

The Determinants of Bank's Financial Stability in Pakistan

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ABSTRACT

The purpose of this study is to investigate the role of both internal and external factors in achieving better stability in context of Pakistani banking industry. The internal determinants that this research study have used are bank size, funding risk, liquidity risk, credit risk and return on assets while external variables utilized includes money supply and unemployment rate. The study contains 10 years secondary data over the period 2013-2022 of 24 commercial banks of Pakistan. This study conducted correlation analysis and GMM model estimation for analysis. The findings show that liquidity risk, bank profitability, funding risk and bank size have positive and significant impact on bank stability. On the other hand, credit risk effects negatively bank stability. The result showed that money supply positively affects the stability of banks in Pakistan. On the contrary, unemployment is negatively affecting banks stability. The findings of this study have important implications for policymakers, regulators, banks, investors, and other stakeholders in the Pakistani banking sector. This research enables regulators and policy makers to draft policy and regulatory framework that can ensure bank stability. Moreover, banks can use the results of this study to improve their risk management strategies. Likewise, investors in the financial markets can use the research's results to evaluate the stability of banks. Future researches can enhance this work by adding number of other determinants of bank stability like financial innovation, corporate governance, regulatory framework, etc. Furthermore, a comparison of developed and developing countries can be made to understand the difference in the determinants of bank stability in developed and developing countries.

Key words: Bank Stability, Credit Risk, Funding Risk, Bank Size, Bank Profitability

INTRODUCTION

Banking industry in this era is a vital and prominent organ for every economy that enables a number of facilities to every type of business. In any country, bank among all financial institutions is the one, which plays a crucial role in the betterment of economy. Working as a mediator, it plays a developing role between creditor and debtor for mutual benefits of both parties and ensures their monetary needs with a settled management system. Garcia and Guerreiro (2016) described that banks are the important vehicle in the economy of any country in many ways as these institutions increase saving habits which ultimately leads to rise in bank deposits and further helps to improve lending status. Additionally, by directing funds from investors to clients, banks are considered as a vital institute in directing financial communications (Garcia & Guerreiro, 2016). Banks with higher profitability performed an integral role in monetary improvement of the country, as they make a better utilization of the deposits by converting them into productive investments, further these investments not only benefits the investors but also all stakeholders get profits from the surplus outcomes (Al-Homaidi et. al., 2018).

The structure of business and their financial transactions in every region vary in accordance with the specific environment. Acting as intermediary, the banks in Asia have been playing a significant role because the financial markets in this region are mainly based on bank-grounded system. In the prevailing trajectory of the global financial system, numerous banks and financial institutions are focused on ensuring financial stability. Bank stability is its ability to maintain financial soundness and ability to face economic uncertainties. The pursuit of financial stability has emerged as industry a crucial aspect economic progress (Ali & Puah, 2018).

With the passage of time some banks in Asian countries have improved their returns in the form of assets and equity, these healthy conditions came after pre-crisis (Sheng, 2013). In the banking, after the crisis of financial sector of 2007-2008 in all over the world, one of the essential areas for debate especially in the field of research is stability because the large banks are mostly affected by factors that worried a number of economies (De Moraes & De Mello, 2024). The effectiveness of financial institutions has severe concerns since the beginning of the financial crisis. A large number of institutions are facing challenging environment in contemporary macroeconomic conditions, which also leads to get lower returns on the investments and hence reduced financial stability (Bikker & Vervliet, 2018). Both internal and external factors are important to keep the financial strength of banks (Naeem et. al., 2017).

In Pakistan, banking sector is flourishing and has rich potential of growth. Stability indicators reflect a noticeable extension in the performance of banks that also leads to an effective contribution in the overall improvement of economic development. Performance of banks ultimately express a stable atmosphere relating to banking industry (Ali & Puah, 2019).

The principal aim behind this research work is to reveal both internal and external determinants of commercial bank's financial stability within Pakistan. This study included external factors because they are directly related with the economic surroundings. According to Al-Homaidi et al. (2018), external variables are of vital consideration and the banks should consider them for maintaining and managing financial stability. The previous research works conducted in Pakistan mainly ignored external factors. The study of Ali and Puah (2019) clarified that every financial institution of the country depends on the state financial system because the policies and regulations plays a crucial role in outcomes and consistency of institution's performance.

