Role of Asset Quality in explaining the profitability of Commercial Banks in Pakistan

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ABSTRACT

The study examines productivity indicators for traditional banking industry of Pakistan, with special focus on their place on asset quality. After the implementation of stricter banking regulatory norms, that factor became increasingly important. The study included micro-financial output variables. Over period 20132018, for balanced test panel data containing 18 commercial banks, the study used a panel least square approach. Results linked to ROAA and ROAE, metrics of competitiveness, revealed that the low quality of assets and the cost to income ratio had a substantial negative effect. Capital adequacy ratio, liquidity ratio, and income diversification showed a significant positive impact on profitability of commercial banks operating in Pakistan.

Keywords: Non-performing credit, conventional banking, profitability indicators, asset quality, panel evidence

INTRODUCTION

For the growth of every economy, financial institutions are often the most important and meaningful section. The healthier the nation's financial sector is, the stronger the economic climate. The main activities of banks may be separated into two sections, such as lending and borrowing of money. There are two key dimensions to the number of loans listed in the banks' financial statements: the value of assets and how efficient and profitable the transfer of money from banks to clients. Although commercial banks seem to be of great importance to the economy, it is important to recognize factors influencing their competitiveness. Current study has aim to discuss and evaluate the effect of micro level determinants of commercial banks operating in financial market of Pakistan, especial focus on role of poor asset quality. For this cause, one study in Hong Kong addresses the particulars of these variables, such as bank number, market size and cost performance, etc. (Wong, Fong, Wong, & Choi, 2008). In addition, study in Kuwait sought to check the influence of financial ratios on the banks' profitability (Theogene, Mulegi, & Hosee, 2017).

Like in America and Europe throughout fact, plenty of well financial institutions have pushed to the solvency position since the economic meltdown, so the reasons underlying this need to be investigated (Demyanyk & Hasan, 2010). Yet another study to evaluate efficiency determinants was also conducted. Two kinds of metrics have been included in the assessment: banking institution-specific and countryspecific. Financial institution monitoring parameters were size, asset quality, productivity, capital adequacy, deposits & fund management, etc., whereas recession & GDP were the external factors (Masood, Ashraf, & Turen, 2015). A further analysis was carried out to assess the effects of the joint ventures on the viability of the commercial banks (Q. Abbas, Hunjra, Azam, Ijaz, & Zahid, 2014). Likewise, more critical work has been conducted to determine the impact of liquidity on competitiveness through the use of financial knowledge from Pakistani banks (Arif & Anees, 2012). Similarly, a new investigation was carried

out in the same region, incorporating evidence by banking industry of Pakistan to recognize relevant aspects for the estimation of profitability outcomes (Ali & Puah, 2019).
Resources associated with low efficiency are typically used to measure the efficacy of funds at each bank. The ratio of gross loans over non-performing loans may be assessed as bad asset quality (Kim & Katchova, 2020).

Although the bank loan is lent to the creditors, it is under the hands of management. Management will simply opt to assign the debt to its qualified cohort of business candidates, although the number of retrievable debts is not managed by manager. Consequently, the measurement of the function of asset quality in financial results is of enormous benefit to investigators (Allen & Carletti, 2010). Via an in-depth analysis, it can be said that the financial system in Asia is very well founded overall safer than the United Kingdom, Europe and Australia, considering a very important factors like bank capital, leverage level and risk exposure, etc. However, stringent capital and debt requirements have an effect on bank stability, leading to the unintended allocation of wealth (Sheng, 2013).

The safer and more secure the productivity growth as well as the banking sector, the further the banking institutions throughout the country are successful (Al-Harbi, 2019). The credit assessment process and also the loan amount are the keys to assessing the efficacy of resources in either form of financial institution (Kim & Katchova, 2020). Consequently, the fall of non-performing debt leads to sustainable growth and decreases uncertainty in the real capital condition (Adelopo, Lloydking, & Tauringana, 2018). The adequacy of capital over the gross asset ratio could be determined by way of equity. Commensurately, this ratio leads to reducing prospects for bankruptcy. This means the properly capitalized banks have the least risk of going bankrupt (De Bock & Demyanets, 2012). The interest income of banks is the product of supplying the public with financial services. Operating incompetency is used to see specifics of cost inefficiency involved with the bank. The elimination of these costs leads to optimizing bank benefit (Dietrich & Wanzenried, 2011).

