
Effect of COVID -19 Pandemic on the Performance of Sri Lankan Banks

Harshana K. R. K. ^{a*}, Wanniarachchige M. K. ^b

^{a,b} Faculty of Management and Finance, University of Ruhuna, Sri Lanka*

A B S T R A C T

The COVID-19 pandemic has created detrimental effects on the Sri Lankan economy even though several fiscal and monetary policy changes were initiated to curb the negative effects. Nevertheless, the severity of the effects of the covid -19 pandemic on the banks has not been adequately documented in the literature. Thus, this study examined the effect of the COVID -19 pandemic on the performance of the Sri Lankan banks. A sample of 24 banks consisting of 18 licensed commercial banks (LCB) and 6 licensed specialized banks (LSB) in Sri Lanka was selected for the study. The study relied on data collected from annual reports published by LCBs and LSBs from 2012 to 2020. Return on assets (ROA), return on equity (ROE), and net interest margin (NIM) were used to measure financial performance. Further, the study used bank risk measured using non-performing loans ratio and loan to deposit ratio, and the state of the economy measured using GDP growth rate as control variables. The fixed effect panel regression model was used as the main analytical tool of this study. The results of three fixed-effect panel regression models suggest that the COVID-19 pandemic has a statistically significant adverse effect on the performance of banks in Sri Lanka. This indicates that even though policy measures are taken, the banks are vulnerable in turbulent situations. This implies that developing countries like Sri Lanka need more aggressive and comprehensive policy measures at the initial stage of global pandemic situations to mitigate the adverse effects on the banks.

Keywords: Banks, COVID-19, Financial performance, Monetary policy, Sri Lanka

* Corresponding author: Kasun27h@gmail.com

1. Introduction

Financial system stability and macroeconomic stability largely depend upon a strong banking system. The quality of the banking system determines the availability of credit to the corporate sector of the economy. Unlike in developed countries, the banking system is the main source of finance for firms and individuals in developing countries. In such a context, the COVID-19 outbreak started in December 2019 in Wuhan, China has led governments around the world, including Sri Lanka, to take measures to constrain infections and deaths. Many countries around the world have implemented lockdown measures that have led to a decline in economic activity and a decline in financial markets. The restrictions imposed in response to the COVID-19 pandemic resulted in a surge in demand for liquidity among firms affected by the crisis (Acharya & Steffen, 2020). Moreover, in addition to health measures, central banks and governments use a combination of monetary, fiscal, and regulatory policies to combat the adverse effects of COVID-19.

Even though the Sri Lankan financial system has become significantly modernized in recent decades as a result of various reform initiatives, it has become a challenge for banks to face the pandemic in the context of sudden policy changes. At the beginning of the pandemic, banking institutions were dealing with a number of operational issues. Primarily due to abnormal losses that are caused by high loan impairments, credit origination, and risk management. Further, banks had to focus on enhancing digital customer relationships and agile commercial models, concentrate more on operational efficiency and business continuity management, and funding and liquidity to maintain stability in the financial market (KPMG, 2021). While credit institutions were asked to play an important countercyclical role in supporting the real sector, their actions had a number of implications for the banking sector's future resilience. For example, as lenders depleted their existing buffers, asset quality deteriorated and threatened the system's stability. Since the crisis is expected to last even after the lockdowns are lifted and economies begin to reopen completely, the net effect of these policy measures on the banking sector is largely unknown (Kunt et al., 2021).

The rapid spread of COVID-19 has hit banks' performance harder than most other industries, owing to the inherent vulnerability of banks during times of crisis (Goodel, 2020). Thus, it would lead to a huge economic shock (Cecchetti & Schoenholtz, 2020). In particular, during pandemic periods, medical expenditures and other related health safety measures have an impact on deposits in the financial system, private credits, and bank reserves in developing countries, which directly affects the performance of the banking sector (Segot & Leoni, 2013). Therefore, it is essential to analyze the link between the real economy and the financial system when making policies in a turbulent situation (Givi, 2013). The negative impact on banks was expected to be greater than in previous pandemics and recent crises (Aldasoro et al., 2020). Therefore, the COVID-19 pandemic was also considered the first major test of the G20 global regulatory reforms after the Global Financial Crisis of 2007-2009.

