

Effectiveness of governance mechanisms on bank financial performance in a changing world: evidence from a Small Island Developing States

^[1] Deeljore Rudranee Devi, ^[2] Dr Jugurnath Bhavish

^[1] Faculty of Law and Management, University of Mauritius, ^[2] Department of Finance, University of Mauritius

Abstract - The unique Coronavirus has speedily spread all over the world distressing all economies around the globe. This epidemic is not simply a health issue because it has affected the whole world in diverse facets due to the governmental measures taken to combat against it such as lockdowns, movement restrains, and social distancing strategies. It has also caused substantial damage to each part of the banking system as well as its performance where Small Island Developing States (SIDS) is not an exception. Thus, this study contributes to the limited literature by providing the first empirical evidence on the impact of covid19 on the role of internal and external Corporate Governance (CG) mechanisms in relation to bank performance (BP) in a SIDS. The purpose of this study is to evaluate the effectiveness of governance mechanisms on BP during pandemic and also look for whether the covid19 as a moderator has affected the CG variables in relation to BP. To answer the research questions, all the 18 banks operating in Mauritius from the years 2020-2022 are considered. Mauritius because it is one of the strongest economies with a ranking of second among SIDS. As per the result of this study, there is sufficient evidence to conclude that CG mechanisms are effective as some explanatory variables such as OI, AUDC, and CEOD are helpful in anticipating BP as measured by ROA, ROE, and NIM during the pandemic. Therefore, H_0 is not rejected. That is, governance mechanisms are effective in relation to BP in this changing world. The evidence suggests that the adherence to CG mechanisms lead to some improvement in performance. *Therefore, it is possible to minimise the adverse impact of covid19 on BP through effective governance.* However, the result from moderated multiple regression (MMR) has confirmed that the insignificant effects of BIND, BDIVER, and BoSIZE on performance of banks recorded from both fixed effect model regression and dynamic panel data estimation results were due to covid19. *In order to curtail the adverse effect of covid19 pandemic, the organistaion and board should recognise opportunities and build new strategies to acclimate to the uncertainties caused by the covid19 pandemic. Banks should also adhere effectively to the code of CG and not just to fulfill the legal requirements.*

Index Terms – bank, corporate governance, covid19, financial performance

1 Introduction

Even though corporate governance (CG) has received lots of researchers' attention, bank governance has turned out to be a topic of empirical studies principally after the financial crisis 2008, highlighting the significance of good governance for a sound banking system. Another factor that is distressing bank governance is the covid19 pandemic. According to [1], a crisis is an emotionally filled event that can be a defining moment for better or worse. The World Health Organisation (WHO) officially declared on 11 March 2020, the coronavirus disease 2019 as a universal pandemic [2]. Globally, as of November 2021, there were more than 200 million covid19 cases and approximately 5 million deaths [3]. To prevent the spread, governments passed on some mitigation strategies for example: lockdowns, travel restrictions, social distancing and shutdown of non-essential business [4]. Therefore, financial institutions such as banking sector has received a direct exogenous shock [5].

Similarly, as per [6], the economic recession caused by covid19 has endangered bank profitability and declined bank income. During the outbreak, the resilience of the banking industry to continue to execute its intermediation role was the main concern [7]. Therefore, it is vital to study the effect of the covid19 pandemic on the banking sector financial performance.

Could banks manage with this interference? Yes, if they have true and fair records about escalating default rates, deficits in loan income, losses in net income, and drops in retained earnings together with remedial actions sanctioned by the board and executed by management. Management are motivated to embrace these measures if the board has good governance mechanisms that promote innovative thinking. At the same time, the covid19 pandemic has upstretched severe concerns for CG practices[8]. Accordingly, this paper examines the effectiveness of CG during the pandemic with respect to performance. The principal role of CG is to normalise the board's actions[9]. In addition, [10] highlighted the importance of CG and found that CG can help to enlighten the prestige of banks during crisis.

In recent decades, the concepts of CG and performance have been linked with each other within economic debates. In addition, [11] pointed out that the current literature is mainly theoretical and that more empirical evidence is required. Also, according to [12], research works on the role of internal and external CG mechanisms in sustaining banking firms' performance during pandemic are still uncommon. Most studies concerning CG focused on nonfinancial firms excluding banks and other financial institutions. Banks are still under researched because they are specialised in nature and are subject to different regulations. Besides, these studies have been conducted mainly in developed countries and lately the issue of CG in emerging countries has received some attention on the literature[13]. But, to the author best knowledge, no research has carried out on Small Island Developing States (SIDS).

Thus, this paper will address this research gap in governance and performance literature by providing some empirical evidence about the effectiveness of internal and external governance mechanisms during covid19 in relation to performance of banking firms in Mauritius. Mauritius because it is one of the strongest economies with a ranking of second among SIDS[14]. Mauritius is an island state of about 1.3 million people and its economy has progressed since independence (1968) and in 2019, it has been classified as a high-income country[15]. Its financial services sector is central to the Mauritian economy, contributing around 14% to GDP in year 2021[16]. Based on all these facts, Mauritius is a leading country and a model among SIDS. Therefore, this study is relevant since it will serve as model and reference to SIDS. The study will also give an indication about the effectiveness of existing banking governance mechanisms and will help banks to review CG strategies and take appropriate corrective measures to improve their actual governance structure to be more competitive in this globalised and changing world. Thus, the study will add to literature of governance about its effectiveness in this transformative era of banking system with covid19 pandemic.