LITERATURE REVIEW

Bank Stability

Bank stability means the ability of a bank, to maintain a healthy financial state over time. Banks have to conduct various operations with uncertainty. If significant factors like credit risk managed timely and appropriately, it can help to maintain the stability of banks (Adusei, 2015).

Bank Size and Bank Stability

The relationship of bank size and stability indicate that bank size matters a lot for bank stability because it results in high market share, diversified portfolio and better management of cost and loan loss provisions, and that's why large banks have the capacity to take more risk and to create more attractive credit policies as compared to smaller banks (Fiordelisi & Mare, 2014). Superior market share of the firms are related with greater available resources. Institutions with maximum quantity of assets have a comparative advantage on others because they have enhanced lending capability and therefore generates more revenues which positively affect the bank incomes (Saba et. al., 2015). However, Köhler

(2015) found a negative association between bank size and stability. The study reports that larger banks have additional rental, salary, diversity and related expenses and increase in administrative and cost expenditures ultimately decreases the bank stability. Based on the arguments, it is hypothesized that:

H1: Bank size has an effect on the bank's stability.

Funding Risk and Bank Stability

Funding risk is an important factor that impacts the bank stability. Funding risk is the risk faced by a bank when it faces problems in obtaining funds to meet its financial commitments. Dealing well with funding risk is fundamental for warranting a bank's stability. Adusei (2015) investigated the impact of macroeconomic and bank specific variables on stability of bank in Ghana. This study included the period of 2009 to 2013 of 112 rural banks with the objective to find the connection between funding risk and bank stability. Result report that funding risk generally has a significant impact on bank stability. Dietrich & Wanzenried (2011) investigated the industry-oriented, macroeconomic and specific factors to determine their effect on the performance and stability of Swiss banks. Results revealed that funding risk have an effect on banks stability. Louati and Boujelbene (2015) studied Islamic and conventional banks of 12 South East Asian and MENA countries to explore the relationship between bank stability and funding risk. This study recommended that beside all other risks related to financial institutions, funding risk has more impact on earning potential trends. Here, we hypothesize that:

H2: Funding Risk negatively affects bank's stability.

Liquidity Risk and Bank Stability

Liquidity risk is the probable trouble that a bank may face in raising funds or converting assets into cash to meet its immediate funding requirements. The link between liquidity risk and a bank's financial stability is substantial, as liquidity risk can pose a danger to the bank's capability to meet its short-term debts. Arif and Anees (2012) studied the impact of liquidity risk on stability of Pakistan's banking sector. The study considers 22 commercial banks of Pakistan over the period of 2004-2009. Finding from multiple regression analysis indicates that one of the major predictor of banks stability is liquidity risk. Moreover, increase in cash reserves of bank ultimately decreases the threats of liquidity risk of banking sector. Curak et. al. (2012) conducted a research on internal factors that affect banks performance in Macedonian by using liquidity risk and operating expenses in consideration. A panel model approach was used to assess the relationship from 2005-2010. The outcomes of the study indicated that internal factors are controlled by the bank management and effective strategies regarding risk management, and reducing operating expenses help to maintain stability of the banks. Lack of funds for customers and other operational activities may extend the volume of liquidity risk which can lead to lower bank stability.

H3: Funding Risk negatively affects bank's stability.

Credit Risk and Bank Stability

Credit risk is the chance for losses from the failure of debtors to fulfill their contractual commitments. If a substantial percentage of the loan portfolio comprises of loans to borrowers with a higher probability of default, the bank is exposed to higher credit risk. Tan and Floros (2013) explored the consequence of risk on financial stability China's commercial banks. The study analyzed the banks over the period of 2003-2009. Their study showed that credit risk negatively impact bank stability and also recommended that increase competition, higher no. of lending activities and better technical

efficiency are compulsory for the financial stability of Chinese banking sector. The study of Altaee et al. (2013) also explicated the influence of various factors on bank stability. The results report that better management of credit risk; liquidity ratio and attracting more customers with better market share are the factors which are more connected with bank stability. Gyamerah and Amoah (2015) conducted their research on bank performance and stability of local banks in Ghana. They found that better management of credit risk has a positive impact on bank stability. On the basis of arguments, it is hypothesized that:

H4: *Credit Risk negatively affects bank's stability.*

Money Supply and Bank Stability

Money supply is often triggered by a change in interest rate that can affect banks profitability and ultimately its financial stability. At a specific time in an economy, the total amount of monetary assets available or the amount of money represented by money supply. The macroeconomic factors related with external environment and money supply are negatively associated to bank profitability and hence this often effect bank stability negatively (Chowdhury & Rasid, 2016; Chowdhury et. al., 2017). On the other hand, Kok et. al. (2012) found that money supply have a substantial and positive association of relationship with the earning trends of bank. Hence, we hypothesize that:

H5: *Money supply has an effect bank's financial stability*

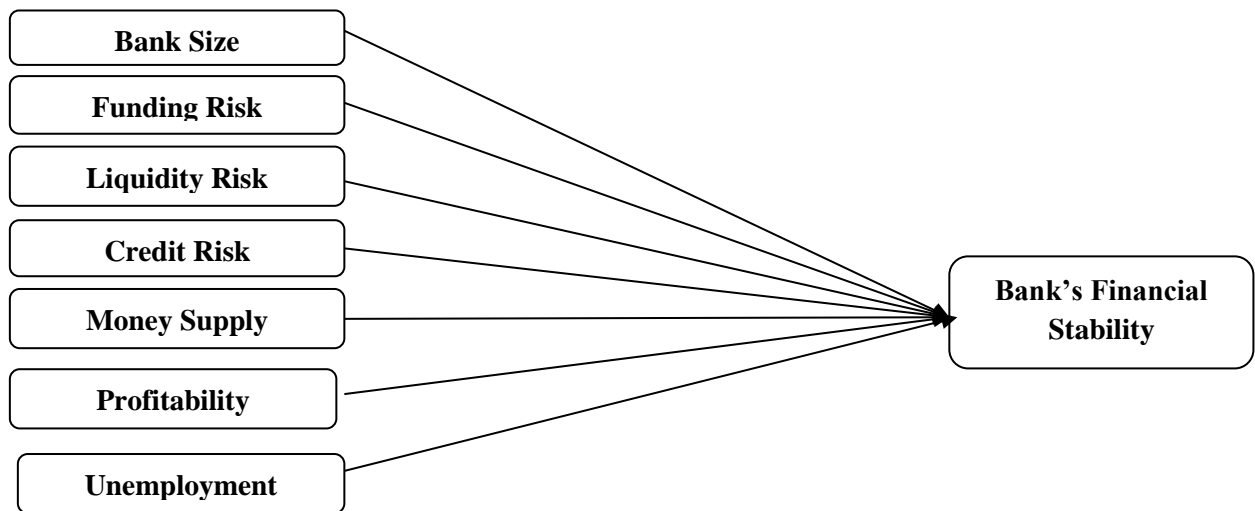


Figure 2.1: Model of the study

Profitability and Bank Stability

Profitability is the ability of a bank to make profits from its core activities. Bank's financial performance is key factor that influences its financial stability. When a bank is profitable, it has the capacity to absorb losses without impairing its financial stability. Profitability acts as a cushion against credit losses, market fluctuations, and operational challenges and hence is a key determinant of financial stability. Ali et. al. (2018) examine the impact of different variables on bank stability. Sample data was collected from the banks of Tanzania over the period of 1980 to 2000.

From study results, it is determined that performance is connected with stability. Shahriar et al. (2023) conducted their study on commercial banks of 12 Western Asian countries. Their study revealed

that better profitability promotes bank's financial stability. The study of Rashid et. al. (2017) empirically assessed financial strength of Islamic and conventional banks of Pakistan by considering macroeconomic and bank-specific variables. They use sample data of ten banks over the period of 2006 to 2012. Findings from regression test indicate that profitability has a substantial impact on bank stability.

H6: Profitability has a positive effect on bank's stability

Unemployment and Bank Stability

Average income is affected by the unemployment rate. Unemployment factor influenced both ability to deposit and ability to repay loans by customers. There exist negative effects of unemployment on stability of banks (Bolt et. al., 2012). Jureviciene and Doftartaite (2013) concluded that the financial strength of the banks is negatively influenced by unemployment rate.

