extensive economic policy (Adrian & Shin, 2008). A term which is closely related to liquidity is "Funding liquidity". The funding liquidity is demarcated as "the ability to settle obligations immediately when due". As a result, (as an example) a bank referred as "illiquid" if it is incapable of settling down the responsibilities in time. On the basis of this definition, it can be concluded that the risk of funding liquidity is drawn from the leeway that, above a particular vista, the bank will turn out to be incapable of settling down its responsibilities when payable. Funding liquidity is fundamentally referred as a "zero-one concept", which means, the bank either can resolve compulsions, or the bank cannot. Another term which previous literature associated to the Funding liquidity, is "Funding risk". Funding risk, on the contrary, can yield an enormously numerous values which reflect the extent of risk. The dissimilarity between liquidity or funding liquidity and liquidity risk is forthright and parallel to other risks. As an example, a parallel discrepancy may be prepared between acclaim risk and evasion. A debtor can be in evasion or not, can be quoted as an example. At the same time, as evasion is a twofold concept dignified in time at one specified point, acclaim risk is not. The credit risk connected with a credit is dogged through the possibility that the debtor will evasion over a specified horizon. Consequently, credit risk is permanently used as an advance observing measure and may take countless numerous values, dependent on the fundamental credit praiseworthiness of the debtor. Astonishingly a difference in the explanation of "funding liquidity" and "funding liquidity risk" is not maintained by experts and instructors (Drehmann, M. 2008). This study follows the framework of Haron, (1996) which has derived conclusions from his investigation that liquidity spectacles a statistically significant influence on the profitability.

Debt

According to (Ebert and Griffin, 1998) the debt of an organization is referred to its total liabilities. The results findings of the variable debt are highly mixed in literature. Some people found that debt has positive relationship with profitability of an organization (Obert, & Olawale, 2007). While some researchers found a negative correlation between debt and profitability of an organization (Marak, & Chaipoopirutana, 2014). Previous literature found that firms which has further growth opportunities in their investment growth crowds to give additional short-term debt. Literature further argued that underinvestment problem can be overcome by dropping debt maturity. Studies showed that regulated firms give extra long-term debt. The same argument has been made by Smith's (1986) that regulations can control the underinvestment problems by reducing the organization's preference over the investment policy of corporation. The experiential findings are vigorous to substitute components of the opportunity set of investments. Literature also propose that growth choices in an organization's opportunity set of investment are significant in clarifying both the cross-sectional and time-series discrepancy in the maturity construction of an organization (Barclay & Smith, 1995).

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Modigliani and Miller (1958) presented a theorem called as "irrelevance theorem" according to which the debt remain neutral in relation to the market value of firms. It means that the choice of capital structure do not affect the market value of a firm. The base of this irrelevance theorem lied on certain assumptions of perfect market. These assumptions comprised of no corporate tax, symmetrical information and no floatation cost, On the basis of this a theorem the modern capital structure theory was developed. Debt ratio processes the fraction of total assets funded by the creditors of an organization. The greater this ratio is, the higher the debt amount is used to produce revenues. The formula to calculate debt ratio was divide total debt by the total assets of a firm (Obert, & Olawale, 2007). Previous literature revealed that a universe of commercial taxation, which interest outflows are attributed to tax deductions, this has elongated been documented that the distribution of debt can boost the worth of the business. The presence of numerous market inadequacies, including insolvency, liquidation, costs associated with transactions can substitute the benefits of debt, giving upsurge to the impression that these always a boundary on the quantity of debt a business should custom and a boundary on the quantity of debt the business is permitted to custom. The capability of the businesses to employ debt financing is contingent to the readiness of moneylenders to prolong the credit term. Assumed that here are outlays to insolvency, in equipoise creditors will entail a predictable ratio of return to reimburse them for the associated peril of defaulting and the costs associated to it. Whereas a business may effort to upsurge its debt convention by growing the undertaken reimbursement to creditors, an idea will be achieved where developing the undertaken reimbursement cannot upsurge to the marketplace price of debt. Literature has defined the debt capacity as the "point where the probability of trouble becomes unacceptably high, but no definition is given for the meaning of trouble". Some authors assumes that the boundary on debt custom is exogenously prearranged. Previous studies found that the undertaken face worth of debt is amplified, the marketplace worth of debt touches a maximum limit that is fewer than the marketplace worth of the business, and then drops. The supreme worth of debt is recognized as the business's capacity of debt that is the supreme quantity of loan which creditors will prolong to the business. Previous investigations revealed that to exploiting the marketplace worth for a business, the ideal structure of business capital always happens beforehand the businesses capacity of debt (Turnbull, 1979). A study by (Salsabila & Andarini, 2025) supports the pecking order theory, finding a negative effect of profitability on debt policy. Conversely, (Astuti & Stephen, 2025) found that in the public infrastructure sector, well-managed debt can enhance profitability. An analysis of the biopharmaceutical industry in the USA and Europe, however, found that both short-term and long-term debt negatively affect profitability (Abdelhay, 2025).This study follows the framework presented by Marak & Chaipoopirutana, (2014) and supposed that debt and profitability of an organizations are negatively correlated.