1.1 Objectives of the study

- To analyse the effectiveness of governance mechanisms on BP during the pandemic period (2020-2022).
- To investigate more in depth the extent to which CG mechanisms were affected by covid19 in relation to BP, a COVID variable is interacted with the explanatory variables in the regression.

The outstanding sections of this paper are planned as follows. Section 2 is on the theoretical underpinning that includes the relevant theories and literature review to support the arguments in this study. Section 3 explains the methodological research method used and how data will be collected. Section 4 reveals the finding and analysis. Finally, section 5 is about the conclusion and limitations.

2 Literature review

2.1 Corporate governance and performance

According to the agency theory, better CG results to better performance. As per [17], good CG is essential for an organisation in various ways for example: it enhances the firm's image, lessens the risks and upsurges

stockholders' confidence. The primary role of CG is to improve firm's performance by organising and supporting incentives that encourage managers to capitalise on return on assets (ROA), operational efficiency, and long-term growth by restraining the abuse of power and resources by managers. Hence, corporations should update their business models, review their value chain designs and redefine their CG mechanisms [18] to enhance financial performance[19].

2.2 Corporate governance and covid19

Different results have been recorded while investigating the role of CG in alleviating the adverse effect of the pandemic. For instance, a case study conducted by[20] showed that effective governance mechanisms lead to better crisis management. [21] found that firms adopting CG mechanisms observed a decline in their credit risk. Similarly, [22] found that CG mechanisms motivated businesses to modernise, leading to better financial performance. On the other hand,[23] and[24]found that governance scores did not have a substantial impact on bank returns during the pandemic. Therefore, the main hypothesis (H0) will be that there is significant relationship between governance mechanisms and bank performance (BP) during the pandemic period.

2.3 Hypotheses Development

Independent Directors

Agency theory appreciates sovereignty of board and proposes that a greater percentage of independent executives will enhance the supervision and curtail self-centered conduct of directors resulting in better BP. Equally, as per the[25], the board of directors should be experts and free to manage bank risk and improve BP. Similarly,[26] found that the independence of boards is positively associated with BP.[27] also showed that the BP measured by ROA and Tobin's Q was positively affected by the number of independent directors present on the board. Moreover,[28] recorded a positive impact on BP with the presence of independent directors. During this time of crisis, impartial assessments of management's performance are important since the board has to fairly evaluate the fresh strategies being implemented to upsurge liquidity and recover losses from fee income. That is, independent directors must have the autonomy to support efficient strategies, while discarding ineffective ones, irrespective of disagreement from management. Hence, the first hypothesis is:

H1:The presence of independent members on the board of directors has a positive impact on BP during the crisis period.

CEO Duality

Duality is referred to the employment of the same person for both the chief executive officer (CEO) and chairperson at same point in time. Stewardship theory claims that CEO duality minimises information asymmetry and lessens communication conflicts. Duality enables them to take better decisions and reach a clear strategic direction[29]. However, apprehension about CEO duality was initiated from entrenchment theory. For instance, as per[30], CEO duality has been recognised as an obstruction to the evaluation of management's objective mainly in less-developed countries. [31] has also found that the effectiveness of banking is lesser due to the duality in banking. Based on the above, the second hypothesis is as follows:

H2: CEO duality has a significant relationship with BP during the pandemic period.

Gender Diversity

From the perspective of resource dependency theory, board diversity can contribute to better performance. That is, women on board can bring better connection, cooperation and understanding to create positive relationship with others[32]. According to [33], board diversity is a key to improve CG practices in an enterprise in terms of better decision-making and innovation. For instance, as per [27], the presence of female directors on the board has a positive impact on ROA and return on equity (ROE) in developed countries. However, the cost of a diversified board is quite expensive and thus this high cost may hinder firm's performance[33]. Therefore, the third hypothesis is:

H3: The presence of women on the board of directors of banks has a positive impact on BP during the pandemic period.

Financial Expertise

As per [34], the best board consists of individuals with different skills, knowledge and information power and readily available to contribute his/her time professionally. Similarly, to be an expert in a board, a director must hold adequate educational and professional experience in areas of finance, accounting and auditing. A predominant strand in literature suggested that board expertise significantly and positively affects performance[35]. As a result, the fourth hypothesis is:

H4: There is a positive relationship between board financial expertise and BP during the pandemic period.

Board Size

Large board size can be a cause for weaker performance due to coordination issues and waste of time while reaching a common decision[36]. [37] found that large board has a negative impact on BP and also argued that large board size reduced the effectiveness of CG mechanisms resulting to poor performance. However, according to[38], smaller boards are more competent. During a pandemic, when the board need to concentrate and direct the management to cut spending and look for new sources of income, an oversize board may fail, because each directors may have different objectives and opinions. Thus, the next hypothesis is as follows:

H5: Board size has a significant relationship between BP during the pandemic.

Ownership Structure

According to [39], ownership structure is a fundamental factor of CG, which is denoted by the direct involvement of investors in the operation and financial aspects of a business. The effect of ownership structure on financial performance is driven by numerous theoretical foundations. Agency theory is one of the major theories dealing with disclosure and governance and it states that the conflict of interest between shareholders and managers is primarily due to separation of ownership and management. To supervise agents, principals would opt for an efficient CG mechanism and promote a sufficient amount of disclosure of information. Nowadays, many enterprises have high percentage of institutional ownership compared to owner equity. Due to higher ownership stake, institutional stockholders may affect the board's decision making process, promote more disclosures in the financial reports and lead to better performance. Institutional investors such as pension funds, insurance companies, investment firms have resources and knowledge to take part in CG. Therefore, these institutional investors through CG can influence BP positively.