Ndlovu and Alagidede (2018) found that joblessness is a major issue that directly or indirectly influenced the earnings of financial institutions, as a lot of banking operations are negatively affected by that cause. Mckee and Kagan (2018) reported that unemployment rate of the county does not affect the community banks as they occupy not much large assets. On the other hand, Zampara et. al. (2017) concluded that increase in unemployment decreases the financial earning of the banks. Nair and Vinod (2019) found that increase in the unemployment decrease the operating efficiency of the banking industry and hence negatively affects the surplus inflows of the banks leading to reduced financial stability. Ozili (2018) reported that size of banking sector, investor protection, foreign bank presence, political stability, unemployment, banking concentration, corruption control and bank efficiency are the determinants of significant value for banking stability in Africa. However these all determinants have different nature of effect in during crisis, pre-crisis and post-crisis period. Hence, it is hypothesized that:

H7: Unemployment negatively impact on bank's stability

METHODOLOGY

The population of this study involves local banks of Pakistan. All the selected banks are registered and working under the standard guidelines of State bank of Pakistan. The sample comprise of twenty-four local banks. Data from year 2013 to year 2022 is analysed in this study.

Data of 10 banks selected randomly has been analyzed for this study. Data is extracted from the annual reports of the banks and from different websites having open access secondary data. Measurement of the variables used in this study is given in the table 3.1.

The econometric model tested in the study is shown below:

$$BSTB_{it} = \alpha + \beta_1(BS)_{it} + \beta_2(FR)_{it} + \beta_3(LR)_{it} + \beta_4(CR)_{it} + \beta_5(MS)_{it} + \beta_6(ROA)_{it} + \beta_7(UNR)_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

BSTB represents bank stability, BS symbolized as bank size, FR shows funding risk, LR denotes liquidity risk, CR shows credit risk, MS is symbolized as money supply, UNR denotes unemployment rate, and ROA represents return on assets.

Table 3.1: Measurement of Variables

Nature of Variable	Variable	Measurement	Source
Dependent	Bank Stability (BSTB)	$Z - \text{Score} = \left[\frac{\text{ROA}_{i,t} + E_{i,t}/A_{i,t}}{\sigma(\text{ROA}_{i,t})} \right]$	Kasman & Kirbas-Kasman, 2013; Adusei, 2015; Ali & Puah, 2019; Adem 2013
Independent	Bank Size (BS)	Natural log of total assets	Saeed, 2014
	Liquidity Risk (LR)	$\frac{\text{Cash And Balances with banks}}{\text{Total Assets}}$	Fiordelisi & Mare, 2014; Adusei, 2015.
	Credit Risk (CR)	$\frac{\text{Total Loans}}{\text{Total Assets}}$	Afriyie & Akotey, 2013; Adusei, 2015
	Funding Risk (FR)	$Z - \text{Score} = \left[\frac{\text{DEP}/\text{TA}_{i,t} + E/\text{TA}_{i,t}}{\sigma(\text{DEP}/\text{TA}_{i,t})} \right]$	Adusei, 2015; Ali & Puah, 2019
	Profitability (ROA)	$\frac{\text{Net Profit After Tax}}{\text{Total Assets}}$	Dietrich & Wanzenried, 2011
	Money Supply (MS)	Sum of demand deposits, currency in circulation, saving deposits and time deposit.	Chowdhury & Rasid, 2016
	Unemployment (UNR)	Unemployment rate in year for the country	Zampara et al., 2017; Mckee & Kagan, 2018; Ndlovu & Alagidede, 2018.

ANALYSIS AND RESULTS

Descriptive Statistics

These descriptive statistics provide insights into the distribution, central tendency, and variability of each variable which can help in understanding their characteristics and relationships. The descriptive statistical table 4.1.

