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Corporate governance and reporting during Covid – 19: Empirical evidence from the Indian Banking Sector

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Abstract

Purpose

The study evaluates the effect of Covid - 19 on the governance constitution and the firm performance of the Indian banking sector for the period 2019-2020.

Proposition/Approach

It compares the Covid - 19 impact on the board's governance structures along with the bank's performance in the pre and post-pandemic period and empirically examines their interrelationship during the pandemic.

Findings

The board size has emerged as a sole prominent governance parameter that exerted a pragmatic influence on the bank's performance during the pandemic.

Practical Implications

The outcomes of the study propound the policymakers in designing a congruous governance framework for the corporate sectors.

Originality/Value

The study is pre-eminent in providing the empiric Covid – 19 repercussions on the governance procedures and the corporate performance. It demonstrates the contemporary issues of governance during the pandemic and unveils the avenues for subsequent research.

Keywords

Covid – 19, Governance, Firm performance, Indian banking sector

Introduction

The spread of Covid – 19 around the world has transpired as one of the most unpredictable events of this centennial and has created a profound impact on all the relevant divisions of the economy. Such rampant proliferation of the pandemic has not only caused momentous disruptions in the personal health of the human race but has also severely affected the GDP growth and trade prospects of all the world economies. (*Kohli, N. K. (2021), Kaushal, V., et al. (2021), Baragde, D. B., et al. (2021), Chandra, A. (2021).* While the comprehensive impact is not yet accurately established, it is estimated that the unfortunate set of events is credible to transpire in the upcoming times.

The banking sector is not aloof from such precariousness and is witnessing huge volatility and instability in the global financial sector *(Financial Stability Report, RBI, 2020, p.11-13).* The banking sector in India, which is already grappling with ascending non-performing assets in past financial years, suffered a significant setback due to poor debt servicing capacity of the borrowers, a decrease in the asset quality, and soaring bad loans during the pandemic period. It is expected that such a pandemic has already caused and will continue to affect the asset quality, put stress on banks' balance sheets, and threaten the short-term solvency position of banks.

Various measures in the form of providing the adequate loan moratorium, suspension of net stable funding ratio, assuage of working capital funds, reduction of the cash reserve ratio, cutting down the repo and reverse repo rates by more than 75 – 90 bps are taken by RBI to provide the financial relief to the Indian banking sector. *(Building a More Resilient Financial System in India through Governance Improvements, RBI Report, 2021, p.2-5).* While the regulatory authority, RBI, focused entirely on providing economic relief to the Indian banks, no key action is taken by it to ensure those clear regulatory and supervisory standards concerning appointment, roles, compensation, and evaluation of the board of directors, audit committees are followed at an implementation level. The major thrust which remains inevitable, significant, and noteworthy for the efficient conduct of operations in the banks operating in India is an adherence to corporate governance norms during the unprecedented Covid times (*Aneja, R., et al. (2021)* Good governance is essential and plays a vital role in both recovery and forming a new normal post-pandemic in the banking sector *(Responding to Covid – 19 Report, OECD, 2021, p.1-3).*

The current inquiry endeavours to examine the effect of a pandemic, Covid – 19 on the Indian banking sector by evaluating its board's governance structures along with financial performance, before and after the covid crisis period. It also investigates empirically the significant interconnection of corporate administration and the bank's performance to deduce the influence of Covid – 19 on this relationship. Based on its findings, the study provides an insight for the policymakers, into some best corporate governance practices which the banks shall adopt to ensure effective crises management, viability, and continuity in such unprecedented times.

The current study makes an effort to bestow to the deficient studies in this particular area. The effect of the pandemic on the governance of the Indian banking system is investigated. There exist few studies which review the impact of Covid – 19 on the corporate governance of the firms. Such studies are limited to describing the overall implications of the pandemic on the firms and the monetary steps which it shall undertake to reduce the worst effects. The current study extends the existing literature of the Covid – 19 crisis by empirically examining how the pandemic influences the relationship between governance structure and the bank's performance. The study also attempts to broaden current literature by examining the pandemic impact on banks' governance and performance variables during pre and post-crisis periods.

Literature review

The paper considers three realms of literature: (1) the impact of pandemic outbreak on different sectors (2) policy changes post-pandemic (3) Consecution between corporate structure and financial performance

Impact of a pandemic outbreak on different sectors

The published literature examining the repercussions of the pandemic Covid - 19 has raised forethoughts that it is premature to estimate the exact impact, yet there is found vast literature which suitably addressed the pandemic consequences on various sectors of the economy. The impact analyzed concerning the agriculture sector underlined those systematic cash disbursements through minimum support programs will help the farmers to a great extent during a pandemic *(Varshney, D et al. (2021)*. Proper resource utilization and massive investments by the government will help the tourism sector to grow post-pandemic *(Jaipuria, S, et al. (2021)*. The government shall consider providing relevant relief packages in a phased manner to the hospitality and catering sector. The mutual fund industry and its performance have suffered a lot during a pandemic. *(Shanmugam, V. P et al. (2021)* found the existence of abnormal negative returns given by top mutual funds during the period, thereby raising concerns on the negative returns on the investment made by the general public in the mutual fund industry. Revolutionary policies are required to bring stability to the Indian education sector. *(Dhanalakshmi, R. et al. (2021).* The availability and accessibility are two main concerns that must be suitably addressed to improve the reach and employment levels in the country. There is a need to make effective use of satellite data and remote sensing to keep the track of regular fishing activities and minimize the unfavourable effect of the pandemic on the fisheries sector. *(Avtar, R. et al. (2021).*