Based on the above discussion, the next hypothesis is stated as follows,

H6: Institutional ownership has an impact on BP during the pandemic period.

Audit committee

Audit committees came into existence in year 1939[40]. Audit committees are standing committees made of non-executive and independent directors of the board[41]. These committees are expected to communicate to the stakeholders the result of their duties and they do this via a report. According to[42], the independence and qualification of audit committee members adds value to the financial reporting and firm performance. Therefore, the next hypothesis will be:

H7: There is a positive relationship between presence of audit committee and BP during the crisis period.

Debt Financing

Debt financing is one of the vital CG mechanisms in aligning the incentives of corporate managers with those of stockholders. As per agency theory, debt financing can raise the level of monitoring over self-serving managers and that can be used as an alternative CG mechanism[43]. This theory discusses two ways through which debt finance curtail the agency cost: first, the firm is obliged to constantly earn enough cash to meet the principal and interest payment. Thus, it can be taken as a commitment device for executives. Second, leverage diminishes the

amount of free cash flows present for management discretionary expenses. However,[44] examined the effect of debt on firm investment decisions and value and found that debt finance has a negative effect on corporate investment and values.

Thus, the next hypothesis is as follows:

H8: Debt financing has a relationship with BP during the pandemic.

Control Variables

Firm size

It is an essential factor while dealing with firm performance because bigger organisations have more agency conflicts and need resilient and effective governance mechanisms. According to[45], big organisation are usually accompanied by a large board size, thereby raising the cost of monitoring and adversely affect firm's value. In other ways, large firms are easier to produce funds internally and also have the potential to generate funds from another source. Therefore, firm size does have an impact on the performance of businesses. Firm size can be calculated in several ways; measures that are commonly used are market capitalisation, revenue volume, number of employments, and size of total assets. In this study, bank size is measured by the logarithm of total assets.

Firm age

It is the number of years that an organisation is in existence and operated. It indicates how long a business is in the market and shows that firms with longer existence have elongated history and experience and thus may aid them to acquire better performance[46]. In this study, bank age is measured by the natural logarithm of the number of years operated in Mauritius.

3 Research Methodology

Based on the objectives of the study and review of literature, the study attempts to answer the following question: "Do CG attributes have an impact on BP in Mauritius in this time of change?" Then, to investigate more in depth the extent to which banks' performance were affected by covid19, a COVID variable is interacted with the explanatory variables in the regression. In this study, quantitative approach is considered. Panel data are collected to examine the impact of CG on banks' performance. The panel data were collected from the annual report and quarter report of the banks. The study period is three years spread over a time period from 2020 to 2022 with 216 bank-quarter observations and all banks (18 banks) operating in Mauritius are considered.

To measure BP, former studies have used different proxies by categorising them into two groups: accounting-based and market based performance measures. Accordingly, this study uses accounting based performance measures: Return on Asset (ROA), Return on Equity (ROE), and Net Interest Margin (NIM) as proxies to measure the performance of banking firms during the covid19 pandemic period. The study consists of both internal and external CG mechanisms and thus have eight explanatory variables in total. The study contains two control variables: bank size (BaSIZE) and bank age (BAGE). Table I below shows how the dependent, explanatory, control and moderator variables are measured. While Fig 1 shows the proposed research model framework.

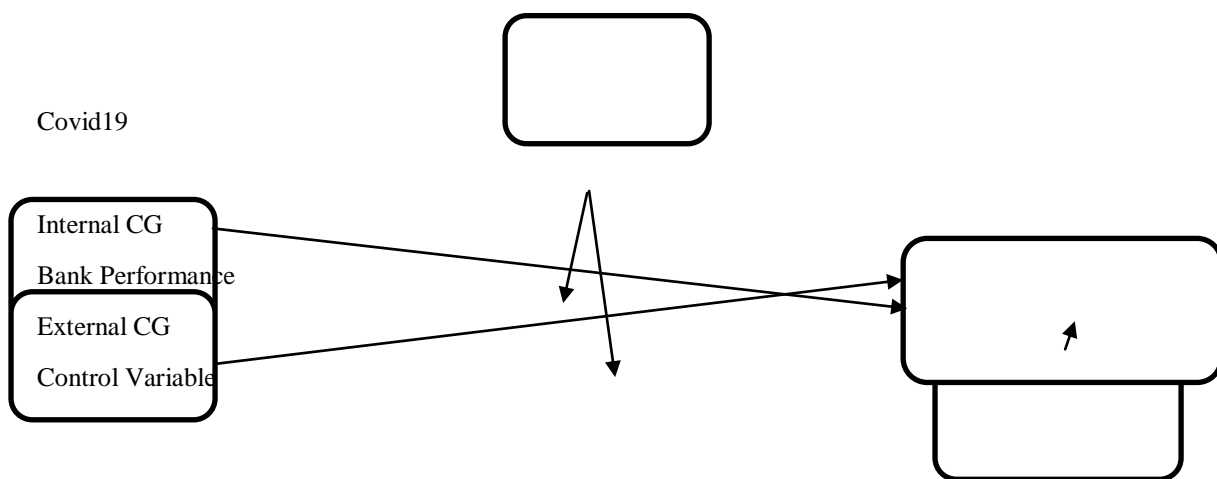


Fig1: Proposed Research Model Framework

Based on theoretical analysis, the following equation is designed:

Equation 1:

$$BP_{it} = \beta_0 + \beta_1 BIND_{it} + \beta_2 CEOD_{it} + \beta_3 BDIVER_{it} + \beta_4 BEXP_{it} + \beta_5 BoSIZ_{it} + \beta_6 OI_{it} + \beta_7 AUDC_{it} + \beta_8 DFIN_{it} + \beta_9 BaSIZE_{it} + \beta_{10} BAGE_{it} + \epsilon_{it}$$

Then the model is extended by including a moderator covid19 as shown in the equation below.

