Contemporary Issues in Social Sciences and Management Practices (CISSMP)
ISSN: 2959-1023
Volume 2, Issue 1, March, 2023, Pages 46-55
Journal Homepage:
https://www.cissmp.com/index.php/CISSMP

Analyzing the Role of Liquidity and Credit Risk Management on the Performance of Financial Institutions: A Case of Emerging Economy

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ARTICLE INFO

Article History:

Received:	Jan	21, 2023
Revised:	Feb	21, 2023
Accepted:	Feb	28, 2023
Available Online:	March	31, 2023

Keywords: Liquidity Management, Credit Risk Management, Financial Institutions, Commercial Banks

Funding:
This research received no specificgrant from any funding agency in the public, commercial, or not-for-profit sectors.

ABSTRACT

This research paper examines the impact of liquidity and credit risk management on the performance of Pakistan's financial institutions. The study employs quantitative research methodology to collect secondary data from the annual reports of fifteen commercial institutions for the years 2012-2021. The researchers analyzed the data through panel regression analysis. According to the findings of the study, liquidity and credit risk management have a significant and positive effect on the financial performance of Pakistani institutions. This study is innovative because it focuses on the Pakistani financial industry, which has not been extensively examined in the literature. This study also contributes to the existing literature on the impact of liquidity and credit risk management on banks' financial performance. This study focuses on only 15 institutions in Pakistan, limiting the generalizability of the results. Future research can increase the sample size to include more banks and also consider other variables that may influence the financial performance of Pakistani banks. The study's findings can provide policymakers, regulators, and financial institutions with valuable insights to enhance their liquidity and credit risk management practices.

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Citation: Sun Jianfu, F. H., Khawar Abbas. (2023). Analyzing the Role of Liquidity and Credit Risk Management on the Performance of Financial Institutions: A Case of Emerging Economy. *Contemporary issues in social sciences and management practices*, *2*(1), 46-55.

Introduction

The management of liquidity and credit risk is a crucial component of the banking sector, especially in the case of conventional banks. The performance and stability of conventional banks can be significantly influenced by the efficient management of liquidity and credit risk. The concept of liquidity risk pertains to the possibility of not being able to fulfill monetary

commitments in a timely manner (Ismail & Ahmed, 2023). Conventional financial institutions are susceptible to liquidity risk due to their dependence on customer deposits to finance their activities. It is imperative for banks to efficiently handle their liquidity in order to guarantee their ability to fulfill deposit withdrawals and other financial commitments in a timely manner. Inadequate management of liquidity risk may result in the insolvency of a financial institution, thereby causing substantial economic ramifications (Bhatt et al., 2023).

The effective management of liquidity is a critical determinant of the financial performance of conventional banking organizations. The implementation of efficient liquidity management strategies enables financial institutions to fulfill their funding needs and responsibilities, while simultaneously ensuring the availability of adequate liquid reserves to withstand unforeseen liquidity disruptions. The significance of liquidity management on the performance of conventional banks can be substantial within this particular context (Cornwell et al., 2023). An approach to assess the influence of liquidity management on the conventional banking sector's performance is to scrutinize crucial financial metrics, including but not limited to profitability, asset quality, and solvency. The maintenance of an optimal level of liquidity by a bank can result in a reduction of funding costs and an improvement in profitability. Furthermore, through efficient liquidity management, a financial institution can mitigate its susceptibility to liquidity risk, thereby enhancing its asset quality and solvency. Apart from financial metrics, it is imperative to take into account the influence of liquidity management on the comprehensive steadiness of the banking sector (Anwer et al., 2023).

In contrast, credit risk pertains to the potential for borrowers to default on their obligations. Credit risk is a crucial concern for conventional banks as they primarily engage in lending activities. The proficient administration of credit risk is crucial for financial institutions to sustain the profitability of their lending portfolios and prevent compromising their stability. Insufficient management of credit risk can lead to a significant increase in non-performing loans (NPLs), which can ultimately compromise a bank's profitability and capital adequacy (Naji & Shabib–Ul-Hassan, 2023). The analysis of various financial metrics, including but not limited to return on assets (ROA) and return on equity (ROE), can aid in assessing the impact of credit risk management on the operational efficiency of traditional banking institutions. The aforementioned indicators serve to gauge the bank's profitability in relation to its assets and equity, correspondingly. An effectively managed credit risk portfolio has the potential to enhance financial indicators, thereby increasing the likelihood of attracting investors and bolstering the reputation of the bank. Moreover, the implementation of efficient credit risk management practices can potentially mitigate the likelihood of loan defaults and non-performing loans (NPLs) (Mamari et al., 2022).