The empirical studies dissecting the undesirable effect of Covid – 19 on the Indian financial and banking sector have not received any significant attention in the published literature. There exist few studies which reviewed the policies of the government and RBI concerning the banking and financial sector in a suitable manner. *(Perwej, D. A. et al. (2020), Kohli, N. K. (2021), Kaushal, V., et al. (2021) Maria, N. et al. (2020), Raj, V. et al. (2020), Kumar, S. et al. (2021), Aneja, R., et al. (2021), Baragde, D. B., et al. (2021).* It was highlighted that adequate socio-economic measures are required to combat the hard effects of the pandemic on the Indian economy.

Policy changes post-pandemic

The pandemic resulted in a worldwide health setback by leading to a profound impact on all the sectors of the economy all over the world. It was highlighted that fiscal and monetary policies must be revised and reinstated suitably to prevent the long-term hard effects of the pandemic. The policymakers must strive to bring in the element of transparency and develop a sophisticated governance monitoring panel to aid in adequate decision-making at all levels of the banking sector. *Kumar, S. et al. (2021), Aneja, R., et al. (2021), Kohli, N. K. (2021), Kaushal, V., et al. (2021), Goswami, B et al. (2021), Baragde, D. B., et al. (2021), Chandra, A. (2021).* The central government and RBI must strive to increase spending to reduce the immediate disruptions in the banking and financial sector of the Indian economy. It was stressed that there is a direct linkage between the positive policies of the government and the sustainable recovery from a pandemic.

Consecution between governance structures and financial performance

The interconnection between financial performance on corporate governance structures is conspicuously discussed in previous studies. (*Kyere, M. (2021), Nasrallah, N et al. (2021), Dongol, P. (2021), Mangla, I. U. (2012), Haider, N., et al. (2015), Amba, S. M. (2014).* Such studies empirically proved that good corporate governance reflected through appropriate board composition, board diversity, and suitable auditors' council formation positively influences the operating results of the sample firms. *(Cheng, S (2008), Latif, R. A., (2013), Bhatt, R. R., et. al (2015), Pekovic, S., et al. (2021), Herbert, W. E., et. Al. (2021).* The current pandemic influences the corporate governance and firm performance shall be widely recognized and studied to manifest a profound interpretation of corporate boards' role along with their committees during the current unprecedented difficult times.

Conceptual framework and hypothesis development

This section reflects the theoretical framework used in the study and the development of a hypothesis concerning a review of the literature.

Covid – 19 has raised immediate concerns related to effective management and control of the firms. The directors serve an indispensable role in improving the governance structure and influencing the overall performance of the firms. *(Perwej, D. A. et al. (2020), Kohli, N. K. (2021), Kaushal, V., et al. (2021) Maria, N. et al. (2020), Raj, V. et al. (2020), Kumar, S. et al. (2021), Aneja, R., et al. (2021), Baragde, D. B., et al. (2021).* An effective board will tend to reduce the uncertainty and shall bring resilience to the overall functioning of the banks. Based on previous literature highlighting the importance of governance during the pandemic, the following hypothesis is contrived:

H_1: Covid – 19 has a considerable impact on the bank's governance mechanism and its financial performance.

The size of the board and firm performance

The size of the board exhibits the aggregate directors representing the organization's board. The past literature does not furnish any harmony on the size of the board affecting the organization's performance. It highlights both positive and negative effects associated with larger boards leading to righteous decision-making. The size of the board leads to a cynical effect on profitability. *(Garg, A. K. (2007), Guest, P. M. (2009), Larmou, S., et. Al (2010), and Alabdullah, T. T. Y., et al. (2018).* Such studies haven't found any suitable nexus between the smaller or larger board sizes influencing the organization's performance. The board size significantly influences the financial results of the organization. *(Cheng, S (2008), Latif, R. A., et al. (2013) and Bhatt, R. R., et. al (2015).* An adequate nexus was found between the board composition and the operating results of the sample organizations. Considering all such analyses reflecting board size, the hypothesis developed is as follows:

H_{2a}: There exists no significant relationship between the size of the board and the performance of the firm.

Board independence and firm performance

The independence of the director's board pertains to the majority of directors who do not have any substantial economic relationship with the organization. The election of these directors is done by the firm's shareholders. The board's independence tends to resolve the agency's problems to a great extent. The presence of independent directors may not guarantee an enhanced firm performance. *(Garg, A. K. (2007).* Board independence combined with adequate managerial ownership and shareholder protection agency jointly determines the firm's performance *(Coles, J. L. (2008).* The independence of the directors significantly influences the performance of the sample firms. *(Liu, Y (2015), Uribe-Bohorquez (2018).* Board independence serves as an important dimension in the determination of the best corporate practices of the firm *(Cheng, S (2008), Latif, R. A., et al. (2013) and Rashid, A. (2018).* Considering all such analyses reflecting board independence, the hypothesis developed is as follows:

H_{2b}: There exists a positive and significant relationship between the independence of the board and the performance of a firm.

