

Alghifari, Erik Syawal; Hermawan, Atang; Gunardi, Ardi; Rahayu, Agus; Wibowo, Lili Adi

Article

Corporate financial strategy in an emerging market: Evidence from Indonesia

Journal of Risk and Financial Management

Provided in Cooperation with:

MDPI – Multidisciplinary Digital Publishing Institute, Basel

Suggested Citation: Alghifari, Erik Syawal; Hermawan, Atang; Gunardi, Ardi; Rahayu, Agus; Wibowo, Lili Adi (2022) : Corporate financial strategy in an emerging market: Evidence from Indonesia, Journal of Risk and Financial Management, ISSN 1911-8074, MDPI, Basel, Vol. 15, Iss. 8, pp. 1-12, <https://doi.org/10.3390/jrfm15080362>

This Version is available at:

<https://hdl.handle.net/10419/274884>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Corporate Financial Strategy in an Emerging Market: Evidence from Indonesia

Erik Syawal Alghifari ^{1,2}, Atang Hermawan ², Ardi Gunardi ^{2,*}, Agus Rahayu ¹ and Lili Adi Wibowo ¹

¹ Department of Management, Universitas Pendidikan Indonesia, Bandung 40154, Indonesia

² Faculty of Economics and Business, Universitas Pasundan, Bandung 40116, Indonesia

* Correspondence: ardigunardi@unpas.ac.id

Abstract: This paper focuses on strategic corporate financial decisions related to capital structure to increased firm value, moderated by the COVID-19 pandemic under MM theory, trade-off theory, and pecking order theory. The analytical method used is panel data analysis, with observations of 1828 non-financial companies on the Indonesia Stock Exchange from the years 2019 to 2021. The results show that there is an effect of capital structure on firm value in a positive direction, and the moderating role of the COVID-19 pandemic weakens the effect of capital structure on firm value. The findings show that capital structure only has a significant effect on firm value for the debt-dominant group, but not for the equity-dominant group. The moderating effect of the COVID-19 pandemic affects firm value for the debt-dominant group, but not for the equity-dominant group.

Keywords: financial strategy; capital structure; firm value; pandemic COVID-19; emerging market

JEL Classification: G1; G30; G32



Citation: Alghifari, Erik Syawal, Atang Hermawan, Ardi Gunardi, Agus Rahayu, and Lili Adi Wibowo. 2022. Corporate Financial Strategy in an Emerging Market: Evidence from Indonesia. *Journal of Risk and Financial Management* 15: 362. <https://doi.org/10.3390/jrfm15080362>

Academic Editor: Omar Al Farooque

Received: 19 July 2022

Accepted: 9 August 2022

Published: 15 August 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

In recent decades, there has been widespread interest and debate regarding the focus of financial strategy on determining capital structure to increase firm value (Kharabsheh et al. 2017; Irawati et al. 2021; Baihaqi et al. 2021; Pathak et al. 2021). This is due to the increasing role of financial strategy in companies, especially in developing countries (Kostini and Raharja 2019; Pochitaev and Filippova 2016; Pochitaev et al. 2014). Previous studies have mainly focused on financial strategies related to investment (Yaghoubi and Keefe 2022; Gu and Zhang 2022); dividends (Trinh et al. 2022; Ali 2022); mergers and acquisitions (Plaksinaa et al. 2019; Gao and Bao 2022; Yang et al. 2019; Wang et al. 2021); stock splits (Podgórski and Pasierbek 2020; Hendra et al. 2020); and leveraged buyouts (Ayash and Rastad 2021; Chiarella and Ostinelli 2020; Bertoni et al. 2020). Financial strategy looks at the financial impact of strategic decisions at the corporate and business level and identifies the best financial actions. This provides a competitive advantage by reducing funding costs and raising funds flexibly to support business strategy (Wheelen et al. 2018). Due to the wide range of financing possibilities, financial decisions have become more difficult. For academics and financial managers, choosing the ideal debt structure composition has grown more challenging (Khan et al. 2021). Financial strategy is focused on identifying the goal of capital structure in order to lower the weighted average cost of capital (WACC) and increase firm value (Kaličanin and Todorović 2014).

There is a debate about how capital structure affects firm value. Modigliani and Miller (1958) argue that capital structure is irrelevant or does not affect firm value with certain assumptions, one of which is that there is no tax. Modigliani and Miller (1963) add tax issues into their theory since MM theory without taxes is regarded as impractical. Taxes are a cash outflow since they go to the government. Interest on debt can be deducted from taxes, allowing companies to save money. MM theory is highly controversial. This theory implies that companies are advised to use large amounts of debt. In actuality,

however, no corporation has that much debt since the higher a company's debt level is, the greater the chance of bankruptcy. Contrary to MM theory, pecking order theory argues that management will always prefer equity financing over debt financing in the presence of information asymmetry to reduce transaction costs. Debt financing is required where external financing is desired, and equity financing is the last resort where what is desired is not available and cannot be accessed (Myers and Majluf 1984). This issue is interesting to study. We will try to compare several research results that occurred in developing market countries and developed market countries. In emerging markets, several studies tend to find that capital structure has a negative effect on firm value. In other words, companies that use high debt have the effect of reducing firm value (Mahirun and Kushermanto 2018; Luu 2021; Lawson and Osaremwinda 2019). This supports the pecking order theory, but has the limitation that these studies only examine companies in the manufacturing sector. Furthermore, in developed markets, one of the studies conducted by Liu (2017) uses data on companies registered in the US to test the traditional trade-off theory of capital structure. The empirical results reveal that there is a nonlinear and asymmetric relationship between firm value and market debt ratios, which strongly supports the trade-off theory. According to Abdullah and Tursoy (2019), German non-financial enterprises borrow more than 60% of their total assets, making them more influential in comparison to other countries. The findings show that firm performance and capital structure have a positive relationship. However, there are interesting things related to developed countries in the Asian region—such as Hong Kong, Korea, Singapore, and Taiwan—in that their capital structures are 40% debt-financed on average, and this has been confirmed to have a negative effect on their performance (Chang et al. 2019).

