Determination of Capital Structure with the Influence of Financial Characteristics and Tax Aspects

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Abstract: This study was conducted to obtain empirical evidence on the influence of financial characteristics and tax aspects on capital structure. Data samples were taken from the non-cyclical consumer sector listed on IDX in 2020 to 2023 with purposive random sampling. The results showed that firm size, profitability, and interest coverage ratio significantly negatively affect DER. Liquidity, non-debt tax shield, and tax rate significantly positively affect DER. Meanwhile, tangibility, asset growth, sales growth, and debt tax shield do not significantly affect DER. The results also showed that tangibility, firm size, and liquidity significantly negatively affect DAR. A non-debt tax shield and tax rate significantly positively affect DAR. Meanwhile, asset growth, sales growth, profitability, interest coverage ratio, and debt tax shield do not significantly affect DAR. All independent variables significantly affect capital structure proxied by DER and DAR.
Keywords: Capital Structure; Financial Characteristics; Tax Aspects.

Abstrak: Penelitian ini dilakukan untuk mendapatkan bukti empiris pengaruh karakteristik keuangan dan aspek perpajakan terhadap struktur modal. Sampel data diambil dari sektor *consumer non-cyclicals* yang terdaftar di Bursa Efek Indonesia (BEI) tahun 2020 samapai 2023 secara *purposive random sampling*. Hasil olah data menunjukkan ukuran perusahaan, profitabilitas, dan *interest coverage ratio* memiliki pengaruh negatif signifikan terhadap DER. Likuiditas, *non-debt tax shield*, dan *tax rate* memiliki pengaruh positif signifikan terhadap DER. Sementara, *tangibility*, pertumbuhan aset, pertumbuhan penjualan, dan *debt tax shield* tidak memiliki pengaruh signifikan terhadap DER. Hasil olah data juga menunjukkan bahwa *tangibility*, ukuran perusahaan, dan likuiditas memiliki pengaruh negatif signifikan terhadap DAR. *Non-debt tax shield* dan *tax rate* memiliki pengaruh positif signifikan terhadap DAR. Sementara, pertumbuhan aset, pertumbuhan penjualan, profitabilitas, *interest coverage ratio*, dan *debt tax shield* tidak memiliki pengaruh signifikan terhadap DAR. Secara bersama-sama seluruh variabel independen memberikan pengaruh signifikan terhadap struktur modal yang diproksikan dengan DER dan DAR.
Kata Kunci: Struktur Modal; Karakteristik Keuangan; Aspek Perpajakan.

INTRODUCTION

Generally, financing in a company can come from internal sources, namely in the form of share capital and from external sources, namely in the form of loans. During the COVID-19 pandemic, many companies experienced a decline in operational performance and even went bankrupt. Several companies could survive by utilising their internal funding reserves with retained earnings. Meanwhile, companies that have external funding choose to apply for debt restructuring.

For companies, determining the level of capital structure is important because it impacts the financial risk, cost of capital, and the company's value. (Tamba & Purwanto, 2021) Stated that after the pandemic, one of the biggest challenges for corporate financial managers is to obtain the optimal funding composition. The company's capital structure is optimal if, after the company has considered the benefits and costs of each available

funding option, the company can have an ideal balance between funding from debt and equity (Zulvia & Linda, 2019).

Research on capital structure is still interesting in analysing financial management and managerial decision making because appropriate and optimal financial sources can add value to the company's profitability and financial performance. Based on various previous studies, several factors that influence the determination of the level of capital structure are examined by looking at financial characteristics and tax aspects. Financial characteristics are tangibility, firm size, asset growth, sales growth, profitability, liquidity, and interest coverage ratio. Tax aspects consist of debt tax shield, non-debt tax shield, and tax rates.

Companies with a high level of tangibility find it easier to obtain loans because existing fixed assets can be used as collateral. (Chen et al., 2021; Desai, 2020) Found that tangibility has a significant effect on increasing the company's capital structure. In addition to providing guarantees and a sense of security for creditors, high tangibility will reduce information asymmetry between the company and stakeholders (Chen et al., 2021). Large companies, seen from the large number of assets, have advantages over small companies because they have greater opportunities to access loans at low costs, which has an impact on reducing information asymmetry and the risk of financial difficulties (Chen et al., 2021). Research results show that firm size has a significant positive influence on capital structure.

Companies with high asset growth will significantly increase their capital structure (Sensini, 2020; Zulvia & Linda, 2019). High asset growth indicates that the company has assets that can be used as collateral, making it easier to obtain external funding. Meanwhile, high sales growth can also significantly increase the level of capital structure (Mardan et al., 2023). Companies with sales growth will need significant investment funds, so they tend to increase their funding from debt.

(Wirianata & Wijoyo, 2020) Found that the level of the company's capital structure is influenced by the company's ability to generate profits. A high level of profitability will significantly reduce the company's capital structure (Chen et al., 2021; Desai, 2020). If the company can generate high profits, then the company can generate considerable internal funding, which tends to lower the debt ratio (Zulvia & Linda, 2019). (Desai, 2020; Mardan et al., 2023) found that high levels of liquidity also significantly reduce the level of capital structure because high liquidity indicates that the company has sufficient internal funding to meet short-term obligations as they fall due.

A high level of capital structure results in high interest expense. Companies with a high ICR level provide a sense of security to creditors because the company can meet its interest expense obligations and shows a low level of risk. However, a company that generates high profits before tax will have a high tax burden. Therefore, companies with high tax rates tend to increase external funding from debt to increase interest expenses, reducing the company's tax burden. (Mardan et al., 2023; Susilawaty, 2021) Their research found that the debt tax shield has a significant positive effect on the level of capital structure because the company uses interest expenses as a tax deduction. On the other hand, (Desai, 2020) found that the non-debt tax shield has a significant adverse effect on the level of capital structure, which means that companies will reduce external financing because they use depreciation and amortisation as tax deductions.

All companies must determine the optimal combination of capital structures adjusted to their business fields, including those in the consumer non-cyclical sector. Companies in the consumer non-cyclical sector are known to have stock trading that tends to be stable

and resistant to significant market changes. Consumer non-cyclicals are a business sector whose income and stock movements are not significantly influenced by economic conditions because this sector produces products for daily consumption needs (Rokhayati et al., 2021). During the pandemic, there was a decline in people's purchasing power, which impacted the decline in the national economic growth rate. People's consumption will increase in twenty-two, along with economic recovery and community mobility. Based on Consumer Confidence Index (IKK) data in September 2022, the primary consumer goods sector is still optimistic, namely at 117.200. Companies in the consumer non-cyclicals sector require significant funding to survive amidst the fierce competition between similar businesses.