The lockdown decisions during the outbreak of COVID-19 caused a sudden de-globalization process among many countries. As a consequence, the flow of capital and trade, and movement across borders and countries have been adversely affected. Literature suggests that financial institutions are more vulnerable to shocks than other institutions both in domestic and international economic systems (Fu et al., 2014; Montgomery et al., 2014; Safiullah & Shamsuddin, 2019; Kwabi et al., 2020). Some studies provide supportive evidence for the vulnerable effect of the COVID-19 pandemic on banks, both in developed countries and developing countries (Kunt et al., 2021; Elnahass et al., 2021; Assous & Al-Najjar, 2021; Dunbar, 2022; Foglia et al., 2022). However, a few studies have concluded that there is no

significant negative impact on banks from COVID-19 due to strict government policies during the outbreak of the virus (Demirgüç-Kunt et al., 2021; Demir & Danisman, 2021). Additionally, Elnahass et al., (2021) have asserted that banks located in the Asian region are more capable of mitigating risks than in other regions. Nevertheless, there are still limited studies conducted to explore the effects of the pandemic on the performance of banks, particularly in Sri Lanka (Srirangan, 2020; KPMG, 2021; Silva & Perera, 2021). In the Sri Lankan context, few studies have concluded that there is an adverse effect on banks' performance from the COVID-19 outbreak (Srirangan, 2020; KPMG, 2021). However, still, there is no sufficient systematic empirical evidence found to support the negative impact of COVID-19 on the Sri Lankan banks. Therefore, there is a need for a study to explore the performance of the Sri Lankan banks during the pandemic period. Thus, the main objective of this study is to analyze the banks in Sri Lanka to examine the effect of the COVID-19 pandemic on the performance of banks.

2. Literature review

In history, several pandemics affected different parts of the world. For example, Spanish influenza in 1918, Asian Flu (H2N2) from 1957 to 1958, Severe Acute Respiratory Syndrome (SARS -1) from 2002 to 2004, Avian Flu (N1H1) from 2009 to 2010, Middle East Respiratory Syndrome (MERS) in 2012 and Ebola Virus Disease first wave in 1976, the second wave in 2014-2016 and third wave in 2018 -2019 (Baldwin & Mauro, 2020). Evidence suggests that the repercussions of these pandemics were spread to a diverse range of sectors at national and international levels, and it took a long time to recover from the negative effects of decreased economic activity (Siu & Wong, 2004; Kennedy et al., 2006; Wong, 2008; Brown et al., 2010). Nevertheless, among these, every effect that led to the economic downfall during SARS -1 pandemic showed a quick recovery due to regulations to maintain effective unemployment levels and fiscal and monetary stimulus by governments (Yau et al., 2007).

Even though COVID-19 relates to the SARS virus family, it has a unique ability to transmit from person to person faster than SARS-1 and other viruses (Keshta et al., 2021). Consequently, it has already created massive waves of transmissions from different variants. Hence, researchers suggest that the severity of the COVID-19 pandemic on economies around the globe is more severe than in previous pandemics in recent history (Aldasoro et al., 2020), particularly in developing economies. In such a context, Elnahass et al. (2021) highlighted that, during the initial stage of the COVID-19 pandemic, financial policymakers underestimated the effect of the pandemic by comparing it with historical statistics of SARS and other crises such as the global financial crisis (GFC) in 2007–2009 and the Asian crisis of 1997–1998.

Massive economic costs as a consequence of the pandemic are the obvious way that affects the banking system of the country (Goodel, 2020). Hence, the term "Corononomics" is often used to refer to the economic consequences of the pandemic (Suborna, 2020; Eichengreen, 2020). Aspal et al., (2019) suggest that the Gross Domestic Product (GDP) and inflation have a direct impact on the performance of the banking sector in a country. Furthermore, researchers have identified hostilities, macroeconomic situation deteriorations, and reductions in financial market participants as main turbulences that negatively affect the solidity of the financial system (Ostrovska et al., 2022). More importantly, the pandemic caused significant adverse effects on the G7 countries' economies (US, Japan, China, Germany, Britain, France, and Italy), which share 60 percent and 65 percent of world supply and demand GDP and manufacturing, respectively. Baldwin & Mauro (2020) highlighted that when G7 countries are sneezing, the rest of the world could be suffering from a cold. Thus, it can affect the entire world's economy.

