



Case study

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Profitability, leverage, firm size, and tax avoidance model relationship: A case of the manufacturing sector

Section:
Financial management

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Abstract

Tax avoidance is one of the issues that has attracted researchers' interest in financial management, and efforts to understand the causative factors are of serious concern. This study explicitly reveals the determinants of tax avoidance using the fundamental factor approach (profitability, leverage, and firm) in the automotive sector manufacturing companies. Moreover, the role of size as a moderator is also tested in the proposed model. The data analysis technique shows that profitability, leverage, and size have a negative effect on tax avoidance. Furthermore, the confirmed size moderates the relationship between leverage and tax avoidance but not profitability. The results of this study provide new insights into the role of size, which has been proven as a moderator of tax avoidance.

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INTRODUCTION

Taxes are mandatory contributions to the state owed by individuals or entities that are coercive by law and do not receive direct compensation. Accordingly, Law no. 6 of 1983 was last amended by Law no. 16 of 2009 concerning General Provisions and Tax Procedures (UU KUP). This understanding provides an understanding that taxes have a coercive nature so that they can provide a separate burden to the guarantor. The accounting side also explains that tax is a cost/burden that will reduce net income, contrary to the goals of all business entities wanting big profits. In other words, from the company's point of view, taxes are a burden that must be paid and will reduce net income.

Tax avoidance by companies is generally aimed at maintaining cash resources and ignoring payments to the government (Wang et al., 2020). These resources are intended to increase the company's value in investors' eyes. However, tax/value evasion by management can cause agency problems, as Wang et al. (2020) explained. First, tax avoidance can occur due to the separation of shareholders from management. This condition can allow managers to take advantage of taxes and avoid paying taxes for personal gain. Second, companies deliberately disguise tax payments by carrying out confidential and complicated transactions to avoid the monitoring of tax authorities. Third, tax avoidance causes the company's reputation to decline for long-term effects. These three possibilities and consequences lead to tax avoidance behavior.

The interests of the tax authorities who want significant and continuous tax revenues differ from those of companies that want tax payments to be as minimal as possible (Handayani, 2018). This causes many people and even companies to carry out tax avoidance. However, this tax avoidance can be said to be a complicated and unique problem because, on the one hand, it is permissible but not desirable (Maharani & Suardana, 2014). Berbagai studi telah mencoba menjelaskan perilaku tax avoidance dari berbagai perspektif, dan factor fundamental merupakan isu yang paling banyak diteliti. Meski demikian, berbagai studi yang ada menyediakan informasi yang beragam, terkait factor yang diduga memiliki keterkaitan dengan tax avoidance.

First the debt ratio. Leverage is an increase in the amount of debt resulting in the emergence of additional cost items in the form of interest or interest and a reduction in the income tax burden of Corporate Taxpayers. Various studies have tried to test the relationship between debt ratios and tax avoidance (Ariska et al., 2020; Kimsen et al., 2019; Prabowo, 2020). For example, Ariska et al. (2020) found no significant effect of DER on tax avoidance, while other studies (Kimsen et al., 2019; Prabowo, 2020) found, on the contrary, a positive effect of DER on tax avoidance. Dewi and Noviani (2017) also obtained a different study that found a negative effect of leverage (DER) on tax avoidance.

Second, company profitability. The basic argument in the profitability relationship is that the higher this ratio, the better the company's performance by using assets to obtain net income. The level of company profitability hurts the effective tax rate because the more efficient the company will pay less tax so that the tax rate is adequate. As with debt ratios, research on profitability also provides mixed conclusions. For example, profitability is considered to have a negative effect on tax avoidance (Ariska et al., 2020; Handayani, 2018; Kimsen et al., 2019). However, studies (Cahyono et al., 2016; Eddy et al., 2020) found no relationship between the two. Other studies also show different results (Prabowo, 2020); the results of their analysis conclude that profitability has a positive effect on tax avoidance.

Third, firm size. Large companies are generally in the government's spotlight, so it creates a tendency for company managers to be obedient (Handayani, 2018). However, several studies still need to support firm size assumptions fully. For example, firm size is considered not to affect tax

avoidance (Ariska et al., 2020; Eddy et al., 2020; Prabowo, 2020). Hence, the relationship between DER and tax avoidance needs to be re-clarified.

