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THE EFFECT OF FINANCIAL RISK MANAGEMENT ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN WESTERN BALKAN BEFORE AND DURING COVID-19[3]

Financial management crises all over the world have demonstrated the need for risk management techniques for businesses seeking to maintain shareholder and consumer support. The purpose of this study is to assess the impact of risk management on the financial performance of commercial banks in the Western Balkans (WB) before and following COVID-19 for the years 2016-2021, with 40 commercial banks selected to represent all WB countries' commercial banks as a whole. The study revealed that risk management has a significant impact on the financial performance of WB commercial banks as assessed by Return on Assets (ROA) and Return on Equity (ROE). The research was done through the panel regression using fixed and random effect, whereas a dependent variable we have ROE and ROA and as independent variables, we have Solvency risk, Liquidity Risk and Credit Risk and COVID-19 as a dummy variable. Based on the panel regression model, it is found that the four independent variables have a significant impact, in the dependent variable. The results of this study lead us to recommend that central banks maintain strict rules about the minimum amount of equity required or the requisite ratios for deposits and loans. Since credit risk has a detrimental effect on the profitability of commercial banks, keeping a tight eye on lending activities and paying special attention to non-performing loans is also crucial.
Keywords: Banking Sector; credit risk; liquidity risk; solvency risk; financial performance
JEL: G21; G32

1. Introduction

The financial system in WB, which is mostly comprised of banking, is one of the most important areas of an economy. Commercial banks, with a substantial presence of banks with foreign capital, make up the financial systems of BP nations. This sum is held by banks in Austria, Italy, France, and Greece. The financial system and the capital market of foreign

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languages have benefited from the privatization of the banking industry in BP nations since the financial system's increased variety has made it possible to raise financial values. The coronavirus disease of 2019 (COVID-19), which causes severe acute respiratory syndrome, is caused by the infectious virus known as coronavirus 2. (SARS-CoV-2). Wuhan, China, announced the first case finding in December 2019. The disease has now spread around the world, resulting in an ongoing epidemic. The COVID-19 pandemic has had an impact on people all around the world in addition to spreading the disease and attempting to contain it. Nearly all economies in the globe have seen a decline in economic activity since the coronavirus emerged, particularly those with small and open economies like those in the Western Balkans. Because the financial crisis has affected the industry hardest, tourism-dependent nations like Montenegro and Albania have experienced a major decline.

The banking industry was one of the main sectors of the WB economy that was impacted by COVID-19. The pandemic had several negative effects on banking activity, including increased effort and cost to ensure security for employees and customers, the need to reorganize most of the activity to use a remote work strategy, a decrease in income due to a slowdown in lending activity during the first half of the year, and an increase in loan provisions as a result of the deteriorating financial situations of borrowers. The COVID-19 outbreak, which tested the Balkan economy in general and the banking system in particular, was unpredictable, yet despite this, the financial sector remained steady and liquid. In addition to restructuring loans for insolvency, one of the biggest challenges was carrying on with business as usual in a situation that was anything but normal. All banks operating in the WB were able to overcome this challenge, maintaining financial stability and demonstrating once more their crucial role in the recovery of the nation's economy. In each of the WB member countries, the banking sector is thought to be among the most lucrative. An appropriate market has been identified for the more than 100 commercial banks operating in the market, the majority of whom have foreign capital. They offer a variety of services, including accounts, various loan types, payments both inside and outside the nation, debit and credit cards, bank guarantees, letters of credit, and more.

2. Literature Review

The health of the banking sector is crucial to the health of the country's economy since it serves as a cornerstone of the financial system in the Western Balkan countries. One of the topics that many economists and scholars in these nations study and keep a close eye on is the financial performance of this industry.

Also considering that provisions for loan losses have the potential to significantly lower net income and consequently negatively influence banks' capital strength, they are of enormous importance (Huizinga, Laeven, 2019; Krüger, Rösch, Scheule, 2018). Due to this, a lot of scholars and professionals have looked at how loan loss provisioning influences bank stability and lending practices, especially during times of financial crisis (Beatty, Liao, 2011; Agénor, Zilberman, 2015). Governments should work to provide the conditions that will sustain the stability of the banking sector given the costs connected with protracted financial crises and recessions (Hoggarth, Reis, Saporta, 2002; Dell'Ariccia, Detragiache, Rajan,

2008). Because of this, there have been some regulatory reforms implemented since the global financial crisis, with Basel III's introduction and the projected loss provisioning criteria being two of the most recent. The goal of these regulation changes is to lessen procyclicality to avoid financial crises and ensure the availability of bank credit during a recession.