Board diversity and corporate performance

The diversity reflects the presence of a minimum one-woman director as a board member in the firms. *(Bhatt, R. R., et. al (2015).* Presence of three or more woman directors along with the independent board influences positively the performance of the firm. *(Cheng, S (2008), Latif, R. A., et al. (2013) and Terjesen, S. (2016).* The presence of woman directors strengthens the overall effectiveness of the board and improves the firm performance. Few studies found diversity on basis of gender exerting a contradictory influence on firm performance. *(Guest, P. M. (2009), Larmou, S., et. Al (2010) and Darmadi, S. (2011).* The overall constitution of the board positively influenced the firm's profitability. Therefore, the following hypothesis is formulated based on the board's diversity:

H_{2c}: There exists a positive and significant relationship between board diversity and the performance of a firm.

Board activity and corporate performance

The activities of the board reflect the frequency of the meetings constituted by the board in a particular year. The recurrence of the meetings is reflected by the board activities *(Vafeas, N. (1999).* There is an improvement in the performance of the sample firms with an increase in the board activities. *(Brick, I. E., (2007), Alabdullah, T. T. Y., et al. (2018).* The escalation in the board's oversight brings improvement in the firm's performance *(Pekovic, S., et al. (2021), Herbert, W. E., et. Al. (2021)*. Based on the analysis reflecting board diversity, the following hypothesis is formulated for the study:

H_{2d}: There exists a positive and significant relationship between board activity and the performance of the firm.

Methodology

Data and Sample

The current study analyzes the Covid – 19 impact on the Indian banking sector by inquiring about the linkage between the corporate governance norms and the bank's financial performance. The impact is examined by collecting the data of all the 21 private sector banks, 12 public sector banks and 46 foreign banks operating in India (as of March 31st, 2021), which forms the population of the study. Such banks are specifically highlighted for their inappropriate corporate governance practices in the recent past *(Financial Stability Report, RBI, 2020, p.10)*. Regional rural banks and cooperative banks which also form part of the Indian banking sector are not taken into consideration as surveillance related to their board's governance has recently been brought under RBI regulation as per Banking Regulation (Amendment) Act, 2020.

The period considered for the study is two financial years 2019 – 20 (pre covid period) and 2020 – 21 (post covid period). The study relies on secondary data which is garnered from the yearly reports of banks as well as the Capitaline database.

Statistical tests used

The study is the quantitative investigation of the influence of the Covid – 19 pandemic on the bank's governance and performance variables, pre and post covid time is analyzed by using the t-test. To scrutinize the association between corporate governance variables and bank's performance during the Covid – 19 period, the panel data methodology is employed. This technique has suitably considered the cross-sectional and time-series data for each bank taken into consideration in the data set. In the estimation of such panel data methodology, its two broad models, namely fixed effects and random effect model are used. *(Bell, A. et al. (2015), Yaffee, R. (2003)*. Hausman test is employed to determine the acceptability of the fixed effects model or random-effects model *(Cheng, S (2008), Darmadi, S. (2011), Latif, R. A., et al. (2013).*

The panel data model has been developed to examine the interconnection between the corporate governance structure variables such as Board size, independence, its diversity and its activities i.e., independent variables on the return on assets and return on equity i.e., dependent variables. The firm's growth rate, its size, its age and the extent of financial debt are considered the control variables in the study. Such control variables have proved to exhibit an influence on the performance of the sample firms. *(De Andres, P., et al. (2008), Gürbüz, A. O., et al. (2010) and Kyere, M., et al. (2021).*

Variables used in the study

The control, independent and dependent variables used in the study are described as follows in Table 1:

Table 1: Application of different variables in the study

Sr. No.	Variable	Description	Type of measure	Category
1	Size of the board (BS)	Aggregate directors constituted	Corporate governance measure	Independent variable
2	Board Independence (BI)	Aggregate non-executive on the bank's board	Corporate governance measure	Independent variable
3	Board diversity (BD)	Aggregate woman directors on bank's board	Corporate governance measure	Independent variable
4	Board activity (BA)	Aggregate board meetings of the bank held in particular year	Corporate governance measure	Independent variable
5	Return on Assets (ROA)	Net profits / aggregate assets	Bank's performance measure	Dependent variable

6	Return on equity (ROE)	Net profits / shareholder's equity	Bank's performance measure	Dependent variable
7	Bank's age (AGE)	Aggregate years in operation since inception	Bank's specific measure	Control variable
8	Bank's leverage (LEV)	Borrowing to the total assets of the bank	Bank's specific measure	Control variable
9	Bank's growth (GWH)	Growth in the net sales of the bank compared to previous year	Bank's specific measure	Control variable
10	Bank's size (SIZE)	Total assets of the bank	Bank's specific measure	Control variable