Bank Stability has an average of 0.54. The median of Bank Stability is 0.13. The highest Bank Stability score observed is 25.25. The lowest Bank Stability score observed is -0.11. The standard deviation of Bank Stability scores is 2.00. Mean of bank size is 19.34. The median of bank size is 19.47. The highest bank size observed is 21.78. The lowest value of bank size observed is 16.14. The standard deviation of bank size is 1.25. The mean credit risk value is 0.14, with a median of 0.09. Credit risk has a standard deviation of 0.36. The mean value of funding risk is 0.86 with a median of 0.23. Funding has a standard deviation of 4.87. The mean liquidity risk value is 0.10, with a median of 0.08. Liquidity risk has a minimum value of 0.03 and a maximum value of 1.41, with a standard deviation of 0.11. The mean value money supply is 24.78, with a median of 24.60. Money supply ranges from a minimum of 15.25 to a maximum of 32.97, with a standard deviation of 5.66. The mean return on assets is 0.01, with a median of 0.01. Return on assets has a minimum of value of -0.05

and a maximum value of 0.17, with a standard deviation of 0.02. The mean unemployment rate is 4.17, with a median of 4.39 and standard deviation of 1.15.

Table 4.1: Descriptive Statistics

	BSTB	BS	CR	FR	LR	MS	ROA	URM
Mean	0.54	19.34	0.14	0.86	0.10	53.35	0.01	4.17
Median	0.13	19.47	0.09	0.23	0.08	52.38	0.01	4.39
Maximum	25.25	21.78	5.01	71.45	1.41	57.99	0.17	6.55
Minimum	-0.11	16.14	0.00	0.02	0.03	48.10	-0.05	2.54
Std. Dev.	2.00	1.25	0.36	4.87	0.11	3.00	0.02	1.15

Note: BS = Bank Size; BSTB = Bank Stability; CADQ = Capital Adequacy Ratio; CR = Credit Risk; FR = Funding Risk; MC = Market Capitalization; MS = Money Supply; UNR = Unemployment; ROA = Return on Asset

Correlation Matrix

A correlation analysis is used to find the strength of the association between the variables. Table 4.2 represents the correlation between variables:

Table 4.2: Correlation Matrix

Variable	BSTB	BS	CR	FR	LR	MS	ROA	UNR
BSTB	1							
BS	-0.07	1						
CR	-0.04**	-0.22**	1					
FR	-0.02**	-0.04*	-0.02	1				
LR	-0.01***	-0.03**	0.19*	-0.03**	1			
MS	0.09***	0.29	0.01	-0.04*	-0.02	1		
ROA	0.02**	0.23	0.36**	-0.04**	0.56**	-0.03**	1	
UNR	0.03***	0.34*	-0.07*	-0.04	-0.14	0.72	-0.01	1

*** Significant at 1%, ** Significant at 5%, *Significant at 10%

The correlation between bank stability and bank size is -0.07 which indicates a weak negative correlation demonstrating a slight tendency for Bank Stability and Bank Size to move in opposite directions, although the correlation is not strong. On the other hand, a weak positive correlation ($r = -0.04$) exist between bank stability and credit risk which implies that there is a slight tendency for bank stability and credit risk to move in the opposite direction. The bank stability and funding risk are

negatively correlated with the correlation value of -0.02. Similarly, bank stability and liquidity risk have a weak negative correlation ($r = -0.01$). Bank stability and money supply have a weak positive correlation ($r = 0.09$), indicating a slight tendency for bank stability and money supply to move in the same direction. Profitability of the bank and its stability do have a positive correlation with the correlation coefficient having a value of 0.02. Unemployment rate and bank stability do have a weak positive correlation ($r = 0.03$).

GMM Results

GMM Model is used in this study to test the data. GMM is used as observations are collected over multiple time periods and/or individuals. GMM estimators can efficiently handle panel data structures, allowing researchers to model individual-specific effects and time-varying parameters. The results are given in the Table 4.3 as follows:

Table 4.3: GMM Results

Variable	β	S.E	t-Stats	p-value
BSTB(-1)	-0.06	0.01	-4.11	0.00
BS	0.05	0.03	1.50	0.13
CR	-2.34	0.24	-9.62	0.00
FR	0.03	0.01	3.59	0.00
LR	6.25	0.31	20.15	0.00
MS	0.09	0.01	10.04	0.00
ROA	16.73	5.32	3.14	0.00
UNR	-0.17	0.02	-9.85	0.00

The results revealed that lagged bank stability has a coefficient of -0.06, which is statistically significant ($p < 0.05$), indicating that lagged Bank Stability has a significant negative effect on the bank stability. The coefficient for BS is 0.05, but it is not statistically significant ($p > 0.05$), suggesting that bank size do not have a significant impact on bank stability. CR has a beta value of 2.34 and is significant at p-value 0.00. It can be said when a bank's loan portfolio contains a high proportion of loans, its stability is threatened and reduced because it faces chances of potential losses on those loans.

