

Original Research

The Impact of COVID-19 Lockdown in Banks and Financial Institutions' Stock Performance: Evidence from Nepal

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Abstract

This paper examines the impact of COVID-19 lockdown on daily stock returns of banks and financial institutions (BFI) in Nepal. Employing the panel data regression models, this study examines the effect of daily COVID-19 positive cases to the stock returns – during pre-lockdown, lockdown, and after-lockdown period – of 74 listed firms in Nepal from 2 May 2019 to 25 April 2021. The empirical results confirm that there was no significant impact of daily increased number of COVID-19 positive cases to the stock returns of BFIs in Nepal throughout the entire study period. Furthermore, this study inquires the influence of pandemic period to the individual class of the BFIs sector in NEPSE². It discloses that the commercial banks, development banks and microfinance companies' stock returns were adversely impacted during the pre-lockdown and lockdown period. However, after-lockdown period had significantly rebounded the overall BFIs stock returns in Nepal with the highest returns earned by microfinance companies and lowest return by commercial banks.

Keywords: COVID-19, Pandemic, NEPSE, Stock Returns, Nepal.

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Introduction

The financial inclusion is important priority of the nation for overall economic growth and advances of the societies (Iqbal & Sami, 2017). Thus, bank and financial institutions are considered as the important pillars to progress economic growth as well as development of the country. Capital market's role in economic development is unarguably accepted throughout the world. The development of Nepalese stock market also has significantly accorded to the economic development of Nepal (Regmi, 2011). Nepal has only one stock exchange market opened its trading floor on 13 January 1994 for the first time with the fundamental objectives to confer the marketability, liquidity as well as corporate securities by easing transactions in its trading floor (NEPSE, 2020). NEPSE is the only one stock market in Nepal which has 374 companies listed – until the data collection date – which include banking and financial institution, corporate debentures, government bonds, hotel and tourism, hydropower, life insurance, manufacturing sectors etc. (NEPSE, 2020). The total market capitalization of NEPSE in April 2021 was approximately \$36.2 Billion which was double the total market capitalization of year 2020. The banking and financial institutions in Nepal occupy approximately 31% of the stock listed in NEPSE until the data collection date of this study. BFIs of Nepal are categorized into four classes respective to their minimum paid-up capital requirement under the BFIs Act, 2017 (Ministry of Law, 2017) and Nepal Rastra Bank Act, 2002 (Government of Nepal, 2002). Commercial banks, development banks, finance companies and microfinance companies are grouped under the name of A, B, C and D graded, respectively.

The infectious disease COVID-19 was first identified in Wuhan, China in December 2019. On 30 January 2020, the World Health Organization (WHO) had declared the outbreak as Public Health Emergency of International Concern by recommending all the countries to intensify the active surveillance, early case detection, isolation and contact tracing (World Health Organization (WHO), n.d.). However, as of the data collection date of this study, the virus spread all over the world resulted ongoing pandemic causing more than 160 million confirmed cases and more than 3 million death report globally (WHO, 2021). According to the (WHO, 2020), the COVID-19 pandemic has caused serious loss of human life worldwide, extraordinary challenges to the public health as well as social and economic disruption: risk of tens of millions of people fall into the extreme poverty. In Nepal, the first confirmed positive case of COVID-19 was identified on 23 January 2020 (Ministry of Health and Population, 2020). According to the Ministry of Health and Population, as of 20 February 2020, the identified positive case was only one among 212 tested samples. The Government of Nepal decided to undergo the nationwide lockdown from 23 March 2020 by considering the mitigation and prevention strategy of the disease. After a few days of lockdown, the positive cases of COVID-19 begun to rise dramatically in Nepal which led to increase the fear and uncertainty for the future among people.

