

The Effect of Asset Structure on Capital Structure with Tax Shield as Moderation

Fatmasari Wijayanti¹, Riskin Hidayat², and Sri Hermuningsih³

^{1,2,3}Magister Manajemen, Universitas Sarjanawiyata Tamansiswa, Yogyakarta, Indonesia

*Corresponding author: fatmasw_shop@yahoo.com

ABSTRACT

This study aims to analyze the influence of asset structure on capital structure, as well as the role of tax shield as moderation in the relationship between asset structure and capital structure in companies of basic materials sector that listed on the Indonesia Stock Exchange (IDX). Capital structure, which refers to the comparison between a company's debt and equity, plays an important role in a company's financial management, which can affect the financial health and operational sustainability of the company. The asset structure, which consists of fixed assets and current assets, has an effect on a company's ability to acquire debt. This study examines whether companies that have larger asset structures tend to rely more on debt, considering the role of tax shield as a factor that strengthens the relationship between asset structure and capital structure. The data used in this study are the audited annual financial statements of companies in the basic materials sector that listed on the IDX during the 2018-2023 period. The results of the study show that asset structure has a significant positive effect on capital structure, and tax shield is able to moderate the influence of asset structure on capital structure significantly. These findings support the trade-off theory, which states that using debt as source of funding and owning tangible fixed assets can provide tax shield through interest debt and depreciation which can reduce tax liabilities and improve the efficiency of company's funding. This research is expected to contribute to the theory of financial management, especially in the understanding of capital structure and the importance of asset management and the benefits of tax shield in corporate funding decision-making.

Keywords: Asset Structure, Capital Structure, Tax Shield, Trade-off Theory, Financial Management, Indonesia Stock Exchange.

1. INTRODUCTION

The uncertainty of global and national economic conditions certainly has an impact on the business climate in a country, which ultimately affects businessman in carrying out their business activities. It will be an opportunity as well as a challenge for them to have a competitive advantage in order to achieve their goals and maintain the company's sustainability. One of the most important aspects of a company's strategy is financial management. Well-managed finances provide a strong foundation for the company to face business challenges, while poor financial decisions can reduce the company's ability to survive and grow.

Decision about capital structure is a crucial part of financial management. A company's capital structure refers to the composition between debt and equity used to fund operations and business expansion. According to Brigham & Houston (2019), capital structure is a comparison between funding sourced from debt and a company's equity. The right decision of capital structure is very important because it reflects the financial health of the company and affects their economic value (Gharaibeh and AL-Tahat 2020). Thus, accuracy in determining the capital structure can provide a clear signal to external parties about the company's prospects and financial position.

Determining the optimal capital structure is one of the main tasks of financial managers, who must pay attention to the balance between risk and return (Ariyanto 2020). Financial managers are expected to be adequate in determining efficient sources of funds, both from within and outside the company, so that the cost of capital remains low (Badri 2022). An optimal capital structure allows the company to maximize capitalization and reduce capital costs (Brusov et al. 2023). In addition, a good capital structure can also strengthen the company's position and provide a greater competitive advantage (Kebede 2024).

One of the factors that affect the capital structure is the company's asset structure. Asset structure refers to the composition between fixed assets and current assets that owned by a company. Fixed assets are often used as collateral in obtaining financing through debt. Research conducted by Kebede (2024) shows that company who has larger fixed assets structure having a higher likelihood of acquiring debt, which can affect the company's capital structure. The trade-off theory also explains that company who fund its business operational using debt, can obtain a benefit in the form of tax shield from the debt interest (Brigham & Houston 2019).

