

TAX AVOIDANCE AND DERIVATIVES' EFFECT ON FIRM VALUE MODERATED WITH OWNERSHIP CONCENTRATION AND AFFILIATED RELATIONSHIP

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ABSTRACT

The purpose of this study is to examine the impact of tax avoidance and derivatives on firm value, as well as the role of ownership concentration and affiliate ties in modulating the relationship between tax avoidance and firm value. All energy sector businesses listed on the Indonesia Stock Exchange make up the study's population, which will be examined between 2020 and 2022. The sample for this study, which was conducted during the same time period, consisted of 44 energy-related enterprises. The data processing for this study included Eviews 13 software, as well as multiple linear regression and Moderated Regression Analysis methods. The results of the study show that ownership concentration significantly and positively raises firm value. However, derivatives and tax avoidance have no significant effect on it. Ownership concentration and affiliation is proven fail to strengthen the relationship between tax avoidance and firm value. According to this study, investors consider the level of concentrated ownership when making investment decisions. This means that the company's key shareholders must perform their duties to the best of their abilities in order for the company to develop and maintain strong future prospects.

Keywords: Firm Value, Tax Avoidance, Derivative, Ownership Concentration, Affiliated Relationship

1. INTRODUCTION

More and more investors are thinking about investing in the Indonesian stock market as time goes by. Statistics from the Kustodian Sentral Efek Indonesia (KSEI) show a considerable growth of 37,68% in the number of investors in the Indonesian foreign currency market in 2022 compared to the previous year, with a total of 10,31 million investors by the end of the decade. (www.dataindonesia.id) [1]. Accordingly, on December 28, 2022, the value of the Bursa Efek Indonesia (BEI) stock market had climbed by over 15,2% from 2021. The overall improvement of this trend suggests that investor money is increasingly being invested in publicly traded companies in BEI. Despite this, while choosing the company to invest in, the investor makes a decision on the company that got the investment based on a variety of factors, with the value of the firm that will be purchased ranking as the most crucial of them. Firm value, according to Massie, Tommy, and Koleangan [2], is the price that investors are willing to pay to purchase a company. As a result, the firm's main goal is to build firm value, which can be achieved through a number of tactics selected by management with the aim of raising profits for investors [3].

To enhance the company's earnings, which ultimately can maximize the firm value, a variety of management techniques may be applied. To reduce the amount of taxes that must be paid is one of them [4]. This is accomplished with paying the least amount of tax while yet adhering to all rules and regulations. Tax avoidance is what this practice is known as. Additionally, a firm can cut costs by limiting possible losses, such as those brought on by changes in the value of the Indonesian rupiah in relation to other currencies that are connected to the company's commercial activity. Derivative instruments must be utilized as hedging methods in order to accomplish this. The purpose of the hedging strategy is to lessen the risk of future loss brought on by changes in

interest rates or currency rates [5]. The valuation of a firm can also be impacted by other factors, such as ownership concentration and affiliated relationships, in addition to tax avoidance and derivatives. Ownership concentration and affiliated relationship are expected to moderate the relationship of tax avoidance and firm value since they are two internal factors that might affect the decision of the firm, for which the decision made and the power had are expected to affect in firm value. In line with that, the research done by Nafti, Kateb, and Masghouni also examines the same relationship of these two moderating variables [21].

According to research by Irawan & Turwanto, tax avoidance significantly and positively affects firm value [13]. On the other hand, Lestari & Ningrum's study found that tax avoidance negatively affects firm value [36]. Nafti et al.'s study, however, came to the actual conclusion that tax avoidance had no significant impact on firm value [21]. Research by Pramana & Yasa shows that firm value is positively impacted by derivatives (in the form of hedging actions) [27]. These findings run counter to Butt, Rizavi, Nazir & Shahzad, which indicated a negative correlation between derivatives and firm value [16]. Ayturk, Gurbuz, and Yanik's study, however, discovered no relationship between the use of derivatives and firm value [24]. Research by Khalasha & Lestari demonstrate that ownership concentration has a positive and significant impact on firm value [20]. Aviyanti & Isbanah's research, on the other hand, discovered that concentrated ownership significantly and negatively affects firm value [28]. However, Asyam & Cahyadi's research revealed that ownership concentration had no impact on firm value [33]. Nafti, et al.'s research did not discover any moderating effect of ownership concentration on the relationship between tax avoidance and firm value [21]. However, ownership concentration has a significant effect on moderating the relationship between tax avoidance and firm value, according to research study by Santana and Rezende [29]. Nafti et al. discovered that family management had a positive and significant effect on the relationship between tax avoidance and firm value [21]. In contrary with that, Laurenty & Imelda [34] discovered that family management fails to strengthen nor weaken the relationship between tax avoidance and firm value. These differences in results mentioned above therefore create a gap that requires further research.