Issues involving capital structure have not been studied in-depth, especially in developing countries such as Indonesia. This is because most of the research focuses on developed countries, and the interest of researchers in the study of capital structure is still dominated by researchers in the Americas rather than the Asia (Bajaj et al. 2020). This research will broaden the scope so that there are several new things: (1) the inclusion of the COVID-19 pandemic as a moderating variable, because the emergence of the novel coronavirus reduces economic activity significantly, and expectations of returns and company growth are revised downward and thus the impact is that stock prices must fall; (2) the inclusion of control variables of profitability, company size, and company age; and (3) an investigation of companies in one of the ASEAN region's developing countries. To support this novelty, the data analysis method will be based on a panel data regression analysis approach.

2. Hypothesis Development

One of the financial strategies to increase the value of the company is through the selection of a capital structure. On the one hand, this strategy is effective in helping companies increase company value. On the other hand, this strategy can reduce the value of the company. The capital structure shows the extent to which the combination of debt and equity capital is financed by the company for business activities (Danila et al. 2020). Modigliani and Miller (1963) stated that equity financing is less attractive, so debt options are preferred based on the tax reduction benefits of interest payments. They conclude that an increase in the debt ratio will increase the firm's value and that the optimal capital structure can be achieved if the debt ratio is 1% or 100%. Furthermore, trade-off theory is another capital structure theory that is often studied. According to trade-off theory, the optimal amount of debt equates the marginal benefit of one dollar of debt arising from a reduction in interest-paying taxes with the marginal cost of one dollar of debt arising from increased default exposure (Kraus and Litzenberger 1973; Robichek and Myers 1966; Scott 1976). Trade-off theory has been conventionally interpreted as implying that more profitable firms should have higher leverage ratios (Abel 2017). Equity holders are encouraged by high leverage to participate in riskier and NPV-negative ventures (Choi et al. 2020). Several studies provide empirical evidence that capital structure has a positive effect on firm value,

including [Nguyen et al. \(2020\)](#), [Hirdinis \(2019\)](#), [Mills and Mwasambili \(2022\)](#), and [Dang and Do \(2021\)](#).

Pecking order theory predicts a hierarchy in funding and states that companies will prefer internal sources of funds over external sources if there is a need for funding ([Myers and Majluf 1984](#)). In cases where the funding needs are not met by internal funding sources, the company must choose between external funding sources, and/or the company will prefer low-risk debt from external financing over equity issuance ([Yıldırım and Çelik 2021](#)). The fact that the company spends internal funding sources before contracting debt shows the negative impact of debt on firm value. Several studies provide empirical evidence supporting pecking order theory, including [Mahirun and Kushermanto \(2018\)](#), [Lawson and Osaremwinda \(2019\)](#), and [Luu \(2021\)](#). In short, the financial strategy through the choice of the capital structure has two impacts. Capital structure has a significant positive effect on firm value according to MM theory and trade-off theory. Meanwhile, according to the pecking order theory, the capital structure has a negative effect on firm value. Therefore, we hypothesize [H1]:

H1. *The capital structure affects firm value.*

The COVID-19 pandemic has had a negative impact on public health so that the level of mobility and social interaction is limited by regional lockdowns or quarantines. According to the Organization for Economic Co-operation and Development (OECD) report for 2020–2021, the rapid spread of COVID-19 has affected economic and social conditions in various countries. [Saif-Alyousfi \(2022\)](#) shows that daily growth in confirmed cases and deaths caused by COVID-19 has had a significant negative effect on stock returns in 88 countries in Europe, the Americas, the Middle East, Africa, and Asia-Pacific.

In another study, [Alsamhi et al. \(2022\)](#) examined the impact of the COVID-19 pandemic on the financial performance of several selected Indian sectors. The results revealed significant differences in total earnings, net sales, net income, earnings per share, and diluted earnings per share before and after the pandemic in the tourism, hotel, and consumer sectors. The results of the study stated that there was a significant difference in total net sales revenue before and after the pandemic in the construction sector. The results of the research by [Atayah et al. \(2022\)](#) show that the financial performance of logistics companies was significantly higher during 2020. Overall, the findings by country are corroborated by the main results, and the financial performance of 14 national logistics companies out of the 20 analyzed has improved significantly over the past few years under the pandemic. However, this paper also finds that logistics companies in six countries (Germany, Korea, Russia, Mexico, Saudi Arabia, and the United Kingdom) had a negative financial performance during the COVID-19 period.

Companies located in countries where the impact of COVID-19 was more severe had a higher drop in firm value, according to [Bose et al. \(2022\)](#). COVID-19 has had a smaller negative impact on corporate value for companies that perform better in terms of sustainability. Companies headquartered in countries with higher levels of environmental and stakeholder value-oriented cultures saw less of a drop in corporate value as a result of COVID-19's influence. Furthermore, [Lee \(2022\)](#) found that there was a significant negative relationship between stock liquidity and firm value in the first three days of the COVID-19 outbreak, while a significant positive relationship arose in the following days; furthermore, this negative relationship was more significant in the worst-affected areas, small companies, and non-state-owned companies. Based on this discussion, we arrive at the following hypothesis [H2].

H2. *The COVID-19 pandemic moderates the effect of the capital structure on firm value.*

3. Method, Data, and Analysis

This study focuses on a sample of 1828 non-financial companies listed on the Indonesia Stock Exchange from 2019 to 2021. We exclude companies in the financial sector because they have different regulations and business nature. Initially, the total population of reg-

istered companies was 2135. Companies that do not have such information available or that are part of the financial sector are excluded. Although our study period was short (a three-year period), it did not affect our estimation model. This study consisted of four kinds of variables—namely, independent variables, dependent variables, moderating variables, and control variables. The independent variable is capital structure; the dependent variable is firm value; the moderating variable is the COVID-19 pandemic; and the control variables are profitability, firm size, and firm age. The complete list of variable definitions is presented in Table 1.

Table 1. Variable definition.