Several previous studies focused on financial characteristics, where companies implemented the pecking order theory, prioritising internal and external funding based on these financial characteristics when determining capital structure. Meanwhile, based on the trade-off theory, debt interest expense and taxation influence capital structure decisions. This study aims to address this gap by combining financial and tax factors in determining capital structure on non-cyclical consumer sector companies for the observation period 2020 to 2023.

THEORETICAL REVIEW

Pecking Order Theory. The pecking order theory is based on information asymmetry between the company and stakeholders (Lee & Dampha, 2023). Companies prioritise internal funding because it has the lowest level of information asymmetry. Meanwhile, external funding is believed to create greater information asymmetry. If management decides to use external funding to finance the company, investors will view this as an adverse action (Chang et al., 2019). This condition will encourage investors to sell their shares, which will result in a decrease in value. Therefore, based on the pecking order theory, companies will follow the funding sequence starting from internal, debt, and equity funding to minimise information asymmetry between the company and stakeholders.

Trade-Off Theory. This theory explains that debt benefits companies because the interest burden on debt is a tax deduction. The benefit of tax deductions from the interest burden on debt is that they lower the cost of financing from debt than from issuing shares. However, on the other hand, debt that is too large and uncontrolled will pose a risk of bankruptcy. In the concept of trade-off theory, if a company uses external funding sources, there is a risk of bankruptcy that may have to be faced. However, the risk can be replaced or exchanged with tax benefits because there is an interest burden on the increase in debt (Wirianata & Wijoyo, 2020). Therefore, companies will limit debt financing to keep bankruptcy costs as low as possible, which may arise from bankruptcy risk (Susilawaty, 2021).

Tangibility and Capital Structure. A high level of tangibility provides assurance and a sense of security for creditors, thereby reducing information asymmetry between the company and stakeholders (Chen et al., 2021). Therefore, companies with a high amount of fixed assets tend to be easy to access and obtain external funding because the company gains trust from creditors. In addition, the company's fixed assets can be collateral for external parties as a replacement if it is financially challenging and cannot pay its obligations (Sutomo et al., 2020). (Aini et al., 2022; Chen et al., 2021; Desai, 2020; Mu'arif & Afridayani, 2023; Vintilă et al., 2019) found that tangibility has a significant effect on

increasing DER, and (Desai, 2020), (Rao et al., 2019), (Sensini, 2020), and (Zandi et al., 2023) found that tangibility has a significant positive effect on DAR. (Lei, 2020; Triyono et al., 2019; Zulvia & Linda, 2019) found that tangibility does not affect the level of capital structure.

H1a: Tangibility has a positive effect on DER.
H1b: Tangibility has a positive effect on DAR.

Firm Size and Capital Structure. Firm size can provide important information regarding external parties' stability and growth prospects. Large companies, as seen from the large number of assets, have advantages compared to small companies because they have greater opportunities to access loans at low costs, which has an impact on reducing information asymmetry and the risk of financial difficulties (Chen et al., 2021). This aligns with the trade-off theory, which states that large companies have a lower risk of financial problems and their bankruptcy costs are relatively lower. Hence, creditors are more confident in providing loans (Hartati & Mukhibad, 2018). (Aini et al., 2022; Chen et al., 2021; Triyono et al., 2019) obtained research results that firm size has a significant positive influence on DER, and research conducted by (Lei, 2020; Mardan et al., 2023; Sensini, 2020; Zandi et al., 2023) also found a significant positive effect of firm size on DAR. (Rao et al., 2019; Vintilă et al., 2019) found the opposite result, that firm size significantly negatively affects capital structure. Meanwhile, (Desai, 2020) found that the size of the company did not influence the level of capital structure.

H2a: Firm size has a positive effect on DER.
H2b: Firm size has a positive effect on DAR.

Asset Growth and Capital Structure. Companies with high growth will need additional funding to finance their operations (Desai & Desai, 2021). Therefore, companies with high growth will be more dependent on external funding sources because the cost of obtaining internal funding from issuing shares is more expensive than that of obtaining funding from debt (Tamba & Purwanto, 2021; Zulvia & Linda, 2019). This is in accordance with the pecking-order theory, which states a positive relationship between company growth and debt funding (Sensini, 2020). (Zulvia & Linda, 2019) Asset growth had a significant positive influence on DER, and Lei (2020) and Sensini (2020) found that asset growth had a significant positive effect on DAR. Contrary results were obtained (Chen et al., 2021), that is, asset growth does not significantly influence the level of capital structure.

H3a: Asset growth has a positive effect on DER.
H3b: Asset growth has a positive effect on DAR.

Sales Growth and Capital Structure. Companies that experience sales growth will need investment funds to meet increased production capacity and other operational needs (Desa, 2020). If the opportunity to invest exceeds the amount of retained earnings, the company will increase external funding. In this condition, management will be encouraged to increase debt to cover the funding shortfall. (Triyono et al., 2019) His research found that sales growth would increase DER significantly, while (Mardan et al., 2023) and (Rao et al., 2019) found that sales growth had a significant positive effect on DAR. However,

the opposite result was obtained by (Aini et al., 2022), (Desai, 2020), and (Vintilă et al., 2019), who found that company growth, both asset growth and sales growth, did not have a significant influence on the level of capital structure.

H4a: Sales growth has a positive effect on DER.
H4b: Sales growth has a positive effect on DAR.

Profitability and Capital Structure. If a company can generate high profits, then the company can generate significant internal funding, which tends to have a low debt ratio (Zulvia & Linda, 2019). This is in accordance with the pecking-order theory, which states that companies tend to prioritise using internal funds to finance their operational activities, because prioritising internal funds shows that company management prefers funding with the lowest risk. (Chen et al., 2021; Desai, 2020; Triyono et al., 2019; Vintilă et al., 2019) concluded that profitability has a significant adverse effect on DER. (Lei, 2020; Mardan et al., 2023; Rao et al., 2019; Sensini, 2020; Zandi et al., 2023) Found that the increase in profitability impacts the decline in DAR. Meanwhile, Meisyta et al. (2021) found that profitability significantly influences capital structure. Contrary results were obtained from the research (Aini et al., 2022; Zulvia & Linda, 2019), which found that profitability did not significantly influence the company's capital structure.