Equation 2:

$$BP_{it} = \beta_0 + \beta_1 COVID_{it} + \beta_2 BIND_{it} + \beta_3 COVID * BIND + \beta_4 CEOD_{it} + \beta_5 COVID * CEOD + \beta_6 BDIVER_{it} + \beta_7 COVID * BDIVER + \beta_8 BEXP_{it} + \beta_9 COVID * BEXP + \beta_{10} BoSIZ_{it} + \beta_{11} COVID * BoSIZ + \beta_{12} OI_{it} + \beta_{13} COVID * OI + \beta_{14} AUDC_{it} + \beta_{15} COVID * AUDC + \beta_{16} DFIN_{it} + \beta_{17} COVID * DFIN + \beta_{18} BaSIZE_{it} + \beta_{19} BAGE_{it} + \epsilon_{it}$$

Where:		
Dependent Variables		
ROA	It is measured as a percentage of net income to total assets	[47]
ROE	It is measured as a percentage of net income to shareholders' equity	[48]
NIM	It is measured as the ratio of net interest income to average earning assets	[49]
β_0	The intercept term	
$\beta_1 - \beta_{10}$	Coefficients of explanatory variables	
Independent Variables		
CEOD	Dummy variable (1 for duality and zero for separation)	[50]
BIND	The proportion of independent non-executive directors over all members on board	[51]
BDIVER	Dummy variable (1 if board has any female members,	[50]

	otherwise, 0)	
BEXP	The proportion of members who have the competence of finance or accounting in board	[35]
BoSIZ	The total number of members on the board	[12]
OI	The percentage of share owned by institutional investors	[51]
AUDC	Dummy variable (1 if audit committee exists and 0 otherwise)	[52]
DFIN	Debt to equity ratio is measured by dividing total liabilities to total equity	[53]
Control Variables		
BAGE	Natural logarithm of distance between the time of bank establishment to studied period	[51]
BaSIZE	The bank size, measured by the natural logarithm of the bank's assets	[50] and[54]
Moderator		
COVID	Dummy variable (1 if company was affected by covid19, otherwise, zero)	[8]

Table I: Measurement of Variables

To examine the effectiveness of CG on BP during the pandemic period, two equations have been designed. The first equation examines the relationship between CG and BP during the pandemic period. The second equation investigates the effect of covid19 on the strength of the association between the dependent variable (BP) and explanatory variable (governance mechanisms). After collecting the data, research hypotheses are tested using multiple regressions in Stata software.

4 Finding and Analysis

4.1 Descriptive Statistics

Table II and III below provide the descriptive statistics.

Variable	Obs	Mean	StdDev	Min	Max
ROA	216	0.2605829	0.5817633	-2.245898	2.840607
ROE	216	2.73711	5.666916	-22.10471	21.95898
NIM	216	0.0028954	0.006464	-0.0249549	0.0315623
BIND	216	0.4553675	0.1686472	0.1111111	0.8571429
BEXP	216	0.5650461	0.1087623	0.375	0.7692308
BoSIZ	216	9.592593	2.613158	5	15
OI	216	0.7745074	0.2445983	0.3441	1
DFIN	216	10.70378	4.11813	2.327315	20.67955
BaSIZE	216	25.32557	2.530003	21.08635	32.09261
BAGE	216	35.22	44.99	1	183

Table II: Descriptive Statistics

We can observe from the results of descriptive statistics in Table II, through the 3 years from 2020 to 2022, mean value of the banks performance is almost zero for ROA. Even for ROE and NIM, the mean values are very low implying that banks have been performed poorly. One possible reason might be covid19 crisis. The minimum and the maximum value of performance (ROA: -2.245898 and 2.840607), (ROE: -22.10471 and 21.95898), and (NIM: -0.0249549 and 0.0315623) indicating that there is great difference. In addition, the average proportion of independent directors on board is approximately 46% with a large standard deviation of 16%. This shows that not all banks appreciate the fact of having outsiders' presence on the board. Equally, the average proportion of experts on the board is about 57% with standard deviation of 11%, implying that not all banks have recognised the benefits of having those with financial skills on their board. The average value of board size is 9.59 directors with 46% of them are independent and 57% have financial expertise. Regarding ownership, the mean value of institutional ownership is almost equal to 0.77 revealing that three quarter of ownership is in the hands of institutions. Moreover, the mean value of debt/equity ratio is 10.70 with minimum and maximum value being 2.33 and 20.68 respectively. This high debt/equity ratio indicate high investment risk and banks rely primarily on debt financing. To measure size, the natural logarithm of total assets is calculated and size ranges from 21.09 to 32.09. While age ranges from 1 to 183.

		Value of	Variable
Variable	Observations	0	1
CEOD	216	194	24
BDIVER	216	8	208
AUDC	216	24	192

Table III: Frequency of Variables

According to Table III, about 90% of the observations have no CEO duality. In addition, 96% prefer board diversity, which is quite high implying that banks are recognising the importance of having both gender on their board. There are 192 banks' quarter observation out of 216 observations with presence of audit committees.