In Indonesia itself, the firm value of energy sector enterprises is not always high [35]. This is due to the fact that share values in the energy sector change cyclically. Aside from that, there were a lot of economic upheavals that occurred during the research era, namely 2020 to 2022, one of which was the COVID-19 pandemic. As the most recent three years with continuous economic conditions beginning in 2020 makes the 2020–2022 period suitable for analysis in this study. This is evident in the precipitous drop in the Composite Stock Price Index (IHSG).

A drop in the IHSG, which signifies a drop in the company's share price, will reduce the firm value. As a result, it is hoped that this research will be able to provide relevant information to increase firm value, in addition to provide investors and other users of financial reports with more insight into other factors that shape the firm value of energy sector enterprises listed in Indonesian Stock Exchange (IDX) other than share prices and other components listed in financial reports. Furthermore, the use of research subjects, specifically the energy sector, is motivated by the substantial opportunity to grow investment potential in this sector, so it is critical for companies and other users of financial reports to understand the factors in this research that can influence the firm value of energy sector companies.

This study seeks to ascertain the impact of tax avoidance and derivatives on firm value, as well as the moderating influence of ownership concentration and affiliated relationship on the

relationship between tax avoidance and firm value. This research is expected to provide benefits in the form of additional insight and knowledge to external parties such as creditors, investors, government, and society, as well as evaluation material and knowledge to offer enhancements for the future implementation of operational activities for related companies.

Jensen and Meckling [6] defined agency theory as a situation in which one or more parties (principals) demand that other parties (agents) carry out a variety of tasks in their names and permit the payment of a variety of costs associated with the communication of information to the targeted agents. Both agency-level organizations and principals have certain goals and objectives in terms of maximizing utility [7]. The principal that shines out in this study is an investor, which is consistent with Tebiono & Sukadana's study [8]. The firm, however, is the agency that shines out in this analysis.

The amount of information that the principal and agents are aware of varies. Since they are the ones performing operational duties, the firm often has access to more information than investors do. Investors won't always receive every piece of information that the company is aware of. But when making an investment, investors often want to learn as much as they can about the company they are supporting. A high firm value suggests that the investor has a positive outlook on a specific company. To do this, the business must be dependable and open with investors when sharing information on a range of relevant subjects, such as the usage of derivative goods as hedging instruments and the execution of tax avoidance.

Michael Spence first proposed the Signalling Theory in 1973 with his study Job Market Signalling. The receiver and the signal-giver are the two parties that are discussed in this theory [9]. In this study, management is regarded as the party sending the signal. Investors are seen as signal receivers in the meantime. This is align with Simorangkir's study [10]. Through the signals offered, management works to give investors pertinent information. It is hoped that this data would be useful in making choices. Following that, investors will modify their attitudes and choices in response to the indications they get. Management anticipates that the signals will lessen information asymmetry. The company has reduced the occurrence of information asymmetry by transparently transmitting signals and information.

If investors see any information asymmetry, it will likely cause them to become less interested in investing in the firm, which will result in a decline in the firm's value. Investors will typically steer clear of investing in companies that are poorly understood and do not supply the information they need to know. Therefore, in order to increase firm value, it is crucial for businesses to reduce information asymmetry. The company's future prospects will be less unknown thanks to the disclosure of reliable information. This is anticipated to improve investor interest in investing in businesses with transparent and reliable information disclosure, which is anticipated to increase the firm value.

Firm value is defined by Harmono in Kurnia as company performance that is represented in the share price of the company [11]. According to Massie, Tommy, and Koleangan [2], firm value is the price that investors are prepared to pay in order to purchase a firm. Through the connected explanation, it is clear that a firm's worth will increase in direct proportion to an investor's assessment of the company or level of investment interest.

A company's efforts to reduce the tax burden of the tax burden paid is referred to as tax avoidance. Tax avoidance, however, is done legally and without breaking any laws by seeking

for gaps in the rules that are now in place [4]. Tax avoidance is not a breach of the tax law because the payment of the tax burden is still made in compliance with its rules [12]. According to Irawan & Turwanto [13] and Sare & Meiden [14], tax avoidance positively and significantly affects firm value. Yet, according to Violeta & Serly [26], tax avoidance negative and significantly affects firm value. The gap that exists because of the differences of these research results requires deeper exploration. Companies search for gaps in the relevant tax laws in order to avoid paying taxes. This attempts to ensure that businesses can maintain as low of a tax burden as feasible without breaking the present tax laws. Due to the reduced tax burden, there is a greater flow of cash and profits that the business can employ for a variety of initiatives, including internal growth. The company therefore has more money that can be used for business activity expansion and improvement as a result of making the most of its profits. It is expected that this will boost its existing performance and profitability. Considering the current condition of the company and the company's future prospects which are expected to get better, it is hoped that investors will be interested in investing their funds in the company. The value of the firm will then rise as investors' interest in investing in the company. The issues align with agency theory, which holds that companies, acting as agents, are given directives to conduct business operations by investors acting as principals. Based on the explanation above, this hypothesis is developed :

H1: Tax avoidance has a significant positive influence on firm value.

