



# DOES THE COVID-19 PANDEMIC PLAY A ROLE IN CORPORATE GOVERNANCE IN INFLUENCING BANK RISK MANAGEMENT IN INDONESIA

(Empirical Study of Bank KBMI 2,3,4 in Indonesia 2017-2022)

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## ABSTRACT

*This research examines the relationship between the COVID-19 pandemic, corporate governance and risk management of banks in Indonesia. This research has dependent variables, namely market risk, credit risk, liquidity risk, and operational risk with the independent variable good corporate governance. This research uses secondary data originating from the KBMI bank's annual financial reports 2,3,4 for 2017-2022. This research uses the MANOVA (Multivariate Analysis of Variance) method. The findings of this research prove that there is a relationship between COVID-19, corporate governance and bank risk management and also there are differences in risk management, namely market risk, credit risk and liquidity risk which are influenced by corporate governance and the COVID-19 pandemic.*

*Keywords: Corporate governance, Risk management, Market risk, Credit risk, Liquidity risk, Operational risk, Pandemic Covid-19*

## INTRODUCTION

Early in 2020, the COVID-19 pandemic, which became a major health emergency, had an unprecedented and profound effect on the world. The World Health Organization (WHO) declared the COVID-19 outbreak originating in China as a Public Health Emergency of International Concern on January 30, 2020, highlighting its potential threat to countries with vulnerable health systems (Sohrabi et al., 2020). The WHO's declaration of COVID-19 as a global pandemic on March 11, 2020, has had a profound impact on the global economy. According to estimates from the WHO, the virus has spread to 220 countries, infected more than 198 million people, and would cause more than 4 million deaths globally by July 31, 2021 (World Health Organization, 2021). Early on in the pandemic, there were significantly more active COVID-19 cases because to high population mobility (Chinazzi et al., 2020). However, as the disease progresses, mobility declines significantly as a result of both government efforts to contain its spread and individual efforts to lower their risk of getting the new coronavirus (Barbieri et al., 2021). In consequence, this drop in mobility has had a big effect on overall economic activity. Due to mobility constraints, businesses, especially those in sectors with high levels of contact, were obliged to lower their production levels (McKibbin & Fernando, 2021).

Being the fourth most populous nation in the world, Indonesia is expected to suffer significantly more than other less-populated nations over a longer period of time (ADB, 2020). Indonesia recorded zero cases of infection when the new coronavirus SARS-CoV2 devastated China the most between December 2019 and February 2020. President Joko Widodo declared the first two confirmed COVID-19 virus cases in Indonesia on March 2, 2020. By April 2, the nation had accumulated 1790 confirmed cases, with 113 new cases reported, along with 170 fatalities and 112 recoveries. President Joko Widodo quickly established the COVID-19 National Response, Task Force by the Presidential Order No. 7/2020 on March 13, 2020, two weeks after the country's first COVID-19 pandemic case. The BNPB director general, General Doni Monardo, is in charge of this task group. The task force's spokesperson is Mr. Achmad Yurianto, who also serves as the director-general for disease control and prevention in the Health Ministry at the moment. The National Disaster Management Agency (BNPB) has been tasked with several essential duties in the Task

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Force, including: distribute information about COVID-19 via various media platforms, Establishing a quick reaction team; Providing supplies, materials, and health facilities; Conducting surveillance for new possible COVID-19 instances; and Working with the Indonesian National Military Forces, Indonesia National Police, and Ministry of Health Indonesia (Djalante et al., 2020).

COVID-19 certainly has a huge impact on the Indonesian economy. Social distancing and business closures as a measure to control the spread of COVID-19 have resulted in an economic recession. Many sectors, such as tourism, hospitality, transportation and retail, experienced significant declines in revenue. According to the Central Bureau of Statistics' survey findings from the third quarter of 2020, 66.09% of businesses in Indonesia reported a reduction in revenue. A business entity's existence and continuity may be affected by a pandemic's weakening of business activities (Fidiana et al., 2023). Therefore, Sri Mulyani Indrawati, a former managing director of the World Bank, heads the Ministry of Finance Indonesia, which has overseen the implementation of four key directives. These encompass a tax incentives policy, protective measures for labor, the restructuring of loan repayments for small and medium-sized enterprises (SMEs), and the strategic reallocation of fiscal policies at the local government level (OCHA, 2021).