Previous empirical studies have confirmed the COVID-19 pandemic has impacted the stock market returns negatively around the world (Al-Awadhi et al., 2020), (Alfaro et al., 2020), (He et al., 2020) and (Zhang et al., 2020). However, these studies were conducted into the developed and emerging markets only. Therefore, we cannot generalize the previous findings in the growing market with the very short trading history like Nepal. Thus, this paper examines the impact of COVID-19 pandemic on daily stock returns of

BFI sector in Nepal. Additionally, this study attempts to explain the influence of pandemic on different classes of bank and financial institutions' stocks traded in NEPSE over the pre-lockdown, lockdown, and after-lockdown period. As explained by (Chudik et al., 2020), the pandemic cause the long-lasting global recession with no country to escape from this serious impact regardless of their mitigation and prevention strategy, this paper seeks to contribute the prevailing knowledge to the academicians, students, finance enthusiasts as well as government bodies to become acquainted with the consequences of future epidemics and pandemic in Nepalese stock market returns as well as to inquire more wisdom on relevant topic.

Literature Review

Considering the findings of several authors, the stock market returns quickly react to the major events such as disaster (Kowalewski & Śpiewanowski, 2020), political events (Bash & Alsaifi, 2019) (Shanaev & Ghimire, 2019) and sports (Buhagiar et al., 2018). Also, the epidemics and pandemics influence the stock market returns in a noticeable extent. Previous studies have investigated the impact of epidemics and pandemic on stock market returns in different markets of the world. Epidemics or any contagious disease outbreak cause negative impact to the economy which results the stock prices fluctuation (Jiang et al., 2017). For instance, In China and Vietnam, the SARS (severe acute respiratory syndrome) outbreak caused significant negative impact to the stock market returns (Nippani & Washer, 2004). (Chun-Da Chen et al., 2009) and (Chen et al., 2007) also inspected the SARS outbreak had significantly negative impact on several industries in Taiwan market. They found that the mostly affected sector in Taiwan was hospitality industry however, the biotech industry had positively influenced during the SARS outbreak. (Jiang et al., 2017) investigated the daily increased number of H7N9 (human avian influenza) cases were significantly and negatively associated with the stock prices movement in China's stock market. Similarly, The Ebola Virus Disease (EVD) outbreak negatively impacted in the overall US security market (Ichev & Marinč, 2018). Additionally, (Ichev & Marinč, 2018) confirmed that EVD outbreak positively impacted the biotechnology, food and beverages, pharmaceutical industries, and healthcare supplies industries in the US market. However, other remaining industries that were studied had significant negative impact.

There are various studies have been conducted on COVID-19 pandemic impact on daily stock market returns. (Al-Awadhi et al., 2020) confirmed that the daily increased number of positive and death cases of COVID-19 had significant negative impact on daily stock market returns in China. Similarly, (Ashraf, 2020) explored the negative relationship between stock market return and positive cases of COVID-19. (Ashraf, 2020) further found that between 40-60 days of early confirmed positive cases had strong negative reaction to the market explaining stock market immediately reacted the COVID-19 pandemic with respect to the different stages of the outbreak. (He et al., 2020) explained the COVID-19 had short term negative impact on daily stock market returns of Asian, European and American Countries. According to (Zhang et al., 2020), top 10 countries according to their confirmed positive cases had the negative consequences of COVID-19 on the stock market and pandemic had caused rise in global financial market risk, stock market being volatile and uncertain. (Zhang et al., 2020) further confirmed the China had the highest standard deviation of stock return in February and lowest in the March whereas,

US market standard deviation had increased almost four times higher in March than that of February. According to (Goodell, 2020), the characteristics of banking and financial sectors during the pandemic becomes vulnerable because of the possibility of nonperforming loans as well as enough withdrawal of cash in short period of time.

The COVID-19 pandemic created the global health crisis and greatest challenges since the World War II (UNDP, 2020). The pandemic has also impacted the stock market returns negatively around the world. After the first lockdown imposed by China from 23 January 2020 (Erin Schumaker, 2020), slowly other countries adapted the same containment measure by restricting the movement of people entirely. Several studies have investigated the relationship between stock market performance and lockdown period resulted by the COVID-19 pandemic. As examined by the (Baig et al., 2020), the implementation of lockdown influences the stock market return negatively as it deteriorated the liquidity and stability of the US equity market. Furthermore, (Eleftheriou & Patsoulis, 2020) inquired the negative impact of COVID-19 pandemic to the 45 major stock market indices during the initial period of lockdown around the world. In addition to that, (Anh & Gan, 2020) investigated the negative as well as positive impact of lockdown on daily stock market returns. The findings (Anh & Gan, 2020) depicted that COVID-19 before lockdown had significant negative impact and significant positive impact of COVID-19 during lockdown on Vietnam's market on different sectors.

