

Analysis of the Effect of Tax Avoidance, Intellectual Capital, and Institutional Ownership on Firm Value with Firm Size as a Moderating Variable

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Abstract – This research examines the influence of tax avoidance, intellectual capital, and institutional ownership on firm value, moderated by firm size. The sample consists of 265 data points from energy companies listed on the Indonesia Stock Exchange (IDX) during the period 2018 to 2022, selected using purposive sampling. The study employs multiple regression and moderated regression hypotheses, using ETR (Effective Tax Rate), VAIC (Value Added Intellectual Coefficient), and IO (Institutional Ownership) as measurements against Tobin's Q, moderated by Firm Size. Result from the multiple regression model show that ETR has a positive effect on Tobin's Q, while VAIC and IO have negative effects on Tobin's Q. The moderated regression model result indicated that ETR has negative effect on Tobin's Q with Firm Size as a moderating variable, whereas VAIC and IO have positive effects on Tobin's Q with Firm Size as a moderating variable. The moderated performed by Firm Size successfully moderates the relationship between VAIC and IO on Tobin's Q, but fails to moderated the relationship between ETR and Tobin's Q.

Keywords—Tax Avoidance; Intellectual Capital; Institutional Ownership; Firm Value; Firm Size

I. INTRODUCTION

Currently, many companies in the energy sector face numerous competitions and challenges. Companies generally need to optimize their firm value. Through firm value, investors can perceive the level of a company's success. One of the main goals of managers is to maximize firm value. Firm value is calculated based on data from the company's financial statements. Firm value is important because it can affect investor's perceptions of stock prices and serves as a barometer of a company's performance. In order to maximize firm value, businesses may take use of engage in tax avoidance, intellectual capital, demand institutional ownership, and take firm size into account.

Through the use of legal loopholes and adherence to national laws, tax avoidance is done to reduce the amount of taxes that businesses are required to pay. For companies, taxes can reduce company profits, which is why companies engage in tax avoidance. Especially in Indonesia, tax payments are made through a self-assessment system, forcing taxpayers to pay taxes. Companies avoiding taxes can potentially increase cash flow, and tax avoidance can create value for shareholders.

Intellectual capital will be reflected in the overall productivity, efficiency, and profitability of the company. Generally, intellectual capital is intangible and cannot be measured accurately. Intellectual capital functions to enhance performance and increase the company's competitive ability, as well as provide value to other companies. With intellectual capital, the market value will increase, thus affecting the company's value. Knowledge and experience that are formed to generate income for a corporation can also be considered as intellectual capital. The VAICTM approach is used to intellectual capital; in 1998, VAICTM offered data regarding the effectiveness of value creation from the company's tangible and intangible assets [1].

Institutional ownership of company shares can improve the company's function, with high dividend payments minimizing share prices volatility and positively influencing investors on regarding the dividends determined [2]. Company shares owned by parties outside the company, including institutional ownership, have a percentage of up to more than 50%. High ownership of company shares makes the company operate under supervision and can influence the company's work results [3]. High institutional ownership of shares can force certain policies without regard to minority shareholders based on their voting rights [4].

Institutional ownership of a company's stock is a sign of sound corporate governance since it will boost the business's worth and performance [5].

The company's assets are used to calculate the size of the firm. A company's higher potential for consideration and subsequent high selling price of its shares can be attained by attracting investors with more assets. On the other hand, a business with little assets is seen as tiny and finds it hard to attract investors. The impact of intellectual capital and institutional ownership on firm value can be amplified by firm size. This is due to the fact that a larger company can draw investors more readily.

This research provides novelty and addresses limitations regarding the variables of tax avoidance, intellectual capital, institutional ownership, and firm value with firm size as a moderating variable. The paper is divided into several sections: the first section provides the introduction, the second section covers the research methods, the third section presents data analysis and discussion, and the fourth section is the conclusion.

II. RESEARCH METHODS

The Indonesia Stock Exchange and the official website, WWW.idx.co.id, provided secondary data for this quantitative analysis. The documentation study approach (reading from firm financial data) is used in the data collection process. With a sample of 53 companies, the study's population consists of 87 energy-related enterprises listed on the Indonesia Stock Exchange.