Brigham and Houston define derivatives as financial instruments whose value is based on the market price of another asset underlying the instrument [15]. Derivatives are used to reduce the risks brought on by changes in interest rates and currency exchange rates. The following list of derivative types is provided.

- A. Swaps, which is an obligation to trade something between the parties to an agreement and typically takes the shape of an obligation to pay a specific sum. Swaps typically incorporate both interest and exchange rates.
- B. An option is a contract that gives the holder the right to buy or sell a good at a certain price during a specified time period.
- C. Forward contracts, which are contracts between parties that bind them and stipulate that one party will buy a commodity at a specific price and time while the other party will sell it.
- D. Futures contracts, which are conceptually similar to forward contracts but differ in the following three ways.
 - 1) In general, forward contracts are created only for discussion between the two parties and are not traded after being reached an agreement. This distinction arises because futures trading is typically done on the stock exchange.
 - 2) No withdrawal of the underlying assets. This is possible because neither party uses any other form of payment other than cash to fulfill their obligations under the contract, with the intention of paying the difference between the agreed-upon price and the real price on the due date.
 - 3) A technique called "market to market" tracks gains and losses based on changes in commodity prices. A further payment will be made if required to cover losses.

According to Butt, et al., the negative and significant relationship is found on the relationship of derivatives and firm value [16]. Yet, according to Pramana & Yasa [27], derivatives positively affects firm value. Differences in results provided therefore creates a gap that requires further exploration. Companies should be able to reduce any risks associated with changes in interest rates and exchange rates by using derivatives. The financial statements disclose the usage of derivatives as a hedge so that investors are aware of it. However, investors do not always view a company's decision to use derivatives favourably. This may occur due to investors' unfamiliarity

and lack of comprehension of these derivative instruments. One of the reasons why investors don't fully grasp these derivative products is the tiny number of Indonesian businesses who utilize them for hedging. Investors will subsequently refrain from making investments in businesses that provide information that is difficult for the appropriate investors to understand. This is in line with signalling theory, whereby investors typically steer clear of businesses that offer information they find difficult to understand. According to this explanation, the use of derivatives by a firm does not increase investors' desire to invest their money in that company, which is also related to the firm's value. From the explanation above, this following hypothesis is developed:

H2: Derivatives have a negative and significant effect on firm value.

Ownership concentration is a measure of the distribution of decision-making power for managers and owners of the company in question [17]. It occurs when a small number of groups or individuals own the majority of the shares in a company. The percentage of the greatest shareholding that owns more than 5% of the total equity is used to calculate ownership concentration [18][19]. Research done by Khalasha & Lestari found that there is a positive and significant effect between ownership concentration and firm value [20]. In contrast to that, Aviyanti & Isbanah [28] found that ownership concentration affects firm value negative and significantly. These different results created a gap that requires further exploration. A corporation's high concentration of ownership demonstrates the key shareholders' increased power to govern the company. The company's primary stockholders undoubtedly do not want any setbacks. Major shareholders have more latitude in managing the business when there is a high ownership concentration. As a result, the primary shareholder entity will make an effort to exert control over, monitor, and make decisions that can contribute to the company's long-term growth and sustainability. This will then give investors confidence to put their money in the business, which will boost the value of the firm. This is also consistent with signalling theory, which holds that the presence of ownership concentration, which is disclosed in the company's annual report, is information that investors can comprehend and will therefore pique their interest in funding the enterprise in question. Based on those explanation, this following hypothesis is formed:

H3: Ownership concentration has a positive and significant effect on firm value.

The research done by Nafti, et al. found that ownership concentration has no moderation effect on the relationship of tax avoidance and firm value [21]. This is in contrast with research done by Santana & Rezende [29] who found that ownership concentration has moderating effect on the relationship of tax avoidance and firm value. The difference of research results provide a gap which requires deeper research. However, when there is a significant concentration of ownership, shareholders will increasingly speak with one voice about the success of the business they own. The less intervention the minority party may have with the primary shareholders' actions, the less this is tied to that. Therefore, big shareholders are free to choose policies, such as tax avoidance, targeted at guaranteeing that the business may continue to make profits and flourish over a long period of time. There is no information asymmetry in this situation because investors can view information about a company's ownership concentration percentage in its annual report. This is consistent with the signalling theory, which states that investors is more probable to feel interested in making investments in companies when there is no information asymmetry. Future effects of tax avoidance on the business are anticipated to be positive. The greater the ownership concentration in a corporation, the more widely supported tax avoidance will be in order to maximize company earnings that can subsequently be used for commercial development. The benefits of tax avoidance will then make investors want to put more money

into connected businesses. The value of the firm will then rise as a result. The following hypothesis is formed based on the explanation above.