According to Kunt et al., (2021), the medium- and long-term effects of certain policies on the banks' performance are not yet accurately estimated. However, strict government policies were able to mitigate the adverse market-based performance of the banks during the pandemic (Demir & Danisman, 2021). Nevertheless, it argues that policy changes implemented in response to COVID-19 did not provide the anticipated financial resilience (Upadhaya et al., 2020; Liu, 2021). Deliberately but unexpectedly lowering the reserves for counter cycle capital buffers created policy shocks that improved the financial soundness of the United States banking system by increasing regulatory capital risk assets and regulatory tier-1 capital (Dunbar, 2022). However, South Asian countries like Nepal, India, and Sri Lanka required more comprehensive policies since there was a gap in understanding the magnitude of the pandemic in their financial system. This gap reflects the unprecedented impact on South Asia in the early stages of the pandemic (Upadhaya et al., 2020).

However, a study on global banking stability during the COVID-19 pandemic asserted that the outbreak of the virus has adversely affected the financial performance of banks across the globe (Elnahass et al., 2020). Further, the literature suggests that bank size has a significant negative association with profitability (Aladwan, 2015; Gupta & Mahakud, 2020), while leverage (Gadzo & Asiamah, 2018) and macroeconomic indicators (Buallay et al., 2021) have a significant positive relationship with the profitability of banks. Moreover, using a simulation approach, Al-Kharusi & Murthy (2020) revealed that the COVID-19 pandemic could have a negative impact on the profitability of banks for up to five years from the start of the pandemic. However, this finding is questionable since there is still no perfect prediction about the end of the pandemic. Nevertheless, Darjana et al. (2022) asserted that the declines in working capital credit and investment credit caused the performance and stability of the banking sector to decline. Furthermore, heavy credit losses and unacceptable low capital ratios made banks financially unsustainable during the pandemic (Kharusi & Murthy, 2020)

Despite that, Demirgüç-Kunt et al., (2021) highlighted that the impact of the COVID-19 pandemic varies across banks and countries due to the country-specific policies on liquidity support, borrower assistance, and monetary easing. More strict government policies on banks show an insignificant adverse impact during the pandemic on banks' performance (Demir & Danisman, 2021). Further, Lan et al., (2020) revealed that the systematic risk of the banking sector was higher during the pandemic period; hence, it affected the performance and stability of the banks during the pandemic. There are three main causes for systematic risk vulnerabilities. First is liquidity risk, a result of a slowdown in economic activity, which limits access to the capital markets due to credit rating downgrades. Several researchers have used the loan-to-deposit ratio to measure liquidity risk, and they have concluded that the loan-to-deposit ratio has a positive effect on the bank's performance (Sari & Sulisty, 2018; Anggari & Dana, 2020). When the volume of loans gets higher, it increases the bank's revenue (Tan, 2016). The second is non-performing loans, which in turn lead to immediate default risk (Ratnovsk et al., 2020). Studies suggest that non-performing loans and profitability have a negative relationship (Aker & Roy, 2017; Do et al., 2020). However, Phung et al., (2021) highlighted that non-performing loans, capital, and bank efficiency have a positive relationship by confirming that capital improves bank efficiency. Here, it can be assumed that the Basel III liquidity regulations after the global financial crisis from 2007-2008 have mitigated or eliminated the credit risk of banks (Ly & Shimizu, 2018). Thirdly, declines in intermediation business affect the ability to provide finance for operations and the funding costs of financial institutions.

3. Methods

The study examines the performance of banks in Sri Lanka to see whether there is a performance difference during the COVID-19 pandemic. The total population of the study is 30 Sri Lankan banks, consisting of 24 licensed commercial banks (LCB) and 6 licensed specialized banks (LSB) as per the Central Bank of Sri Lanka as of 30th September 2021. These LCBs and LSBs dominate the Sri Lankan financial system, accounting for 62.2 percent of the total assets in the financial system (CBSL, 2020). However, the study removed 06 LCBs from the sample due to the unavailability of data for certain periods. The final sample includes 18 LCBs and 6 LSBs. The study used data from annual reports published by the selected banks for the ten years from 2012 to 2021. This period covers eight years before the COVID-19 pandemic and two years during the COVID-19 pandemic.