Present review has led to analytical work by filling the gap in such research, because it considers conventional banks acting in Pakistan, which would offer the ideal image of the effect on commercial banks of low asset quality (Salike & Ao, 2018). Second, to look at the realistic sense, this review will also be beneficial for borrowers and bank management. In order to minimize the ratio of uncompromised debts to total loans, commercial banks might need research to make judgments on the distribution of debts to customers. For nations which have the same governmental, economic and environmental circumstances, research will also be fruitful (Adelopo et al., 2018).

There are different predictors of the competitiveness of the bank which can be classified in various forms. Significant research on the topic of various micro-level determinants of the performance of the banks operating in Pakistan has been conducted. The research work used only factors specific to banks, e.g. credit risk, financing risk and liquidity etc. That study did not involve macro level determinants of banks profitability. So, future inquiry could be achieved by evaluating the profitability of banks' macro-level determinants e.g. Interest rates as well as GDP, Interest spread etc. (Ali & Puah, 2019). Similarly, the analysis was also carried out on intra- and extra scale productivity indicators among banking institutions throughout North Africa as well as the Middle East in general. Gross domestic product, equity/total debt, asset value, return on equity, and size of the institution, collateral, adequacy of capital and weak asset quality. Further analysis may then be carried out by choosing a further set in multiple regions (Trad, Rachdi,

Hakimi, & Guesmi, 2017). In a certain region, one of analysts performed research to quantify various indicators to examine the factors of financial performance for listed Indian institutions almost every bank operating in India is looked at through study. Data panel used for calculating study outcomes. Return on investment as well as Net Interest Margin are the explanatory factors. Study has overlooked other major considerations, such as market-specific factors, etc. Further analysis should also take these considerations into consideration (Bansal, Singh, Kumar, & Gupta, 2018).

The aim of the analysis is to analyze the relationship among factors like macro - economic factors market dynamics and monetary efficiency of Nigerian companies. The results therefore provide the future direction for the similar analysis for exactly such 3 factors in developing countries (Egbunike & Okerekeoti, 2018). Through keeping just conventional banking institutions for in-depth performance, additional experiment might be carried out. In comparison, just 8 emerging including 8 established nations were chosen for this report. Future studies could then require more nations for improved outcomes (Salike & Ao, 2018).

Through some comprehensive review of the previous literary works accessible throughout the context of gap analysis upon this subject, the present examination aims to address the gap in the existing literature. Ongoing research paper aims to investigate the effects of poor asset quality on the competitiveness of Pakistani conventional banking institutions together among several micro-level predictors of banking competitiveness.

The main significant focus and factor of research interest is to measure the impact of low quality of assets on the financial performance of commercial banking institutions. Certain micro-level variables are often included to evaluate their effect on competitiveness in the study. The work targets of the analysis involve the aforementioned:

LITERATURE REVIEW

The present part of the dissertation addresses the prior findings published on the subject matter of bank competitiveness from numerous researchers globally. This literature review covers respectively theoretical and empirical literature.

Profitability (Dependent variable)

On average return assets is an asset assessment metric that is usually employed among banking institutions to calculate the extent of competitiveness. It is generally referred to simply as return on investment and referred to as ROA (Kim & Katchova, 2020). The ROAA calculation contains net profits after tax of banking institutions divided through estimated total assets of banking institutions (Sahyouni & Wang, 2019). ROAA's worth of greater over 5 % is deemed healthy among banking institutions (González, Razia, Búa, & Sestayo, 2019). Return on average asset is seen by many analysts as a metric for banking sector' competitiveness(A. Abbas & Arizah, 2019); (Zhang & Aboud, 2019).

Return on average equity, illustrates the performance of banks, in line with the valuation of shareholder' average equity (Sahyouni & Wang, 2019); (A. Abbas & Arizah, 2019). By taking ROAE as the calculation of production, large numbers of studies have been conducted in the same area. Similarly, the performance of banks has certain other organizational and financial factors (Trad et al., 2017); (El Kharti, 2014) & (Zouari & Taktak, 2012); (Zhang & Aboud, 2019).

There are several intra predictors of the competitiveness for the banking employed by various investigators throughout the studies (Shawtari, 2018). Numerous micro-levels or internal indicators of competitiveness are used in recent research.