In general, various empirical studies have inquired the impact of COVID-19 on daily stock market returns around the world. These studies, however, limit to answer the impact of pandemic in the developed and emerging markets only. No studies have been conducted to analyze the impact of pandemic in daily stock returns of Nepal. This paper finds the gap in existing literatures to inquire the influence of nationwide lockdown resulted by pandemic to daily stock returns in NEPSE. Additionally, this study is motivated to contribute the influence of pandemic on different classes of bank and financial institutions' stocks traded in NEPSE over the pre-lockdown, lockdown, and after-lockdown period in Nepal.

Data and Methodology

Data

This study investigates the COVID-19 pandemic impact on daily stock returns of BFIs listed in NEPSE before, during and after the nationwide lockdown in Nepal. There is total 115 companies listed as BFIs stocks in NEPSE until the data collection date. The convenience sampling technique is employed for this study to examine 74 stocks listed as BFIs from the period of 2 May 2019 to 25 April 2021. This study could not cover all the companies due to the lack of accounting data. The BFI of Nepal include commercial bank, development bank, finance company and microfinance company categorized into the class A, B, C and D, respectively. The overall trading days between the study period is 416 days. The Government of Nepal imposed nationwide lockdown restricting the peoples' movement entirely from 24 March 2020 to 21 July 2020. The daily closing prices of the sample stocks are extracted from financial web portal NepaliPaisa (<https://www.nepalipaisa.com/>) and accounting data of each stock are retrieved from Merolagani (<http://merolagani.com/>). The extracted data from financial web portals are

later confirmed with the annual reports of firms and periodic reports of NEPSE. The daily number of confirmed positive cases in Nepal are taken from COVID-19 Response Web Portal (<https://covid19.mohp.gov.np/>) under the Ministry of Health and Population. The daily COVID-19 positive cases data are verified with the updated data of World Health Organization Nepal. This study incorporated overall 30784 observations throughout the time. The name and classes of the sample stocks are presented in Table 6.1.

Methodology

As explained by the (Al-Awadhi et al., 2020), (Ashraf, 2020) and (Anh & Gan, 2020) any date that is peak in terms of disease outbreak was not the start date which means disease remains for longer period of time. The methodology of this study largely follows the (Al-Awadhi et al., 2020) and (Anh & Gan, 2020) by adopting panel data regression approach over classical event studies for the empirical examination. The panel data regression method is suitable because it recognizes the time-varying relationship between dependent and explanatory variables, shrink the estimation bias and multicollinearity and heterogeneity (Fitria, 2013). To examine the impact of COVID-19 before, during and after the nationwide lockdown to the BFI sector of Nepal, this paper follows the (Al-Awadhi et al., 2020), (Anh & Gan, 2020) and (Ashraf, 2020) methods of panel data regression analysis to investigate the direction of daily stock returns. To test the impact of COVID-19 empirically, this paper sets the dependent variable as stock return and independent variables as daily increased number of COVID-19 positive cases, daily market capitalization, daily market-to-book ratio, return on equity and return on asset (Al-Awadhi et al., 2020). To examine the effect of nationwide lockdown in a specific period of time, this study generates three dummy variables for the regression analysis: D_BELOCK, D_DULOCK, and D_ALOCK constitute the trading days before, during and after the lockdown period, respectively. Following (Al-Awadhi et al., 2020), (Ashraf, 2020) and (Anh & Gan, 2020) this study employs the random effect analysis for all the panel data regression models. Random effect analysis in panel data regression model is effective than fixed effect analysis as it deals with the time invariant independent variables in the models (Bell & Jones, 2015).

This study includes the following panel data regression models categorized into two groups:

Group (A): Model (1), (2), and (3) investigate the COVID-19 impact on daily stock returns before, during, and after the lockdown period.