The current research aims to replicate and extend it by developing a model of the relationship between debt ratios, profitability, and firm size with tax avoidance. The proposed model places profitability (ROA) and leverage (DER) as tax avoidance antecedents, while the firm size is a moderator. The results of this study are expected to provide new insights into exploring potential factors that can influence tax avoidance to become information for tax policymakers.

CASE DESCRIPTION

Hanlon dan Heitzman (2010) define tax avoidance as explicit tax reduction, which represents a series of tax planning strategies ranging from tax management, tax planning, tax aggressive, tax evasion, and tax shelter. *Tax avoidance* is a transaction scheme that minimizes the tax burden by exploiting loopholes in a country's tax provisions. Signaling theory is one of the popular theories to explain why companies are urged to provide financial report information to external parties. This encouragement arises because of asymmetric information between the company (management) and external parties, where management knows more and faster internal company information than outside parties such as investors and creditors (Cahyono et al., 2016).

Profitability and tax avoidance

The purpose of tax avoidance is to manipulate the taxpayer's business so that the tax burden can be kept as low as possible by taking advantage of regulatory loopholes existing in taxation to maximize the amount of profit after tax because, in this case, the tax is a profit deduction element (Jasmine, 2017). Profitability is one measurement of the performance of a company. The profitability of a company describes the ability of a company to generate profits during a specific period at a certain level of sales, assets, and share capital. Profitability consists of several ratios, one of which is the return on assets. Return on assets is an indicator that reflects the company's financial performance; the higher the ROA value that can be achieved by the company, the better the company's financial performance can be categorized. The signaling theory states that the higher the profitability value of a company can give a signal that the company's performance is good; with high profits, the company will try to pay as little tax as possible so that the profit or net profit owned by the company looks high so that it can provide a signal for investors that the company's performance is good. In previous studies, several studies found a negative effect on tax avoidance (Ariska et al., 2020; Handayani, 2018; Jasmine, 2017; Kimsen et al., 2019; Laily, 2017). From the description described above, it can be concluded that the hypothesis is as follows:

H1: Profitability affects tax avoidance.

Leverage and tax avoidance

Leverage can be defined as the use of assets or funds to cover fixed costs or pay fixed expenses. According to Weston (Jasmine, 2017), leverage is a measure that indicates the extent to which fixed-load securities or debt and preferred stock are used in a company's capital structure. Leverage has investment opportunities that become profitable and high free cash flow; by distinguishing companies with high and low dividend payments, it is said that companies with low dividend payments affect stock prices positively on debt bid announcements. Debt policy is expressed in

leverage ratios. Previous studies have found that leverage positively affects tax avoidance (Kimsen et al., 2019; Prabowo, 2020). Moreover, Dewi and Noviori (2017) also obtained a different study that found a negative effect of leverage (DER). From the description described above, it can be concluded the hypothesis is as follows:

H2: Leverage has an effect on tax avoidance.

The role of firm size

The firm's size will affect the capital structure because the more significant the company, the higher the sales growth rate, so the company will be more willing to issue new shares, and the greater the tendency to use loans. Firm size is a scale that can classify companies into large and small companies according to various ways, such as total assets or total assets of the company, stock market value, average level of sales, and the number of sales. Company size is generally divided into three categories: large, medium, and small. Companies with a small scale are more flexible in dealing with uncertainty because small companies react more quickly to sudden changes. Thus, a large company's level of debt will be greater than that of a small company. The greater the amount of debt, the smaller the tax burden will be; thus, the company's size will affect tax avoidance. The role of firm size as a moderator of tax avoidance has previously been explored, but all of these studies provide the same conclusion: firm size does not moderate tax avoidance (Karundeng et al., 2020; Nanningsih & Dewi, 2023; Sianipar et al., 2020). Large companies tend to get more attention from the tax authorities so that management behavior will be monitored more closely. On the other hand, large companies generally have stability and good prospects in the long term, so tax avoidance behavior has a smaller chance of occurring to maintain their image in the eyes of investors. In addition, in terms of earnings management, large companies tend to choose accounting methods that defer earnings to minimize reported profits (Watts & Zimmerman, 1986). In other words, firm size can affect tax avoidance intention and profitability reporting behavior. Based on these considerations, this study suspects that firm size can mediate the relationship between profitability and leverage on tax avoidance.