Variable	Definition	Formula	Source
Firm Value	Firm value is an investor's perception of the company, which is often associated with stock prices.	$\text{Price to Book Value (PBV)} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$	(Harahap et al. 2020; Devita et al. 2021; Hirdinis 2019)
Capital Structure	The capital structure is a combination of debt and equity securities, which consists of financing the company's assets.	$\text{Debt to Equity (DER)} = \frac{\text{Total Debt}}{\text{Total Equity}}$	(Alzubi and Bani-Hani 2021; Setiawanta et al. 2021)
Pandemic COVID-19	The pandemic caused by the coronavirus.	Variable Dummy 1 = year of pandemic observation 0 = the year of observation, there was no pandemic.	(Ling et al. 2021; Tudorache et al. 2021)
Profitability	Profitability is a metric that assesses a company's capacity to make profits through the use of its own resources, such as assets, capital, and sales.	$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$	(Chabachib et al. 2019; Farkasdi et al. 2021; Khan et al. 2020; Setiawanta et al. 2021)
Size	The amount of total assets owned by the company.	Natural Logarithm of Total Assets	(Diantimala et al. 2021; Solikhah et al. 2022; Ardi et al. 2020; Odoemelum et al. 2020)
Age	The length of time the company is able to carry out its operational activities so that it can maintain a going concern.	Age of firms = Year t – year 0 (establishment)	(Nguyen and Nguyen 2020; Hossain 2021)

The method used in this research is the verification method. For the verification method, hypothesis testing will be carried out with the aim of testing the effect of capital structure on firm value with the moderating effect of COVID-19 and controlled by profitability, firm size, and firm age. The research data uses panel data, a combination of time series and cross-section data where the same cross-section unit is measured at different times. Therefore, in other words, panel data are data from the same individuals observed over a certain period. If we have T time periods ($t = 1, 2, \dots, T$) and an N number of individuals ($i = 1, 2, \dots, N$), then with panel data we will have a total of NT units of observation. When the number of time units for each individual is the same, the data are referred to as a balanced panel. If, on the other hand, the number of units of time differs for each individual, the panel is said to be unbalanced. In this study, we used an unbalanced panel. The research model can be seen in the following panel data regression equation:

$$\text{Firm Value} = \beta_1 + \beta_2 \text{Capital Structure}_{it} + \beta_3 \text{COVID19}_{it} + \beta_4 \text{Capital Structure}_{it} * \text{COVID19}_{it} + \beta_5 \text{Profitability}_{it} + \beta_6 \text{Size}_{it} + \beta_7 \text{Age}_{it} + u_{it}$$

The panel data regression analysis approach in this study is the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). There are two steps taken to determine the best model to use between these models, namely: the Chow test, to determine which model is best between the common effect model (CEM) and the fixed effect model (FEM). The Hausman test was conducted to determine which model is best used between the fixed effect model (FEM) and the random effect model (REM). Next, we test the classical assumptions of the selected model. The study used two classical assumption tests, namely the multicollinearity test and the heteroscedasticity test. The other two tests, namely normality and auto-correlation, were not performed. This is in line with [Gujarati and Porter \(2008\)](#) assertion that there are numerous cross-section and time-series datasets with a significant number of observations these days. As a result, in huge datasets, the normal assumption may not be as important. With large enough sample sizes (>30 or 40), violations of the normality assumption should not pose severe problems, according to [Ghasemi and Zahediasl \(2012\)](#). This suggests that we can apply parametric techniques even when the data are not normally distributed. If we have samples with hundreds of observations, we can ignore the data distribution.

4. Results

Table 2 presents a summary of the mean statistics for the variables in the estimation model. Focusing on the key variables, the average firm value (PBV) for the non-financial sector is 2.9776 times. The highest firm value is in the technology-based sector at 8.4006 times and the lowest firm value is in the energy sector at 0.5134 times. Furthermore, the average capital structure (DER) in the non-financial sector shows a value of 0.7816 or 78.16%. The lowest DER is in the transportation and logistics sector at −1.8319 or −183.19%, and the highest DER is for the consumer non-cyclicals sector at 2.1393 or 213.93%. The frequency in the year before the COVID-19 pandemic was 549 companies or 30.03% of the sample in this study. Meanwhile, there were 1279 companies, or 69.97% frequency, in the year after or during the COVID-19 pandemic. The average value of profitability (ROE) in the non-financial sector is 0.0267 or 2.67%. The highest ROE value is in the transportation and logistics sector at 0.1140 or 11.40%, and the lowest is in the consumer cyclicals sector at −0.0911 or −9.11%. Next, the average firm size (Ln Total Assets) in the non-financial sector is 7.4367, the largest firm size is in the energy sector at 7.9562, and the smallest firm size is in the transportation and logistics sector at 6.3872. Finally, the average age of companies in the non-financial sector is 13 years. The oldest average age is in the basic materials sector at 15 years, and the youngest average age is equal in four sectors—namely, infrastructure, properties and real estate, technology, transportation and logistics—at 12 years old.

Table 2. Descriptive statistics (mean values).

Sectors	Variable					
	Firm Value (PBV)	Capital Structure (DER)	Pandemic COVID-19	Profitability (ROE)	Size (Ln Assets)	Age
Basic Materials	1.8061	−0.0203	0.7000	0.0797	7.6784	15
Consumer Cyclicals	3.6568	1.5309	0.6948	−0.0911	7.1108	13
Consumer Non-Cyclicals	3.6663	2.1393	0.7023	−0.0021	7.8621	14
Energy	0.5134	0.0484	0.6746	0.0410	7.9562	13
Healthcare	3.9252	0.7666	0.7049	0.0763	7.8761	14
Industrials	2.6510	1.9506	0.6944	0.0176	7.2407	12
Infrastructures	2.1414	1.4176	0.6938	−0.0009	7.8979	12
Properties and Real Estate	1.6155	0.8042	0.6957	−0.0083	7.8955	15
Technology	8.4006	1.0106	0.7313	0.0406	6.4622	12
Transportation and Logistic	1.3994	−1.8319	0.7051	0.1140	6.3872	12
All Sectors	2.9776	0.7816	0.6997	0.0267	7.4367	13

The correlation matrix for the variables in the estimation model is shown in Table 3. The univariate relationship between the explanatory variables and firm performance can be seen in the correlations between them. The correlation coefficient between the explanatory variables and our firm value on average is weak. This can be seen from the value of each correlation, namely the capital structure of 0.2466, the COVID-19 pandemic of 0.0304, profitability of 0.3403, company size of -0.1878 , and company age of -0.2086 .