Model (1)

$$RE_{i,t} = \beta_{01} + \beta_{02}CASE_{t-1} + \beta_{03}MRK_{i,t-1} + \beta_{04}MTB_{i,t-1} + \beta_{05}ROE_{i,t-1} + \beta_{06}ROA_{i,t-1} + \beta_{07}D_{BE} + \epsilon_{0i,t}$$

Model (2)

$$RE_{i,t} = \beta_{11} + \beta_{12}CASE_{t-1} + \beta_{13}MRK_{i,t-1} + \beta_{14}MTB_{i,t-1} + \beta_{15}ROE_{i,t-1} + \beta_{16}ROA_{i,t-1} + \beta_{17}D_{DU} + \epsilon_{1i,t}$$

Model (3)

$$RE_{i,t} = \beta_{21} + \beta_{22}CASE_{t-1} + \beta_{23}MRK_{i,t-1} + \beta_{24}MTB_{i,t-1} + \beta_{25}ROE_{i,t-1} + \beta_{26}ROA_{i,t-1} + \beta_{27}D_AL + \epsilon_{2i,t}$$

Group (B): Model (4), (5), (6), and (7) investigate the relationship between daily stock returns and different sectors during the period of the before, during and after lockdown impact.

Model (4)

$$RE_{i,t} = \alpha_{01} + \alpha_{02}CASE_{t-1} + \alpha_{03}MRK_{i,t-1} + \alpha_{04}MTB_{i,t-1} + \alpha_{05}ROE_{i,t-1} + \alpha_{06}ROA_{i,t-1} + \alpha_{07}D_SECTOR_i + \mu_{0i,t}$$

Model (5)

$$RE_{i,t} = \alpha_{11} + \alpha_{12}CASE_{t-1} + \alpha_{13}MRK_{i,t-1} + \alpha_{14}MTB_{i,t-1} + \alpha_{15}ROE_{i,t-1} + \alpha_{16}ROA_{i,t-1} + \alpha_{17}D_SECTOR_i * D_BE + \mu_{1i,t}$$

Model (6)

$$RE_{i,t} = \alpha_{21} + \alpha_{22}CASE_{t-1} + \alpha_{23}MRK_{i,t-1} + \alpha_{24}MTB_{i,t-1} + \alpha_{25}ROE_{i,t-1} + \alpha_{26}ROA_{i,t-1} + \alpha_{27}D_SECTOR_i * D_DU + \mu_{2i,t}$$

Model (7)

$$RE_{i,t} = \alpha_{31} + \alpha_{32}CASE_{t-1} + \alpha_{33}MRK_{i,t-1} + \alpha_{34}MTB_{i,t-1} + \alpha_{35}ROE_{i,t-1} + \alpha_{36}ROA_{i,t-1} + \alpha_{37}D_SECTOR_i * D_AL + \mu_{3i,t}$$

Where,

$RE_{i,t}$ = Return of stock i on time t . The stock return is calculated by the formula: $\ln(R_{i,t}/R_{i,t-1})$ in which $R_{i,t}$ denotes the stock price on time t and $R_{i,t-1}$ is the stock price on time $t-1$.

$CASE_{t-1}$ = Daily increased number of confirmed COVID-19 positive cases on the day $t-1$

$MRK_{i,t-1}$ = Natural logarithm of daily market capitalization of stock i on day $t-1$

$MTB_{i,t-1}$ = Daily market to book ratio of stock i on day $t-1$

$ROE_{i,t-1}$ = Return on equity of stock i on day $t-1$

$ROA_{i,t-1}$ = Return on asset of stock i on day $t-1$

D_BE = Dummy variable for before lockdown. It is equals to 1 during the period of 2 May 2019 to 22 March 2020 otherwise 0.

D_{DU} = Dummy variable for during the lockdown. It is equals to 1 during the period of 12 May 2020 to 16 July 2020 otherwise 0.

D_{AL} = Dummy variable for after the lockdown. It is equals to 1 during the period of 19 July 2020 to 25 April 2021 otherwise 0.

D_{SECTOR}_i = Vector of dummy variable indicating the firm's sectors. It represents the four BFIs sector namely Commercial Bank (D_{COMMR}), Development Bank (D_{DEVT}), Finance Limited (D_{FIN}) and Microfinance Limited (D_{MFIN}). These dummy variables are equal to 1 within the specific sector otherwise 0.

Empirical Results

COVID-19 impact of before lockdown, lockdown and after lockdown in NEPSE BFIs.