Inflation

The construct of inflation has been studied very well by the past literature. Some disagreements between the elements of inflation has found among various countries. Studies revealed that for countries it is much important to distinguish between what is inflation? And what is not considered as inflation? To avoid these discrepancies this study used the definition of inflation provided by Mises (1912). In his words inflation has been defined as: "an increase in the quantity of money (in the broader sense of the term, so as to include fiduciary media as well), that is not offset by a corresponding increase in the need

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for money (again in the broader sense of the term), so that a fall in the objective exchange-value of money must occur". The term deflation is opposite to inflation. In the words of Mises (1912) it is defined as: "a diminution of the quantity of money (in the broader sense) which is not offset by a corresponding diminution of the demand for money (in the broader sense), so that an increase in the objective exchange-value of money must occur".
In simplest words he argued that during inflation the general price level of goods increases and as a consequence the purchasing power diminishes. Thus, it is very important to focus the price level in an economy. He further argued that the term inflation is not an economic term. He believed that it based on some political grounds but not on theoretical considerations. In his studies he concluded that during the phase of inflation the market is not in its equilibrium point and money is not neutral as per its definition. This definition implies that there should either inflation or deflation in an economy. It indicates that the exchange value of money must changes. It lead to the conclusion that it is near to impossible that the exchange value of many remain static or neutral. Previous literature found that from a very long time the neutral behavior of exchange value of money is not observed. Therefore, it can be said that a country either faces inflation or deflation (Cachanosky, 2011). The actual value of net assets is influenced by the factor of inflation. Inflation openly lessens the net asset value. On the other hand, inflation influences the profitability by numerous indirect straits. It includes the family and business expenditure, nominal interest rates, prices of stocks and also the factual money supply. Inflation also mirrors some specific aspects of the business cycle. If not possible but it is difficult to describe the coefficient of inflation due to its numerous indirect effects (Bikker & Hu, 2012). (Ayadi, & Boujelbene, 2012) argued that there is a negative relationship between inflation and profitability of an organization.

Return on Assets (ROA)

In words of Gitman 2006 ROA processes the overall efficacy of management in producing revenues with the assets available to the firm. Some authors has defined the rate of return on assets (ROA) as a "measure of the success of a firm in using assets to generate earnings independent of the financing (debt versus equity) of those assets". ROA can be calculated by following formula:

ROA = net income + (1 - tax rate) (interest expense) / average total assets. The comportment of return on assets (ROA) is influenced by operating leverage and the phenomena of product life-cycle. Operating leverage: businesses function with diverse combinations of costs in the structure of cost, for example fixed cost and variable cost. Product life cycle: A second cause of variations in return on assets (ROA) is dependent on product life cycle. Produces of any business passes through four distinguishable stages including (a) introduction, (b) growth, (c) maturity and (d) decline. Through the stages of introduction and growth, the focus of a business is on the development of produces for example high spending on research and development (R&D) of produces, development of market share through the strategies of advertising and promotion and capacity expansion through spending on capital. The purpose is to achieve market recognition and the high share in the market. For the duration of the maturity stage, as competition befits more extreme, the prominence of the business moves to dropping costs through the strategies which increases capacity utilization which is referred as "economies of scale". During this phase of maturity business try to make its production more efficient. To achieve this purpose businesses focus on research and development activities. During the stage of decline, businesses cease to exist from the particular industry because sales are drop down

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and profit prospects are shrink (Selling & Stickney, 1989). To calculate the ROA the operating profit of a firm (take incomes prior interest and taxes) is divided by total assets of a firm. This ratio is frequently mentioned as "return on investment (ROI)". In order to determine the custom of debt as positive, the percentage of ROA is compared with before tax interest rate on debt. If the value achieved is higher than the before-tax interest rate on debt, it shows that a firm's profitability is being exaggerated subsequently making affirmative leverage (Obert, & Olawale, 2007).