The coefficient of FR is 0.03, indicating that for a one-unit increase in funding risk; there is a corresponding increase of 0.03 units in the bank stability. This coefficient is statistically significant, as evidenced by the t-statistic of 3.59 and the p-value of 0.00, suggesting that funding risk has a significant positive impact on bank stability. It can be said bank facing funding risk are inclined towards equity financing leading to better bank stability. LR has a coefficient of 6.25, indicating that for a one-unit increase in liquidity risk, there is a corresponding increase of 6.25 units in the bank stability. This coefficient is highly statistically significant, as evidenced by the high t-statistic of 20.15 and the low p-value of 0.00, suggesting that liquidity risk has a very significant positive effect on bank stability. Money Supply has a coefficient of 0.09 that implies that changes in money supply have a significant

effect on the bank stability. The coefficient is statistically significant at a p-value of 0.00. ROA has a coefficient of 16.73, indicating that for a one-unit increase in return on assets, there is a corresponding increase of 16.73 units in the bank stability. This coefficient is statistically significant, as evidenced by the t-value of 3.14 and the p-value of 0.00, suggesting that ROA has a significant positive effect on bank stability. It can be interpreted that profitable bank can build up its capital reserves, which serve as a buffer against unexpected losses and contribute to overall stability. Unemployment rate has a beta of -0.17 that is statistically significant ($p = 0.00$). This implies that unemployment rate in the economy adversely affects bank stability. Increased unemployment lead to increased loan defaults as individuals struggle to meet their debt obligations. This can adversely affect banks' stability.

CONCLUSION

This study is an attempt to investigate how the bank's internal and external factors influence the stability of banks in Pakistan over the financial period of 2013 to 2022.

The study revealed that size of bank does not affect bank stability. The result is consistent with Asare et al. (2023). The stability of a bank is influenced not by its size but by the effectiveness of its risk management practices. If larger banks have weak risk management frameworks, they may be prone to higher levels of risk, negating any potential stability benefits associated with size. The study also found that credit risk has negative impact on bank stability. It is because when banks are exposed to credit risk due to lending activities and other credit-related transactions, it leads to enhanced non-performing loans (NPLs) which can deter the bank's stability. Further it is revealed that funding risk positively impact bank stability. It can be said bank facing funding risk are inclined towards equity financing leading to better bank stability. Equity financing provides a stable and long-term source of capital for banks. By raising funds through equity, banks can reduce their reliance on short-term funding sources, such interbank borrowing, which may be more susceptible to liquidity shocks and funding disruptions during times of distress. When a bank has strong funding base, the stability of the bank is improved.

This study underlined a positive impact of liquidity risk on bank stability. Banks with diversified funding sources may sight liquidity risk as an opportunity rather than a threat. Banks that diversifies their funding sources decreases their dependence any particular funding source and improves the bank's ability to access funding from various sources leading to better stability (Adem, 2023). Conversely, it is found in this study that money supply in an economy has a positive impact on bank stability. Changes in money supply influence interest rates in the economy particularly short-term interest rates. Lower interest rates can rouse borrowing activity as well as investment activity, possibly growing demand for bank loans and increasing banks' income further leading to bank stability. This study also revealed that the one of the most prominent factor that effect bank stability positively is bank profitability. The result is line with number of previous researches (e.g. Ali et. al., 2018; Shahriar et al., 2023). Increased profitability enables banks to absorb losses without facing any solvency threats and thus increasing their financial stability. Banks that are profitable are better positioned to counter any negative shocks and adapt to fluctuating market circumstances, contributing to overall stability.