However, research related to the influence of asset structure on capital structure shows contradictory results. Several studies, such as those conducted by Ariyanto (2020), Khan et al. (2020), Rasool et al. (2021), Zaheer et al. (2021), Afiezan et al. (2022), Cahyani & Nyale (2022), Husain et al. (2022), Pratama & Fitriati (2023), Marimuthu et al. (2023), Rahman et al. (2023), and Purba et al. (2024), found that asset structure has a significant effect on capital structure. It shows that a company with extraordinary fixed asset structure is more attractive for creditors and it leads to be easier in obtaining debt as compare to company with lower fixed asset structure. On the contrary, other studies such as Gharaibeh & AL-Tahat (2020), Qosidah et al. (2020), Celesta et al. (2023), Hermayanti, et al. (2023), Indrayeni (2023), Bibi & Akhtar (2024), Rachman et al. (2024), and Sianturi et al. (2024) shows that the influence is not significant. Companies with a relatively large fixed asset structure demonstrate a tendency to increase their ability to generate sales and profits, thereby increasing the availability of internal funds. Therefore, company will prefer to use internal funding sources than external funding. Those results show that there is a gap in research that encourages researchers to conduct further research.

Another important aspect in determining the capital structure is the influence of taxes, especially in the form of tax shield. Tax shield refers to the tax deduction earned by the company due to the existence of costs that can be deducted from the imposition of taxes, such as debt interest and depreciation of fixed assets. According to Brigham & Houston (2019), company who use debt as a source of funding can obtain a benefit from tax shield that will reduce their tax burden. Research conducted by Sumani et al. (2020) and Wagisuwari & Sitorus (2024) found that debt tax shield have a significant effect on a company's capital structure.

The excessive use of debt can also increase risks for company, which encourages the exploration of alternative strategies to obtain tax reductions, namely by utilizing depreciation or amortization as a non-debt tax shield. Research by DeAngelo & Masulis (1980) explains that non-debt tax shield can provide a benefit through tax shield without relying on debt.

Non-debt tax shield provide a crowding effect on the tax deduction from debt interest (Lei 2020). It is because company who has large amounts of fixed assets will also have large depreciation costs so that the company will gain tax deduction benefits from non-debt tax shield, while the tax deduction benefits from debt tax shield will be less valuable. Research conducted by Gharaibeh & AL-Tahat (2020), Khan et al. (2020), Megawati et al. (2021), Rasool et al. (2021), Mayliza et al. (2022), Rialdy & Fahmi (2023), and Renaldo et al. (2023) shows that non-debt tax shield have an effect on capital structure.

This study aims to fill the gap in the existing literature by examining the role of tax shield as a moderation variable in the relationship between asset structure and capital structure. Previously, research on the role of tax shield in this relationship was still limited, especially in the context of certain sector industry such as the basic materials sector. This sector has capital-intensive nature that requires large investments in the form of fixed assets to produce goods and faces challenges in determining efficient funding. Besides that, considering the average debt-to-equity ratio in the basic materials sector, which exceeds 100% and have significant fluctuations, and there is no research on capital structure that has been conducted yet in basic materials sector, so further research is needed to understand the factors that determine financing decisions on that sector. Therefore, this study is expected to provide further understanding about how interaction of asset structure and tax shield in determining the optimal capital structure.

This research aims to test, analyze, and prove the influence of asset structure on the company's capital structure, as well as the role of tax shield as moderation in the relationship between asset structure and capital structure. Theoretically, this research is expected to contribute to the science of financial management and enrich references regarding capital structures. Practically, this research is expected to provide useful information for business people in making decisions about capital structure, as well as assisting investors and creditors in considering the factors that influence investment decisions.

1.1. Hypothesis

1.1.1. The Influence of Asset Structure on Capital Structure

Asset structure is a comparison of the types of assets that owned by a company. Asset structure is one of the factors in determining capital structure. Assuming that other factors are constant, company who has larger cash or other assets which can be used as collateral, tend to use more debt (Brigham and Houston 2019).

One of the crucial types of corporate assets, which are used to carry out its operational activities, is tangible fixed assets. The existence of tangible fixed assets can provide tax shield because the depreciation of tangible fixed assets is a deductible expense against taxable income so that the company can obtain benefit from tax savings.