H4: Ownership concentration strengthens the relationship between tax avoidance and firm value.

Affiliated are defined as follows under Regulation Number 41/POJK.04/2020 of the Republic of Indonesia Financial Services Authority regarding Affiliate Transactions and Conflict of Interest Transactions [22]:

- A. Relationships that develop between two businesses because they share at least one board of directors or commissioners;
- B. Relationships that develop between a party and its related party's employees;
- C. Relationships that develop between two businesses due to lineage and marriage up to the second degree in both the vertical and horizontal dimensions;
- D. Direct or indirect relationships between two companies and other parties where one party controls or is controlled by the other;
- E. Direct or indirect relationships between two companies controlled by the same party; and
- F. Relationships between the company and its major shareholders.

The research done by Nafti, et al. found that there is a significant and positive effect of family management in moderating tax avoidance and firm value [21]. The affiliation of a company's board of directors, commissioners, and shareholders typically indicates that those parties will exert their greatest efforts to maximize the company's potential and prospects in the future, including growing earnings. The success of the company in which they are linked will motivate the affiliated parties to work hard for it because it will benefit them. On the other side, the affiliation between coworkers in charge of the company will make them feel more compelled to work together to defend it from the danger of illegal action. The goal of efforts to shield businesses from the possibility of breaking the law is to ensure that they may continue to exist and grow in the long run. Then, this will also benefit parties that are affiliated. Investors can view information about affiliated relationship within a corporation in the annual report, therefore in this instance, there is no information asymmetry. This is consistent with the signalling theory, which holds that investors are more likely to be interested in investing in linked companies when there is no information asymmetry. Affiliate links in business management might thereby boost the usage of tax avoidance. This is due to the fact that the idea of tax avoidance is consistent with the goals of related parties as stated above, namely, that businesses can still lessen the burden associated with tax payments without breaking any laws. By lowering the amount of taxes due, management can devise plans to use more of its income. It is envisaged that higher firm profits will result, which in turn will influence investors' willingness to put more money into connected businesses. Firm value will rise as a result. Based on the explanation above, the following hypothesis is formed :

H5: Affiliated relationships strengthen the relationship between tax avoidance and firm value.

The hypotheses formulated above are translated to the conceptual framework as follows :

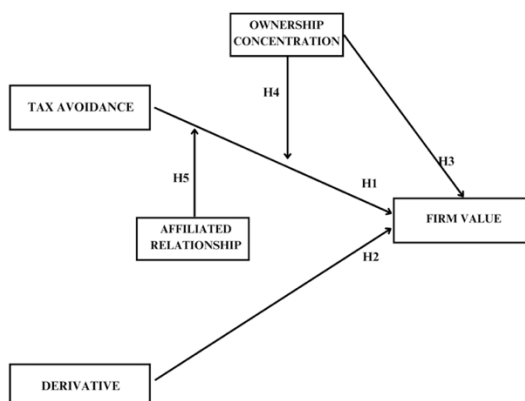


Figure 1. Conceptual Framework

2. RESEARCH METHOD

In this study, a quantitative method is used with a descriptive research methodology. Secondary data, or information that has already been analyzed and is accessible to other researchers, is used in this study. Figures from financial reports posted on the Indonesia Stock Exchange website (<https://www.idx.co.id/>) and from the official websites of publicly traded firms that provide yearly reports are used as secondary data in this study. The Microsoft Excel 365 application and Eviews version 13 software were also used for data processing. The energy sector businesses listed on the Indonesia Stock Exchange (BEI) throughout the research periods of 2020, 2021, and 2022 are the subject of this study, and data was collected from January 1, 2020, to December 31, 2022. The selection of samples are done using purposive sampling method, with several criterias as follow : 1) energy companies that listed on Indonesian Stock Exchange (BEI) for the period of 2020-2022, 2) Publish the annual report for the fiscal year 2020-2022 that ended at December 31, that have been audited by independent auditors, 3) Did not conduct the Initial Public Offering (IPO) between 2020-2022, 4) include the information on affiliated relationships held by the board of commisioners, directors, and controlling shareholders in the annual report for the 2020-2022 period.

Tax avoidance and derivatives are the independent variables in this study. The dependent variable is the firm value. Additionally, this study makes use of moderating variables in the form of affiliate connections and ownership concentration. The variables and proxy used in this research are concluded below. The total companies that are valid to be the sample of this research is 44, with the total data of 132.