H5a: Profitability hurts DER.
H5b: Profitability hurts DAR.

Liquidity and Capital Structure. According to the pecking-order theory, a high level of liquidity indicates that the company has sufficient internal funds where debt repayment is prioritised using internal funding (Desai, 2020; Vintilă et al., 2019) in their research concluded that the level of liquidity had a significant negative influence on DER, and (Desai, 2020; Lei, 2020; Mardan et al., 2023) concluded high liquidity can significantly reduce DAR. In the trade-off theory, companies must ensure that their liquidity level reaches an optimal level to meet their obligations (Vintilă et al., 2019). So, if the company needs additional funds from external sources, it will be easier to obtain them. However, (Rao et al., 2019) and (Zandi et al., 2023) found that the level of liquidity does not affect the company's capital structure.

H6a: Liquidity hurts DER.
H6b: Liquidity hurts DAR.

Interest Coverage Ratio (ICR) and Capital Structure. The higher ICR level provides a sense of security to creditors because the company can meet its interest expense obligations and shows a low level of default risk. A high ICR level indicates the company's ability to meet its interest expense obligations even though operating profit has decreased (Desai, 2020). On the other hand, a low ICR indicates an increase in the level of default risk, which may indicate that the company is experiencing financial difficulties. In the trade-off theory, there is a positive relationship between ICR and the company's capital structure. (Desai, 2020) found that high ICR levels can potentially significantly lower the level of capital structure.

H7a: ICR has a positive effect on DER.
H7b: ICR has a positive effect on DAR.

Debt Tax Shield and Capital Structure. Debt tax shield applied by companies by utilising interest expenses on debt to reduce tax burdens (Lei, 2020; Mardan et al., 2023; Susilawaty, 2021) found that debt tax shield has a significant positive effect on the level of capital structure because the company uses interest expense as a tax deduction. Therefore, companies tend to take advantage of this condition by choosing external funding over internal funding because of the benefits of reducing the tax burden from the debt tax shield. This is in line with what is discussed in the trade-off theory, where companies get tax reduction benefits from interest expense if they increase external funding.

H8a: Debt tax shield has a positive effect on DER.
H8b: Debt tax shield has a positive effect on DAR.

Non-Debt Tax Shield and Capital Structure. Non-debt tax shield can reduce the company's tax burden without utilising interest expense. However, there is a substitution effect where the company utilises depreciation and amortisation expenses on fixed assets as a tax burden reduction. Thus, the greater the level of non-debt tax shield that the company can use, the lower the company uses external financing from debt (Desai, 2020; Fitriyanto & Haryono, 2020) found that the non-debt tax shield had a significant adverse effect on DER, and (Desai, 2020; Lei, 2020) also found a significant adverse effect of the non-debt tax shield on DAR. Meanwhile, (Susilawaty, 2021) and (Vintilă et al., 2019) found that non-debt tax shield significantly affects capital structure. However, (Aini et al., 2022), (Mu'arif & Afridayani, 2023), (Rao et al., 2019), and (Zandi et al., 2023) found the opposite results, that the non-debt tax shield did not have a significant effect on the level of capital structure.

H9a: Non-debt tax shield hurts DER.
H9b: Non-debt tax shield hurts DAR.

Tax Rate and Capital Structure. Companies with high tax rates tend to increase external funding from debt to increase interest expenses, reducing the company's tax burden. This is in accordance with the trade-off theory, which states that additional external funding increases interest expenses, thereby reducing the company's tax obligations. (Mu'arif & Afridayani, 2023) concluded that tax rates have a significant positive effect on capital structure. Meanwhile, (Desai, 2020) and (Vintilă et al., 2019) found that tax rates do not significantly affect the level of capital structure.

H10a: Tax rate has a positive effect on DER.
H10b: Tax rate has a positive effect on DAR.

Research Model
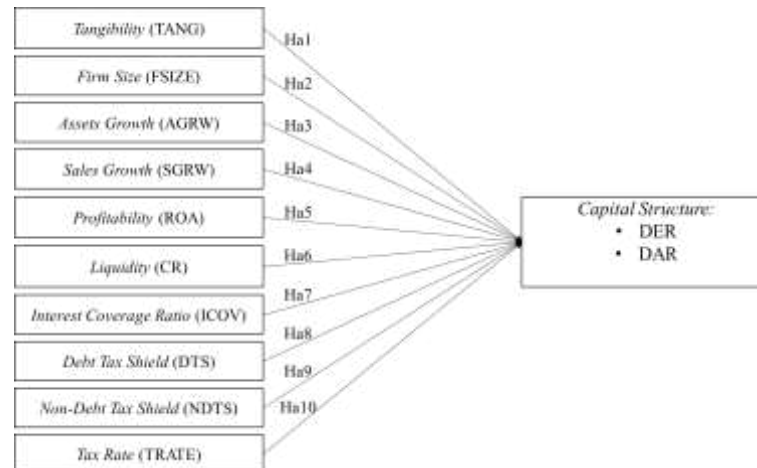This research is described in the following research model:

Figure 1. Research Model

METHODS

The research population includes companies in the consumer non-cyclical sectors listed on the IDX from 2020 to 2023. The data processed in this study are secondary data obtained with sampling criteria: not conducting an IPO, not experiencing delisting, and presenting complete financial reports ending December 31 in rupiah currency for the 2020 to 2023 observation period. Data that meets the criteria is collected from the company and IDX webpages. Based on the predetermined sample selection criteria, 42 sample companies were obtained. The number of processed data samples was 168 with an observation period of 4 years. The data in the study were processed and analysed using panel data regression analysis using EViews 10.

The independent variables in this study consist of financial characteristics, including tangibility, company size, asset growth, sales growth, profitability, liquidity, interest coverage ratio, and tax aspects, which include debt tax shield, non-debt tax shield, and tax rate. The dependent variables are capital structure as measured by DER and DAR. The measurement of research variables is presented in **Table 1**.

