

## Firm Value Of The Agricultural Sector In Indonesia And Several Influencing Factors

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**Abstract:** During the Coronavirus-19 outbreak, of the six sectors that achieved positive performance on the Indonesia Stock Exchange, the agricultural sector showed the highest increase of 3.770 per cent. The study aims to find academic proof of the influence of profitability, growth opportunity and business risk variables on the value of agricultural sector companies where capital structure functions as a mediating variable in the 2017 to 2021 period. With the purposive method obtained, 24 samples of companies were. The study's results prove that profitability, business risk and capital structure positively affect firm value. Growth opportunity has a negative effect on firm value, while profitability can positively affect capital structure. Meanwhile, growth opportunity does not significantly affect capital structure, while business risk can affect capital structure. Another finding in this study is that capital structure can mediate profitability, growth opportunity, and business risk on firm value.

**Keywords:** Firm Value; Capital Structure; Profitability; Growth Opportunity; Business Risk.

**Abstrak:** Selama masa pandemi Covid-19, dari enam sektor yang mampu mencapai kinerja positif di Bursa Efek Indonesia, sektor pertanian menunjukkan kenaikan tertinggi sebesar 3,770 persen. Tujuan riset ini adalah untuk menemukan pembuktian secara akademik tentang pengaruh variabel profitabilitas, peluang pertumbuhan dan risiko usaha terhadap nilai perusahaan sektor pertanian dimana struktur modal berperan sebagai variabel mediasi pada periode 2017 sampai 2021. Dengan metode purposive diperoleh 24 sampel perusahaan. Hasil penelitian memberikan bukti bahwa bahwa profitabilitas, risiko bisnis dan struktur modal berefek positif kepada nilai perusahaan. Sementara itu, growth opportunity memberikan pengaruh negatif kepada nilai perusahaan, sedangkan profitabilitas memberikan pengaruh positif pada struktur modal. Sementara itu growth opportunity tidak memberikan pengaruh yang berarti pada struktur modal, sementara risiko bisnis mampu mempengaruhi struktur modal. Temuan lain pada penelitian ini adalah struktur modal dapat memediasi growth opportunity, profitabilitas, dan resiko bisnis terhadap nilai perusahaan

**Kata Kunci:** Nilai Perusahaan; Struktur Modal; Profitabilitas; *Growth Opportunity*; Resiko Bisnis.

## INTRODUCTION

The firm value describes "the company's capability to manage its assets, which is important information for all people who have concerns in the company, including potential investors. The company has the goal of maximizing its value by enhancing the wealth of the holders because maximizing the value of the corporation is the same as improving the welfare of shareholders (Bukit et al., 2018)

The firm value can provide an important function to potential investors because this value reflects how much achievement a company gets from managing its capital, and it is also reflected in the value of the assets possessed by the company. (Hapsoro and Falih, 2020). The higher the company's value, the better the company's image in the eyes of investors so that investors do not hesitate to invest their funds. In addition, the value of the company also provides information about the company's performance in the past that can



be used by potential investors to make plans for the future. The company's value can guarantee the prosperity that investors will obtain if the stock price has a high value. Therefore, the ups and downs of stock prices are one of the parameters an investor monitors before making investment decisions in the capital market. (Meidiawati and Mildawati), 2016). So the company's value is its performance as reflected in the stock price formed due to supply and demand in the capital market.

According to (Atmaja, 2020), two factors affect the company value: external and internal. External factors that affect firm value are inflation, exchange rates, interest rates, economic growth rates, foreign exchange, and so on, while internal factors are financial performance, capital structure, market ratios, institutional ownership, dividend policy, company size, managerial ownership, company growth, investment opportunity set, tax avoidance, business risk, and other financial ratios. This study will use three variables: financial performance (profitability), business risk, and growth opportunity, while capital structure will be used as an intervening variable.

Profitability which is often used as a presentation of financial performance, is the capability of a company to earn net profits and evaluate the results of its investment (Mubyarto, 2020). The greater the value of profitability generated by a company, it will encourage the increase in the value of the company because the company is considered capable of providing a large enough return to investors, and this will also attract investors to invest, causing high stock prices and an impact on increasing the value of the company. Therefore, the company must keep the company's profitability value stable so as not to cause losses due to decreased investor interest. A company with a high profitability value means it has more taxable income to protect and a high probability of paying its financial obligations without risking financial difficulties (Fahn et al., 2019). The profitability variable was chosen because there are still differences of opinion (gaps) from previous studies, such as research conducted by (Thaib and Dewantoro, 2017), which states that profitability has no significant effect on firm value. These findings are supported by research carried out by (Manoppo and Arie, 2016) which proves that profitability has a positive, although not significant, impact on firm value. However, research by (Nurminda et al., 2017) shows that profitability positively and significantly impacts firm value. These results are supported by research conducted by (Taufik et al., 2018), which states that profitability positively and significantly affects firm value.

Growth opportunity or company growth is the opportunity to increase the firm size in the upcoming time. The company's faster growth will make investors more responsive and pay attention to the company. Rapidly growing companies will be more confident and have a stronger position in business competition, the sales will increase, and the market share will be more comprehensive. Information about the company's growth is responded to positively by investors so that it will increase the demand for shares which will have an impact on rising share prices and company value. Previous studies have shown gaps or inconsistencies in factors affecting firm value. Previous research conducted by (Marpuah et al., 2021) stated that growth opportunity affected firm value positively and significantly. Meanwhile, a study by (Prasetyo et al., 2017) found that growth opportunity affected firm value in a negative and significant direction.

Business risk can be defined as uncertainty in the estimated future revenues. Investors will not consider companies that have funding decisions that can lead to bankruptcy risk. Research on business risk on company value in the past still needs to be more consistent in its findings by involving factors related to company value and business risk. Previous studies have shown gaps or inconsistencies in factors affecting firm value.



Research conducted by (Sagara et al., 2018) shows that business risk has a negative effect on firm value. On the other hand, research by (Karimah et al., 2021) indicates that Business Risk has an insignificant positive impact on firm value shows that business risk has a negative effect on firm value.