Poor Asset Quality and Bank Profitability

The word management team encompasses various forms of managing such as wealth managing banking leverage monitoring, banking assets suitability management including, finally and not excluded, riskrelated managerial staff (Sahyouni & Wang, 2019). Through such study, asset quality is one of the primary predictors of banking success, thus is the interest factor. The standard of assets depends solely on two perspectives: the portfolio of banking loans and financial sector management (Trad et al., 2017). Bank asset quality is recognized by numerous terms — for example debt value, troubled debt of the bank as well as non-performing loans ratio (Al-Harbi, 2019). Therefore debts issued through financial institutes, recorded to the part of assets within the balance sheet thus, asset quality describes the credit risk for banks (Sahyouni & Wang, 2019). Similarly, the key activities of commercial banks are broken into two classes, i.e., cash input & output. Debts of each financial institution are also the biggest reserves and have an immense chance of capital account risk (Salike & Ao, 2018).

Correspondingly, the large volume of such delinquent loans suggests a breakdown of the financial institution's business activities linked to management of credit risk. In another side, the reduction in the amount of these delinquent loans has a positive impact on the economic development of banks; it decreases the doubt about the banks' capital status. Subsequently, the amount of loans lent out would increase, contributing to competitiveness (Al-Harbi, 2019). Accordingly, one study initiative considers the provision of loan losses as a metric for the efficiency of reserves of banks. Study findings reveal the detrimental effect of the non-performing debt on competitiveness (Cull et al., 2010). Similarly, an alternate analysis was undertaken to evaluate the effect of the macro - economic situation on commercial bank' asset quality. Final fantasies build a correlation between, particularly low GDP growth, exchange rate decreases and low trade practices that have adversely affected asset quality (De Bock & Demyanets, 2012). In the banking sector based inside Portugal, another of the analyses indicates that poor asset quality has a negative substantial impact on the financial efficiency of conventional financial institutions whenever loan loss provisions are viewed as an asset quality measure over total loans (Garcia & Guerreiro, 2016), (Salike & Ao, 2018).

H_1 = Poor Asset Quality has negative effect on banks' profitability.

Capital Adequacy Ratio (CAR) and Bank Profitability

Capital adequacy is viewed like an intra-proxy for banking competitiveness, one of the most significant internal variables. There are two kinds of measurements in terms of banking capital; bank capital paid-up and funds recognized as shareholder fund. The capital adequacy ratio formula involves banking equity divided through bank assets (Al-Harbi, 2019). Study has resulted, banking institutions have a wellcapitalized status, and higher ratios of equity to assets benefit from severe bankruptcy risk levels. Simply put, banking institutions have a higher return on equity, implying a lower bankruptcy risk associated with these institutions (Kosmidou, Tanna, & Pasiouras, 2005).

Likewise, a few of the suggested research indicate greater sustainability in banking institutions with a high degree of capital needs which contributes to optimum financial efficiency. The central aim of bank CAR

management is to increase the probability of stability and decrease the likelihood of loss by eliminating risks (Trad et al., 2017). Further studies by various analysts have also shown a strong and important effect of CAR on the profitability of banking (Flamini, Schumacher, & McDonald, 2009). In simpler terms, every bank's CAR describes the consistency of the capital of banks to satisfy commitments in case of any challenge. In addition, capital adequacy (capital structure) plays a critical role in creating opportunities to boost banks' degree of monetary efficiency (Brealey, Myers, Sick, & Giammarino, 1992). There are different approaches used by financial institutions to acquire the greatest volume of capital. Such strategies include the issuing of bank security shares, the accumulation of loans and the accumulation of small and large liabilities.

This financial commitments allow banks to achieve full profitability, increase the bank's stock valuation and overall bank performance (El Kharti, 2014). As an intrinsic predictor of competitiveness for banking institutions, a further analysis using the capital adequacy ratio has done. In addition, several other reports have selected CAR as a micro-level predictor of competitiveness in the financial industry. The research sample comprises 25 companies listed with government-sponsored corporations (GSE). The outcome revealed that CAR had a major direct effect on the efficiency of banking institutions (Abor, 2005). Similarly, an in-depth analysis of literature reveals a negative association between bank benefit and longterm debt, but a substantial positive correlation exists in the case of return on debt as well as overall total debt, e.g. study has established that CAR has a notable positive impact on the competitiveness of financial institutes (Molyneux & Thornton, 1992). In comparison, CAR banking institutions illustrate that it is secured from bankruptcy; it has quick lots of low funds; it is more resilient in terms of acceptance of revenue prospects and is capable of interesting, unexpected setbacks. Yet, the literature review on the topic of capital adequacy's impact on banking profitability is not inclusive. Hence, this study hypothesized positive effect of capital adequacy (CAR) on financial performance.