It is also shown from the outcomes of this study that unemployment adversely effects bank stability. Higher unemployment can lead to more loan defaults as individuals find it difficult to meet their debt obligations. Banks that face high exposure to sectors heavily impacted by unemployment may face intensified credit risk and stability concerns. Additionally, unemployment can adversely affect deposit movements as people may withdraw funds from their bank accounts to cover living expenditures during times of unemployment. This can dent banks' liquidity positions compelling them to depend on

other funding sources or decrease lending activities to uphold liquidity. Liquidity burdens consequential from deposit withdrawals can damage banks' stability.

This study updates the regulators about the factors that affect bank stability. This will enable them to draft policy and regulatory framework that can ensure bank stability. For example, as this research recognizes liquidity risk and funding risk as important factors affecting bank stability, regulators may consider applying severer capital requirements and liquidity standards to improve stability in the banking sector of Pakistan. Moreover, banks can use the results of this study to improve their risk management strategies so that they can better prevent themselves from financial shocks. Likewise, investors in the financial markets can use the research's results to evaluate the stability of banks. Elements recognized in the study as impacting bank stability may signal to investors that few banks are more prone to financial distress.

REFERENCES

- Adem, M. (2023). Impact of income diversification on bank stability: a cross-country analysis. *Asian Journal of Accounting Research*, 8(2), 133-144. <https://doi.org/10.1108/AJAR-03-2022-0093>
- Adusei, M. (2015). The impact of bank size and funding risk on bank stability. *Cogent Economics & Finance*, 3(1), 1-19.
- Afriyie, H. O., & Akotey, J. O. (2013). Credit risk management and profitability of rural banks in the Brong Ahafo Region of Ghana. *European Journal of Business and Management*, 5(24), 24-33.
- Al-Homaidi, E. A., Tabash, M. I., Farhan, N. H., & Almaqtari, F. A. (2018). Bank-specific and macro-economic determinants of profitability of Indian commercial banks: A panel data approach. *Cogent Economics & Finance*, 6(1), 1-26.
- Ali, M., & Puah, C. H. (2019). The internal determinants of bank profitability and stability. *Management Research Review*, 42(1), 49-67.
- Ali, M. S. B., Intissar, T., & Zeitun, R. (2018). Banking concentration and financial stability. New evidence from developed and developing countries. *Eastern Economic Journal*, 44(1), 117-134.
- Altaee, H. H. A., Talo, I. M. A., & Adam, M. H. M. (2013). Testing the financial stability of banks in GCC countries: Pre and post financial crisis. *International Journal of Business and Social Research (IJBSR)*, 3(4), 93-105.
- Arif, A., & Anees, A. N. (2012). Liquidity risk and performance of banking system. *Journal of Financial Regulation and Compliance*, 20(2), 182-195.
- Asare, N., Muah, P., Frimpong, G. & Anyass, I.A. (2023) Corporate board structures, financial performance and stability: evidence from banking markets in Africa. *Journal of Money and Business*, 3(1), 43-59. <https://doi.org/10.1108/JMB-12-2021-0071>.
- Bikker, J. A., & Vervliet, T. M. (2018). Bank profitability and risk-taking under low interest rates. *International Journal of Finance & Economics*, 23(1), 3-18.
- Bolt, W., De Haan, L., Hoerberichts, M., Van Oordt, M. R., & Swank, J. (2012). Bank profitability during recessions. *Journal of banking & finance*, 36(9), 2552-2564.

Chowdhury, M. A. F., Haque, M. M., & Masih, M. (2017). Re-examining the determinants of Islamic bank performance: new evidence from dynamic GMM, quantile regression, and wavelet coherence approaches. *Emerging Markets Finance and Trade*, 53(7), 1519-1534.

Chowdhury, M.A.F. & Rasid, M.E.S.M. (2016). Determinants of performance of islamic banks in GCC countries: Dynamic GMM Approach. *Advances in Islamic Finance, Marketing, and Management*, Emerald Group Publishing Limited, Leeds, 49-80. <https://doi.org/10.1108/978-1-78635-899-820161005>

Curak, M., Poposki, K., & Pepur, S. (2012). Profitability determinants of the Macedonian banking sector in changing environment. *Procedia-Social and Behavioral Sciences*, 44, 406-416.

De Moraes, C. & de Mello, A.P.B. (2024). The relationship between financial stability and transparency in social-environmental policies. *Economia*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/ECON-05-2023-0068>

Dietrich, A., & Wanzenried, G. (2011). Determinants of bank profitability before and during the crisis: Evidence from Switzerland. *Journal of International Financial Markets, Institutions and Money*, 21(3), 307-327.