Capital structure is fixed expenses that depict external debt and internal capital (Natsir and Yusbardini, 2020). The theory of capital structure emphasizes the company's financial strategy to find the optimal balance between equity and debt structures. According to (Adeoye et al., 2020), an optimal capital structure can increase the company's ability to finance important investments due to an increase in the company's financial and operating income. This will assist managers in making the right investment decisions for a certain period. Research carried out by (Apriada and Suardikha, 2016) finds that capital structure has a positive effect on firm value."

The decline in the domestic market due to the COVID-19 outbreak caused a global economic crisis, including Indonesia. In August 2020, Indonesia experienced a deflation of 0.050 per cent due to weak public purchasing power due to the COVID-19 pandemic. However, six sectors showed positive performance, led by the agricultural sector, which increased by 3.770 per cent, followed by the infrastructure sector at 1.030 per cent, the trade sector at 0.970 per cent, the property sector at 0.870 per cent, and the property sector at 0.870 per cent. The Mining sector is 0.770 per cent, and the various industrial sector is 0.760 per cent (Fadliansyah, 2020). The overall increase in the agricultural sector was 1.750 per cent. With this growth, the agricultural sector's contribution to GDP also increased. In comparison, the growth is significant, and BPS data shows exports from the agricultural sector grew by 14.300 per cent from 2019 to 2021 (Fadliansyah, 2020).

This research is considered important because the agricultural sector plays a very important role for the people of Indonesia. After all, as an agricultural country, agriculture is the people's livelihood. In addition, the agricultural sector is considered the centre or core of other sectors because the agricultural sector influences many other sectors. The role of the agricultural sector in food, feed and raw materials proves that agriculture can create value chains from different sectors (Pratiwi et al., 2017). The agricultural sector was chosen as the research subject because the agricultural industry's development is very attractive to investors, especially in the covid-19 pandemic, where many sectors have experienced a decline in stock prices, but the agricultural sector has increased chiefly.

This study aims to empirically investigate and examine how profitability, growth opportunity, and business risk affect on firm-value partially. This study also intended to investigate the role of the capital structure variable as an intervening variable.

## THEORETICAL REVIEW

**Signalling Theory.** Signal theory states that the information received from each party is different. The difference in the information received is because the management has more information about the company's outlook. To avoid this information imbalance, listed companies must provide transparent information to investors to assess whether the company is fit for investment purposes. The information that potential investors need is an annual financial report. In the company's annual financial report, investors can find key data such as liquidity, profitability, debt, dividend policy and other financial data. This data is also an investment analysis that is very important for investors and potential investors (Yasar et al., 2020).



**The Pecking Order Theory.** According to (Febriana and Yulianto, 2017), the pecking order theory is a model for determining funding decisions where companies must prioritize internal funding in the form of retained earnings first, but if internal funds are insufficient, then use external funds by issuing debt. It still needs to be increased; the last option is to issue shares because shares are considered the most expensive and riskiest funding source.

**Trade-Off Theory.** The theory of trade-off emphasizes the relationship between capital structure and firm value. Menckling, the person who coined the trade-off theory, stated in his theory that a company's capital structure could be optimized by balancing the costs that must be borne by the company, for example, the costs of taxes, bankruptcy, agency, and other costs. Trade-off theory states that increasing the amount of debt will reduce the company's value. The argument underlying this is that the predicted present value of the costs of financial distress and agency costs outweighs the tax savings from using debt. The trade-off theory also says that the greater the use of debt in a company's capital structure, the greater the company's value. However, up to a certain point, the benefits of using debt as tax savings are smaller than the costs that must be incurred. The rate of increase in costs is even greater after a certain proportion of debt. So there is a trade-off between the benefits and costs of using debt. The optimal capital structure will be achieved if a balance is reached between the two. This is known as the trade-off theory (Pasaribu, 2018).

**Firm Value.** Based on (Goh and Simanjuntak, 2018), firm value is an investor's perception of a company's success, which is associated with stock prices and profitability. The value of the company can also be measured using the fair value of shares determined by the demand and supply mechanism in the stock market, which is reflected in the initial listing price. Furthermore, according to (Reschiwati et al., 2021), The value of the company is the investor's perspective on the success obtained by the company in handling company resources, where the company's success can be seen from the increase in its share price.

The higher the stock price is usually associated with the better the value of the company. Meanwhile, according to (Setiawati and Lim, 2018), company value is an important component that investors must know because company value is a tool for the market to measure the value of a company as a whole. In addition, the company's value is also a tool to describe how well a company's performance can be a benchmark for investors before deciding on their investment.

**Profitability.** The definition of profitability (Santosa, 2020) is the company's ability to generate returns on investment calculated from net income divided by investment. The achievement of high profitability improves management's ability to complete the financing of most of its investments with internal capabilities as retained earnings. (Natsir and Bangun, 2021) It was stated that profitability is one of the predictors to measure the company's ability to earn a profit. Profitability is also an indicator to assess the effectiveness of the company's achievements.

#### **Growth Opportunity**

Growth opportunities are a chance a company has to develop itself in the market (Putri, 2017). Growth opportunity is also defined as developing the company's total assets that are becoming increasingly larger (Rahman, 2020). This quantity measures the extent to which the earnings per share of a company can be increased by leverage. Companies with "high growth rates need more funds in the future and also hold more profit.



Companies with high growth will produce high retained earnings. The company will try to increase the debt to get the balance of the targeted debt ratio (Adeoye et al., 2020):

**Business Risk.** Business risk is “the uncertainty faced by the company in carrying out its business activities. The business risk is a risk that includes intrinsic business risk, financial leverage risk, and operating leverage risk. In a company, business risk will increase if you use high debt. This will also increase the likelihood of bankruptcy”. The results of the study prove that companies with high risk should use less debt to avoid the possibility of bankruptcy (Umdiana and Claudia, 2020).

**Capital Structure.** Capital structure is widely defined as a combination of the company's internal capital, which includes debt and equity. Debt itself consists of short-term and long-term debt. Meanwhile, equity is classified into preferred stock, common stock, and retained earnings (Kasenda, 2020). The company will strive to optimize its capital structure, namely achieving a balance condition in using debt and equity.