Econometric Model

The panel data model developed for this study takes into consideration, '*i'* i.e., total 79 banks in the Indian banking sector, 't' i.e., period 2019 to 2021. Using the above variables, the panel data model equation has been developed as follows:

$$ROA=\alpha_i+ \beta1BS_{it} + \beta2BI_{it}+ \beta3BD_{it}+ \beta4BA_{it}+ \beta5AGE_{it}+ \beta6LEV_{it} + \beta7GWH_{it} + \beta8SIZE_{it} + \varepsilon_{it}$$

$$ROE= \alpha_i+ \beta1BS_{it} + \beta2BI_{it}+ \beta3BD_{it}+ \beta4BA_{it}+ \beta5AGE_{it}+ \beta6LEV_{it} + \beta7GWH_{it} + \beta8SIZE_{it} + \varepsilon_{it}$$

Results and discussion

Descriptive statistics

The study conducted a descriptive analysis on the corporate governance variables, bank's financial performance variables and control variables during the Covid – 19 time period (2019-21). It was found that the mean value of Return on assets is negative possessing the value of -0.075. The maximum value was 0.423 and the minimum value was -3.732. The mean value of Return on equity was found to be significantly low with 0.002 having the maximum and minimum values of 0.891 and 0.016 respectively. This shows that Covid – 19 has significantly impacted the performance measured through ROA and the ROE, of the Indian banking institution. The results of the descriptive analysis are consonant with the results published by RBI in its recent quarterly reports. *(Financial Stability Report, RBI, 2020, p.11-13) and (Trends and Progress of Banking in India, RBI, 2020, p.23).*

The average board size was found to be 6.145 whereas an average of 3 of the total directors represents the non-executive directors nominated by the shareholders. The average women directors was found to be 2.109 reflecting the overall board's diversity across the banks. The average age of the banks was 20 with average debt raised by them of 5.124, the average growth in net sales compared to the previous year was found to be 1.29 and the average overall assets of the banks were found to be 2.104. The results are highlighted in Table 2.

Table 2: Summary of descriptive analysis

Variables	Number of Obs.	Mean	Std. Deviation	Max	Min
[1] ROA	79	-0.075	0.08	0.423	-3.732
[2] ROE	79	0.002	0.034	0.891	0.016
[3] Board Size (BS)	79	6.145	4.121	3.209	1.836
[4] Board Independence (BI)	79	2.984	4.398	3.103	-2.413
[5] Board Diversity (BD)	79	2.109	3.184	1.095	1.984
[6] Board Activities (BA)	79	4.512	2.467	2.574	0.921
[7] Bank's age (AGE)	79	3.091	4.238	66	20
[8] Bank's leverage (LEV)	79	3.124	4.409	2.139	1.125
[9] Bank's growth (GWH)	79	1.289	0.998	7.657	2.102
[10] Bank's size (SIZE)	79	2.104	3.467	5.341	1.203

Correlation analysis and tests of multicollinearity

The study conducted the correlation analysis to investigate the multicollinearity among variables. All the independent variables are correlating less than 0.5 as shown in Table 3. It was suggested in past literature that correlation of not more than 0.7, highlights the non-existence of multicollinearity among the variables. *(Yaffee, R. (2003), De Andres, P., et al. (2008), Terjesen, S, et. Al. (2016), Kyere, M., et al. (2021).*

Table 3: Correlation model

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
[1] ROA	1									
[2] ROE	0.172	1								
[3] Board Size (BS)	0.085	0.092	1							
[4] Board Independence (BI)	0.049	0.048	0.073	1						
[5] Board Diversity (BD)	0.037	0.028	0.064	0.131	1					
[6] Board Activities (BA)	0.037	0.027	0.080	0.087	0.065	1				
[7] Bank's age (AGE)	-0.026	-0.019	0.052	0.036	0.046	0.040	1			
[8] Bank's leverage (LEV)	0.025	0.024	0.055	0.105	0.067	0.065	0.020	1		
[9] Bank's growth (GWH)	0.031	0.024	0.030	0.076	0.102	0.052	0.015	0.040	1	
[10] Bank's size (SIZE)	-0.023	-0.023	0.026	0.013	0.018	0.019	0.058	0.011	0.013	1

The multicollinearity among the predictor variables is investigated by applying the variance inflation factor. The variance inflation factor, if less than 10, shows that there does not exists multicollinearity issues among the independent variables. *(Cheng, S (2008), Darmadi, S. (2011), Latif, R. A., et al. (2013).* The values of variance inflation factor in the current study are found to be within the acceptable limits. Table 4 depicts the values of collinearity:

Table 4: Variance Inflation Factor

Variables	VIF	1/VIF
Board Size (BS)	2.91	0.3436
Board Independence (BI)	1.94	0.5155
Board Diversity (BD)	1.65	0.6061
Board Activities (BA)	2.04	0.4902
Bank's age (AGE)	1.87	0.5348
Bank's leverage (LEV)	2.82	0.3546
Bank's growth (GWH)	1.79	0.5587
Bank's size (SIZE)	2.13	0.4695
Mean VIF	2.14	

T – tests analysis

The T – tests, a parametric test, was used to compare the mean values, in two time frames i.e. pre and post the Covid – 19 period. The outcome of the t – tests exhibits that Covid – 19 has significantly affected all the characteristics about bank's financial performance, its corporate governance dimensions, its leverage and growth prospects. The results of the t-tests highlighted that there exist no significant differences in the means of the Indian banking system, between the pre and post-Covid – 19 crisis period as appearing in Table 5. It failed to support hypothesis H1. It can be highlighted that the bad performance of the Indian banking system is attributed due to Covid – 19 crisis as in the financial year of 2020 – 21, the majority of banks have shown net losses as shown by negative return on equity and return on assets. The severe effect is also witnessed on the governance norms reflected by the board's diversity, board's independence, the board size, board' activities and control variables.