Numerous studies have found that everything that affects a country's economic growth also affects the banking industry, leading to a rise in loan loss provisions, which serve as the primary expenditure in commercial banks. Pandemics, however, have a variety of effects on the banking sector.

The literature review is structured by focusing first on the impact of COVID-19 on the world economy and its differences and similarities with the Spanish flu.

De Santis & Van der Veken (2020) assert that the COVID-19 pandemic is a calamity with unavoidable economic repercussions. Our knowledge of the Spanish flu's effects indicates that the economy will see a severe double-digit collapse. The Spanish Flu had a negative impact on the country's real per capita GDP, which fell from 29.1% in 1918 to 10.9% in 1919 to 3.6% in 1920.

On the other hand, the analysis conducted by the World Bank Group (Maliszewska, Mattoo, Van Der Mensbrugghe, 2020) predicted a worldwide GDP decline of up to 3.9%, with poor nations suffering the most (4% on average, but some above 6.5%).

In their study, Carlsson-Szlezak, Reeves, & Swartz (2020) forecast that a genuine global recession will occur. A continuing Capex boom cycle is a true recession. However, external forces or disasters like wars, other disturbances, or in our case, the epidemic, can also cause the actual economy to decline.

According to a Wall Street Journal survey of 60 analysts conducted in April 2020 and published in Stock (2020), the estimated recovery by the end of 2021 will still leave the economy around 4 percentage points behind where it had been anticipated to be before the pandemic hit. The anticipated second-quarter collapse will be far more severe and profound than the financial crisis collapse.

Numerous research has been conducted about the effects of pandemics, particularly COVID-19, on the banking industry in general. Çolak & Öztekin (2021) concluded in their research that the impact of the pandemic relies on how well the bank as a whole is performing financially and how the public health sector handles the problem.

Stress tests were carried out by Yarovaya, Mirza, Rizvi, & Naqvi (2020) to evaluate the COVID-19 loan portfolios of 255 financial institutions in the 10 most impacted EU member states. They have seen a decline in asset quality and an increase in the likelihood of failure based on stress testing. Additionally, they have seen a decline in capital sufficiency in their sample. The finding of the paper conducted by Alshatti (2015) with Jordanian banks shows that profitability is positively impacted by the NPL ratio even when there are a lot of delinquent loans. As a result, Jordanian banks must set up effective plans to deal with credit risk management. On the contrary, the researcher discovered that the leverage ratio has a negative impact on banks' profitability, so businesses shouldn't be heavily reliant on debt

financing because doing so will increase their debt servicing costs and consequently their liabilities, which could have a negative impact on their performance. Additionally, the results demonstrate that credit interest/credit facilities and capital adequacy ratio have little bearing on the profitability of Jordanian commercial banks as measured by ROE.

A study on the performance of non-performing loans during 88 financial crises since 1900 was undertaken by Ari, Chen, & Ratnovski (2019) to better understand loan defaults during pandemics. They concluded that there are similarities in the creation of NPLs during different crises, and the results showed that on average NPLs reach up to 20% of total loans.

The authors Gordon & Jones (2020) projected the effects of the COVID-19 pandemic on loan default rates using three scenarios for increases in unemployment and housing prices. They predict that the rate of loan defaults would rise from 2.3 percent in 2019 to a peak of 3.9 percent in 2025, resulting in $580 billion in write-offs. The model predicts that NPL will reach 3.1% in 2021 absent adjustments to policy. However, starting in 2021, the NPLs for fiscal transfers, student loan forbearance, and mortgage forbearance will all continue to climb.

When examining elements that have a detrimental influence on LLP, we found that other research had addressed the same problem. According to research, these variables include the economic cycle and the actions of bank management during times of financial crisis. Managers' actions can be either discretionary or non-discretionary. Credit risk is a factor in this non-discretionary behaviour, which aims to cover anticipated future credit losses on loans (Beaver, Engel, 1996; Whalen, 1994). Pro-cyclicality was then noted as a crucial component of providing by Laeven & Majnoni (2002) and Bikker & Hu (2002). They said that firms improve conditions and reduce loan defaults during the economic boom and increased earnings, but the opposite will occur during a recession.