**The Relationship between Profitability and Company Value.** Research conducted by (Taufik et al., 2018), and (Variaty and Natsir, 2021) prove that profitability measured by Return On Asset has a positive and significant effect on firm value. That is, if profitability increases, the value of the company will also increase. So it can be said that the better profitability will encourage the company's value to increase, and that means more investors are interested in investing their funds in the company.

**The Relationship between Growth Opportunity and Company Value.** Growth opportunity is also called the opportunity for a company to grow in the future (Putri, 2017). Growth Opportunity is the size of the company's development in the future. The growth opportunity owned by a company will be a reference that will build an investor's confidence to invest in the company. The company's growth is the desire of all parties, whether internal management or outside parties because a growing company indicates the progress experienced. From investors' perceptions, the company's growth means whether its prospects will be profitable because investors will relate it to the rate of return obtained from some investments invested. (Sari and Priyadi, 2016).

**The Relationship between Business Risk and Company Value.** According to (Mansa, 2021), the greater the company's debt, the greater the risk of bankruptcy that will burden the company, which in time will decrease the company's value. This is due to the greater fixed interest expense that must be paid so that the company's risk will increase. Companies that cannot predict how much profit they will earn and high use of debt can pose a risk to the company.

Companies that have increased business risk will cause investors to hesitate to invest their funds in the company because the company already has a threat of not being able to pay off its debts, and the company's prospects will be less good in the eyes of investors because of the company's inability to provide prosperity for shareholders. As a result, investors will limit the demand for company shares. As a result, the company's stock price in the market is weakening, and this impact will continue to weaken the company's value. Based on the description above, the following hypothesis can be drawn.

**Relation of Capital Structure with Firm Value.** The theory of capital structure optimization suggests that capital structure influences firm value. This theory explains that properly distributing the proportion between debt and equity will achieve an optimal capital structure, ultimately increasing the company's value. Previous research conducted by (Mumtaz et al., 2013) stated that capital structure positively influences firm value.

**The relationship between Profitability and Capital Structure.** According to (Rahayu et al., 2019), company profitability is important in determining the funding



resources for capital structure. Therefore, the company's decision to design the capital structure is influenced by the company's profitability. The profitability or profit level of a company is used as a factor for investors to see how the company spends funds for its operational activities efficiently to generate greater profits. Previous research by (Mohamed et al., 2017) stated that profitability positively influences capital structure.

**The Relationship between Growth Opportunity and Capital Structure.** The theory of the company's capital structure states that the higher the growth rate experienced by the company, the higher the amount of debt used by the company in meeting the need to finance its growth compared to using its capital and vice versa to allow foreign capital from external parties to be prioritized first as a source. The first alternative is to fund the company's activities to achieve high growth. This possibility can occur because a company experiencing rapid growth must want to continue expanding and expanding its business. To realize this desire, more than internal funding is needed, so the company has to meet large capital, generally in the form of debt loans from outside the company (Andanika and Ismawati, 2017). (Tuti, 2016) states that growth opportunity affects capital structure.

**The Relationship between Business Risk and Capital Structure.** Risk can be interpreted as the possibility of bad consequences or unwanted losses (Yunan, 2018). Business risk is the level of risk from the company's operations if it does not use debt. A company is considered to face business risk if it generates profits that fluctuate from one period to another. Based on this, companies with high business risk will maintain their debt portion not to endanger the company's sustainability. The higher the business risk, the lower the company's capital structure level.

According to (Yunan, 2018), the company's business risk can be described by measuring fluctuations in the company's profit. Companies that experience changes in profits need more certainty in their ability to raise funds to pay off their loans to creditors. Companies with a lot of debt will increase the risk of bankruptcy because more obligations must be fulfilled. Based on this, companies with high business risk will try to maintain their debt portion not to endanger the company's sustainability. Based on research conducted by (Tahir et al., 2020) they are stated that business risk affects capital structure.

**The Relationship between Profitability and Firm Value with Capital Structure as an Intervening Variable.** The higher the profitability of a company, the more likely it is for the company to finance its investment and operational costs from its funds. This will turn down the company's debt, which will also diminish the surveillance of managers by outsiders. Lack of supervision can have an impact on decreasing the value of the company.

In his explanation of the Trade-off Theory, it is said that by increasing debt, the company gets more benefits than sacrifices. The advantage obtained by the company directly is the increase in the company's value from the use of the debt. Previous research conducted by (Thaib and Dewantoro, 2017) stated that profitability significantly affects firm value when mediated by capital structure.

**The Relationship of Growth Opportunity and Firm Value with Capital Structure as an Intervening Variable.** The growth opportunity for each company is different; this causes differences in spending decisions taken by financial managers. Companies that have high growth predictions tend to spend investment expenditures with their capital to avoid underinvestment problems, namely the company manager's non-implementation of all positive investment projects. Profitable, and investors will expect the rate of return from the investments made to show good development.

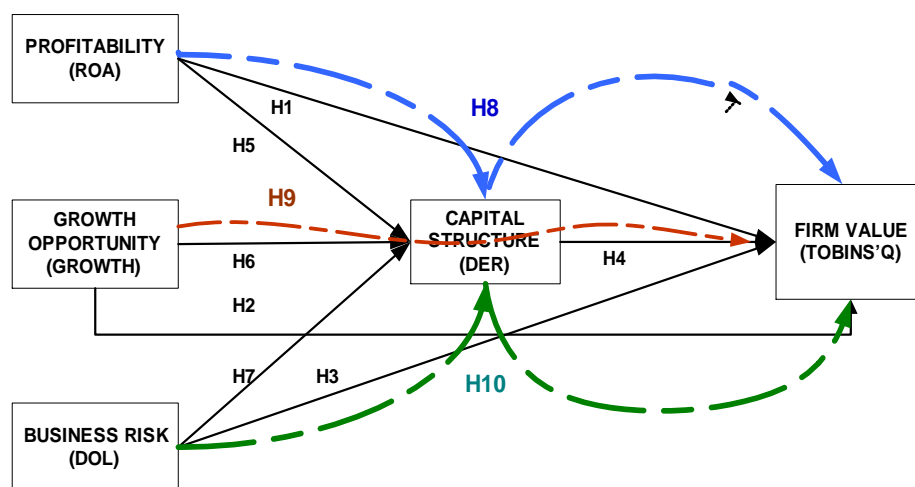
Research conducted by (Ananda et al., 2016) states that growth opportunity affects the value of the company through the capital structure, meaning that an increase in the



market value of the company indicates that the company has prospects for future growth as a result of the company's investment policies.