The first COVID-19 case was reported in Sri Lanka when a foreign national from China detected COVID positive on 27th January 2020. After that, on March 11th, 2020, the first Sri Lankan was diagnosed with the virus. Consequently, the virus started spreading across the country. Thus, the government imposed several restrictions from March 20th, 2020 onward to reduce the rate of infections. Thus, the COVID-19 period was defined as the time period from 2020 to 2021, while the pre-COVID-19 period was defined as the time period before 2020. As shown in table 1, COVID-19 represents the dummy variable which was assigned the value of zero if the observation belonged to the pre- COVID-19 period. One was assigned if the observation belongs to the COVID-19 period.

Table 1: Variable, Proxies, and Measures

Variable	Proxies	Measurement
COVID -19	Categorization of the periods based on non-pandemic and pandemic	The value of one if the observations were done in the COVID-19 period or zero otherwise.
Financial performance	Return of Assets	(Earnings before Taxes/ Total Assets)*100
	Return On Equity	(Earnings Before Taxes/ Total Equity)*100
	Net Interest Margin	(Net interest income/ Profit after Tax) *100
Risk	Credit Risk	Non-Performing Loan / Loan (NPL/Loan)
	Liquidity Risk	Total Loans/ Total Deposits
State of-Economic	Economic Growth Rate	Natural logarithm of GDP Growth Rate

Financial performance was measured using the ROA, ROE, and NIM. These variables are frequently used as proxies by researchers to measure bank performance in the literature (Lafuente et al., 2019; Saif-Alyousfi et al., 2020). Furthermore, the study used a set of control

variables to cover the bank risk and the state of the economy which are likely to affect the bank performance (Elnahass et al., 2020; Trinh et al., 2020; Mollah et al., 2017). For example, credit risk measured using the gross NPL ratio and liquidity risk measured using the loan-to-deposit ratio were used as bank-specific control variables (Trinh et al., 2020). Moreover, the natural logarithm of the Gross Domestic Product (GDP) growth rate was used as another control variable to account for the state of the economy.

The fixed effect panel regression model performed with Least Square Dummy Variable Regression was used to explore the effect of the COVID-19 pandemic on bank performance in Sri Lanka. The regression models used in the study are depicted in equation 1.

$$BP_{it} = \alpha + \beta_1 Covid19_t + \beta_2 NPL_{it} + \beta_3 LtoD_{it} + \beta_4 GDP_t + \varepsilon_{it} \text{ ----- (1)}$$

In equation 1, *BP* is a vector of bank performance measures consisting of *ROA*, *ROE*, and *NIM*. Therefore, three separate regressions named Model 1, Model 2, and Model 3 were performed for each dependent variable. COVID-19 is the dummy variable that takes one if *t* refers to observations that belong to the pandemic period and zero otherwise. *NPL*, *LtoD*, and *GDP* denote non-performing loan ratio, loan to deposit ratio, and GDP growth rate respectively. Further, *i* denotes individual firms and *t* denotes time. Moreover, α , β , and ε denote the intercept, the regression coefficients, and the random error, respectively.

4. Results and findings

Sri Lanka reported its first local COVID-19 case on 11th March 2020. Following that, the Sri Lankan government, in collaboration with the health authorities, took decisive and well-coordinated decisions to limit the spread of the virus. As part of that, the government of Sri Lanka imposed a nationwide curfew on 20th March 2020. After that, curfews and lockdowns were subsequently instituted on a number of occasions in accordance with the requirements. In this context, this study is primarily concerned with determining whether the restrictions imposed to prevent the spread of the virus have had an impact on the performance of the banks.

Table 2: Descriptive Statistics of Variables

	Observations	Minimum	Maximum	Mean	Standard Deviation
ROA	226	-3.841	8.387	1.839	1.567
ROE	226	-9.107	41.255	14.620	9.599
NIM	217	1.740	11.000	4.581	1.611
NPL	226	0.017	56.000	6.724	9.233
Loan To Deposit	226	9.421	1713.131	146.656	193.514
GDP Growth	226	-3.600	9.100	3.579	3.029

As illustrated in table 2, ROA among banks has not varied significantly. However, ROE and NIM during the study period are relatively more dispersed. Thus, these figures suggest that the performance of banks during the study period has not varied significantly. According to table 2, NPL is moderately dispersed during the study period. This suggests that

the credit risk in terms of gross NPL ratio among banks during the study period has remained relatively low on average. However, GDP growth during the study period has varied marginally. Nevertheless, the loan-to-deposit ratio has significantly varied among banks during the study period.