Table 1. Descriptive Statistics of the BFIs Sector's Firms Listed in NEPSE.

Variable	Mean	Std. Dev	Min	Max	Skewness	Kurtosis
RE	0.00135	0.02777	-0.72533	0.17905	-1.694	40.824
MTB	2.82535	2.25733	0.62634	23.9015	2.354	8.617
MRK	0.00191	0.03076	-0.72533	1.04863	1.581	88.545
ROA	1.024	0.988	-2.76	15.93	6.063	85.036
ROE	13.7143	8.86337	-29.6	47.24	0.26	3.109
CASE	723.41	1689.86	0	13845	4.263	22.43
D_{BE}	0.5216	0.49954	0	1	-0.087	-1.993
D_{DU}	0.0385	0.19231	0	1	4.8	21.044
D_{AL}	0.4399	0.49638	0	1	0.242	-1.941
D_{COMMR}	0.3243	0.46813	0	1	0.751	-1.437
D_{DEVT}	0.1892	0.39167	0	1	1.587	0.519
D_{FIN}	0.1892	0.39167	0	1	1.587	0.519
D_{MIFIN}	0.2973	0.45708	0	1	0.887	-1.213

This section reports the results of panel data test of this study. Table 1 presents the descriptive statistic of the BFIs stock listed in NEPSE from the period of 2 May 2019 to 25 April 2021. The average return of the sample stocks is positive in the study period. The average confirmed COVID-19 positive cases during the period were 723 per day. On an average, the market-to-book ratio for the study period was 2.82 times whereas average natural logarithm of daily market capitalization was 0.001911. The average ROE & ROA for the study period were examined approximately 14% and 1.024 % respectively. Fig.1 represents the drastic increase in COVID-19 positive cases in Nepal over the period. Table 2 presents the correlation matrix among the variables which showing the variables with their respective significant levels.

Table 2. Correlation Matrix of the Models' Variables.

Variable	RE	MTB	MRK	ROA	ROE	CASE	D_BE	D_D U	D_AL
RE	1								
MTB	0.044**	1							
MRK	0.900**	0.043**	1						
ROA	0.013*	0.275**	0.027**	1					
ROE	0.013*	0.587**	0.018**	0.504**	1				
CASE	-0.001	0.040**	-0.007	-0.132	-0.047	1			
D_BE	-0.052	-0.220	-0.044	0.137**	0.055**	-0.446	1		
D_DU	0.038**	-0.023	0.069**	0.044**	-0.073	0.046**	-0.209	1	
D_AL	0.038**	0.230**	0.018**	-0.155	-0.028	0.431**	-0.925	-0.177	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