Table 1. Measurement of Variables

Variables	Measurement of Variables	Reference
DER	$DER = \dfrac{\text{Total Liabilities}}{\text{Total Equity}}$	(Chen et al., 2021; Desai, 2020)
DAR	$DAR = \dfrac{\text{Total Liabilities}}{\text{Total Assets}}$	(Chen et al., 2021; Desai, 2020)
TANG	$\text{Tangibility (TANG)} = \dfrac{\text{Fixed Asset}}{\text{Total Asset}}$	(Chen et al., 2021; Desai, 2020)
FSIZE	$\text{Firm Size (FSIZE)} = \ln \text{Total Assets}$	(Chen et al., 2021; Desai, 2020)
AGRW	$\text{Assets Growth (AGRW)} = \dfrac{\text{Total Assets}_t - \text{Total Assets}_{t-1}}{\text{Total Assets}_{t-1}}$	(Chen et al., 2021)
SGRW	$\text{Sales Growth (SGRW)} = \dfrac{\text{Total Sales}_t - \text{Total Sales}_{t-1}}{\text{Total Sales}_{t-1}}$	(Desai, 2020)
ROA	$ROA = \dfrac{\text{Net Income}}{\text{Total Assets}}$	(Desai, 2020)

CR	$CR = \dfrac{\text{Current Asset}}{\text{Current Liabilities}}$		(Desai, 2020)
ICOV	Interest Coverage Ratio (ICOV) $= \dfrac{\text{Earnings Before Interest and Tax}}{\text{/Interest Expense}}$		(Desai, 2020)
DTS	Debt Tax Shield (DTS) $= \dfrac{\text{Interest Expense}}{+ \text{Profit Before Tax}}$		(Susilawaty, 2021)
NDTS	Non $-$ Debt Tax Shield (NDTS) $= \dfrac{\text{Depreciation } + \text{ Amortisation}}{+ \text{ Total Assets}}$		(Desai, 2020; Susilawaty, 2021)
TRATE	Tax Rate (TRATE) $= \dfrac{\text{Income Tax}}{\text{/Earnings Before Tax}}$		(Desai, 2020)

This study uses a panel data regression model with two equations—the regression model for **Equation 1**.

$$DER_{it} = a + \beta_1 TANG_{it} + \beta_2 FSIZE_{it} + \beta_3 AGRW_{it} + \beta_4 SGRW_{it} + \beta_5 ROA_{it} + \beta_6 CR_{it} + \beta_7 ICOV_{it} + \beta_8 DTS_{it} + \beta_9 NDTS_{it} + \beta_{10} TRATE_{it} + e_{it} \dots\dots\dots (1)$$

The regression model for **Equation 2.**

$$DAR_{it} = a + \beta_1 TANG_{it} + \beta_2 FSIZE_{it} + \beta_3 AGRW_{it} + \beta_4 SGRW_{it} + \beta_5 ROA_{it} + \beta_6 CR_{it} + \beta_7 ICOV_{it} + \beta_8 DTS_{it} + \beta_9 NDTS_{it} + \beta_{10} TRATE_{it} + e_{it} \dots\dots\dots (2)$$

α in the equation represents a constant, $\beta_1 - \beta_{11}$ represent the regression coefficient for each independent variable, and error is described by ε.

RESULTS

Descriptive Statistical Analysis. The results of data processing for descriptive statistical tests from sample companies are presented in **Table 2.**

Table 2. Descriptive Statistics Test Results 2020 to 2023

	Mean	Median	Maximum	Minimum	Std. Dev.
DER	1,045	0.761	7.941	0.103	1.111
DAR	0.421	0.430	0.888	0.060	0.196
TANG	0.333	0.314	0.762	0.014	0.175
FSIZE	29.632	29.560	32.860	26.948	1.468
AGRW	0.087	0.056	1.676	-0.189	0.196
SGRW	0.060	0.064	0.898	-0.537	0.191
ROA	0.093	0.073	0.349	0.001	0.068
CR	2.740	1.936	13.309	0.335	2.398
ICOV	2,310.985	9.001	132,945.300	0.320	14,271.670
DTS	0.394	0.115	5,830	0.000	0.806
NDTS	0.023	0.012	0.122	0.001	0.027
TRATE	0.239	0.221	0.952	0.012	0.116

The data in **Table 2** shows that DER, AGRW, SGRW, ICOV, DTS, and NDTS have mean values lower than their standard deviation, which can be interpreted as indicating

that these variables have high variation. In contrast, DAR, ANG, FSIZE, ROA, CR, and tax TRATE have lower standard deviation than average values, indicating that all these variables have low variation.

Estimation Model Selection. The data processing results for selecting the estimation model are presented in **Tables 3** and **4**.

Table 3. Chow Test Results

	Cross-section F	**Conclusion**
Equation 1	0.000	Fixed Effect Model
Equation 2	0.000	Fixed Effect Model

Table 4. Hausman Test Results

	cross-section random	**Conclusion**
Equation 1	0.000	Fixed Effect Model
Equation 2	0.000	Fixed Effect Model

The data processing results for the Chow Test show that the cross-section probability value F for both equations is lower than 0.050. The data processing results for the Hausman Test indicate that the random cross-section probability value for both equations is lower than 0.050. Based on these two test results, the fixed effect model is used as the best estimation model for the two regression equations in this study.
Table 5 below shows the results of the F Test for equations 1 and 2.

Table 5. F Test Results

	Equation 1	**Equation 2**
F-statistic	8.341	96.556
Prob(F-statistic)	0.000	0.000

Table 5 shows the probability level of the F test for equation 1 and equation 2, which is 0.000 below 5 per cent. The regression model equations 1 and 2 are concluded to have met the feasibility of the model, indicating that all independent variables together or simultaneously significantly influence the level of capital structure as measured by DER and DAR.

Coefficient Determination Test Results. The results of the Coefficient Determination for equations 1 and 2 are presented in **Table 6**.

Table 6. Coefficient Determination Test Results

	Equation 1	**Equation 2**
R-squared	0.975	0.977
Adjusted R-squared	0.963	0.967

Table 6 shows that the adjusted R2 value for equation 1 is 0.963, which indicates that all independent variables can explain 96,300 per cent of the level of capital structure proxied by DER. Meanwhile, 3,600per cent of the capital structure level measured by DER is explained or influenced by other factors not tested in this study. The Adjusted R2 value for equation 2 is 0.967, which means that all independent variables can explain 96,700per

cent of the level of capital structure proxied by DAR. Meanwhile, 3,300 per cent of the capital structure level measured by DAR is explained or influenced by other factors not tested in this study.

t-Test Results. Table 7 shows the results of the t-test for equations 1 and 2.