COVID-19 is reminiscent of the crisis in 2007-2008. At that time, global credit markets were frozen as a result of institutional failures during the 2007-2008 crisis, necessitating global government involvement. While the macroeconomic causes of the financial crisis, such as lax monetary policy, impact all businesses (Taylor, 2008). According to recent studies, a corporation's risk management and finance strategies significantly influenced how much the financial crisis affected that firm (Brunnermeier, 2009). And the board of commissioners and shareholders in the company carry out cost-benefit exchanges to produce risk management and company financing policies (Anil K Kashyap et al., 2008). Throughout the crisis era, notably during the challenges posed by COVID-19, Corporate Governance has undeniably wielded a substantial influence on firm performance. This assertion aligns with the findings of prior studies (Erkens et al., 2012).

Corporate performance is positively impacted by good governance (as determined by GIM) according from (Bhagat & Bolton, 2008). Corporate Governance comprises a framework of regulations, laws, and principles that dictate the manner in which a company is supervised and guided (Fidiana et al., 2023). Corporate Governance also can be thought of as a group of procedures that align the objectives and motives of management such that the investor is somewhat protected against risk (Shleifer & Vishny, 1997). As per the company, Corporate Governance is structured to implement a monitoring system employing board configuration, audit committees, and compensation practices. This system aims to furnish shareholders with essential information, empowering them to both oversee and hold management accountable for their actions. The definition of Corporate Governance suggests that the preservation of shareholders' rights is its primary area of interest (Fidiana et al., 2023). The primary objective Corporate Governance's is to solve agency issues between agents (managers) and principals (shareholders) by coordinating their interests (Tosi & Gomez-Mejia, 1994).

The banking system's internal and external environments are rapidly expanding, and the risks associated with banking business activities are becoming more complicated, especially during a crisis such as the COVID-19 pandemic. This calls for GCG practice and risk management, which enables early risk mitigation. For regulatory authorities, GCG practices and risk management will make it easier to estimate potential losses that banks may experience that could influence bank capital as well as serve as a basis for valuation in determining strategy and bank supervision priorities. Banks can use these techniques to maximize shareholder value (Permatasari, 2020).

The COVID-19 pandemic also reminds us of the importance of effective risk management in the banking industry. Risks can certainly increase due to economic and business changes caused by the pandemic. Concerning risk management, (Chen & Lin, 2016a) Identified a multitude of risks encountered by banks, including risks related to interest rates, liquidity, and credit. In addition, banks must improve their monitoring, evaluation and risk management, as well as identify potential new risks that may arise due to changes in market and economic conditions. In dealing with the impact of the COVID-19 pandemic, banks must take proactive measures to manage risk, ensure sufficient liquidity and capital, adapt to changing consumption patterns, and comply with regulations and regulations. As one example, the bank reduces lending rates and/or extends the credit period (Darmawan et al., 2022).

## **THEORETICAL FRAMEWORK AND HYPOTHESIS FORMULATION**

### ***Agency Theory***

According to agency theory, an agency relationship occurs when a person or group referred to as a "principal" gives authority to another person referred to as an "agent" to make decisions and manage the company according to their abilities (Jensen & Meckling, 1976). Because later management will have complete authority in managing company resources and make it possible for management to benefit itself. This is caused by differences in interests between agents and principals (Jensen & Meckling, 1976).

Conflicts of interest that occur between managers and shareholders provide a gap for management to carry out earnings management because managers have a big responsibility for the company's internal affairs. A strategy is needed that can manage and harmonize differences in interests to reduce this problem. This strategy is Good Corporate Governance (GCG). Good Corporate Governance is a strategy created to ensure that capital owners and investors are confident that their investment in the company will produce returns that match their expectations (Shleifer and Vishny, 1997).

There are many connections between the principles of Good Corporate Governance and how the interests of shareholders, creditors, management, employees and the general public influence the achievement of balance in a company. Regulations in the banking industry compared to other industries require stricter principles or standards to carry out operations to improve financial performance. The principles of Good Corporate Governance are the most appropriate for the banking industry (Hardikasari, 2011).