4.2 Regression Results and Discussions

In this study, the diagnostic test of the three models (ROA, ROE, and NIM) variables are normally distributed. As per JarqueBera test, chi (2) are greater than 0.05, the null hypothesis cannot be rejected. That is, there is no violation of the normal distribution assumption of errors terms as the residuals are coming out to be normal. Then, test for multicollinearity (Variance Inflation Factor Test) has been performed and since Variance Inflation Factor mean values (1.77) are less than 10, it can be concluded that there is no problem of multicollinearity in these models. Next, White test have been carried out to verify the presence of heteroscedasticity among variables. Since p values (0.1557, 0.2227, and 0.1557) are greater than 5%, the null hypothesis cannot be rejected, implying that there is no problem of heteroscedasticity.

To decide between fixed and random effect, Hausman test is carried out. As per the result, fixed effect model is appropriate since Prob> chi (2) (0.0000, 0.0004, and 0.0000) are less than 0.05.

	ROA		ROE		NIM	
Variable	Coeff	P > t	Coeff	P > t	Coeff	P > t
BIND	1.398673	0.142	4.921934	0.724	-0.0016539	0.142
CEOD	-0.1488508	0.576	-0.0134421	0.594	0.0155408	0.576
BDIVER	-0.172301	0.437	-1.562556	0.469	-0.0019145	0.437
BEXP	0.5226376	0.449	5.812238	0.387	0.0058071	0.449

BoSIZ	-0.0138192	0.816	-0.303924	0.599	-0.0001535	0.816
OI	-1.139464	0.094**	-17.1043	0.010*	-0.0126607	0.094**
AUDC	0.4805287	0.031*	4.193328	0.053*	0.0053392	0.031*
DFIN	-0.0225323	0.472	-0.4260618	0.163	-0.0002504	0.472
BaSIZE	0.0398291	0.321	0.4423672	0.257	0.0004425	0.321
BAGE	0.8422695	0.000*	6.371977	0.001*	0.0093586	0.000*
Obs	216		216		216	
R Square	0.1946		0.1970		0.1946	
Prob>F	0.0000		0.0000		0.0000	

Table IV: Fixed Effect Model Result

For all the three models (ROA, ROE, and NIM), the fixed effect model is selected. The R square are 0.1946, 0.1970, and 0.1946 respectively. R square shows that independent variables of all three models can explain variation in the dependent variable about 20%. Moreover, Prob> chi2 is 0.000, which indicates that all the three models are and the variables are mutually significant. As per Table IV, BIND, CEOD, BDIVER, BEXP, BoSIZ, and DFIN are statistically insignificant on bank performance and this result is consistent in all the three models. On the other hand, institutional ownership and presence of audit committee are statistically significant, implying that there is negative correlation between institutional ownership and performance while positive correlation between audit committee and performance. Again, this result is consistent in all the models. In addition, the control variable BAGE is statistically significant at 5% in all the three models where the other control variable (BaSIZE) is not significant in any of the three models. Therefore, Ho is not rejected. That is governance mechanisms are effective in relation to BP in this changing world. The evidence suggests that the adherence to CG mechanisms lead to some improvement in performance.

Dynamic Panel Data Estimation Analysis

	ROA		ROE		NIM	
Variable	Coeff	P > I Z I	Coeff	P > I Z I	Coeff	P > I Z I
BIND	0.0483617	0.972	-8.699564	0.556	0.0005374	0.972
CEOD	1.011843	0.047*	9.999942	0.043*	0.0112427	0.047*
BDIVER	0.4579275	0.316	-5.894231	0.154	-0.0133576	0.316
BEXP	-1.202186	0.309	-9.912051	0.387	-0.0004324	0.309
BoSIZ	-0.0389198	0.737	-0.7596552	0.506	-0.0243267	0.737
OI	-2.189401	0.087**	-32.14586	0.010*	-0.00044	0.087**
AUDC	-0.0396042	0.903	-0.9368317	0.791	-0.0003667	0.903
DFIN	-0.0330005	0.449	-0.4271234	0.306	0.0012633	0.449
BaSIZE	0.1136986	0.155	1.28414	0.099**	0.0071649	0.155
BAGE	0.6448412	0.098**	7.824449	0.057*	-0.111458	0.098**
Obs	216		216		216	
Prob>chi2	0.0333		0.0019		0.0333	

Table V: Dynamic Panel Data Estimation Result

Using dynamic panel data estimation regression analysis, to find out whether CG variables, bank size and bank age are predictors of bank performance during the pandemic period (2020 to 2022). The findings of the regression analysis in form estimated relationship are shown in Table V. In order to estimate the relationship, BP is regressed on both internal and external governance attributes represented by BIND, CEOD, BDIVER, BEXP, BoSIZ, OI, AUDC, DFIN, and control variables: BaSIZE and BAGE. It can be seen from all the three models, the hypothesis 1 is rejected, since p values are greater than 5%. The findings do not support agency theory and findings of [28] that presence of independent directors do influence performance.

On the other hand, hypothesis 2 is not rejected. All the three p values from the three models are less than 5%. It also worth to note that all the three coefficients of CEOD are positive. Thus, this finding is consistent with stewardship theory. That is, may be during the covid19, the presence of CEO duality has helped to take better decisions and reach a clear strategic directions to manage the crisis[55]. Decision-making will be less time consuming as the same person is making the decision (no clash of opinions and ideas). Therefore, no wastage of time and CEO duality enables quick decision, which was very important during the crisis.

Hypothesis 3, 4 and 5 are rejected since p values are not significant in all the three models. These findings do not support resource dependency theory. That is presence of female members in the board of directors, directors with expertise and qualifications and board size do not have any impact on performance of banking firms during the pandemic period.

However, the hypothesis 6 is not rejected since all p values are significant with negative coefficients. Thereby implying that presence of institutional ownership negatively affect performance during the pandemic period. One reason may be covid19 itself, that is due to governmental measures, the owners (institutions) may have lost connection and bond they have during pre-pandemic period and thus adversely affecting performance.