3. Methodology

The research methodology is a road map that, as such, presents a framework to answer the research questions of the study, to allow testing of the hypotheses raised, as well as to analyze the data that informs us about the impact of the control components of the study on the accomplishment of the organization's goals.

The pandemic had several effects on banking operations, including an increase in effort and cost to ensure the safety of both employees and customers, the need to reorganize most of the work to use a remote approach, decreased income as a result of a slowdown in lending activity during the first half of the year, and an increase in loan provisions due to a potential worsening in borrowers' financial conditions.

The purpose of this study is to evaluate the impact of risk management on the financial performance of commercial banks in WB during COVID-19.

The following are the research questions that were used in this study:

1. Before and during COVID-19, did solvency risk influence ROA and ROE?

2. Before and during COVID-19, did liquidity risk influence ROA and ROE?
3. Has the presence of credit risk affected ROA and ROE both before and after COVID-19?

The impact of risk management on the financial performance of commercial banks in WB before and after COVID-19 has been the subject of this study, and we have utilized the descriptive approach to gather data to address research issues and test hypotheses. According to (Salaria, 2012), the descriptive method is essential because it takes into account both the characteristics of the entire population and those of a sample. Additionally, it offers details about regional problems. We utilized panel data for Bosnia and Herzegovina, Albania, Kosovo, Montenegro, Serbia, and North Macedonia from 2016 to 2021. (see Table 1 with variables, and definition).

Table 1. Independent/Dependent Variables

No.	Symbol	Description of Variables	Formula	References
Dependent Variables				
1	ROA	Return of Assets	Net profit/Assets	(Zeitun, 2012), (Abiola & Olausi, 2014), (Mwangi, 2014), (Goczek & Malyarenko, 2015), (Yahaya, Lamidi, Kutigi, & Ahmed, 2015), (Abubakar, Ado, Mohamed, & Mustapha, 2018), (Okere, 2018)
2	ROE	Return on Equity	Net Profit/Equity	(Zeitun, 2012), (Abiola & Olausi, 2014), (Goczek & Malyarenko, 2015), (Yahaya, Lamidi, Kutigi, & Ahmed, 2015), (Oudat & Ali, 2021)
Independent Variables				
3	SR	Solvency Risk	Capital/Assets	(Zeitun, 2012), (Goczek & Malyarenko, 2015), (Yahaya, Lamidi, Kutigi, & Ahmed, 2015)
4	LR	Liquidity Risk	Total Loans/Total Deposits	(Devinaga, 2010), (Goczek & Malyarenko, 2015), (Menicucci, 2016)
5	CR	Credit Risk	NPL/Total Loans	(Poudel, 2012), (Okere, 2018)
6	COVID -19	COVID-19 Pandemic	Dummy Variable Value 0 before COVID-19 Pandemic and Value 1 for the years of COVID-19 Pandemic	(Najaf, Subramaniam, & Atayah, 2021), (Musah, Padi, & Ahmed, 2022) (Atayah, Dhiaf, Najaf, & Frederico, 2022)

Return on assets (ROA) shows how profitable a company is based on its assets, so it shows how a company's management uses its assets to make a profit. If in a company we notice that the ROA is decreasing, then it means that that company has invested a lot in assets from which it is not generating profit. A ROA higher than 5% is considered a good return, while over 20% is considered an ideal return on assets.

Return on equity (ROE) or as it is otherwise known as return on net assets shows the profit of the company divided by equity. ROE is the measure of the profitability of the firm and how effective the company is in generating profit. The higher the ROE, the more efficient management is in using equity to generate profit.

Solvency Risk (SR) A company's capacity to fulfil its short- and long-term financial commitments is known as its solvency. Solvency is one approach to show a company's capacity to manage its operations into the near future, making it a crucial indicator of a company's financial health. Checking the shareholders' equity on the balance sheet, which is the total of a company's assets less its obligations, is the easiest approach to determine a company's solvency. It is measured as a ratio between capital and assets.

*Liquidity Risk (LR)*The danger of suffering losses as a result of not being able to make payments on time when they are due or not being able to do so at a reasonable cost is known as liquidity risk. It is measured as a ratio between Total Loans/Total Deposits.

Credit risk (CR) is the chance of suffering a loss as a result of a borrower's inability to make loan payments or fulfil contractual commitments. It often refers to the possibility that a lender won't get the main and interest that is owed, which would disrupt cash flows and raise collection expenses. Surplus cash flows might be written to offer more protection against credit risk. A higher coupon rate, which generates more cash flows, can be used to reduce credit risk when it is present for a lender. It is calculated as a ratio between NPL/Total Loans.