Table 3. Correlation matrix.

Variable	Correlation Matrix					
	1	2	3	4	5	6
1. Firm Value	1.0000					
2. Capital Structure	0.2466	1.0000				
3. Pandemic COVID-19	0.0304	0.0484	1.0000			
4. Profitability	0.3403	0.3378	0.0408	1.0000		
5. Size	-0.1878	0.0020	-0.0624	0.0706	1.0000	
6. Age	-0.2086	0.0293	-0.0014	0.0891	0.2479	1.0000

The results of panel data testing are shown in Table 4. The model specification test was carried out first to decide which model is feasible to use. The results of the Chow test and the Hausman test show that the fixed effect model is the most feasible model. Next, we tested the classical assumptions of the selected model. The study used 2 classical assumption tests, namely the multicollinearity test and the heteroscedasticity test (Glejser test). The results of the multicollinearity test show that the correlation between the explanatory variables is lower than 0.8, indicating the absence of multicollinearity (Table 3). The Glejser test shows that there is no symptom of heteroscedasticity in the regression model. This can be seen from the significance value of each independent variable to the absolute residual value greater than 0.05.

Based on the results of the fixed-effect model in Table 4, it can be seen that all variables—namely capital structure, COVID-19 pandemic, profitability, company size, company age, and the interaction between capital structure and the COVID-19 pandemic—have an influence on company value (F-Test = 11.4989; $p < 0.001$). The value of R-square shows a value of 0.8706 which means the model has good prediction capability. In Hypothesis 1 (H1), we hypothesized that a significant effect of capital structure on firm value, and our results support it. The results on FEM reveal a positive relationship between capital structure (DER) and firm value (PBV) ($\beta = 0.0552$; SE = 0.0073). This finding is in accordance with trade-off theory and MM theory. Trade-off theory explains that the more debt the company uses, the higher the company's stock price will be at the optimal target capital structure. This means that if the capital structure is below the optimal target value, then the value of the company will increase every time there is an increase in debt. The assumption of MM theory with taxes explains that the higher the debt used by the company, the higher the maximum value its stock price can reach. This study is in line with [Pratiwi et al. \(2016\)](#), [Setiawan et al. \(2021\)](#), and [Nopianti and Suparno \(2021\)](#).

For the moderating effect (H2), the interaction shows a significant effect on firm value. The FEM results report a significant negative moderating effect of the COVID-19 pandemic on the relationship between capital structure (DER) and firm value (PBV) ($\beta = -0.0374$; SE = 0.0072). This implies that, in the COVID-19 pandemic situation, the company has not been able to implement plans, maintain strategies, and find ways to improve operational efficiency so that it can be concluded that the COVID-19 pandemic has played a role in weakening the effect of the capital structure (DER) on firm value (PBV). The results of this study are in line with the research of [Irawati et al. \(2021\)](#), which shows that the capital structure can affect the value of the company in the conditions of the COVID-19 pandemic.

Investors tend to invest based on the company's fundamental considerations—in this case, capital structure.

Table 4. Data panel results.

Outcome Variable: PBV			
	Common Effect Model (CEM)	Fixed Effect Model (FEM)	Random Effect Model (REM)
Constant	2.3904 *** (0.1862)	1.8801 *** (0.4959)	2.4470 *** (0.2146)
DER	0.0265 ** (0.0115)	0.0552 *** (0.0073)	0.0502 *** (0.0071)
COVID-19	0.0220 (0.0507)	−0.1173 *** (0.0456)	0.0331 (0.0272)
DER*COVID-19	−0.0130 (0.0112)	−0.0374 *** (0.0072)	−0.0331 *** (0.0070)
ROE	0.2549 *** (0.0179)	0.0861 *** (0.0152)	0.1353 *** (0.0137)
SIZE	−0.7476 ** (0.0999)	−1.5247 *** (0.2213)	−0.9938 *** (0.1226)
AGE	−0.0170 *** (0.0018)	0.0927 *** (0.0251)	−0.0136 *** (0.0025)
R ²	0.2175	0.8706	0.1836
Adjusted R ²	0.2150	0.7949	0.1809
F-Test	84.1957 ***	11.4989 ***	68.0975 ***
Chow Test for FEM		8.7033 ***	
Hausman Test for REM			102.2060 ***
Multicollinearity Test		No	
Heteroscedasticity Test		No	

Note(s): ***, ** indicate the significance levels of 1%, and 5% respectively. The figures stated represent the coefficient values of the variables. On the other hand, the values in the parentheses stand for the values of the standard error. A fixed effect model was selected based on the Chow test and Hausman test.

To confirm the trustworthiness of our statistical results taken from Table 5, we run a number of robustness checks. The first test for robustness is to look at (1) the effect of capital structure and (2) the interaction effect of the COVID-19 pandemic on firm value between debt-dominant firms and equity-dominant firms. We divide our sample into two groups, namely the debt-dominant group of companies and the equity-dominant group of companies. Companies with a DER value of more than 1 are the dominant group of companies with debt, and companies with a DER value of less than 1 are the dominant group of companies with equity. We run our new estimation model after regrouping the sample using panel data regression analysis approaches: common effects model (CEM), fixed effects model (FEM), and random effects model (REM). The robustness check results based on Table 5 show that the fixed effect model is the most feasible model for both models, and these models do not have multicollinearity and heteroscedasticity problems. The findings show that the capital structure only has a significant effect on firm value for the debt-dominant group, but not for the equity-dominant group. More specifically, in the debt-dominant group of companies, capital structure (DER) has a positive relationship with firm value (PBV) ($\beta = 0.0622$; SE = 0.0080). The moderating effect of the COVID-19 pandemic affects firm value for the debt-dominant group, but not for the equity-dominant

group. The moderating effect of the COVID-19 pandemic weakened the effect of the capital structure on firm value (PBV) in the debt-dominant group of companies ($\beta = -0.0447$; $SE = 0.0717$). This finding is the result of previous tests and strengthens MM theory with taxes and tradeoff theory. This means that debt is the most appropriate alternative funding strategy, but managers must still calculate the combination of debt and equity in order to form an optimal capital structure, especially during the COVID-19 pandemic.