Hypothesis 7 and 8 are rejected. That is, presence of audit committee and debt financing do not have any relationship on BP during the uncertain time of crisis.

The control variable: BAGE are significant for the three models and the results are consistent with the finding of [46] that is the older the banks, the better the performance. However, control variable: BaSIZE is significant only with ROE implying that the bigger the bank size, the better performance.

Moderated Multiple Regression Analysis (MMR)

	ROA		ROE		NIM	
	COEFF	P > Z I	COEFF	P > Z I	COEFF	P > Z I
CEOD	-1.190819	0.766	-0.0031527	0.476	-0.2837464	0.476
CEOD*COVID	-4.199117	0.321	-0.0008682	0.853	-0.0781407	0.853
BIND	-6.469803	0.306	0.0096521	0.168	0.8686883	0.168
BIND*COVID	-5.617988	0.412	-0.0213067	0.005*	-1.9176	0.005*
BDIVER	-10.39384	0.001	-0.0064686	0.052	-0.5821734	0.052
BDIVER*COVID	8.530527	0.034*	0.0037491	0.399	0.3374193	0.399
BEXP	25.37411	0.048	0.0088481	0.532	0.7963247	0.532
BEXP*COVID	-12.87414	0.343	0.0025296	0.866	0.2275737	0.866
BoSIZE	-0.583801	0.340	-0.0009984	0.141	-0.0898562	0.141

BoSIZE*COVID	1.124617	0.079**	0.0016515	0.020*	0.148639	0.020*
OI	1.227894	0.791	0.0061229	0.234	0.5510621	0.234
OI*COVID	-2.041923	0.682	-0.0070735	0.201	-0.6366106	0.201
AUDC	-5.149088	0.164	-0.0129925	0.002	-1.169325	0.002
AUDC*COVID	6.420864	0.110	0.0139154	0.002*	1.252385	0.002*
DFIN	-0.008517	0.971	-0.0001597	0.532	-0.0143733	0.532
DFIN*COVID	0.2915806	0.258	0.0000652	0.819	0.0058668	0.819
BaSIZE	-0.0202655	0.929	0.0002181	0.388	0.019632	0.388
COVID	-14.55989	0.344	0.0015631	0.000	0.14068	0.000
BAGE	1.261011	0.001	-0.0168004	0.324	-1.512037	0.324
OBS	216		216		216	
Prob> F	0.0001		0.0000		0.0000	
R Square	0.2180		0.2632		0.2632	

Table VI: Moderated Multiple Regression Result

As per Table V, insignificant effects of BIND, BDIVER, BEXP, BoSIZ, AUDC, and DFIN on ROA, ROE, and NIM of banks are recorded. One reason for this insignificant result is the impact of covid19 on the performance of banking firms. Therefore, to investigate more in depth the extent to which banks' performance were affected by covid19, a COVID variable is interacted with the explanatory variables in the regression. Using Moderated Multiple Regression (MMR), the result shows that the interaction term COVID*CEOD, COVID*BEXP, COVID*OI, and COVID*DFIN have insignificant effect on the performance of banking firms in all the three models. On the other hand, the result depicts that covid19 do affect size of the board (BoSIZE) in all the models, since the coefficient of BoSIZE*COVID is 1.12, 0.001, and 0.15 with significance value of 0.079 (<0.10), 0.020 (<0.05), and 0.020 (<0.05) respectively. It can be concluded that COVID as a moderating variable has a significant positive effect on the relationship of BoSIZE to ROA, ROE, and NIM. In addition, the coefficient of BDIVER*COVID is 8.53 with significance value 0.034 (<0.05), implying that COVID as a moderating variable has a positive significant effect on the association of BDIVER to ROA. Similarly, the result shows that covid19 does affect the presence of audit committee positively since the coefficient of AUDC*COVID are positive and significant at 5% level in second and third model (ROE and NIM). However, COVID as a moderating variable has recorded a significant negative effect on the relationship of BIND to ROE and NIM in the banking sector. Therefore, the result from MMR can confirm that the insignificant effects of BIND, BDIVER, and BoSIZE on performance of banks from previous regression results were due to covid19.

5 Conclusion and Limitations

5.1 Conclusion

The key goals of this paper were to study whether CG mechanisms are still effective to influence BP during the pandemic period and to analyse the impact of covid19 on the relationship of governance mechanisms and BP in Mauritius. As per the result of this study, there is sufficient evidence to conclude that CG mechanisms are effective as some explanatory variables such as OI, AUDC, and CEOD are helpful in estimating BP as measured by ROA, ROE, and NIM during the pandemic. Therefore, H_0 is not rejected. The evidence suggests that the adherence to CG mechanisms lead to some improvement in performance. Therefore, it is possible to minimise the adverse impact of covid19 on BP through effective governance. However, the result from MMR has confirmed that the insignificant effects of BIND, BDIVER, and BoSIZE on performance of banks recorded from

both fixed effect model regression and dynamic panel data estimation results were due to covid19. In order to curtail the adverse effect of covid19 pandemic, the organisation and board should be able to navigate through unexpected situations, recognise opportunities and build new strategies to acclimate to the uncertainties caused by the covid19 pandemic. Banks should also adhere effectively to the code of CG and not just to fulfill the legal requirements. Since it is clear from the result obtained, the number of independent directors as compared to the total number of directors on the board are relatively low. Equally, number of board members with financial expertise and skills are relatively low.