### ***Relationship between Corporate Governance, Risk management, and COVID-19 for commercial Bank in Indonesia***

Banks are institutions that have the ability to save, manage and channel funds from and to the community, of course they are greatly affected by the economic contraction during the COVID-19. Because the stability of the country's economy is also influenced, among other things, by the health of the banking system. Government policies during the COVID-19 pandemic caused quite a lot of concern for banks because several policies caused a liquidity crunch.

The decline in economic activity during the pandemic supports market efficiency through the implementation of a good governance system. Good corporate governance is needed because of the impact of banking on economic stability (Ltifi & Hichri, 2021). Good Corporate Governance is a company management practice that regulates how to manage and supervise relationships between managers and all company stakeholders. This shows that it is in line with the application of agency theory in this research because good corporate governance is needed to overcome differences in interests between managers and owners.

The nature of the firm is the difference between the financial sector and the non-financial sector (Macey & O'Hara, 2003). The implementation of corporate governance in the banking financial sector in Indonesia, which has gone through an economic crisis caused by the pandemic, is considered important for several reasons. Firstly, banks are a very influential driver of the economy, secondly, banking is a source of financing for companies in developing countries, thirdly, banking is a special institution in the movement of national savings, and fourthly, a good liberal banking system allows for freedom in carrying out banking operations (Arun & Turner, 2003). Good corporate governance is vital for improving the bank's efficiency, strengthening compliance, and defending stakeholders' interests with banking-related rules and ethical standards. GCG is a tool for strengthening national banking's internal circumstances. Bank Indonesia established the Bank Regulation Indonesia (PBI) as a benchmark for the minimum implementation of Good Corporate Governance (GCG) within commercial banks. This regulation aimed to enhance the administrative quality and operational standards of banks by strengthening GCG practices. The Governor of BI officially endorsed PBI Number 8/4/PBI/2006, specifically addressing the implementation of GCG in commercial banks, on January 30, 2006. In its activities, good corporate governance has 5 main principles, namely, transparency (openness), independence (independence), accountability (accountability), responsibility (responsibility), and fairness (reasonableness).

Banks must conduct regular and comprehensive self-assessments to enhance the effectiveness of their governance practices and ensure their quality implementation. This enables banks to promptly develop action plans, including necessary corrective actions if any governance gaps are identified. Implementing digital technologies necessitates a cohesive policy framework that aligns seamlessly with the overarching strategic goals of the bank. To promote transparency, banks are required to provide reports on their governance practices, and those with a website must also make this information accessible on their homepage.

**H1:** There is a relationship between COVID-19, corporate governance and banking risk management in banks in Indonesia.

***The influence of COVID-19 on corporate governance relationships in influencing bank risk management in banking in Indonesia***

Good Corporate Governance (GCG) is described as a framework overseeing, managing, and supervising various business controls aimed at enhancing shareholder value while also encompassing considerations for stakeholders, employees, and the local community. The self-assessment of governance variables involves an evaluation of the bank administration's performance in meeting regulatory requirements. Each rating element in the assessment is systematically rated using a detailed framework. The rankings on governance, categorized from 1 to 5, are established through an extensive assessment of how governance principles are implemented, alongside the pertinent information concerning bank governance. A lower GCG ranking signifies a more robust implementation of governance practices (Tunggal, 2013).

Risk refers to the potential for failure resulting from specific events. Risk management encompasses a series of protocols and methods for defining, assessing, monitoring, and controlling risks stemming from a bank's diverse business operations. Various types of risks, including market risk, credit risk, liquidity risk, compliance risk, operational risk, reputation risk, strategic risk, and legal risk, can expose banks to vulnerabilities. Banks are mandated to effectively employ risk management practices. The implementation of risk management should include, at minimum: (1) active oversight from the board of directors and board of commissioners; (2) the establishment of adequate risk management policies, procedures, and risk thresholds; (3) robust processes for identifying, measuring, monitoring, and controlling risks, supported by reliable risk management information systems; and (4) a comprehensive internal control framework. Banks must actively facilitate the development of robust risk management processes and systems by providing support to risk administration committees and units.