Table 5. Robustness check.

	Debt-Dominated Company	Equity-Dominated Company
Constant	1.5057 (0.7768)	1.8552 *** (0.7088)
DER	0.0622 *** (0.0080)	−0.1167 (0.1791)
COVID-19	−0.0025 (0.0717)	−0.2734 *** (0.0819)
DER*COVID-19	−0.0447 (0.0079)	0.16707 (0.1309)
ROE	0.0712 ** (0.0228)	0.0740 *** (0.0217)
SIZE	−1.2947 *** (0.3248)	−1.5124 *** (0.3509)
AGE	0.0792 ** (0.0382)	0.1024 ** (0.0339)
R ²	0.9061	0.8471
Adjusted R ²	0.8323	0.7796
F-Test	12.2739 ***	9.2474 ***
Fixed Effect Model	Yes	Yes
Multicollinearity Test	No	No
Heteroscedasticity Test	No	No

Note(s): ***, ** indicate the significance levels of 1%, and 5% respectively. The figures stated represent the coefficient values of the variables. On the other hand, the values in the parentheses stand for the values of the standard error. A Fixed Effect Model was selected based on the Chow Test and Hausman Test.

5. Discussion

Our findings confirm our first hypothesis about the effect of the capital structure on firm value. A company with a high capital structure or debt ratio can increase firm value, and a low capital structure or debt ratio can reduce firm value. We theorize our findings with the notion of [Modigliani and Miller \(1963\)](#), or MM theory with tax and tradeoff theory. Both of these theories assume that the higher the debt used by the firms, the higher the firm's value; or that the more debt the company uses, the higher the firm's value at the optimal target capital structure. The results of this study are different from the findings of [Mahirun and Kushermanto \(2018\)](#), [Lawson and Osaremwindu \(2019\)](#), and [Luu \(2021\)](#), which show that a high capital structure or debt ratio can reduce firm value in emerging markets, so we will analyze this discrepancy. Our analysis shows that although the research was conducted in emerging markets, the corporate financial strategy may differ from one country to another. The results of this study prove that the corporate financial strategy in Indonesia relies more on external funding than internal funding. The high use of external funds has proven to be able to increase firm value. We then confirm our second hypothesis that the COVID-19 pandemic moderates the effect of the capital structure on firm value. The COVID-19 pandemic acts as a moderator that weakens the influence of capital structure

on company value. With the COVID-19 pandemic, companies are expected to be able to manage or determine optimal capital structure targets. Otherwise, this will have a negative effect. Specifically, high debt that exceeds the limit will cause large interest costs, so the use of debt is limited by the risk of bankruptcy costs (Akbar et al. 2021).

We perform a series of robustness checks by re-estimating the model in different sample groups (sub-sampling approach) to explore the explanation of the effect of capital structure on firm value. The conclusion from our resilience examination is that companies with a DER value of more than 1 or a group of companies that are dominant in debt tend to have a positive influence or can increase company value, but companies with a DER value of less than 1 or a group of companies that are dominant in equity have no effect on company value. In other words, companies with a DER level of more than 1 or debt-dominance are able to increase the value of their company. Non-financial companies in the Indonesian stock market during the observation period prefer the strategy of determining their financing through external sources, or debt, because it is based on the benefits of tax deductions from interest payments. In other words, the strategy of equity or internal financing is not attractive. This also reinforces the idea of Modigliani and Miller (1963) that the optimal capital structure can be achieved if the debt ratio is 1% or 100%. Furthermore, the impact of the COVID-19 pandemic will weaken the effect of capital structure on firm value in the debt-dominated group of companies, while the equity-dominated group of companies does not. This means that the impact of the COVID-19 pandemic interaction has a more significant impact on debt-dominant companies.

6. Conclusions, Limitations, and Suggestions

This study attempts to analyze the focus of financial strategy on determining capital structure in an effort to increase firm value moderated by the COVID-19 pandemic in emerging markets. We offer at least five new perspectives on the body of knowledge and empirical research. First, our results show that capital structure determination is useful for increasing firm value. This is in accordance with previous studies such as Nguyen et al. (2020), Hirdinis (2019), Mills and Mwasambili (2022), Dang and Do (2021), Pratiwi et al. (2016), Setiawan et al. (2021), and Nopianti and Suparno (2021). Second, our results corroborate MM theory with taxes and trade-off theory in that the use of high debt will have a positive impact on firm value, but with the condition of an optimal capital structure. Third, we find that the COVID-19 pandemic weakens the effect of the capital structure on firm value. Fourth, debt-dominant firms can increase firm value, but equity-dominant firms are unable to increase firm value. Lastly, the moderating effect of the COVID-19 pandemic on the effect of capital structure on firm value was more significant in debt-dominant firms, while equity-dominant firms did not have a significant impact. In sum, our findings imply that financial strategy is an important strategy for firms in increasing firm value. To make it more successful, Indonesian companies must be able to optimize their capital structure. However, the effects of the COVID-19 pandemic have weakened the effect of the capital structure on firm value.

Finally, we recognize the limitations of this study because only Indonesian companies were used to analyze how these financial strategies work. This issue should encourage future researchers to investigate and compare the results obtained in this study with those of other developing countries, plus the research time horizon is quite long. Further study analyzing financial strategies in companies that are included in the financial sector will be more interesting to study because they have different capital structures. In addition, in line with the results of this study, future studies could focus on other financial strategies, namely dividends, mergers and acquisitions, stock splits, leveraged buyouts, and selling of a company's patents.