Tobin's Q is the company value obtained by dividing the market value of a company by the replacement cost of assets. Tax avoidance measurement uses the Effective Tax Rate (ETR). Meanwhile, for measuring intellectual capital, three components are used in the calculation [6]: Value-added capital employed (VACA), Value-added human capital (VAHU), and structural capital value added (STVA). Thus, the calculation of intellectual capital uses the value-added intellectual coefficient (VAIC). And institutional ownership is based on the percentage of the number of outstanding shares that are institutionally owned [7]. As for the moderating variable, firm size can be seen from how many assets the company owns.

In order to ascertain whether there is an influence between the independent variables and the dependent variable as well as whether the moderating variable is able to moderate the influence between the independent variable and the dependent variable, this research uses quantitative method, utilizing multiple regression and moderated regression analysis.

The following is the multiple regression equation used in this study: [5]:

$$Y = \alpha + \beta_1 ETR + \beta_2 VAIC + \beta_3 IO + \varepsilon \dots\dots\dots(1)$$

The following is the moderated regression equation for this study: [7] :

$$Y = \alpha + \beta_1 ETR + \beta_2 VAIC + \beta_3 IO + \beta_4 ETR.FZ + \beta_5 VAIC.FZ + \beta_6 IO.FZ + \varepsilon \dots\dots\dots(2)$$

In this research, the conceptual framework is formulated as follows :

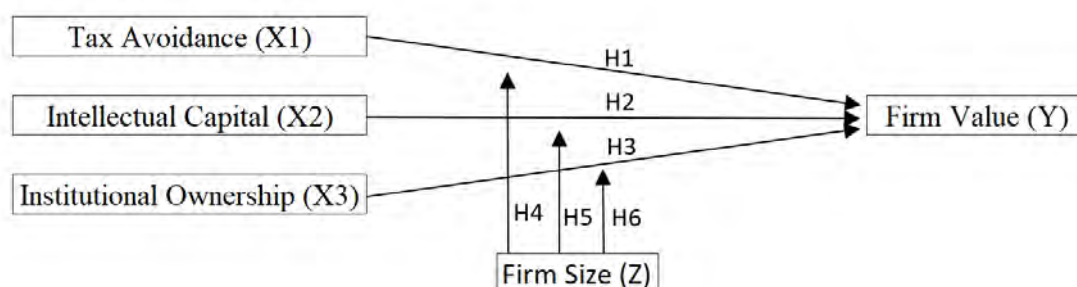


Figure 1. Conceptual Framework

The following theories can be developed using the conceptual framework as a foundation:

- H1: Tax avoidance has a positive effect on firm value
- H2: Intellectual capital has a positive effect on firm value
- H3: Institutional ownership has a positive effect on firm value
- H4: Firm size moderates the effect of tax avoidance on firm value
- H5: Firm size moderates the effect of intellectual capital on firm value
- H6: Firm size moderates the effect of institutional ownership on firm value

III. RESULT AND DISCUSSION

The following outcomes were obtained using panel data processing in multiple regression for the years 2018-2022, using a sample of 53 companies:

Table 1
Table of Descriptive Statistic

	<i>ETR (X1)</i>	<i>VAIC (X2)</i>	<i>OW (X3)</i>
Mean	0,05493	68,09517	0,624631
Standard Deviation	1,603131	255,1663	0,234422
Minimum	-21,5754	-0,64702	0,031531
Maximum	5,812604	3923,561	0,97
Count	265	265	265

The descriptive analysis result in Table 1 indicates that the ETR has a mean value of 0,05493, a standard deviation of 1,603131, a lowest value of -21,5754, and a highest value of 5,812604. VAIC, on the other hand, displays a mean value of -0,64702, and a maximum value of 3923,561. With OW, the lowest value is 0,031531, the highest value is 0,97, the mean is 0,624631, and the standard deviation is 0,234422.

Table. 2
ANOVA (Uji F)

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	27651,10541	9217,035135	3,938203069	0,00898188
Residual	261	610848,6861	2340,416422		
Total	264	638499,7915			

Based on the ANOVA results from the multiple regression equation above, the significance value is $0.008981 < 0.05$, therefore tax avoidance, intellectual capital, and institutional ownership have an effect on firm value.