Table 1. Operational Variables & Formula
 Source: Compiled by Author

Variable	References	Formula	Measurements
Firm Value	Chung & Pruitt [25]	$\frac{MV \text{ of Equity} + BV \text{ of Liabilities}}{BV \text{ of Assets}}$	Ratio
Tax Avoidance	Nafti, et al. (2020) [21]	$\frac{\text{Tax Expense}}{\text{Pre-tax Income}}$	Ratio
Derivative	Butt, et al. (2022) [16]	Score "1" if the company uses derivative instruments to hedge any kind of financial risk, and "0" if otherwise	Nominal
External Auditor Quality	Nafti, et al. (2020) [21]	Score "1" if the company is audited by a BIG4, and "0" if otherwise	Nominal
ROA	Nafti, et al. (2020) [21]	$\frac{\text{Pre-tax Income}}{\text{Total Assets}}$	Ratio
Firm Size	Nafti, et al. (2020) [21]	Natural logarithm of firm's total asset	Nominal
Firm Debt	Nafti, et al. (2020) [21]	$\frac{\text{Long-term Debt}}{\text{Total Assets}}$	Ratio
Ownership Concentration	Nafti, et al. (2020) [21]	The percentage of common shares held by main shareholders	Ratio
Affiliated Relationship	Nafti, et al. (2020) [21]	Score "1" for the presence of affiliated relationship in the company, and "0" if otherwise	Nominal

3. RESULTS AND DISCUSSIONS

Table 2. Descriptive Statistic Results

	FIRMVALUE	TAXAVOIDANCE	DERIVATIVE	ROA	BIG4	FIRMDEBT	FIRMSIZE	OC	AFILIASI
Mean	0.704147	0.221508	0.233010	0.102415	0.466019	0.252312	29.71810	53.11520	0.776699
Median	0.660992	0.220979	0.000000	0.067089	0.000000	0.178163	29.64204	56.96000	1.000000
Maximum	1.711787	0.965012	1.000000	0.762741	1.000000	0.701451	32.75780	89.80000	1.000000
Minimum	0.141582	-0.647786	0.000000	-0.326228	0.000000	0.014304	26.62131	7.580000	0.000000
Std. Dev.	0.295931	0.242082	0.424816	0.179065	0.501283	0.189783	1.432378	19.22245	0.418495
Observations	103	103	103	103	103	103	103	103	103

According to the regression results, the mean of the firm value is 0.704147, indicating that the firm value of the research sample is less than one, indicating that the firm value in this sector is still undervalued. This demonstrates that present management has not optimally handled the company's assets. In terms of tax avoidance, a mean of 0.221508 was obtained, implying that the mean amount of tax paid by enterprises in the research sample was 22.15%. our suggests that the corporations in our sample are not engaging in tax avoidance, as the taxes paid are still more than the 22% tax rate for business entities. Meanwhile, the derivative variable has a mean value of 0.233010, indicating that derivatives are used for hedging by just 23.30% of the research sample. The data received from all sample companies investigated yielded a mean of 0.466019 for the external auditor quality variable. This figure indicates that the BIG4 Public Accounting Firms (KPMG, EY, PwC, and Deloitte) audited 46.60% of the research sample. The mean value of the Return on Assets (ROA) variable is 0.102415. This score indicates that enterprises in this sector can convert 10.24% of their total assets into earnings. Meanwhile, the mean value of the firm size variable is 29.71810, which suggests that the total assets of this research sample are IDR 8,061,332,650,235 in rupiah. The mean value of the firm debt variable is 0.252312. This figure indicates that the sample companies in this study had a 25.23% ability to meet long-term obligations utilizing corporate assets. The ownership concentration variable has a mean of 53.11520, indicating that the sample companies' proportion of ownership concentration is 53.11%. The affiliate relationship variable has a mean value of 0.776699, indicating that there is an affiliate relationship between directors, commissioners, and big shareholders in 77.67% of the company samples.

All of the data in the research sample passed the commonly used assumption tests, which included normality, autocorrelation, heteroscedasticity, and multicollinearity test.