**The Relationship between Business Risk and Firm Value by Mediation of Capital Structure.** The research (Yunan, 2018) said that business risk could better impact firm value if mediated by capital structure than without capital structure mediation. These findings indicate that business risk has a natural effect through the mediation of capital structure. This is in line with the research results (Arifin, 2017). However, research results by (Rewari et al., 2016) show that capital structure cannot mediate business risk.

**Research Models and Hypotheses.** Based on the description of the theory, previous research and the relationship between variables that have been described above, **Figure 1** of the research model is as follows:



**Figure 1.** Research Model

The explanation of the research model in **Figure 1** can be described as follows. First, we will examine the direct effect of Profitability, Growth Opportunities and Business Risks on Firm Value. Then the impact of Profitability, Growth Opportunities and Business Risk on Firm Value is examined indirectly through the Capital structure as a mediating (intervening) variable. In this study, the ability of Capital Structure as a mediating variable will be evaluated, whether the capital structure can mediate in the sense of strengthening or weakening the relationship between Profitability, Growth Opportunities and Business Risk to Firm Value.

Based on the research model and the relationship between variables, the research hypothesis is formulated as follows:

H1: Financial Performance affects positively on Firm Value.

H2: Growth Opportunity gain a positive impact on Firm Value.

H3: Business risk has a negative influence on firm value.

H4: Capital structure influence on firm value positively

H5: Profitability gains a positive effect on capital structure

H6: Growth Opportunity has a Negative Effect on Capital Structure

H7: Business risk has a negative effect on the Capital Structure.

H8: Capital Structure can mediate profitability on firm Value

H9: Growth Opportunity Affects Firm Value with Capital Structure as Intervening Variable.

H10: Business risk affects the company's value through the capital structure

**METHODS**

**The Equation Research Model:** The relationship between variables in research can be viewed as being two models, namely substructure I and substructure II:

**Substructure I.** The Substructural Model I describes the relationship between ROA, GROWTH, IDOL, and DER on Tobins' Q:

$$\text{Tobins'Q} = \alpha_0 + \beta_1(\text{ROA})_{it} + \beta_2(\text{GROWTH})_{it} + \beta_3(\text{DOL})_{it} + \beta_4(\text{DER})_{it} + \varepsilon_{it} \dots\dots\dots(1)$$

**Substructure II.** The Substructural Model II describes the relationship between ROA, GROWTH, and IDOL on DER

$$\text{DER} = \alpha_1 + \beta_5(\text{ROA})_{it} + \beta_6(\text{GROWTH})_{it} + \beta_7(\text{DOL})_{it} + \varepsilon_{it} \dots\dots\dots(2)$$

Where:

- $\alpha_0, \alpha_1$  : Constant
- $\beta_1, \beta_2, \beta_3, \beta_4$  : The regression coefficients of the variables DER, ROA, GROWTH, and DOL, respectively, on Tobins'Q
- $\beta_5, \beta_6, \beta_7$  : The regression coefficients of the variables DOL, ROA and GROWTH, respectively, on DER
- $i$  : Entity
- $t$  : time
- $\varepsilon_{it}$  : Error

**Population and Sample.** The research population are all agricultural sector companies registered on the IDX. The sample selection technique is a non-probability sampling technique using purposive sampling, which limits the object of research to certain criteria as follows, Agricultural sector companies that present complete financial statements and ratios according to the things to be studied based on the sources used in the period 2017 to 2021, the selected agricultural sector companies that have not experienced deleted from the list of IDX during the 2017 to 2021 period, have complete data regarding the variables to be studied.

**Operationalization of Variables.** The next step will explain the types of variables, variable indicators and references used in making operational variables. In this study, profitability, growth opportunity, and business risk are independent variables; the capital structure is the intervening variable, and the firm value is the dependent variable. The following is the operationalization of the variables used in this study.

**Firm Value.** The firm value reflects how well a company manages its capital, and its value also describes the value of the assets owned by the company. The higher the stock price, the better the value of the company. In this study, the indicator used to measure firm value is Tobin's Q, which measures performance by comparing two valuations of the same asset (Natsir and Bangun, 2021):

$$Q = \frac{E + D}{E} \dots\dots\dots(3)$$





**Profitability.** Profitability is a value that shows the profit earned by a company from some expenses made. An efficient organization will achieve more earnings from several costs than an inefficient company. Profitability is one of the essential factors in determining the value of the company. High profitability allows management to finance most of its investments internally with retained earnings. In this study, the indicator used to measure profitability is ROA, which is a ratio or tool commonly used to assess a company in obtaining profits from investment activities. ROA is calculated as follows (Wahyuni and Gani, 2022):

$$R = \frac{n \text{ in}}{t_1 a}, \dots\dots\dots(4)$$

**Growth Opportunity.** Total assets and sales changes each year can calculate Growth Opportunity. In this study, researchers used asset growth to measure the company's growth. Asset growth reflects the company's operational success in the past period, which can be used to predict future growth. Asset growth is calculated as follows (Wen, 2019):

$$A \quad G \quad h = \frac{S - S(t-1)}{S(t-1)} \dots\dots\dots(5)$$

Where:

St: Assets in year t

S(t-1): Assets in the previous period

**Business Risk.** Business risk is “the potential deviation of corporate results (company value and shareholder wealth) and financial results due to the company entering a certain business with a typical industrial environment and using certain technologies. Business risk is a type of risk that cannot be transferred to other parties. Once the company goes into a certain business, then the company will immediately bear the business risk. The most important thing is how to ensure that management's appetite for risk continues to comply with the principle that the higher the risk, the higher the expected return, high risk, high return. Thus, it can be concluded that business risk is the risk associated with the company's competitive position and the company's prospects for growth in an ever-changing market” (Dinayu et al., 2020)

$$D \quad o \quad O \quad L = \frac{(E \quad t-E \quad t-1)/(E \quad t-1)}{(S \quad t-S \quad t-1)/(S \quad t-1)} \dots\dots\dots(6)$$

**Capital Structure.** The “optimal capital structure is a capital structure that optimizes the balance between risk and return so as to maximize share prices. The capital structure uses the DER (Debt to Equity Ratio) proxy which is calculated using the ratio of total debt to own capital (Natsir and Yusbardini, 2020):

$$D = \frac{T \quad d}{e} \dots\dots\dots(7)$$



## RESULTS

The subjects in this study are companies in the agricultural sector listed on the IDX from 2017 to 2021. The company data is obtained from the official website of the Indonesia Stock Exchange (IDX), namely [www.idx.co.id](http://www.idx.co.id) and the company's official website. The sampling technique used in this research is the purposive sampling method, with several criteria the researcher has determined. Twenty-four companies meet the purposive criteria with a total of 120 observations.