The fixed effect panel regression analysis based on Least Square Dummy Variable method was used to explore the effect of the COVID-19 pandemic on Sri Lankan banks' performance. After removing all extreme outliers and some of the moderate outliers, the model analyzed the data on 24 cross-sectional units from 2012 to 2021. The results of these regressions are presented in table 3.

As illustrated in table 3, the fixed effect panel regression model 1 suggests that 87.3 percent variation in ROA is explained by the independent variables. Further, COVID-19 ($\beta = -0.254, p = .044$) shows a statistically significant negative effect on ROA. The main reason for this negative effect could be the reduced economic activity due to lockdowns and curfews in the pandemic period. Consequently, it reduces revenue for the government, individuals, and businesses. The ultimate burden of these usually goes to the financial system since financial institutions are vulnerable to shocks in the economy (Safiullah & Shamsuddin, 2019; Kwabi et al., 2020). Moreover, model 1 revealed that NPL ($\beta = 0.054, p < .001$) and GDP growth ($\beta = 0.065, p < .001$) have a statistically significant positive effect on ROA. Nevertheless, the loan-to-deposit ratio ($\beta = 0.001, p = .178$) does not show a statistically significant effect on ROA.

Similarly, model 2 suggests that 86.3 percent variation in ROE is explained by the independent variables. Further, COVID-19 ($\beta = -2.370, p = .003$) shows a statistically significant negative impact on ROE. Further, GDP growth ($\beta = 0.545, p < .001$) and loan-to-deposit ratio ($\beta = 0.010, p = .003$) show a statistically significant positive effect on ROE. More importantly, the NPL ($\beta = -0.041, p = .558$) does not show any statistically significant effect on ROE in model 2.

Table 3: Result of Fixed Effect Panel Regression Model

Variable		Model 1: ROA		Model 2: ROE		Model 3: NIM	
Symbol	Description	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
α	Constant	1.629	7.655	18.600	13.212	4.188	20.226
Covid19	COVID-19	-0.254**	-2.029	-2.370***	-3.021	-0.366***	-2.945
NPL	Non-performing Loan	0.054***	4.520	-0.041	-0.587	0.017	1.329
LtoD	Loan To Deposit	0.001	1.352	0.010***	-3.009	0.000	0.428
GDP	GDP growth	0.065***	3.908	0.545***	5.004	0.055***	3.218
	R_2	0.873***	$p < .001$	0.863***	$p < .001$	0.875***	$p < .001$
	F	50.637		45.704		56.978	
	Durbin Watson	1.712		1.618		1.770	

Note: Dependent Variable: ROA, ROE, and NIM: the symbols (***), (**), and (*) respectively indicate that statistical significance is a 1%, 5%, and 10% level.

Further, regression model 3 suggests that 87.5 percent variation in NIM is explained by the independent variables. Moreover, similar to models 1 and 2, COVID-19 ($\beta = -0.366$, $p = .004$) shows a statistically significant negative impact on NIM. The COVID-19 relief measures could be the reason for this adverse effect on NIM. These relief measures include a debt moratorium on capital and interest, a reduction of interest rates, and an extension of the validity period of cheques. These measures were taken actively by the Central Bank of Sri Lanka to ease the burden on the general public. Nevertheless, it seems that these policies have had different implications on individual banks and the entire banking system (Demirgüç-Kunt et al., 2021). Among control variables, only GDP growth ($\beta = 0.055$, $p = .002$) shows a statistically significant positive effect on NIM. More importantly, in all models, GDP growth shows a significant positive relationship with ROA, ROE, and NIM. This indicates that the economic downturn considerably affects banks' performance (Aspal et al., 2019). For example, the GDP growth in 2020, the first year of the COVID-19 pandemic, declines to -3.6% which is the lowest growth rate recorded in the last decade in Sri Lanka. Therefore, it is obvious that massive economic costs have the ability to affect banks' performance (Goodel, 2020). However, in model 3, both NPL ($\beta = 0.017$, $p = .186$) and loan-to-deposit ratio ($\beta = 0.000$, $p = .669$) do not show a statistically significant effect on NIM.