After passing all the classic assumption test, the whole data can now proceed to the regression. The Chow Test and Hausman Test were utilized to determine the best regression model to apply for this study. The results of this test reveal that the Fixed Effect Model (FEM) is the best model to utilize as the regression model in this study. The Lagrange Multiplier Test is therefore no longer needed to be done, since both of the previous test have confirmed the use of FEM on these regression model. Multiple Linear Regression is used for the first model of the regression. The second and third model meanwhile use Moderated Regression Analysis (MRA). The regressions done resulted these provided models.

$$Y = 3.181069 - 0.052600 X1 - 0.031383 X2 + 0.343966 X3 + 0.312683 X4 - 0.107658 X5 + 0.238980 X6 + 0.0096547 Z1 - 0.023538 Z2 + \varepsilon(1)$$

$$Y = 3.454053 - 0.139612 X1 - 0.047066 X2 + 0.001769 Z1*X1 + 0.009113 Z1 - 0.017850 Z2 + 0.338392 X3 + 0.321462 X4 - 0.116127 X5 + 0.248128 X6 + \varepsilon(2)$$

$$Y = 3.513389 - 0.140697 X1 - 0.020198 X2 + 0.115009 Z2*X1 + 0.009683 Z1 - 0.044719 Z2 + 0.349165 X3 + 0.328866 X4 - 0.118932 X5 + 0.255647 X6 + \varepsilon(3)$$

Explanation :

Y = Firm Value

X1 = Tax Avoidance

X2 = Derivative

Z1 = Ownership Concentration

Z2 = Affiliated Relationship

Z1*X1 = Interaction between Ownership Concentration and Tax Avoidance

Z2*X1 = Interaction between Affiliated Relationship and Tax Avoidance

X3 = External Auditor Quality

X4 = Return On Asset

X5 = Firm Size

X6 = Leverage

i = company

t = period (2020-2022)

ε = Error

The equations above shows that variable Y will vary by the coefficient of each variable in this regression model if variables X or Z are changed by one unit. The results of each regression model is explained below.

Regression analysis on the tax avoidance variable in model 1 produced results with a significance value of 0.5516 and a coefficient of -0.052600. This variable's significance value is higher ($0.5516 > 0.05$) than the significance value that was employed in the study. It can be inferred that the tax avoidance variable has no significant impact on firm value.

After running the regression on model 1, we discovered that the derivative variable had a coefficient of -0.031383 and a significance value of 0.8863. The result is greater than the 0.05

level of research significance ($0.8863 > 0.05$). The conclusion that derivative variables have no significant impact on firm value can be formed as a result of these findings.

Table 3. Regression Test Results of Model 1
 Source: Output of Eviews 13

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
Tax Avoidance	-0.052600	0.087828	-0.598891	0.5516
Derivative	-0.031383	0.218450	-0.143664	0.8863
External Auditor Quality	0.343966	0.219544	1.566730	0.1226
Return on Asset	0.312683	0.235513	1.327667	0.1895
Firm Size	-0.107658	0.121984	-0.882558	0.3811
Firm Debt	0.238980	0.292176	0.817932	0.4167
Ownership Concentration	0.009547	0.003350	2.849621	0.0060
Affiliation Relation	-0.023538	0.103368	-0.227707	0.8207

The regression showed in table 5 proved that ownership concentration has a positive and significant effect on firm value. This can be concluded from the prob of the variable namely at 0.0060, which is less than the significance level used on this study at 0.05 ($0.0060 < 0.05$).

Table 4. Regression Test Results of Model 2
 Source: Output of Eviews 13

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
Tax Avoidance	-0.139612	0.268903	-0.519191	0.6056
Derivative	-0.047066	0.224839	-0.209333	0.8349
External Auditor Quality	0.338392	0.221831	1.525451	0.1327
Return on Asset	0.321462	0.238704	1.346695	0.1834
Firm Size	-0.116127	0.125383	-0.926178	0.3583
Firm Debt	0.248128	0.295633	0.839313	0.4048
Ownership Concentration	0.009113	0.003606	2.527134	0.0143
Affiliated Relationship	-0.017850	0.105478	-0.169225	0.8662
Ownership Concentration Interacted with Tax Avoidance	0.001769	0.005162	0.342676	0.7331

The regression carried out on model 2 produces a significance value of 0.7331 and a coefficient of 0.001769 for the interaction variable between ownership concentration and tax avoidance. From these results, it can be concluded that ownership concentration fails to strengthen the moderating relationship between tax avoidance and firm value ($0.7331 > 0.05$). Model 2's tax avoidance variable has a significance value of 0.6056 due to the interaction between ownership concentration and tax avoidance, which is an increase of 0.054 from model 1's significance value of 0.5516. Therefore, it can be concluded that the influence of the tax avoidance variable on firm value is becoming increasingly insignificant.