COVID-19 Pandemic is a dummy variable (COVID) that assigns the value "1" to all observations made in 2020 and 2021 and "0" to observations made prior the COVID-19 (the year 2010 until 2019).

The financial statements of fourteen commercial banks in countries of Western Balkan for the period 2010-2021 have been used as a secondary basis of the methodology. The financial statements are taken from the yearly reports of the banks, which are published on their respective websites. To analyse the research problem, which is what was the impact of risk management on the financial performance of commercial banks in WB during COVID-19, four hypotheses were constructed.

H1: Solvency risk positively affects ROE and ROA.

H2: Liquidity risk positively affects ROE and ROA.

H3: Credit risk has a negative impact on ROE and ROA.

H4: COVID-19 negatively affects ROE and ROA.

A balanced panel database containing all the variables was created, and models with fixed effects and random effects were used to examine it:

$$\boldsymbol{y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

y- Dependent variable; β0- constant which indicates the expected value of the dependent variable if all independent variables take the value equal to zero; β1, β2 and β3- are the parameters, or coefficients, that determine the effect that independent variables have on the dependent variable; ε- residual error estimation variable in period t.

In our research, this model is done as follows:

$$ROA = \beta_0 + \beta_1 Solvency\ Risk + \beta_2 Liquidity\ Risk + \beta_3 Credit\ Risk + \beta_4 Covid - 19 + \varepsilon$$

$$ROE = \beta_0 + \beta_1 Solvency\ Risk + \beta_2 Liquidity\ Risk + \beta_3 Credit\ Risk + \beta_4 Covid - 19 + \varepsilon$$

A balanced panel database containing all the variables was created, and models with fixed effects and random effects were used to examine it.

Data sets with many observations for each sample unit are called panel data. Using panel data, we may test more complex behavioural models and obtain better approximations with fewer constrained assumptions (Baltagi, 2008).

4. Empirical Results and Discussion

Descriptive analyses and linear regression calculations made with SPSS are included among the empirical findings in this study. Using regression and correlation analysis, we have examined changes in the independent variables Solvency Risk (Capital/Assets), Liquidity Risk (Total Loans/Total Deposits), and Credit Risk (NPL/Total Loans) as well as the dependent variable ROA and ROE, which is a measure of financial performance of banks. The description and analysis of all the empirical findings will be the focus of this section.

Table 2. Descriptive analyses

Variables	N	Minimum	Maximum	Mean	Std. Deviation
ROA	480	-0.51	.81	.0248	.11501
ROE	480	-7.08	16.17	.3565	1.69754
SR	480	.04	.92	.1607	.11295
LR	480	.00	36.30	1.0122	2.84321
CR	480	.00	.07	.0081	.01391

Source: Authors' calculation.

To summarise data in a way that is more comprehensible and illustrative, descriptive analyses are crucial. With 480 observations during five years at fourteen banks, Table 2 displays the descriptive analysis. According to the descriptive statistics, the average ROA is 0.02 and ranges from -0.51 to 0.81. The ROE, on the other hand, has an average of 0.35 and a range of -43.21 to 26.23. According to the results in the table above. The average liquidity risk is 1.10, with a low of 0.00 and a maximum of 36.30. Additionally, credit risk has minimum, maximum, and mean values of 0.00, 0.07, and 0.0081, respectively.

4.1 Correlation analysis

To calculate the correlation between variables, we have used Pearson Correlation.

Table 3. Correlation analyses

Correlations							
		ROA	ROE	Solvency_Risk	Liquidity_Risk	Credit_Risk	COVID_19
ROA	Pearson Correlation	1	.951**	.669	.726	-.633**	-.925
	Sig. (2-tailed)		.000	.012	.057	.004	.079
	N	480	480	480	480	480	480
ROE	Pearson Correlation	.951**	1	.535	.829	-.612*	-.634
	Sig. (2-tailed)	.000		.045	.053	.014	.041
	N	480	480	480	480	480	480
Solvency_Risk	Pearson Correlation	.669	-.035	1	-.010	-.012	-.025
	Sig. (2-tailed)	.012	.045		.820	.800	.583
	N	480	480	480	480	480	480
Liquidity_Risk	Pearson Correlation	.726	-.029	-.010	1	-.090*	.018
	Sig. (2-tailed)	.057	.053	.820		.048	.694
	N	480	480	480	480	480	480
Credit_Risk	Pearson Correlation	-.633**	.112*	-.012	-.090*	1	.024
	Sig. (2-tailed)	.004	.014	.800	.048		.596
	N	480	480	480	480	480	480
COVID_19	Pearson Correlation	-.925	-.034	-.025	.018	.024	1
	Sig. (2-tailed)	.079	.041	.583	.694	.596	
	N	480	480	480	480	480	480

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).
Source: Authors' calculation.