This can be attributed since, during the Covid – 19 period, the bank's boards are increasingly facing a complex set of pressures from the various stakeholder groups. (*Kaushal, V., et al. (2021), Chandra, A. (2021).* There is an anticipation that boards must respond and meet the heightened expectations from such groups. Such factors have complicated the overall governance and decision making among the board of directors of the Indian banking system. The lockdown imposed in most cities of the country for a long time restricted board in the effective performance of their work. (*Baragde, D. B., et al. (2021).*

The pandemic prevented them from attending the board meetings and take major decisions in the interests of the banks. The boards are expected to play a proactive role in making sure that trade-offs among the stakeholder's interests are suitably met, keeping in mind the overall performance of the banks. To conclude, the banks have been largely but not significantly impacted on the lines of performance, corporate governance, leverage, size and growth of the banks.

Table 5: T – Test results

Variables	Before Covid - 19 (2019-2020) Total Observations	Mean Score	Standard deviation	After Covid - 19 (2020-2021) Total Observations	Mean Score	Standard deviation	Difference in mean values	T - test
[1] ROA	79	0.003	0.027	79	-0.005	0.037	0.0078	0.208
[2] ROE	79	0.003	0.054	79	-0.005	0.091	0.0078	0.302
[3] Board Size (BS)	79	0.010	0.026	79	-0.040	0.658	0.0497	0.306
[4] Board Independence (BI)	79	2.383	0.599	79	2.356	0.564	0.0266	0.648
[5] Board Diversity (BD)	79	1.193	0.346	79	1.195	0.365	-0.0018	0.952
[6] Board Activities (BA)	79	0.390	0.360	79	0.392	0.362	-0.0021	0.945
[7] Bank's age (AGE)	79	1.871	0.642	79	1.775	0.590	0.0957	0.123
[8] Bank's leverage (LEV)	79	1.062	0.454	79	0.979	0.431	0.0833	0.059
[9] Bank's growth (GWH)	79	1.096	0.193	79	1.113	0.216	-0.0177	0.391
[10] Bank's size (SIZE)	79	1.690	0.355	79	1.679	0.815	0.0106	0.860

Panel regression results

The panel regression is applied to evidence the nexus between governance and the performance of the sample banks. The financial performance of the banks is assessed by two variables namely, return on assets and return on equity. The outcomes as reflected by the fixed effects model as recommended by the Hausman test were found to be positive. The test statistics highlighted that is significant at $p<0.000$ at both the performance dimensions.

The outcome of the tests highlights a pragmatic and significant interrelation allying the board size and the bank's performance for return on assets at 5% significance level. Similarly, the test results also exhibits a positive and the significant relationship between the board size and the bank's financial performance for return on equity at 5% significance level as reflected in Table 6. The outcomes conform with the findings of *(Cheng, S (2008), Latif, R. A., et al. (2013) and Bhatt, R. R., et. al (2015)* who proposed that an appropriate board size tends to enhance the financial performance of the firm.

The board serves the primary means for the efficient conduct of operations and sets out a crucial source of governance mechanism in the banking system. An adequate board effectively identifies the stakeholders and defines the upright values with which overall business is to be conducted. Therefore, even during the pandemic period, their important role cannot be disregarded as their role and expertise ensure better management and suitable conduct of operations. Their presence has proved to exert a positive influence on the bank's performance during a pandemic.

On the contrary, board independence is found to exhibit a negative interconnection with the bank's performance. The board independence is crucial to resolve the agency problems and bringing transparency and fairness in any firm. The outcomes of the study conform to the interpretations of *Garg, A. K. (2007) and Coles, J. L. et. al (2008)* which argued that there is no connection between board independence and financial performance. These outcomes highlights that pandemic has put various restrictions on the smooth appointment and conduct of operations among the non-executive directors. Independent directors serve as the governance guardians and therefore, their vital role needs to be re-empowered in light of the ongoing pandemic.

The current study also established an inverse interrelation allying the board's diversity and the bank's financial performance during the pandemic time. It demonstrates that the existence of woman directors does not remarkably dominate the bank's performance. Such results conforms to the findings of the previous literature by *Guest, P. M. (2009), Larmou, S., et. Al (2010) and Darmadi, S. (2011)* and specifically matches with the report outcomes of *Financial Stability Report, RBI, 2021* which highlighted that majority of banks malfunctioned concerning the obligatory engagement of woman directors on the bank's boards. The stakeholders perceive board diversity as one of the measures reflecting a better-managed firm.

