



## Factors Affecting Non-performing Loans in Pakistan during the Covid-19 Pandemic: A Case of Micro Finance Banks

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### ABSTRACT

*The basic purpose of this study is to investigate the factors affecting non-performing loans of microfinance banks in Pakistan during the COVID-19 Pandemic. The research used secondary data from the Pakistan Bureau of Statistics and SBP websites regarding the banking industry in FY 2020–2021, and the data was subjected to a multi-regression analysis. The analysis included a number of variables, including GDP growth rate, management efficiency, bank size and return on assets. According to the study's results, all three variables had a statistically significant effect on the outcome except business size. Non-performing loans have been found to have an important positive association with the country's economy.*

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### 1. Introduction

Unpredictability will inevitably increase banking risks as the degree of uncertainty in the financial markets grows. Because of this foundation, managing and growing a great business becomes a very demanding and challenging endeavor. As a result, bank managers are in charge of developing an adequate risk management strategy and policy for their institutions (Bhadury et al., 2021). Operations

must be safe, stable, and lucrative for management to be held responsible for achieving balance. For the sake of this definition, "risk" is "a circumstance in which there is a possibility that the ideal result we anticipate or aspire for would depart negatively from what we expect or hope for." Accordingly, for "risk" to exist in financial transactions, it must meet the following criteria: it must be conceivable, it must result in economic loss, and it must be unexpected and unplanned. (Hassan et al., 2022).

The quality of a bank's loans is important since loans are the riskiest component of its assets, and the quality of those loans is a crucial driver of the stability and profitability of the institution. According to the Basel Committee on Risk Management, non-performing loans are those that are not collected within 90 days of the loan's original due date and are thus considered non-performing. When we believe that giving loans is one of the most critical operations performed by all banks, we can grasp the significance of the banks' exposure to non-performing loans and the necessity of risk management in the banking industry. Consequently, numerous solutions for mitigating the threat have been developed so far. They have shown their effectiveness (or inefficiency) to the maximum degree possible during financial crises. A rising number of discussions regarding problematic loans and how to deal with them is taking place, which is a positive development in this atmosphere. It is becoming more probable that banks will settle challenging loans and clean up their balance sheets to provide a solid foundation for future lending growth to consumers and businesses (Mezghani et al., 2021).

The global spread of COVID-19 is a human tragedy taking place all over the globe, with Europe serving as the epicentre of the pandemic at the moment. In the wake of the COVID-19 pandemic, the economy has been thrown into chaos, with many enterprises trying to stay in business due to the outbreak, and Pakistan was no exception. Because of the significance of bad loans, which have been shown to be a substantial danger to the financial system, this issue was chosen as the primary focus of the study. National and international studies on financial stability conducted by central banks have shown that non-performing loans constitute the greatest danger to the financial stability of the banking industry. An analysis is conducted in this article on the influence of the COVID-19 outbreak on the issue of non-performing loans within Pakistani microfinance banks when loan loss provisions and the real GDP growth rate are taken into account.

The fundamental assumption is that these factors will significantly influence the number of non-performing loans in the financial system, which is supported by the evidence. Because of this, we should conduct a study to determine if and how these attributes are connected. Indeed, by using the right econometric approach, it will be feasible to determine whether or not these variables are moving in the same direction as one another. Given what has been stated in both the academic and empirical literature, it is reasonable to conclude that empirical study into the relationship between these characteristics and non-performing loans is necessary.

An increasing number of non-performing loans has been identified due to insufficient effective preventative and control measures (Agnihotri et al., 2021). A more in-depth discussion was had on the role that stress testing plays in aiding in the monitoring of financial stability and interconnections in the financial system. Another study identified the short- and long-term objectives that must be met to be successful (Karim et al., 2021). Even while banks can escape bankruptcy, non-performing loans have a detrimental influence on their cost structure and efficiency and their desire to lend to other businesses and individuals (Banna et al., 2021). In the case of high levels of non-performing loans (Karim et al., 2021), the NPL ratio begins to rise rapidly as credit growth is slowed, whereas in countries with "no NPL issue," the NPL ratio remains stable as a result of strong credit growth and nominal GDP growth. "The GDP has a strong de-terministic impact on the non-performing loan ratio" (Almarayeh &

Almarayeh, 2021). The authors write: "This demonstrates that the health of the economies of (chosen) developing markets is correlated with the quality of bank assets." Another school of thought is that quick remedial action has a significant influence on the stability of the banking system and the reduction in the number of non-performing loans (Zhang et al., 2020).