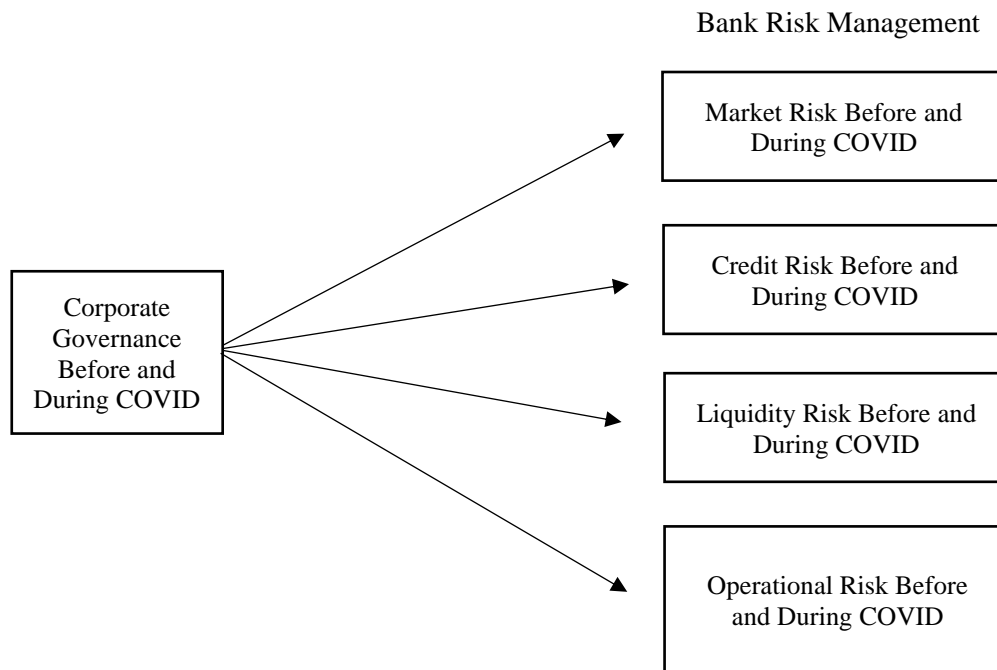
During the COVID-19 pandemic, the practice or implementation of corporate governance was in the most difficult period due to the pandemic situation which caused this unprecedented economic crisis, so many companies were not ready to face this situation so their way of minimizing their losses was by closing operations, layoffs and bankruptcy as a result of government regulations that were in effect at that time. In COVID-19, there are differences in all aspects including corporate governance. The impact of COVID-19 on corporate governance relationships within Indonesian banks aligns with agency theory's principles, emphasizing the need for effective governance structures, risk management strategies, and alignment of interests between management and shareholders.

**H2:** There is a positive influence of COVID-19 on corporate governance relationships in influencing bank risk management in banking in Indonesia.

**Theoretical Framework**

**Independent Variable**

**Dependent Variables**



**RESEARCH METHODS**

**Variable of Research**

The dependent variable in this research is Bank risk management. Credit risk, market risk, operational risk and liquidity risk are the types of risk used to indicate Bank risk management. And for the independent variable in this research is corporate governance.

Market risk pertains to the influence that fluctuations in market conditions, such as alterations in option prices, exert on administrative accounts and the positions reflected on the balance sheet, encompassing derivative transactions. Market risks were assessed using NIM (Net Interest Margin).

Credit risk is the possibility that the debtor or another party won't fulfill their obligation to the bank. Credit risk is typically present in all bank transactions when the success of the activity depends on the success of the counterparty, the issuer, or the success of the borrower. Credit risk was calculated using NPL (Non-Performing Loan).

Liquidity risk arises when a bank faces challenges in meeting its obligations due to limitations in available cash flow or assets that can be quickly converted into cash, potentially impacting the bank's ability to function smoothly and maintain financial stability. The liquidity risk was assessed using LDR (Loan Deposit Ratio).

Operational risk is the possibility caused by human error, system failure, inadequate internal controls, and/or external events that have an impact on bank operations. Operations risk was assessed using OEOI (Operating Expenses to Operating Income).

The governance composite rating was used to assess corporate governance. The assessment of the GCG factor rating was established through a comprehensive and methodical evaluation of how commercial banks applied governance principles and other relevant GCG-related information.