According to the trade-off theory, asset structure in the form of tangible fixed assets such as land, buildings, and equipment/machinery in which can be used as debt collaterals will be a protection for creditors if the company experiences financial distress that result in the company defaulting on debt (Marimuthu et al. 2023). Hence, it will be easier for company to

obtain funding from debt. By using debt as a source of funding and owning a number of tangible fixed assets, the company will gain benefit from tax shield because of the debt interest and depreciation of tangible fixed assets can be deducted from taxable income (earnings before interest and taxes).

In addition, cost of debt is considered cheaper than the issuance of new equity to obtain a source of funding. This shows that if the company's asset structure in the form of tangible fixed assets is larger than the other assets, the debt-to-equity ratio will be larger. Research conducted by Ariyanto (2020), Khan et al. (2020), Rasool et al. (2021), Zaheer et al. (2021), Cahyani & Nyale (2022), Husain et al. (2022), Pratama & Fitriati (2023), Marimuthu et al. (2023), (Kebede 2024) and Purba et al. (2024) shows that asset structure has a significant positive influence on a company's capital structure so that the first hypothesis proposed in this study is as follows:

H₁: Asset structure has a positive effect on capital structure

1.1.2. The Influence of Asset Structure on Capital Structure with Tax Shield as a Moderating Variable

Asset structure in the form of tangible fixed assets such as land, buildings, and equipment/machinery in which can be used as debt collaterals will be a protection for creditors if the company experiences financial distress that result in the company defaulting on debt (Marimuthu et al. 2023). Therefore, it will be easier for company to obtain funding from debt and the cost of debt is relatively cheaper compared to issuing new equity.

This is in line with the explanation of the trade-off theory, namely that company that who chooses debt as a source of funding, will gain benefit from tax shield as because debt interest can be deducted from taxable income. In addition, tangible fixed assets have a depreciation as cost which can be deducted from taxable income so that it will provide tax shield as well. Based on this explanation, the second hypothesis in this study is:

H₂: Tax shield is able to moderate the influence of asset structure on capital structure

Based on the problems that have been formulated, the theoretical explanations, and the hypotheses that have been developed, the research framework in this study can be described as follows:

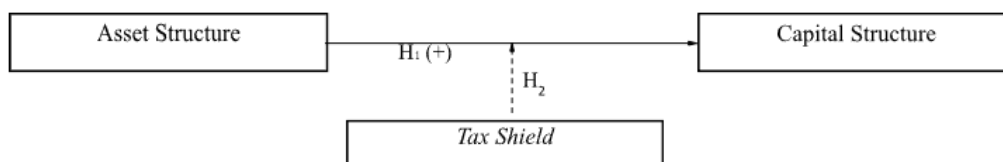


Figure 2.1. Research Framework

2. METHODS

2.1. Subjects and Objects of Research

This research focuses on companies listed in the basic materials sector on the Indonesia Stock Exchange (IDX). The object of the research is the audited annual financial statements and annual reports of these companies. The research focuses on the sector due to its capital-intensive nature that requires large investments in the form of fixed assets to produce goods and faces challenges in determining efficient funding.

2.2. Population and Sample

The population in this study is basic material sector companies listed on the IDX, and the sample was selected through purposive sampling techniques based on certain criteria. The criteria are namely companies that not delisted from IDX around the 2018-2023 period, publish audited annual financial statements and annual reports during the 2018-2023 period, and complete data available.

2.3. Research Variables

Capital structure as dependent variable is measured using debt-to-equity ratio (DER), which compares total debt to the company's equity. Asset structure as independent variable is measured by fixed asset ratio (FAR), which compares fixed assets to total assets. Tax shield as moderation variable is measured by the non-debt tax shield (NDTS), which compares the cost of depreciation to the total assets of the company.

2.4. Data Collection

The data used in this study are secondary data obtained from audited annual financial reports and audited annual reports of companies in the basic materials sector for the period 2018-2023. This data is downloaded through the IDX website and related company websites.