Author Contributions: Conceptualization, E.S.A. and A.G.; methodology, A.G.; software, A.G.; validation, A.H., A.R. and L.A.W.; formal analysis, E.S.A.; investigation, E.S.A.; resources, A.H.; data curation, A.G.; writing—original draft preparation, E.S.A., A.R. and L.A.W.; writing—review and editing, A.H., A.R. and L.A.W.; visualization, A.G.; supervision, E.S.A.; project administration,

A.G.; funding acquisition, A.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Abdullah, Hariem, and Turgut Tursoy. 2019. Capital Structure and Firm Performance: Evidence of Germany under IFRS Adoption. *Review of Managerial Science* 15: 379–98. [\[CrossRef\]](#)
- Abel, Andrew B. 2017. Optimal Debt and Profitability in the Trade-off Theory. *The Journal of Finance* 73: 95–143. [\[CrossRef\]](#)
- Akbar, Minhas, Ahsan Akbar, Muhammad Azeem Qureshi, and Petra Poulouva. 2021. Sentiments–Risk Relationship across the Corporate Life Cycle: Evidence from an Emerging Market. *Economies* 9: 111. [\[CrossRef\]](#)
- Ali, Heba. 2022. Corporate Dividend Policy in the Time of COVID-19: Evidence from the G-12 Countries. *Finance Research Letters* 46: 102493. [\[CrossRef\]](#) [\[PubMed\]](#)
- Alsamhi, Mohammed H., Fuad A. Al-Ofairi, Najib H. S. Farhan, Waleed M. Al-Ahdal, and Ayesha Siddiqui. 2022. Impact of Covid-2019 on Firms' Performance: Empirical Evidence from India. *Cogent Business and Management* 9: 2044593. [\[CrossRef\]](#)
- Alzubi, Khaled, and Amer Bani-Hani. 2021. Determinants of debt-to-equity and its impact on the performance of industrial companies listed on amman stock exchange. *Journal of Governance and Regulation* 10: 353–64. [\[CrossRef\]](#)
- Ardi, Gunardi, Egi Arvian Firmansyah, Ika Utami Widyaningsih, and Matteo Rossi. 2020. Capital Structure Determinants of Construction Firms: Does Firm Size Moderate the Results? *Montenegrin Journal of Economics* 16: 93–100. [\[CrossRef\]](#)
- Atayah, Osama Fayez, Mohamed Mahjoub Dhiaf, Khakan Najaf, and Guilherme Francisco Frederico. 2022. Impact of COVID-19 on Financial Performance of Logistics Firms: Evidence from G-20 Countries. *Journal of Global Operations and Strategic Sourcing* 15: 172–96. [\[CrossRef\]](#)
- Ayash, Brian, and Mahdi Rastad. 2021. Leveraged Buyouts and Financial Distress. *Finance Research Letters* 38: 101452. [\[CrossRef\]](#)
- Baihaqi, Naufal, Ira Geraldina, and Satria Y. Wijaya. 2021. Pengaruh Struktur Modal Terhadap Nilai Perusahaan Pada Kondisi Kedaruratan Pandemi COVID-19. *Jurnal Akunida* 7: 72–84.
- Bajaj, Yukti, Smita Kashiramka, and Shveta Singh. 2020. Application of Capital Structure Theories: A Systematic Review. *Journal of Advances in Management Research* 18: 173–99. [\[CrossRef\]](#)
- Bertoni, Fabio, Anne-Laure Le Nadant, and Frédéric Perdreau. 2020. Management Innovation in Leveraged Buyout Companies. *Venture Capital* 22: 261–79. [\[CrossRef\]](#)
- Bose, Sudipta, Syed Shams, Muhammad Jahangir Ali, and Dessalegn Mihret. 2022. COVID-19 Impact, Sustainability Performance and Firm Value: International Evidence. *Accounting and Finance* 62: 597–643. [\[CrossRef\]](#)
- Chabachib, Mochammad, Tyana Ulfa Fitriana, Hersugondo Hersugondo, Imang Dapit Pamungkas, and Udin Udin. 2019. Firm Value Improvement Strategy, Corporate Social Responsibility, and Institutional Ownership. *International Journal of Financial Research* 10: 152–63. [\[CrossRef\]](#)
- Chang, Chong-Chuo, Munkh-Ulzii Batmunkh, Wing-Keung Wong, and Munkhchimeg Jargalsaikhan. 2019. Relationship between capital structure and profitability: Evidence from four asian tigers. *Journal of Management Information and Decision Science* 22: 54–65. [\[CrossRef\]](#)
- Chiarella, Carlo, and Diego Ostinelli. 2020. Financial or Strategic Buyers: Who Is at the Gate? *International Review of Economics and Finance* 67: 393–407. [\[CrossRef\]](#)
- Choi, Paul Moon Sub, Joung Hwa Choi, Chune Young Chung, and Yun Joo An. 2020. Corporate Governance and Capital Structure: Evidence from Sustainable Institutional Ownership. *Sustainability* 12: 4190. [\[CrossRef\]](#)
- Dang, Tien Dat, and Thi Van Trang Do. 2021. Does Capital Structure Affect Firm Value in Vietnam? *Investment Management and Financial Innovations* 18: 33–41. [\[CrossRef\]](#)
- Danila, Nevi, Umara Noreen, Noor Azlinna Azizan, Muhammad Farid, and Zaheer Ahmed. 2020. Growth Opportunities, Capital Structure and Dividend Policy in Emerging Market: Indonesia Case Study. *Journal of Asian Finance, Economics and Business* 7: 1–8. [\[CrossRef\]](#)
- Devita, Hety, Djoko Setyadi, Ardi Paminto, F. Defung, and Doddy Adhimursandi. 2021. Antecedents of Financial Performance Influence on Intellectual Capital and Firm Value. *Universal Journal of Accounting and Finance* 9: 1394–404. [\[CrossRef\]](#)
- Diantimala, Yossi, Sofyan Syahnur, Ratna Mulyany, and Faisal Faisal. 2021. Firm Size Sensitivity on the Correlation between Financing Choice and Firm Value. *Cogent Business and Management* 8: 1926404. [\[CrossRef\]](#)
- Farkasdi, Szilard, Budi Septiawan, and Erik Syawal Alghifari. 2021. Determinants of commercial banks profitability: Evidence from germany. *Jurnal Riset Akuntansi Kontemporer* 13: 82–88. [\[CrossRef\]](#)