**Population and Sample**

The research population used in this study includes all banks that received the KBMI 2,3,4 predicate in the period 2017 to 2022. The research sample was selected using a purposive sampling method with the following criteria:

1. Banks that are in the KBMI 2,3,4 category and have complete annual reports.

2. Bank KBMI 2,3,4 which discloses corporate governance composite rating and bank risk management (NIM, NPL, LDR, BOPO) during the 2017-2022 period.
3. Have complete information about the variables used in this study.

**Analysis Model**

The analysis used is Multivariate Analysis of Variance (MANOVA). In this study, Bank Risk Management which consists of: Market risk, Credit risk, Liquidity risk, and Operational risk are described as dependent variables. While Corporate Governance is described as an independent variable.

<b>Variable and Measurement</b>	
Variable	Measurement
Market Risk	Net Interest Margin
Credit Risk	Non-Performing Loan
Liquidity Risk	Loan Deposit Ratio
Operational Risk	Operating Expenses to Operating Income
Corporate Governance	Corporate Governance Rating

**RESEARCH RESULTS AND DISCUSSION**

**Box's Test of Equality of Covariance Matrices**

Box's test evaluates the assumptions of MANOVA, specifically examining whether the covariance or variance structure of the subordinate variable remains consistent across conditions (A. Fernandes & Panjaitan, 2019). In Table that Box's M test esteem before COVID is 25.320, during COVID is 21.807 and F-test esteem is before COVID is 1.865 and significance 0.048, during COVID is 1.755 and significance 0.065 with centrality level distant underneath 0.001, As a result, the flawed hypothesis that covariance and variance networks are the same is accepted. This means that the subordinate variable's covariance/variance lattice is identical. The results of this test do not contradict the assumptions of MANOVA.

<b>Before Covid</b>	
Box's M	25.320
F	1.865
df1	10
df2	484.084
Sig.	.048

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + CorporateGovernanceRating

<b>During Covid</b>	
Box's M	21.807
F	1.755
df1	10
df2	895.959
Sig.	.065

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + CorporateGovernanceRating

Source: IBM SPSS 27 output, 2023

**Levene's test of equality of error variances<sup>a</sup>**

Table shows the outcomes of the variance test for each dependent variable. MANOVA relies on Levene's test to ensure consistent variability across the subordinate variables. Levene's test is a statistical method employed to assess whether the variances of a variable are equal across two or more groups (Levene, 1960). If the significance value is above 0.05 then the subordinate variable experiences the same change. The pre-COVID results, the significance values for market risk, credit risk, liquidity risk, operational risk each have a significance value of 0.640, 0.443, 0.527, 0.194, all of which show a significance value above 0.005 which shows that all variables have the same variances.

The results of Levene's test during the pandemic also same the significance values for market risk, credit risk, liquidity risk, operational risk each have a significance value of 0.145, 0.266, 0.685, 0.232, all of which show a significance value above 0.005 which shows that all variables have the same variances. This does not violate the MANOVA assumptions.

Before Covid					
		Levene Statistic	df1	df2	Sig.
MarketRiskBC	Based on Mean	.450	2	54	.640
CreditRiskBC	Based on Mean	.827	2	54	.443
LiquidityRiskBC	Based on Mean	.648	2	54	.527
OperationalRiskBC	Based on Mean	1.693	2	54	.194
Tests the null hypothesis that the error variance of the dependent variable is equal across groups. a. Design: Intercept + CorporateGovernanceRating					

During Covid					
		Levene Statistic	df1	df2	Sig.
MarketRiskDC	Based on Mean	2.000	2	54	.145
CreditRiskDC	Based on Mean	1.357	2	54	.266
LiquidityRiskDC	Based on Mean	.381	2	54	.685
OperationalRiskDC	Based on Mean	1.502	2	54	.232
Tests the null hypothesis that the error variance of the dependent variable is equal across groups. a. Design: Intercept + CorporateGovernanceRating					

Source: IBM SPSS 27 output, 2023

**Multivariate tests**

The multivariate test presented in Table aims to assess whether corporate governance factors collectively influence a set of dependent variables, namely, market risk, credit risk, liquidity risk, and operational risk. This test evaluates the combined impact of corporate governance on these various risk factors simultaneously. In this test there are four groups, namely Pillai's Trace, Wilks' Lambda, Hotelling's Trace, Roy's Largest Root. Table, the results before the pandemic and during the pandemic are slightly similar. Before the pandemic, all tests produced a significance value of 0.001, this shows that the four dependent variables have a relationship and are influenced by the corporate governance composite ratings. During the pandemic, all tests produced a significance value of 0.001, this shows that the four dependent variables also have a relationship and are influenced by the corporate governance composite ratings.