The results of panel data found inverse interconnection allying the board's activities and the bank's financial performance. These outcomes are inconsistent with findings of the previous literature wherein holding several meetings established a positive interrelationship with the firm performance *Pekovic, S., et al. (2021), Herbert, W. E., et. al. (2021).* The outcomes of the study exhibiting a negative relationship of the board's activities with the bank's performance are in line with the report outcomes of *Corporate Governance in Banks – Appointment of Directors and Constitution of Committees of Board, RBI, 2021*. The results indicate that Covid – 19 has put various restrictions on holding business meetings as per the set schedule. Based on rising difficulties due to the resurgence of Covid – 19 and requests of the stakeholders, several relaxations concerning holding of board meetings have been granted by the Ministry of Corporate Affairs via notifications in the year 2020-21.

Table 6: Panel regression results

Variables	Dependent Variable (ROA)			Dependent Variable (ROE)		
	1	2	3	1	2	3
	Results of OLS	**Results of Fixed Effect Model**	**Results of Random Effect Model**	**Results of OLS**	**Results of Fixed Effect Model**	**Results of Random Effect Model**
Bank's age	0.00291*** 0.00031	0.00311 0.00501	0.00138 0.00156	0.00233 0.00719	0.289*** 0.131	-0.00179 0.00589
Bank's leverage	0.213*** 0.0562	0.0298 0.0592	0.193*** 0.0599	5.923* 2.891	1.892 1.693	4.993 3.898
Bank's growth	0.00231*** 0.000983	0.00239*** 0.00138	0.00179 0.00119	0.418*** 0.3912	0.116 0.0393	0.332*** 0.0598
Bank's size	-0.0119 0.00813	-0.0423 0.0462	-0.0121 0.0123	0.761 0.511	0.412 0.752	-0.765 0.633
Board size	0.000597*** 0.000121	0.000345** 0.000149	0.000467*** 0.000121	0.0203*** 0.00598	0.0205** 0.00658	0.0249** 0.0223
Board independence	-0.000923 0.000759	-0.000245 0.000676	-0.000987 0.000723	-0.00483 0.0305	0.0435 0.0199	0.00378 0.0393
Board diversity	-0.0202 0.0202	-0.0228 0.0279	0.0261 0.0293	-0.656 0.539	0.405 0.408	-0.591 0.526
Board activities	-0.000468 0.000414	0.000824 0.000542	-0.000321 0.000451	-0.00232 0.00891	0.00493 0.00411	0.00087 0.00365
Constant	0.418*** 0.0889	0.553 0.318	0.317*** 0.121	5.357 4.182	-22.34 5.897	4.992 4.987
Total Observations	79	79	79	79	79	79
R-Squared	.345	.542		.812	.763	
Hausman test		34.87 0			98.87 0	

Discussion and Conclusion

The current study empirically tested the Covid – 19 impact on the Indian banking sector and found the interrelation between its governance framework and financial performance. The results of t-tests revealed that Covid – 19 has affected all the performance variables, governance structures and control variables but not at the significant level. The pertinence of the econometric model in panel data highlighted that board size is an individual governance mechanism to exhibit a positive effect on the bank's financial performance. Other governance intermediaries such as board size, board activities and board diversity were found to have an inverse interrelationship with bank's performance. The current investigation intends to bestow to the limited literature by analyzing the impact on the Indian banking sector in two different time frames i.e., pre- and post-pandemic. Moreover, it serves as one of the initial studies which empirically examined how Covid – 19 determines the association between governance mechanism and financial performance.

Policy implications

The present study intends to bestow valuable practical acumen for policymakers. The study, therefore, highlights certain implications which shall support the policymakers in developing a strong governance framework during the pandemic period. The policymakers shall effectively work upon in each of the following areas:

a) Developing risk management strategy

The policymakers shall work closely with the board of directors and help them in identifying the potential risks arising in the bank's overall functioning. They shall help them in developing an effective management strategy that not only proactively recognizes the risks but also strategically minimizes them. The board shall abide by the regular notifications, circulars and notices issued by the supervisory agencies. Such adherence will lead to informed decision making and will serve as an effective pathway to reduce the negative effects of a pandemic.

b) Developing sound disclosure framework

Another area wherein policymakers shall work closely with the boards in developing the sound and effective disclosure framework. The banks must work upon making a fair and full disclosure of all the material items in their financial statements during the pandemic. A comprehensive disclosure shall work positively in the interests of the external stakeholders and will create confidence in them related to the overall working of the banks. Protection of stakeholder's interests shall be given due accord and policy of selective disclosure shall not be adopted during the uncertain pandemic time.

c) Designing stakeholder centric model

Policymakers shall work in coordination with the board of directors in developing a sound shareholder-centric model. The basic premise of this model will be not only increasing the shareholder returns rather effectively working upon creating shareholder value over some time. The scope of shareholder's accountability shall be given due accord during these uncertain times. The monitoring agencies shall develop such framework as better governed banks will lead to improved decision making as well as an elevation in the financial results of the banks.