Table 7. t-Test Results

Variable	Equation 1		Equation 2	
	Coefficient	Prob.	Coefficient	Prob.
C	10.482	0.013	8.996	0.000
TANG	0.209	0.435	-0.912	0.000
FSIZE	-0.362	0.011	-0.323	0.000
AGRW	0.009	0.925	0.008	0.884
SGRW	0.152	0.078	0.071	0.142
ROA	-1,047	0.030	-0.308	0.263
CR	0.096	0.001	-0.086	0.000
ICOV	-0.923	0.000	-0.019	0.088
DTS	-0.031	0.308	-0.022	0.197
NDTS	7,476	0.025	4,510	0.014
TRATE	0.633	0.005	0.400	0.000

The data processing results in **Table 7** showed that tangibility, firm size, liquidity, non-debt tax shield, and tax rate significantly influence capital structure. In contrast, asset growth, sales growth, profitability, interest coverage ratio, and debt tax shield do not influence the determination of capital structure.

DISCUSSIONS

Tangibility and Capital Structure. Tangibility in **Equation 1** has data processing results with a positive direction towards the capital structure proxied by DER, but it does not have a significant effect. H1a is not acceptable. The results of this study cannot support the trade-off theory, which states a positive relationship between tangibility and capital structure. Companies with many fixed assets find accessing and obtaining external funding easier because they trust creditors. High tangibility is a guarantee and a sense of security for creditors. It reduces information asymmetry between the company and stakeholders (Chen et al., 2021), making it easier for companies to get external funding. However, the results of this study indicate that a high tangibility level can increase capital structure but not significantly.

Different results were found in **Equation 2**, which showed that tangibility significantly affects capital structure as measured by DAR, so H1b cannot be accepted. A high DAR level indicates the company has high external funding to finance its asset ownership. Thus, companies with excessively high debt levels will increase the risk of inability to pay and can lead to bankruptcy, so companies will reduce external funding to avoid bankruptcy due to excessive use of debt (Dewi & Fachrurrozie, 2021).

Based on the results of data processing, it can be concluded that companies with a high amount of fixed assets are not utilised to obtain additional external funding, but are utilised more to support operational activities and maximise profit for the company and increase internal funding, thus potentially lowering the level of capital structure. The results of the study on equation 1 align with the research of (Lei, 2020; Triyono et al., 2019; Zulvia & Linda, 2019), who found that tangibility does not affect the level of capital

structure. This result is contrary to research results of (Aini et al., 2022; Chen et al., 2021; Desai, 2020; Mu'arif & Afridayani, 2023; Vintilă et al., 2019), which found that tangibility has a significant effect on increasing DER. The result for equation 2 is not in line with research results of (Desai, 2020; Rao et al., 2019; Sensini, 2020; Zandi et al., 2023), which indicates that tangibility has a significant positive effect on DAR.

Firm Size and Capital Structure. Firm size in **Equation 1** has a significant adverse effect on DER. The same result is found in **Equation 2**, where firm size significantly negatively affects DAR. H2a and H2b are not accepted. The results of this study indicate that large companies tend to lower their capital structure levels. This result does not align with the trade-off theory, which states that large company size can increase external funding. Large companies, as seen from the large number of assets, have advantages over small companies because they have greater opportunities to access loans at low costs. Large companies have a lower risk of financial problems, and their bankruptcy costs are also relatively lower (Hartati & Mukhibad, 2018). By utilising many assets, companies can obtain external funding by using their assets as collateral for loans. However, the study results show that large company size is not utilised in obtaining additional external funding.

The results of data processing for **Equation 1** and **Equation 2** in this study align with (Rao et al., 2019; Vintilă et al., 2019), which found that firm size has a significant adverse effect on capital structure. The company leverage its significant assets to increase internal funding by increasing operational activities and maximising profit. By increasing internal funding, the company reduces external funding sources in financing its assets, reducing the risk of default and bankruptcy. The results of this data processing cannot support the research of (Aini et al., 2022; Chen et al., 2021; Triyono et al., 2019), which found that firm size has a significant positive influence on DER and the research of (Lei, 2020; Mardan et al., 2023; Sensini, 2020; Zandi et al., 2023), which also found a significant positive effect of company size on DAR. The results of this study are also not in line with (Desai, 2020), which found research results that the size of the company did not influence the level of capital structure.

Asset Growth and Capital Structure. Asset growth rate in **Equation 1** has a positive direction towards DER, but it is insignificant. In **Equation 2**, the asset growth rate also does not significantly affect DAR. H3a and H3b in this study cannot be accepted. In the pecking-order theory, it is stated that there is a positive relationship between company growth and debt funding (Sensini, 2020). Companies with rapid growth opportunities indicate that the company has the opportunity to make investments and will need additional funding to finance its operational activities if internal funding is insufficient. Companies with high growth will depend more on external funding sources because external funding costs less than internal funding costs by issuing shares (Tamba & Purwanto, 2021; Zulvia & Linda, 2019). The study results indicate that company growth, as measured by asset growth, is not used as a driver for companies to increase their external funding. The results of the study show that company growth has the potential to reduce the level of capital structure, which is not in line with the pecking-order theory. These results support the findings on the tangibility, where companies with large or growing assets are not used as collateral in obtaining external funding, but are used more to increase internal funding. However, the study's results also show that the influence is insignificant, which suggests that asset growth is not a factor that influences the determination of the level of capital structure.

The results obtained from **Equation 1** and **Equation 2** are in line with the research results obtained by (Chen et al., 2021); asset growth does not significantly influence the level of capital structure. The results of this study cannot support (Zulvia & Linda, 2019), which found that asset growth had a significant positive influence on DER, and (Lei, 2020; Sensini, 2020), which found that asset growth had a significant positive effect on DAR.

Sales Growth and Capital Structure. The sales growth rate variable in **Equation 1** has a positive direction towards DER but has no significant effect. Meanwhile, in **Equation 2**, the sales growth rate has a positive direction towards DAR but has no significant effect. H4a and H4b in this study cannot be accepted. Companies that experience sales growth will need investment funds to meet increased production capacity and other operational needs (Desai, 2020). Internal funds will first meet the funding needs through retained earnings. Sales growth indicates that the company has good operational performance and has the potential to increase internal funding. If internal funding is insufficient, the company will turn to external funding. Companies with high sales growth rates will find it easier to gain external trust and increase external funding. The data processing results of this study found that high sales growth can increase capital structure, but not significantly. These results indicate that the company uses sales growth results not to encourage increased external funds but as a source of internal funding.