The ROA gives facts about how much revenues are produced at average by every component of assets. Consequently, the ROA is a pointer on how professionally an organization is being operate. Here is the formula to calculate ROA: (a). ROA = Net Profit after Taxes / Assets (Petersen & Schoeman, 2008, July). The other measure of return on assets (ROA) has been defined as:

Return on assets (ROA) is one of the widely used measure of profitability. Under ROA calculations it is a fraction of the operating income after tax by the "book value of total assets" instead of the "book value of capital". (b). Return on Assets (ROA) = Operating Incomet (1 - tax rate) / Book Value of Total Assetst -1 (Damodaran, A. 2012). Ultimately both (a) and (b) formulas includes same values as formula (a) use net income while formula (b) measure include operating income less taxes in its numerator.Business and microeconomic concepts of strategy are convenient in appreciating the comportment of "rate of return on assets" (ROA) for a specific time period and crossways to firms or industries. Return on assets (ROA) changeability varies across industries, as an example, conferring to their intensities of operative leverage. Return on assets (ROA) also varies across businesses and through time periods because merchandises pass through particular phases of their life cycles. The business environment of a firm and the approaches it practices to covenant with that business environment impact its capability to upturn Return on assets (ROA). The degree to which a business is substance to capability or competitive constrictions, for illustration, may regulate whether it can follow a greater return on assets (ROA) through growing revenue margin thru merchandise differentiation policies or by growing asset turnover thru strategies of cost leadership (Selling & Stickney, 1989).

Return on Equity (ROE)

The ROE is referred in words of (Gitman, 2006) as revenues received on the investment made by ordinary shareholders of the firm. This fraction can also articulated as a percentage and can also be calculated through a fraction of net earnings (take earnings excluding interest and tax) by capital of owners. By dividing the interest and tax of operating profit, the net earnings are computed. Then a fraction of shareholders capital and the value of net earnings obtained is made (Obert & Olawale, 2007). Here is the formula to calculate ROE: (a). ROE = Net Profit after Taxes / Equity Capital On the basis of the association between the formulas of ROA and ROE it can be derived that the lesser the equity capital, the greater the return on equity (ROE), consequently the owners of the organizations (holders of equity) may not prefer to grasp excessive equity capital. Nevertheless, an organization cannot keep too low equity capital. This is because an organization is bound to fulfill the legal requirements associated with extent of capital an organization can keep (Petersen, & Schoeman, 2008, July).Literature has used return on equity (ROE) and return on capital (ROC) to evaluate the quality of an investment made by organization as a starting point. The return on capital (ROC) has also called as return on invested capital (ROIC). In an organization, the return on capital (ROC) or invested capital

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(ROIC) are used to calculate the yield produced on capital devoted to an investment. Literature has found that ROA is measured by making the following calculations:Return on Capital (ROIC) = Operating Income t (1 - tax rate) / Book Value of Invested Capital. This calculations includes four components: operating income, tax rate, book value of invested capital and time period. Firstly, in the numerator operating income is used instead the use of net income. Secondly, the operating income is adjusted according to the tax rate which is calculated as a conjectural tax on the basis of an effective tax rate or marginal rate of tax. At third, instead of market values the book values of invested capital are used. The ultimate fourth component is the period variance; the value of capital invested is taken as the close of the previous year while the value of operating income is based on the figure of current year. The purpose of return on capital (ROC) is to measure the yield earned on total investment made to an asset, while on the other hand, the focus of return on equity (ROE) is to the equity constituent of the amount invested. It narrates the incomes available for shareholders after the deductions of certain costs including the costs of debt service have been made to the equity investment made to an asset. The accounting equation according to literature reviewed for return on equity (ROE) is mirrors as: (b). Return on Equity (ROE) = Net Income t / Book Value of Equity. This also follows the same rules presented for return on invested capital (ROIC) with regard to the time frame and book value. The net income obtained from the current year is presumed to be produced through the amounts invested as "equity investment" at the beginning of the year and the book value related to equity is used to determine the equity amounts invested in present assets (Damodaran, 2012). Ultimately both (a) and (b) formulas includes same values as formula (a) use net income while formula (b) measure include operating income less taxes in its numerator.