H3a: Firm size moderates the profitability and tax avoidance relationship

H3b: Firm size moderates the leverage and tax avoidance relationship

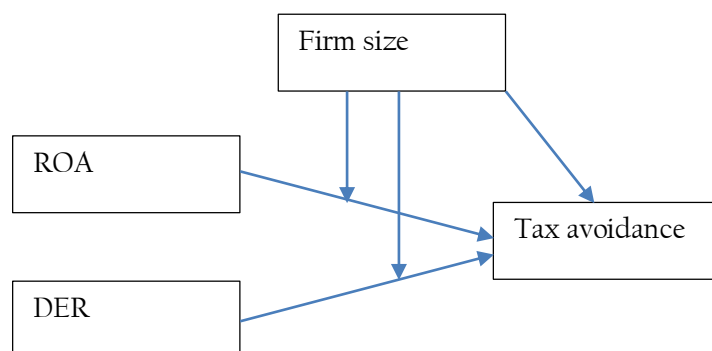


Figure 1.
Research model analysis

METHODS

The population in this study was determined using a purposive approach, namely automotive manufacturing companies in Indonesia that were listed on the Indonesia Stock Exchange (IDX) from 2012-2019. Profitability is proxied by return on assets (ROA), namely the ratio between net income and total assets at the end of the period, which is used as an indicator of a company's ability to generate profits (Kurniasih & Sari, 2013). According to Kasmir (2016: 201), ROA shows a company's ability to generate a profit using its total assets. ROA can be calculated using the ratio between net Profit after tax and all of its assets which can be formulated as follows:

$$\text{Return on assets (ROA)} = (\text{net profit})/(\text{total assets})$$

Leverage is a ratio that measures the ability of both long-term and short-term Debt to finance company assets as measured using the Debt to equity ratio. The Debt to Equity Ratio is a ratio that compares the total Debt generated with the total equity obtained by the company as a source of funding. According to Kasmir (2016: 157), the Debt to Equity Ratio is the ratio used to assess Debt to equity. This ratio describes how much capital owned can cover debts to outsiders. The smaller this ratio, the better for the company. This ratio can be calculated using the following formula:

$$\text{Debt to Equity Ratio} = (\text{Total Debt})/(\text{Total equity})$$

Firm size is a scale that can classify companies into large and small companies according to various ways, such as total assets or total assets of the company, stock market value, average level of sales, and the number of sales. Firm size is designated through Ln Total Assets, which is considered better because the size of this company has a more stable level than other proxies and tends to be continuous between one period and the next. Company size is measured using the natural logarithm of total assets. The formula for calculating company size is as follows:

$$\text{Firm size} = \ln(\text{Total Assets})$$

Tax Avoidance is an attempt to reduce or eliminate the tax debt the company must pay by not violating applicable laws. Tax avoidance measurement in this study uses the cash effective tax rate (CETR) measurement. The formula used to calculate tax evasion is as follows:

$$\text{CETR} = (\text{Tax Paid by Company})/(\text{Company Profit Before Tax})$$

RESULTS AND DISCUSSION

Descriptive statistical analysis

The descriptive statistical analysis aims to explain and provide an overview of the sample data from all the variables studied statistically, including the mean, median, maximum and minimum values and other measures, which can be seen in the following table.

Table 1.

Descriptive statistics analysis

	<i>CETR</i>	<i>ROA</i>	<i>DER</i>	<i>SIZE</i>
Mean	0.552	0.128	0.518	1,3063.81
Median	0.245	0.097	0.416	1,2720.00
Maximum	9.893	0.309	1.029	1,4546.00
Minimum	0.052	0.002	0.102	1,2159.00
Std. Dev.	1.706	0.094	0.290	862.082

The tax avoidance, measured by the CETR proxy, has the highest value of 9.893000, owned by PT Indospring Tbk in 2015. Meanwhile, the lowest tax avoidance is 0.052, which PT also owns. Indospring Tbk in 2019. The average value for the CETR variable is 0.552, and the standard deviation value for the ETR variable is 1.706544. The independent variable profitability (ROA) has the highest value of 0.309. Moreover, the lowest value of 0.002. The average value on the profitability variable is 0.128, and the standard deviation value on profitability is 0.094. The leverage (DER) has the highest value of 1.029. Moreover, the lowest leverage is 0.102. The average value of the leverage variable is 0.518, and the standard deviation value of the leverage variable is 0.290. The company size (SIZE) has the highest value of 1,4546.00. The average value of company size is 1,3063.81, and the standard deviation value of the variable the age of the company is 862.082.

