Financial Market Reactions to Pandemic Shocks in Nepal: A Study of Stock Market and Banking Investments

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Abstract:

The epidemic caused by COVID-19 has had a significant influence on financial markets all across the world, especially those in underdeveloped economies such as what Nepal is experiencing. The stock market and banking sector of Nepal are the subjects of this study, which investigates how they responded to the pandemic shocks. Particular attention is paid to the volatility, risk, and performance of these financial markets throughout the turmoil. The study combines descriptive and econometric analysis to evaluate the influence of the pandemic on stock returns, market volatility, and the performance of the banking sector. The data for the study comes from the Nepal Stock Exchange (NEPSE) as well as commercial banks. The findings indicate that there are considerable swings in stock values, a rise in market volatility, and disparities in the effects that are experienced by various industries. In addition, the study sheds light on the resilience of particular industries, such as banking and insurance, and offers insights that can be utilised by investors and regulators in the management of financial risks during times of catastrophe.

Keywords: COVID-19, stock market, banking sector, financial risk, market volatility, Nepal.

1. Introduction

The pandemic caused by COVID-19, which was designated a global health emergency by the World Health Organisation (WHO) in January 2020, has had a significant impact on the economy and financial markets of the entire world (Zhou et al., 2020). Lockdowns were implemented over the whole country of Nepal as a result of the pandemic, which caused major volatility in the financial markets and disrupted economic operations. During the first lockdown, the Nepal Stock Exchange (NEPSE) and the financial sector suffered unusual swings, with stock prices plunging during the lockdown and subsequently rising as restrictions were removed (Pokhrel, 2023). The purpose of this study is to investigate the responses of the financial market in Nepal to the pandemic shocks, with a particular emphasis on the stock market and banking investments.

The disruptions to the economy that were caused by the pandemic have brought to light the significance of knowing how financial markets react to shocks from the outside world. According to previous research (Bhatt, 2024; Dhakal et al., 2024), pandemics and other types of crises have the potential to cause major drops in stock prices, as well as an increase in market volatility and a decrease in investor confidence. In Nepal, the stock market and the banking sector are essential components of the financial

system. The behaviour of these two sectors throughout the epidemic provides vital insights into the resilience and vulnerabilities of the financial markets in the country. This paper makes a contribution to the existing body of literature by offering a comprehensive analysis of the impact that COVID-19 has had on Nepal's financial markets, with a particular emphasis on the volatility of the stock market and the performance of the banking sector. When it comes to risk management and the development of solutions to lessen the impact of future crises, the findings have significant implications for investors, governments, and financial institutions.

2. Literature Review

In the context of both established and developing economies, a significant amount of research has been conducted on the influence that pandemics have on financial markets. It has been found that the COVID-19 pandemic, in particular, has been linked to major market volatility and reductions in stock prices all around the world (Zhang et al., 2020). In Nepal, the pandemic caused a significant drop in stock values during the initial lockdown, which was then followed by a gradual rebound as restrictions were removed (Pokhrel, 2023). Additionally, the banking industry, which is extremely important to Nepal's economy, was confronted with severe issues, such as an increase in credit risk and limitations on liquidity (Dhakal et al., 2024).

There have been a number of studies that have investigated the connection between pandemics and the performance of the financial market. By way of illustration, Bhatt (2024) discovered that the COVID-19 pandemic resulted in an increase in the risk and volatility of the stock prices of development banks in Nepal. On a similar note, Dhakal et al. (2024) brought attention to the detrimental effect that financial concerns, such as capital and liquidity issues, had on the stock returns of commercial banks during the pandemic. These findings highlight the significance of efficient risk management and the necessity for policymakers to address the vulnerabilities that have been brought to light by the epidemic.

The literature also places an emphasis on the role that macroeconomic factors, such as economic growth, inflation, and interest rates, play in determining the performance of financial markets during times of crisis. As an illustration, Dhakal et al. (2024) discovered that economic growth and inflation had a favourable impact on stock returns, whereas higher interest rates had a negative impact on the performance of the banking sector. Based on these data, it appears that macroeconomic stability is of utmost importance in order to preserve the confidence of investors and guarantee the resilience of financial markets during times of crisis.

3. Methodology

This paper employs a detailed mixed-methods approach, including econometric and descriptive analyses, to fully examine how the COVID-19 pandemic has affected Nepal's financial markets. The study aims to comprehend the impact of the pandemic on the financial standing of the nation's commercial banks as well as the performance of stock markets, particularly the Nepal Stock Exchange (NEPSE).

To investigate these occurrences, the study makes use of secondary data from the banking industry and the NEPSE, with an emphasis on data gathered over a long time frame, from March 2020 to September

2021. The dataset, which includes daily stock prices, market indexes, and important financial performance metrics pertinent to the banking industry during the study period, is extensive and varied. These indicators offer a thorough insight of how the financial markets reacted to the changing character of the pandemic, enabling a more sophisticated comprehension of the pandemic's wider economic impact.

Ordinary Least Squares (OLS) regression is used in the study to evaluate the contribution of several independent factors on stock market performance. The general form of the OLS regression model is:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \cdots + \beta_k X_{kt} + \epsilon_t$$

where Y_t represents the dependent variable (stock market performance), $X_{1t}, X_{2t}, \ldots, X_{kt}$ are the independent variables (sector-specific indices, macroeconomic factors, etc), β_0 is the intercept,

$\beta_1, \beta_2, \ldots, \beta_k$ are the coefficients, and ϵ_t is the error term.

Sector-specific indices, such as those that reflect the banking, insurance, and hydropower sectors, are among the independent variables, as previously noted by Pokhrel (2023). These industries were picked because they were relevant to the economic disruption caused by the epidemic and because they might be vulnerable. Examining the impact of changes in these variables on the overall performance of the stock market during the pandemic is made possible by the regression model employed in this study. Furthermore, because non-stationary data can produce untrustworthy regression findings, the study closely monitors the data's stationarity.