Table. 3
T-test

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>Significance</i>
Intercept	35,02072667	8,513051556	4,113768892	0,00005
ETR (X1)	-0,211775786	1,858376151	-0,113957438	0,90936
VAIC (X2)	0,001501167	0,011669512	0,128640099	0,89774
OW (X3)	-43,5512778	12,70802858	-3,427067976	0,00071

The multiple regression equation above the t-test indicates that the significance level (Sig.) of ETR is $0,90936 > 0,05$, indicating that ETR has no effect on Tobin's Q. In the meanwhile, VAIC displays a Sig. value of $0,89774 > 0,05$, indicating that VAIC has no impact on Tobin's Q. With a Sig. value of $0,00071 < 0,05$, OW demonstrates that it has an impact on Tobin's Q.

The following are the outcomes of the panel data processing-based multiple regression equation:
 $Y = 35,0207 - 0,2118ETR + 0,0015VAIC - 43,5513IO + \varepsilon$

The result of the study show that the constant value (α) is positive, which means that if the values of ETR, VAIC, and IO are all equal to zero, the value of Y will increase by 35,0207. The ETR result indicates that ETR has no effect on Y, with a negative effect of -0,2118. The VAIC's positive result of 0,0015 suggests that it has the capacity to influence Y. IO can't effectively affect Y with a -43,5513 negative effect.

The subsequent result of the Chow and Hausman tests were generated by panel data processing in moderated regression using a sample of 53 firms :

Table. 4
Panel Data Regression Model

Testing	Prob	Result
Chow Test	0,0000	Fixed Effect is better than Common Effect
Housman test	0,0016	Fixed Effect is better than Common Effect

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Table. 5
Descriptive Statistics Table

	ETR (X1)	VAIC (X2)	OW (X3)	Mod ETR	Mod VAIC	Mod OW	Tobins Q (Y)
Mean	0,05493	68,09517	0,624631	1,930115	1994,608	17,98099	7,907817684
Standard Deviation	1,603131	255,1663	0,234422	43,1568	7344,601	6,732711	49,17885538
Minimum	-21,5754	-0,64702	0,031531	-551,779	-18,332	0,898187	0,101316105
Maximum	5,812604	3923,561	0,97	163,3533	111610,9	29,1692	496,7574901
Count	265	265	265	265	265	265	265

The descriptive analysis results in Table.5 indicate that the ETR has a mean value of 0,05493, a standard deviation of 1,603131, a lowest value of -21,5754, and a highest value of 5,812604. VAIC, on the other hand, displays a mean value of 680917, a standard deviation of 255,1663, a minimum value of -0,64702, and a maximum value of 3923,561. With OW, the lowest value is 0,031531, the highest value is 0,97, the mean is 0,624631, and the standard deviation is 0,234422.

Using firm size as a mediating variable, ETR shows a mean value of 1.930115, the standard deviation of 43.1568, the lowest value of -551.779, and the highest value of 163.3533. When using firm size as a moderating variable, VAIC shows a mean value of 1994.608, the standard deviation of 7344.601, the lowest value of -18.332, and the highest value of 111610.9. OW, when using firm size as a moderating variable, has a mean value of 17.98099, the standard deviation of 6.732711, the lowest value of 0.898187, and the highest value of 29.1692.

Table. 6
ANOVA (Uji F)

	df	SS	MS	F	Significance F
Regression	6	964,1887952	160,6981325	256,1003775	1,36E-105
Residual	258	161,8901097	0,627481045		
Total	264	1126,078905			

The moderated regression equation's ANOVA findings indicate that tax avoidance, intellectual capital, and institutional ownership have an impact on firm value, with firm size acting as a moderating variable. The significance value is $0,000 < 0,05$.