2.5. Data Analysis Techniques

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with the assist of Warp-PLS 7.0 software to analyze the relationships between variables, including the moderation effect. This study uses moderation regression to test whether tax shield strengthen or weaken the relationship between asset structure and capital structure.

2.6. Types of Testing

Hypothesis testing is done by testing the coefficient of determination (R^2) and statistic t-test. This analysis aims to determine whether the asset structure significantly affects the capital structure and whether the tax shield is able to moderate the relationship between asset structure and capital structure.

3. RESULTS AND DISCUSSION

3.1. Descriptive Statistical Analysis

Descriptive statistical analysis presents a general overview of research data that can be seen from the mean value, standard deviation, minimum value, and maximum value. However, this analysis cannot be used to make general conclusions. The following table shows descriptive statistical data regarding research data:

Table 1. Descriptive Statistical Data

Variabel	N	Minimum	Maximum	Mean	Standard of Deviation
DER	426	-7,17595	12,87701	1,06781	1,82810
FAR	426	0,00383	0,82866	0,39806	0,20885
TS	426	0,00096	0,08210	0,02791	0,01761

Source: Data processed by researchers

3.2.1 Debt to Equity Ratio (DER)

The value of the DER shows the comparison between debt and equity. With a minimum value is -7.17595 and a maximum is 12.87701, the average of DER is 1.06781. This suggests that most of the companies in the sample tend to have a moderate capital structure, while companies that have a higher or negative debt ratio are relatively few. The standard deviation of 1.82810 indicates that there is considerable variation in the capital structure between companies.

3.2.2 Fixed Asset Ratio (FAR)

The value of FAR which describes the proportion of fixed assets to the company's total assets shows a minimum value is 0.00383 and a maximum value is 0.82866, with an average of 0.39806. This shows that most companies have a moderate proportion of fixed assets, with considerable variation (standard deviation is 0.20885), which reflects differences in fixed asset ownership between companies.

3.2.3 Tax Shield (TS)

The value of TS indicates the benefits which can be obtained by companies due to depreciation of tangible fixed assets. The minimum value of TS is 0.00096 and the maximum value is 0.08210, with an average of 0.02791. The standard deviation of 0.01761 indicates that although most companies have relatively small tax benefits, there are variations in the use of tax shield between companies.

3.2. Hypothesis Test

Hypothesis test using moderated regression analysis conducted by the Warp-PLS 7.0 application. The hypothesis can be accepted, if the p-value or significance value is smaller than the significance level of 0.05 (p-value or Sig. < 0.05) and the direction of the regression coefficient indicates a positive correlation. Meanwhile, the hypothesis can be rejected, if the p-value or significance value is greater than the significance level of 0.05 (p-value or Sig. > 0.05) or the direction of the regression coefficient indicates a negative correlation. The results of the hypothesis test are shown in the following table:

Table 4.7. Hypothesis Test Results

Hypothesis	P Value (Sig.)	Regression Coefficient (β)	Results	
FAR $\rightarrow$ DER	< 0,01	0,29	$p < 0,05$ & β positive	H ₁ accepted
TS*FAR $\rightarrow$ DER	0,03	0,08	$p < 0,05$ & β positive	H ₂ accepted

Source: Data processed by researchers

H1: Asset Structure has a Positive Effect on Capital Structure

The results of hypothesis test with moderated regression analysis shows that the p-value (Sig.) < 0.01, which is less than the significance level of 0.05 and the direction of the regression coefficient (β) is positive 0.29. It means that the asset structure measured by the fixed asset ratio (FAR) has a significant positive effect on the capital structure measured by the debt-to-equity ratio (DER). Therefore, the first hypothesis (H₁) is accepted.

H2: Tax Shield is able to Moderate the Influence of Asset Structure on Capital Structure

The results of hypothesis test with moderated regression analysis shows that the p-value (Sig.) was 0.03 where the value was less than the significance level of 0.05 and the direction of the regression coefficient (β) is positive 0.08. This means that the tax shield (TS) is able to moderate or strengthen the influence of the asset structure measured by the fixed asset ratio (FAR) on the capital structure measured by the debt-to-equity ratio (DER) significantly. Therefore, the second hypothesis (H₂) is accepted.