H_2 = Capital adequacy has positive effect on banks' profitability.

Liquidity Ratio (LR) and Bank Profitability

The liquidity ratio can be defined as the liquid asset ratio of banks. It determines the willingness of financial institutions to pay back short-term duties to their clients on the deadline. It is known as one of banking' more significant micro-level factors. Lot of publications has been completed; assess its profitability effect. One research found that a high degree of liquidity ratio contributes to a high level of return on average assets (high rate of profitability), but the study revealed that liquidity has a negative effect in the event of a net interest margin (Zopounidis & Kosmidou, 2008). Research carried out throughout the timeframe from 1997 to 2009 by taking 55 U.S. banking institutes and 10 Canadian banks, the impact of the liquidity ratio has an inflection point, splitting the competitiveness impact. Liquidity ratio has a positive effect on competitiveness within that point, but after that it begins to adversely affect it, decline and decrease the amount of profit margin (Bordeleau & Graham, 2010).

Likewise, liquidity's effect on profitability can be ambiguous in nature. Another research reported on the same subject, excess liquid assets, could contribute to the failure of banks. It could be necessary to reduce the profit margin gained from lending sums to debtors as banks' liquid assets grow from operating expenses (excess liquidity) (Allen & Carletti, 2010).

A certain findings were clarified in another analysis through reporting on data from financial organizations operating in Portugal (Garcia & Guerreiro, 2016). Another type of danger to banks is liquidity risk; as banks

retain a small number of liquid reserves, the substantial withdrawal of deposits becomes weaker. In other terms, on the asset balance sheet line, the danger of liquidity resulting from a bank's potential catastrophe to minimize accommodating or lending responsibilities increases. Accordingly, the liquidity risk is approximated by the ratio of liquid assets and gross assets. One of the major causes of bank collapses is illiquidity (Boahene, Dasah, & Agyei, 2012). Accordingly, the liquidity risk is approximated by the ratio of liquid assets and gross assets. One of the major causes of bank collapses is illiquidity. Previous literature speculates about a derogatory correlation with customer savings as well as the short-term lending ratio with competition and strong net assets (Eljelly, 2004).

In the other hand, where researchers expected a positive correlation between liquidity risk and efficiency, they concluded that the lower the estimated productivity will be, the lower the liquid asset tied-up. It is also assumed that liquidity has a strong negative correlation with banking sector efficiency. The need for risk mitigation in banks is therefore critical (Eichengreen & Gibson, 2001). The handling of bad liquidity allows banks to fail. High bank liquidity may imply a lack of ample investment opportunities that can lead to banks' low performance (Valverde & Fernández, 2007). While other research has shown positive correlations between these factors(Bourke, 1989). More probable, liquidity management poses considerable risks to banking firms during the financial catastrophe, and especially to African banks due to extreme expertise imbalances, suggesting full liquidity risks (Allen & Giovannetti, 2011); (Andrianova, Baltagi, Demetriades, & Fielding, 2015).

H_3 = Liquidity ratio has positive effect on banks' profitability.

Income Diversification and Bank Profitability

For conventional banking, their revenue usually arises through interest income and non-interest earnings. Financial institutions collect money from the gains earned from selling resources to private corporations. Evidence among conventional banks in Switzerland reveals that the percentage of interest income has a large effect on financial results. In specific, financial organizations that are heavily dependent on interest income are not quite as successful as banking institutions with more balanced incomes (Dietrich & Wanzenried, 2011). Also there is a strong correlation between non-interest income and risk-adjusted asset return (ROA), using details through the banking industry from 28 economically liberalized countries spanning the period from 1997 to 2004 (J. Nguyen, 2012).

As per economic theory, if profits consist of various economic operations that are less than ideally associated, the efficiency of the financial institutions will be boosted. The corporation's mainstream theory implies that banking institutions with greater diversifying through non-traditional sources of income are capable of greatly lowering earnings uncertainty. Via non-intermediation operations, well-diversified commercial banks may provide other benefits. Among recognized earnings, the study cites improvements in effectiveness over economy of scale and inclination, larger availability of outlets over domestic capital markets, and financial institution competitive benefits (Elsas, Hackethal, & Holzhäuser, 2010). An analysis identified the reduction of interpretative volatility and the consolidation of the banking sector as a cause for diversifying. The topic as to whether diversification increases competitiveness has been carefully studied, both scientifically and scientifically, to untangle the question (Goddard, McKillop, & Wilson, 2008).