Before Covid								
Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power <sup>d</sup>
Intercept	Pillai's Trace	.988	1032.391 <sup>b</sup>	4.000	51.000	.000	4129.565	1.000

	Wilks' Lambda	.012	1032.391 <sup>b</sup>	4.000	51.000	.000	4129.565	1.000
	Hotelling's Trace	80.972	1032.391 <sup>b</sup>	4.000	51.000	.000	4129.565	1.000
	Roy's Largest Root	80.972	1032.391 <sup>b</sup>	4.000	51.000	.000	4129.565	1.000
Corporate Governance Rating	Pillai's Trace	.718	7.280	8.000	104.000	.000	58.237	1.000
	Wilks' Lambda	.378	7.995 <sup>b</sup>	8.000	102.000	.000	63.956	1.000
	Hotelling's Trace	1.394	8.712	8.000	100.000	.000	69.696	1.000
	Roy's Largest Root	1.179	15.328 <sup>c</sup>	4.000	52.000	.000	61.313	1.000

a. Design: Intercept + CorporateGovernanceRating

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = ,05

During Covid								
Effect		Value	F	Hypothesis df	Error df	Sig.	Noncent. Parameter	Observed Power <sup>d</sup>
Intercept	Pillai's Trace	.975	497.251 <sup>b</sup>	4.000	51.000	.000	1989.006	1.000
	Wilks' Lambda	.025	497.251 <sup>b</sup>	4.000	51.000	.000	1989.006	1.000
	Hotelling's Trace	39.000	497.251 <sup>b</sup>	4.000	51.000	.000	1989.006	1.000
	Roy's Largest Root	39.000	497.251 <sup>b</sup>	4.000	51.000	.000	1989.006	1.000
Corporate Governance Rating	Pillai's Trace	.444	3.711	8.000	104.000	.001	29.690	.982
	Wilks' Lambda	.597	3.753 <sup>b</sup>	8.000	102.000	.001	30.027	.983
	Hotelling's Trace	.607	3.792	8.000	100.000	.001	30.334	.984
	Roy's Largest Root	.456	5.927 <sup>c</sup>	4.000	52.000	.001	23.708	.976

a. Design: Intercept + CorporateGovernanceRating

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = ,05

Source: IBM SPSS 27 output, 2023

### *Tests of between subjects effects*

The F-test values depicting the association between market risk and corporate governance, credit risk and corporate governance, liquidity risk and corporate governance, operational risk and



corporate governance before COVID are as follows: 7.644, 8.268, 5.347, and 5.761, respectively, all demonstrating significance below 0.05. These values indicate distinct differences in market risk, credit risk, liquidity risk, and operational risk among various categories of corporate governance. The findings reveal that before the pandemic, there were observable distinctions across bank risk management areas (market risk, credit risk, liquidity risk, and operational risk) among different categories of corporate governance.

The F-test value for the relationship between market risk and corporate governance during COVID is 0.228, indicating a significance value above 0.05, suggesting no distinction in market risk among different corporate governance groups. Similarly, the F-test value for the relationship between corporate governance and credit risk during COVID was 2.918, also with a significance value above 0.05, signifying no discernible difference in credit risk across corporate governance categories. The F-test value representing the association between corporate governance and liquidity risk during COVID is 3.649, with a significance value below 0.05. This indicates a variance in liquidity risk among distinct categories of corporate governance. Furthermore, the F-test for the relationship between corporate governance and operational risk before COVID was 8.003, with a significance value below 0.05, signifying a difference in operational risk across corporate governance categories. The analysis showed that during the pandemic, differences were observed in both liquidity risk and operational risk among various categories of corporate governance.