HYPOTHESIS DEVELOPMENT AND CONCEPTUAL FRAMEWORK

This categorization is consistent with previous literature (Marak & Chaipoopirutana, 2014; Ayadi & Boujelbene, 2012, Obert, & Olawale, 2007).

The association between micro environment and profitability in terms of ROA

Marak & Chaipoopirutana, (2014) proposed a relationship between the element of micro environment (liquidity and debt) and the measure of profitability of return on assets (ROA). Under this association there are four independent variables comprised of liquidity and debt. There is one dependent variable in this association, that is, return on assets (ROA) as a profitability measure. On the basis of the previous literature, this study has proposed this association as:

H1: *The micro environment in terms of debt (loan) and liquidity has an impact on profitability in terms of return on asset (ROA).*

The association between macro environment and profitability in terms of ROA

Marak & Chaipoopirutana, (2014) and Ayadi, & Boujelbene, (2012) has proposed an association between the elements of macro environment Inflation and profitability measure of return on assets (ROA). Under this association there are two independent variables comprised of Inflation. There is one dependent variable in this association, that is, return on assets (ROA) as a profitability measure. On the basis of the previous literature, this study has proposed this association as:

H2: *The macro environment in terms of inflation rate (INF) has an impact on profitability in terms of return on asset (ROA).*

The association between micro environment and profitability in terms of ROE

Marak and Chaipoopirutana, (2014) proposed a relationship between the element of micro environment (liquidity and debt) and the measure of profitability of return on equity

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(ROE). Under this association there are four independent variables comprised of assets, capital, liquidity and debt. There is one dependent variable in this association, that is, return on equity (ROE) as a profitability measure. On the basis of the previous literature, this study has proposed this association as:

H3: *The micro environment in terms of debt (loan) and liquidity has an impact on profitability in terms of return on equity (ROE).*

The association between macro environment and profitability in terms of ROE

Marak & Chaipoopirutana, (2014) and Ayadi & Boujelbene, (2012) has proposed an association between the elements of macro environment Inflation and profitability measure of return on equity (ROE). Under this association there are two independent variables comprised of Inflation. There is one dependent variable in this association, that is, return on equity (ROE) as a profitability measure. On the basis of the previous literature, this study has proposed this association as:

H4: The macro environment in terms of inflation rate (INF) has an impact on profitability in terms of return on equity (ROE).

On the basis of literature and above mentioned associations, following is the research framework proposed for this study:

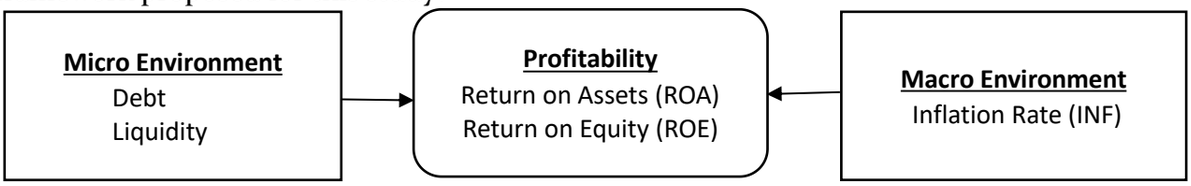

FIGURE 01: PROPOSED CONCEPTUAL FRAMEWORK

The conceptual framework suggests that the micro-environment includes the independent Variables of **debt** and **liquidity**. The macro-environment includes the independent variable of **inflation**. The study's dependent variables, which measure profitability, are Return on Assets (ROA) and Return on Equity (ROE).

METHODOLOGY

Data Collection

This study utilizes secondary data, which is previously existing information collected by other entities. Secondary data can be gathered from financial analysis reports, annual reports, government publications, audit reports, and web-based sources (Lancaster, 2007). For this research, data was extracted from the annual reports of the 26 selected commercial banks for the period of 2007-2013. Additional sources included academic articles, journals, and textbooks.This study used two software Statistical Package for Social Sciences (SPSS) version of 21 and Analysis of Moment Structures (AMOS) to tests (descriptive statistics, t-tests, multiple regression) are performed, of which the detail is as under:

This study was conducted with objectivity at each step of the research process. The data was obtained from the annual reports of commercial banks in Pakistan, which were accessed online. The study's population consists of all commercial banks in Pakistan. A sample of 26 commercial banks was selected from this population. The data was collected for a seven-year period (2007-2013), creating a panel dataset. The total number of observations is 182, calculated as follows:

- **26 banks × 7 years = 182 observations**

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Data Collection

This study utilizes secondary data, which is previously existing information collected by other entities. Secondary data can be gathered from financial analysis reports, annual reports, government publications, audit reports, and web-based sources (Lancaster, 2007).