The study findings of these comprehensive studies are integrated although focused, for the most portion, on developed nations such as Europe and America (Stiroh, 2004). By analyzing 17 European nations, empirical results have had a positive influence on production from diversification (Goddard et al., 2008). A further

research was carried out by analyzing banking institutions based across Italy (Chiorazzo, Milani, & Salvini, 2008). Additionally, the significant research carried out using the assistance of evidence by banking institutions of nine developed economies has shown the beneficial impact of it on financial performance (Elsas et al., 2010).

As well as a two-step GMM dynamic panel evaluator methodology is employed to evaluate the relation among income diversification & bank risk and competitiveness by the utilization of a survey of 11 developed nations for the 2000-2007 periods. They notice that banking in developed countries prosper from diversification of their earnings (Sanya & Wolfe, 2011). Likewise, South Asian financial institutions of greater business power are highly efficient because they expand across non-interest income operations by taking into account information from chosen Asian countries at the banking scale (M. Nguyen, Skully, & Perera, 2012).

H_4 = Income diversification has positive effect on banks' profitability.

Inefficiency and Bank Profitability

Operating inefficiency will capture the marginal cost inefficiencies of banking institutions, so lowering inefficient expenditures can contribute to enhanced sales. Various researches have shown competitive banking to be more productive than unsuccessful banks (Bansal et al., 2018); (Egbunike & Okerekeoti, 2018) & (Dietrich & Wanzenried, 2011).

The percentage of operational performance, determined through the cost-income ratio or overhead cost to total assets, is an important competitiveness metric and thus has a positive impact on bank profitability. This will mean that operating efficiency, including one of the highly efficient financial institutions reporting the lowest efficiency rates, is also a prerequisite for rising profitability in the financial system (Athanasoglou, Brissimis, & Delis, 2008). The findings of prior research on the impact of such aspect on the efficiency of banking firms are conflicting. A unfavorable connection means that successful institutions are supposed to run at lower prices, although a favorable association can be anticipated, provided that highpriced institutions are quite likely to face high interest rates. Focused on the premise that expense weakens income and is quality, analyses have widely established a clear negative association between bank productivity and operational costs (Athanasoglou et al., 2008; Molyneux & Thornton, 1992). Banking institutions with a large income ratio are likely to post low results, suggesting management inefficiency with negative repercussions for competitiveness (Pasiouras & Kosmidou, 2007). H_5 = Inefficiency has negative effect on banks' profitability.

RESEARCH METHODOLOGY AND DESIGN

This research emphasizes on secondary information, secondary data processing sources, i.e., the database has been chosen for bank reach. Only commercial banks were needed for the current research report. Descriptive and regression tests for panel data were included the sample banking institutions are Eighteen conventional banks functioning from 2013 to 2018 across Pakistan. As grounded theory shows, good science demonstrates hypotheses that are being evaluated and serves to further examine hypothesized theoretical relationships. This analysis has used a deductive technique, i.e., re-testing current hypotheses. On average return assets are commonly used by financial institutions as a means of calculating profitability.

By inserting asset value at the beginning and end of time, it will determine then divided it from 2. Usually, ROAA is deemed best just over 5% (González et al., 2019); (Kim & Katchova, 2020); (A. Abbas & Arizah, 2019). The ROAE is a financial ratio that indicates the performance of a financial institution in connection with the stockholders' average equity. The financial metric is measured at a rate equal to the net after-tax benefit of the total equity of stockholders for a defined timeframe (Zhang & Aboud, 2019); (Sahyouni & Wang, 2019). Through dividing the impaired loans against gross loans, low asset quality could be estimated (Kim & Katchova, 2020).

The capital adequacy ratio is generally calculated by the equity to asset ratio, which relates greatly to the monetary efficiency of financial services sector (İncekara & Çetinkaya, 2019); (Saif-Alyousfi, 2019). Diversification of income may be measured on average assets by net interest income (Dietrich & Wanzenried, 2011); (Liu, Molyneux, & Nguyen, 2012). The liquidity ratio is the proportion of current asset to banks' obligations which acts as a measure of financial institutions' ability to repay their short-term deposit accounts and extra funds before their accounts mature (Bordeleau & Graham, 2010); (Said, 2014); (Said, 2018). Inefficiency is the calculation of the company's running expenses in comparison to its net income. It is an essential financial instrument, especially when banking institutions analyze competitiveness (Zhang & Aboud, 2019); (Sahyouni & Wang, 2019); (Saif-Alyousfi, 2019).