**Multicollinearity Test Results.** The multicollinearity test was conducted to investigate whether there is a high correlation between the independent variables in the multiple linear regression model. The presence or absence of multicollinearity can be detected from the correlation value matrix between independent variables; if the value is above 0.800, then it can be said that there is a reasonably high correlation and indicates the existence of multicollinearity between independent variables (Liang and Natsir, 2019). The following information is the results from the Multicollinearity Test:

**Table 1.** Multicollinearity Test Results

	ROA	GROWTH	DOL	DER
ROA	1.000	0.042	0.003	-0.036
GROWTH	0.042	1.000	0.021	-0.073
DOL	0.003	0.020	1.000	-0.052
DER	-0.036	-0.073	-0.052	1.000

Source: author data processing

Based on the information from the multicollinearity statistical results, as shown in **Table 2**, the correlation value does not exceed the number 0.800. So this indicates no multicollinearity problems occur between independent variables in this study.

**Panel Data Estimation.** Panel Data Estimation is to choose the most suitable model from the three existing models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The tests carried out are the Chow, Hausman, and Lagrange tests. Based on the results of data processing from the above companies using Eviews version 9, the researchers can obtain the calculation results, which are divided into 2 model structures, namely as follows:

**Sub-structure I.** In sub-structure, I, the dependent variable used is Firm Value with Tobins'Q proxy, which is regressed against ROA, GROWTH, Business Risk (DOL), and Capital Structure (DER).

**Chow Test Results.** The following are the results of the Substructure I Chow Test, which compares the CEM with the FEM:

**Table 3.** Results of Substructure I Chow Test on Tobins'Q

Effects Test	Statistic	d.f.	Prob.
Cross-section F	19.037	(23,920)	0.000

Source: Results of data processing

From the results of the Chow test in **Table 2** above, the P-value of 0.000 is smaller than 0.050, which means H0 is rejected. So the Fixed Effect Model is a better model to use



than the Common Effect Model. Furthermore, it is necessary to carry out the Hausman test to compare which model is better to use among the FEM and the REM.

**Hausman test results sub-structure I.** Table 3 below displays the result of the Hausman Test of substructure I, which compares the FEM and the REM:

**Table 4.** Results of Sub-structure-I Hausman Test on Tobins'Q

Test Summary	Chi-Sq Statistic	Chi-Sq. d.f.	Prob
Cross-section random	11.275	4	0.010

Source: Output of data processing

Based on the results of the Hausman test in Table 3 above, the probability value of a cross-section random is 0.010, where this value is smaller than 0.050. It means that H0 is rejected. So the Fixed Effect Model is more appropriate for estimating panel data than the Random Effect Model.

**Regression Analysis of Substructure I.** From the Chow and Hausman test results above, the Fixed Effect Model is the most suitable model. Table 4 shows the results of the Fixed Effect Model regression:

**Table 5.** Fixed Effect of Substructure Model I on Tobins'Q

Variable	Coefficient
C	1.056
ROA	0.279
DOL	0.001
GROWTH	-0.011
DER	0.019

Source: data processing by author

From the information results of the panel data testing above, the regression equation is stated as follows:

$$\text{Tobins'Q} = 1.056 + 0.019(\text{DER}) + 0.001(\text{DOL}) + 0.279(\text{ROA}) - 0.011(\text{GROWTH}) \dots (6)$$

Equation (6) explains the relationship of the independent variables (DER, DOL, ROA, and GROWTH) to the dependent variable Tobins'Q. The magnitude contained in the coefficient of each independent variable shows the magnitude of the influence between the variables related to Tobin's Q.

The value of the Firm Value coefficient measured using the Tobins'Q ratio can be seen from the constant value (C), which is 1.056, which means that if the other independent variables are assumed to be constant or zero, the Tobins'Q value is 1.056. The profitability coefficient value measured using ROA for each unit has a positive effect of 0.279 in Tobins'Q, assuming that the coefficients of other independent variables remain. The Business Risk coefficient value measured using DOL has a positive impact of 0.001 for each unit on Tobins'Q, with the presumption that the coefficients of other independent variables remain. The different result here is that the coefficient of Growth Opportunity (Growth) shows a negative direction, namely -0.011, which means that each growth unit has a negative effect of 0.011 units on Tobins'Q and the presumption that the coefficients of other independent variables remain. Meanwhile, the value of the Capital Structure coefficient measured using the DER ratio shows a positive direction, namely 0.019, which



means that each DER increases by one unit and with the assumption that the coefficient value of the other independent variables is fixed or zero, then Tobins'Q will increase by 0.019.

**Partial t Test.** The statistical t-test is carried out to determine whether there is a significant effect between the independent or the variables. The test used a significant 5 per cent (0.050). The results of the t-test on substructure one are as follows:

**Table 6.** Partial t-Test Result of Substructure I against Tobins'Q

Variable	t-Statistic	Prob.	Hypothesis
C	77.964	0.000	-
ROA	1.829	0.071	rejected
GROWTH	-2.812	0.006	accepted
DOL	3.566	0.001	accepted
DER	5.567	0.000	accepted

Source: data processing output

From the results of the t-test on substructure-1, as shown in **Table 5**. the following explanation is given:

**Impact of Profitability on Firm Value.** The profitability variable, as measured by the ratio of ROA, has a probability value of 0.071, where this value is greater than 0.050. So, H1 is rejected, meaning there is no significant effect between the company's financial performance and firm value.