Table. 7
T-test

	Coefficients	Standard Error	t Stat	Significance
Intercept	28,44040741	0,140574855	202,3150393	0,00000
ETR (X1)	0,205343721	0,379356389	0,541295012	0,58877
VAIC (X2)	-0,036616824	0,005345785	-6,849663102	0,00000
OW (X3)	-41,30683879	1,307725944	-31,58677014	0,00000
Mod ETR	-0,00628535	0,014091877	-0,446026422	0,65595
Mod VAIC	0,00127636	0,00018593	6,864740472	0,00000
Mod OW	1,452781338	0,04551811	31,91655693	0,00000

Based on the t-test from the moderated regression equation above, it can be concluded that:

Tobin's Q is unaffected by ETR, as indicated by the Sig. value of $0,55877 > 0,05$. There is an impact of VAIC on Tobin's Q, as evidenced by the Sig. value of $0,000 < 0,05$ displayed by VAIC. The Sig. value of $0,000 < 0,05$ for OW indicates that OW has an impact on Tobin's Q. The influence of ETR on Tobin's Q is on moderated by company size, as evidenced y the Sig. value of $0,65595 > 0,05$ for the ETR controlled by firm size. The firm size moderated VAIC has a significance level of $0,000 < 0,05$, so that the impact of VAIC on Tobin's Q can be mitigated by firm size. The influence of OW on Tobin's Q can be mitigated by Firm Size, as evidenced by the Sig. value of $0,000 < 0,05$ for OW moderated by Firm Size.

The results of the moderated regression equation based on the panel data processing are as follows:
 $Y = 28,4404 + 0,2053ETR - 0,0366VAIC - 41,3068IO - 0,0063ETR.FZ + 0,0013VAIC.FZ + 1,4528IO.FZ + \varepsilon$

Based on the research findings: the constant value (α) is positive, meaning that if ETR, VAIC, IO, ETR.FZ, VAIC.FZ, and IO.FZ are equal to zero, the value of Y will increase by 28.4404. ETR shows a

positive effect of 0.2053, indicating that ETR has an influence on Y. VAIC shows a negative result of -0.0366, meaning VAIC cannot influence Y. IO has a negative effect of -41.3068, which means IO does not successfully influence Y. For the moderation model, ETR.FZ has a negative value of -0.0063, meaning the effect of ETR.FZ cannot influence Y. VAIC.FZ has a positive value of 0.0013, meaning VAIC.FZ can influence Y. IO.FZ has a positive value of 1.4528, meaning IO.FZ can influence Y.

IV. CONCLUSION

The results obtained from multiple regression state that ETR and IO have negative values and cannot influence Y, because if Y continues to increase, ETR and IO will continue to decrease, and if ETR and IO increase, Y will decrease. VAIC can affect Y because it has a positive value. However, ETR influences Y in moderation, while VAIC and IO have a negative effect on Y. Because ETR has a negative value when regulated by FZ and has no influence on Y, FZ is unable to properly moderate the relationship between ETR and Y. Meanwhile, the good results from the VAIC and IO that FZ moderates show that the moderating of FZ has an effect on Y.

Studying the effects of tax avoidance, intellectual capital, and institutional ownership on firm value is the aim of this research, which also uses firm size as a moderating variable. Based on a population of 87 firms and a research sample of 53 organizations, the research findings show that intellectual capital has a positive impact on firm value, whereas tax avoidance and institutional ownership have a negative impact. Moreover, since tax avoidance is not effectively controlled by firm size, it has little impact on firm value; nevertheless, intellectual capital and institutional capital do, as their positive correlation with value indicates.

This study comes to the conclusion that, despite firm size moderation not having an impact, intellectual capital is a significant factor in raising firm value. This suggests that the impact of intellectual capital on firm value is not influenced by the firm size. Meanwhile, institutional ownership can influence firm value with consideration of firm size as a determinant of its effectiveness. This is because the larger a company is, the greater the possibility for investors to monitor the company's performance, especially in decision-making, thus impacting the firm's value. Tax avoidance does not affect firm value, even when using firm size as a moderating variable. This suggests that the size of the company in avoiding taxes will not affect the firm's value, so the stock price will not be affected.

It is envisaged that future research can employ other sectors available on the stock exchange and add additional variables that may influence firm value, based on the constraints and lessons learned from this study.