Regression Equations

The study employs multiple regression analysis. The general form of a multiple regression equation is:

$$Y^{\wedge}=\beta_0 +\beta_1 X_1 +\beta_2 X_2 +\ldots+\beta_n X_n +\epsilon$$

Where:

- $Y^{\wedge}$ = The predicted value of the dependent variable
- β_0 = The y-intercept
- β_1 ,β_2 ,...β_n = The regression coefficients for each independent variable
- X_1 ,X_2 ,...X_n = The independent variables
- ϵ = The error term

Based on this general form, the following specific equations were developed to test the hypotheses:

Equation for H1 & H2 (Dependent Variable: ROA):

$ROA=\beta_0 +\beta_1 (Debt)+\beta_2 (Liquidity)+\beta_3 (Inflation)+\epsilon$

Equation for H3 & H4 (Dependent Variable: ROE):

$ROE=\beta_0 +\beta_1 (Debt)+\beta_2 (Liquidity)+\beta_3 (Inflation)+\epsilon$

RESULTS AND DISCUSSION

The data was analyzed using Statistical Package for the Social Sciences (SPSS), version 21. The analysis included descriptive statistics and multiple regression tests to evaluate the hypotheses.

Descriptive Statistics and Correlations

Descriptive statistics summarize the basic features of the data. **Table 1** presents the mean, median, standard deviation, range, minimum, and maximum values for each variable. The results confirm that all values fall within acceptable ranges, indicating the data is suitable for further analysis. The mean ROA for the sample was **-1.40%**, while the mean ROE was **5.74%**. The average inflation rate during the period was **12.13%**.

Table-1: Descriptive Statistics

	Debts	Liquidity	Inflation	ROA%	ROE%
Mean	4.564	0.029	12.128	-1.397	5.736
Median	0.022	0.011	11.970	0.605	2.154
Mode	0.051	0.017	7.580	1.260	0.000
Std. Deviation	12.781	0.047	4.096	14.827	12.923
Range	76.179	0.249	12.570	176.760	80.490
Minimum	0.000	0.000	7.580	-172.700	-42.826
Maximum	76.179	0.249	20.150	4.060	37.660

The standard deviation is also in acceptable ranges between the values of 0.047 at minimum and 12.923 at maximum. The value of standard deviation for debts is 12.782, Liquidity has a value of standard deviation 0.047, Inflation has a value of standard deviation 4.096, The value of standard deviation for ROA is 14.827 and ROE has a value of standard deviation 12.923. The median value lies between 0.011 at minimum and 11.970 at maximum. The values for mode lies within the range of 0.000 at minimum and 7.580 at maximum. The values for range test lies between 0.249 at minimum and 176.760 at maximum. The values of minimum lies between -172.700 and 7.580. The values for

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maximum lies between 2.889 and 76.179. has evident with a percentage of 3.8 in Pakistan. Inflation is also reported with a percentage of 12.12 during the period of 2007-2013.