The Augmented Dickey-Fuller (ADF) test is therefore used to verify stationarity. The ADF test is based on the following regression equation:

$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{i=1}^{p} \delta_i \Delta Y_{t-i} + \epsilon_t$$

where ΔY_t is the first difference of the series, α is a constant, β is the coefficient on a time trend, γ is the coefficient of the lagged level of the series, and ϵ_t is the error term. The null hypothesis of the ADF test is that the series has a unit root (i.e., it is non-stationary).

By verifying that the associations found are not the product of erroneous correlations, the test's results are crucial for maintaining the robustness and dependability of the regression analysis.

Moreover, panel data regression analysis is used in the study to investigate how different financial risks affected commercial banks' stock returns throughout the epidemic.

The panel data regression model can be expressed as:

$$R_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \cdots + \beta_k X_{kit} + \epsilon_{it}$$

where R_{it} represents the stock return of bank I at time t, α_i is the bank-specific intercept,

$X_{1it}, X_{2it}, \ldots, X_{kit}$ are the independent variables (financial risks, macroeconomic factors, etc.), and ϵ_{it} is the error term.

Financial hazards, such as market, liquidity, and credit risk, are assessed for their importance and impact on the performance of bank stocks. In light of the pandemic, these risks are especially pertinent because COVID-19's uncertainty and volatility may have made them worse, affecting stock returns and investor behaviour. In order to emphasise the significance of comprehending how these risks interact with stock returns during periods of economic crisis, like the COVID-19 pandemic, the paper cites the work of Dhakal et al. (2024).

4. Results and Discussion

According to the data, during the COVID-19 epidemic, Nepal's financial markets - specifically, the Nepal Stock Exchange (NEPSE) - saw significant stock price swings and increased market volatility. The dramatic drop in stock values that took place during the first shutdown in March 2020 is among the most prominent findings. The market saw widespread confusion and panic as a result of the shutdown, which was put in place as a precaution to stop the virus's spread. As a result, during the first month of the lockdown, the NEPSE index fell by over 30%, indicating the strong negative sentiment that dominated the stock market in the early stages of the pandemic. This steep drop in stock prices was a glaring example of how severely the epidemic and the limitations that followed affected investor confidence and market performance.

However, a slow rebound was seen in the stock market as the government started to loosen the regulations and market players adjusted to the new economic reality. Every sector did not have the same recovery. In particular, the insurance and banking industries proved very resilient throughout the recovery. The NEPSE index's overall recovery was greatly aided by these industries, which are thought to be more reliable and vital to the economy. In the face of the pandemic's persisting concerns, investors sought safer investment options in these industries, and their performance was crucial in stabilising the market.

These observations are further supported by the regression analysis that was carried out as part of this study. According to the findings, the NEPSE index was significantly boosted by the banking and non-life insurance indices during each of the three study periods. This shows that these industries' strong performance was a key factor in the market's overall stability during the pandemic. The banking industry, on the other hand, had no discernible effect on stock market performance, indicating that the pandemic had varying consequences on various industries. The banking and insurance industries managed to bounce back and remain stable, but other industries, including finance, had trouble maintaining their performance during the same time frame. Regression research using panel data also shed light on how financial concerns affected commercial banks' stock performance throughout the epidemic. According to the results, commercial banks' stock returns were significantly impacted negatively by both capital risk and liquidity risk. The significance of efficient risk management in preserving financial stability is highlighted by these findings, especially in times of crisis like the COVID-19 epidemic. Higher capital and liquidity risk commercial banks had worse stock performance, underscoring the banking industry's susceptibility to financial instability in times of economic crisis.

Apart from financial hazards, the study also looked at how macroeconomic factors affect stock returns. The findings showed that both inflation and economic growth had a beneficial effect on stock returns,

indicating that favourable conditions for stock performance in the banking industry were created by a growing economy and moderate inflation. However, the study discovered that as interest rates rose, the banking industry's performance suffered. This result aligns with the theoretical assumption that higher interest rates can lower consumer demand, increase borrowing costs, and have a detrimental effect on financial institutions' profitability.

The study's overall findings show that the dynamics of the stock market throughout the pandemic were shaped by a complex interaction between macroeconomic variables, financial hazards, and sector-specific performance. The banking and insurance industries shown resilience, but other industries suffered, and financial risks including capital and liquidity issues significantly impacted the stock returns of commercial banks. In order to lessen the detrimental effects of future crises on the financial markets, these findings highlight the necessity of strong economic regulations and efficient risk management techniques, offering insightful information to financial institutions and policymakers.

5. Conclusion and Recommendations

Nepal's financial markets were greatly affected by the COVID-19 pandemic, which led to increased volatility and stock price swings, particularly in the early going. In spite of this, the insurance and banking industries demonstrated tenacity and were instrumental in keeping the stock market's recovery stable. Nevertheless, the pandemic revealed weaknesses, particularly in the areas of credit and liquidity concerns, which resulted in a rise in non-performing loans and liquidity limitations. The report identifies important ramifications for financial institutions, investors, and legislators. While policymakers must maintain macroeconomic stability and reduce financial risks, investors should concentrate on resilient industries like banking and insurance during times of crisis. To stay stable, financial institutions must improve their risk management procedures.

Future studies should look at how the epidemic has affected Nepal's financial markets over the long run and how international commerce and governmental regulations have shaped market performance. In summary, although the pandemic exposed flaws, it also demonstrated the tenacity of important industries, indicating that knowledge gained can help prepare Nepal's financial markets for upcoming difficulties.

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