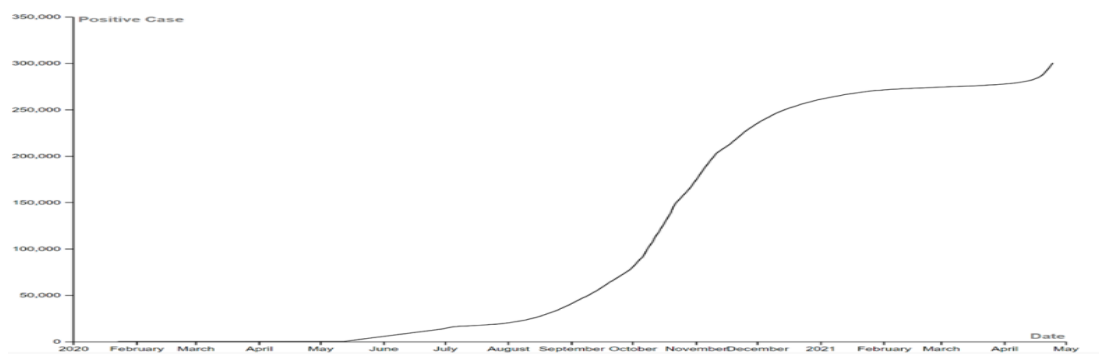


Fig.1 Increase in COVID-19 Positive Cases in Nepal

Table 3 reports the results of random-effect analysis of panel data regression in model (1), model (2), and model (3). The increased number of COVID-19 confirmed positive cases have not significant impact on stock returns in NEPSE before, during and after the lockdown period in Nepal. This result clearly contradicts the findings of (Al-Awadhi et al., 2020) and (Anh & Gan, 2020) concluding that daily increased number of COVID-19 positive cases have negatively impacted the stock returns in the markets of China and Vietnam respectively. The dummy variables D_BE representing before lockdown and D_DU stands for during lockdown have negative coefficients at the 1% level of significance, which indicate that COVID-19 before lockdown and during lockdown periods have adversely affected the stock returns of BFIs in NEPSE. This finding is similar to result of (Eleftheriou & Patsoulis, 2020) and (Baig et al., 2020) in 45 major stock market indices and US respectively. However, the D_AL which constitute after lockdown period has significantly positive impact on daily stock returns at 1% level of significance. Market-to-book ratio and market capitalization have significant positive relationship with stock market return in pre-lockdown, during lockdown as well as after lockdown period. However, Return on Asset has significant negative impact on daily

stock market return of BFI sector in NEPSE during the whole study period. These findings indicate that the stocks of BFI sector listed in NEPSE could not use their asset effectively to increase the overall profit of the company and the overvalued stocks were succeeded to achieve the higher return during the period of COVID-19 pandemic and after in Nepal. This result contradicts the findings of (Anh & Gan, 2020) explaining that during the COVID-19 pandemic, overvalued stocks with lower financial performance had negatively impacted the stock returns in Vietnam. The most possible explanation of the contradictory findings of return on asset impact could be the low interest rate, high liquidity in the banking system (The Rising Nepal, 2020) as well as conversion of physical certificates to electronic units of shares traded in NEPSE (Bhusal, 2020).

Table 3. Result of Regression Analysis from Model (1), (2), and (3) for BFIs sector of NEPSE

Variable	Model (1)	Model (2)	Model (3)
MTB	0.00008**	0.00013***	0.00003
	-0.00004	-0.00004	-0.00004
MRK	0.81222***	0.81403***	0.81229***
	-0.00225	-0.00225	-0.00225
ROA	-0.00035***	-0.00029***	-0.00030***
	-0.00008	-0.00008	-0.00008
ROE	0	-0.00002	0
	-0.00001	-0.00001	-0.00001
CASE	0	0.00000*	0.00000*
	0	0	0
D_BE	-0.00051***		
	-0.00016		
D_DU		-0.00353***	
		-0.00036	
D_AL			0.00122***
			-0.00016
CONS	0.00019	0.00003	-0.00053***
	-0.00017	-0.00014	-0.00015

[Notes: *, ** and *** indicate the level of significant at 10%, 5%, and 1% respectively. Standard errors are presented in the parenthesis.]

COVID-19 impact on different BFIs sector and their relationship to the stock market return.

Table 4 present the random-effect regression analysis of constructed panel data models (4), (5), (6), and (7). These models explain the association between different classes and stock returns under the impact of period of pre-lockdown, lockdown, and after-lockdown

in Nepal. The panel data model (4) demonstrated that the classes of BFI have various relationship with daily stock returns during the study period. Among the created dummy variables for classes of BFI sector, commercial bank (D_COMMR) was taken as reference variable establish to compare with other three classes namely development bank (D_DEVT), finance company (D_FIN) and microfinance company (D_MIFIN). The findings show that the development bank and finance company attained 0.00049 and 0.000933 higher stock returns than that of commercial bank with the 5% and 1% of significant level throughout the period of study. However, the microfinance company class stocks earned 0.000988 lower than the commercial bank in Nepal with 1% significant level. This result depicts that the most vulnerable class during the study period was microfinance company's stock in Nepal. Conversely, the most resilient class became the finance company in NEPSE. The rise of finance company class of BFI in NEPSE was possibly due to the higher rate of dividend payout ratio among other sectors (commercial, development and microfinance) as well as flexible lending and borrowing policy. The finance companies of Nepal borrow at lower rate from the larger financial institution – commercial banks and development banks – and lend amount to the borrowers at higher rate. The microfinance company stocks seemed not robust in terms of daily returns during the study period which could be best explained by the several factors. Investors found not fruitful investing into the microfinance companies because of the increasing loss of microfinances with some of them occurrence with negative balance in general reserve and decrease in bank balance. The loss in most of the microfinances happened due to no repayment during the pandemic period which led to increase the accrued interest consistently (Shrestha, 2021).