RESULTS

Model 1

Model 1 incorporates three variables: return on assets (ROA), debt, and liquidity. In this specification, ROA is the dependent variable, while debt and liquidity serve as independent variables. The regression analysis reports unstandardized coefficients, standardized coefficients, standard errors, t-values, and significance levels for the predictors. The results demonstrate that the coefficient of debt (B = 0.041, SE = 0.088, β = 0.036, t = 0.470, p = .639) indicates a positive but statistically insignificant association with ROA among commercial banks in Pakistan. This suggests that higher levels of debt appear to increase ROA; however, the relationship is not statistically meaningful. These findings contradict prior research, which generally reported a negative and significant relationship between debt and profitability (Marak & Chaipoopirutana, 2014; Qureshi & Yousaf, 2014). Several explanations may account for this unexpected outcome. First, banks may not be utilizing borrowed funds effectively to enhance performance. The limited adoption of modern technology, structural inefficiencies within the industry, and a low level of service differentiation may weaken the leverage benefits of debt. Additionally, broader socioeconomic challenges—particularly prolonged political instability over the past eight years—have adversely affected business activities, contributing to unfavorable economic conditions and reducing the effectiveness of debt financing. Regarding liquidity, the results (B = 17.577, SE = 24.231, β = 0.057, t = 0.725, p = .469) indicate a weak positive relationship with ROA, which is again statistically insignificant. This finding implies that changes in liquidity levels exert only a marginal effect on profitability. Specifically, a 1% increase in liquidity is associated with an approximate 5.7% change in ROA. While the direction of the effect is positive, the magnitude is negligible in practical terms. These results align with previous studies (Marak & Chaipoopirutana, 2014; Qureshi & Yousaf, 2014), which also reported a positive but statistically insignificant relationship between liquidity and ROA.(ROA with debt & liquidity), the weak positive effect of liquidity is similar to the findings of Rana Tanveer Hussain et al. (2024), who also report a positive relationship between liquidity risk and ROA in Pakistan. However, your result that debt is positively associated (though insignificant) contrasts with studies that show credit or borrowing risk tends to reduce profitability (Javid, Chandia, Zaman, & Akhter, 2023).

Table-2: Model 1

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**T**	**Sig.**
1	(Constant)	-1.994	1.405		-1.419	0.158
	Debts	0.041	0.088	0.036	0.470	0.639
	Liquidity	17.577	24.231	0.057	0.725	0.469

a. Dependent Variable: ROA%

Model 2

Model 2 incorporates return on assets (ROA) and inflation, where ROA is the dependent variable and inflation serves as the independent variable. The regression output reports unstandardized coefficients, standardized coefficients, standard errors, t-values, and significance levels. The findings reveal that inflation (B = 0.293, SE = 0.270, β = 0.081, t = 1.088, p = .278) has a positive but statistically insignificant association with ROA. This

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suggests that higher inflation is associated with higher profitability levels among firms; however, the effect is not statistically meaningful. Based on these results, it can be inferred that increases in a country's inflation rate may lead to marginal increases in firm profitability, though the relationship lacks statistical significance. These findings are consistent with prior research, such as Marak and Chaipoopirutana (2014), who also reported an insignificant association between inflation and firm profitability.(ROA & inflation) aligns with recent findings by Rasheed, Ishaq, & Rehman (2024), which show inflation may have some explanatory power for ROA, though it often depends on whether exchange rate or other macro variables are controlled. Hussain, et al., (2024) add that inflation effects differ across bank types.

Table 03: Model 2

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
2	(Constant)	-5.170	4.140		-1.249	0.213
	Inflation	0.293	0.270	0.081	1.088	0.278

a. Dependent Variable: ROA%

Model 3

Model 3 examines the relationship between return on equity (ROE), debt, and liquidity. In this model, ROE serves as the dependent variable, while debt and liquidity are the independent variables. The regression output provides unstandardized coefficients, standardized coefficients, standard errors, t-values, and significance levels for the predictors. The results show that debt (B = 0.022, SE = 0.074, β = 0.021, t = 0.293, p = .770) has a positive but statistically insignificant association with ROE among commercial banks in Pakistan. This implies that higher debt levels appear to increase ROE, although the effect is not statistically meaningful. These findings are inconsistent with prior studies, which generally reported a negative and statistically significant relationship between debt and ROE (Marak & Chaipoopirutana, 2014; Qureshi & Yousaf, 2014). A possible explanation for this deviation may lie in the inefficient utilization of borrowed funds by Pakistani banks. Limited adoption of modern technology, structural inefficiencies within the industry, and a lack of service differentiation could reduce the benefits of financial leverage. Furthermore, prolonged political instability in the country over the last eight years has hindered business activity, leading to unfavorable economic conditions and undermining the potential gains from debt financing. Regarding liquidity, the findings (B = 36.728, SE = 20.422, β = 0.136, t = 1.798, p = .074) indicate a positive effect on ROE, although the relationship is statistically insignificant at conventional significance levels. The results suggest that a 1% increase in liquidity is associated with a 13.6% increase in ROE, indicating a relatively substantial but statistically unsupported effect. These findings partially diverge from earlier studies, such as Marak and Chaipoopirutana (2014) and Qureshi and Yousaf (2014), which reported a neutral relationship between liquidity and ROE. In contrast, this study demonstrates a positive but insignificant association, highlighting the potential for liquidity management to play a more influential—though statistically unverified—role in enhancing equity returns for banks in Pakistan.(ROE with debt & liquidity), your finding of a somewhat larger (but still insignificant) effect of liquidity on ROE corresponds to trends seen in industry reports (e.g. Pakistan's banking sector profitability in H1 2023) where ROE surged under strong liquidity and inflationary conditions. Yet empirical works such as Javid

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et al. (2023) caution that when political instability is considered, liquidity creation may have negative or muted effects.