To quantify the strength of the linear link between two continuous variables, Pearson's correlation, also known as the correlation coefficient, is utilized. Furthermore, the correlation between the variables was determined by applying Pearson's Coefficient Correlation with the following rules: Very strong positive/negative correlation (+/- 0.81 to +/- 1), Strong positive/negative correlation (+/- 0.61 to +/- 0.80), Moderate positive/negative correlation (+/- 0.41 to +/- 0.60), Weak positive/negative correlation (+/- 0.21 to +/- 0.40), No connection (+/- 0.00 to +/- 0.20). Table 3 shows that there is a modest to significant association between all types of risk and COVID-19 and financial performance. While the two dependent variables ROA and ROE have a positive association with solvency risk and liquidity risk, the link between ROA, ROE and credit risk and COVID-19 is in the other direction.

In contrast to the findings of (Okere, 2018), who studied the influence of risk management in commercial banks in Nigeria, (Poudel, 2012), found a negative link between credit risk and ROA. The positive correlation between ROA, ROE, and solvency risk consists of the findings of (Bourke, 1989), (Molyneux & Thornton, 1992), (Zeitun, 2012), and (Trad, Rachdi, Hakimi, & Guesmi, 2017) meaning that banks with higher equity, achieve more profit. Liquidity risk has a positive correlation with ROA and ROE, and this consists to findings of (Gul, Irshad, & Zaman, 2011), (Saeed, 2014), and (Trad, Rachdi, Hakimi, &

Guesmi, 2017), meaning that consumer deposits bring more money to the banks, so it can finance more consumers and increase the performance.

4.2 Panel Regression analyses

This section of the study focuses on the findings made possible by using certain panel data analysis techniques to pinpoint the factors that affect the financial performance of the Western Balkan financial sector.

Table 4. Fixed effects model for ROA

Variable	Coefficient	Std.Error	T-Statistics	Prob.
c	0.006754	0.001998	0.38221	0.0008
Liquidity Risk	0.08003	0.518	0.01559	0.03548
Credit Risk	-0.12245	-0.131399	0.01665	0.06830
Solvency Risk	0.003457	0.003464	0.04582	0.09886
COVID-19	-0.002910	0.002869	0.00381	0.07760
Effects Specification				
Cross-section fixed (dummy variables				
R-squared			0.694392	
Adjusted R-Squared			0.614939	
F-statistic			24.46647	
Prob(F-statistic)			0.000003	

The outcomes of the fixed effects model are displayed in Table 4. It is clear that the variables years the company has been active in the financial sector of the Western Balkans, liquidity risk, solvency risk, credit risk, and COVID-19 are statistically significant because the probabilities linked to the coefficients are less than the significance level of 10%. The independent variables are responsible for 69.43% of the variances in the entire panel, according to the R-squared value. Because Fstatistic has a value of 24.46% at a significance level of 1%, the model is suitable.

The probability must be less than 0.1 for a variable's impact to be considered significant. From our four independent variables, all are significant as the probability is below 10%. Table 5 demonstrates that the return on assets of the commercial banks in WB is statistically significantly positively impacted by solvency risk. In other words, the sampled commercial banks' Return on Asset (ROA) would increase by 0.003% when solvency risk increased by 1%.

Results further demonstrate that the impact of liquidity risk on ROA is statistically significant and adverse. Accordingly, a 1% rise in LR resulted in a 0.08% increase in Return on Asset (ROA), while maintaining other independent variables at their average value. Credit risk and return on assets have negatively correlated, which means that a 1% rise in CR will result in a 0.12% fall in ROA. While COVID-19 as a dummy variable has a negative effect on ROA, which means that when the COVID pandemic started, ROA decreased. The results consisted of findings of (Bourke, 1989), (Molyneux & Thornton, 1992), (Gul, Irshad, & Zaman, 2011), (Zeitun, 2012), (Poudel, 2012), (Saeed, 2014), (Trad, Rachdi, Hakimi, & Guesmi, 2017) and (Okere, 2018).