4. RESULT AND DISCUSSION

4.1. The Influence of Asset Structure on Capital Structure

The test of the first hypothesis (H₁) of this study is to test whether the asset structure has a positive effect on the capital structure. The test results indicate that the fixed asset ratio (FAR) has a significant positive effect on the debt-to-equity ratio (DER). Therefore, it can be

concluded that the first hypothesis (H_1) is accepted, namely that the asset structure has a significant positive effect on the capital structure.

It means that if the value of the asset structure measured by the FAR increases, the value of the capital structure measured by the DER will also increase. On the other hand, if the value of the asset structure measured by FAR decreases, the value of the capital structure measured by DER will also decrease. The results of this study are in line with the results of research conducted by Ariyanto (2020), Khan et al. (2020), Rasool et al. (2021), Zaheer et al. (2021), Cahyani & Nyale (2022), Husain et al. (2022), Pratama & Fitriati (2023), Marimuthu et al. (2023), (Kebede, 2024), and Purba et al. (2024), which suggest that asset structure has a significant positive effect on a company's capital structure.

Company who has the main asset structure in the form of tangible fixed assets which can be used as debt collaterals, will have convenience in obtaining funding from debt. It is because tangible fixed assets that is used as debt collaterals are protection for creditors if the company experiences financial distress that result in the company defaulting on debt (Marimuthu et al. 2023). Then, it will be easier for company to obtain funding from debt. If the company's asset structure in the form of tangible fixed assets is larger than other assets, the debt-to-equity ratio will also be larger.

The results of this study are relevant to the explanation of capital structure in trade off theory, in which using debt as source of funding and owning large number of tangible fixed assets will provide benefit such as tax shield. It is because of debt interest and depreciation are costs that can be deducted from taxable income.

4.2. Tax Shield is able to Moderate the Influence of Asset Structure on Capital Structure

The test of the second hypothesis (H_2) of this study is to test whether the tax shield is able to moderate the influence of asset structure on capital structure. The test results indicate that the moderation interaction between the tax shield (TS) and fixed asset ratio (FAR) has a significant positive effect on the debt-to-equity ratio (DER). Therefore, it can be concluded that the second hypothesis (H_2) is accepted, namely that tax shield is able to moderate or strengthen the influence of asset structure on capital structure significantly.

These results are relevant to the explanation of capital structure in trade off theory, in which using debt as source of funding and owning large number of tangible fixed assets will provide benefit from tax shield. It is because of debt interest and depreciation are costs which can be deducted from taxable income (earnings before interest and taxes).

Company who has the main asset structure in the form of tangible fixed assets which can be used as debt collateral, will have convenience in obtaining funding from debt. It is because tangible fixed assets that is used as debt collaterals are protection for creditors if the company experiences financial distress that result in the company defaulting on debt (Marimuthu et al. 2023). Therefore, it will be easier for company to obtain funding from debt

Furthermore, tangible fixed assets of the company (other than land) will incur depreciation costs, although these costs do not have a direct impact on cash flow but it affects cash flow indirectly because it can reduce the amount of tax payable (Pandey, 2015). This is because depreciation costs can be deducted from taxable income so that the company will gain benefit from tax shield. Therefore, the role of tax shield can strengthen the influence of asset structure on capital structure.

5. CONCLUSION

Based on the results of the hypothesis test, it can be concluded that the asset structure has a significant positive influence on the capital structure. Companies with larger fixed asset structures tend to have a better ability to obtain external funding through debt. This is because fixed assets can be used as debt collateral, which is in turn allowing companies to increase the proportion of debt in their capital structure. The use of this debt not only provides greater access to funding, but also allows companies to take advantage of tax shield from debt interest and depreciation of tangible fixed assets that can reduce the company's tax liability.