V. REFERENCES

- [1] T. T. Kim, W. G. Kim, S. S.-S. Park, G. Lee and B. Jee, "Intellectual Capital and Business Performance : What Structural Relationships Do They Have In Upper-Upscale Hotels?," *INTERNATIONAL JOURNAL OF TOURISM RESEARCH*, vol. 14, no. 4, pp. 391-408, 2016.
- [2] K. Sadi'ah, "THE EFFECT OF CORPORATE FINANCIAL RATIO UPON THE COMPANY VALUE," *The Accounting Journal of BINANIAGA*, vol. 03, no. 02, pp. 75-88, 2018.
- [3] S. J. F. Ishak, M. Sukmawati and M. N. Syifa, "The Effect of Profitability, Leverage, Firm Size, Firm Reputation and Institutional Ownership on Audit Report Lag," *The Journal of Accounting and Finance (JAFIN)*, vol. 1, no. 01, pp. 11-15, 2022.
- [4] E. Handriani and R. Robiyanto, "Institutional ownership, independent board, the board size, and firm performance: Evidence from Indonesia," *E. Handriani et al. / Contaduría y Administración*, vol. 64, no. 3, pp. 1-16, 2019.
- [5] A. Kushariani, R. Ananda and M. R. Riandi, "EFFECT OF CORPORATE SOCIAL RESPONSIBILITY, PROFITABILITY, AND CRPORATE GOVERNANCE ON COMPANY VALUE," *Jurnal Akuntansi Trisakti*, vol. 5, no. 1, pp. 95-108, 2018.
- [6] Z. Z. Noor, *INTELLECTUAL CAPITAL*, Media Sarana Sejahtera, 2021.
- [7] W. Yuwono and D. Aurelia, "THE EFFECT OF PROFITABILITY, LEVERAGE, INSTITUTIONAL OWNERSHIP, MANAGERIAL OWNERSHIP, AND DIVIDEND POLICY ON FIRM VALUE," *Journal of Global Business and Management Review*, vol. 3, no. 1, 2021.

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- [8] A. Mappadang, Efek Tax Avoidance dan Manajemen Laba Terhadap Nilai Perusahaan, 2021.
- [9] M. Muslim, H. Hajering, Y. Sonjaya and V. Pattiasina, "INTELLECTUAL CAPITAL VALUE AND DISCLOSURE OF INTELLECTUAL CAPITAL ON FIRM VALUE," *Accounting Journal*, vol. 9, no. 1, pp. 86-101, 2023.
- [10] M. Mousa, S. Nosratabadi and A. Mosavi, "The Effect of Marketing Investment on Firm Value and Systematic Risk," *Journal of Open Innovation : Technology, Market, and Complexity*, vol. 7, no. 1, 2021.
- [11] R. Seth and S. Mahenthiran, "Impact of dividend payout and corporate social responsibility on firm value - Evidence from India," *Journal of Business Research* 146, pp. 571-581, 2022.
- [12] A. Amalia and Y. Yuniarwati, "THE EFFECT OF CORPORATE SOCIAL RESPONSIBILITY AND TAX AVOIDANCE ON FIRM VALUE MODERATE BY PROFITABILITY," *International Journal of Application on Economics and Business (IJAEB)*, vol. 1, no. 2, 2023.
- [13] J. F. Diharjo and Hersugondo, "EXPLORING THE IMPACT OF ESG DISCLOSURE, DIVIDEND PAYOUT RATIO, AND INSTITUTIONAL OWNERSHIP ON FIIRM VALUE: A MODERATED ANALYSIS OF FIRM SIZE," *Jurnal Ekonomi Bisnis dan Kewirausahaan (JEBIK)*, vol. 12, no. 2, pp. 184-207, 2023.
- [14] Y. Hendayana, M. A. Ramdhany, A. S. Pranowo, R. A. H. Rachmat and E. Herdiana, "Exploring impact of profitability, leverage and capital intensity on avoidance of tax, moderate by size of firm in LQ45 companies," *Cogent Business & Management*, vol. 11, no. 1, 2024.
- [15] Y. Mangoting, O. Y. Yuliana, E. Valencia and C. P. M. Utomo, "Ownership Structure, Tax Risk, and Tax Avoidance in Indonesia Manufacturing Companies 2016-2020," *Jurnal Ilmiah Akuntansi dan Bisnis*, vol. 17, no. 2, p. 345, 2022.
- [16] R. Gantino, E. Ruswanti and A. M. Widodo, "Green Accounting And Intellectual Capital Effect On Firm Value Moderated By Business Strategy," *Jurnal Akuntansi*, vol. 27, no. 1, pp. 38-61, 2023.