**Effect of Growth-Opportunity on Firm Value.** The Growth Opportunity (GROWTH) variable has a probability value of 0.006; this value is smaller than 0.050. So, H2 is accepted, which means that Growth Opportunity affects firm value significantly.

**Effect of Business Risk on Firm Value.** The Business Risk Variable, as measured by the DOL ratio, has a probability value of 0.000, where this value is smaller than 0.050. So, H3 is accepted, which means that there is a significant influence between Business Risk on firm value.

**Effect of Capital Structure on Firm Value.** The capital structure variable, as measured by the DER ratio, has a probability value of 0.000, where this value is below 0.050. So, H4 is accepted. It means Capital Structure significantly affects firm value.

**Sub-Structure-II Analysis.** In sub-structure II, the dependent variable used is DER which is regressed against DOL and ROA and Growth as independent variables.

**Chow Test of Substructure II.** The following are the results of the Substructure II Chow Test, which compares the Common Effect Model with the Fixed Effect Model:

**Table 7.** Results of Substructure II Chow Test on Capital Structure (DER)

Effects Test	Statistic	Degrees of freedom	Prob.
Cross-section F	8.182	(23,890)	0.000
Cross-section Chi-square	136.325	23	0.000

Source: processing by author

From the results of the Chow test in **Table 6**, the P-Value is 0.000, where this result is below 0.050, which implies H0 is rejected. Therefore, the Fixed Effect Model is a more appropriate model to estimate panel data than the Common Effect Model. Then it is



necessary to carry out the Hausman test to ensure the most suitable model between the FEM and REM.

**Hausman test on substructure II.** Table 7 below presents the result of the Hausman Test for substructure II which compares the Fixed Effect Model with the Random Effect Model:

**Table 8.** Hausman Test Results on Capital Structure (DER)

Test Summary	Chi-Square Statistic	Chi-Square degrees of freedom	Prob
Cross Section Random	1.028	3	0.795

Source: Results of data processing

From the results of the Hausman test in Table 7, the result of the Prob value obtained is 0.795, where this value is greater than 0.050, which means that H0 is accepted. Therefore, the Random Effect Model is more appropriate for estimating panel data than the Fixed Effect Model. Because the Chow and Hausman tests give different results, a Lagrange test is needed to compare the REM and the CEM.

**LM Test of Substructure II.** The following are the results of the substructure II Lagrange Test, which compares the Random Effect Model (REM) with the Common Effect Model (CEM)

**Table 9.** The output of the Substructure II LM Test on Capital Structure (DER)

	Test Hypothesis		
	Cross Section	Time	Both
<b>Breusch Pagan</b>	79.679 (0.000)	0.577 (0.448)	80.257 (0.000)

Source: Results of data processing

From the results of the LM test in Table 8, the Prob value on the "Both" column is obtained as 0.000. If this value is below 0.050, that is to say, if H0 is rejected, then the REM is the most appropriate model used to estimate panel data.

**Regression Analysis of Substructure- II.** From the results of the Chow, Hausman and LM test above, the best model to be used is the Random Effect Model. The regression test results with the Random Effect Model on Capital Structure (DER) are displayed in the table below.

**Table 10.** Regression Coefficient on Capital Structure (DER)

Variable	Coefficient
ROA	0.055
GROWTH	-0.469
DOL	-0.001
C	1.451

Source: Results of data processing



The results of statistical tests, as shown in **Table 9**, can be explained as follows: The value of the Capital Structure constant as measured by DER is 1.451, meaning that if the value of the other independent variables is fixed or zero, then the DER value is 1.451. The coefficient value of ROA shows a positive direction, which is 0.055; this means an increase in ROA of one unit will drive growth in DER by 0.055.

The value Growth shows a negative direction, which is 0.469, which means that if Growth increase by one unit will cause a decrease in DER of 0.469. The value of the Business Risk coefficient measured using DOL shows a negative direction, namely 0.001. It means that if DOL increases by one unit will push DER down by 0.001 units.

**The t-test result of Substructure-II.** **Table 10** below shows the t-test result of substructure II with DER as the dependent variable:

**Table 11.** Partial t-Test on DER

Variable	t-Statistic	Prob.	Hypothesis
ROA	0.512	0.610	rejected
GROWTH	-1.344	0.182	rejected
DOL	-1.994	0.049	accepted
C	11.696	0.000	-

Source: data processed by the author

From the result informed in table **Table 10**, the t-test result on substructure II, the following explanation is given:

**Effect of Profitability on Capital Structure.** The profitability variable (ROA) has a probability value of 0.610, where this value is greater than 0.050. Therefore H5 (Hypothesis 5) is rejected. This means that Profitability had an insignificant effect on Capital Structure.

**Effect of Growth Opportunity on Capital Structure.** The Growth Opportunity (GROWTH) variable has a probability value of 0.182. This value is greater than the significance level of alpha 0.050. Then H6 (Hypothesis 6) is rejected, meaning that Growth Opportunity doesn't significantly affect Capital Structure.

**Business Risk Effect on Capital Structure.** The Business\_Risk Variable, measured by the DOL ratio, has a probability value 0.049. This probability is smaller than 0.050. So, H7 (Hypothesis 7) is accepted, which means that there is a significant influence between Business Risk on Capital Structure

**The coefficient of determination (R<sup>2</sup>) test result.** The R<sup>2</sup> test was conducted to explain how much the company's value as the dependent variable can be explained by independent variables such as profitability, liquidity, capital structure, and other variables outside this study. The coefficient of determination test for substructure one and substructure two models are as follows:

**Table 12.** Coefficient of Determination Test Results

	R <sup>2</sup>	Adjusted R <sup>2</sup>
Substructure 1 (Tobin's Q)	0.843	0.797
Substructure 2 (DER)	0.057	0.055

Source: data processing output



The coefficient of determination (Adjusted R<sup>2</sup>) on the Tobins'Q variable shown in **Table 11** above is 0.797 or 79.700 per cent. These results can be interpreted that ROA, DOL, GROWTH and DER as independent variables can explain 79.700 per cent of the total variance of Firm Value. The other 20.300 per cent can be explained by variables outside of this study. Meanwhile, The variable of Capital Structure can only be defined by ROA, DOL and Growth of 5.550 per cent. In comparison, other variables not included in this study explain the remaining 94.450 per cent of the Capital Structure variance.