5.2 Limitation and future research

First, this paper studied the impact of CG on the performance of banks for just three years (2020 to 2022) with very limited bank year observations (only 216 banks quarter observations). Then, only accounting based measure was used to calculate performance. In light of these limitations, the performance of the banking sector could be measured using market based measure (Tobin's Q). Finally, future research could compare the pre and post covid19 pandemic periods.

6 References

- [1] Carroll and Z. Buchholtz, *Business and Society*, Cincinnati: OH: South-Western Publishing Co, 1989, p. 1989.
- [2] D. Cucinotta and M. Vanelli, "WHO declares COVID-19 a pandemic," *Acta Biomedica*, 2020.
- [3] WHO, "World Health Organisation," 2020. [Online]. Available: <https://www.who.int/europe/emergencies/situations/covid-19#:~:text=The%20first%20cases%20of%20novel,pandemic%20on%2011%20March%202020..> [Accessed 8 January 2023].
- [4] D. A. Kunt, A. Pedraza and R. C. Ortega, "Banking sector performance during the covid19 crisis," *Journal of Banking & Finance*, vol. 133, 2021.
- [5] Elnahass, M. Trinh, Y. Q. Li and Teng, "Global banking stability in the shadow of covid19 outbreak," *Journal of International Financial Markets, Institutions and Money*, vol. 72, 2021.
- [6] D. W. Perkins and R. Gnanarajah, "Covid19 impact on the banking industry: conditions at the end of 2020," *Congressional Research Service*, 2021.
- [7] S. Cecchetti and K. Schoenholtz, "The price is not right: measuring inflation in a pandemic, money and banking," *Scientific Research An academic Publisher*, 2020.
- [8] I. Tampakoudis, A. Noulas and N. Kiosses, "The market reaction to syndicated loan announcements before and during the COVID 19 pandemic and the role of corporate governance," *Research in International Business and Finance*, 2021.
- [9] K. Jibran and S. Chen, "Can we learn lessons from the past? covid19 crisis and corporate governance responses," *John Wiley & Sons Ltd*, 2020.
- [10] A. Buallay, "Is sustainability reporting (ESG) associated with performance? Evidence from the European banking sector," *Management of Environmental Quality an International Journal*, vol. 30, no. 1, 2018.
- [11] A. Koutoupis, P. Kyriakogkonas, M. Pazarskis and L. Davidopoulos, "Corporate Governance and COVID 19: a literature review," *Corporate Governance: International Journal Business Soc*, pp.

- 969-982, 2021.
- [12] S. F. A. Khatib and A.-N. I. Nour, "The impact of Corporate governance on firm performance during the COVID19 pandemic: evidence from Malaysia," *Journal of Asian Finance, Economics and business* 8, pp. 0943-0952, 2021.
- [13] M. G. Abobakr and K. Elgiziry, "The relationship between board of directors' characteristics and bank risk-taking: evidence from Egyptian banking sector," *Journal of Finance & Accounting*, vol. 5, no. 1, pp. 24-33, 2017.
- [14] World Bank Group, "Ease of Doing Business report," World Bank Group flagship, Washington, 2020.
- [15] BoM, "Bank of Mauritius," 2020. [Online]. Available: <https://www.bom.mu/media/media-releases/world-bank-classifies-mauritius-high-income-country>.
- [16] FSC, "Financial Service Commission, Contribution to GDP," 2022. [Online]. Available: fscmauritius.org/en/statistics/contribution-to-gdp. [Accessed 25 November 2022].
- [17] OECD, "Principle of Corporate Governance," 2004. [Online]. Available: <http://www.oecd.org/corporate/ca/corporategovernanceprinciples/31557724>. [Accessed January 2023].
- [18] J. Youssef and S. Diab, "Does quality of governance contribute to the heterogeneity in happiness levels across MENA countries?," *Journal of Business & Socio-economic Development*, 2021.
- [19] Elali, "The importance of strategic agility to business survival during corona crisis and beyond," *International Journal of Business Ethics and Governance*, vol. 4, no. 2, pp. 1-8, 2021.
- [20] S. Sivaprasad and M. Sudha, "Corporate governance practices and the pandemic crisis: UK evidence," *Corporate Governance*, pp. 983-996, 2021.
- [21] D. Broadstock, C. Kalok, T. W. C. Louis T and W. Xiaowei, "The role of ESC performance during times of financial crisis: evidence from covid19 in China," *Finance Research Letters*, vol. 38, 2021.
- [22] A. G. Scherer and V. Christian, "Corporate governance for responsible innovation: Approaches to corporate governance and their implications for sustainable development," *Academy of Management Perspectives*, vol. 34, pp. 182-208, 2020.
- [23] E. Demir and O. Gamze, "Banking sector reactions to covid19: the role of bank specific factors and government policy responses," *Research in International Business and Finance*, 2021.
- [24] H. Takahashi and Y. kazuo, "When the Japanese stock market meets covid19: impact of ownership, China and US exposure and ESG channels," *International Review of Financial Analysis*, 2021.
- [25] Basel Committee, "Guidelines Corporate Governance Principles for banks," 2015. [Online]. Available: <https://bis.org>. [Accessed January 2023].
- [26] A. Pablo De Andres and E. Nallerado, "Corporate governance in banking: the role of the board of directors," *Journal of Banking and Finance*, vol. 31, no. 12, pp. 2570-2580, 2008.
- [27] Garcia-Meca, Emma, G.-S. Isabel-Maria and J. Martinez-Ferrero, "Board diversity and its effects on bank performance: An international analysis," *Journal of Banking and Finance*, vol. 53, pp. 202-214, 2015.