5. Conclusion

This study investigated the effect of the COVID-19 pandemic on the performance of banks in Sri Lanka. The results of the three regression models revealed that COVID-19 has adversely affected banks' performance in Sri Lanka. In general, the results of this study are consistent with the majority of the studies related to exploring the effect of COVID-19 on banks' performance, especially outside Sri Lanka (Elnahass et al., 2021).

According to current global observations and discussions, the COVID-19 pandemic will cause long-term effects (Al-Kharusi & Murthy, 2020) and possibly a persistent recession across economies, potentially triggering a global economic depression. If this global depression occurs, it will cause severe damage to the Sri Lankan financial system, with this adverse impact already having been caused on the Sri Lankan banks. Thus, the identification of opportunities and weaknesses in financial market participants is important to respond more strongly and promptly to similar turbulent situations (Ostrowska et al., 2022).

The findings of this study have two main implications. First, during pandemic situations, a country like Sri Lanka needs more aggressive and comprehensive policy responses at the initial stage to mitigate the adverse effect on the banks. The results of the study support the available literature, which suggests that during the early stages of the pandemic, policymakers underestimated the impact of the pandemic on the Sri Lankan banking sector (Upadhaya et al., 2020). Second, a developing nation like Sri Lanka should maintain a sound monetary policy along with a fiscal policy during normal conditions. This would prepare the country to deal with any unexpected stressful situation, which is uncommon but has a significant impact when they do occur, particularly in developing countries.

However, even after the country has returned to normalcy, the negative impact on banks will continue to be felt for a considerable period of time (Kunt et al., 2021). Thus, further studies need to cover extended periods since the pandemic period in this study is limited only

to two years. Further, this study used only accounting-based performance. Future studies can use market-based performance indicators. Moreover, it would be interesting to study the moderating effect of bank ownership during the Covid-19 pandemic. Hence, the suggestion to future researchers is to extend their studies to capture the effect of the pandemic on other performance indicators. Additionally, future researchers can examine the impact of the pandemic on various forms of bank ownership and banking (i.e., Islamic and conventional).

References

- Adams, R. B., & Mehran, H. (2003). Is corporate governance different for bank holding companies? Available at SSRN 387561 .
- Alabede, J. (2016). Effect of board diversity on corporate governance structure and operating performance: Evidence from the uk listed firms. *Asian Journal of Accounting and Governance* , 67-80.
- Ali, M. M., & Nasir, N. M. (2018). Corporate governance and financial distress: Malaysian perspective. *Asian Journal of Accounting Perspectives* , 11 (1), 108-128.
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate. *The Journal of Finance* , 23 (4), 589-609.
- Baysinger, B. D., & Butler, H. N. (1985). Corporate governance and the board of directors: Performance effects of changes in board composition. *Journal of Law, Economics, & Organization* , 1 (1), 101-124.
- Beaver, W. H. (1966). Financial ratios as predictors of failure. *Journal of Accounting Research* , 71-111.
- Bilal, Sehar, N. U., Khan, J., & Tufail, S. (2013). An investigation of costs of financial distress in case of on-going manufacturing firms of Pakistan. *Journal of Management and Administrative Sciences* , 2 (4), 413-422.
- Cadbury, S. A. (2000). The corporate governance agenda. Corporate governance. *An International Review* , 8 (1), 7-15.
- Caramanolis-Cötelli, B. (1996). External and internal corporate control mechanisms and the role of the board of directors. *A Review of Literature*. Lausanne : Université de Lausanne Ecole des hautes études commerciales IGBF/IBFM.
- Cardoso, F. G., Peixoto, F. M., & Barboza, F. (2019). Board structure and financial distress in Brazilian firms. *International Journal of Managerial Finance* , 15 (5), 813-828.
- Chen, Elder, K., Hsieh, R., & Yung-Ming. (2007). Corporate governance and earnings management: The implications of corporate governance best-practice principles for taiwanese listed companies. *Journal of Contemporary Accounting & Economics* , 3, 73105.
- Daily, C. M., & Dalton, D. R. (1994). Bankruptcy and corporate governance: The impact of board composition and structure. *Academy of Management Journal* , 37 (6), 16031617.
- Daily, C. M., Dalton, D. R., & Cannella, A. A. (2003). Corporate governance: Decades of dialogue and data. *Academy of Management Review* , 28 (3), 371-382.
- Dalton, D., Daily, C., Johnson, J., & Ellstrand, A. (1999). Number of directors and financial performance: A meta-analysis. *Academy of Management Journal* , 42, 674-686.
- Dissanayake, T. D., Somathilake, H. M., Madushanka, K., Wickramasinghe, D., & Cooray, N. (2017). Board configuration on financial distress. *Global Scientific Journals* , 5 (5), 107119.
- Donaldson, L. (1990). The ethereal hand: Organizational economics and management theory. *Academy of Management Review* , 15 (3), 369-381.