In addition, tax shield has been proven to be able to moderate the influence of asset structure on capital structure. The result shows that company who has larger tangible fixed asset structure, will has greater benefit of tax shield, which can make the use of debt as funding more financially profitable. This tax shield provides benefit through debt interest and tangible fixed asset depreciation, which can lower the corporate tax burden and improve the efficiency of corporate funding. Therefore, companies with larger asset structures can take advantage of this tax shield to improve their financial position and obtain easier external funding.

Based on the results of this study, it is recommended that company management seriously consider the asset structure when making decisions regarding corporate funding. Companies with strong and efficient asset structures will find it easier to obtain external funding, either in the form of debt or equity. In addition, the benefits of tax shield should be an important part of consideration in designing a capital structure strategy, because it can increase tax efficiency and improve the company's financial condition.

In addition, further research is highly recommended to explore other factors that can also influence decisions regarding capital structure, such as profitability, business risk, and managerial strategies that may have a major impact on corporate funding policies. Research can be conducted in other industrial sectors, especially in sectors with high capital needs, to broaden the understanding of the factors that influence a company's capital structure.

REFERENCES

- Afiezana, Adam, Melysa, Vanesa Julieta Angga, Rosalie Lionar, and Jesica. 2022. "Pertumbuhan Penjualan, Struktur Aktiva, Ukuran Perusahaan Dan Harga Saham Terhadap Struktur Modal Dengan Profitabilitas Sebagai Variabel Moderasi.Pdf." *Journal of Management and Business (JOMB)* 4 Number 1.

- Ariyanto, Ariyanto. 2020. "Pengaruh Profitabilitas, Struktur Aktiva Dan Ukuran Perusahaan Terhadap Struktur Modal Pada Perusahaan Properti Dan Real Estate Yang Terdaftar Di BEI 2013-2017." *Entrepreneurship Bisnis Manajemen Akuntansi (E-BISMA)* 10–19. doi: 10.37631/e-bisma.v1i1.213.
- Badri, Rico Elhando. 2022. "Faktor-Faktor Yang Mempengaruhi Struktur Modal." *Yudhistira Journal: Indonesian Journal of Finance and Strategy Inside* 2(1). doi: 10.53363/yud.v2i1.19.
- Bibi, Tahmeena, and Muhammad Hanif Akhtar. 2024. "Determinants of Capital Structure: Evidence from Securities Companies." *Bulletin of Business and Economics* 13(1):22–28. doi: <https://doi.org/10.61506/01.00169>.
- Brigham, Eugene F., and Joel F. Houston. 2019. *Fundamentals of Financial Management*. 15th ed. Boston, Massachusetts, USA: Cengage Learning.
- Brusov, Peter, Tatiana Filatova, and Tatiana Filatova. 2023. "Capital Structure Theory : Past , Present , Future Capital Structure Theory: Past , Present , Future." *Mathematics* 11:0–30. doi: 16. <https://doi.org/10.3390/math11030616>.
- Cahyani, Nur, and M. Hendri Yan Nyale. 2022. "Pengaruh Struktur Aset Dan Likuiditas Terhadap Struktur Modal Dengan Ukuran Perusahaan Sebagai Variabel Moderasi." *JIIP - Jurnal Ilmiah Ilmu Pendidikan* 5(7):2675–86. doi: 10.54371/jiip.v5i7.748.
- Celesta, Cecilia, Valencia, Celia Katharina, and Ninta Katharina. 2023. "Pengaruh Ukuran Perusahaan, Profitabilitas, Risiko Bisnis, Growth Opportunity, Dan Struktur Aktiva Terhadap Struktur Modal Perusahaan Properti Dan Real Estate Di Bursa Efek Indonesia Periode 2018-2020." *Management Studies and Entrepreneurship Journal* 4(1):527–38.
- DeAngelo, Harry, and Ronald W. Masulis. 1980. "Optimal Capital Structure Under Corporate and Personal Taxation." *Journal of Financial Economics* 8.
- Gharaibeh, Omar K., and Sager AL-Tahat. 2020. "Determinants of Capital Structure: Evidence from Jordanian Service Companies." *Investment Management and Financial Innovations* 17(2):364–76. doi: 10.21511/imfi.17(2).2020.28.
- Hermayanti, Rizky, Destia Pentiana, and Anita Kusuma Dewi. 2023. "Pengaruh Struktur Aset Dan Pertumbuhan Penjualan Terhadap Struktur Modal Dengan Risiko Bisnis Sebagai Variabel Moderating." *Jurnal Ilmiah ESAI* 17(2):83–92. doi: 10.25181/esai.v17i2.2641.
- Husain, Silvana Candra, Yuyu Isyana D. Pongoliu, and Dewi Indriyani Hamin. 2022. "Analisis Faktor-Faktor Penentu Struktur Modal Berdasarkan Perspektif Pecking Order Theory Dan Trade Off Theory Pada Perusahaan Pertambangan Yang Terdaftar Di Bursa Efek Indonesia Periode 2016-2020." *SEIKO: Journal of Management & Business* 5(2):161–71.
- Indrayeni, Uci Ardila Putri. 2023. "Faktor-Faktor Yang Mempengaruhi Struktur Modal Perusahaan (Studi Kasus Pada Perusahaan Manufaktur Sub Sektor Makanan Dan