The data processing results in **Equations 1** and **2** support what was obtained by (Aini et al., 2022; Desai, 2020; Vintilă et al., 2019), which found that sales growth did not significantly affect the level of capital structure. The results of this study cannot support the results of (Triyono et al., 2019), which conclude that sales growth would increase DER significantly, while (Mardan et al., 2023; Rao et al., 2019) concluded that sales growth had a significant positive effect on DAR.

Profitability and Capital Structure. The profitability variable proxied by ROA in **Equation 1** significantly negatively affects DER. H5a in this study can be accepted. The data processing results showed that the increase in profitability significantly impacts the decrease in DER. Companies with high profit-generating capabilities can generate considerable internal funding, which tends to have a low debt ratio (Zulvia & Linda, 2019). The results of this study prove the statement in the pecking-order theory, that companies tend to prioritise the use of internal funds to finance their operational activities because company management prefers low-risk funding by prioritising internal funds compared to external funding, with a higher level of risk. The results of data processing in equation 1 are in line with the research results of (Chen et al., 2021; Desai, 2020; Triyono et al., 2019; Vintilă et al., 2019), which found that profitability has a significant adverse effect on DER. However, this result is contrary to (Meisyta et al., 2021), who obtained research results that profitability has a significant positive influence on capital structure.

Different results were obtained in **Equation 2**, where H5b in this study was rejected because it showed that profitability did not significantly affect DAR. This study's results align with (Aini et al., 2022; Zulvia & Linda, 2019), where profitability does not significantly influence the company's capital structure. The level of profitability generated by the company cannot guarantee the level of the company's capital structure (Nery & Susanto, 2022). The results in **Equation 2** are not in line with (Meisyta et al., 2021), who found that profitability has a significant positive influence on capital structure and are not in line with (Lei, 2020; Mardan et al., 2023; Rao et al., 2019; Sensini, 2020; Zandi et al., 2023), who found that the increase in the level of profitability has an impact on decreasing DAR.

Liquidity and Capital Structure. Based on the data processing results, H6a cannot be accepted because liquidity significantly positively affects DER. The results of the study on **Equation 1** show that companies with high levels of liquidity will increase DER significantly. In the trade-off theory, companies must ensure that their liquidity levels reach an optimal level to meet their obligations (Vintilă et al., 2019). High liquidity indicates that the company can meet its short-term obligations and indicates that the company has no risk of default. Thus, if the company needs additional funds from external sources, it will be easier to obtain them. The results of this study are not in line with the results of (Desai, 2020) and (Vintilă et al., 2019), who concluded that the level of liquidity had a significant negative influence on DER.

In **Equation 2**, different results were obtained, where H6b in this study was accepted because liquidity has a significant negative influence. In the pecking-order theory, companies with high liquidity levels will have less need for external funding. The negative direction of the liquidity in this study is in accordance with the pecking-order theory, which indicates that the company has sufficient internal funding and prioritises paying off its debts using internal funding from retained earnings. This study's results align with research (Desai, 2020; Lei, 2020; Mardan et al., 2023), which suggests that obtaining high liquidity can significantly reduce DAR. The findings of both equations in this study are not in line with the study's findings (Rao et al., 2019; Zandi et al., 2023), where the level of liquidity does not affect the company's capital structure.

ICR and Capital Structure. ICR in **Equation 1** has a significant adverse effect on DER, so H7a cannot be accepted. Meanwhile, in **Equation 2**, ICR has a negative direction on DAR, but not significantly. H7b is concluded to be rejected. In the trade-off theory, there is a positive relationship between ICR and the company's capital structure. The higher the ICR level, the more secure it is for creditors because the company can meet its interest expense obligations and shows a low level of default risk. Hence, the company uses this condition to improve its capital structure. The results of the study from equation 1 cannot support the trade-off theory, as the results of the study indicate that a high ICR level indicates that the company, in its current condition already has a high level of debt or external funding, so the company does not increase its capital structure so as not to increase the level of default risk and bankruptcy risk. The study results from equation 2 also cannot support the trade-off theory, where the ICR level has a negative direction but does not significantly affect the capital structure. The results of the two equations of this study cannot support (Desai, 2020), who found that a high ICR level has the potential to reduce the level of capital structure significantly.

Debt Tax Shield and Capital Structure. The debt tax shield in **Equation 1** can reduce DER but not significantly. The same results were found in **Equation 2**, where the debt tax shield negatively impacts DAR but does not have a significant effect. H8a and H8b cannot be accepted. The study results in **Equations 1** and **2** indicate that companies do not utilise debt tax shields to improve their capital structure. If a company increases its capital structure, it will have an increased interest expense, even though it can be a tax deduction. The results of this study are not in line with the trade-off theory, where companies get tax reduction benefits from interest expenses if they add external funding. The presence of additional external funding will cause high interest expenses and be a bad signal in the eyes of investors because the company's risk level increases. The results of this study are not in line with the research conducted (Lei, 2020; Mardan et al., 2023; Susilawaty, 2021), whose research results found that the debt tax shield has a significant

positive influence on the level of capital structure because companies use interest expenses as a tax deduction.

Non-Debt Tax Shield and Capital Structure. The non-debt tax shield in **Equation 1** has a significant positive effect. **Equation 2** shows the same result; the non-debt tax shield has a significant positive effect on DAR. H9a and H9b in this study are not accepted. Non-debt tax shield could reduce the company's tax burden by utilising depreciation and amortisation expenses on fixed assets as a tax burden reduction. Thus, the greater the level of non-debt tax protection that the company can use, the lower the company's use of external financing from debt. However, the study results from 2 equations indicate that a non-debt tax shield will significantly increase the capital structure. High depreciation and amortisation expenses indicate that the company has high fixed assets. So the company can use this condition to use its assets as collateral in obtaining external funding. The research results from these two equations align with (Susilawaty, 2021; Vintilă et al., 2019), which found that the non-debt tax shield significantly positively affected capital structure. The results of this study are not in line with those of Desai (2020; Fitriyanto & Haryono, 2020), who concluded that the non-debt tax shield had a significant adverse effect on DER, and (Desai, 2020; Lei, 2020) also found a significant adverse effect of the non-debt tax shield on DAR. This result indicates that companies will reduce external funding because they use depreciation and amortisation to reduce their tax burden. The results of this study also contradict what was found by (Aini et al., 2022), (Mu'arif & Afridayani, 2023), (Rao et al., 2019), and (Zandi et al., 2023) that the non-debt tax shield did not have a significant influence on the level of capital structure.