- Elloumi, F., & Gueyle, P. J. (2001). Financial distress and corporate governance: An empirical analysis. *Corporate governance. The International Journal of Business in Society* , 1 (1), 15–23.
- Elsayed, K. (2007). Does CEO duality really affect corporate performance? Corporate governance. *An International Review* , 15 (6), 1203-1214.
- Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The Journal of Law and Economics* , 26 (2), 327-349.
- Fich, E. M., & Slezak, S. L. (2008). Can corporate governance save distressed firms from bankruptcy? An empirical analysis. *Review of Quantitative Finance and Accounting* , 30 (2), 225-251.
- Fuzi, S. F., Halim, S. A., & Julizaerma, M. K. (2016). Board independence and firm performance. *Procedia Economics and Finance* , 37, 460-465.
- Hambrick, D. C., & D'Aveni, R. A. (1992). Top team deterioration as part of the downward spiral of large corporate bankruptcies. *Management Science* , 38 (10), 1445-1466.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review* , 9 (2), 193-206.
- Handriani, E., Ghozali, I., & Hersugodo, H. (2021). Corporate governance on financial distress: Evidence from Indonesia. *Management Science Letters* , 11 (6), 1833-1844.
- Harris, M., & Raviv, A. (2008). A theory of board control and size. *The Review of Financial Studies* , 21 (4), 1797-1832.
- Hillman, A. J., Cannella, A. A., & Paetzold, R. L. (2000). The resource dependence role of corporate directors: Strategic adaptation of board composition in response to environmental change. *Journal of Management studies* , 37 (2), 235-256.
- Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance* , 48 (3), 831-880.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior. *Journal of Financial Economics* , 305-360.
- Khan, M., Serafeim, G., & Yoon, A. (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review* , 91 (6), 1697-1724.
- Khurshid, M. K., Sabir, H. M., Tahir, S. H., & Abrar, M. (2018). Impact of corporate governance on the likelihood of financial distress: Evidence from non-financial firms of Pakistan. *Pacific Business Review International* , 11 (4), 134-149.
- Lajili, K., & Zéghal, D. (2010). Corporate governance and bankruptcy filing decisions. *Journal of General Management* , 35 (4), 3-26.
- Lakshan, A. M., & Wijekoon, W. M. (2012). Corporate governance and corporate failure. *Procedia Economics and Finance* , 2, 191-198.
- Lee, T. S., & Yeh, Y. H. (2004). Corporate governance and financial distress: Evidence from Taiwan. Corporate governance. *An International Review* , 12 (3), 378-388.
- Li, Z., Crook, J., Andreeva, G., & Tang, Y. (2021). Predicting the risk of financial distress using corporate governance measures. *Pacific-Basin Finance Journal* , 68, 101334.
- Lipton, M., & Lorsch, J. W. (1992). A modest proposal for improved corporate governance. *The Business Lawyer* , 59-77.
- Liu, C., Uchida, K., & Yang, Y. (2012). Corporate governance and firm value during the global financial crisis: Evidence from China. *International Review of Financial Analysis* , 21, 70-80.
- Liu, Y., Qian, Y., Yu, M., & Cai, J. (2015). Information asymmetry and corporate governance. *Quarterly Journal of Finance* , 5 (3), 1550014.