The banking industry in developing nations, such as Pakistan, is susceptible to a range of hazards, including liquidity and credit-related risks. The potential hazards associated with financial institutions can exert a noteworthy influence on their operational efficacy, thereby influencing the general economic stability of the nation. Nonetheless, a dearth of all-encompassing research exists regarding the function of liquidity and credit risk management practices in the efficacy of financial institutions within emerging economies, specifically within the confines of Pakistan (Hunjra et al.,

2022). The significance of the study lies in its contribution to the extant literature on risk management and financial performance in emerging markets. The objective of this research is to investigate the influence of liquidity and credit risk management on the financial performance of organizations operating in Pakistan.

This study aims to provide new insights into the relationship between risk management strategies and financial outcomes in economies of similar characteristics. The findings of this study have the potential to provide significant value to policymakers, regulators, and financial institutions as they endeavor to improve their risk management strategies, reinforce the stability and sustainability of the financial sector, and promote economic growth. Moreover, the present study holds the promise of laying down a theoretical framework for future inquiries pertaining to the management of risk and financial performance in diverse emerging markets.

2.0 Literature Review

According to the research that has been conducted so far, effective management of liquidity may have a positive effect on the financial performance of conventional banks. According to the results of a research that was carried out by Abdi et al. (2022), the successful management of liquidity risk has a positive influence on the profitability of banks that are functioning in Pakistan. The research used a sample of 23 conventional banks located in Pakistan, and it came to the conclusion that those banks who executed more efficient approaches for managing liquidity displayed better levels of profitability in comparison to banks which implemented fewer effective strategies for managing liquidity.

The purpose of the research that was carried out by Rasheed et al. (2021) was to examine the effect that liquidity management has on the overall financial performance of banks that are active in Pakistan. The research consisted of a sample size of thirty conventional financial institutions, and it found that the deployment of enhanced liquidity management methods led to an increase in profitability, a reduction in loan loss provisions, and an improvement in asset quality. These results were found as a direct result of the improved asset quality.

Muhammad et al. (2021) carried out research with the purpose of analyzing the effect that banks in Pakistan's liquidity management has on the country's overall financial stability. The research was conducted using a sample of 17 conventional banking institutions, and it found that the institutions that displayed better levels of financial stability had techniques for liquidity management that were more successful. As a direct consequence of this, there was a subsequent increase in profitability as well as growth. The purpose of the research that was carried out by Islam et al. (2020) was to investigate the effect that liquidity management has on the overall financial performance of banks that are active in Bangladesh. The research included a sample size of 28 conventional financial institutions and found that the use of efficient approaches for managing liquidity led to increased profitability, decreased loan loss provisions, and improved asset quality.

According to the findings of a research that Abdul-Rahman and Gholami (2020) did, the management of a bank's liquidity position has a significant influence on the profitability of conventional banks in Malaysia. In the course of its research, the study analyzed information

gathered from a sample of twelve traditional financial institutions over the course of five years. According to the findings, successful liquidity management seems to have a positive influence on the financial performance of banks. Haziaton et al. (2020) carried out research with the purpose of investigating the connection that exists between the management of liquidity risk and the overall performance of banks in Bangladesh. According to the findings of the research, financial institutions that implement efficient techniques for controlling liquidity risk have higher levels of profitability and lower levels of risk exposure when compared to those that do not implement such strategies. Drawing from the presented arguments, a hypothesis can be formulated as follows:

H1: *There is a significant and positive relationship between liquidity management and Banks performance*

Credit risk management is a critical aspect of financial institutions, especially in emerging economies such as Pakistan, where the financial sector is still evolving. Various studies have explored the impact of credit risk management on the performance of financial institutions in Pakistan. Arshad et al. (2020) examined the relationship between credit risk management and financial performance within the banking sector of Pakistan. The research used information from a sample of 15 commercial banks operating in Pakistan for a duration of five years. The results indicate that the management of credit risk has a noteworthy and favorable influence on the financial performance of banks.

The purpose of the research conducted by Tabash (2018) analyzed the impact of credit risk management on the stability of the Pakistani banking sector. The study used data from 17 commercial banks in Pakistan and found that credit risk management has a significant positive impact on the stability of the banking sector in Pakistan. In addition, Ustarz and Fanta (2021) conducted research that investigated the influence that credit risk management has on the overall financial performance of banks that are active in Ethiopia. According to the findings of the study, the successful implementation of credit risk management strategies led to beneficial outcomes for financial institutions in terms of their monetary earnings, asset value, and general stability.