- Gao, Zaihan, and Yue Bao. 2022. Do Acquirers of Mega Mergers Prefer to Improve Debt Level? An Investigation on Mega Deals and Leverage Change. *Finance Research Letters* 47: 102780. [\[CrossRef\]](#)
- Ghasemi, Asghar, and Saleh Zahediasl. 2012. Normality Tests for Statistical Analysis: A Guide for Non-Statisticians. *International Journal of Endocrinology and Metabolism* 10: 486–89. [\[CrossRef\]](#)
- Gu, Leilei, and Huilin Zhang. 2022. Stakeholder-Oriented Corporate Investment: A Catering Perspective. *Finance Research Letters* 48: 102863. [\[CrossRef\]](#)
- Gujarati, Damodar N., and Dawn C. Porter. 2008. *Basic Econometrics*, 5th ed. New York: McGraw-Hill/Irwin.
- Harahap, Irwan Mangara, Ivana Septiani, and Endri Endri. 2020. Effect of Financial Performance on Firms' Value of Cable Companies in Indonesia. *Accounting* 6: 1103–10. [\[CrossRef\]](#)
- Hendra, Edwin, Bambang Leo Handoko, and Stefanus Ariyanto. 2020. Determinants of Stock Splits' Ex-Date Returns: Empirical Evidence from Indonesian Stock Market. *Pertanika Journal of Social Sciences and Humanities* 28: 1539–51.
- Hirdinis, M. 2019. Capital Structure and Firm Size on Firm Value Moderated by Profitability. *International Journal of Economics and Business Administration* 7: 174–91. [\[CrossRef\]](#)
- Hossain, Mohammed Sawkat. 2021. A Revisit of Capital Structure Puzzle: Global Evidence and Analysis. *International Review of Economics and Finance* 75: 657–78. [\[CrossRef\]](#)
- Irawati, Ervinda, Nur Diana, and M. Cholid Mawardi. 2021. Struktur Modal, Profitabilitas Dan Nilai Perusahaan: Efek Moderasi Good Corporate Governance Saat Masa Pandemi COVID-19. *Jurnal Ilmiah Riset Akuntansi* 10: 104–17.
- Kaličanin, Djordje, and Miroslav Todorović. 2014. Interactions between Business and Financial Strategies in Serbian Companies. *Economic Annals* 59: 55–74. [\[CrossRef\]](#)
- Khan, Kanwal Iqbal, Faisal Qadeer, Mário Nuno Mata, Rui Miguel Dantas, João Xavier Rita, and Jéssica Nunes Martins. 2021. Debt Market Trends and Predictors of Specialization: An Analysis of Pakistani Corporate Sector. *Journal of Risk and Financial Management* 14: 224. [\[CrossRef\]](#)
- Khan, Muhammad Yar, Anam Javeed, Ly Kim Cuong, and Ha Pham. 2020. Corporate Governance and Cost of Capital: Evidence from Emerging Market. *Risks* 8: 104. [\[CrossRef\]](#)
- Kharabsheh, Buthiena, Mohammad AL-Gharaibeh, and Ziad Zurigat. 2017. Capital Structure and Firm Performance: Dynamic Framework. *International Journal of Economic Research* 14: 473–87.
- Kostini, Nenden, and Sam'un Jaja Raharja. 2019. Financial Strategy of Small and Medium Businesses on the Creative Industry in Bandung, Indonesia. *International Journal of Economic Policy in Emerging Economies* 12: 130–39. [\[CrossRef\]](#)
- Kraus, Alan, and Robert H. Litzenberger. 1973. A State-Preference Model of Optimal Financial Leverage. *The Journal of Finance* 28: 911–22. [\[CrossRef\]](#)
- Lawson, Igbinovia Eghosa, and Ogbeide Darlington Osaremwinda. 2019. Capital Structure and Firm Value of Selected Quoted Manufacturing Firms in Nigeria. *Dutse Journal of Economics and Development Studies (DUJEDS)* 7: 66–77.
- Lee, Sangwon. 2022. Internal Capital Markets, Corporate Investment, and the COVID-19 Pandemic: Evidence from Korean Business Groups. *International Review of Financial Analysis* 80: 102053. [\[CrossRef\]](#)
- Ling, Shixian, Tianyue Pei, Zhaohui Li, and Zhiping Zhang. 2021. Impact of COVID-19 on Financial Constraints and the Moderating Effect of Financial Technology. *Emerging Markets Finance and Trade* 57: 1675–88. [\[CrossRef\]](#)
- Liu, Wen-Chien. 2017. Trade-off Theory of Capital Structure: Evidence from Estimations of Non-Parametric and Semi-Parametric Panel Fixed Effect Models. *Investment Management and Financial Innovations* 14: 115–23. [\[CrossRef\]](#)
- Luu, Duc Huu. 2021. The Impact of Capital Structure on Firm Value: A Case Study in Vietnam. *Journal of Asian Finance, Economics and Business* 8: 287–92. [\[CrossRef\]](#)
- Mahirun, Mahirun, and Andi Kushermanto. 2018. Capital Structure, Investment Opportunity Set, Growth Sales, Firm Size and Firm Value: R&D Intensity as Mediating. *Quality-Access to Success* 19: 117–22.
- Mills, Ebenezer Fiifi Emire Atta, and Jema Jason Mwasambili. 2022. Capital Structure and Firm Value Nexus: The Ghanaian Experience. *International Journal of Applied Decision Sciences* 15: 46–67. [\[CrossRef\]](#)
- Modigliani, Franco, and Merton H. Miller. 1958. The Cost of Capital, Corporate Finance and the Theory of Investment. *American Economic Review* 48: 261–97.
- Modigliani, Franco, and Merton H. Miller. 1963. Corporate Income Taxes and the Cost of Capital: A Correction. *The American Economic Review* 53: 433–43.
- Myers, Stewart C., and Nicholas S. Majluf. 1984. Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have. *Journal of Financial Economics* 13: 187–221. [\[CrossRef\]](#)
- Nguyen, Hieu Thanh, and Anh Huu Nguyen. 2020. The Impact of Capital Structure on Firm Performance: Evidence from Vietnam. *Journal of Asian Finance, Economics and Business* 7: 97–105. [\[CrossRef\]](#)
- Nguyen, Tam Thanh, Ha Phub Nguyen, Nguyena Linh, Nam Thanh Vu, and Thinh Unga Le. 2020. The Relationship between Capital Structure and Firm Value: Cases of Listed Companies in the Food and Beverages Industry in Vietnam. *Academy of Accounting and Financial Studies Journal* 24: 16–24.
- Nopianti, Risma, and Suparno. 2021. Pengaruh Struktur Modal Dan Profitabilitas Terhadap Nilai Perusahaan. *Jurnal Akuntansi* 8: 51–61. [\[CrossRef\]](#)