-
- [28] E. Handriani and R. Robiyanto, "Institutional ownership, independent board, board size and firm performance: evidence from Indonesia," *Contaduria y Administracion*, vol. 64, pp. 1-16, 2019.
- [29] N. Pham, K. Oh and R. Pech, "Mergers and acquisitions: CEO duality, operating performance and stock returns in Vietnam," *Finance Journal*, pp. 298-316, 2015.
- [30] Abhijith, Anand and F. W. Samuel, "Business Value of RFID enabled healthcare transformation projects," *Business Process Management Journal*, vol. 19, pp. 111-145, 2013.
- [31] L. Pi and S. Timme, "Corporate control & bank efficiency," *Journal of Banking and Finance*, vol. 17, no. 2-3, pp. 515-530, 1993.
- [32] R. Liao, G. Loureiro and A. Taboada, "Women on bank boards: Evidence from gender quotas around the world," 2019. [Online]. Available: <https://repositorium.sdum.uminho.pt/handle/1822/62993>. [Accessed 13 November 2021].
- [33] L. Wang, "Board gender diversity and accountitng conservatism: Evidence from Finland," *Master's Thesis, University of Oulu*, 2015.
- [34] B. Srinidhi, F. A. Gul and J. Tsui, "Female directors and earnings quality," *Contemporary Accounting Research*, vol. 28, no. 5, pp. 1610-1644, 2011.
- [35] A. Onuorah and O. Imene, "Corporate Governance and Financial Reporting Quality in Selected Nigerian Company," *International Journal of Management Science and Business Administration*, vol. 2, no. 3, pp. 7-16, 2016.
- [36] P. Lamichhane, "Corporate governance and financial performance in Nepal," *NCC Journal*, vol. 3, pp. 108-120, 2018.
- [37] H. Chenini and A. Jarboui, "Analysis of the impact of governance on bank performance: case of commercial Tunisian Banks," *Journal of the Knowledge Economy*, vol. 9, pp. 871-895, 2018.
- [38] M. Belkhir, "Additional evidence on insider ownership and bank risk-taking," *Research gate*, 2005.
- [39] OECD, "OECD Principles of Corporate Governance," *OECD Publishing*, 2015.
- [40] J. L. Armitrage and R. J. Bradley, "Audit committees," *Quarterly Journal of the Nigerian Accountant*, 1994.
- [41] Rezaee, "Corporate governance role in financial reporting," *Research in Accounting Regulation*, pp. 107-149, 2004.
- [42] A. Gina, "The role of audit committee in enhancing financial reporting quality in Nigeria," *IOSR Journal of Business and Management*, vol. 13, no. 1, pp. 27-34, 2013.
- [43] G. Claey, "The European Central Bank in the covid19 crisis: whatever it takes, within its mandate," 2020. [Online]. Available: <https://www.ecb.europa.eu/mopo/intro/objective/html/index.en.html>. [Accessed January 2023].
- [44] V. Kumar, S. Acharya and L. T. H. Ho, "Does monetary policy influence the profitability of banks in New Zealand?," *International Journal of Finance*, vol. 8, p. 35, 2020.
- [45] J.-h. Choi, F. Kim, J.-B. Kim and y. Zang, "Audit office size, audit quality and audit pricing," *Auditing: A journal of practice and theory*, vol. 29, no. 1, p. 73, 2010.

-
- [46] J. Page, D. Hinshaw and B. Mckay, "In Hunt for covid19origin, patient zero points to second Wuhan Market," *Wall street Journal* , 2021.
- [47] CFI, "Corporate Finance Institute: Return on Assets & ROA Formula," 2022. [Online]. Available: [http://corporatefinanceinstitute.com/resources/knowledge/finance/return on assets](http://corporatefinanceinstitute.com/resources/knowledge/finance/return%20on%20assets). [Accessed January 2023].
- [48] M. I. Gazi, M. S. Alam, G. A. Hossain, S. N. Islam, M. K. Rahman, M. Nahiduzzaman and A. I. Hossain, "Determinants of Profitability in Banking Sector: Empirical evidence from Bangladesh," *Universal Journal of Accounting and Finance*, vol. 9, pp. 1377-1386, 2021.
- [49] A. Bloomenthal, "Investopedia," 2021. [Online]. Available: <https://www.investopedia.com/terms/n/netinterestmargin.asp>. [Accessed January 2023].
- [50] T. Cooray, N. Gunarathne and S. Senaratne, "Does corporate governance affect the quality of integrated reporting," *MDPI - Basel, Switzerland*, vol. 12(10), 2020.
- [51] P. Chalaki, H. Didar and M. Riahinezhad, "Corporate governance attributes and financial reporting quality: Empirical evidence from Iran," *International Journal of Business and Social Science*, vol. 3, 2012.
- [52] N. T. Doan, M. k. Thai, N. T. T. Luu and N. T. Dung, "Impact of corporate governance on financial reporting quality: Empirical evidence from Vietnam," *Institute of Global Finance*, 2018.
- [53] Q. Zhang , C. Lilin and T. Feng, "Mediation or moderation? The role of R&D investment in the relationship between corporate governance and firm performance: empirical evidence from the Chinese IT industry," *Corporate Governance An International Review*, vol. 22, no. 6, pp. 501-517, 2014.
- [54] N. Klai and A. Omri, "Corporate governance and financial reporting quality: The case of Tunisian firms," *International Business Research*, vol. 4, pp. 158-166, 2011.
- [55] R. Krause, M. Semadeni and A. Cannella, "CEO duality: a review and research agenda," *Journal of Management* , pp. 256-286, 2014.