The study conducted by Khan et al. (2021) undertook their research with the intention of determining whether or not there is a connection between credit risk management and the profitability of conventional banks in Bangladesh. The findings of the research point to the fact that the management of credit risk has a significant impact, both positively and significantly, on the profitability of banks. A research that was conducted in Nigeria by Okoye and Eneh (2022) showed that competent credit risk management procedures had a positive impact on the performance of banks.

The objective of the research that was carried out by Al-Msiedeen (2019) was to investigate the impact that credit risk management has on the economic results achieved by commercial banks in Jordan. The results of the study indicate that the management of credit risk has a positive influence on the financial performance of banks, as shown by improvements in profitability and asset quality. This conclusion is drawn from the findings of the research. Academic researchers came up with the idea that in order for financial institutions to enhance their financial performance and lower their credit risk, they need use efficient credit risk management

procedures.

According to the findings of recent studies, it has become abundantly clear that the management of credit risk takes a major role in determining the financial repercussions of conventional banking organizations. The use of efficient strategies for managing credit risk may lead to an improvement in the overall quality of the loan portfolio, a decrease in the amount of money lost due to bad credit, and an increase in the profitability and asset quality of the financial institution as a whole. Therefore, drawing from the preceding discourse, the researcher postulated that:

H2: *There is a significant and positive relationship between credit risk management and Banks performance*

3.0 Methodology

The statistical data in this study was obtained by reviewing annual reports and all case repositories spanning the period from 2012 to 2021. Data is gathered within the geographical boundaries of Pakistan. Fifteen banks located in Punjab; Pakistan were the source of the collected data. The educational data will be sourced from audited annual reports and Fitch attachments pertaining to all sampled sets from 2012 to 2021. The research investigated a limited sample of fifteen commercial banks. Several banks were excluded from the analysis as a result of insufficient essential data. It is worth noting that the number of banks in the country may vary from year to year due to acquisitions and mergers, despite the fact that there are currently twenty commercial banks in operation. The investigation of commercial banks relies on the data from 2017, as the process of acquiring information on the banks that have undergone mergers poses a challenge. The selection comprises twenty banks that are publicly traded on the PSX.

A total of fifteen banks were chosen for the purpose of data collection, utilizing the aforementioned procedure. The aforementioned offer is better suited for individuals who possess twenty openly imported banks on the Pakistan stock Exchange. The utilization of panel data analysis is employed to determine the objective of the inquiry. In their study, Milcheva and colleagues (2019) utilize panel data to address issues related to heterogeneity in data, low-density line polymorphism, and temporal trends that may not be captured by time-bound data. A multidisciplinary approach was employed in this study to attain the intended outcomes. Descriptive statistics, a standardization matrix, and retrospective models are employed for the analysis of financial statements of banks.

Initially, the nature of the dataset was determined through the use of unit root tests and descriptive statistics. The study used descriptive analysis, correlation regression, and multicollinearity analysis to evaluate several hypotheses.

Econometric Model for data analysis

According to different studies Ali et al. (2019); Murdock (2017); and Sadaa et al. (2020), We will use the following models for data analysis of the study:

$$ROAit = \alpha i + \beta 1LMit + \beta 3CRMit + \varepsilon it$$

Where:

ROA= to measure the financial performance of the bank

α = Intercept
LM= Liquidity management of banks
CRM= Credit management ratios to calculate the loan payment of banks
βs= coefficients of independent variables
It= i denotes bank and t denotes time
ε= error term

4.0 Results

Multicollinearity Analysis

Table 1: Multicollinearity Analysis

Variable	VIF	1/VIF
CAR	1.23	0.813
LAR	1.14	0.877
ROA	1.09	0.917
Mean VF	1.15	

Multicollinearity is a phenomenon that pertains to the presence of a strong correlation among the predictor variables in a regression model. The instability or inaccuracy of the estimated coefficients of the predictors can result in erroneous interpretations of the regression model. The Table demonstrates that neither modelexhibits multicollinearity, as the adjustment rise issue (VIF) is all fewer than 10.

Correlation Analysis

	ROA	Bad debts	CR	Doubtf~s
ROA	1			
Bad debts	-0.0071	1		
CR	0.0052	-0.005	1	
Doubtfulness	-0.0036	0.0062	0.024	1

Correlation analysis is a statistical technique that is employed to measure the strength and direction of the relationship between two variables. The presentation of the results of a correlation analysis typically involves a correlation coefficient, which displays a spectrum of values spanning from negative one to positive one. Table 2 indicates a statistically significant positive correlation between liquidity management and ROA. On the other hand, liquidity management has a negative relationship with bad debts. It is an indication that the company is profitable compared to the number of its assets. Return on assets (ROA) allows managers, investors or analysts to understand how a company’s management uses its assets to create income. Further, the table indicated that both proxies of credit risk management i.e., bad debts and doubtfulness has negative correlation with ROA.