Research published in 2020 investigates the impact of macroeconomic variables on non-performing loans and financial stability in Pakistan's banking sector (Mohanty & Mishra, 2021). According to the statistics, an improvement in macroeconomic circumstances is correlated with an improvement in credit quality, and the reverse is true. Further research has shown that improved macroeconomic cases result in more favourable conditions for the financial stability of the banking industry as a whole.

Banks delayed recognising non-performing loans due to the COVID-19 pandemic, waiting for recognition in the income statement and concealing the existence of a capital loss. When this occurs, it can result in non-viable businesses being supported for a lengthy period (known as "Doubtful loans") and critical firm-level restructuring efforts being postponed, both of which have adverse effects on economic development.

The basic purpose of this study is to investigate the factors affecting non-performing loans of microfinance banks in Pakistan during the COVID-19 Pandemic.

## **2. Literature Review**

In recent years, COVID-19 has transformed the scientific scene. As the virus wreaks havoc on the global economy every day, measures are being conducted by various governments across the world to flatten the COVID-19 curve. In general, social science scholars are continually generating empirical evidence to demonstrate the effect of COVID-19 on the economy. Covid-19 was extended throughout the African continent as a severe side effect of globalization (Almarayeh & Almarayeh, 2021). Ozili and Arun (2020) indicated in another study in Pakistan that the COVID-19 outbreak led the Pakistan economy to decline, producing economic distress for the country's people. While investigating the relationship between COVID-19 and microfinance banks in Pakistan, researchers hypothesized that the pandemic harmed the firms' operating activities while also causing disequilibrium in the supply chain and a financial crisis in the selected enterprises (Ajmal et al., 2021).

Meanwhile, Collins (2020) employed differential analytic modelling to analyse how the COVID-19 pandemic influenced stock market value in China, Europe, and the United States. The analysis found that the COVID-19 outbreak caused the dynamics in stock markets in various nations. However, examining the effect of the COVID-19 pandemic on the country's small and medium-sized companies According to the study, a modest decline in microfinance banks' production and sales and a significant drop in contracts and deliveries were caused by the country's COVID-19 closure (Wronka, 2021).

There is a considerable direct link between banks, other financial institutions, and the promotion of entrepreneurial growth in India (Miah et al., 2021). A conceptual review was conducted to assess several policies taken by the Indian government to promote equity ownership in the country's microfinance institutions (Miah et al., 2021). The chi-square test was done to determine the connection between micro-credit and microfinance bank development (Ajmal et al., 2021). The study gathered data from 450 respondents and determined a significant association between micro credit and the expansion of microfinance banks in the state under consideration. In comparative research done in Lagos, the analysis found that the state's informal sector activities grew considerably after three years of

operations. The study also indicated that the state's microfinance operations were fueled by conventional financial institutions' refusal to help emerging micro-enterprises and community banks' conversion to microfinance banks (Wronka, 2021). Similarly, researchers studied microfinance institutions and their challenges (Hassan et al., 2022). The author exploited the survey results to suggest that microfinance organizations directly reduce poverty. In a different vein, they used structured questionnaires to gather data from Pakistan on the effect of microfinance institutions and microfinance policies on employment prospects. According to the authors, microfinance bank growth is linked to the spearman correlation.

The following variables are significantly associated with non-performing loans: GDP growth is associated with a decrease in non-performing loans (Jamil et al., 2021; Ltifi & Hichri, 2022). Furthermore, Babouek and Janar identified a positive relationship between non-performing loans, bank specific factors, and macroeconomic factors are associated with a decrease or increase in the rate of non-performing loans (Agnihotri et al., 2021; Banna et al., 2021; Mezghani et al., 2021).

### **3. Methodology**

In this study, we sought to evaluate the existing hypotheses or replicate them by analyzing the cause and effect connection among indicators of non-performing loans of microfinance banks in Pakistan. A quantitative research approach is merely employed in this study. The quantitative examination approach is beneficial if numerical information is created via samples to evaluate the application of current theory through analysis (Hassan et al., 2022). The outcomes and techniques of prior investigations are reviewed.

#### **3.1 Research Design**

The purpose of this study was to investigate the factors that affected non-performing loans of microfinance banks in Pakistan during COVID-19. It looked at two categories of variables. One that was macroeconomic in nature and another that was bank-specific. This study's quantitative nature uses This inquiry was carried out using a study technique, which was requested as part of the request. In this study, the researcher selected a sample of microfinance banks from Pakistan for investigation.