Limitations and scope of future research

The current study intends to contribute to the limited studies analyzing the impact of Covid 19 by considering the governance structures and performance dimensions of Indian banking sector. However, the authors acknowledge the presence of certain limitations which may provide suitable opportunities for future researches. A future study with a large sample size or large period shall be carried out in order to better understand the impact of Covid – 19. Similarly, a comparative study can be conducted which empirically tests the pandemic impact across different sectors or financial markets. All the corporate governance variables are not inculcated in the current study. Future researches can consider other dimensions of governance structures such as audit committee, stakeholder governance committee and corporate social responsibility etc. The bank specific performance variables such as current account savings account ratio, net to income ratio and economic value added can be analyzed to examine the operating performance.

References

1) Alabdullah, Tariq Tawfeeq Yousif, Essia Ries Ahmed, and Sofri Yahya. "The determination of firm performance in emerging nations: Do board size and firm size matter?." *International Academic Journal of Accounting and Financial Management* 5.2 (2018): 57-66.
2) Amba, S. M. (2014). Corporate governance and firms' financial performance. *Journal of Academic and Business Ethics*, *8*(1), 1.
3) Aneja, R., & Ahuja, V. (2021). An assessment of the socioeconomic impact of COVID-19 pandemic in India. *Journal of Public Affairs*, *21*(2), e2266.
4) Avtar, R., Singh, D., Umarhadi, D. A., Yunus, A. P., Misra, P., Desai, P. N., ... & Phanindra, K. B. V. N. (2021). Impact of COVID-19 lockdown on the fisheries sector: A case study from three harbors in western India. *Remote Sensing*, *13*(2), 183.
5) Baragde, D. B., & Jadhav, A. U. (2021). Impact of COVID-19 on Indian SMEs and Survival Strategies. In *Handbook of Research on Strategies and Interventions to Mitigate COVID-19 Impact on SMEs* (pp. 280-298). IGI Global.
6) Bell, A., & Jones, K. (2015). Explaining fixed effects: Random effects modeling of time-series cross-sectional and panel data. *Political Science Research and Methods*, *3*(1), 133-153.
7) Bhatt, R. R., & Bhattacharya, S. (2015). Do board characteristics impact firm performance? An agency and resource dependency theory perspective. *Asia-Pacific Journal of Management Research and Innovation*, *11*(4), 274-287.
8) Brick, I. E., & Chidambaran, N. K. (2007). Board meetings, committee structure, and firm performance. *Committee Structure, and Firm Performance (November 2007)*.
9) Chandra, A. (2021). Covid-19: Rebooting the Indian Economy? *International Journal of Research Publication and Reviews*, *2*(4), 569-572.
10) Cheng, S., Evans, J. H., & Nagarajan, N. J. (2008). Board size and firm performance: the moderating effects of the market for corporate control. *Review of Quantitative Finance and Accounting*, *31*(2), 121-145.
11) Coles, J. L., Lemmon, M. L., & Wang, Y. A. (2008, July). The joint determinants of managerial ownership, board independence, and firm performance. In *Second Singapore International Conference on Finance*.
12) Darmadi, S. (2011). Board diversity and firm performance: The Indonesian evidence. *Corporate ownership and control Journal*, *8*.
13) De Andres, P., & Vallelado, E. (2008). Corporate governance in banking: The role of the board of directors. *Journal of banking & finance*, *32*(12), 2570-2580.