- Odoemelam, Ndubuisi, Grace Nyereugwu Ofoegbu, and Chioma Ojukwu. 2020. Moderating Role of Negative Earnings on Firm Size and Corporate Social Responsibility Relationship: Evidence from Listed Firms on Nigeria Stock Exchange. *Indonesian Journal of Sustainability Accounting and Management* 4: 114–33. [\[CrossRef\]](#)
- Pathak, Rajesh, Ranjan Das Gupta, and Abhinav Jalali. 2021. The Analysis of Debt Levels in Public Firms: An International Evidence. *Managerial Finance* 47: 1553–70. [\[CrossRef\]](#)
- Plaksinaa, Yulia, Liam Gallagher, and Michael Dowling. 2019. CEO Social Status and M&A Decision Making. *International Review of Financial Analysis* 64: 282–300. [\[CrossRef\]](#)
- Pochitaev, A. Y., M. S. Yarovinskaya, and I. A. Filippova. 2014. Some Aspects of the Formation a Financial Strategy in Emerging Markets. *Mediterranean Journal of Social Sciences* 5: 28–32. [\[CrossRef\]](#)
- Pochitaev, Alexey, and Irina Filippova. 2016. Analysis of Financial Risks as an Important Stage in the Formation of Financial Strategy of the Company. *Journal of Economics and Economic Education Research* 17: 1–8.
- Podgórski, Błażej, and Krzysztof Pasierbek. 2020. The ‘magic Action’ of Stock Splits: Evidence from the Warsaw Stock Exchange 2003–2017. *Central European Management Journal* 28: 66–80. [\[CrossRef\]](#)
- Pratiwi, Ni Yuni Putu, Fridayana Yudiatmaja, and I. Wayan Suwendra. 2016. Pengaruh struktur modal dan ukuran perusahaan terhadap nilai perusahaan. *E-Journal Bisma Universitas Pendidikan Ganesha* 4: 1.
- Robichek, Alexander A., and Stewart C. Myers. 1966. Problems in the Theory of Optimal Capital Structure. *The Journal of Financial and Quantitative Analysis* 1: 1–35. [\[CrossRef\]](#)
- Saif-Alyousfi, Abdulazeez Y. H. 2022. The Impact of COVID-19 and the Stringency of Government Policy Responses on Stock Market Returns Worldwide. *Journal of Chinese Economic and Foreign Trade Studies* 15: 87–105. [\[CrossRef\]](#)
- Scott, James H. 1976. A Theory of Optimal Capital Structure. *The Bell Journal of Economics* 7: 33–54. [\[CrossRef\]](#)
- Setiawan, Muhammad Rhamadan, Neneng Susanti, and Nugi Mohammad Nugraha. 2021. Pengaruh Struktur Modal, Perputaran Modal Kerja, Dan Ukuran Perusahaan Terhadap Nilai Perusahaan. *Owner: Riset Dan Jurnal Akuntansi* 5: 208–18. [\[CrossRef\]](#)
- Setiawanta, Yulita, Dwiarso Utomo, Imam Ghozali, and Jumanto Jumanto. 2021. Financial Performance, Exchange Rate, and Firm Value: The Indonesian Public Companies Case. *Organizations and Markets in Emerging Economies* 11: 348–66. [\[CrossRef\]](#)
- Solikhah, Badingatus, Agus Wahyudin, Mamdouh Abdulaziz Saleh Al-Faryan, Nadia Novita Iranda, Ain Hajawiyah, and Chia-Ming Sun. 2022. Corporate governance mechanisms and earnings quality: Is firm size a moderation variable? *Journal of Governance and Regulation* 11: 200–10. [\[CrossRef\]](#)
- Trinh, Vu Quang, Alper Kara, and Marwa Elnahass. 2022. Dividend Payout Strategies and Bank Survival Likelihood: A Cross-Country Analysis. *International Review of Financial Analysis* 81: 102129. [\[CrossRef\]](#)
- Tudorache, Maria-Daniela, Tamara Maria Nae, and Ionuț Jianu. 2021. COVID-19 Pandemic and Its Effect on the EU Industry. *Journal of EU Research in Business* 2021: 545696. [\[CrossRef\]](#)
- Wang, Kun Tracy, Yue Wu, and Aonan Sun. 2021. Acquisitions and the Cost of Debt: Evidence from China. *International Review of Financial Analysis* 78: 101925. [\[CrossRef\]](#)
- Wheelen, Thomas L., J. David Hunger, Alan N. Hoffman, and Charles E. Bamford. 2018. *Strategic Management and Business Policy: Globalization, Innovation, And Sustainability*, 15th ed. Harlow: Pearson Education Limited.
- Yaghoubi, Mona, and Michael O'Connor Keefe. 2022. The Financing of Uncertain Future Investments. *Studies in Economics and Finance*. [\[CrossRef\]](#)
- Yang, Junhong, Alessandra Guariglia, and Ji Michael Guo. 2019. To What Extent Does Corporate Liquidity Affect M&A Decisions, Method of Payment and Performance? Evidence from China. *Journal of Corporate Finance* 54: 128–52. [\[CrossRef\]](#)
- Yıldırım, Durmuş, and Ali Kemal Çelik. 2021. Testing the Pecking Order Theory of Capital Structure: Evidence from Turkey Using Panel Quantile Regression Approach. *Borsa Istanbul Review* 21: 317–31. [\[CrossRef\]](#)