#### **3.2 Population and Sample**

The sample size is governed by the variables involved as well as by the sample itself. It is the primary rationale for selecting a sample for a study, and it also assists researchers and readers in making demographic predictions about the population. The data from ten microfinance institutions was used as a sample over the last two years, from 2020 to 2021, during the COVID-19 pandemic. Information was gathered from annual reports of banks and state bank online pages. and GDP growth rate obtained from the state bank of Pakistan's database. This information is utilized to investigate the theoretical framework.

#### **3.3 The Operational Model**

It makes use of a panel data regression model to investigate the impact of different factors on non-performing loans of microfinance bank in Pakistan. When the same individual is monitored over a period of time, the panel data regression model is used (Agnihotri et al., 2021). It is composed of time series and cross-section data, and it is called panel data (Banna et al., 2021). The data collected by a bank over time is referred to as a cross-section.

Given the likelihood that panel data would vary within (banks), individual-specific (bank-specific) variables enable panel data estimation to take this variability into account while estimating

panel data (Zhang et al., 2020). Both dependent and independent variables must be considered in this investigation.

$$NPL_{it} = \alpha_i + \beta_2 GDPGR_{it} + \beta_3 BS_{it} + \beta_4 ROA_{it} + \beta_5 ME_{it} + \epsilon_{it}$$

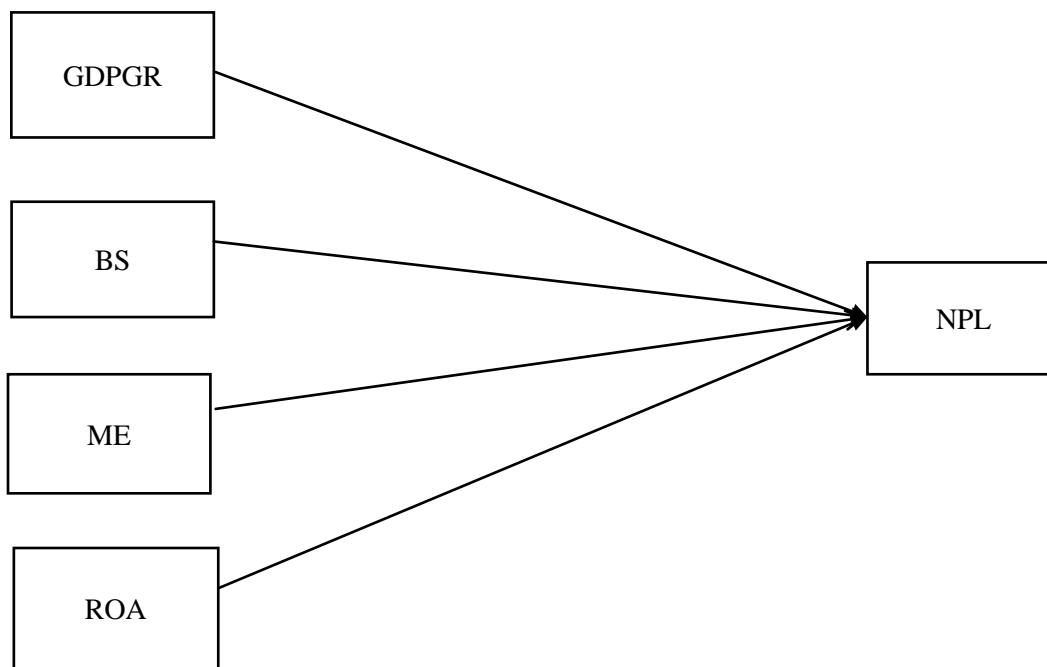
In the above equation, GDPGR is Economic Growth, BS is Bank Size, ROA And ME is Management efficiency.

To measure these variables, following explains the measures of each variable in Table 1:

**Table: 1 Description of Variables**

Name of Variable		Measure
Non-Performing Loan	NPL	Non-performing loans to Total Loans of Banks
Bank Size	BS	Natural Logarithm of Total Assets of banks.
Economic Growth Rate	EG	Growth rate of Gross Domestic Product
Management Efficiency	ME	Management Efficiency Ratios
Return on Assets	ROA	Return on Assets

**4. Conceptual Framework**



**5. Result and Discussion**

Banks specific factors were collected from audited financial statements of Microfinance Banks were all investigated. And GDPGR data obtained from state-bank website.