- Luqman, R., Ul Hassan, M., Tabasum, S., Khakwani, M. S., & Irshad, S. (2018). Probability of financial distress and proposed adoption of corporate governance structures: Evidence from Pakistan. *Cogent Business & Management* , 5 (1), 1492869.
- Mallette, P., & Fowler, K. L. (1992). Effects of board composition and stock ownership on the adoption of poison pills. *Academy of Management Journal* , 35 (5), 1010-1035.
- Manzaneque, m., Priego, A., & Merino, E. (2016). Corporate governance effect on financial distress likelihood: Evidence from Spain. *Revista de Contabilidad* , 19 (1), 111-121.
- Mariano, S. S., Izadi, J., & Pratt, M. (2021). Can we predict the likelihood of financial distress in companies from their corporate governance and borrowing? *International Journal of Accounting & Information Management* , 1834-7649.
- Nakano, M., & Nguyen, P. (2012). Board size and corporate risk taking: Further evidence from Japan. Corporate governance. *An International Review* , 20 (4), 369-387.
- Pfeffer, J. (1973). Size, composition and function of corporate boards of directors: The organisation environment linkage. *Administrative Science Quarterly* , 18, 349-364.
- Platt, H., & Platt, M. (2012). Corporate board attributes & bankruptcy. *Journal of Business Research* , 65, 1139–1143.
- Rauterkus, A., Rauterkus, S., & Munchus, G. (2013). Effect of board composition on firm bankruptcy: An empirical study of United States firms. *International Journal of Management* , 30 (2), 767-778.
- Salancik, G. R., & Pfeffer, J. (1980). Effects of ownership and performance on executive tenure in US corporations. *Academy of Management journal* , 23 (4), 653-664.
- Salloum, C. C., Azoury, N. M., & Azzi, T. M. (2013). Board of directors' effects on financial distress evidence of family owned businesses in Lebanon. *International Entrepreneurship and Management Journal* , 9 (1), 59-75.
- Samarakoon, L. P., & Hasan, T. (2003). Altman's z-score models of predicting corporate distress: Evidence from the emerging Sri Lankan stock market. *Journal of the Academy of Finance* , 1, 119-125.
- Sameera, T. K., & Senaratne, S. (2015). *Impact of corporate governance practises on probability and resolution of financial distress of listed companies in Sri Lanka*. 4th International Conference on Management Economics. University of Ruhuna.
- Senaratne, S., & Gunaratne, P. S. (2012). Corporate governance of Sri Lankan listed companies: Significant features and issues.
- Shahwan, T. M. (2015). The effects of corporate governance on financial performance and financial distress: Evidence from Egypt. *Corporate Governance* , 15 (5), 641-662.
- Tahir, S. H., Sadique, M. A., Syed, N., Rehman, F., & Ulah, M. R. (2020). Mediating role of liquidity policy on the corporate governance-performance link: Evidence from Pakistan. *The Journal of Asian Finance, Economics, and Business* , 7 (8), 15-23.
- Ud-din, S., Khan, M. Y., Javeed, A., & Pham, H. (2020). Board structure and likelihood of financial distress: An emerging Asian market perspective. *The Journal of Asian Finance, Economics, and Business* , 7 (11), 241-250.
- Udin, S., Khan, M. A., & Javid, A. Y. (2017). The effects of ownership structure on likelihood of financial distress: An empirical evidence. Corporate governance. *The International Journal of Business In Society* , 17 (4), 589-612.
- Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics* , 113-142.
- Wang, Z., & Deng, X. (2014). Corporate governance and financial distress: Evidence from Chinese listed companies . 39 (5), 5-27.

- Wesa, E. W., & Otinga, H. N. (2018). Determinants of financial distress among listed firms at the Nairobi securities exchange. *The Strategic Journal of Business and Change Management* , 5 (4), 1057-1073.
- Wruck, K. (1990). Financial distress, reorganization, and organizational efficiency. *Journal of Financial Economics* , 27, 419-444.
- Xu, J., Yun, K., Yan, F., Jang, P., Kim, J., & Pang, C. (2019). A study on the effect of TMT characteristics and vertical dyad similarity on enterprise achievements. *Sustainability* , 11 (10), 2913.
- Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics* , 40(2), 185-211.