- Minuman Yang Terdaftar Di BEI Tahun 2018-2022).” *Jurnal Akuntansi Keuangan Dan Bisnis* 01(03):186–98.
- Kebede, Tekalign Negash. 2024. “Firm-Specific and Country-Level Determinants of Commercial Banks Capital Structures: Evidence from Ethiopia.” *Journal of Innovation and Entrepreneurship* 13(1). doi: 10.1186/s13731-024-00418-z.
- Khan, Karamat, Jing Qu, Muhammad Haroon Shah, Kebba Bah, and Irfan Ullah Khan. 2020. “Do Firm Characteristics Determine Capital Structure of Pakistan Listed Firms? A Quantile Regression Approach.” *Journal of Asian Finance, Economics and Business* 7(5):61–72. doi: 10.13106/JAFEB.2020.VOL7.NO5.061.
- Lei, Lei. 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):126–39. doi: 10.4236/me.2020.111012.
- Marimuthu, Maran, Hana Halini Hamzah, and Romana Bangash. 2023. “Determinants of the Capital Structure of the Oil and Gas Industry in Malaysia: The Moderating Role of Earnings Volatility.” *Sustainability (Switzerland)* 15(24). doi: 10.3390/su152416568.
- Mayliza, Riri, Nanda Suryadi, and Dya Septy Ayu Alfiany. 2022. *Pengaruh Growth Opportunity, Likuiditas, Non-Debt Tax Shield, Fixed Assets Ratio Dan Corporate Tax Rate Terhadap Struktur Modal Pada Perusahaan Sektor Aneka Industri Yang Terdaftar Di BEI 2017-2020*. Vol. 3.
- Megawati, Farah Tri, Nana Umdiana, and Lulu Nailufaroh. 2021. “Faktor-Faktor Struktur Modal Menurut Trade Off Theory.” *Jurnal Akuntansi Dan Keuangan* 26(1):55–67. doi: 10.23960/jak.v26i1.255.
- Pratama, Alvin Eka, and Ika Rosyada Fitriati. 2023. “Pengaruh Profitabilitas, Likuiditas Dan Struktur Aset Terhadap Struktur Modal Dengan Ukuran Perusahaan Sebagai Variabel Moderasi.” *Management Studies and Entrepreneurship Journal* 4(2):2040–52.
- Prihatini, Dwi Ayu, Dewi Roichatul Ummah, Indah Yuliana, and Ditya Permatasari. 2023. “Moderasi Total Asset Dalam Hubungan Tato & Cr Dengan Capital Structure Pada 3 Sektor Di Indonesia.” *Jurnal Proaksi* 10(3):309–21. doi: 10.32534/jpk.v10i3.4394.
- Purba, Jamian, Dian Sulistyorini Wulandari, and Sri Lestari. 2024. “Unpacking the Impact of Asset Structure and Sales Growth on Capital Structure: The Moderating Influence of Profitability.” *Journal of Scientific Interdisciplinary* 1(3):32–42. doi: 10.4108/eai.20-1-2018.2281888.
- Qosidah, Nur, Kartika Hendra Titisari, and Anita Wijaya. 2020. “Pengaruh Struktur Aktiva, Likuiditas, Ukuran Perusahaan Dan Profitabilitas Terhadap Struktur Modal Perusahaan Industri Dasar Dan Kimia Di BEI.” *Jurnal Penelitian Ekonomi Akuntansi (JENSI)* 4(1):93–100. doi: 10.33059/jensi.v4i1.2665.
- Rachman, Adristi Paramita Raissa, Yuli Chomsatu, and Purnama Siddi. 2024. “Dimensi