**Table 2: Descriptive Statistic: Dependent Variable – non-performing loan**

Variable Name	Mean	Minimum	Maximum	Standard Deviation
Non-performing loan	0.155	0.119	0.180	0.125

**Table 2: Descriptive Statistic: Factors affecting the level of non-performing loan**

Variable Name	Mean	Minimum	Maximum	Standard Deviation
EG	3.89	2.65	5.10	0.23
BS	13.37	12.69	15.61	1.06
ROA	4.05	4.03	8.96	1.46
ME	0.23	0.12	0.56	1.12

**Table 3: Empirical Results of Regression Analysis**

Independent Variables	Coefficient	Std. Error	t-Statistic	Prob.
EG	-0.012	0.139	2.194	0.024
BS	0.015	0.063	1.982	0.613
ROA	0.292	0.275	3.121	0.018
ME	0.341	0.112	1.223	0.011
R-squared		0.683	Mean dependent var	0.155
Adjusted R-squared		0.278	S.D. dependent var	0.124

As demonstrated in Table 4, the empirical results Using the panel data regression model, we were able to arrive at these conclusions. To establish the relationship between the dependent and independent variables, the ordinary least squares (OLS) model was utilized. The OLS regression model is used in research when there are a large number of independent variables to examine. The threshold of significance in this study's analysis is set at 5 percent. All of the independent variables' p-values and t-values are less than the 5% criterion for statistical significance.

As a result of the model's empirical results, the value of R-square is 68.30 percent, which is a high figure that represents a good fit model. This 68 percent figure indicates that non-performing loans changed as a result of the independent variables studied. The Durbin-Watson statistic is also used to measure the auto-correlation between two variables. The fact that the Durbin-Watson statistic is 2.01 indicates that there is no auto-correlation in the residuals as supported by the data. The F statistic test may be used to examine whether or not all independent variables have an influence on the dependent variable. The correlation value of 2.012974 indicates that there are six explanatory variables that are related to the independent variable (non-performing loan).

Economic growth in Pakistan has a negative coefficient and has a statistically significant impact on bank non-performing loans during COVID-19, as shown by a p-value of 0.024 at the 5 percent level of significance. It implies that non-performing loans are adversely associated with economic development. Increased economic growth will result in a reduction in non-performing loans. Economic growth is measured in this study by the pace at which the gross domestic product growth rate.

The number of non-performing loans is positively connected to the size of the bank. The size of the bank has a statistically insignificant impact on non-performing loans using this independent variable, as shown by a p-value of 0.613 at 5 percent. Management efficiency has a positive and significant impact on NPL during COVID-19. The value of this variable's coefficient is positive, as shown by a p-value of 0.011 at 5 percent. The p-value of 0.018 demonstrates that ROA has a significant impact on non-performing loans.

## **6. Conclusion**

Microfinance banks are one of the most significant actors in the contemporary financial markets of third-world countries with their lending activities. Given that the placement of loans is the primary activity of banks and the most critical item on banks' balance sheets, it is vital that microfinance bank management correctly handles loans that banks issue to clients. The quality of granted loans is one of the primary variables impacting the bank's profitability. And during the COVID-19 pandemic, microfinance bank management has placed a specific priority on monitoring and regulating the quality of loans and avoiding the incidence of non-performing loans during the pandemic.

Due to the financial crisis during COVID-19, there was a decline in economic activity and, therefore, a fall in the buying power of people and legal organizations. Hence, microfinance banks faced a rise in the number of non-performing loans. However, during the COVID-19 pandemic, non-performing loans are predicted to grow, and according to some studies, the banking industry all over the world might experience one of the most challenging years in 2020 and 2021.

The examination of the collected data from the microfinance banks found the relationship between the postulated factors and non-performing loans during the COVID-19 pandemic. Thus, it was established that the improvement of non-performing loans is mainly related to improving economic circumstances in the nation. Economic growth in Pakistan has a negative coefficient and has a statistically significant impact on bank non-performing loans during COVID-19, as shown by a p-value of 0.024 at the 5 percent level of significance. On the other hand, the size of the bank has a statistically insignificant impact on non-performing loans using this independent variable. Management efficiency has a positive and significant impact on NPL during COVID-19. The value of this variable's coefficient is positive, as shown by a p-value of 0.011 at 5 percent. The p-value of 0.018 demonstrates that ROA has a significant impact on non-performing loans. The effect of the COVID-19 pandemic on non-performing loans in the banking industry of Pakistan is not yet sufficiently visible considering the enforced moratorium on lending. In particular, these moratoriums have kept a significant number of loans from falling into the category of non-performing loans, and the true impact of COVID-19 on this variable is not anticipated until after the moratorium term has expired. Further studies may be conducted in the future to learn more about these and other macroeconomic causes that may have repercussions for non-performing loans.

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