Given that Table 6's Chi-Sq value of 4.60 is significant at a 1% level of significance, the results of the fixed effects model are superior to those of the random effects model.

Table 6. The Hausman test for ROA

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	4.602800	4	2

Table 7. Fixed effects model for ROE

Variable	Coefficient	Std.Error	T-Statistics	Prob.
c	0.008753	0.008465	0.8765	0.0009
Liquidity Risk	0.0548	0.5648	0.04568	0.04645
Credit Risk	-0.56878	-0.2348	0.045687	0.06845
Solvency Risk	0.00248	0.00518	0.045475	0.0468
COVID-19	-0.008765	0.006854	0.00876	0.04568

Effects Specification

Cross-section fixed (dummy variables	
R-squared	0.5569
Adjusted R-Squared	0.7586
F-statistic	23.54868
Prob(F-statistic)	0.000007

Table 7 presents the results of the fixed effects model. Because the probabilities associated with the coefficients are smaller than the significance level of 10%, it is obvious that the variables years the firm has been engaged in the financial sector of the Western Balkans, liquidity risk, solvency risk, credit risk, and COVID-19 are statistically significant. The R-squared score indicates that the independent variables account for 55.69% of the variances in the entire panel. The model is appropriate since Fstatistic has a value of 23.54% at a significance level of 1%.

Given that Table 9's Chi-Sq value of 8.65 is significant at a 1% level of significance, the results of the fixed effects model are superior to those of the random effects model.

Table 9. The Hausman test for ROE

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob
Cross-section random	8.65465	5	0.06

We conclude that based on the regression model equation solvency and liquidity risk have a positive impact on ROE, whereas credit risk and COVID-19 have a negative impact. According to the results, if other variables remain constant and the solvency risk is increased by 1 unit, we may anticipate that the level of ROE will rise by 0.005%. In addition, we anticipate a 1 unit rise in liquidity risk will result in a 0.03% increase in ROE and if credit risk is increased by 1 unit, ROE will decline by 0.54%. While an increase of 1% in COVID-19, will decrease ROE by 0.003%. These findings are supported by the results provided in Table 7. Furthermore, all four independent variables significantly affect ROE as a dependent variable. These results consist of the findings of (Zeitun, 2012), (Abiola & Olausi, 2014), (Yahaya, Lamidi, Kutigi, & Ahmed, 2015), and (Oudat & Ali, 2021).

5. Conclusion

The study aims to assess risk management effects on financial performance before and during COVID-19 in WB. Since banks make a significant contribution to managing a nation's finances, risk management is essential to the long-term viability of the banking industry. Beyond the disease's spread and containment measures, the COVID-19 pandemic has the most significant economic repercussions. The pandemic affected banking activity from a variety of perspectives, beginning with cost, moving on to ensuring security for both employees and customers, reorganizing most of the activity to work remotely, and reducing income due to a slowdown in lending activity during the first half of the year. Additionally, loan provisions increased due to the worsening number of borrowers. In particular, commercial banks in the World Bank were brought in front of this difficulty beginning in March 2020. However, thankfully, the banking industry in WB kept operating. To indicate financial performance, we used ROA and ROE as the dependent variables. We used three different types of risks as independent variables: credit risk, liquidity risk and solvency risk and COVID-19 as dummy variables and we created four hypothesis.

The analysis of the collected data from the banking sector of WB countries shows that each of the three independent variables significantly affected the financial performance (ROA and ROE) of commercial banks in WB member nations.

The results reveal that solvency and liquidity risk positively influence ROA and ROE, whereas credit risk and COVID-19 negatively affect the two dependent variables.

Therefore, all four hypotheses were true after testing by panel regression analysis.

Our research has some limitations, just like any other study. The primary constraint is the period of the data; if we could extract the data every three months or every month, the effect computation would have been more accurate.

In light of the findings of this study, we advise central banks to maintain stringent regulations about the minimal amount of equity required or the necessary ratios for deposits and loans. Monitoring lending activity and paying close attention to non-performing loans are also important since credit risk has a negative impact on commercial banks' ability to make money. Even though the fact that good risk management in financial institutions decreases the likelihood of a systemic and economic breakdown, this does not ensure an increase in returns on equity or return on assets.

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