Tax Rate and Capital Structure. The tax rate variable in **Equation 1** positively impacts DER significantly. In **Equation 2**, the same results are obtained where the tax rate has a significant positive effect. H10a and H10b, which state that the tax rate has a significant positive effect on DER and DAR, can be accepted. The company's tax burden will increase because the company generates high pre-tax profits. Companies with high tax rates tend to increase external funding from debt to increase interest expenses, which can reduce the company's tax burden. The data processing results for the two equations show that increasing tax rates will significantly increase the capital structure. The results of this study support the trade-off theory, which states that additional external funding is used to increase interest expenses, thereby reducing the company's tax obligations. The findings in this study align with (Mu'arif & Afridayani, 2023), who concluded that tax rates significantly positively affect capital structure. The higher the income tax rate faced by a company, the greater the effect of tax reduction by utilising the company's loan interest expense, and the greater the tendency of the company to increase external financing from debt (Lei, 2020). However, the results of this study are not in line with previous research (Desai, 2020; Vintilă et al., 2019), which found that tax rates do not significantly influence the level of the company's capital structure.

CONCLUSION

This research was conducted to obtain empirical evidence on the influence of financial characteristics including tangibility, company size, asset growth, sales growth, profitability, liquidity, interest coverage ratio, and tax aspects consisting of debt tax shield, non-debt tax shield, and tax rate, on determining the level of capital structure proxied by DER and DAR, on non-cyclical consumer sector companies for the observation period 2020 to 2023.

The data processing results from regression equation 1 indicate that firm size, profitability, and interest coverage ratio significantly affect the capital structure as proxied by DER. On the other hand, liquidity, non-debt tax shield, and tax rate significantly influence capital structure. Meanwhile, tangibility, asset growth, sales growth, and debt tax shield do not significantly affect capital structure. Together, all independent variables significantly affect capital structure as proxied by DER.

Large companies have easier access to external funding. However, research results indicate that large companies do not use their significant assets as collateral to obtain loans; instead, they use them to increase their operational activities to increase company profits and internal funding. High profitability indicates that the company has internal funding sources so that it will reduce its external funding sources. A high interest coverage ratio indicates that the company already has a high level of debt and can meet its interest expense obligations. This condition will encourage companies not to increase their external funding because it will increase the risk of default and bankruptcy.

High liquidity indicates that the company can meet its short-term obligations and indicates that the company has no risk of default. So, if the company needs additional funds from external sources, it will be easier to obtain them. A non-debt tax shield will significantly increase the capital structure. High depreciation and amortisation expenses indicate that the company has high fixed assets. So the company can use this condition to use its assets as collateral in obtaining external funding. Companies with high tax rates tend to increase external funding from debt to increase interest expenses, which can reduce the company's tax burden.

Data processing results from regression equation 2 showed that tangibility, firm size, and liquidity significantly negatively affect capital structure as proxied by DAR. On the other hand, non-debt tax shield and tax rate significantly positively influence capital structure. Meanwhile, asset growth, sales growth, profitability, interest coverage ratio, and debt tax shield do not significantly affect capital structure. Together, all independent variables significantly affect capital structure as proxied by DAR.

Companies with significant assets and a high level of tangibility can use their assets as collateral in obtaining loans. However, the study results show that companies utilise significant assets to increase internal funding by using assets in operational activities that generate high profits. The same thing is found in companies with a high liquidity level. The company does not utilise this condition to increase its capital structure, even though it has a low default risk level, because it appears to have the ability to meet its short-term obligations.

On the contrary, non-debt tax shield and tax rate will significantly increase the capital structure proxied by DAR. High depreciation and amortisation expenses indicate that the company has high fixed assets and uses them to obtain external funding with collateral from its assets. Companies with high tax rates also tend to increase external funding, increase interest expenses, and reduce tax liabilities.

This study has adjusted R2 results for regression equation 1, showing that all independent variables can explain 96.340 per cent of the capital structure level. Meanwhile, the Adjusted R2 value in regression equation 2 shows that all independent variables can explain 96.720 per cent of the capital structure level. Although both of these results are high, other factors can still explain or influence the level of capital structure. Based on this information, other factors not tested in this study can be added for further research, such as the role of governance and other financial and non-financial performance factors. This study is also limited to the number of samples taken from the consumer non-

cyclical sector, with a 4-year observation period from 2020 to 2023. For further research, samples of companies from other industrial sectors can be added, and the research observation period can be increased.

REFERENCES

Aini, N. N., Suherman, S., & Mardiyati, U. (2022). Determinants Of Capital Structure On Property And Real Estate Companies Listed On The Indonesia Stock Exchange For The Period Of 2015-2020. *International Journal Of Education, Social Studies, And Management (IJESSM)*, *2*(3), 14–33. https://doi.org/10.52121/ijessm.v2i3.90.

Chang, C. C., Batmunkh, M. U., Wong, W. K., & Jargalsaikhan, M. (2019). Relationship between capital structure and profitability: Evidence from Four Asian Tigers. *Journal of Management Information and Decision Sciences*, *22*(2), 54–65. https://doi.org/10.2139/ssrn.3411977.

Chen, Y., Sensini, L., & Vazquez, M. (2021). Determinants Of Leverage In Emerging Markets: Empirical Evidence. *International Journal of Economics and Financial Issues*, *11*(2), 40–46. https://doi.org/10.32479/ijefi.10997.

Desai, R. (2020). Factors affecting Financing Decision of Indian Power & Energy Sector and Testing of Capital Structure Theories: Panel Data Analysis. *Indonesian Management and Accounting Research*, *19*(1), 71–90. https://doi.org/10.25105/imar.v19i1.6686.

Desai, R., & Desai, J. (2021). Moderating Effect Of Firm Size On Capital Structure Determinants: Evidence From Indian Food Processing Industry. *Copernican Journal of Finance & Accounting*, *9*(3), 61–81. https://doi.org/10.12775/cjfa.2020.012.