- Struktur Modal Pada Perusahaan Property Dan Real Estate Dengan Ukuran Perusahaan Sebagai Variabel Moderasi.” *Journal of Economic, Bussines and Accounting (COSTING)* 7(3):2597–5234. doi: 10.31539/costing.v7i3.8805.
- Rahman, Md Atiqur, Tanjila Hossain, and Kanon Kumar Sen. 2023. “Revisiting the Puzzle of Capital Structure Determinants: An Empirical Study Based on UK Firms.” *Arab Gulf Journal of Scientific Research*. doi: 10.1108/AGJSR-04-2023-0162.
- Rasool, Faiz, Kashif Hamid, and Muhammad Yasir Saeed. 2021. “Corporate Policy and Capital Structure Decisions: Empirical Evidence from Non- Financial Sectors of Pakistan.” *Global Economics Review* VI(II):121–30. doi: 10.31703/ger.2021(vi-ii).10.
- Renaldo, Nicholas, Christian Rusli, Suhardjo Suhardjo, Suharti Suharti, and Tandy Sevendy. 2023. “Sales Growth, Company Size, Profitability, and Non-Debt Tax Shield on Capital Structure In Food and Beverage Sub-Sector Companies Listed on The Indonesia Stock Exchange.” *Jurnal Riset Akuntansi Dan Komputerisasi Akuntansi* 14(2):50–72.
- Rialdy, Novien, and Muhammad Fahmi. 2023. “The Impact of Company Size , Sales Growth , and a Non- Debt Tax Shield on Manufacturing Companies ’ Capital Structure on the Indonesia Stock Exchange.” *Jurnal Ilmiah Manajemen* 11(1):68–78.
- Sianturi, Antar MT, Magda Siahaan, and Arya Pradipta. 2024. *Capital Structure Analysis: Key Financial Indicators in Manufacturing*. Vol. 2024.
- Sumani, Sumani, Ahmad Roziq, and Daniel T. H. Manuhurung. 2020. “Relevankah Teori Struktur Modal Di Indonesia?” *Jurnal Akuntansi Multiparadigma* 11(2):373–85. doi: 10.21776/ub.jamal.2020.11.2.22.
- Wagisuwari, Kadek Saptaria, and Palti MT Sitorus. 2024. “Analisis Trade-Off Theory Dan Pecking Order Theory Terhadap Struktur Modal.” *Owner* 8(3):2380–92. doi: 10.33395/owner.v8i3.2091.
- Zaheer, Rummana, Syed Aqeel Ahmed, Syed Rashid Ali, and Afsha Aleem. 2021. “Determinants Of Capital Structure - Evidence From Oil And Gas Tradable Sector Index (Ogti) Of Pakistan Stock Exchange.” *Journal of Contemporary Issues in Business and Government* 27(1):129–42.