Before Covid								
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power <sup>e</sup>
Corporate Governance Rating	MarketRiskBC	.003	2	.001	7.644	.001	15.287	.936
	CreditRiskBC	.002	2	.001	8.268	.001	16.536	.952
	LiquidityRiskBC	.110	2	.055	5.347	.008	10.693	.820
	OperationalRiskBC	.109	2	.054	5.761	.005	11.522	.849

During Covid								
Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power <sup>e</sup>
Corporate Governance Rating	MarketRiskDC	9.920E-5	2	4.960E-5	.228	.797	.457	.084
	CreditRiskDC	.000	2	.000	2.918	.063	5.837	.547
	LiquidityRiskDC	.064	2	.032	3.649	.033	7.298	.649
	OperationalRiskDC	.181	2	.091	8.003	.001	16.006	.946

Source: IBM SPSS 27 output, 2023

### Multiple Comparisons

Table the comparison among different categories of governance composite ratings (such as Very Good, Good, and Good Enough) of banks concerning their associated risks, including market risk, credit risk, liquidity risk, and operational risk. This table allows for an examination of how various levels of governance ratings relate to these specific risk categories. The results were that

before the pandemic, all bank risk management had differences among corporate governance composite rating categories.

In Market risk, Credit risk, and Liquidity risk management, there's a distinction between a bank exhibiting first rating governance (Very Good) and a bank with third rating governance (Good enough). Similarly, there's a difference between a bank with second rating governance (Good) and a bank with third rating governance (Good enough). However, a bank with first rating governance (Very Good) is not distinguishable from a bank with second rating governance (Good). In Operational risk management, only a bank with first rating governance (Very Good) stands apart from a bank with second rating governance (Good).

Table also shows the results during the pandemic. The result is that during the pandemic, only operational risk has differences among corporate governance composite rating categories. Operational risk management only a bank with first rating governance (Very Good) is different from a bank with second rating governance (Good). And Table shows that there are no discernible differences in managing market risk, credit risk, and liquidity risk across various governance rank categories during the COVID period.

Before Covid								
Dependent Variable		(I) Corporate Governanc e Rating	(J) Corporate Governanc e Rating	Mean Differenc e (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Boun d	Upper Boun d
Market Risk BC	Bonferro ni	Very Good	Good	-.00330	.00549 5	1.00 0	-. .0168 8	.0102 7
			Good Enough	-.03000*	.00848 9	.003	-. .0509 8	- .0090 2
		Good	Very Good	.00330	.00549 5	1.00 0	-. .0102 7	.0168 8
			Good Enough	-.02670*	.00706 0	.001	-. .0441 4	- .0092 5
		Good Enough	Very Good	.03000*	.00848 9	.003	.0090 2	.0509 8
			Good	.02670*	.00706 0	.001	.0092 5	.0441 4
Credit Risk BC	Bonferro ni	Very Good	Good	-.00760	.00437 9	.265	-. .0184 2	.0032 2
			Good Enough	-.02718*	.00676 5	.001	-. .0438 9	- .0104 6
		Good	Very Good	.00760	.00437 9	.265	-. .0032 2	.0184 2
			Good Enough	-.01958*	.00562 7	.003	-. .0334 8	- .0056 7
		Good Enough	Very Good	.02718*	.00676 5	.001	.0104 6	.0438 9
			Good					

			Good	.01958*	.005627	.003	.00567	.03348
Liquidity Risk BC	Bonferro ni	Very Good	Good	.00962	.041082	1.000	-.09189	.11113
			Good Enough	.17961*	.063469	.020	.02278	.33643
		Good	Very Good	-.00962	.041082	1.000	-.11113	.09189
			Good Enough	.16999*	.052786	.007	.03956	.30042
		Good Enough	Very Good	-.17961*	.063469	.020	-.33643	-.02278
			Good	-.16999*	.052786	.007	-.30042	-.03956
Operational Risk BC	Bonferro ni	Very Good	Good	-.13286*	.039410	.004	-.23024	-.03548
			Good Enough	-.09539	.060886	.369	-.24583	.05505
		Good	Very Good	.13286*	.039410	.004	.03548	.23024
			Good Enough	.03747	.050638	1.000	-.08765	.16259
		Good Enough	Very Good	.09539	.060886	.369	-.05505	.24583
			Good	-.03747	.050638	1.000	-.16259	.08765