Dietrich, A., & Wanzenried, G. (2014). The determinants of commercial banking profitability in low-, middle-, and high-income countries. *The Quarterly Review of Economics and Finance*, 54(3), 337-354.

Fiordelisi, F., & Mare, D. S. (2014). Competition and financial stability in European cooperative banks. *Journal of International Money and Finance*, 45(1), 1-16.

Garcia, M. T. M., & Guerreiro, J. P. S. M. (2016). Internal and external determinants of banks' profitability: The Portuguese case. *Journal of Economic Studies*, 43(1), 90-107.

Gyamerah, I. A., & Amoah, B. (2015). Determinants of bank profitability in Ghana. *International Journal of Accounting and Financial Reporting*, 5(1), 173-187.

Jureviciene, D., & Dofartaite, D. (2013). Commercial banks' activity dependence on macroeconomic indicators. *European Scientific Journal*, 9(31), 173-184.

Kasman, A., & Kirbas-Kasman, S. (2013). The dynamic relationship between earnings volatility, concentration, stability and size in the Turkish banking sector. *Applied Economics Letters*, 20(12), 1187-1192.

Köhler, M. (2015). Which banks are more risky? The impact of business models on bank stability. *Journal of Financial Stability*, 16(1), 195-212.

Kok, Y. T., Tan, S. Y., Yong, M. S., & Tan, K. W. (2012). The determinants of Islamic banks profitability in Malaysia [BBA Dissertation]. Universiti Tunku Abdul Rahman.

Louati, S., & Boujelbene, Y. (2015). Banks' stability-efficiency within dual banking system: a stochastic frontier analysis. *International Journal of Islamic and Middle Eastern Finance and Management* 8(4), 472-490.

Mckee, G., & Kagan, A. (2018). Managerial implications of off-balance sheet items in community banks. *Studies in Economics and Finance* 35(1), 178-195.

- Naeem, M., Baloch, Q., & Khan, A. (2017). Factors affecting banks' profitability in Pakistan. *International Journal of Business Studies Review*, 2(2), 33-49.
- Nair, A. S., & Vinod, R. (2019). Determinants of the allocative, cost and scope efficiencies of Indian banks. *Applied Economics*, 51(5), 509-527.
- Ndlovu, C., & Alagidede, P. (2018). Industry structure, macroeconomic fundamentals and return on equity. *International Journal of Emerging Markets*, 13(6), 2047-2066.
- Ozili, P. K. (2018). Banking stability determinants in Africa. *International Journal of Managerial Finance*, 14(4), 462-483.
- Rashid, A., Yousaf, S., & Khaleequzzaman, M. (2017). Does Islamic banking really strengthen financial stability? Empirical evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management*, 10(2), 130-148.
- Saba, I., Kibriya, R., & Kouser, R. (2015). Antecedents of Financial performance of banking sector: Panel analysis of islamic, conventional and mix banks in Pakistan. *Journal of Accounting and Finance in Emerging Economies*, 1(1), 9-30.
- Saeed, M. S. (2014). Bank-related, industry-related and macroeconomic factors affecting bank profitability: A case of the United Kingdom. *Research journal of finance and accounting*, 5(2), 42-50.
- Shahriar, A., Mehzabin, S., Ahmed, Z., Döngül, E.S. & Azad, M.A.K. (2023). Bank stability, performance and efficiency: an experience from West Asian countries. *IIM Ranchi. Journal of Management Studies*, 2(1), 31-47. <https://doi.org/10.1108/IRJMS-02-2022-0017>
- Sheng, L. (2013). Did China diversify its foreign reserves? *Journal of Applied Econometrics*, 28(1), 102-125.
- Tan, Y., & Floros, C. (2013). Market power, stability and performance in the Chinese banking industry. *Economic Issues*, 18(2), 65-89.
- Zampara, K., Giannopoulos, M., & Koufopoulos, D. N. (2017). Macroeconomic and industry-specific determinants of Greek bank profitability. *International Journal of Business and Economic Sciences Applied Research*, 10(1), 3-22.