**Mediation Effect Test (Sobel Test).** The Sobel test in this study was conducted to determine the ability of the intervening variable as a mediator. The test was carried out at a significance level of 5 per cent. If the T-Statistic on the Sobel test is greater than 1.658, then the hypothesis is accepted (there is a mediating effect). The results of the Sobel test are shown in the following table:

**Table 13.** Sobel Test Results

Indirect effect	Sobel T-Statistics	Description	Description
ROA → DER → Tobins Q	-0.179	Hypothesis H8 is accepted	There is a mediation effect
GROWTH → DER → Tobins Q	-1.956	Hypothesis H9 is accepted	There is a mediation effect
DOL → DER → Tobins Q	-1.965	Hypothesis H10 is accepted	There is a mediating effect

Source: from data processed

In the indirect effect test between ROA on Tobins'Q and DER as a mediating variable, as shown in **Table 12**, the Sobel T-Statistic obtained is -0.179. And the t-table value used is 1.658, with a significance level of 0.050. Result of |t\_score| greater than t\_table ( 0.179 greater than 1.658), which means that H8 (Hypothesis 8) is accepted. In other words, the capital structure significantly mediates the effect of ROA on Tobins'Q.

In the Sobel test result shown in **Table 12**, the indirect effect between GROWTH on Tobins'Q with DER as a mediating variable, the Sobel T-Statistic obtained is -1.956. And the t-table value used is 1.658, with a significance level of 0.050. Result of |t\_score| greater than t\_table (1.956 greater than 1.658), which means that H9 (Hypothesis 9) is accepted. In other words, the capital structure can mediate the effect of GROWTH on Tobins'Q

In the test of the indirect effect between DOL on Tobins'Q, where DER is a mediating variable, the Sobel T-Statistic obtained is -1.965. And the t-table value used is 1.658 with a significance level of 0.050. The value of |t score| greater than t table (1.965 greater than 1.658). Its means that H10 (Hypothesis 10) is accepted. In other words, the capital structure can mediate the effect of DOL on Tobins'Q.

## DISCUSSION

**The Effect of Profitability on Firm Value.** As shown in **Table 5** previously, the statistical test results show that profitability has a positive effect on firm value proxied by Tobins'Q, although not significant. This means that profitability has yet to be a good predictor of firm value.

This statement is still by the theory (Sembiring and Trisnawati, 2019), which says the higher the profitability of a company, the better the prospects for the company, which means that the company's value will also be considered suitable for investors. By

increasing the ability of a company to generate profits, the company's stock price will undoubtedly be higher because of the high ratio that the company can cover the investment that has been used. According to the opinion (Yulianti and Diyani, 2018), the company's value, which is an indicator of its success, is often seen from its share price. Then the higher the company's stock price will increase the company's value and increase investors' confidence to invest in the company. The results of this study are also in line with the results of research conducted by (Arifianto and Chabachid, 2016), (Asih et al., 2019), (Hera and Pinem, 2017), (Lubis et al., 2017), (Meivinia, 2019), (Pratama, 2018), and (Sabrin et al., 2016) who found that profitability had a significant positive effect on firm value.

**The Effect of Growth Opportunity on Firm Value.** Based on the results of hypothesis testing as shown in **Table 5**, it is found that growth opportunity has a negative and significant effect on firm value in agricultural sector companies listed on the Indonesia Stock Exchange for the 2017 to 2021 period. Growth is the impact of the increase in total assets of the company from operational changes caused by growth or decrease in business volume. The company's growth is highly expected by internal and external parties of the company, because good growth is a sign for the company's development .

From the investor's point of view, a company's growth is a sign that the company has a beneficial aspect, and investors will expect the rate of return from the investment made to show good development. From this explanation, companies experiencing growth or development can provide a positive signal for increasing company value.

The results of the analysis of this study indicate that growth opportunity has a negative and significant effect on firm value, it can be explained that, according to (Crosswell and Graham, 2020) companies with high growth rates require more funds in the future, especially external funds to meet their investment needs or to meet their growth needs. This means that to finance growth will require external funding (debt). An increase in debt is interpreted by outsiders about the company's ability to pay obligations in the future or there is a high business risk, this will be responded negatively by the market, this will certainly affect the decline in the value of the company .

**The Influence of Business Risk on Firm Value.** Based on the results of hypothesis testing as shown in **Table 5**, it is obtained that Business Risk has a positive and significant effect on firm value in agricultural sector companies listed on the IDX for the 2017 to 2021 period. The hypothesis, which states that the magnitude of business risk has a negative effect on firm value, is rejected. This indicates that an increase in business risk which indicates a decline in firm value, is not proven.

According to (Mohammed and Knapkova, 2016), the corporate risk is a condition where the possibilities that cause the performance of a company to be lower than what a company expects due to certain uncertain conditions in the future . However, the company's risk can increase the company's value by understanding the risks that exist in the company to stabilize the company's performance to meet targets and minimize failure in the company to create profitable business opportunities. Opinions regarding the relationship between the company's risk and the value of the company are supported by several research results from (Makmur et al., 2022), who said there is a positive direction between the company's risk and the company's value. In addition, research conducted by (Irawati et al., 2019) and (Pangestuti et al., 2022) said that there is a negative relationship between company risk and firm value.

**Effect of Capital Structure on Firm Value.** Based on the results of the t-test statistic in **Table 5** above, it is found that capital structure has a significant positive effect





on firm value. This means that an increase in debt will encourage an increase in firm value. This is possible because if income increases, profits will increase so that the company can increase dividend payments, attracting investors to invest in the company.

This result can be interpreted that the higher the value of debt (capital structure) it can increase the value of the company. This shows that if the company uses more and more long-term debt to finance its assets, it can increase the value of the company. This is in accordance with the trade off theory where companies can take advantage of debt to the extent that it is beneficial to the company, such as savings in taxes or other costs compared to higher interest payments. In addition, it also supports the Signaling theory which states that when a company uses internal funds to fund its business, it will be seen by investors as a significant positive signal because investors' perception when the company uses debt means that the company has the ability to increase capacity and pay debts. The results of this study are inline to the results of research conducted by (Anggara et al, 2019), and (Uli et al., 2020) which found that capital structure has a positive effect on firm value .