Present analysis has used the software's numerous computational methods, including E-views. Descriptive and association analysis was used in the analysis. Descriptive research identifies a subject by analyzing and collecting statistics on the frequencies of research factors by presenting a profile of people, classes or incidents (Cooper & Schindler, 2007). A descriptive structure has thus helped to explain the factors affecting conventional banking system efficiency across Kenya (Ongore & Kusa, 2013). In addition, the durability of data using regression using E-views has been carried out in the present research. Regression may also mean that there was a chance or mistake in the results. It is also possible to evaluate the significance level of data using regression techniques. The research used correlation methods to analyze the relationship between dependent and independent research parameters. It involves inter-relationship tests between all independent sample parameters.

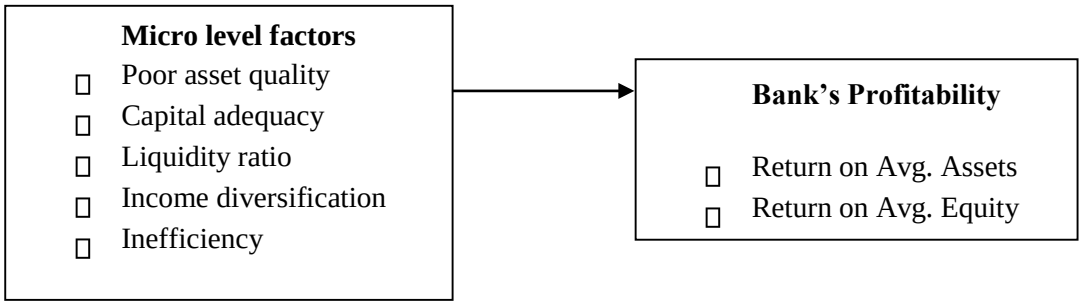
The research model for this study is as follow:

$$ROAE=\alpha+\beta_1 \text{Poor asset quality}+\beta_2 \text{Capital adequacy}+\beta_3 \text{Liquidity ratio}+\beta_4 \text{Income diversification}+\beta_5 \text{Inefficiency}+€ \quad \text{(I)}$$

$$ROAA=\alpha+\beta_1 \text{Poor asset quality}+\beta_2 \text{Capital adequacy}+\beta_3 \text{Liquidity ratio}+\beta_4 \text{Income diversification}+\beta_5 \text{Inefficiency}+€ \quad \text{(II)}$$

CONCEPTUAL FRAMEWORK

IDV **DVs**



EMPIRICAL RESULTS AND DISCUSSION

The analytical study of selected evidence from the ongoing inquiry has been addressed in this chapter. This encompasses the descriptive, correlation and regression review of the evidence gathered.

Table 1: Descriptive Analysis

	ROAA	ROAE	PAQ	CAR	LIQ	ID	INF
Mean	1.33	14.0	9.14	9.03	11.6	0.06	57.5
Median	1.06	15.0	8.24	8.00	8.88	0.05	54.9
Maximum	5.14	38.0	32.7	25.3	40.9	0.27	130
Minimum	1.47	-28.6	0.78	3.42	2.93	0.02	19.3
Std. Dev.	1.12	9.81	5.70	3.93	8.59	0.04	17.1
Observations	108	108	108	108	108	108	108

Note: ROAA = Return on Average Asset, ROAE = Return on Average Equity, PAQ = Poor Asset Quality, CAR = Capital Adequacy Ratio, LIQ = Liquidity Ratio, ID = Income Diversification, INF = Inefficiency (Cost to Income Ratio)

Mean is an average value used to validate the information core sequence that is being considered. Mean is very well defined in terms of the fact that each value and its collection of values are merged into mean, but this degree is compromised on the basis that the values of information are constantly highly affected. The maximum average amount of the ratio of expense to revenue is 57.5, whereas the minimum mean is 0.06 for other independent measure Income Diversification (ID).

Median is defined as the power of measuring the focal propensity of the dataset and is viewed as a direct degree metric. In a dataset that contains the highest proportion of the dataset from the lower half to its central point, the median is a value known as the median. This tests the power of the data sets' exceptional qualities to be impacted. The maximum median cost-to-benefit ratio (INF) value is 54.9, whereas the smallest median amount is 0.05 for other independent measure Income Diversification (ID).