Dewi, C. R., & Fachrurrozie, F. (2021). The Effect of Profitability, Liquidity, and Asset Structure on Capital Structure with Firm Size as a Moderating Variable. *Accounting Analysis Journal*, *10*(1), 32–38. https://doi.org/10.15294/aaj.v10i1.44516.

Fitriyanto, N., & Haryono, S. (2020). Faktor-Faktor Penentu Struktur Modal Dengan Ukuran Perusahaan Sebagai Variabel Moderasi. *Competitive Jurnal Akuntansi Dan Keuangan*, *4*(2), 39–54. https://doi.org/10.31000/c.v4i2.2643.

Hartati, M. S., & Mukhibad, H. (2018). Accounting Analysis Journal The Influence Of Profitability, Liquidity, Business Risk, Firm Size, and Sales Growth in The Property and Real Estate Companies Listed in the Idx During 2013-2016. *Accounting Analysis Journal*, *7*(2), 103–110. https://doi.org/10.15294/aaj.v7i2.22383.

Lee, C.-W., & Dampha, M. (2023). Determinants of Optimal Debt Policy: Evidence from Indonesia and Taiwan. *Review of Integrative Business and Economics Research*, *12*(4), 48–70. https://api.semanticscholar.org/CorpusID:258767563.

Lei, L. (2020). Research on the Impact of Tax Shield Effect on Corporate Capital Structure
—Empirical Analysis Based on A-Share Listed Companies. *Modern Economy*, *11*(01), 126–139. https://doi.org/10.4236/me.2020.111012.

Mardan, R. M., Moeljadi, Sumiati, & Indrawati, N. K. (2023). The Determinants of Capital Structure: Evidence from Indonesia. *International Journal of Professional Business Review*, *8*(5), 1–30. https://doi.org/10.26668/businessreview/2023.v8i5.878.

Meisyta, E. D., Yusuf, A. A., & Martika, L. D. (2021). Pengaruh Profitabilitas, Struktur Aktiva Dan Ukuran Perusahaan Terhadap Struktur Modal. *JRKA (Jurnal Riset Keuangan Dan Akuntansi)*, *7*(2), 83–91. https://doi.org/10.25134/jrka.v7i1.4450.

Mu'arif, S., & Afridayani. (2023). Pengaruh Asset Tangibility, Effective Tax Rate, dan Non Debt Tax Shield Terhadap Struktur Modal. *AKUISISI: Jurnal Akuntansi*, *19*(2), 294–308. https://doi.org/10.24127/akuisisi.v19i2.1563.

Nery, V., & Susanto, L. (2022). Faktor-Faktor yang Memengaruhi Struktur Modal dengan Ukuran Perusahaan sebagai Variabel Moderasi. *Jurnal Ekonomi, SPESIAL ISSUE*, *27*(3), 21–40. https://doi.org/10.24912/je.v27i03.862.

Rao, P., Kumar, S., & Madhavan, V. (2019). A Study On Factors Driving The Capital Structure Decisions Of Small And Medium Enterprises (SMEs) in India. *IIMB Management Review*, *31*(1), 37–50. https://doi.org/10.1016/j.iimb.2018.08.010.

Rokhayati, I., Nirmala, N., & Oktaviani, W. T. (2021). Capital Structure Conditions Affected by Company Internal Factors: a Case Study of Non-Cyclicals Consumer Companies on Indonesian Stock Exchange. *J-MAS (Jurnal Manajemen Dan Sains)*, *6*(2), 351–356. https://doi.org/10.33087/jmas.v6i2.276.

Sensini, L. (2020). Factors Driving Capital Structure of Italian SME's. *International Business Management*, *14*(7), 217–225. https://docsdrive.com/pdfs/medwelljournals/ibm/2020/217-225.pdf.

Susilawaty, T. E. (2021). The Effect Of Debt Tax Shield And Non Debt Tax Shield On Capital Structure On Advertising Printing Media Companies Listed In Indonesia Stock Exchange. *Enrichment: Journal of Management*, *12*(1), 639–646. https://doi.org/10.35335/enrichment.v12i1.248.

Sutomo, S., Wahyudi, S., Pangestuti, I. R. D., & Muharam, H. (2020). The Determinants Of Capital Structure In The Coal Mining Industry On The Indonesian Stock Exchange. *Investment Management and Financial Innovations*, *17*(1), 165–174. https://doi.org/10.21511/imfi.17(1).2020.15.

Tamba, C. A. O., & Purwanto, P. (2021). Determinants of Capital Structure Using Profitability as Moderating in Indonesia's Property and Real Estate Firms. *Emerging Markets : Business and Management Studies Journal*, *8*(2), 73–88. https://doi.org/10.33555/embm.v8i2.175.

Triyono, Kusumastuti, A., & Palupi, I. D. (2019). The Influence of Profitability, Assets Structure, Firm Size, Business Risk, Sales Growth, and Dividend Policy on Capital Structure. *Riset Akuntansi Dan Keuangan Indonesia*, *4*(3), 101–111. https://doi.org/10.23917/reaksi.v4i3.9340.

Vintilă, G., Gherghina, Ş. C., & Toader, D. A. (2019). Exploring the Determinants of Financial Structure in the Technology Industry: Panel Data Evidence from the New York Stock Exchange Listed Companies. *Journal of Risk and Financial Management*, *12*(4). https://doi.org/10.3390/jrfm12040163.

Wirianata, H., & Wijoyo, A. (2020). Analisis Faktor-Faktor Struktur Modal dan Nilai Perusahaan. *Jurnal Ekonomi*, *25*(3), 352–369. https://doi.org/10.24912/je.v25i3.685.

Zandi, G., Rehan, R., Hye, Q. M. A., & Choo, S. L. B. (2023). Exploring Capital Structure Determinants for OECD Energy Firms. *International Journal of Energy Economics and Policy*, *13*(4), 338–347. https://doi.org/10.32479/ijeep.14559.

Zulvia, Y., & Linda, M. R. (2019). The Determinants of Capital Structure in Manufacturing Companies Listed on the Indonesia Stock Exchange with the Firms' Size As a Moderating Variable. *KnE Social Sciences*, *3*(11), 715–735. https://doi.org/10.18502/kss.v3i11.4046.