Regression analysis

The results of hypothesis testing are seen in Table 2. ROA has a negative regression coefficient value of -0.281 and a t-value of -74.519 with a significance value of 0.00; hence, ROA has a significant negative effect on tax avoidance. Leverage (DER) has a negative regression coefficient of -0.166 and a t-value of -3.044 with a significance value of 0.003. It can be concluded that the Leverage variable (DER) has a negative effect on tax avoidance (CETR). Firm size is proven negatively and significantly related to tax avoidance with a coefficient of -0.403 (p-value 0.000). Hence, H1-H3 is supported.

Table 2

Regression results

Model 1	β	SE	t	p-value
Profitability	-.281	.062	-4.519	.000
Leverage	-.166	.055	-3.044	.003
Size	-.403	.114	-3.541	.000
Mod 1	-.023	.181	-.127	.899
Mod 2	.129	.060	2.155	.032

The moderation hypothesis shows that it is partially supported, namely the effect size on the leverage and tax avoidance relationship, but not for the profitability and tax avoidance relationship. These results indicate that size plays an essential role in the effect of leverage on tax avoidance compared to profitability.

Discussion

First, this study supported the hypothesis regarding the relationship between profitability and tax avoidance. The profitability of a company describes the ability of a company to generate profits during a specific period at a certain level of sales, assets, and share capital. The results of this study proved that high profitability could reduce tax avoidance, which is in line with previous studies (Ariska et al., 2020; Handayani, 2018; Jasmine, 2017; Kimsen et al., 2019; Laily, 2017). Besides that, the signaling theory states that the higher the profitability value of a company can give a signal that the company's performance is good; with high profits, the company will try to pay as little tax as possible so that the profit or net profit owned by the company looks high so that it can provide a signal for investors that the company's performance is good.

Second, leverage (DER) is proven to have a significant negative effect on tax avoidance. Leverage indicates the extent to which fixed-load securities or debt and preferred stock are used in a company's capital structure. Leverage has investment opportunities that become profitable and high free cash flow; by distinguishing companies with high and low dividend payments, it is said that companies with low dividend payments affect stock prices positively on debt bid announcements. The results of this study support the findings of Dewi and Noviyari (2017), which prove an adverse effect of DER on tax avoidance, and are different from studies that state the opposite effect (Ariska et al., 2020; Kimsen et al., 2019; Prabowo, 2020).

Third, size is proven to affect tax avoidance significantly. In other words, the larger the company size, the lower the tax avoidance, which is in line with the assumption that large companies are generally in the government's spotlight, so it creates a tendency for company managers to be obedient (Handayani, 2018). On the other hand, this study is different from the findings of previous studies (Ariska et al., 2020; Eddy et al., 2020; Prabowo, 2020), which failed to prove a relationship between the two. These results indicate that the greater the total assets, the greater the firm size, and any increase in firm size will decrease tax avoidance. This result is possible because the large company can regulate taxation by conducting tax planning so that optimal tax savings can be achieved. In this case, tax saving describes tax avoidance by companies in a legal way (Jasmine, 2017).

Finally, size moderates the relationship between leverage and tax avoidance, indicating that the negative effect of leverage on tax avoidance will decrease with increasing size. In other words, size takes the role of reducing the effect of leverage on tax avoidance. The results of this study provide initial evidence regarding the role of size in tax avoidance which was previously unsuccessful (Karundeng et al., 2020; Nanningsih & Dewi, 2023; Sianipar et al., 2020). This study assumes that large companies tend to get more attention from the tax authorities, so management behavior will be monitored more closely. On the other hand, large companies generally have stability and good prospects in the long term, so tax avoidance behavior has a smaller chance of occurring to maintain their image in the eyes of investors. In addition, in terms of earnings management, large companies tend to choose accounting methods that defer earnings to minimize reported profits.

CONCLUSION

This study provides empirical evidence on the negative effects of profitability, leverage, and size on tax avoidance and the role of size as a moderator. The results of this study successfully support previous studies on the negative effects of profitability and leverage on tax avoidance and offer preliminary empirical evidence regarding the role of size in this relationship.

Practically, this study can be valuable information to increase knowledge and insight on Tax Avoidance, so that company management can design a mechanism for implementing the continuation of the company properly and correctly. Meanwhile, tax authorities can also utilize the results of this study to evaluate the determinants of tax avoidance. Although it has a practical contribution, the results of this study have limitations, especially in the research sample, which only takes one of the sectors on the Indonesian Stock Exchange. Future studies can broaden the sample in various sectors to understand more fully earnings management and its relation to tax avoidance.