Standard deviation is used to measure the degree of a distributed collection of data. The smaller measured standard deviation means that in data processing, there is a tendency for data points to be near the mean value. Conversely, the highest standard deviation value describes why data points are uniformly distributed in data and give finishing adjustments to scope precision extensively. The standard deviation in Income Diversification (ID) is 0.04, the lowest value that essentially determines the data point's tendency to be closer to its mean in Income Diversification (ID). In addition, the Independent variable expense to income ratio achieved a maximum standard deviation value of 17.1. Compared to the indicators in, the dataset set this value is greater, which means that the data points of the cost to income calculation have values spread over a large range of scales.

Table 2: Correlation Analysis

Note: ROAA = Return on Average Asset, ROAE = Return on Average Equity, PAQ = Poor Asset Quality, CAR = Capital Adequacy Ratio, LIQ = Liquidity Ratio, ID = Income Diversification, INF = Inefficiency (Cost to Income Ratio)

The research used correlation methods to analyze the relationship between dependent and independent research factors. It involves inter-relationship tests between all independent sample parameters. The association also shows whether the predictor has a bad relationship or a good relationship. If the correlation value among 2 factors is similar to +1 or -1, so it indicates a clear association among the factors while the orientation among the variables is indicated by a positive or negative symbol. The above table indicates the relationship between the current study's chosen attribute. For instance, the cost-to-income ratio (INF) has values of -0.63 and -0.69, suggesting a negative relationship between ROAA and ROAE. Income diversification shows a good relationship for ROAA and ROAE, accordingly, with values of 0.71 and 0.38.

Table 3: Regression Analysis: Panel Least Squares model of ROAA

	ROAA	**ROAE**	**PAQ**	**CAR**	**LIQ**	**ID**	**INF**
ROAA	1						
ROAE	0.82	1					
PAQ	-0.16	-0.14	1				
CAR	0.48	0.07	-0.03	1			
LIQ	0.28	0.16	0.01	0.16	1		
ID	0.71	0.38	-0.30	0.57	0.19		
INF	-0.63	-0.69	-0.09	-0.06	-0.08	0.08	

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
PAQ	-0.0080	0.0079	-1.0061	0.3167
CAR	0.0262	0.0133	1.9670	0.0519
LIQ	0.0135	0.0050	2.6936	0.0083
ID	14.934	1.2730	11.731	0.0000
INF	-0.0374	0.0024	-15.022	0.0000
C	2.1310	0.2139	9.9590	0.0000
R-squared	0.8570	**Mean dependent var**		1.3301
Prob(F-statistic)	0.0000	**Durbin-Watson stat**		1.4412

Note: ROAA = Return on Average Asset, ROAE = Return on Average Equity, PAQ = Poor Asset Quality, CAR = Capital Adequacy Ratio, LIQ = Liquidity Ratio, ID = Income Diversification, INF = Inefficiency (Cost to Income Ratio)

In the table above, the findings of the Return on Average Assets (ROAA) regression model are presented Low quality of assets has a negative impact on banking competitiveness (ROAA) with a coefficient value of -0.008001, which means that 1 unit increase in impaired loans over total loans decreases competitiveness of commercial banks by 0.008001 unit (Salike & Ao, 2018). With a coefficient value of 0.026292, the capital adequacy ratio (CAR) has a significant as well as positive impact on banking competitiveness (ROAA), which indicates that increasing equity to assets per unit will raise profitability of commercial banks (ROAA) by 0.026292 units (Kosmidou, Pasiouras, & Tsaklanganos, 2007). The cost-to-income ratio (INF) provides an adverse and substantial impact on financial institution profit margins (ROAA) with a coefficient value of -0.037499 and a probability level of fewer than 0.05 of 0.0000, which means that a per unit increase throughout the cost-to-income ratio (INF) will decrease financial institution profitability (ROAA) by 0.037499 units (Dietrich & Wanzenried, 2011). In the context of the liquidity ratio (LIQ), a major positive effect on competitiveness is included (Allen & Carletti, 2010). Although income diversification demonstrates a substantial positive effect on ROAAA (Dietrich & Wanzenried, 2011).