Table-04 Model 3

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
3	(Constant)	5.976	1.184		5.046	0.000
	Debts	0.022	0.074	0.021	0.293	0.770
	Liquidity	36.728	20.422	0.136	1.798	0.074

a. Dependent Variable: ROE%

Model 4

Model 4 investigates the relationship between return on equity (ROE) and inflation, with ROE as the dependent variable and inflation as the independent variable. The regression output reports unstandardized coefficients, standardized coefficients, standard errors, t-values, and significance levels. The results reveal that inflation (B = –0.195, SE = 0.235, β = –0.062, t = –0.829, p = .408) has a negative but statistically insignificant association with ROE. This suggests that increases in the inflation rate are linked to decreases in firm profitability, though the effect is not statistically meaningful. On the basis of these findings, it can be inferred that higher inflation rates may reduce profitability levels for firms, but the relationship is weak and lacks statistical support. These results are consistent with prior research, such as Marak and Chaipoopirutana (2014), who also reported an insignificant relationship between inflation and profitability at the firm level. (ROE & inflation) shows a negative but insignificant effect, which is coherent with Rasheed, Ishaq, & Rehman (2024) and composite studies that suggest inflation reduces ROE under certain macroeconomic pressures. According to Hussain, Sheikh, Qayyum, & Abbasi (2024), bank structure/type matters in determining whether inflation enhances or erodes profitability.

Table-5: Model 4

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
4	(Constant)	6.244	3.606		1.731	.085
	Inflation	-.195	.235	-.062	-.829	.408

a. Dependent Variable: ROE%

Hypothesis Outcome

Table 0-6 Hypothesis Testing

Hypothesis	Results
H1: *The micro environment in terms of debt (loan) and liquidity has an impact on profitability in terms of return on asset (ROA):*	Rejected
H2: *The macro environment in terms of inflation rate (INF) has an impact on profitability in terms of return on asset (ROA).*	Rejected
H3: *The micro environment in terms of debt (loan) and liquidity has an impact on profitability in terms of return on equity (ROE).*	Rejected
H4: *The macro environment in terms of inflation rate (INF) has an impact on profitability in terms of return on equity (ROE).*	Rejected

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CONCLUSION

Profitability is essential for the long-term survival of any organization. This study aimed to identify the impact of micro-environmental factors (debt and liquidity) and a macro-environmental factor (inflation) on the profitability (ROA and ROE) of commercial banks in Pakistan. The statistical analysis concluded that none of the selected independent variables had a statistically significant impact on either ROA or ROE for the period under review. Although some relationships were observed for instance, a positive association between liquidity and ROE approached significance the overall findings suggest that debt, liquidity, and inflation were not primary drivers of bank profitability in Pakistan between 2007 and 2013.

THEORETICAL IMPLICATIONS

This study contributes to the literature on the determinants of bank profitability, particularly within the context of an emerging economy like Pakistan. While performance is considered a direct outcome of managing economic and financial resources, this research indicates that the traditional variables of debt, liquidity, and inflation may not be sufficient to explain profitability in a market subject to unique political and economic instability. The findings highlight a gap in the literature and suggest that other factors may be more influential in this specific context.

PRACTICAL IMPLICATIONS

The findings have policy implications for both bank managers (micro-level) and economic administrators (macro-level). For investors, the results imply that a simple analysis of a bank's debt or liquidity may not be enough to predict its profitability (ROA and ROE). For bank managers, the finding that liquidity has a positive, albeit insignificant, effect on ROE suggests that maintaining adequate cash reserves is prudent, especially during periods of economic crisis.

LIMITATIONS AND FUTURE RESEARCH

This study is limited to three independent variables and may not capture the full spectrum of factors influencing bank profitability. The exclusion of other important macroeconomic variables may have reduced the explanatory power of the models. Future researchers should consider including a broader range of variables, such as bank size, market concentration, GDP growth, and management efficiency. Furthermore, expanding the research to different sectors or countries and using a longer time frame would enhance the generalizability of the findings.

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