14) Dhanalakshmi, R., Mary, A. A., Shrijith, D., & Vijayaraghavan, N. (2021). A study on Covid-19–Impacting Indian education. *Materials Today: Proceedings*.
15) Dongol, P. (2021). Corporate Governance Framework and Financial Performance of Nepalese Banking Sector. *Corporate Governance*, *6*(5).
16) Fuzi, S. F. S., Halim, S. A. A., & Julizaerma, M. K. (2016). Board independence and firm performance. *Procedia Economics and Finance*, *37*, 460-465.
17) Garg, A. K. (2007). Goswami, B., Mandal, R., & Nath, H. K. (2021). Covid-19 pandemic and economic performances of the states in India. *Economic Analysis and Policy*, *69*, 461-479.
18) Guest, P. M. (2009). The impact of board size on firm performance: evidence from the UK. *The European Journal of Finance*, *15*(4), 385-404.
19) Gürbüz, A. O., Aybars, A., & Kutlu, Ö. (2010). Corporate Governance and Financial Performance with a Perspective on Institutional Ownership: Empirical Evidence from Turkey. *Journal of Applied Management Accounting Research*, *8*(2).
20) Haider, N., Khan, N., & Iqbal, N. (2015). Impact of corporate governance on firm financial performance in Islamic financial institution. *International Letters of Social and Humanistic Sciences*, *51*, 106-110.
21) Herbert, W. E., & Agwor, T. C. (2021). Corporate governance disclosure and corporate performance of Nigerian banks. *Journal of Research in Emerging Markets*, *3*(3), 14-36.
22) Jaipuria, S., Parida, R., & Ray, P. (2021). The impact of COVID-19 on tourism sector in India. *Tourism Recreation Research*, *46*(2), 245-260.
23) Kalsie, A., & Shrivastav, S. M. (2016). Analysis of board size and firm performance: evidence from NSE companies using panel data approach. *Indian Journal of Corporate Governance*, *9*(2), 148-172.
24) Kaushal, V., & Srivastava, S. (2021). Hospitality and tourism industry amid COVID-19 pandemic: Perspectives on challenges and learnings from India. *International Journal of Hospitality Management*, *92*, 102707.
25) Kohli, N. K. (2021). The future Shape of Indian Economy as an Outbreak of Covid-19. *Covid 19 and Indian Economy: Eco-Commerce*, 37.
26) Kumar, S., Viral, R., Deep, V., Sharma, P., Kumar, M., Mahmud, M., & Stephan, T. (2021). Forecasting major impacts of COVID-19 pandemic on country-driven sectors: challenges, lessons, and future roadmap. *Personal and Ubiquitous Computing*, 1-24.
27) Kyere, M., & Ausloos, M. (2021). Corporate governance and firms financial performance in the United Kingdom. *International Journal of Finance & Economics*, *26*(2), 1871-1885.
28) Larmou, S., & Vafeas, N. (2010). The relation between board size and firm performance in firms with a history of poor operating performance. *Journal of Management & Governance*, *14*(1), 61-85.
29) Latif, R. A., Kamardin, H., Mohd, K. N. T., & Adam, N. C. (2013). Multiple directorships, board characteristics and firm performance in Malaysia. *Management*, *3*(2), 105-111.
30) Liu, Y., Miletkov, M. K., Wei, Z., & Yang, T. (2015). Board independence and firm performance in China. *Journal of corporate Finance*, *30*, 223-244.
31) Mangla, I. U. (2012). Does corporate governance influence banking performance?. *Journal of Leadership, Accountability and Ethics*, *9*(3), 86-92.
32) Maria, N., Zaid, A., Catrin, S., Ahmed, K., Ahmed, A. J., Christos, I., ... & Riaz, A. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, *78*, 185-193.
33) Nasrallah, N., & El Khoury, R. (2021). Is corporate governance a good predictor of SMEs financial performance? Evidence from developing countries (the case of Lebanon). *Journal of Sustainable Finance & Investment*, 1-31.
34) OECD (2021, January). *Responding to Covid – 19: The rules of good governance apply now forever!* (No 1) https://www.oecd.org/governance/public-governance-responses-to-covid19/
35) Pekovic, S., & Vogt, S. (2021). The fit between corporate social responsibility and corporate governance: the impact on a firm's financial performance. *Review of Managerial Science*, *15*(4), 1095-1125.
36) Perwej, D. A. (2020). The Impact Of Pandemic Covid-19 On The Indian Banking System. *International Journal of Recent Scientific Research*, *11*.
37) Raj, V., & Bahl, G. (2020). Coronavirus (COVID-19) and its Spillovers on Indian Economy. In *Conference: International online academic conference on the impact of the coronavirus COVID-19 on India*.
38) Rashid, A. (2018). Board independence and firm performance: Evidence from Bangladesh. *Future Business Journal*, *4*(1), 34-49.
39) Reserve Bank of India (2020, December). *Report on Trends and Progress of Banking in India 2019-20* (No 1). https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/0RTP2020_F3D078985540A4179B62B7734C7B445C9.PDF
40) Reserve Bank of India (2020, July). *Financial Stability Report* (No 21). https://rbidocs.rbi.org.in/rdocs//PublicationReport/Pdfs/0FSRJULY2020C084CED43CD1447D80B4789F7E49E499.PDF
41) Reserve Bank of India (2021, April). *Corporate Governance in Banks – Appointment of Directors and Constitution of Committees of Board* (No 1). https://rbidocs.rbi.org.in/rdocs/notification/PDFs/24CORPORATE68CA91B159A2408DB3EBC479471DD2B4.PDF
42) Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. Academy of Accounting and Financial Studies Journal, Vol. 26, no.2, pp. 1-18
43) Allugunti, V.R. (2019). Diabetes Kaggle Dataset Adequacy Scrutiny using Factor Exploration and Correlation. International Journal of Recent Technology and Engineering, Volume-8, Issue-1S4, pp 1105-1110.

44) Reserve Bank of India (2021, June). *Building a More Resilient Financial System in India through Governance Improvements* (No.1) https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/BUILDINGMORE5EC7F02876AB476DA1F1D42B1568AFAE.PDF
45) Shanmugam, V. P., & Ali, K. A. (2021). Impact of COVID-19 pandemic on equity-oriented mutual funds: A preliminary analysis of Indian mutual funds industry. *International Journal of Financial Engineering*, *8*(01), 2150006.
46) Terjesen, S., Couto, E. B., & Francisco, P. M. (2016). Does the presence of independent and female directors impact firm performance? A multi-country study of board diversity. *Journal of Management & Governance*, *20*(3), 447-483.
47) Uribe-Bohorquez, M. V., Martínez-Ferrero, J., & García-Sánchez, I. M. (2018). Board independence and firm performance: The moderating effect of institutional context. *Journal of Business Research*, *88*, 28-43.
48) Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of financial economics*, *53*(1), 113-142.
49) Varshney, D., Kumar, A., Mishra, A. K., Rashid, S., & Joshi, P. K. (2021). India's COVID-19 social assistance package and its impact on the agriculture sector. *Agricultural Systems*, *189*, 103049.
50) Yaffee, R. (2003). A primer for panel data analysis. *Connect: Information Technology at NYU*, 1-11.