The results also represent the performance of classes of BFI sector listed in NEPSE during the period of pre-lockdown, lockdown and after-lockdown in Nepal. The panel data regression model (5) investigated the performance of BFIs during the pre-lockdown period in Nepal. It demonstrated that the commercial banks and microfinance companies' daily stock returns were negatively impacted during the pre-lockdown period at the 5% and 1% level of significant, respectively. Similarly, the development banks' daily stock returns had negative impact before the lockdown period, however, it was not statistically significant. Conversely, the finance companies daily stock returns were positively influenced during the period of pre-lockdown which was not significant. Therefore, it can be said that there is no significant impact of pre-lockdown period on daily stock returns of development banks as well as finance companies. Panel data model (6) investigates that during the COVID-19 lockdown period, commercial banks, development banks and microfinance companies were hard hit by the lockdown showing negative impact on daily stock returns. This finding confirms to the result of (Goodell, 2020) stating that banks and financial institution become vulnerable during the pandemic. However, it clearly contrast to the finding of (Anh & Gan, 2020) explaining that during the lockdown period in Vietnam, the investigated sectors were positively influenced by the COVID-19 pandemic. The finance companies' class has also the negative impact on daily stock market returns during the lockdown in Nepal however, not in statistically significant level.

Panel data model (7) explains that the BFI sector of NEPSE has notably influenced by the after-lockdown period in a significant positive way. It shows that there is 1% level of significant positive impact on daily stock market returns of all the examined classes of BFI sector during the after-lockdown period in Nepal. Among all the investigated classes,

the highest daily stock returns after the lockdown period reported for microfinance companies leaving behind development banks and finance companies are similar in whereas commercial banks returns are documented as lower than others. The surprising rise of daily stock returns in microfinance companies' class can possibly be explained by due to the recovered accrued interest in the last months of fiscal year 2019/20 resulted the decrease in loss level (Shrestha, 2021). The rise in overall BFI stock returns after the lockdown can clearly indicates that, the investors are optimistic to the post COVID-19 market as well as companies are coping with the unprecedented situations resulted to increase the overall efficiency with the compliance of government remedies plans to the capital market industry as well as overall economy of the nation.

The impact of daily market-to-book ratio (MTB), market capitalization (MRK), return on asset (ROA) and daily increased COVID-19 positive cases (CASE) are consistent with the results obtained from the panel data model (1), (2), and (3). Therefore, it can be said that the consistent rise of COVID-19 positive cases has not impacted significantly in the daily stock market returns of BFI sector in NEPSE. Following the (Al-Awadhi et al., 2020), (Ashraf, 2020) and (Anh & Gan, 2020), this paper investigates to test the constructed modes in fixed-effect analysis of panel data regression and obtained the similar findings derived from random-effect analysis of panel data regression models (results are available on request).

Table 4. Results of Regression from Model (4), (5), (6), and (7) for BFIs Sector of NEPSE.

Variable	Model (4)	Model (5)	Model (6)	Model (7)
MTB	0.00032***	0.00012***	0.00013***	0
	-0.00005	-0.00004	-0.00004	-0.00005
MRK	0.81217***	0.81222***	0.81426***	0.81228***
	-0.00225	-0.00225	-0.00225	-0.00225
ROA	-0.00045***	-0.00037***	-0.00029***	-0.00031***
	-0.00009	-0.00008	-0.00008	-0.00008
ROE	0.00002	0.00001	-0.00002	0.00001
	-0.00001	-0.00001	-0.00001	-0.00001
CASE	0	0	0.00000*	0.00000*
	0	0	0	0
D_DEVT	0.00049**			
	-0.00023			
D_FIN	0.00093***			
	-0.00024			
D_MIFIN	-0.00099***			
	-0.00026			
D_COMMR*D_BE		-0.00046**		
		-0.00022		
D_DEVT*D_BE		-0.00021		
		-0.00027		
D_FIN*D_BE		0.00022		
		-0.00027		