Table 4: Regression Analysis: Panel Least Squares model of ROAE

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PAQ	-0.1575	0.1101	-1.4296	0.1559
CAR	0.5347	0.1851	2.8879	0.0047
LIQ	0.0762	0.0695	1.0964	0.2755
ID	91.105	17.636	5.1658	0.0000
INF	-0.3911	0.0345	-11.311	0.0000
C	35.591	2.9644	12.006	0.0000
R-squared	0.6395	**Mean dependent var**		14.009
Prob(F-statistic)	0.0000	**Durbin-Watson stat**		1.6203

Note: ROAA = Return on Average Asset, ROAE = Return On Average Equity, PAQ = Poor Asset Quality, CAR = Capital Adequacy Ratio, LIQ = Liquidity Ratio, ID = Income Diversification, INF = Inefficiency (Cost to Income Ratio)

The findings of the regression model Return on Average Equity (ROAE) shows that Capital Adequacy (CAR) has a favorable substantial effect on banking competitiveness (ROAE) with a coefficient value of 0.534747 as well as a probability value of fewer than 0.05 of 0.0047, suggesting that a single unit rise in Capital Adequacy will raise profitability of commercial banks (ROAE) about 0.534747 unit (Kosmidou et al., 2007). The liquidity ratio provides a favorable impact on banking competitiveness (ROAE) with a coefficient value of 0.076278, which means that an one unit liquidity ratio rise will improve profitability of commercial banks (ROAE) by 0.076278 units (Bordeleau & Graham, 2010). The cost-to-income ratio (INF) provides an adverse substantial impact on the competitiveness of commercial bank (ROAE) with a

coefficient value of -0.391167 as well as a probability value of 0.0000 which is smaller than 0.05, implying that per unit increase in the cost-to-income ratio will decrease the competitiveness of commercial banks (ROAE) by 0.391167 units. In the context of ROAE, income diversification (ID) of less than 0.05 with a probability value of 0.0000 and a coefficient of -0.391167 has a major adverse impact (Dietrich & Wanzenried, 2011). PAQ has adverse effect on ROAE (Salike & Ao, 2018).

Conclusions and Recommendations

Meanwhile, traditional banks financial success is crucial in terms of business positions closely linked to the suitability of the country overall. The analysis discusses the competitiveness drivers of traditional commercial banks in Pakistan, with special focus on the role of asset quality. After the implementation of stricter banking regulatory norms, that factor became increasingly important. The research included microfinancial output variables. As described earlier, this research analyzes the impact of micro-determinants on the competitiveness of conventional banking institutions listed but also functioning throughout Pakistan, focusing specifically on the low quality of assets. In order to perform a systematic analytical analysis, the study herein gathers information from eighteen commercial banks. Study analysis demonstrates that the bank's performance serves as a predictor for ROAA and ROAE that indicates distinct differences in outcomes, and these results are not consistent with each other, in view of studies in previous hypotheses and observations of proposed function.

Low asset quality (PAQ), liquidity ratio, cost-to-benefit ratio (Inefficiency), capital adequacy (CAR) including income diversification are seen to have a major impact on financial efficiency in the context of ROAA t-value as well as the significance value of the related parameters. In the case of the ROAE t-value and the importance value of the related indicators it is suggested that the financial efficiency is significantly impaired by poor asset quality (PAQ), cost-to-benefit ratio (Inefficiency), capital adequacy (CAR) and income diversification. The liquidity ratio (LIQ) showed marginal ROAE effects. Capital adequacy has an impact on financial productivity since measures relating to capital structure are important for commercial bank since they are granted the freedom to increase their profitability and tackle intense market competitiveness. Poor asset quality also has a strong detrimental impact on profitability, as a surge in nonperforming loans increases credit risk, thus reducing the profitability of commercial banks. Therefore, the course of the effect of these predictors on competitiveness is according to previous studies.

Future Research Directions

As there are other bank-specific variables that influence the profitability of commercial banks, the analysis could be carried out by potential researchers by adding more profitability factors, so an examination of some other variables other than one considered in this study could be needed. Secondly, further research can be carried out on the effects of market conditions on the efficiency of commercial banks. Consequently, the efficiency measure using ROAA and ROAE was included in this assessment; measures like the net interest margin as well as the net profit margin could be applicable throughout the commercial banks to determine the influence of bank-specific variables on results. Lastly, the dataset timeframe, compiled and examined, spans six years. Future testing may be achieved by increasing the time to achieve more detailed and precise information.

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