REFERENCES

- Ariska, M., Fahru, M., & Kusuma, J. W. (2020). Leverage, Ukuran Perusahaan dan Profitabilitas dan Pengaruhnya Terhadap Tax Avoidance Pada Perusahaan Sektor Pertambangan di Bursa Efek Indonesia Tahun 2014-2019. *Jurnal Revenue : Jurnal Ilmiah Akuntansi*, 1(1), 133–142. <https://doi.org/10.46306/rev.v1i1.13>
- Cahyono, D. D., Andini, R., & Raharjo, K. (2016). Pengaruh komite audit, kepemilikan institusional, dewan komisaris, ukuran perusahaan (Size), leverage (DER) dan profitabilitas (ROA) terhadap tindakan penghindaran pajak (tax avoidance) pada perusahaan perbankan yang listing BEI periode tahun 2011–2013. *Journal Of Accounting*, 2(2).
- Dewi, N. L. P. P., & Noviani, N. (2017). Pengaruh ukuran perusahaan, leverage, profitabilitas dan corporate social responsibility terhadap penghindaran pajak. *E-Jurnal Akuntansi Universitas Udayana*, 21(2), 882–911.
- Eddy, E. P. S., Angela, A., & -, E. (2020). The Impact Analysis of Return on Asset, Leverage and Firm Size to Tax Avoidance. *Jurnal Akuntansi*, 12(2), 256–264. <https://doi.org/10.28932/jam.v12i2.2908>
- Handayani, R. (2018). Pengaruh Return on Assets (ROA), Leverage dan Ukuran Perusahaan Terhadap Tax Avoidance Pada Perusahaan Perbankan yang Listing di BEI Periode Tahun 2012–2015. *Jurnal Akuntansi Maranatha*, 10(1). <https://doi.org/10.28932/jam.v10i1.930>
- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 5(2), 127–178. <https://doi.org/https://doi.org/10.1016/j.jacceco.2010.09.002>
- Jasmine, U. (2017). Pengaruh Leverage, Kepelimikan Institusional, Ukuran Perusahaan, Dan Profitabilitas Terhadap Penghindaran Pajak. *JOM Fekon Vol.4*, 4(1).
- Karundeng, F., Upa, V. A., & Dananjaya, Y. (2020). Analysis of the effect of corporate social responsibility on tax avoidance with profitability and firm size as moderating variables. *International Journal of Society Systems Science*, 12(3), 215. <https://doi.org/10.1504/IJSSS.2020.111353>
- Kimsen, K., Kismanah, I., & Masitoh, S. (2019). Profitability, leverage, size of company towards tax avoidance. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, 4(1), 29–36. <https://doi.org/10.34204/jiafe.v4i1.1075>
- Laily, N. (2017). *Pengaruh Kepemilikan Institusional, Proporsi Dewan Komisaris, Leverage, Ukuran Perusahaan Dan Return On Asset Terhadap Penghindaran pajak Pada Perusahaan Manufaktur*. STIE PERBANAS SURABAYA.
- Maharani, I. G. A. C., & Suardana, K. A. (2014). Pengaruh corporate governance, profitabilitas, dan karakteristik eksekutif pada tax avoidance perusahaan manufaktur. *E-Jurnal Akuntansi Universitas Udayana*, 9(2), 525–539.
- Nanningsih, D., & Dewi, S. R. (2023). The Effect of Sales Growth, Leverage, and Profitability on Tax Avoidance with Company Size as Moderating Variable. *Academia Open*, 8. <https://doi.org/10.21070/acopen.8.2023.3779>
- Prabowo, I. C. (2020). Capital Structure, Profitability, Firm Size and Corporate Tax Avoidance: Evidence from Indonesia Palm Oil Companies. *Business Economic, Communication, and Social Sciences (BECOSS) Journal*, 2(1), 97–103. <https://doi.org/10.21512/becossjournal.v2i1.6064>

- Sianipar, N. K., Yahya, I., & Sadalia, I. (2020). The Determinants of Tax Avoidance with Firm Size as Moderating Variable at Multinational Companies. *International Journal of Research and Review (Ijrrjournal.Com)*, 7(7), 237–242.
- Wang, F., Xu, S., Sun, J., & Cullinan, C. P. (2020). Corporate tax avoidance: A literature review and research agenda. *Journal of Economic Surveys*, 34(4), 793–811. <https://doi.org/10.1111/joes.12347>

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