Table 5. Regression Test Results of Model 3
 Source: Output of Eviews 13

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-Statistic</i>	<i>Prob.</i>
Tax Avoidance	-0.140697	0.174758	-0.805093	0.4241
Derivative	-0.020198	0.220534	-0.091588	0.9273
External Auditor Quality	0.349165	0.220980	1.580072	0.1196
Return on Asset	0.328866	0.238476	1.379031	0.1733
Firm Size	-0.118932	0.124191	-0.957654	0.3423
Firm Debt	0.255647	0.295231	0.865922	0.3902
Ownership Concentration	0.009683	0.003377	2.866789	0.0058
Affiliated Relationship	-0.044719	0.110100	-0.406162	0.6861
Affiliated Relationship Interacted with Tax Avoidance	0.115009	0.196855	0.584232	0.5614

Regression carried out on model 3 produces a significance value of 0.5614 for the interaction variable of affiliate relationship with tax avoidance, with an interaction variable coefficient of 0.115009. These findings lead to the conclusion that affiliate relationship does not strengthen the connection between tax avoidance and corporate value. The tax avoidance variable becomes less insignificant when affiliate relations and tax avoidance are included in the regression model. This is inferred from the tax avoidance variable's significance value in the third regression model, which is 0.4241, up from the significance value in the first model's 0.5516 by 0.1275.

To conclude the result of regression on hypotheses of the research, this table is provided.

Table 6. Hypothesis Test Results
 Source: Processed by the researcher

Hypothesis	Prob.	Conclusion
Tax avoidance has a significant positive influence on firm value.	0.5516	The hypothesis is rejected.
Derivatives have a negative and significant effect on firm value.	0.8863	The hypothesis is rejected.
Ownership concentration has a positive and significant effect on firm value.	0.0060	The hypothesis is accepted.
Ownership concentration strengthens the relationship between tax avoidance and firm value.	0.7331	The hypothesis is rejected.
Affiliate relationships strengthen the relationship between tax avoidance and firm value.	0.5614	The hypothesis is rejected.

The F-statistic probability value is 0.0000 in each regression models, indicating that each of the independent variables in each regression model had a simultaneous effect on firm value, which was the dependent variable in the present study.

The Adjusted R Square (R^2) test was used in this study to measure the ability of the independent variable to explain the dependent variable. The resulting Adjusted R Square value in the first model is 0.690977, indicating that the current independent variables can explain the dependent variable by 69.10% in this study. In the second model, which includes regresses the interaction variables ownership concentration and tax avoidance, this value falls to 0.686202, or 68.82% of the dependent variable can be explained by the independent variable. The Adjusted R Square value in the third model, which also regresses the interaction variables of affiliate ties and tax avoidance, is 0.687427, indicating that the independent variable in the third model can explain the dependent variable by 68.74%. Other variables not considered in the study explain the remainder that cannot be explained by the independent variable.

H1: Tax avoidance has a significant positive influence on firm value.

Company executives actively evade taxes in a non transparent manner. Investors are unable to obtain information about the amount of tax costs that have been avoided as a result. Because of their nescience, companies that avoid paying taxes do not then receive additional value from investors. Tax avoidance by businesses does not, however, imply that those businesses will necessarily have promising futures. Additionally, a growing number of businesses are also opting to follow tax laws rather than dodge them. This coincides with the reauthorization of ever-stricter tax regulations. This study alone proves that the average ETR in the energy industry is 22.15%, which is higher than the 22% corporate tax rate. Due to all of the aforementioned factors, a firm's tax avoidance does not significantly affect investors' willingness to spend money in it, which is translated into firm value.

The findings of this study are consistent with studies by Yuliandana, et al. [4] and Pratiwi, Soegiarto & Afifi [23], both of which discovered that tax avoidance has an insignificant impact on firm value. The findings of this study conflict with those by Wulandari & Soetardjo [30] and Laurenty & Imelda [34], who discovered that tax avoidance has a positive and significant impact on firm value, and Kurnia, Pratomo & Fachrizal [31], who discovered that tax avoidance has a negative and significant impact on firm value.

H2: Derivatives have a negative and significant effect on firm value.

Only 23.30% of the data under study really used the usage of derivatives as hedging instruments, according to the report. The remaining group, or 76.70%, prefers to practice natural hedging rather than using derivatives. Companies implement a natural hedging by using the same functional currency for trading actions and payments of costs. As a result, investors do not perceive the use of derivatives as a risk management tool specifically for hedging as having a large advantage. In addition, the use of derivatives does not increase investors' interest in investing in companies that use derivatives as a form of hedging because investors are unfamiliar with the usage of derivative instruments. The findings of this study also go against the signalling theory, which holds that businesses that do not disclose information that investors can understand tend to lose investors' interest. All of these justifications point to the fact that derivatives are unable to significantly affect corporate value.

This research is in line with research by Ayturk, et al. who found that the use of derivatives had no influence on firm value [24]. However, this research is not in line with research by Niswatuhasanah & Hendratno [32] which found a significant relationship between derivatives and firm value.

H3: Ownership concentration has a positive and significant effect on firm value.

Greater majority power, which is a factor in governing a firm, results from more concentrated ownership. The less minority owners interfere with decisions made by the primary shareholders, who have the majority power, the better. The primary shareholders will then work tirelessly to ensure the viability and long-term prospects of the business. When investing money in connected businesses, this might provide investors a sense of security. Investor interest in contributing money to the company subsequently increases.