Variable	Model (4)	Model (5)	Model (6)	Model (7)
D_MIFIN*D_BE		-0.00106***		
		-0.00022		
D_COMMR*D_DU			-0.00458***	
			-0.00062	
D_DEVT*D_DU			-0.00252***	
			-0.00081	
D_FIN*D_DU			-0.00131	
			-0.00081	
D_MIFIN*D_DU			-0.00444***	
			-0.00066	
D_COMMR*D_AL				0.00095***
				-0.00022
D_DEVT*D_AL				0.00125***
				-0.00027
D_FIN*D_AL				0.00140***
				-0.00027
D_MIFIN*D_AL				0.00149***
				-0.0003
CONS	-0.00090***	-0.00005	0	-0.00047***
	-0.0002	-0.00018	-0.00014	-0.00016

[Notes: *, ** and *** indicate the level of significant at 10%, 5%, and 1% respectively. Standard errors are presented in the parenthesis.]

Conclusion and Implication

Conclusion

This paper utilizes the panel data regression model to investigate the impact of COVID-19 pandemic on daily stock returns on banks and financial institutions sector of NEPSE from the period of 2 May 2019 to 25 April 2021. The study examines the impact of pandemic on daily stock returns with the association between different classes and stock returns under the impact of period during pre-lockdown, lockdown, and after-lockdown in Nepal. Following the existing literatures, the influence of pandemic on stock market return is examined by random-effect analysis of panel data regression models. Notably, the findings reveal that the daily increase in COVID-19 positive cases in Nepal have not significantly impacted the daily stock returns during all the separate period analyzed in the study. In other words, there was no negative impact of increased COVID-19 positive cases to the daily stocks returns of BFI sector of NEPSE. The result clearly contradicts the findings of (Al-Awadhi et al., 2020), (Ashraf, 2020) and (Anh & Gan, 2020) stating the increased cases of COVID-19 have negative impact of stock returns. Contrary to the findings of (Anh & Gan, 2020), stocks returns of BFI in NEPSE were negatively influenced by the pandemic during the lockdown period. Specifically, the commercial banks and microfinance companies were hard hit during the lockdown caused by pandemic in Nepal. However, the analysis depicts that the development banks and finance companies are not significantly impacted by the lockdown period. Conversely,

the after-lockdown period in Nepal has significant positive impact on the daily stock returns of all the classes of BFI sector in NEPSE. The rise in stock returns after the lockdown period could be possibly described by the investors' confidence toward the government plans to heal the wounded economy by the COVID-19 pandemic. Also, lower interest rates, high liquidity in the banking system, conversion of physical certificates to electronic units of shares traded in NEPSE as well as introduction of digitally trading management system (TMS) could be the important factors for the findings obtained in this paper. During the period of lockdown, the daily stock returns of all the four classes impacted negatively which further confirms the result obtained from (Anh & Gan, 2020) illustrating that the most vulnerable sector during the lockdown was financial sector in Vietnam.

Implications

The empirical results obtained from this study on BFI sector of NEPSE propose a few implications to the investors and government of Nepal. The lockdown negatively impacted the overall sector of BFIs in Nepal which supports the result of (Goodell, 2020) and (Anh & Gan, 2020) that focus the negative impact on financial sectors during the lockdown. This could be because of the high risk of bad debts in financial sectors which can even cause the bankruptcy. Therefore, investors should select the stock of financial sectors that provenly demonstrated the long-term capital sources as well as diversified investment portfolio which can mitigate from the negative impact of such extraordinary situation, or any other contingencies occurred in future. The government should also be prepared for this sort of lockdown, or any other contingencies occurred by public health issues to protect the loss of investors' confidence toward the stock market. This can be mitigated by letting investors aware of future plans regarding the upliftment of capital market in the nation to cover the possible loss caused by the unprecedented situation.

The COVID-19 pandemic is ongoing across the world, and it is hard to claim when it will stop. In this scenario, every sector of the world has been influenced by this pandemic. In Nepal, it has again begun to surge the COVID-19 positive cases in the form of second wave. In this case, the impact of this pandemic on banks and financial sectors in NEPSE is also ongoing. Therefore, it is advised to the researchers and academicians to conduct more research regarding the impact of this COVID-19 pandemic to conclude the overall pandemic period.

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