Regression Analysis

Table 3: Regression Analysis (ROA as Outcome Variable)

ROA	Coef.	Std. Err.	T	P>t	[95% Conf.
Bad debts	0.12	0.11	0.15	0.993	0.00
Doubtful debts	0.08	0.07	-0.09	0.997	0.00
CR	1.12	1.11	1.38	1.705	0.04
_cons	-21.95	22.92	-0.96	0.34	-67.25

Regression analysis is a statistical technique utilized to develop a model that illustrates the correlation between a dependent variable and one or more independent variables. According to the results presented in Table 3, it can be inferred that the credit risk management construct of bad debts has a statistically significant positive impact on the economic performance, as measured by the return on assets (ROA), of the banks. Moreover, the research findings suggest that the management of doubtful debts exhibits a positive and statistically significant correlation with the outcome variable. The implementation of liquid management via cash reserves has a notable and favorable impact on a company's performance, specifically in terms of return on assets (ROA).

The findings suggest that the two independent variables have a statistically significant and positive impact on the outcome variable.

Discussion and Conclusion

The research indicates that the management of liquidity and credit risk has significant effects on the financial performance of institutions operating in Pakistan. The study's findings indicate that proficient management of liquidity can enhance the financial institutions' stability and profitability. Additionally, adept management of credit risk can decrease the probability of default and enhance the quality of the loan portfolio. Additionally, the research indicates a favorable correlation between liquidity and credit risk management, implying that financial establishments that exhibit efficient liquidity management are also inclined to exhibit proficient credit risk management. The aforementioned outcome highlights the significance of incorporating risk management strategies that are comprehensive in financial establishments. The findings of current research are in line with the findings of previous researches (Anwer et al., 2023; Bhatt et al., 2023; Cornwell et al., 2023; Haziaton et al., 2020; Hunjra et al., 2022).

The study emphasizes the significance of managing liquidity and credit risk in the performance of financial institutions in Pakistan. This underscores the criticality of these factors in the financial sector. The study's results have the potential to assist policymakers, regulators, and financial institutions in the creation of improved risk management practices and strategies. These measures may serve to bolster financial stability, profitability, and resilience to external shocks. The study's practical contribution holds considerable significance. This research offers significant perspectives for policymakers, regulators, and financial establishments to enhance their risk management methodologies and arrive at well-informed judgments. The results of this study have the potential to assist financial institutions in Pakistan in devising more efficient approaches for handling liquidity and credit risk, enhancing their profitability, and fortifying their ability to withstand external disturbances.

The theoretical contribution of the study is of significant importance. The present study provides a significant addition to the broader academic conversation regarding the subjects of managing risk and achieving financial performance. This research provides original perspectives on the association between risk management strategies and economic outcomes in developing economies, with a particular focus on Pakistan. The study examines the impact of liquidity and credit risk management on financial performance. The study presents several limitations. The research was delimited to financial institutions situated in Pakistan, which restricted the extent to which the findings can be applied to other developing economies. The employment of secondary data in research may present certain constraints pertaining to the caliber and availability of the data. The analysis conducted in the study was constrained due to its failure to consider the probable impact of external factors, such as macroeconomic conditions and regulatory policies, on the operational effectiveness of financial institutions.

Subsequent investigations may endeavor to redress the constraints of this inquiry and broaden the conclusions. Initially, it is suggested that forthcoming investigations may undertake a

comparative analysis of the function of liquidity and credit risk management within financial institutions across diverse emerging markets, with the aim of identifying both shared and distinct characteristics. Subsequently, it is suggested that forthcoming investigations could employ primary data as a means to surmount the constraints of secondary data and furnish more comprehensive perspectives regarding the correlation between risk management practices and financial performance. Subsequently, forthcoming studies may explore the effects of additional variables, such as macroeconomic circumstances and regulatory frameworks, on the efficacy of financial establishments.

Sun Jianfu: Problem Identification and Model Devolpement
Farhad Hussain: Literature search, Methodology
Khawar Abbas: Drafting and data analysis, proofreading and editing

Conflict of Interests/Disclosures

The authors declared no potential conflicts of interest w.r.t this article's research, authorship, and/or publication.

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