During Covid								
Dependent Variable	(I) Corporate Governance Rating	(J) Corporate Governance Rating	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Operational Risk DC	Bonferro ni	Very Good	Good	-.15542*	.038862	.001	-.25144	-.05940
			Good Enough	-.12278	.070952	.268	-.29809	.05253
		Good	Very Good	.15542*	.038862	.001	.05940	.25144

		Good Enough	.03264	.063462	1.000	-.12416	.18945
	Good Enough	Very Good	.12278	.070952	.268	-.05253	.29809
		Good	-.03264	.063462	1.000	-.18945	.12416

Source: IBM SPSS 27 output, 2023

**Discussion of Results**

Hypothesis		Before Covid 19		During Covid 19		Conclusion
		F	Sig.	F	Sig.	
There is a relationship between COVID-19, corporate governance and banking risk management in banks in Indonesia	Pillai's Trace	7.28	0.000	3.711	0.001	Accepted
	Wilks' Lambda	7.995b	0.000	3.753b	0.001	Accepted
	Hotelling's Trace	8.712	0.000	3.792	0.001	Accepted
	Roy's Largest Root	15.328c	0.000	5.927c	0.001	Accepted
There is a positive influence of COVID-19 on corporate governance relationships in influencing risk management in banking in Indonesia	Pillai's Trace	7.28	0.000	3.711	0.001	Accepted
	Wilks' Lambda	7.995b	0.000	3.753b	0.001	Accepted
	Hotelling's Trace	8.712	0.000	3.792	0.001	Accepted
	Roy's Largest Root	15.328c	0.000	5.927c	0.001	Accepted

The relationship between COVID-19, Corporate Governance and bank risk management is positive and the influence of COVID-19 on corporate governance relationships in influencing bank risk management in banking in Indonesia is also positive. Based on the table of hypothesis test results above, the explanation is divided into two, before COVID-19 and during COVID-19.

Before COVID-19, the F value for each group was 7.28 for Pillai's Trace, 7.995b for Wilks' Lambda, 8.712 for Hotelling's Trace and 15.328 for Roy's Largest Root with the same significance value for all groups, namely 0.000. Based on these results, the significance value is  $0.000 > 0.05$ , meaning that there is an influence of corporate governance rating on bank risk management simultaneously or together before Covid.

During COVID-19, the F value for each group was 3.711 for Pillai's Trace, 3.753b for Wilks' Lambda, 3.792 for Hotelling's Trace and 5.927 for Roy's Largest Root with the same significance value for all groups, namely 0.001. Based on these results, the significance value is  $0.001 > 0.05$ , meaning that there is an influence of corporate governance rating on bank risk management simultaneously or together during Covid.

With the data results and explanation above, it can be concluded that before and during COVID-19, corporate governance ratings had a relationship and influence on bank risk management including market risk, credit risk, liquidity risk, and operational risk. **H1: There is a relationship between COVID-19, corporate governance and banking risk management in banks in Indonesia that is acceptable and H2: There is a positive influence of COVID-19 on corporate**

**governance relationships in influencing bank risk management in banking in Indonesia is acceptable.**

The results of the research that has been carried out strengthen agency theory which states that there is a relationship between corporate governance, bank risk management and COVID-19. According to agency theory, implementing the principles of good corporate governance can reduce conflicts of interest that occur between managers and shareholders, especially in the banking industry. According to agency theory, COVID-19 presents new challenges in implementing corporate governance which of course can affect the relationship between corporate governance and bank risk management. COVID-19 has brought many changes to both the rules and interests between managers and shareholders.

## CONCLUSION

COVID-19 has a relationship, influence or role in corporate governance relationships in influencing banking risk management in banks in Indonesia, because corporate governance implementation in Indonesia before and during COVID was able to influence bank risk management, there were differences in market risk, credit risk, and liquidity risk management before and during covid, because before the pandemic they had differences between corporate governance rating group but during the pandemic there is no difference significant between corporate governance ratings. Meanwhile, operational risk management before and during COVID-19 had no difference, operational risk management only had a difference in corporate governance rating with the first and second bank ratings. The conclusion is that there are several bank risk managements (market risk, credit risk, and liquidity risk) that have changed between before and during the COVID-19 pandemic as a result of being influenced by corporate governance implementation.

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