**The Effect of Profitability on Capital Structure.** Based on the results of the t-test in **Table 10**, it is explained that the probability value for the independent variable profitability as measured by the ratio of Return on Assets (ROA) with capital structure as measured by the Debt to Equity Ratio as the dependent variable is 0.610, which is greater than 0.050, then H5 (Hypothesis 5) is rejected, which means that profitability has an insignificant positive effect on capital structure.

According to (Rahayu et al., 2019), the company's profitability plays an essential role in determining the funding source for the capital structure. Therefore, the company's decision to design the capital structure is influenced by the company's profitability. The results showed that profitability did not significantly affect the capital structure. Based on the results of statistical tests, profitability has a positive, although not significant, effect on capital structure. When the company has internal funds obtained from the use of its assets, the company tends to distribute the funds to shareholders or stakeholders. So the company will use external funds to fund their investments. This condition causes high or low profitability, or company profits will not affect the company's funding decisions. High or low profitability will also not affect the company's capital balance. Companies that use their internal funds for the welfare of stakeholders will reduce the company's net income; this will serve to reduce the company's tax burden. The results of this study are in line with the results of research conducted by (Liang and Natsir, 2019) and (Thaib and Dewantoro, 2017), which found that profitability had a significant positive effect on capital structure.

**Effect of Growth Opportunity on Capital Structure.** The results obtained from hypothesis testing indicate that Growth Opportunity has no significant effect on capital structure. Thus, the sixth hypothesis statement, which states that Growth Opportunity positively impacts the capital structure, is rejected. Companies with high or low asset growth do not influence the capital structure. This result aligns with the finding research (Barqoya, 2019). Good company growth will experience an increase in total assets. Companies with more total assets have been able to meet the company's funding needs, so the company does not need debt but use internal funding sources. So companies with high or low asset growth in meeting their funding need only sometimes take funds from debt but prefer internal financing. This is supported by the Pecking Order theory, where companies prefer internal funding first to external financing in choosing their funding sources.

**Effect of Business Risk on Capital Structure.** The results obtained from hypothesis testing indicate that business risk significantly affects capital structure. Thus, the seventh



hypothesis statement states that business risk negatively affects the capital structure is accepted. This means that the company sufficiently considers business risk in determining the size of the debt. This is a difference of opinion between the company and investors because investors tend to like a high business risk. After all, it is expected that with high business risk, the higher the return obtained.

The results of this study contradict the research conducted by (Laviola and Santioso, 2021), which states that business risk has no significant effect on capital structure. This study supports the trade-off theory that using debt has tax benefits, so companies will use debt to a certain level to maximize firm value.

**The Effect of Profitability on Firm Value with Capital Structure as a Mediating Variable.** Based on the results of the Sobel test in **Table 12**, it was found that capital structure can mediate the effect of profitability on firm value.

From the analysis results, profitability can increase the capital structure by a significant amount and make a large contribution to firm value because the capital structure can mediate the effect of profitability on firm value. Based on the Pecking Order Theory (Yulianto and Witiastuti, 2021) says that companies that have a high level of profitability prioritize the use of internal funds compared to debt to meet corporate funding decisions. Meanwhile, based on the Trade-Off Theory (Ghosh, 2017) states that there is an optimal level of debt in the relationship between capital structure and firm value. The direct benefits of prioritizing internal funds can optimize the capital structure, increasing the company's value. The results of this study are in line with the results of research conducted by (Purnomo and Erawati, 2019), (Thaib and Dewantoro, 2017), and (Warsono and Zoebaedi, 2019), which found that profitability mediated by capital structure significantly affects firm value.

**The Effect of Growth Opportunity on Firm Value with Capital Structure as a Mediating Variable.** Based on the results of the Sobel test, the results show that capital structure can mediate the relationship between growth opportunity and firm value. Based on this research, the capital structure can mediate the relationship between growth opportunity and firm value. In addition, growth opportunities can also directly affect the value of the company. This is because companies with the opportunity to achieve high growth will encourage the company to continue expanding. Debt does provide benefits, but using internal capital in a balanced manner will reduce the company's risk so that investors are interested in investing. The result of this study supports the findings of (Krisnando et al., 2019), which state that growth opportunity influences firm value through capital structure. But the results of this study contradict the findings (Yanti et al., 2018), which state that capital structure cannot mediate the effect of growth opportunities on firm value in Pharmaceutical Sector Manufacturing Companies listed on the IDX for the 2011-2015 period.

**The Effect of Business Risk on Firm Value with Capital Structure as a Mediating Variable.** Based on the path analysis test results, it is found that capital structure can mediate the effect of business risk on firm value.

This result also accepts signal theory which states that investors react when management provides information. Business risk affects the value of the company mediated by the capital structure, providing an overview of the real effect of business risk on increasing company value through the capital structure that business risk used as the basis for capital structure can have a better impact on achieving company value compared to the direct effect of business risk on value company. The results of this study indicate that if the company has fluctuating profits and high debt will result in increased business



risk, increased business risk will also increase the company's capital structure, a high company capital structure indicates the company has greater debt; this will give a negative signal to investors so that the value of the company will decrease. The finding of this study is in line with research by (Yunan, 2018), who found that capital structure mediates the effect of business risk on firm value.

## CONCLUSION

This study was conducted to determine the effect of financial performance, growth opportunity, and business risk on firm value with capital structure as an intervening variable in the agricultural sector on the BEI using panel data regression models. So from the results of data processing and tests that have been carried out above, it can be concluded as follows: Profitability has a positive not significant effect on firm value, Growth opportunity has a negative and significant effect on firm value, Business risk has a positive and significant effect on firm value, Capital structure has an insignificant positive effect on firm value. While profitability has a significant positive effect on capital structure, growth opportunity has no significant effect on capital structure, and business risk has a significant effect on the capital structure. Another result obtained are Capital structure does not mediate the profitability and growth opportunity on firm value, but capital structure can mediate the effect of business risk on firm value.

It is recommended that companies pay attention to factors that can increase company value, such as improving financial performance, being aware of business risks, and optimizing the use of capital structures. Capital structure is also important to note because a suitable capital structure can mediate business risk on firm value.

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