The findings of this study concur with those of Khalasha & Lestari [20], who discovered a positive and significant relationship between ownership concentration and firm value. The findings of this study, however, disagree with those by Aviyanti & Isbanah [28], who discovered that ownership concentration has a negative and significant impact on firm value. The findings of this study disagree with Asyam & Cahyadi's findings [33], which claimed that ownership concentration had no impact on firm value.

H4: Ownership concentration strengthens the relationship between tax avoidance and firm value. Major shareholders typically pay more attention to a broader scope (helicopter view) of the business operations of their company than to specific managerial-related details. The majority of the time, parties who are experts in their field do managerial tasks, including those involving decision-making. In fact, the business has a separate division that handles various aspects of operations, including taxation. Employees that are a part of the group carry out managerial tasks, and controlling stockholders typically have little influence or involvement in the company. As a result, controlling shareholders' influence over tax avoidance policies is weakened. Investors are

aware of this, so they do not take into account the significant percentage of ownership held by major shareholders in tax-exempt corporations when making investment decisions.

The findings of this study concur with those of Nafti, et al. [21], according to which ownership concentration plays no significant moderating role in the association between tax avoidance and firm value. The findings of Santana and Rezende [29] research however revealed that ownership concentration has significant effect in moderating the relationship between tax avoidance and firm value.

H5: Affiliate relationships strengthen the relationship between tax avoidance and firm value.

It is not entirely apparent what an affiliate relationship in a corporation means when it says that the parties have the right to all decisions and rules implemented in the concerned company. As previously said, qualified managers and staff members who belong to the appropriate group manage many company-related issues. Employees control the company and make decisions, particularly those involving tax avoidance. As a result, the affiliated parties may not always possess the capacity to decide on matters of taxation, including tax avoidance. This is particularly true in situations where the affiliated parties do not have such authority. According to this justification, a company's affiliate relationships cannot increase the impact of tax avoidance. Investors are aware of this, so when considering whether to invest in related firms, they do not consider the existence of affiliate relationship in companies that engage in tax avoidance.

The findings of this study are in line with Laurenty & Imelda [34] which also discovered that family management fails to strengthen nor weaken the relationship between tax avoidance and firm value. However, the finding is at contrary with those of Nafti, et al.'s study [21], which discovered that family management strengthened the relationship between tax avoidance and firm value.

4. CONCLUSIONS AND SUGGESTIONS

Based on the study's findings, it can be said that both tax avoidance and derivatives have no significant effect on the value of a firm. In the meantime, ownership concentration has the power to significantly and positively affect the value of a firm. However, neither the factor of ownership concentration nor the factor of affiliate ties succeeds in strengthening the relationship between tax avoidance and firm value. Consequently, it can be inferred from these observations that the big percentage of important shareholders' ownership is able to pique investors' interest in investing in companies.

The findings of this study demonstrate that ownership concentration can affect a company's value to investors and consumers of financial reports. With the help of this research, it is hoped that investors would take their time when selecting a firm to invest in and take into account the aspects that can raise the company's value. The findings of this study demonstrate to the government that tax avoidance has no discernible impact on a company's value and that there is no evidence of tax avoidance in the energy sector. For businesses, it is hoped that this research will be able to offer insight and thought into the ownership concentration component, which has been shown in this research to be able to raise firm value. Companies with a high proportion of major shareholders should be mindful of the high degree of investor expectations about sustainability and future prospects. The primary shareholders of the firm are expected to be able

to perform their roles to the best of their abilities in order to ensure the company's long-term profitability and sustainability.

It is intended that the findings of this study would act as a guide and further data for future research. This is particularly true for studies that focus on related issues, such as tax avoidance, derivatives, and their impact on firm value, as well as the moderating effects of ownership concentration and affiliate relationships on these relationships.

Three limitations apply to this study. The first limitation is the short research window of 2020–2022. It's possible that there are details and circumstances that weren't mentioned within the study's sample period. The second limitation is the small research sample, which in this investigation is restricted to just the energy industry. Study on different industries allows for variations in study findings. The third limitation is the small number of factors that were utilized in the study. Only two independent variables—tax avoidance and derivatives—as well as two moderating variables—ownership concentration and affiliated relationship—were used. This is mentioned as a weakness since there may be additional factors that were not looked at in this study but have the ability to explain firm value more thoroughly.

Based on the limitations and experiences encountered during the conduct of this study, several recommendations for future research can be made, including the following: (1) enlarging the sample size and research period studied; and (2) including independent variables with other variables that also affect firm value, such as EPS, LDR, dividend policy, cash holding, and profitability.

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